BUREAU OF INDIAN STANDARDS
DRAFT FOR COMMENTS ONLY

Draft Indian Standard

Graphical Symbols for Diagrams in the field of Electrotechnology

(ICS 01.080.10; 01.080.30; 29.020; 29.130.01; 31.260; 33.020)

Basic Electrotechnical Standards and Power Quality Sectional Committee, ETD 01	Last date for comments- 19.09.2024

NATIONAL FOREWORD

This draft Indian Standard which is identical with IEC 60617: 2024 database "Graphical symbols for diagrams" issued by the International Electrotechnical Commission (IEC) will be adopted by the Bureau of Indian Standards on the recommendation of the Basic Electrotechnical Standards and Power Quality Sectional Committee and approval of the Electrotechnical Division Council.

It is common in electrical engineering practice to employ graphical symbols to denote the various means and devices used when making diagrams of connections. With the object of making these diagrams easily understandable and universal in meaning, it became necessary to standardize the basic symbols for various devices which are commonly used in the field of electrical engineering. Consequently, work on standardization of graphical symbols for diagrams in the field electrotechnology began around the year 1960 and since then several standards have been brought out covering symbols applicable to specific areas in the field. Over the years, some of these have also undergone significant updating to keep pace with additional needs and developments at the international level.

In selecting and devising these symbols, the objective has been to ensure that symbols, as far as possible are self-explanatory and easy to draw in general use. However, over the years a strong need has emerged to present standardized graphical symbols in as precise and condensed form as possible, and at the same time not losing sight of the technical advancement in the field.

This standard covers the graphical symbols for diagrams in the field of Electrotechnology previously covered in IS 12032 (Part 1): 1987, IS 12032 (Part 2): 1987, IS 12032 (Part 3): 1987, IS 12032 (Part 4): 1987, IS 12032 (Part 6): 1987, IS 12032 (Part 7): 1987, IS 12032 (Part 8): 1987, IS 12032 (Part 10): 1991, IS 12032 (Part 11): 1987 identical to IEC 60617-1: 1985, IEC 60617-2: 1983, IEC 60617-3: 1983, IEC 60617-4: 1983, IEC 60617-6: 1983, IEC 60617-7: 1983, IEC 60617-8: 1983, IEC 60617-10: 1983 and IEC 60617-11: 1987 respectively.

The IEC 60617 Parts mentioned in the fourth paragraph have been withdrawn by IEC and the graphical symbols for use in electrotechnical diagrams have been subsequently incorporated into a standard which is brought out as a database and named as IEC 60617: 2024 DB. The

incorporation of the symbols into the database has been accompanied by the addition of symbol name, usage, keywords, remarks, etc. and has also provided classified views (by shape, function and application). It is therefore a much richer and more user-friendly tool for those who need to understand and apply graphical symbols in electrotechnical diagrams.

This standard supersedes IS 12032 (Part 1): 1987, IS 12032 (Part 2): 1987, IS 12032 (Part 3): 1987, IS 12032 (Part 4): 1987, IS 12032 (Part 6): 1987, IS 12032 (Part 7): 1987, IS 12032 (Part 8): 1987, IS 12032 (Part 10): 1991 and IS 12032 (Part 11): 1987.

The text of IEC Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain terminologies and conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the fact that wherever the words ‘International Standard’ appear referring to this standard, they should be read as ‘Indian Standard’.

IEC 60617

2024-06

INTERNATIONAL STANDARD

NORME INTERNATIONALE

DATABASE SNAPSHOT

Graphical symbols for diagrams

Symboles graphiques pour schémas

IEC 60617:2024-06 DS(en-fr)

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The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

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The world's leading online dictionary on electrotechnology, containing more than 22 500 terminological entries in English and French, with equivalent terms in 25 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

A propos de l'IEC
La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

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IEC 60617

2024-06

INTERNATIONAL STANDARD

NORME INTERNATIONALE

DATABASE SNAPSHOT

Graphical symbols for diagrams

Symboles graphiques pour schémas

INTERNATIONAL
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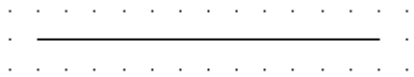
COMMISSION

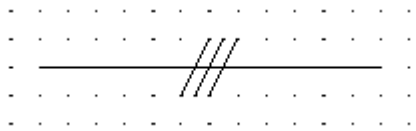
COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

S00001



Name:	Connection, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-01-01
Alternative names:	conductor; cable; line; transmission path; telecommunication line
Keywords:	cables, conductors, connections, lines, telecommunication, transmission paths
Applied in:	S00004, S01449, S00054, S00052, S01927, S01807, S01928, S01143, S00423, S00410, S00409, S00415, S00407, S00412, S00414, S00413, S01414, S00447, S00439, S00446, S00448, S01415, S01929, S01391, S01082, S01084, S01148, S01086, S01142, S01318, S01378, S01081, S01145, S01831, S01083, S01377, S01150, S00826, S01080, S00051, S01916, S01917, S01141, S01140, S00408, S00418, S01336, S01138, S01185, S00531, S00425, S00437, S00050, S00005, S00416, S00444, S00592, S01149, S00417, S00449, S00411, S00445, S01448, S01151
Application notes:	A00193, A00194
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams
Remarks:	See also symbol S00058.

S00002

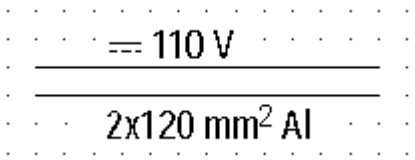


Name:	Group of connections (number of connections indicated)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-01-02
Keywords:	conductors, connections
Form:	Form 1
Alternative forms:	S00003
Applied in:	S01837, S01087, S00888, S00886, S00872, S00868, S00870, S00852, S00854, S01089, S01088, S01091, S01913, S00856, S00882, S00884, S00874, S00880, S00025, S00449, S00876, S00890, S00864, S00866, S01093, S00862, S00860, S00858
Applies:	S00058
Application notes:	A00192, A00193, A00194
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams
Remarks:	Three connections shown.

S00003

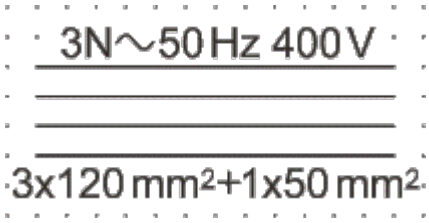
Name:	Group of connections (number of connections indicated)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-01-03
Keywords:	conductors, connections
Form:	Form 2
Alternative forms:	S00002
Applied in:	S00024, S00055, S01277, S00888, S01285, S00027, S01323, S01324, S00294, S00295, S00053, S00890, S01092
Applies:	S00058
Application notes:	A00192, A00193, A00194
Shape class:	Characters, Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams
Remarks:	Three connections shown.

S00004



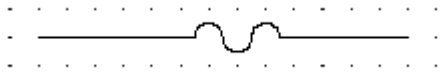
Name:	Direct current circuit
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-01-04
Keywords:	conductors, connections
Applies:	S00001; S01401
Application notes:	A00193, A00194
Shape class:	Characters, Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams
Remarks:	110 V, two aluminium conductors of 120 mm2

S00005



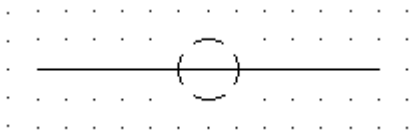
Name:	Three-phase circuit
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-01-05
Keywords:	conductors, connections
Applied in:	S00314
Applies:	S00001; S01403
Application notes:	A00193, A00194
Shape class:	Characters, Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams
Remarks:	50 Hz, 400 V, three conductors of 120 mm(2) , with neutral of 50 mm(2). 3N may be replaced by 3+N.

S00006



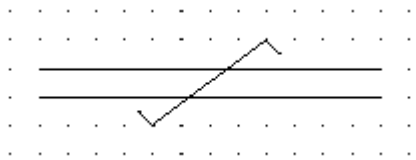
Name:	Flexible connection
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-01-06
Keywords:	conductors, connections
Applied in:	S01147
Shape class:	Depicting shapes
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00007



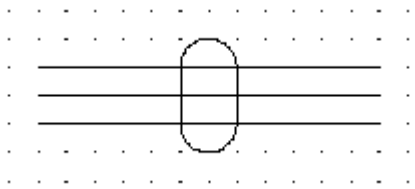
Name:	Screened conductor
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-01-07
Keywords:	conductors, connections
Applied in:	S00783, S00013, S00791
Application notes:	A00001
Shape class:	Circles, Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00008



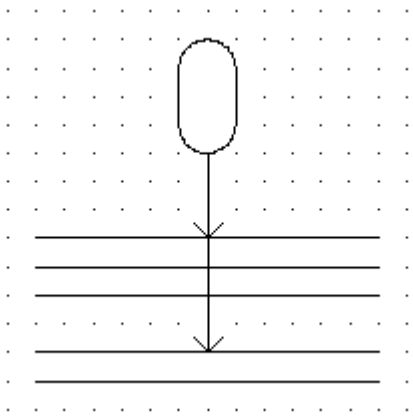
Name:	Twisted connection
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-01-08
Keywords:	conductors, connections
Application notes:	A00001
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams
Remarks:	Two connections shown.

S00009



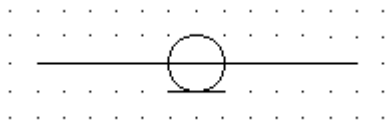
Name:	Conductors in a cable
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-01-09
Keywords:	conductors, connections
Alternative forms:	S00010
Applied in:	S01324, S00010
Application notes:	A00001
Shape class:	Ovals
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Three conductors shown.

S00010



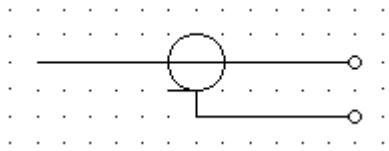
Name:	Conductors in a cable
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-01-10
Keywords:	conductors, connections
Applies:	S00009
Application notes:	A00001
Shape class:	Arrows, Lines , Ovals
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams
Remarks:	Five conductors, two of which marked by arrowheads are in one cable.

S00011



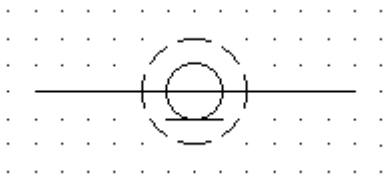
Name:	Coaxial pair
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-01-11
Keywords:	conductors, connections
Applied in:	S00042, S00610, S00013, S00012, S00606, S00591, S01119
Application notes:	A00011
Shape class:	Circles, Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00012



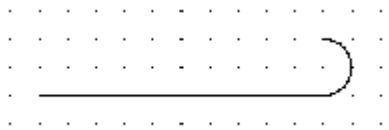
Name:	Coaxial pair connected to terminals
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-01-12
Keywords:	conductors, connections, terminals
Applies:	S00011; S00017
Application notes:	A00011
Shape class:	Circles, Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S00013



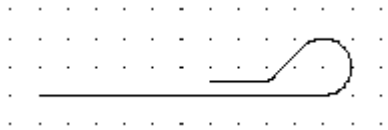
Name:	Coaxial pair with screen
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-01-13
Keywords:	conductors, connections
Applies:	S00007; S00011
Shape class:	Circles
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S00014



Name:	End of a conductor or cable, not connected
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-01-14
Keywords:	conductors, connections
Shape class:	Half-circles, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00015



Name:	End of a conductor or cable, not connected and specially insulated
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-01-15
Keywords:	cables, conductors, connections
Shape class:	Half-circles, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

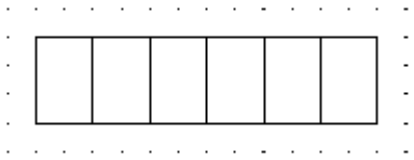
S00016

Name:	Connection point
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-02-01
Alternative names:	Junction
Keywords:	branchings, connections, junctions
Applied in:	S00020, S01785, S00455, S01797, S00454, S00952, S01790, S00664, S01798, S01833, S00022, S01834, S01325
Replacing:	S01350
Shape class:	Circles, Dots (points)
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00017

Name:	Terminal
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-02-02
Keywords:	terminals
Applied in:	S00039, S00044, S00046, S01840, S01841, S01200, S01842, S00881, S01836, S00955, S00957, S01201, S00269, S00012, S00880, S01202, S01839, S00267, S00268
Shape class:	Circles
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00018



Name:	Terminal strip
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-02-03
Keywords:	terminals
Application notes:	A00002
Shape class:	Rectangles
Function class:	X Connecting
Application class:	Circuit diagrams

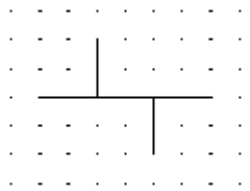
S00019

Name:	T-connection
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-02-04
Keywords:	branchings, connections, junctions
Form:	Form 1
Alternative forms:	S00020
Applied in:	S00021, S00029, S00030, S00055, S00054, S00502
Shape class:	Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00020

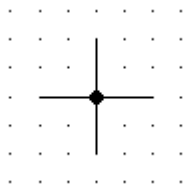
Name:	T-connection
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-02-05
Keywords:	branchings, connections, junctions
Form:	Form 2
Alternative forms:	S00019
Applies:	S00016
Shape class:	Circles, Dots (points)
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	Shown with junction symbol.

S00021



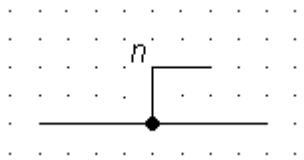
Name:	Double junction of conductors
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-02-06
Keywords:	branchings, connections, junctions
Form:	Form 1
Alternative forms:	S00022
Applies:	S00019
Shape class:	Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S00022



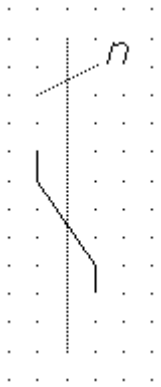
Name:	Double junction of conductors
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-02-07
Keywords:	branchings, connections, junctions
Form:	Form 2
Alternative forms:	S00021
Applied in:	S00503
Applies:	S00016
Shape class:	Circles, Dots (points), Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S00023



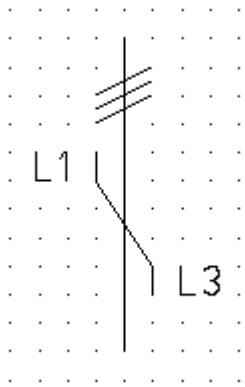
Name:	Branching
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-02-09
Alternative names:	Junction
Keywords:	branchings, connections, junctions
Applied in:	S01351
Application notes:	A00003
Shape class:	Characters, Circles, Dots (points), Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams
Remarks:	Junction common to a group of identical and repeated parallel circuits.

S00024



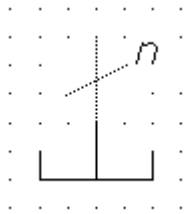
Name:	Interchange
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-02-11
Alternative names:	Interchange of conductors; Change of phase sequence; Inversion of polarity
Keywords:	connections, interchanges, inversion
Applied in:	S01413, S00514, S01915, S00025
Applies:	S00003
Application notes:	A00004, A00262
Shape class:	Characters, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00025



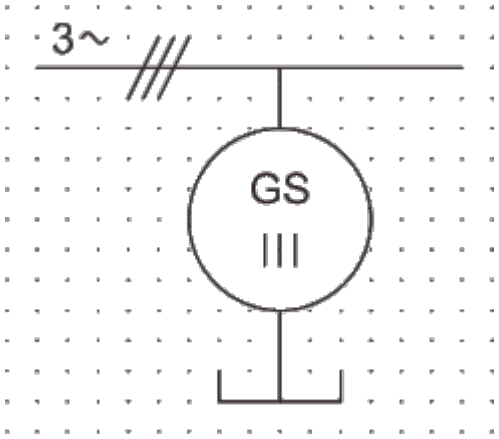
Name:	Change of phase sequence
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-02-12
Keywords:	interchanges
Applies:	S00002; S00024
Application notes:	A00004
Shape class:	Characters, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00026



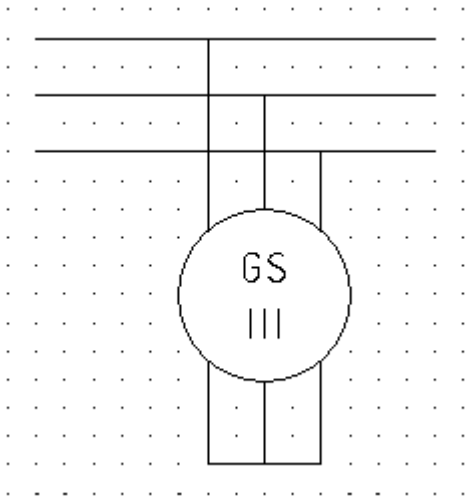
Name:	Neutral point
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-02-13
Keywords:	connections, junctions, neutral points
Applied in:	S00028, S00027
Application notes:	A00003, A00262
Shape class:	Characters, Lines
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Point at which multiple conductors are connected together to form the neutral point in a multiphase system.

S00027



Name:	Neutral point of a generator (single-line representation)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-02-14
Keywords:	connections, generators, junctions, neutral points, power generators
Applies:	S00003; S00026; S00797; S00819
Shape class:	Lines
Function class:	X Connecting
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	Synchronous generator, three-phase, both leads of each phase of the generator winding brought out, shown with external neutral point.

S00028

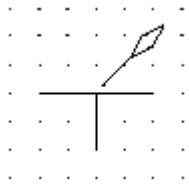


Name:	Neutral point of a generator (multi-line representation)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-02-15
Keywords:	connections, generators, junctions, neutral points, power generators
Applies:	S00026; S00797; S00819
Shape class:	Lines
Function class:	X Connecting
Application class:	Circuit diagrams
Remarks:	Multi-line representation of symbol S00027.

S00029

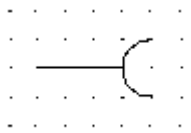
Name:	Junction not interrupting the conductor
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-02-16
Keywords:	branchings, connection devices, connections, junctions
Applies:	S00019
Application notes:	A00005
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The symbol is shown with symbol S00019.

S00030



Name:	Junction requiring a special tool
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-02-17
Keywords:	branchings, connection devices, connections, junctions
Applies:	S00019
Shape class:	Depicting shapes, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The symbol is shown with symbol S00019.

S00031

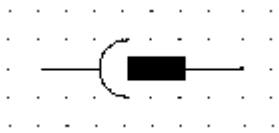


Name:	Contact, female (of a socket or plug)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-03-01
Alternative names:	Socket
Keywords:	connection devices, sockets
Applied in:	S00457, S00048, S00049, S00047, S00038, S01329, S00033
Application notes:	A00006
Replacing:	S01352
Shape class:	Half-circles
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S00032

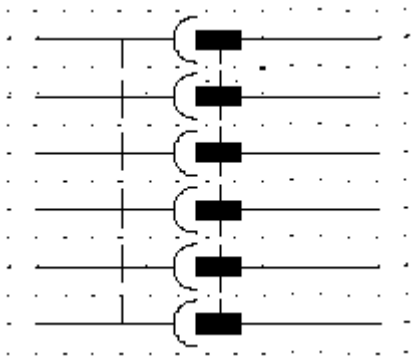
Name:	Contact, male (of a socket or plug)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-03-03
Alternative names:	Plug
Keywords:	connection devices, plugs
Applied in:	S00039, S00043, S00048, S00049, S00047, S00038, S01329, S00033
Application notes:	A00007
Replacing:	S01353
Shape class:	Rectangles
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S00033



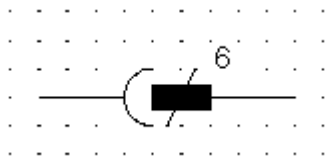
Name:	Plug and socket
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-03-05
Keywords:	plugs, sockets
Applied in:	S00035, S00042, S00034, S01329
Applies:	S00031; S00032
Application notes:	A00210
Replacing:	S01354
Shape class:	Half-circles, Rectangles
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S00034



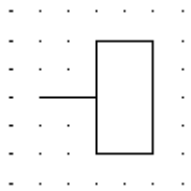
Name:	Plug and socket, multipole (multi-line representation)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-03-07
Keywords:	plugs, sockets
Alternative forms:	S00035
Applies:	S00033; S00144
Shape class:	Half-circles, Rectangles
Function class:	X Connecting
Application class:	Circuit diagrams
Remarks:	The symbol "Plug and socket, multipole" is shown with 6 female and 6 male contacts in multi-line representation

S00035



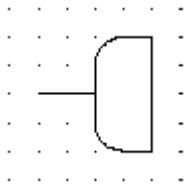
Name:	Plug and socket, multipole (single-line representation)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-03-08
Keywords:	plugs, sockets
Applies:	S00033
Shape class:	Characters, Half-circles, Rectangles
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams
Remarks:	The symbol "Plug and socket, multipole" represents in single-line representation 6 female and 6 male contacts

S00036



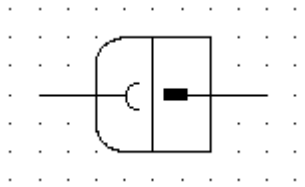
Name:	Connector, fixed portion of an assembly
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-03-09
Keywords:	connection devices, connectors
Applied in:	S00038
Application notes:	A00008
Shape class:	Rectangles
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S00037



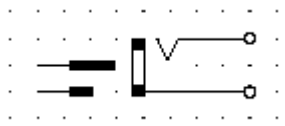
Name:	Connector, movable portion of an assembly
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-03-10
Keywords:	connection devices, connections
Applied in:	S00038
Application notes:	A00008
Shape class:	Rectangles
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S00038



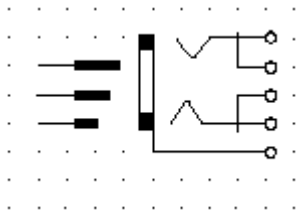
Name:	Connector assembly
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-03-11
Keywords:	connection devices, connectors
Applies:	S00031; S00032; S00036; S00037
Application notes:	A00008
Shape class:	Half-circles, Rectangles
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams
Remarks:	The symbol is shown with fixed plug-side and movable socket-side.

S00039



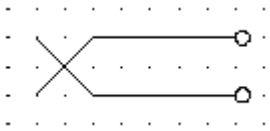
Name:	Telephone type plug and jack
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-03-12
Keywords:	connection devices, jacks, plugs
Applied in:	S00040
Applies:	S00017; S00032
Application notes:	A00009
Shape class:	Circles, Depicting shapes, Lines , Rectangles
Function class:	X Connecting
Application class:	Circuit diagrams
Remarks:	The symbol is shown with two poles.

S00040



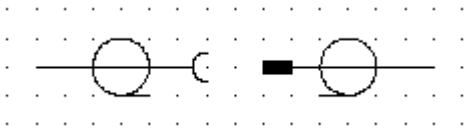
Name:	Telephone type plug and jack with break contacts
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-03-13
Keywords:	connection devices, jacks, plugs
Applies:	S00039; S00233
Application notes:	A00009
Shape class:	Circles, Depicting shapes, Lines , Rectangles
Function class:	X Connecting
Application class:	Circuit diagrams
Remarks:	The symbol is shown with three poles.

S00041



Name:	Telephone type break jack, telephone type isolating jack
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-03-14
Keywords:	connection devices
Shape class:	Circles, Depicting shapes, Lines
Function class:	X Connecting
Application class:	Circuit diagrams

S00042

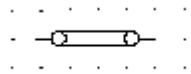


Name:	Plug and socket, coaxial
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-03-15
Keywords:	connection devices, connectors, plugs, sockets
Applies:	S00011; S00033
Application notes:	A00010
Shape class:	Circles, Half-circles, Lines , Rectangles
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S00043

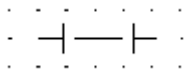
Name:	Butt-connector
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-03-16
Keywords:	connection devices, connectors
Applies:	S00032
Shape class:	Rectangles
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S00044



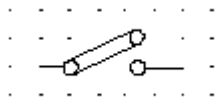
Name:	Connecting link, closed
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-03-17
Alternative names:	Test terminal, twin stud type
Keywords:	connection devices, testing points
Form:	Form 1
Alternative forms:	S00045
Applies:	S00017
Shape class:	Circles, Depicting shapes
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams

S00045



Name:	Connecting link, closed
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-03-18
Keywords:	connection devices
Form:	Form 2
Alternative forms:	S00044
Shape class:	Lines
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams

S00046



Name:	Connecting link, open
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-03-19
Keywords:	connection devices
Applies:	S00017
Shape class:	Circles, Depicting shapes
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

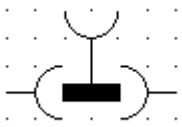
S00047

Name:	Plug and socket-type connector, male-male
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-03-20
Alternative names:	U-link
Keywords:	connection devices, connectors, plugs, sockets
Applies:	S00031; S00032
Shape class:	Half-circles, Rectangles
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S00048

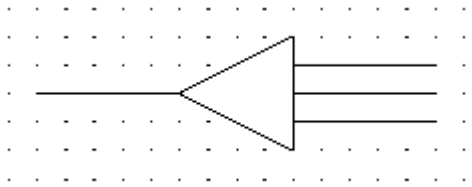
Name:	Plug and socket-type connector, male-female
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-03-21
Alternative names:	U-link
Keywords:	connection devices, connectors, plugs, sockets
Applies:	S00031; S00032
Shape class:	Half-circles, Rectangles
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S00049



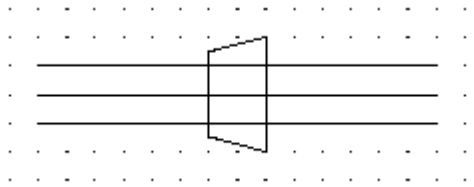
Name:	Plug and socket-type connector, male-male with socket access
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-03-22
Alternative names:	U-link
Keywords:	connection devices, connectors, plugs, sockets
Applies:	S00031; S00032
Shape class:	Half-circles, Rectangles
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S00050



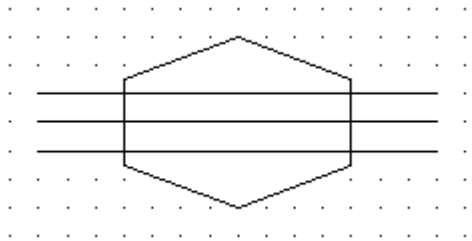
Name:	Cable sealing end (multi-core cable)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-04-01
Keywords:	cable fittings, sealings
Applied in:	S01397
Applies:	S00001; S00058
Shape class:	Equilateral triangles, Lines
Function class:	X Connecting
Application class:	Connection diagrams, Installation diagrams
Remarks:	The symbol is shown with one three-core cable.

S00051



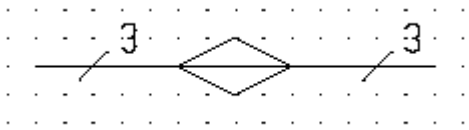
Name:	Cable sealing end (one-core cables)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-04-02
Keywords:	cable fittings, sealings
Applied in:	S01895
Applies:	S00001
Shape class:	Lines , Trapezoids
Function class:	X Connecting
Application class:	Connection diagrams, Installation diagrams, Network maps
Remarks:	The symbol is shown with three one-core cables.

S00052



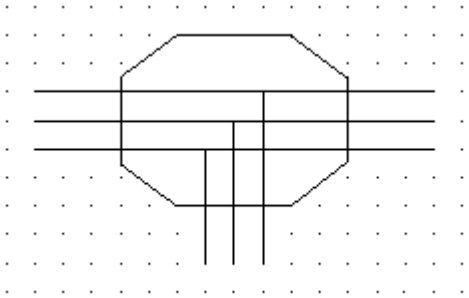
Name:	Straight-through joint box (multi-line representation)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-04-03
Keywords:	cable fittings
Alternative forms:	S00053
Applied in:	S00054
Applies:	S00001
Shape class:	Hexagons, Lines
Function class:	X Connecting
Application class:	Connection diagrams, Installation diagrams, Network maps
Remarks:	The symbol is shown with three conductors in multi-line representation

S00053



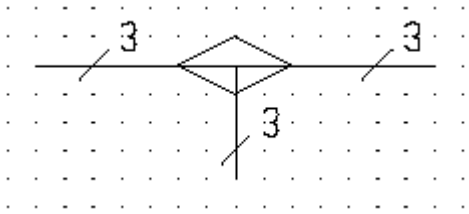
Name:	Straight-through joint box (single-line representation)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-04-04
Keywords:	cable fittings
Alternative forms:	S00052
Applied in:	S00055
Applies:	S00003
Shape class:	Characters, Lines , Parallelograms
Function class:	X Connecting
Application class:	Connection diagrams, Installation diagrams, Network maps
Remarks:	The symbol is shown with three conductors in single-line representation.

S00054



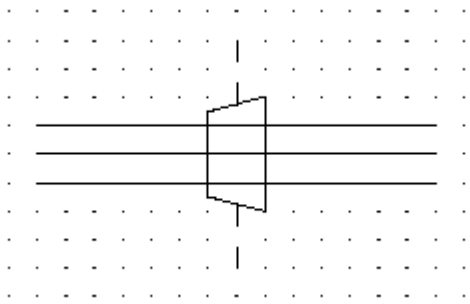
Name:	Junction box (multi-line representation)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-04-05
Keywords:	cable fittings
Alternative forms:	S00055
Applies:	S00001; S00019; S00052
Shape class:	Lines , Octagons
Function class:	X Connecting
Application class:	Connection diagrams, Installation diagrams, Network maps
Remarks:	The symbol is shown with three conductors with T-connections in multi-line representation

S00055



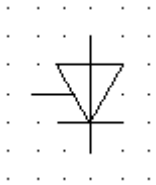
Name:	Junction box (single-line representation)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-04-06
Keywords:	cable fittings
Alternative forms:	S00054
Applies:	S00003; S00019; S00053
Shape class:	Characters, Lines , Parallelograms
Function class:	X Connecting
Application class:	Connection diagrams, Installation diagrams, Network maps
Remarks:	The symbol is shown with three conductors with T-connections in single-line representation.

S00056



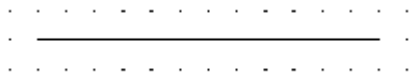
Name:	Pressure-tight bulkhead cable gland
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-04-07
Keywords:	cable fittings
Applied in:	S00513
Application notes:	A00012
Shape class:	Lines , Trapezoids
Function class:	X Connecting
Application class:	Connection diagrams, Installation diagrams, Network maps
Remarks:	The symbol is shown with three cables.

S00057



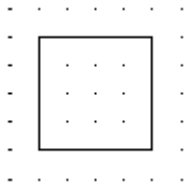
Name:	Triode thyristor, type unspecified
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-04-04
Keywords:	semiconductors, thyristors
Applies:	S00613; S00619
Application notes:	A00184
Shape class:	Equilateral triangles, Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams
Remarks:	This symbol is used to represent a reverse blocking triode thyristor, if it is not necessary to specify the type of gate.

S00058



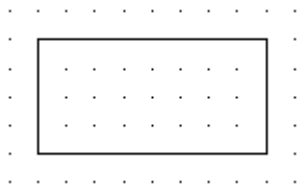
Name:	Group of connections
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-3 (ed.2.0) 03-01-01
Keywords:	connections
Applied in:	S00003, S01414, S00002, S00050
Application notes:	A00192, A00193, A00194
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams
Remarks:	See also symbol S00001.

S00059



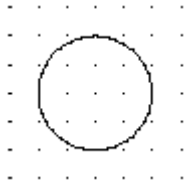
Name:	Object
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-01-01
Alternative names:	Equipment;Device;Functional unit;Component;Function
Keywords:	envelopes, outlines
Form:	Form 1
Alternative forms:	S00060; S00061
Applied in:	S01465, S01075, S00392, S00395, S00398, S00394, S00401, S00404, S00402, S00399, S00442, S01463, S01464, S00781, S01130, S01078, S01035, S00992, S01076, S01175, S00896, S00894, S01184, S01037, S00533, S00893, S00785, S01032, S01167, S00899, S01421, S00549, S01244, S00900, S00783, S01029, S01174, S01033, S00548, S01034, S01181, S00897, S00393, S00443, S00993, S00397, S00403, S01655, S01136, S01177, S01079, S00396, S00494, S01896, S00385, S00492, S00608, S01030, S01125, S01176, S01904, S01910, S01031, S00391, S00519, S01036, S00400, S00386, S00552, S01225, S00515
Application notes:	A00013
Shape class:	Squares
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00060



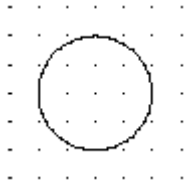
Name:	Object
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-01-02
Alternative names:	Equipment; Device; Functional unit; Component; Function
Keywords:	envelopes, outlines
Form:	Form 2
Alternative forms:	S00059; S00061
Applied in:	S01923, S01420, S00387, S00479, S00455, S00456, S00994, S01419, S00480, S01327, S01326, S01888, S01887, S01328, S01893, S00784, S00495, S00516, S00609, S00388, S00478
Application notes:	A00013
Shape class:	Rectangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00061



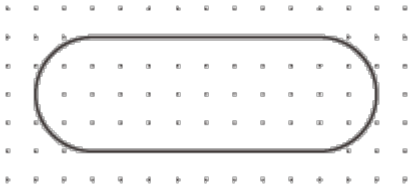
Name:	Object
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-01-03
Alternative names:	Equipment; Device; Functional unit; Component; Function
Keywords:	envelopes, outlines
Form:	Form 3
Alternative forms:	S00059; S00060
Applied in:	S01903, S00390, S00453, S01845, S01844, S01133, S00493, S01894, S00405, S00428, S00389, S00429, S00436, S00406, S00534
Application notes:	A00013
Shape class:	Circles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00062



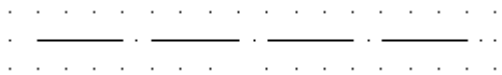
Name:	Envelope
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-01-04
Keywords:	envelopes, outlines
Form:	Form 1
Alternative forms:	S00063
Applied in:	S00266, S00742, S00744, S00421, S00778, S00776, S00790, S00789, S00777, S00731, S00780, S00771, S00693, S00772, S00769, S00664, S00694, S00791, S00743
Application notes:	A00014, A00015, A00016, A00017
Shape class:	Circles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00063



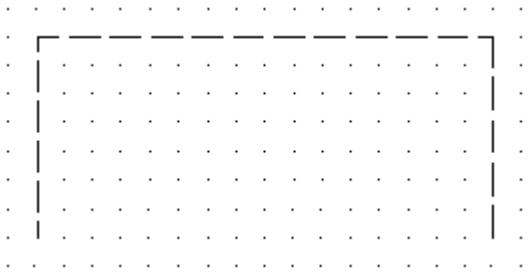
Name:	Envelope
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-01-05
Keywords:	envelopes, outlines
Form:	Form 2
Alternative forms:	S00062
Applied in:	S00745, S00751, S00774, S00752, S01391, S00734, S00792, S00763, S00770, S00735, S00757, S00733, S00756, S00759, S00753, S00779, S00746, S00755, S00761, S00767, S00754, S00793, S00758, S00794, S00760, S00732, S00747, S00762, S00773, S00764
Application notes:	A00014, A00015, A00016, A00017
Shape class:	Barrels, Ovals
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	2023-11-29 Editorial change to include grid dots within envelope.

S00064



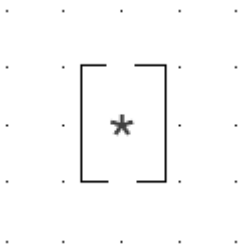
Name:	Boundary
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-01-06
Keywords:	envelopes, outlines
Application notes:	A00018, A00019
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00065



Name:	Screen
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-01-07
Alternative names:	Shield
Keywords:	envelopes, outlines, screens, shields
Applied in:	S00853, S00852, S00694
Application notes:	A00020
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	For example for reducing penetration of electric or electromagnetic fields.

S00066



Name:	Protection against unintentional direct contact, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-01-08
Keywords:	envelopes, outlines, protections against contact
Applied in:	S00168
Application notes:	A00021
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

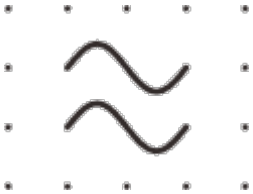
S00069 

Name:	Alternating current (indication of frequency)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-02-05
Keywords:	current, kind of current and voltage, voltage
Applies:	S01403
Application notes:	A00023
Shape class:	Characters, Depicting shapes
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Symbol restrictions:	Shown for alternating current of 50 Hz.

S00073

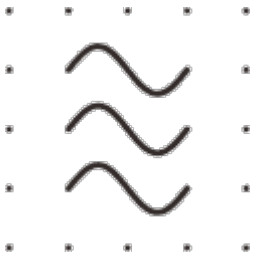
Name:	Alternating current (indication of frequency range: low)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-02-09
Alternative names:	Different frequency ranges. Relatively low frequencies (power frequencies or sub-audio frequencies)
Keywords:	current, kind of current and voltage, voltage
Application notes:	A00027
Shape class:	Depicting shapes
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00074



Name:	Alternating current (indication of frequency range: medium)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-02-10
Alternative names:	Different frequency ranges. Medium frequencies (audio)
Keywords:	current, kind of current and voltage, voltage
Applied in:	S01280, S01279, S01281
Application notes:	A00027
Shape class:	Depicting shapes
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00075



Name:	Alternating current (indication of frequency range: high)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-02-11
Alternative names:	Different frequency ranges.Relatively high frequencies (super audio, carrier)
Keywords:	current, kind of current and voltage, voltage
Applied in:	S01829, S01173, S01279, S01281
Application notes:	A00027
Shape class:	Depicting shapes
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00076

Name:	Rectified current with alternating component
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-02-12
Keywords:	current, kind of current and voltage, voltage
Shape class:	Depicting shapes, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If it is necessary to distinguish from a rectified and filtered current.

S00077

Name:	Positive polarity
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-02-13
Keywords:	current, kind of current and voltage, voltage
Applied in:	S00582, S00952, S00581, S00571
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00078 –

Name:	Negative polarity
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-02-14
Keywords:	current, kind of current and voltage, voltage
Applied in:	S00952
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00079

N

Name:	Neutral
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-02-15
Keywords:	current, kind of current and voltage, voltage
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	This symbol for neutral is given in IEC 60445.

S00080

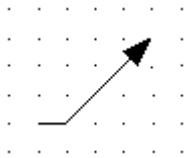
M

Name:	Mid-wire
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-02-16
Keywords:	current, kind of current and voltage, voltage
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	This symbol for mid-wire is given in IEC 60445.

S00081

Name:	Adjustability, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-03-01
Keywords:	adjustability, variability
Applied in:	S00082, S00088, S00299, S00751, S01430, S01429, S01157, S01099, S00527, S00877, S01097, S00579, S01245, S00753, S00573, S00857, S01229, S00875, S00865, S00856, S00577, S01241, S00441, S00565, S00874, S00876, S00864, S00590, S00587, S00557, S00768
Application notes:	A00261
Shape class:	Arrows
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00082

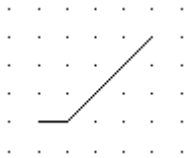


Name:	Adjustability, non-linear
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-03-02
Keywords:	adjustability, variability
Applies:	S00081
Application notes:	A00261
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00083

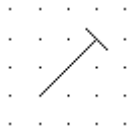
Name:	Variability, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-03-03
Keywords:	adjustability, variability
Applied in:	S00084, S00689
Application notes:	A00031, A00032, A00261
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00084



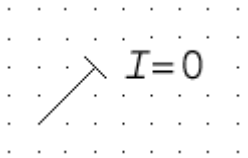
Name:	Variability, non-linear
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-03-04
Keywords:	adjustability, variability
Applied in:	S00582, S00558, S00690, S00581
Applies:	S00083
Application notes:	A00031, A00032, A00261
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00085



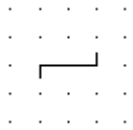
Name:	Adjustability, pre-set
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-03-05
Keywords:	adjustability, variability
Applied in:	S00086, S00343, S00090, S00562, S00575
Application notes:	A00031, A00032, A00033, A00261
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00086



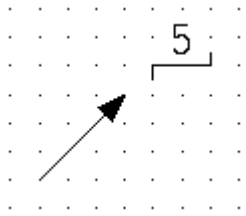
Name:	Pre-set adjustability
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-03-06
Keywords:	adjustability, variability
Applies:	S00085; S00111
Application notes:	A00031, A00032, A00033, A00261
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Pre-set adjustment permitted only at zero current.

S00087



Name:	Action in steps
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-03-07
Keywords:	adjustability, automatic control, variability
Applied in:	S00088, S00524, S00589, S00865, S00298, S00864, S00821
Application notes:	A00034
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00088

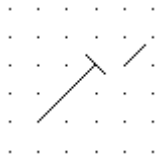


Name:	Adjustability step by step
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-03-08
Keywords:	adjustability, variability
Applies:	S00081; S00087
Application notes:	A00031, A00034, A00261
Shape class:	Arrows, Characters, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	5 steps shown.

S00089

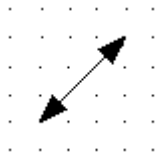
Name:	Continuous variability
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-03-09
Keywords:	adjustability, automatic control, variability
Applied in:	S00090
Application notes:	A00031, A00261
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00090



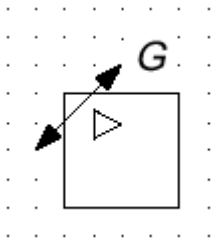
Name:	Continuous variability, pre-set
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-03-10
Alternative names:	Pre-set adjustment, continuously variable
Keywords:	adjustability, variability
Applies:	S00085; S00089
Application notes:	A00031, A00261
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00091



Name:	Automatic control
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-03-11
Keywords:	adjustability, automatic control, variability
Applied in:	S00092
Application notes:	A00031, A00035, A00261
Shape class:	Arrows
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00092

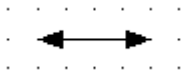


Name:	Amplifier with automatic gain control
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-03-12
Keywords:	adjustability, amplifiers, automatic control, variability
Applies:	S00091; S01240
Application notes:	A00031, A00035, A00261
Shape class:	Arrows, Squares
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	Amplifier with automatic gain control shown.

S00093

Name:	Rectilinear motion (unidirectional)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-04-01
Alternative names:	Force; Unidirectional, in the direction of the arrowhead
Keywords:	direction, force, motion
Applied in:	S00145, S00187, S01453, S01452, S01175, S00949, S01177, S00948, S01176, S00474, S00840
Application notes:	A00036, A00037
Shape class:	Arrows
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00094



Name:	Rectilinear motion (bidirectional)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-04-02
Alternative names:	Force
Keywords:	direction, force, motion
Applied in:	S00122, S01221, S01179, S01211, S01222, S01218, S01220, S00188, S00523, S01158
Application notes:	A00036, A00037
Shape class:	Arrows
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00095

Name:	Circular motion (unidirectional)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-04-03
Alternative names:	Rotation; Torque
Keywords:	direction, force, motion
Applied in:	S00146, S00162, S01197, S01196, S01199, S00964, S00767
Application notes:	A00035, A00036
Shape class:	Arrows, Circle segments
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Circular motion, rotation or torque in the direction of the arrowhead.

S00096

Name:	Circular motion (bidirectional)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-04-04
Alternative names:	Rotation; Torque
Keywords:	direction, force, motion
Applied in:	S00162, S00301, S01200, S01152, S01201, S01202, S01198
Application notes:	A00036, A00037
Shape class:	Arrows, Circle segments
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

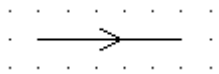
S00097

Name:	Circular motion (bidirectional and limited)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-04-05
Alternative names:	Rotation; Torque
Keywords:	direction, force, motion
Application notes:	A00035, A00036
Shape class:	Arrows, Circle segments, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Circular motion, rotation or torque limited in both directions.

S00098

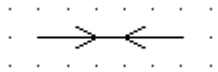
Name:	Oscillating motion
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-04-06
Keywords:	direction, force, motion
Applied in:	S00317, S01109
Application notes:	A00035, A00036
Shape class:	Depicting shapes
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00099



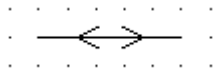
Name:	Propagation (one way)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-05-01
Alternative names:	Energy flow; Signal flow; Information flow
Keywords:	direction, flow
Applied in:	S01716, S00985, S01738, S01603, S00942, S01280, S01254, S01279, S01378, S01040, S01713, S01281, S01041, S01252, S01377, S01596, S01253, S01746, S01038, S01739, S00104, S00940, S01599, S00105, S00934, S00941, S01251
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00100



Name:	Propagation, both ways, simultaneously
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-05-02
Alternative names:	Simultaneous transmission and reception
Keywords:	direction, flow
Applied in:	S01803, S01126, S01039
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Simultaneous transmission and reception.

S00101



Name:	Propagation, both ways, not simultaneously
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-05-03
Alternative names:	Alternate transmission and reception
Keywords:	direction, flow
Applied in:	S01716, S01603, S01629, S00497, S01129, S01713, S01131, S01635, S01628, S00897, S01547, S01030, S01031
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Alternate transmission and reception.

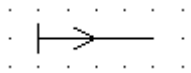
S00102

Name:	Transmission
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-05-04
Keywords:	direction, flow
Applied in:	S01923, S01128, S01035, S01037, S01029, S01034, S01036
Application notes:	A00038
Shape class:	Arrows, Dots (points), Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Symbol S01128 shows an example where the dot may be omitted.

S00103

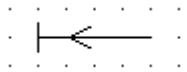
Name:	Reception
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-05-05
Keywords:	direction, flow
Applied in:	S01923, S01037, S01032, S01127, S01033, S01036
Application notes:	A00039
Shape class:	Arrows, Dots (points), Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Symbol S01127 shows an example where the dot may be omitted..

S00104



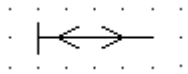
Name:	Energy flow from the busbars
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-05-06
Keywords:	busbars, direction, flow
Applied in:	S00935
Applies:	S00099
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00105



Name:	Energy flow towards the busbars
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-05-07
Keywords:	busbars, direction, flow
Applied in:	S00343, S00936
Applies:	S00099
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00106



Name:	Energy flow, bidirectional (towards and from the busbars)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-05-08
Keywords:	busbars, direction, flow
Alternative forms:	S00103
Applied in:	S00937
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00108 >

Name:	Actuating (higher than)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-06-01
Keywords:	dependence on a quantity, quantity dependency
Applied in:	S00343, S00350, S00345, S00341
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Actuating when the characteristic quantity is higher than the setting value. See also ISO/IEC 646.

S00109 <

Name:	Actuating (lower than)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-06-02
Keywords:	dependence on a quantity, quantity dependency
Applied in:	S00340, S00344, S00351, S00346, S00345, S00349, S00347
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Actuating when the characteristic quantity is lower than the setting value. See also ISO/IEC 646.

S00110

Name:	Actuating (either higher than or lower than)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-06-03
Keywords:	dependence on a quantity, quantity dependency
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Actuating when the characteristic quantity is either higher than a given high setting or lower than a given low setting.

S00111

= 0

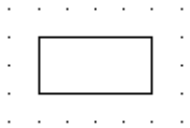
Name:	Actuating (equal to zero)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-06-04
Keywords:	dependence on a quantity, quantity dependency
Applied in:	S00086, S00338
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Actuating when the value of the characteristic quantity is equal to zero.

S00112

≈ 0

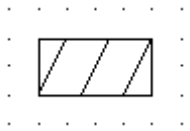
Name:	Actuating (approximately equal to zero)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-06-05
Keywords:	dependence on a quantity, quantity dependency
Applied in:	S00350, S01832
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Actuating when the value of the characteristic quantity is approximately equal to zero.

S00113



Name:	Material, unspecified
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-07-01
Keywords:	material
Applied in:	S00114, S00116, S00115, S00118, S00119, S00117
Application notes:	A00040
Shape class:	Rectangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00114

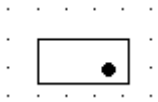


Name:	Material, solid
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-07-02
Keywords:	material
Applied in:	S00607, S01217, S01216, S00356
Applies:	S00113
Application notes:	A00040
Shape class:	Lines , Rectangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00115

Name:	Material, liquid
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-07-03
Keywords:	material
Applied in:	S00792, S00408, S00793, S00794, S00795
Applies:	S00113
Application notes:	A00040
Shape class:	Circle segments, Rectangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00116

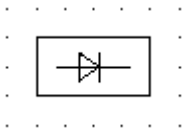


Name:	Material, gas
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-07-04
Keywords:	material
Applied in:	S00199, S00198, S00266, S00745, S00774, S00781, S00790, S00780, S00771, S00693, S00772, S00770, S00769, S00783, S00775, S00782, S00784, S00791, S00773
Applies:	S00113
Application notes:	A00040
Shape class:	Dots (points), Rectangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00117

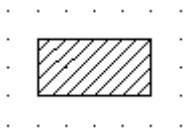
Name:	Material, electret
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-07-05
Keywords:	material
Applied in:	S00603
Applies:	S00113
Application notes:	A00040
Shape class:	Equilateral triangles, Rectangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00118



Name:	Material, semiconducting
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-07-06
Keywords:	material
Applied in:	S00785
Applies:	S00113
Application notes:	A00040
Shape class:	Equilateral triangles, Lines , Rectangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00119



Name:	Material, insulating
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-07-07
Keywords:	material
Applies:	S00113
Application notes:	A00040
Shape class:	Lines , Rectangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00120

Name:	Thermal effect
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-08-01
Keywords:	dependence, effect, thermal
Applied in:	S00191, S00266, S00265, S00381, S00325
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00121

Name:	Electromagnetic effect
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-08-02
Keywords:	dependence, effect, electromagnetic
Applied in:	S00190
Shape class:	Half-circles, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

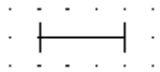
S00122

Name:	Magnetostrictive effect
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-08-03
Keywords:	dependence, effect, magnetostrictive
Applied in:	S00605, S00609, S00604
Applies:	S00094
Shape class:	Arrows, Half-circles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00123

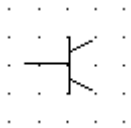
Name:	Magnetic field effect or dependence
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-08-04
Keywords:	dependence, effect, magnetic
Applied in:	S00689, S00690, S00688
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00124



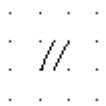
Name:	Delay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-08-05
Keywords:	delayed operation, dependence, effect
Applied in:	S00337, S00343, S01266, S00353, S00607, S00605, S01655, S00341, S00609, S00604, S00608
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00125



Name:	Semiconductor effect
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-08-06
Keywords:	dependence, effect, semiconductors
Applied in:	S00194, S00382, S00326
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00126



Name:	Coupling effect with electrical separation
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-08-07
Keywords:	couplers, dependence, effect
Applied in:	S00384, S00383
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00127

Name:	Radiation, electromagnetic, non-ionizing
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-09-01
Alternative names:	Light
Keywords:	radiation
Applied in:	S00384, S01431, S01078, S00488, S00686, S00786, S01318, S00685, S01327, S01920, S00904, S00788, S00642, S00906, S01326, S00684, S00687, S01919, S00489, S01216, S01063, S01079, S00130, S00908, S00787
Application notes:	A00041, A00042
Shape class:	Arrows
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	For example radio waves or visible light.

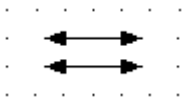
S00128

Name:	Radiation, coherent, non-ionizing
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-09-02
Alternative names:	Light
Keywords:	radiation
Applied in:	S00131, S01214, S01876, S01215, S01328
Application notes:	A00041, A00042
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	For example coherent light.

S00129

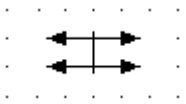
Name:	Radiation, ionizing
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-09-03
Keywords:	radiation
Applied in:	S00781, S00790, S00901, S00789, S00786, S00785, S00907, S00783, S00788, S00905, S01875, S00782, S00784, S00787, S00791
Application notes:	A00041, A00042, A00043
Shape class:	Arrows
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00130



Name:	Radiation, electromagnetic, non-ionizing, bidirectional
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-09-04
Keywords:	radiation
Applied in:	S00131
Applies:	S00127
Application notes:	A00041
Shape class:	Arrows
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	For example radiation produced by radar or photorelay with mirror reflector.

S00131



Name:	Radiation, coherent, non-ionizing, bidirectional
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-09-05
Keywords:	radiation
Applies:	S00128; S00130
Application notes:	A00041
Shape class:	Arrows
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00132

Name:	Pulse, positive-going
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-10-01
Keywords:	signal waveform
Applied in:	S01263, S01219, S01675, S01235, S01221, S00546, S01222, S01218, S01220, S00966, S00550, S01237, S01674, S01238, S00551, S01223, S01228, S00545
Application notes:	A00044
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

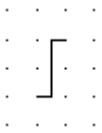
S00133

Name:	Pulse, negative-going
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-10-02
Keywords:	signal waveform
Applied in:	S01235
Application notes:	A00044
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00134

Name:	Pulse, alternating current
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-10-03
Keywords:	signal waveform
Application notes:	A00044
Shape class:	Depicting shapes
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00135

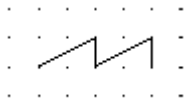


Name:	Step function, positive going
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-10-04
Keywords:	signal waveform
Applied in:	S00792, S01038, S01257
Application notes:	A00044
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00136

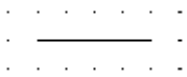
Name:	Step function, negative going
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-10-05
Keywords:	signal waveform
Application notes:	A00044
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00137



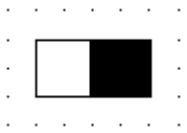
Name:	Saw-tooth wave
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-10-06
Keywords:	signal waveform
Applied in:	S01227
Application notes:	A00044
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00138



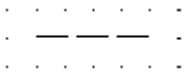
Name:	Printing, tape
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-11-01
Alternative names:	Tape printing
Keywords:	facsimile, perforating, printing
Applied in:	S00942, S00495, S01031
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00143



Name:	Facsimile
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-11-06
Keywords:	facsimile, perforating, printing
Applied in:	S01033
Shape class:	Rectangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00144



Name:	Link
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-01
Alternative names:	Mechanical link, pneumatic link, hydraulic link, optical link, functional link, radio link
Keywords:	links, mechanical control, other control
Form:	Form 1
Alternative forms:	S00147
Applied in:	S00145, S00146, S00190, S00191, S00364, S00261, S00034, S00269, S00164, S00165, S00248, S00267, S00268
Application notes:	A00045
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

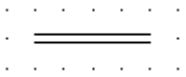
S00145

Name:	Mechanical link (force or motion)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-02
Alternative names:	Link, mechanical ; Mechanical link with indication of direction of force or motion
Keywords:	links, mechanical control, other control
Applied in:	S00294, S00295
Applies:	S00093; S00144
Application notes:	A00045
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00146

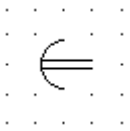
Name:	Mechanical link (rotation)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-03
Alternative names:	Link, mechanical; Mechanical link with indication of direction of rotation.
Keywords:	links, mechanical control, other control
Applies:	S00095; S00144
Application notes:	A00045, A00046
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00147



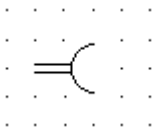
Name:	Link
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-04
Keywords:	links, mechanical control, other control
Form:	Form 2
Alternative forms:	S00144
Applied in:	S01200, S00148, S00149, S01202, S00822
Application notes:	A00045
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00148



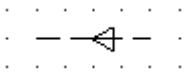
Name:	Delayed action
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-05
Alternative names:	Action, delayed
Keywords:	links, mechanical control, other control
Form:	Form 1
Alternative forms:	S00149
Applied in:	S00245, S00247, S01911, S00243
Applies:	S00147
Application notes:	A00047
Shape class:	Half-circles, Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00149



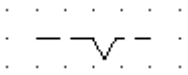
Name:	Delayed action
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-06
Alternative names:	Action, delayed
Keywords:	links, mechanical control, other control
Form:	Form 2
Alternative forms:	S00148
Applied in:	S00244, S00247, S01911, S00246
Applies:	S00147
Application notes:	A00047
Shape class:	Half-circles, Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00150



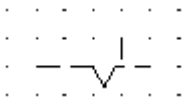
Name:	Automatic return
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-07
Alternative names:	Return, automatic
Keywords:	links, mechanical control, other control
Applied in:	S00294, S00295, S00267
Application notes:	A00048
Shape class:	Equilateral triangles
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00151



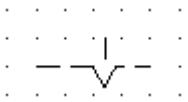
Name:	Detent
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-08
Alternative names:	Non-automatic return; Return, non-automatic; Device for maintaining a given position
Keywords:	links, mechanical control, other control
Applied in:	S00152, S00153, S00258, S00294, S01864, S00267
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00152



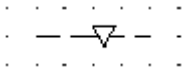
Name:	Detent, disengaged
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-09
Keywords:	links, mechanical control, other control
Applies:	S00151
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00153



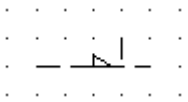
Name:	Detent, engaged
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-10
Keywords:	links, mechanical control, other control
Applies:	S00151
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00154



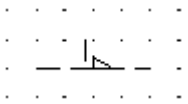
Name:	Mechanical interlock
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-11
Alternative names:	Interlock, mechanical; Mechanical interlock between two devices
Keywords:	links, mechanical control, other control
Shape class:	Equilateral triangles, Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00155



Name:	Latching device, disengaged
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-12
Keywords:	links, mechanical control, other control
Shape class:	Lines , Right-angled triangle
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00156

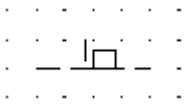


Name:	Latching device, engaged
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-13
Keywords:	links, mechanical control, other control
Shape class:	Lines , Right-angled triangle
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00157

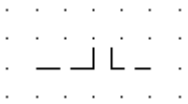
Name:	Blocking device
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-14
Keywords:	links, mechanical control, other control
Applied in:	S00158
Shape class:	Lines , Rectangles
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00158



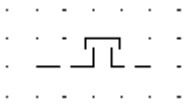
Name:	Blocking device, engaged
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-15
Alternative names:	Blocking device engaged,movement to the left blocked
Keywords:	links, mechanical control, other control
Applied in:	S00292
Applies:	S00157
Shape class:	Lines , Rectangles
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00159



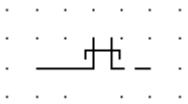
Name:	Clutch; Mechanical coupling
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-16
Keywords:	links, mechanical control, other control
Applied in:	S00160, S00161
Shape class:	Lines
Function class:	X Connecting
Application class:	Circuit diagrams

S00160



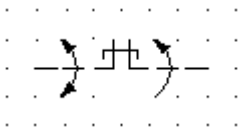
Name:	Mechanical coupling, disengaged
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-17
Keywords:	links, mechanical control, other control
Applies:	S00159
Shape class:	Lines
Function class:	X Connecting
Application class:	Circuit diagrams

S00161



Name:	Mechanical coupling, engaged
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-18
Keywords:	links, mechanical control, other control
Applied in:	S00162
Applies:	S00159
Shape class:	Lines
Function class:	X Connecting
Application class:	Circuit diagrams

S00162

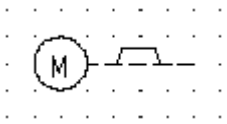


Name:	Unidirectional coupling device for rotation
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-19
Alternative names:	Free wheel
Keywords:	links, mechanical control, other control
Applies:	S00095; S00096; S00161
Shape class:	Arrows, Lines
Function class:	X Connecting
Application class:	Circuit diagrams
Remarks:	The coupling shown in engaged position.

S00163

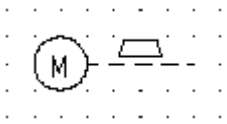
Name:	Brake
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-20
Keywords:	brakes, links, mechanical control, other control
Applied in:	S00164, S00165
Shape class:	Trapezoids
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams

S00164



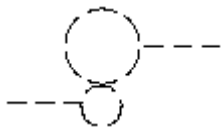
Name:	Brake, applied
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-21
Alternative names:	Electric motor with brake applied.
Keywords:	brakes, links, mechanical control, other control
Applies:	S00144; S00163; S00819
Shape class:	Depicting shapes
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams

S00165



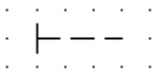
Name:	Brake, released
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-22
Alternative names:	Electric motor with brake released
Keywords:	brakes, links, mechanical control, other control
Applies:	S00144; S00163; S00819
Shape class:	Depicting shapes
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams

S00166



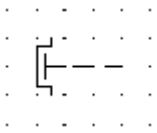
Name:	Gearing
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-12-23
Keywords:	gearings, links, mechanical control
Shape class:	Circles, Lines
Function class:	X Connecting
Application class:	Circuit diagrams

S00167



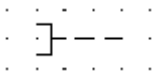
Name:	Actuator, manual, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-01
Keywords:	actuators
Applied in:	S00292, S00273, S00168, S00253, S00294, S00295, S00948
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams, Conceptual elements or qualifiers

S00168



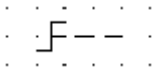
Name:	Actuator, manual (protected)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-02
Alternative names:	Manual actuator protected against unintentional operation
Keywords:	actuators
Applied in:	S00477
Applies:	S00066; S00167
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00169



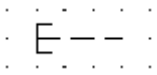
Name:	Actuator (operated by pulling)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-03
Keywords:	actuators
Applied in:	S00255
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00170



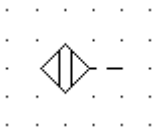
Name:	Actuator (operated by turning)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-04
Keywords:	actuators
Applied in:	S00256, S00269, S00268
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00171



Name:	Actuator (operated by pushing)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-05
Keywords:	actuators
Applied in:	S00254, S00269, S00268
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00172

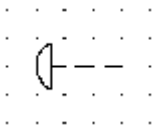


Name:	Actuator (operated by proximity effect)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-06
Keywords:	actuators
Applied in:	S00361, S00359
Shape class:	Lines , Squares
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00173

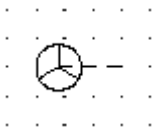
Name:	Actuator (operated by touching)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-07
Keywords:	actuators
Applied in:	S00358
Shape class:	Lines , Squares
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00174



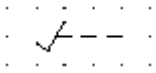
Name:	Actuator, emergency
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-08
Alternative names:	Emergency actuator, type "mushroom-head"
Keywords:	actuators, emergency actuators
Applied in:	S00258, S01864
Shape class:	Circle segments, Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00175



Name:	Actuator (operated by handwheel)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-09
Keywords:	actuators
Shape class:	Circles, Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00176

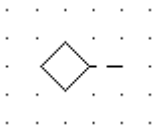


Name:	Actuator (operated by pedal)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-10
Keywords:	actuators
Applied in:	S01865
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00177

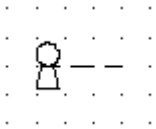
Name:	Actuator (operated by lever)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-11
Keywords:	actuators
Applied in:	S00272
Shape class:	Circles, Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00178



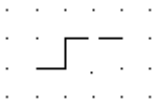
Name:	Actuator (operated by removable handle)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-12
Keywords:	actuators
Shape class:	Lines , Squares
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00179



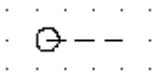
Name:	Actuator (operated by key)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-13
Keywords:	actuators
Applied in:	S00480
Shape class:	Depicting shapes
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00180



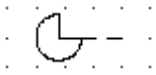
Name:	Actuator (operated by crank)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-14
Keywords:	actuators
Applied in:	S01024, S00822
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00181



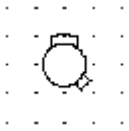
Name:	Actuator (operated by roller)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-15
Keywords:	actuators
Applied in:	S00185
Shape class:	Circles, Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00182



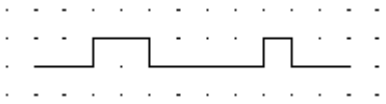
Name:	Actuator (operated by cam)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-16
Keywords:	actuators
Applied in:	S00184, S00951, S00183
Application notes:	A00049
Shape class:	Circle segments, Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00183



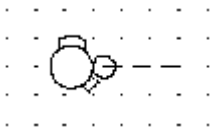
Name:	Actuator (operated by cam/cam profile)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-17
Keywords:	actuators
Applied in:	S00185
Applies:	S00182
Application notes:	A00049
Shape class:	Depicting shapes
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams
Remarks:	An example of cam profile is shown

S00184



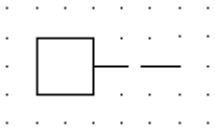
Name:	Actuator (operated by cam/profile plate)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-18
Keywords:	actuators
Applies:	S00182
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams
Remarks:	An example of cam profile in developed representation is shown

S00185



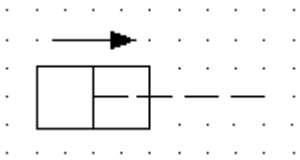
Name:	Actuator (operated by cam and roller)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-19
Keywords:	actuators
Applies:	S00181; S00183
Application notes:	A00049
Shape class:	Depicting shapes
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00186



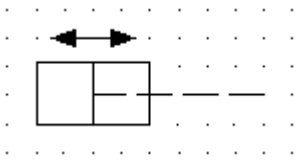
Name:	Actuator (operated by stored mechanical energy)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-20
Keywords:	actuators
Applied in:	S01406
Application notes:	A00050
Shape class:	Squares
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00187



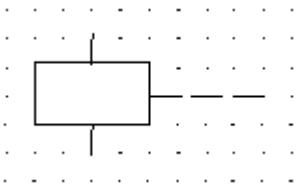
Name:	Actuator (actuated by pneumatic or hydraulic power/ single action)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-21
Alternative names:	Single acting actuator
Keywords:	actuators
Applies:	S00093
Shape class:	Arrows, Lines , Rectangles
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00188



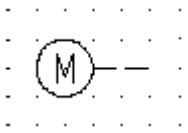
Name:	Actuator (actuated by pneumatic or hydraulic power/double acting)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-22
Alternative names:	Double acting actuator
Keywords:	actuators
Applies:	S00094
Shape class:	Arrows, Lines , Rectangles
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00189



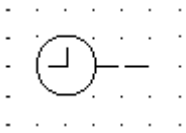
Name:	Actuator (actuated by electromagnetic effect)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-23
Keywords:	actuators
Shape class:	Lines , Rectangles
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00192



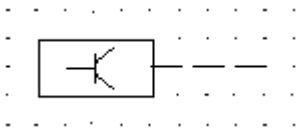
Name:	Actuator (operated by electric motor)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-26
Keywords:	actuators
Applied in:	S00294, S00295
Applies:	S00819
Shape class:	Characters, Circles
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00193



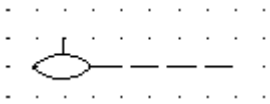
Name:	Actuator (operated by electric clock)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-27
Keywords:	actuators
Applies:	S00959
Shape class:	Circles
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00194



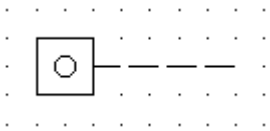
Name:	Actuator (semiconductor)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-13-28
Alternative names:	Semiconductor actuator
Keywords:	actuators
Applies:	S00125
Shape class:	Lines , Rectangles
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00195



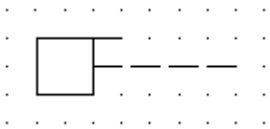
Name:	Actuator (actuated by liquid level)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-14-01
Keywords:	actuators
Applied in:	S00352
Shape class:	Circle segments, Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00196



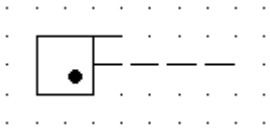
Name:	Actuator (actuated by a counter)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-14-02
Keywords:	actuators
Applies:	S00946
Shape class:	Circles, Lines , Squares
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00197



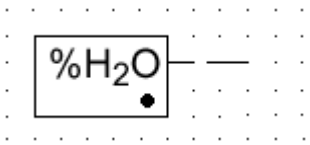
Name:	Actuator (actuated by fluid flow)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-14-03
Keywords:	actuators
Applied in:	S00198
Shape class:	Lines , Squares
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00198



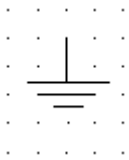
Name:	Actuator (actuated by gas flow)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-14-04
Keywords:	actuators
Applied in:	S00352
Applies:	S00116; S00197
Shape class:	Dots (points), Lines , Squares
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00199



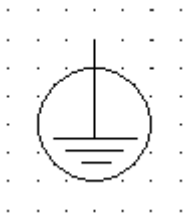
Name:	Actuator (actuated by relative humidity)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-14-05
Keywords:	actuators
Applies:	S00116
Shape class:	Characters, Lines , Rectangles
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00200



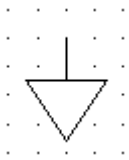
Name:	Earth, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-15-01
Alternative names:	Earthing, general symbol; Ground (US), general symbol; Grounding (US), general symbol
Keywords:	earth connection, equipotentiality, frame connection, ground connection
Applied in:	S00201, S00202, S00333, S01408, S01848, S00753
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	For the definition of "earth", see IEV 195-02-03.

S00202



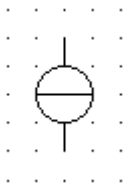
Name:	Protective earthing
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-15-03
Alternative names:	Protective grounding (US); Protective earthing conductor; Protective earthing terminal; Protective grounding conductor (US); Protective grounding terminal (US)
Keywords:	earth connection, equipotentiality, frame connection, ground connection
Applies:	S00200
Shape class:	Circles, Lines
Function class:	- Functional elements or attributes, W Guiding or transporting, X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams, Conceptual elements or qualifiers
Remarks:	For the definition of "protective earthing", see IEV 195-01-11.

S00204



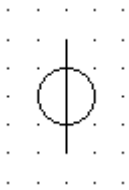
Name:	Protective equipotential bonding
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-15-05
Alternative names:	Protective bonding conductor; Protective bonding terminal
Keywords:	equipotentiality, frame connection
Applied in:	S01799
Shape class:	Equilateral triangles
Function class:	- Functional elements or attributes, W Guiding or transporting, X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams, Conceptual elements or qualifiers
Remarks:	For the definition of "protective equipotential bonding", see IEV 195-01-15.

S00205



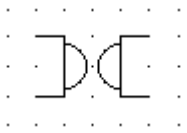
Name:	Ideal current source
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-16-01
Keywords:	ideal circuit elements
Application notes:	A00054
Shape class:	Circles, Lines
Function class:	- Functional elements or attributes
Application class:	Function diagrams

S00206



Name:	Ideal voltage source
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-16-02
Keywords:	ideal circuit elements
Application notes:	A00054
Shape class:	Circles, Lines
Function class:	- Functional elements or attributes
Application class:	Function diagrams

S00207



Name:	Ideal gyrator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-16-03
Keywords:	ideal circuit elements
Application notes:	A00054
Shape class:	Half-circles, Lines
Function class:	- Functional elements or attributes
Application class:	Function diagrams

S00208

Name:	Fault
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-17-01
Alternative names:	Indication of assumed fault location
Keywords:	faults, indications of fault
Shape class:	Arrows
Function class:	- Functional elements or attributes
Application class:	Function diagrams

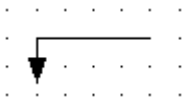
S00209

Name:	Flashover
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-17-02
Alternative names:	Break-through
Keywords:	faults, indications of fault
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Function diagrams

S00210

Name:	Permanent magnet
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-17-03
Alternative names:	Magnet, permanent
Keywords:	magnet
Applied in:	S00734, S01027, S00765, S00763, S00749, S00831, S00757, S00756, S00759, S00826, S00319, S00761, S00767, S00360
Shape class:	Depicting shapes
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00211

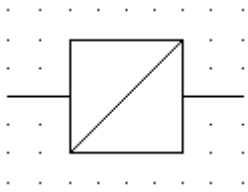


Name:	Movable contact
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-17-04
Alternative names:	Sliding contact
Keywords:	contacts
Applied in:	S00560, S00559, S00589, S00525, S00562, S00561
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00212

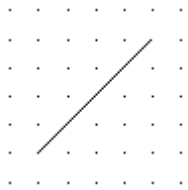
Name:	Test point indicator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-17-05
Keywords:	testing points
Application notes:	A00250
Shape class:	Dots (points), Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00213



Name:	Converter, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-17-06
Alternative names:	Power converter; Signal converter; Measuring transducer; Repeater
Keywords:	converters, power converters, repeaters, signal converters
Applied in:	S01235, S00894, S01040, S00958, S01234, S01041, S01233, S01231, S01232, S01039, S01038, S01237, S01238, S01922, S01236
Applies:	S00214
Application notes:	A00055, A00056
Replacing:	S00958; S01231
Shape class:	Lines , Squares
Function class:	B Converting variable to signal, T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00214



Name:	Conversion, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-17-06A
Keywords:	conversion, converters, power converters, signal converters
Applied in:	S00213, S01407, S01791, S00896, S00894, S00893, S00897, S01278, S01904, S01290
Replacing:	S00892
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00216

Name:	Analogue
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-17-08
Keywords:	analogue
Applied in:	S01684, S01748, S01749, S01289, S01635, S01290
Application notes:	A00057, A00058, A00358
Shape class:	Half-circles, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00217

Name:	Digital
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-2 (ed.2.0) 02-17-09
Keywords:	digital
Applied in:	S01289, S01751, S01750, S01290
Application notes:	A00057, A00059, A00358
Shape class:	Characters, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00218

Name:	Contactor function
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-01-01
Keywords:	contactors, contacts
Applied in:	S00285, S00377, S01413, S00284, S00286
Application notes:	A00061
Shape class:	Half-circles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00219

Name:	Circuit breaker function
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-01-02
Keywords:	circuit breakers
Applied in:	S00287, S01413, S01860
Application notes:	A00061
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

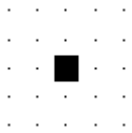
S00220

Name:	Disconnector (isolator) function
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-01-03
Keywords:	disconnectors
Applied in:	S00292, S00289, S00288, S01413, S00369, S01860
Application notes:	A00061
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00221

Name:	Switch-disconnector function
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-01-04
Alternative names:	Isolating-switch function
Keywords:	disconnectors, switches
Applied in:	S00370, S00290, S00291
Application notes:	A00061
Shape class:	Circles, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00222



Name:	Automatic tripping function
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-01-05
Keywords:	tripping
Applied in:	S00285, S01413, S00291
Application notes:	A00061
Shape class:	Squares
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The tripping function can be initiated by a built-in measuring relay or release.

S00223

Name:	Position switch function
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-01-06
Keywords:	position switches
Applied in:	S00261, S00260, S00259
Application notes:	A00061, A00062, A00063
Shape class:	Right-angled triangle
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

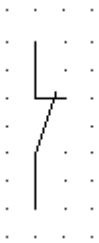
S00226

Name:	Positive operation of a switch
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-01-09
Keywords:	positive operation
Applied in:	S00296, S00258, S00262, S00257
Application notes:	A00061, A00068, A00069
Shape class:	Arrows, Circles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00227

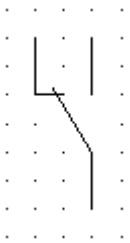
Name:	Make contact, general symbol; Switch, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-02-01
Keywords:	contacts, power switching devices, switches
Applied in:	S00244, S00249, S00254, S00255, S00376, S00256, S00263, S00287, S00292, S00290, S00285, S00288, S00296, S00250, S00261, S01413, S01454, S00961, S00951, S00365, S01859, S00247, S00366, S00950, S00259, S00253, S00269, S00294, S00295, S00248, S01855, S00267, S00243, S00268, S00284, S00358, S00359, S00367, S00291
Application notes:	A00061, A00060
Replacing:	S00228; S00283
Shape class:	Lines
Function class:	K Processing signals or information, Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00229



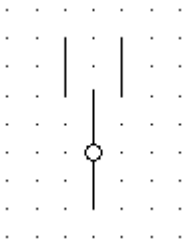
Name:	Break contact
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-02-03
Keywords:	contacts, switches
Applied in:	S00245, S00264, S00265, S00296, S00361, S00258, S00261, S01462, S01911, S00260, S00269, S00294, S00246, S00295, S00267, S00268, S00286, S01912, S00251
Application notes:	A00061, A00060
Shape class:	Lines
Function class:	K Processing signals or information, Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00230



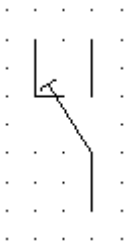
Name:	Change-over break before make contact
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-02-04
Keywords:	contacts, switches
Applied in:	S00320, S01416, S00269, S00267, S01330, S00268
Application notes:	A00061, A00060
Shape class:	Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00231



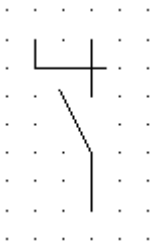
Name:	Change-over contact with off-position
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-02-05
Keywords:	contacts, switches
Applied in:	S00321, S00252
Application notes:	A00061
Shape class:	Circles, Lines
Function class:	K Processing signals or information, Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00232



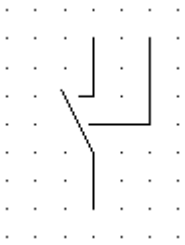
Name:	Change-over make before break contact, both ways
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-02-06
Keywords:	contacts, switches
Form:	Form 1
Alternative forms:	S00233
Application notes:	A00061, A00060
Shape class:	Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00233



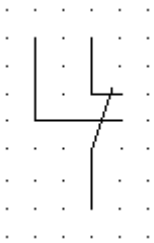
Name:	Change-over make before break contact, both ways
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-02-07
Keywords:	contacts, switches
Form:	Form 2
Alternative forms:	S00232
Applied in:	S01856, S00040, S00267
Application notes:	A00061, A00060
Shape class:	Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00234



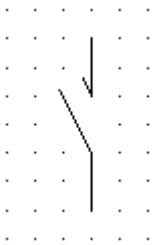
Name:	Contact with two makes
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-02-08
Keywords:	contacts, switches
Application notes:	A00061, A00060
Shape class:	Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00235



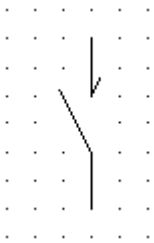
Name:	Contact with two breaks
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-02-09
Keywords:	contacts, switches
Application notes:	A00061, A00060
Shape class:	Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00236



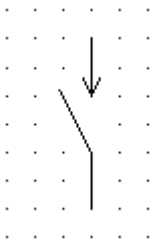
Name:	Passing make contact when actuated
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-03-01
Keywords:	contacts, switches
Application notes:	A00061, A00060
Shape class:	Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The contact is closing momentarily when its operating device is actuated.

S00237



Name:	Passing make contact when released
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-03-02
Keywords:	contacts, switches
Application notes:	A00061, A00060
Shape class:	Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The contact is closing momentarily when its operating device is released.

S00238



Name:	Passing make contact
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-03-03
Keywords:	contacts, switches
Application notes:	A00061, A00060
Shape class:	Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The contact is closing momentarily when its operating device is actuated or released.

S00239

Name:	Make contact, early closing
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-04-01
Keywords:	contacts, switches
Applied in:	S00279
Application notes:	A00061, A00060
Shape class:	Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The contact is early to close relative to the other make contacts of a contact assembly.

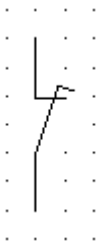
S00240

Name:	Make contact, late closing
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-04-02
Keywords:	contacts, switches
Applied in:	S00279
Application notes:	A00061, A00060
Shape class:	Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The contact is late to close relative to the other make contacts of a contact assembly.

S00241

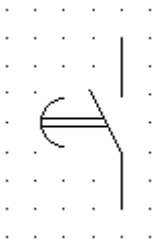
Name:	Break contact, late opening
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-04-03
Keywords:	contacts, switches
Application notes:	A00061, A00060
Shape class:	Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The contact is late to open relative to the other break contacts of a contact assembly.

S00242



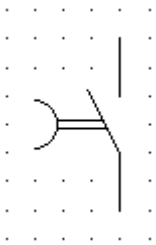
Name:	Break contact, early opening
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-04-04
Keywords:	contacts, switches
Application notes:	A00061, A00060
Shape class:	Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The contact which is early to open relative to the other break contacts of a contact assembly.

S00243



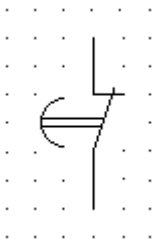
Name:	Make contact, delayed closing
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-05-01
Keywords:	contacts, switches
Applied in:	S00248
Applies:	S00148; S00227
Application notes:	A00061, A00070, A00060
Shape class:	Half-circles, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The closing of the contact is delayed when the device containing the contact is being activated.

S00244



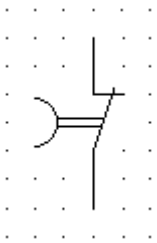
Name:	Make contact, delayed opening
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-05-02
Keywords:	contacts, switches
Applies:	S00149; S00227
Application notes:	A00061, A00070, A00060
Shape class:	Half-circles, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The opening of the contact is delayed when the device containing the contact is being de-activated.

S00245



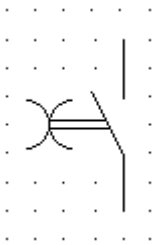
Name:	Break contact, delayed opening
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-05-03
Keywords:	contacts, switches
Applies:	S00148; S00229
Application notes:	A00061, A00070, A00060
Shape class:	Half-circles, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The opening of the contact is delayed when the device containing the contact is being activated.

S00246



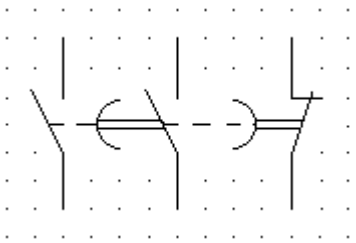
Name:	Break contact, delayed closing
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-05-04
Keywords:	contacts, switches
Applied in:	S00248
Applies:	S00149; S00229
Application notes:	A00061, A00070, A00060
Shape class:	Half-circles, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The closing of the contact is delayed when the device containing the contact is being de-activated.

S00247



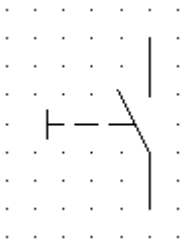
Name:	Make contact, delayed
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-05-05
Keywords:	contacts, switches
Applies:	S00148; S00149; S00227
Application notes:	A00061, A00070, A00060
Shape class:	Half-circles, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The contact is delayed both when the device containing the contact is being activated and when it is being de-activated.

S00248



Name:	Contact assembly
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-05-06
Keywords:	contacts, switches
Applies:	S00144; S00227; S00243; S00246
Application notes:	A00061, A00070, A00060
Shape class:	Half-circles, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The contact assembly is shown with one make contact not delayed, one make contact delayed when the device containing the contact is being activated and one break contact delayed when the device containing the contact is being de-activated.

S00253

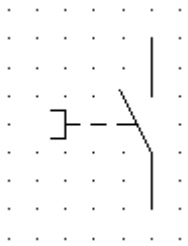


Name:	Switch, manually operated, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-07-01
Keywords:	contacts, switches
Applies:	S00167; S00227
Application notes:	A00061, A00082, A00083, A00060
Shape class:	Lines
Function class:	S Converting a manual operation into a signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00254

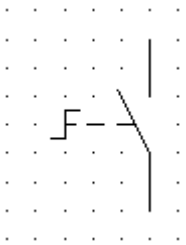
Name:	Switch, manually operated, push-button, automatic return
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-07-02
Keywords:	contacts, switches
Applied in:	S00257
Applies:	S00171; S00227
Application notes:	A00061, A00082, A00060
Shape class:	Lines
Function class:	S Converting a manual operation into a signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00255



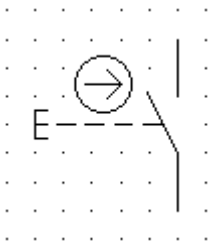
Name:	Switch, manually operated, pulling, automatic return
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-07-03
Keywords:	contacts, switches
Applies:	S00169; S00227
Application notes:	A00061, A00082, A00060
Shape class:	Lines
Function class:	S Converting a manual operation into a signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00256



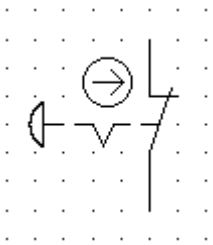
Name:	Switch, manually operated, turning, stay-put
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-07-04
Keywords:	contacts, switches
Applies:	S00170; S00227
Application notes:	A00061, A00083, A00060
Shape class:	Lines
Function class:	S Converting a manual operation into a signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00257



Name:	Switch, manually operated with positive operation, push-button, automatic return
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-07-05
Alternative names:	Alarm switch
Keywords:	contacts, switches
Applies:	S00226; S00254
Application notes:	A00061, A00082, A00060
Shape class:	Arrows, Circles, Lines
Function class:	S Converting a manual operation into a signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00258

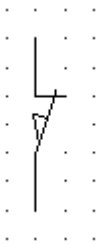


Name:	Switch, emergency stop
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-07-06
Keywords:	contacts, switches
Applies:	S00151; S00174; S00226; S00229
Application notes:	A00061, A00082, A00060
Shape class:	Arrows, Circles, Lines
Function class:	S Converting a manual operation into a signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	"Mushroom-head" activated, with positive opening operation of the break contact and maintain position.

S00259

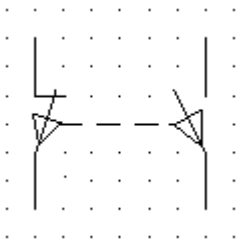
Name:	Position switch, make contact
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-08-01
Keywords:	contacts, position switches, switches
Applies:	S00223; S00227
Application notes:	A00061, A00084, A00060
Shape class:	Lines , Right-angled triangle
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00260



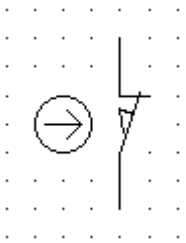
Name:	Position switch, break contact
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-08-02
Keywords:	contacts, position switches, switches
Applied in:	S00262
Applies:	S00223; S00229
Application notes:	A00061, A00084, A00060
Shape class:	Lines , Right-angled triangle
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00261



Name:	Position switch assembly
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-08-03
Keywords:	contacts, position switches, switches
Applies:	S00144; S00223; S00227; S00229
Application notes:	A00061, A00084, A00060
Shape class:	Lines , Right-angled triangle
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Mechanically operated in both directions with two separate circuits

S00262



Name:	Position switch, break contact, positive operation
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-08-04
Alternative names:	Limit switch
Keywords:	contacts, position switches, positive operation, switches
Applies:	S00226; S00260
Application notes:	A00061, A00084, A00060
Shape class:	Arrows, Circles, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

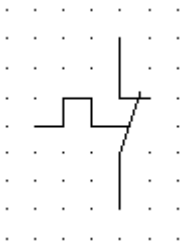
S00263

Name:	Temperature sensitive switch, make contact
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-09-01
Keywords:	contacts, switches, temperature
Applies:	S00227
Application notes:	A00061, A00085, A00060
Shape class:	Characters, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00264

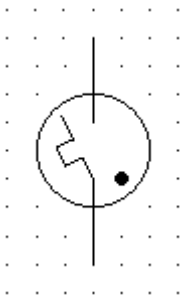
Name:	Temperature sensitive switch, break contact
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-09-02
Keywords:	contacts, switches, temperature
Applies:	S00229
Application notes:	A00061, A00060
Shape class:	Characters, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00265



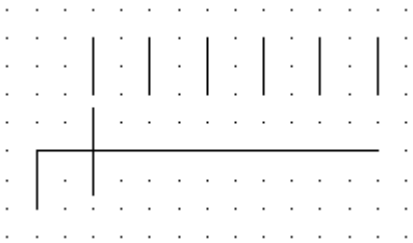
Name:	Thermal switch, self-operating, break contact
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-09-03
Alternative names:	Bimetal break contact
Keywords:	contacts, switches, temperature
Applies:	S00120; S00229
Application notes:	A00061, A00060
Shape class:	Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	It is important to distinguish between a contact as shown and a contact of a thermal relay. In detached representation a thermal relay is applying the symbol S00191.

S00266



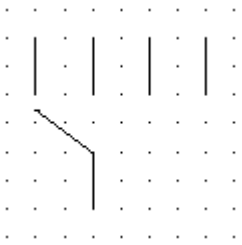
Name:	Gas discharge tube with thermal element
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-09-04
Alternative names:	Starter for fluorescent lamp
Keywords:	contacts, switches
Applies:	S00062; S00116; S00120
Shape class:	Circles, Dots (points), Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00270



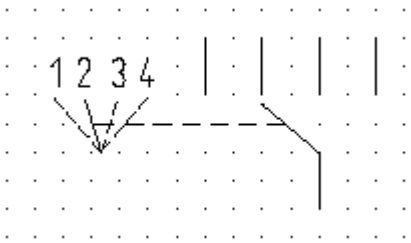
Name:	Multi-position switch
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-11-04
Keywords:	contacts, switches
Applied in:	S00275, S00278, S00276, S00277, S00279
Application notes:	A00061
Shape class:	Lines
Function class:	S Converting a manual operation into a signal
Application class:	Circuit diagrams
Remarks:	Six positions shown

S00271



Name:	Multi-position switch, maximum four positions
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-11-05
Keywords:	contacts, switches
Applied in:	S00274, S00272
Application notes:	A00061, A00060
Shape class:	Lines
Function class:	S Converting a manual operation into a signal
Application class:	Circuit diagrams

S00272

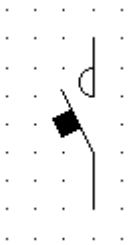


Name:	Multi-position switch, with position diagram
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-11-06
Keywords:	contacts, switches
Applies:	S00177; S00271
Application notes:	A00061, A00251, A00060
Shape class:	Lines
Function class:	S Converting a manual operation into a signal
Application class:	Circuit diagrams

S00284

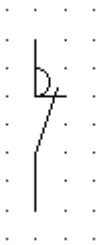
Name:	Contactor; Main make contact of a contactor
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-13-02
Keywords:	contactors, contacts, power switching devices
Applied in:	S00301
Applies:	S00218; S00227
Application notes:	A00060
Shape class:	Half-circles, Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Contact opened in the unoperated position.

S00285



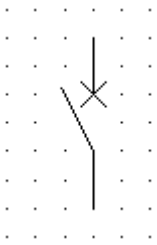
Name:	Contactor with automatic tripping
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-13-03
Keywords:	contactors, power switching devices, switches
Applies:	S00218; S00222; S00227
Application notes:	A00060
Shape class:	Half-circles, Lines , Squares
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Initiated by a built-in measuring relay or release.

S00286



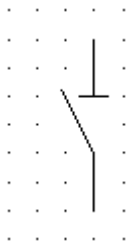
Name:	Contactor; Main break contact of a contactor
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-13-04
Keywords:	contactors, contacts, power switching devices
Applies:	S00218; S00229
Application notes:	A00060
Shape class:	Half-circles, Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Contact closed in the unoperated position.

S00287



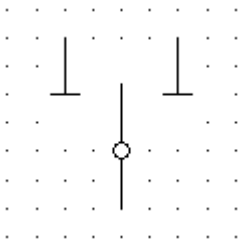
Name:	Circuit breaker
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-13-05
Keywords:	circuit breakers, contacts, power switching devices
Applies:	S00219; S00227
Application notes:	A00060
Shape class:	Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00288



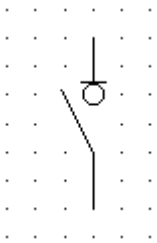
Name:	Disconnector; Isolator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-13-06
Keywords:	contacts, disconnectors, power switching devices
Applied in:	S01848
Applies:	S00220; S00227
Application notes:	A00060
Shape class:	Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00289



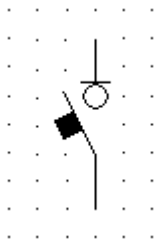
Name:	Two-way disconnector; Two-way isolator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-13-07
Keywords:	disconnectors, power switching devices
Applies:	S00220; S00228
Shape class:	Circles, Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	With off-position in the centre.

S00290



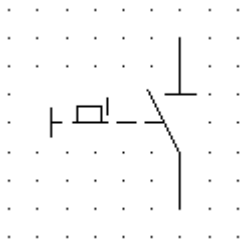
Name:	Switch-disconnector; On-load isolating switch
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-13-08
Keywords:	disconnectors, power switching devices, switches
Applies:	S00221; S00227
Application notes:	A00060
Shape class:	Circles, Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00291



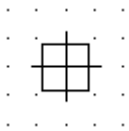
Name:	Switch-disconnector, automatic release; On-load isolating switch, automatic release
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-13-09
Keywords:	disconnectors, power switching devices, switches
Applies:	S00221; S00222; S00227
Application notes:	A00060
Shape class:	Half-circles, Lines , Squares
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	With automatic tripping initiated by a built-in measuring relay or release.

S00292



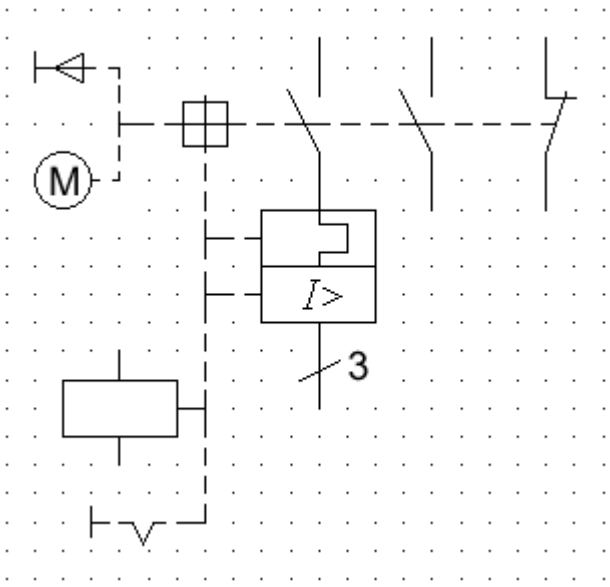
Name:	Disconnector; Isolator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-13-10
Keywords:	disconnectors, power switching devices
Applies:	S00158; S00167; S00220; S00227
Application notes:	A00082, A00083, A00060
Shape class:	Lines , Squares
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	With blocking device, manually operated.

S00293



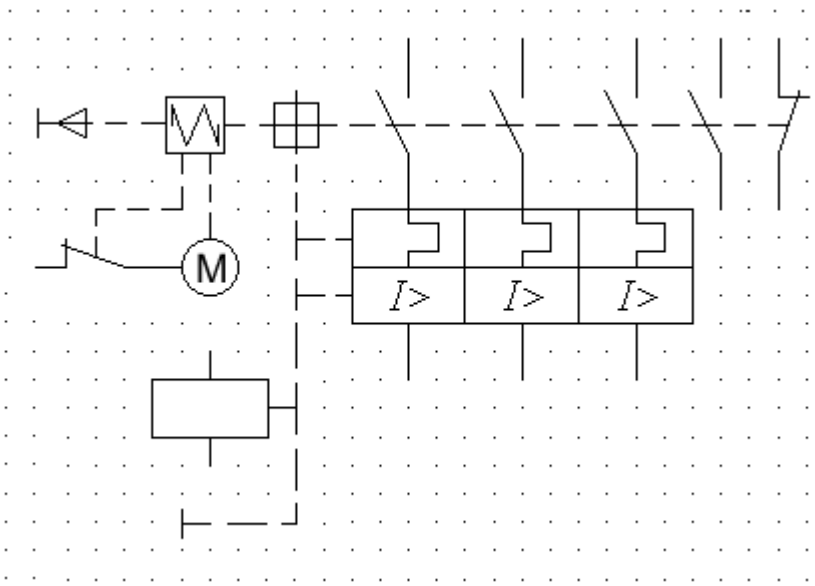
Name:	Trip-free mechanism
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-13-11
Keywords:	mechanical control, power switching devices
Applied in:	S00294
Application notes:	A00247
Shape class:	Lines , Squares
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00294



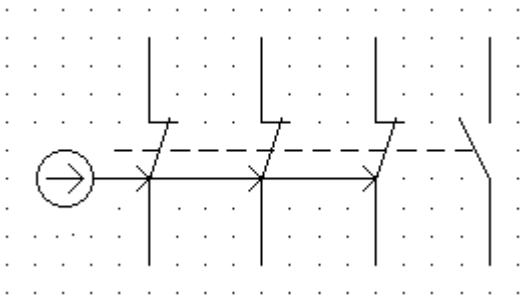
Name:	Trip-free mechanism, application
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-13-12
Keywords:	power switching devices
Applies:	S00003; S00145; S00150; S00151; S00167; S00192; S00227; S00229; S00293; S00305; S00325; S00345
Application notes:	A00082, A00083, A00060
Shape class:	Lines , Squares
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams
Remarks:	Three-pole mechanical switching device, operated by motor or manually, with trip-free mechanism, and: - thermal overload release - overcurrent release - hand release with detent - coil for remote release - one make and one break auxiliary contact.

S00295



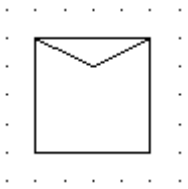
Name:	Mechanical switching device, three-pole
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-13-13
Keywords:	power switching devices
Applies:	S00003; S00145; S00150; S00167; S00192; S00227; S00229; S00305; S00325; S00345; S01406
Application notes:	A00082, A00083, A00060
Shape class:	Lines , Rectangles, Squares
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams
Remarks:	Operated by motor with a spring storage and: - three overload releases - three overcurrent releases - hand release - coil for remote release - three main make contacts - one make and one break auxiliary contact - one position switch to start and stop the operation of the motor.

S00296



Name:	Switch with positive opening
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-13-14
Keywords:	positive operation, power switching devices
Applies:	S00226; S00227; S00229
Shape class:	Arrows, Circles, Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams
Remarks:	Switch with positive opening operation of the three main break contacts and the auxiliary make contact without positive operation.

S00297

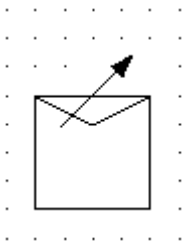


Name:	Motor starter, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-14-01
Keywords:	motor starters
Applied in:	S00303, S00301, S00299, S00302, S00298
Application notes:	A00087
Shape class:	Equilateral triangles, Squares
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00298

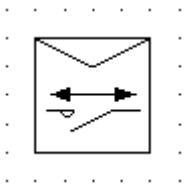
Name:	Starter operating in steps
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-14-02
Keywords:	motor starters
Applies:	S00087; S00297
Application notes:	A00088
Shape class:	Equilateral triangles, Lines , Squares
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00299



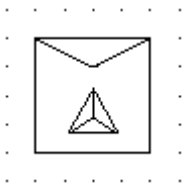
Name:	Starter-regulator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-14-03
Keywords:	motor starters
Applied in:	S00304
Applies:	S00081; S00297
Shape class:	Arrows, Equilateral triangles, Squares
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00301



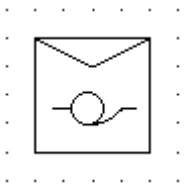
Name:	Direct-on-line starter, reversing
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-14-05
Keywords:	motor starters, reversing
Applies:	S00096; S00284; S00297
Shape class:	Arrows, Equilateral triangles, Squares
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00302



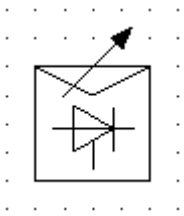
Name:	Star-delta starter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-14-06
Keywords:	motor starters
Applies:	S00297; S00806; S00808
Shape class:	Equilateral triangles, Squares
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00303



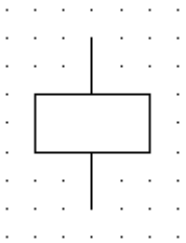
Name:	Starter with auto-transformer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-14-07
Keywords:	motor starters
Applies:	S00297; S00846
Shape class:	Circles, Equilateral triangles, Squares
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00304



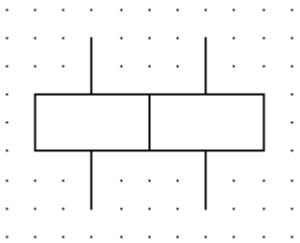
Name:	Starter-regulator with thyristors
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-14-08
Keywords:	motor starters
Applies:	S00299; S00641
Shape class:	Arrows, Equilateral triangles, Squares
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00305



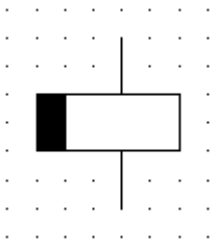
Name:	Operating device, general symbol; Relay coil, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-15-01
Alternative names:	Operating coil of a selector
Keywords:	all-or-nothing relays, operating devices
Form:	Form 1
Alternative forms:	S00306
Applied in:	S00307, S00308, S00317, S00311, S00309, S00316, S00324, S00318, S00379, S00319, S00294, S00312, S00295, S00323, S00315, S00310, S00325, S00326
Application notes:	A00089
Replacing:	S01003
Shape class:	Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00307



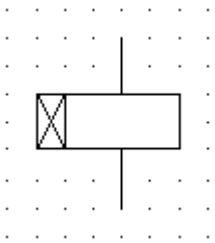
Name:	Operating device; Relay coil (attached representation)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-15-03
Keywords:	all-or-nothing relays, operating devices
Form:	Form 1
Alternative forms:	S00308
Applies:	S00305
Shape class:	Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Shown with two separate windings, attached representation.

S00311



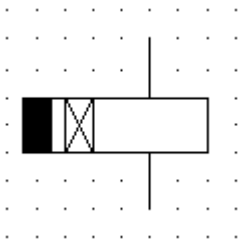
Name:	Relay coil of a slow-releasing relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-15-07
Keywords:	all-or-nothing relays, operating devices
Applied in:	S00313
Applies:	S00305
Shape class:	Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00312



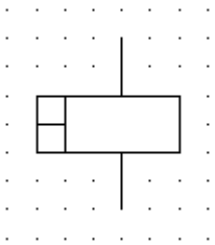
Name:	Relay coil of a slow-operating relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-15-08
Keywords:	all-or-nothing relays, operating devices
Applied in:	S00313
Applies:	S00305
Shape class:	Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00313



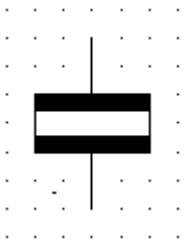
Name:	Relay coil of a slow-operating and slow-releasing relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-15-09
Keywords:	all-or-nothing relays, operating devices
Applies:	S00311; S00312
Shape class:	Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00314



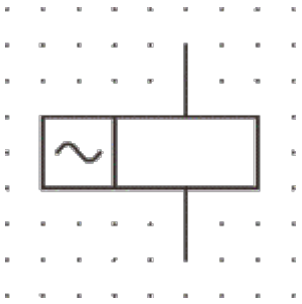
Name:	Relay coil of a high speed relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-15-10
Keywords:	all-or-nothing relays, operating devices
Applies:	S00005
Shape class:	Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Fast-operating and fast-releasing

S00315



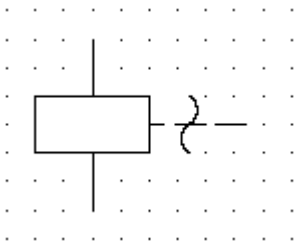
Name:	Relay coil of a relay unaffected by alternating current
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-15-11
Keywords:	all-or-nothing relays, operating devices
Applies:	S00305
Shape class:	Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00316



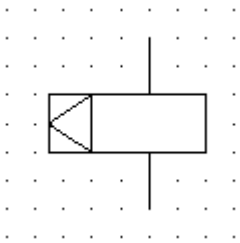
Name:	Relay coil of an alternating current relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-15-12
Keywords:	all-or-nothing relays, operating devices
Applies:	S00305; S01403
Shape class:	Depicting shapes, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00317



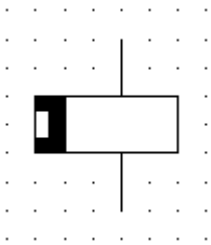
Name:	Relay coil of a mechanically resonant relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-15-13
Keywords:	all-or-nothing relays, operating devices
Applies:	S00098; S00305
Shape class:	Depicting shapes, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00318



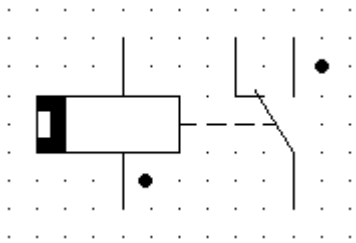
Name:	Relay coil of a mechanically latched relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-15-14
Keywords:	all-or-nothing relays, automatic control, operating devices
Applies:	S00305
Shape class:	Equilateral triangles, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00319



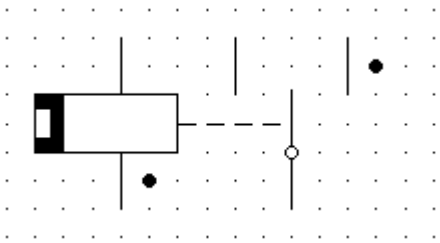
Name:	Relay coil of a polarized relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-15-15
Keywords:	all-or-nothing relays, operating devices
Applied in:	S00320, S00321, S01416, S00322
Applies:	S00210; S00305
Application notes:	A00090
Shape class:	Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00320



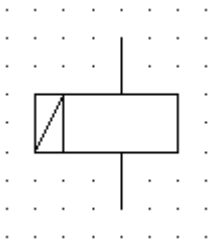
Name:	Polarized relay, self restoring
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-15-16
Keywords:	all-or-nothing relays, operating devices
Applies:	S00230; S00319
Shape class:	Dots (points), Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Self restoring, operating for only one direction of current in the winding.

S00321



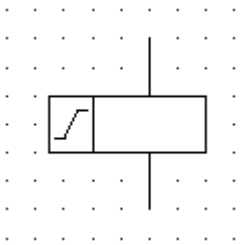
Name:	Polarized relay with neutral position
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-15-17
Keywords:	all-or-nothing relays, operating devices
Applies:	S00231; S00319
Shape class:	Dots (points), Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	With neutral position, self restoring, operating for either direction of current in the winding.

S00323



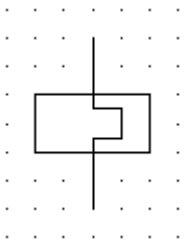
Name:	Relay coil of a remanent relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-15-19
Keywords:	all-or-nothing relays, operating devices
Form:	Form 1
Alternative forms:	S00324
Applies:	S00305
Shape class:	Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00324



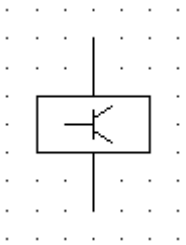
Name:	Relay coil of a remanent relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-15-20
Keywords:	all-or-nothing relays, operating devices
Form:	Form 2
Alternative forms:	S00323
Applies:	S00305
Shape class:	Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00325



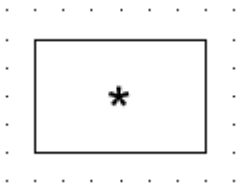
Name:	Operating device of a thermal relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-15-21
Keywords:	all-or-nothing relays, operating devices
Applied in:	S00294, S00295
Applies:	S00120; S00305
Shape class:	Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00326



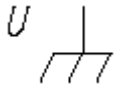
Name:	Operating device of an electronic relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-15-22
Keywords:	all-or-nothing relays, operating devices
Applies:	S00125; S00305
Shape class:	Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00327



Name:	Measuring relay; Device related to a measuring relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-16-01
Keywords:	measuring relays, operating devices
Applied in:	S00343, S00340, S00338, S00348, S00344, S00351, S00346, S00350, S00352, S00479, S00345, S00339, S00353, S00349, S00347, S00478
Application notes:	A00091, A00092, A00093, A00094, A00368
Shape class:	Rectangles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00328



Name:	Voltage failure to frame; Frame potential in case of fault
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-16-02
Keywords:	measuring relays
Applies:	S00203
Shape class:	Characters, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00329 U_{rsd}

Name:	Residual voltage
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-16-03
Keywords:	measuring relays
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00330

Name:	Reverse current
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-16-04
Keywords:	measuring relays
Applied in:	S00339
Shape class:	Arrows, Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

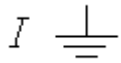
S00331 I_d

Name:	Differential current
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-16-05
Keywords:	measuring relays
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00332 

Name:	Percentage differential current
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-16-06
Keywords:	measuring relays
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

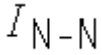
S00333



Name:	Earth fault current
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-16-07
Keywords:	measuring relays
Applies:	S00200
Shape class:	Characters, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00334 I_N

Name:	Current in the neutral conductor
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-16-08
Keywords:	measuring relays
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

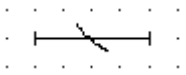
S00335 

Name:	Current between neutrals of two polyphase systems
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-16-09
Keywords:	measuring relays
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00336 

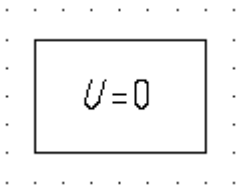
Name:	Power at phase angle "alpha"
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-16-10
Keywords:	measuring relays
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00337



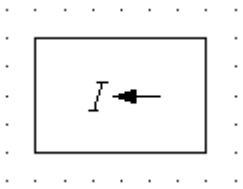
Name:	Inverse time-lag characteristic
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-16-11
Keywords:	measuring relays
Applied in:	S00351
Applies:	S00124
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00338



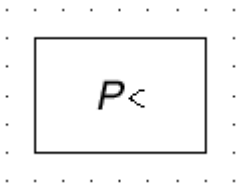
Name:	No voltage relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-17-01
Keywords:	measuring relays
Applies:	S00111; S00327
Shape class:	Characters, Rectangles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00339



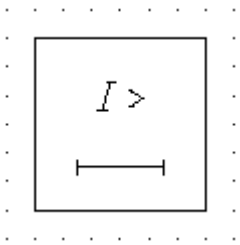
Name:	Reverse current relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-17-02
Keywords:	measuring relays
Applies:	S00327; S00330
Shape class:	Arrows, Characters, Rectangles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00340



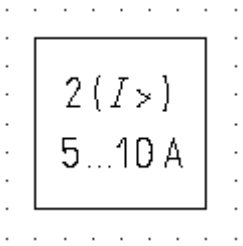
Name:	Underpower relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-17-03
Keywords:	measuring relays
Applies:	S00109; S00327
Shape class:	Characters, Rectangles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00341



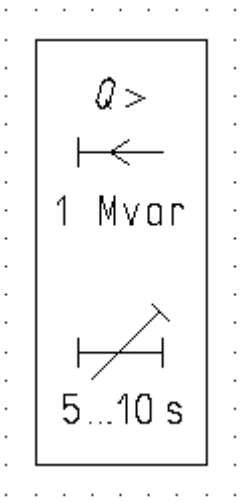
Name:	Delayed overcurrent relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-17-04
Keywords:	measuring relays
Applies:	S00108; S00124
Shape class:	Characters, Lines , Rectangles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00342



Name:	Overcurrent relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-17-05
Keywords:	measuring relays
Shape class:	Characters, Rectangles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Shown with two measuring elements and a setting range from 5 A to 10 A.

S00343

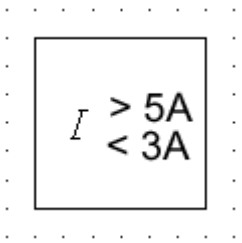


Name:	Overpower relay for reactive power
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-17-06
Keywords:	measuring relays
Applies:	S00085; S00105; S00108; S00124; S00327
Shape class:	Characters, Lines , Rectangles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Overpower relay for reactive power: - energy-flow towards the busbars - operating value 1 Mvar - time-lag adjustable from 5 s to 10 s

S00344

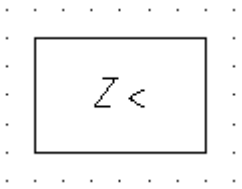
Name:	Undervoltage relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-17-07
Keywords:	measuring relays
Applies:	S00109; S00327
Shape class:	Characters, Rectangles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Undervoltage relay shown with: - setting range from 50 V to 80 V - resetting ratio 130%

S00345



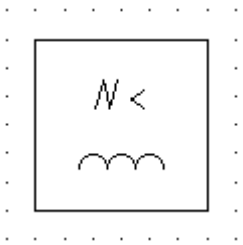
Name:	Current relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-17-08
Keywords:	measuring relays
Applied in:	S00294, S00295
Applies:	S00108; S00109; S00327
Shape class:	Characters, Rectangles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	With maximum and minimum settings, shown with limits 3 A and 5 A.

S00346



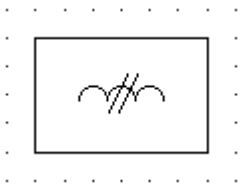
Name:	Under-impedance relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-17-09
Keywords:	measuring relays
Applies:	S00109; S00327
Shape class:	Characters, Rectangles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00347



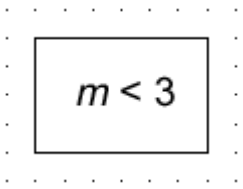
Name:	Relay detecting short-circuits between windings
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-17-10
Keywords:	measuring relays
Applies:	S00109; S00327; S00583
Shape class:	Characters, Half-circles, Rectangles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00348



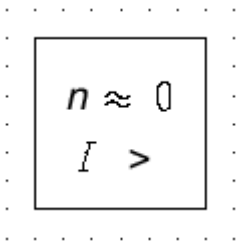
Name:	Divided-conductor detection relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-17-11
Keywords:	measuring relays
Applies:	S00327; S00583
Shape class:	Half-circles, Lines , Rectangles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00349



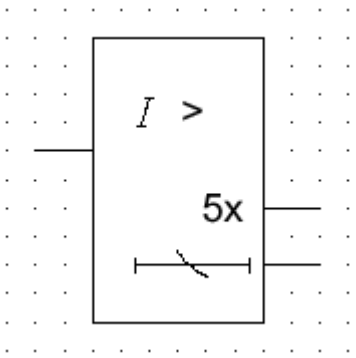
Name:	Phase-failure detection relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-17-12
Keywords:	measuring relays
Applies:	S00109; S00327
Shape class:	Characters, Rectangles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Shown for a three-phase system.

S00350



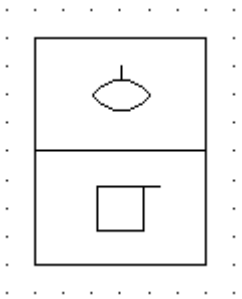
Name:	Locked-rotor detection relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-17-13
Keywords:	measuring relays
Applies:	S00108; S00112; S00327
Shape class:	Characters, Rectangles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Operating by current measuring.

S00351



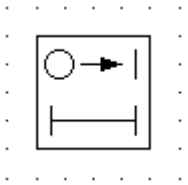
Name:	Overcurrent relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-17-14
Keywords:	measuring relays
Applies:	S00109; S00327; S00337
Shape class:	Characters, Lines , Rectangles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	With two outputs, one is active when the current is above five times the setting value, the other is active depending on the inverse time-lag characteristic setting of the device.

S00352



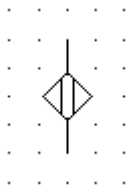
Name:	Buchholz protective device; Gas relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-18-01
Keywords:	Buchholz device, measuring relays
Applies:	S00195; S00198; S00327
Shape class:	Circle segments, Rectangles, Squares
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00353



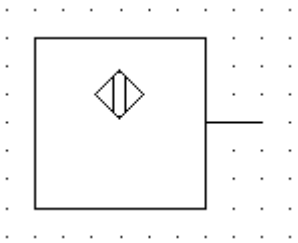
Name:	Device for auto-reclosing; Auto-reclose relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-18-02
Keywords:	auto-reclosing devices
Applies:	S00124; S00327
Shape class:	Circles, Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00354



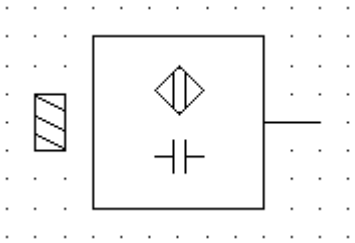
Name:	Proximity sensor
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-19-01
Keywords:	proximity devices, touch-sensitive devices
Shape class:	Lines , Squares
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00355



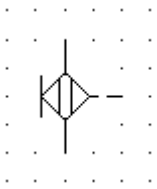
Name:	Proximity sensing device
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-19-02
Keywords:	proximity devices, touch-sensitive devices
Applied in:	S00356
Application notes:	A00095
Shape class:	Lines , Squares
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00356



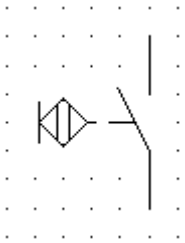
Name:	Proximity sensing device, capacitive
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-19-03
Keywords:	proximity devices, touch-sensitive devices
Applies:	S00114; S00355; S00567
Shape class:	Lines , Rectangles, Squares
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Capacitive proximity detector operating on the approach of solid material.

S00357



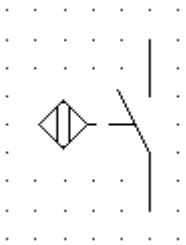
Name:	Touch sensor
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-19-04
Keywords:	proximity devices, touch-sensitive devices
Shape class:	Lines , Squares
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00358



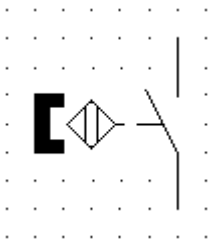
Name:	Touch sensitive switch
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-20-01
Keywords:	proximity devices, switches, touch-sensitive devices
Applies:	S00173; S00227
Shape class:	Lines , Squares
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams
Remarks:	Shown with make contact.

S00359



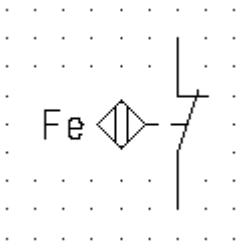
Name:	Proximity switch
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-20-02
Keywords:	proximity devices, touch-sensitive devices
Applied in:	S00360
Applies:	S00172; S00227
Shape class:	Lines , Squares
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Shown with make contact.

S00360



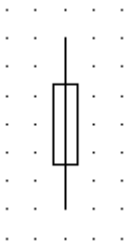
Name:	Proximity switch, magnetically controlled
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-20-03
Keywords:	proximity devices, touch-sensitive devices
Applies:	S00210; S00359
Shape class:	Lines , Squares
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Operated on the approach of a magnet, make contact shown.

S00361



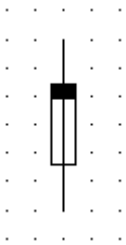
Name:	Proximity switch, controlled by iron
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-20-04
Keywords:	proximity devices, switches, touch-sensitive devices
Applies:	S00172; S00229
Shape class:	Lines , Squares
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Operated on the approach of iron, break contact shown.

S00362



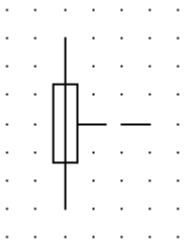
Name:	Fuse, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-21-01
Keywords:	fuses
Applied in:	S00363, S00364, S00366
Shape class:	Lines , Rectangles
Function class:	F Protecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00363



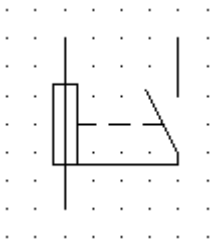
Name:	Fuse
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-21-02
Keywords:	fuses
Applies:	S00362
Shape class:	Lines , Rectangles
Function class:	F Protecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The side that remains live after blowing is indicated by a thick line.

S00364



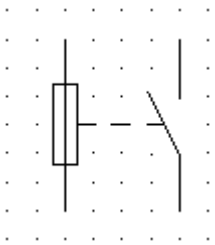
Name:	Fuse; Striker fuse
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-21-03
Keywords:	fuses
Applied in:	S00365, S00367
Applies:	S00144; S00362
Shape class:	Lines , Rectangles
Function class:	F Protecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	With mechanical linkage.

S00365



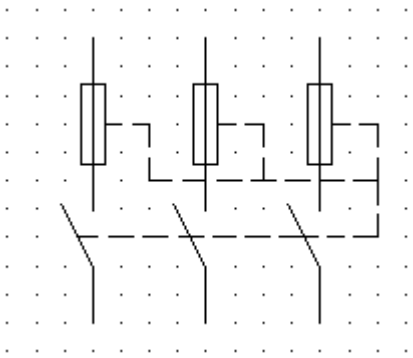
Name:	Fuse with alarm contact
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-21-04
Keywords:	fuses
Applies:	S00227; S00364
Shape class:	Lines , Rectangles
Function class:	F Protecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	With alarm contact, three terminals.

S00366



Name:	Fuse with separate alarm
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-21-05
Keywords:	fuses
Applies:	S00227; S00362
Shape class:	Lines , Rectangles
Function class:	F Protecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	With separate alarm circuit.

S00367

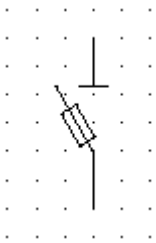


Name:	Three-pole switch with striker fuses
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-21-06
Keywords:	fuse-switches
Applies:	S00227; S00364
Shape class:	Lines , Rectangles
Function class:	F Protecting, Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	With automatic release by any one of the striker fuses.

S00368

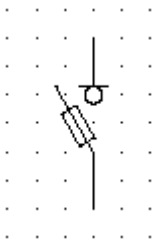
Name:	Fuse-switch
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-21-07
Keywords:	fuse-switches
Applied in:	S00370, S00369
Shape class:	Lines , Rectangles
Function class:	F Protecting, Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00369



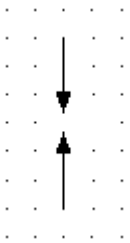
Name:	Fuse-disconnector; Fuse isolator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-21-08
Keywords:	fuse-switches
Applies:	S00220; S00368
Shape class:	Lines , Rectangles
Function class:	F Protecting, Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00370



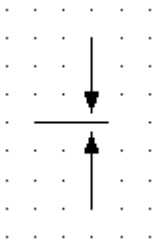
Name:	Fuse switch-disconnector; On-load isolating fuse switch
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-21-09
Keywords:	fuse-switches
Applies:	S00221; S00368
Shape class:	Lines , Rectangles
Function class:	F Protecting, Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00371



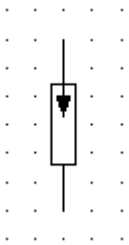
Name:	Spark gap
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-22-01
Keywords:	arresters, spark gaps
Applied in:	S00374, S00372
Shape class:	Arrows
Function class:	F Protecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00372



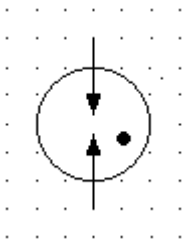
Name:	Spark gap, double
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-22-02
Keywords:	arresters, spark gaps
Applied in:	S00375
Applies:	S00371
Shape class:	Arrows
Function class:	F Protecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00373



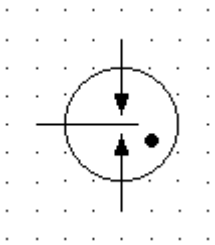
Name:	Surge diverter; Lightning arrester
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-22-03
Keywords:	arresters
Shape class:	Arrows, Rectangles
Function class:	F Protecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00374



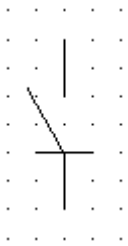
Name:	Protective gas discharge tube
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-22-04
Keywords:	arresters, spark gaps
Applies:	S00371; S00693
Shape class:	Arrows, Circles, Dots (points)
Function class:	F Protecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00375



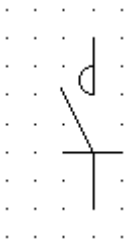
Name:	Protective gas discharge tube, symmetric
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-22-05
Keywords:	arresters, spark gaps
Applies:	S00372; S00693
Shape class:	Arrows, Circles, Dots (points)
Function class:	F Protecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00376



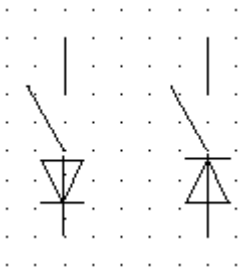
Name:	Static switch, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-25-01
Keywords:	static switches
Applied in:	S00380, S00377, S00379, S00378
Applies:	S00227
Application notes:	A00096, A00097
Shape class:	Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00377



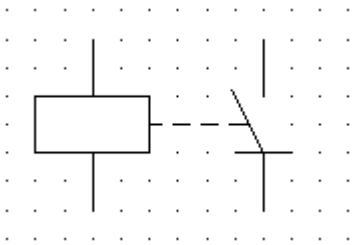
Name:	Static (semiconductor) contactor
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-25-02
Keywords:	contactors, static switches
Applies:	S00218; S00376
Shape class:	Half-circles, Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00378



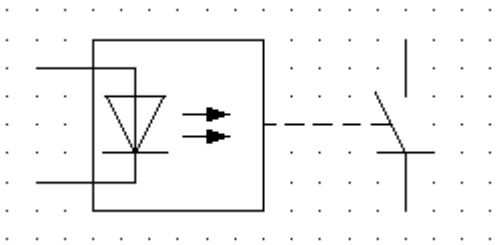
Name:	Static switch, unidirectional
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-25-03
Keywords:	static switches
Applies:	S00376; S00619
Shape class:	Equilateral triangles, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Passing current in one direction only.

S00379



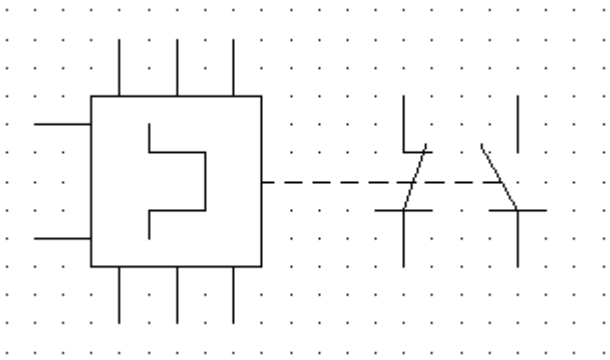
Name:	Static relay, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-26-01
Keywords:	static switching devices
Applied in:	S00382, S00381
Applies:	S00305; S00376
Application notes:	A00098
Shape class:	Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Shown with semiconductor make contact.

S00380



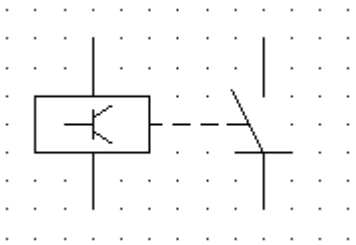
Name:	Static relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-26-02
Keywords:	static switching devices
Applies:	S00376; S00642
Shape class:	Arrows, Equilateral triangles, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	With light emitting diode as actuator shown with make contact semiconductor.

S00381



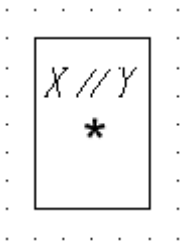
Name:	Static thermal overload relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-26-03
Keywords:	static switching devices
Applies:	S00120; S00379
Shape class:	Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Three-pole thermal overload relay with two semiconductor contacts one semiconductor make contact and one semiconductor break contact; the actuator needs a separate auxiliary power supply.

S00382



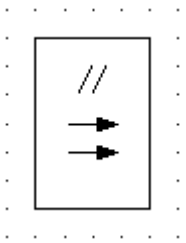
Name:	Static relay
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-26-04
Keywords:	static switching devices
Applies:	S00125; S00379
Shape class:	Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Semiconductor operating device with semiconductor make contact.

S00383



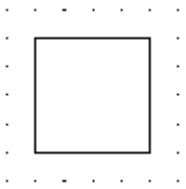
Name:	Coupling device with electrical separation
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-27-01
Keywords:	coupling devices, static switching devices
Applies:	S00126
Application notes:	A00099
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00384



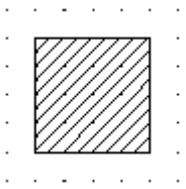
Name:	Coupling device with electrical separation, optical
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-7 (ed.2.0) 07-27-02
Keywords:	coupling devices, static switching devices
Applies:	S00126; S00127
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Optical coupling device with electrical separation.

S00385



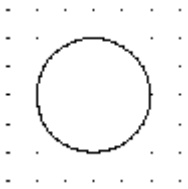
Name:	Generating station, planned
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-01-01
Keywords:	generating station
Applied in:	S00395, S00401, S00399, S00393, S00397, S00403, S00391
Applies:	S00059
Application notes:	A00071
Shape class:	Squares
Function class:	G Initiating a flow
Application class:	Network maps

S00386



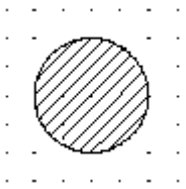
Name:	Generating station, in service or unspecified
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-01-02
Keywords:	generating station
Applied in:	S00392, S00398, S00394, S00404, S00402, S00396, S00400
Applies:	S00059
Application notes:	A00071, A00072
Shape class:	Squares
Function class:	G Initiating a flow
Application class:	Network maps

S00389



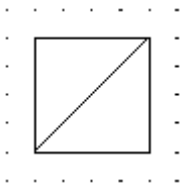
Name:	Substation, planned
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-01-05
Keywords:	substation
Applied in:	S00405
Applies:	S00061
Application notes:	A00267
Shape class:	Circles
Function class:	Q Controlled switching or varying, T Converting but maintaining kind
Application class:	Network maps

S00390



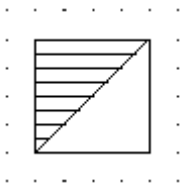
Name:	Substation, in service or unspecified
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-01-06
Keywords:	substation
Applied in:	S00406
Applies:	S00061
Application notes:	A00072, A00267
Shape class:	Circles
Function class:	Q Controlled switching or varying, T Converting but maintaining kind
Application class:	Network maps

S00391



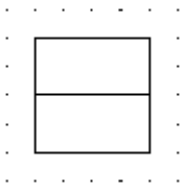
Name:	Hydroelectric generating station, planned
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-02-01
Keywords:	generating station
Applies:	S00059; S00385
Application notes:	A00071
Shape class:	Right-angled triangle, Squares
Function class:	G Initiating a flow
Application class:	Network maps

S00392



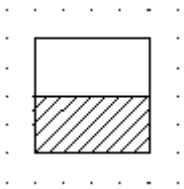
Name:	Hydroelectric generating station, in service or unspecified
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-02-02
Keywords:	generating station
Applies:	S00059; S00386
Application notes:	A00071, A00072
Shape class:	Right-angled triangle, Squares
Function class:	G Initiating a flow
Application class:	Network maps

S00393



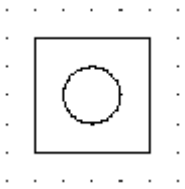
Name:	Thermoelectric generating station, planned
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-02-03
Alternative names:	coal thermoelectric generating station; lignite thermoelectric generating station; oil thermoelectric generating station; gas thermoelectric generating station
Keywords:	generating station
Applies:	S00059; S00385
Application notes:	A00071
Shape class:	Rectangles, Squares
Function class:	G Initiating a flow
Application class:	Network maps

S00394



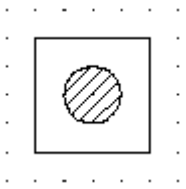
Name:	Thermoelectric generating station, in service or unspecified
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-02-04
Alternative names:	thermoelectric generating station coal; thermoelectric generating station lignite; thermoelectric generating station oil; thermoelectric generating station gas
Keywords:	generating station
Applies:	S00059; S00386
Application notes:	A00071, A00072
Shape class:	Rectangles, Squares
Function class:	G Initiating a flow
Application class:	Network maps

S00395



Name:	Nuclear energy generating station, planned
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-02-05
Keywords:	generating station
Applies:	S00059; S00385
Application notes:	A00071
Shape class:	Circles, Squares
Function class:	G Initiating a flow
Application class:	Network maps

S00396



Name:	Nuclear energy generating station, in service or unspecified
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-02-06
Keywords:	generating station
Applies:	S00059; S00386
Application notes:	A00071, A00072
Shape class:	Circles, Squares
Function class:	G Initiating a flow
Application class:	Network maps

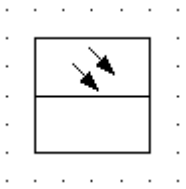
S00397

Name:	Geothermic generating station, planned
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-02-07
Keywords:	generating station
Applies:	S00059; S00385
Application notes:	A00071
Shape class:	Lines , Rectangles, Squares
Function class:	G Initiating a flow
Application class:	Network maps

S00398

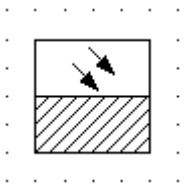
Name:	Geothermic generating station, in service or unspecified
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-02-08
Keywords:	generating station
Applies:	S00059; S00386
Application notes:	A00071, A00072
Shape class:	Lines , Rectangles, Squares
Function class:	G Initiating a flow
Application class:	Network maps

S00399



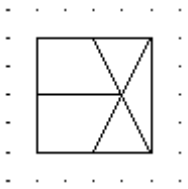
Name:	Solar generating station, planned
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-02-09
Keywords:	generating station
Applies:	S00059; S00385
Application notes:	A00071
Shape class:	Arrows, Rectangles, Squares
Function class:	G Initiating a flow
Application class:	Network maps

S00400



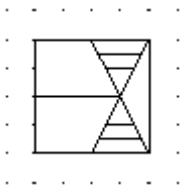
Name:	Solar generating station, in service or unspecified
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-02-10
Keywords:	generating station
Applies:	S00059; S00386
Application notes:	A00071, A00072
Shape class:	Arrows, Rectangles, Squares
Function class:	G Initiating a flow
Application class:	Network maps

S00401



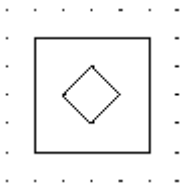
Name:	Wind generating station, planned
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-02-11
Keywords:	generating station
Applies:	S00059; S00385
Application notes:	A00071
Shape class:	Squares
Function class:	G Initiating a flow
Application class:	Network maps

S00402



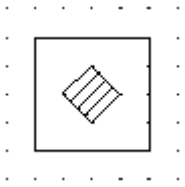
Name:	Wind generating station, in service or unspecified
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-02-12
Keywords:	generating station
Applies:	S00059; S00386
Application notes:	A00071, A00072
Shape class:	Squares
Function class:	G Initiating a flow
Application class:	Network maps

S00403



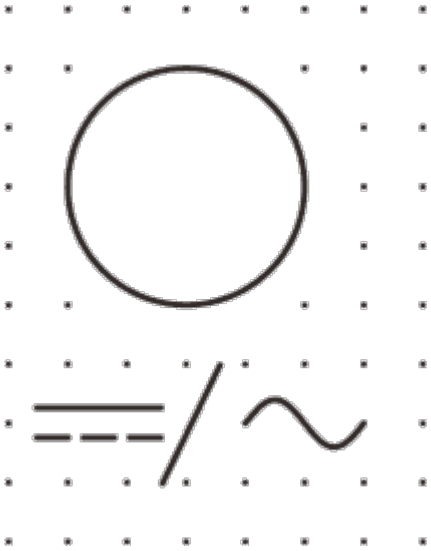
Name:	Plasma generating station, planned; Magneto-hydrodynamic (MHD), planned
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-02-13
Keywords:	generating station
Applies:	S00059; S00385
Application notes:	A00071
Shape class:	Squares
Function class:	G Initiating a flow
Application class:	Network maps

S00404



Name:	Plasma generating station, in service or unspecified; Magneto-hydrodynamic (MHD), in service or unspecified
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-02-14
Keywords:	generating station
Applies:	S00059; S00386
Application notes:	A00071, A00072
Shape class:	Squares
Function class:	G Initiating a flow
Application class:	Network maps

S00405

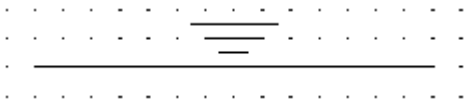


Name:	Converting substation, planned
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-02-15
Keywords:	substation
Applies:	S00061; S00389; S01401; S01403
Shape class:	Circles, Depicting shapes
Function class:	Q Controlled switching or varying, T Converting but maintaining kind
Application class:	Network maps
Remarks:	The symbol is shown with conversion from DC to AC

S00406

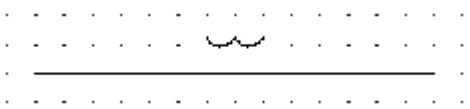
Name:	Converting substation, in service or unspecified
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-02-16
Keywords:	substation
Applies:	S00061; S00390; S01401; S01403
Application notes:	A00072
Shape class:	Circles, Depicting shapes
Function class:	Q Controlled switching or varying, T Converting but maintaining kind
Application class:	Network maps
Remarks:	The symbol is shown with conversion from DC to AC

S00407



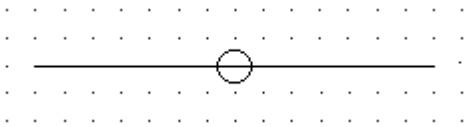
Name:	Underground line
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-03-01
Keywords:	lines, networks
Applied in:	S00413
Applies:	S00001
Application notes:	A00073
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Network maps

S00408



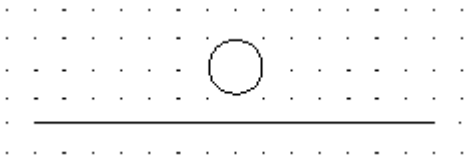
Name:	Submarine line
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-03-02
Keywords:	lines, networks
Applies:	S00001; S00115
Application notes:	A00073
Shape class:	Depicting shapes, Lines
Function class:	W Guiding or transporting
Application class:	Network maps

S00409



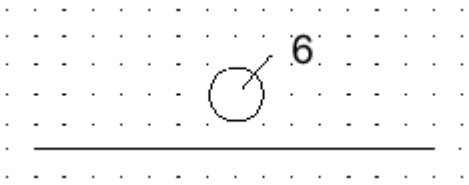
Name:	Overhead line
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-03-03
Keywords:	lines, networks
Applied in:	S01453, S01452
Applies:	S00001
Application notes:	A00073
Shape class:	Circles, Lines
Function class:	W Guiding or transporting
Application class:	Network maps

S00410



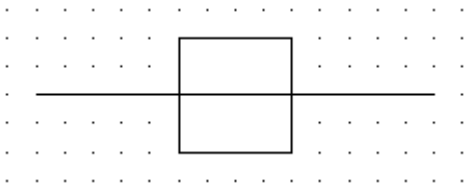
Name:	Line within a duct; Line within a pipe
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-03-04
Keywords:	lines, networks
Applied in:	S00411
Applies:	S00001
Application notes:	A00073, A00074
Shape class:	Circles, Lines
Function class:	W Guiding or transporting
Application class:	Network maps

S00411



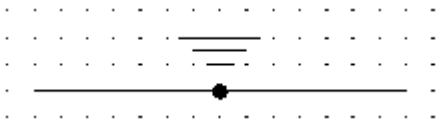
Name:	Line within a six-way-duct
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-03-05
Keywords:	lines, networks
Applies:	S00001; S00410
Application notes:	A00073
Shape class:	Characters, Circles, Lines
Function class:	W Guiding or transporting
Application class:	Network maps

S00412



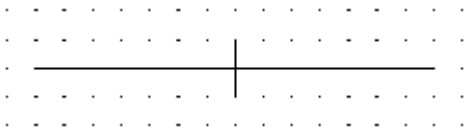
Name:	Manhole for underground chamber
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-03-06
Keywords:	lines, networks
Applied in:	S00425, S00445
Applies:	S00001
Application notes:	A00073
Shape class:	Lines , Squares
Function class:	W Guiding or transporting
Application class:	Network maps

S00413



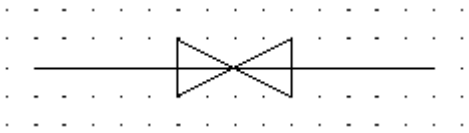
Name:	Line with buried joint
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-03-07
Keywords:	lines, networks
Applies:	S00001; S00407
Application notes:	A00073
Shape class:	Dots (points), Lines
Function class:	W Guiding or transporting
Application class:	Network maps

S00414



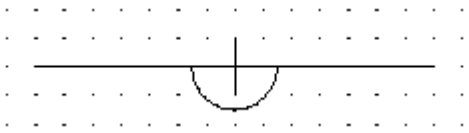
Name:	Line with gas or oil block
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-03-08
Keywords:	lines, networks
Applied in:	S00416
Applies:	S00001
Application notes:	A00073
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Network maps

S00415



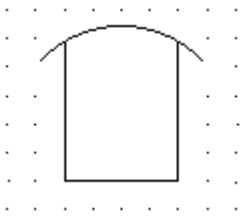
Name:	Line with gas or oil stop valve
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-03-09
Keywords:	lines, networks
Applies:	S00001
Application notes:	A00073
Shape class:	Equilateral triangles, Lines
Function class:	W Guiding or transporting
Application class:	Network maps

S00416



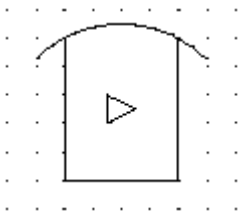
Name:	Line with gas or oil block by-pass
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-03-10
Keywords:	lines, networks
Applies:	S00001; S00414
Application notes:	A00073
Shape class:	Circle segments, Lines
Function class:	W Guiding or transporting
Application class:	Network maps

S00419



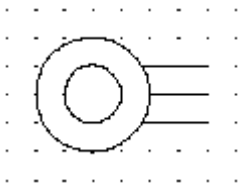
Name:	Weather-proof enclosure, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-04-01
Keywords:	junctions, networks
Applied in:	S00420
Application notes:	A00075
Shape class:	Circle segments, Rectangles
Function class:	W Guiding or transporting, X Connecting
Application class:	Network maps

S00420



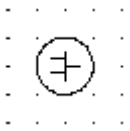
Name:	Amplifying point in a weather-proof enclosure
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-04-02
Keywords:	junctions, networks
Applies:	S00419; S01239
Application notes:	A00075
Shape class:	Circle segments, Equilateral triangles, Rectangles
Function class:	W Guiding or transporting, X Connecting
Application class:	Network maps

S00421



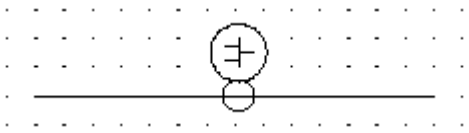
Name:	Cross-connection point
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-04-03
Keywords:	junctions, networks
Applies:	S00062
Application notes:	A00076
Shape class:	Circles, Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Network maps

S00422



Name:	Line concentrator, automatic line connector
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-04-04
Keywords:	connections, networks
Applied in:	S00423
Shape class:	Circles, Depicting shapes
Function class:	K Processing signals or information, X Connecting
Application class:	Network maps
Remarks:	The symbol is shown for signal transmission from left to right. A number of lines on the left are concentrated for fewer lines on the right.

S00423

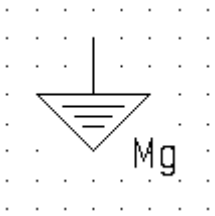


Name:	Line concentrator on a pole
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-04-05
Keywords:	connections, lines, networks
Applies:	S00001; S00422
Shape class:	Circles, Depicting shapes, Lines
Function class:	K Processing signals or information, X Connecting
Application class:	Network maps
Remarks:	The symbol is shown for signal transmission from left to right. A number of lines on the left are concentrated for fewer lines on the right.

S00426

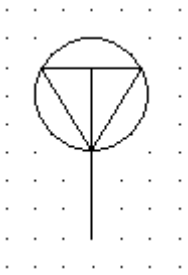
Name:	Protective anode
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-04-08
Keywords:	earth connection, galvanic protection, networks
Applied in:	S00427
Application notes:	A00079
Shape class:	Lines , Right-angled triangle
Function class:	F Protecting
Application class:	Network maps

S00427



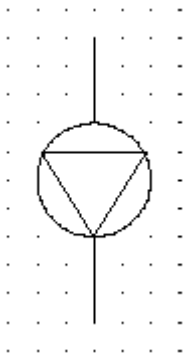
Name:	Magnesium protective anode
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-04-09
Keywords:	earth connection, galvanic protection, networks
Applies:	S00426
Shape class:	Characters, Lines , Right-angled triangle
Function class:	F Protecting
Application class:	Network maps

S00428



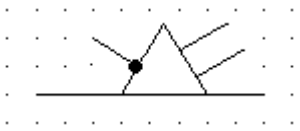
Name:	Head end with local antenna
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-05-01
Keywords:	communication networks, head ends
Applies:	S00061; S01102; S01239
Shape class:	Circles, Equilateral triangles, Lines
Function class:	T Converting but maintaining kind, W Guiding or transporting
Application class:	Installation diagrams, Network maps
Remarks:	The symbol is shown with one branch feeder.

S00429



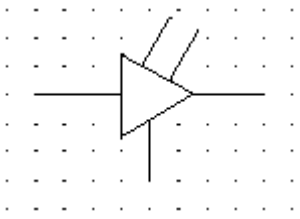
Name:	Head end without local antenna
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-05-02
Keywords:	communication networks, head ends
Applies:	S00061; S01239
Shape class:	Circles, Equilateral triangles, Lines
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Network maps
Remarks:	The symbol is shown with one input and one output trunk feeder.

S00430



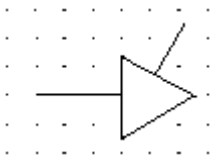
Name:	Bridger amplifier
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-06-01
Keywords:	amplifiers, communication networks
Applies:	S01239
Application notes:	A00101, A00102
Shape class:	Dots (points), Equilateral triangles, Lines
Function class:	T Converting but maintaining kind
Application class:	Installation diagrams, Network maps
Remarks:	The symbol is shown with three branch or spur feeder outputs.

S00431



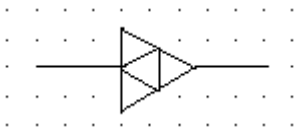
Name:	Trunk bridging amplifier assembly
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-06-02
Keywords:	amplifiers, communication networks
Applies:	S01239
Shape class:	Equilateral triangles, Lines
Function class:	T Converting but maintaining kind
Application class:	Installation diagrams, Network maps
Remarks:	The symbol is shown with three branch feeder outputs.

S00432



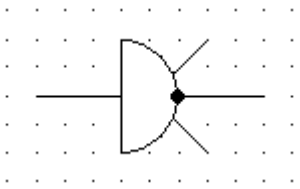
Name:	End of amplifier (branch or spur feeder)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-06-03
Keywords:	amplifiers, communication networks
Applies:	S01239
Shape class:	Equilateral triangles, Lines
Function class:	T Converting but maintaining kind
Application class:	Installation diagrams, Network maps
Remarks:	The symbol is shown with one spur feeder output.

S00433



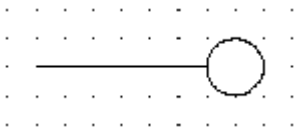
Name:	Amplifier with return channel
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-06-04
Keywords:	amplifiers, communication networks
Applies:	S01239
Shape class:	Equilateral triangles, Lines
Function class:	T Converting but maintaining kind
Application class:	Installation diagrams, Network maps

S00435



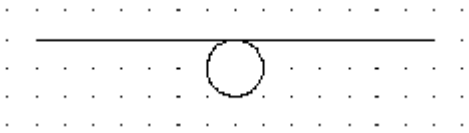
Name:	Splitter, three-way
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-07-02
Keywords:	cabled sound and television, splitters
Applies:	S01334
Application notes:	A00101, A00102
Shape class:	Dots (points), Half-circles, Lines
Function class:	K Processing signals or information, W Guiding or transporting
Application class:	Installation diagrams, Network maps
Remarks:	The symbol is shown with one higher level output.

S00438



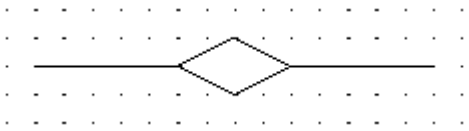
Name:	System outlet
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-08-02
Keywords:	cabled sound and television, system outlets
Applied in:	S00439
Shape class:	Circles, Lines
Function class:	X Connecting
Application class:	Installation diagrams, Network maps

S00439



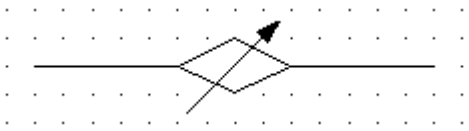
Name:	Looped system outlet; Serial wired outlet
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-08-03
Keywords:	cabled sound and television, system outlets
Applies:	S00001; S00438
Shape class:	Circles, Lines
Function class:	X Connecting
Application class:	Installation diagrams, Network maps

S00440



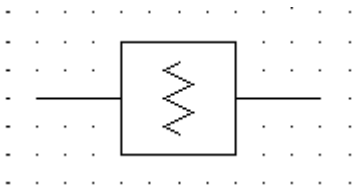
Name:	Equalizer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-09-01
Keywords:	cabled sound and television, equalizers
Applied in:	S00441
Shape class:	Lines , Parallelograms
Function class:	K Processing signals or information
Application class:	Installation diagrams, Network maps

S00441



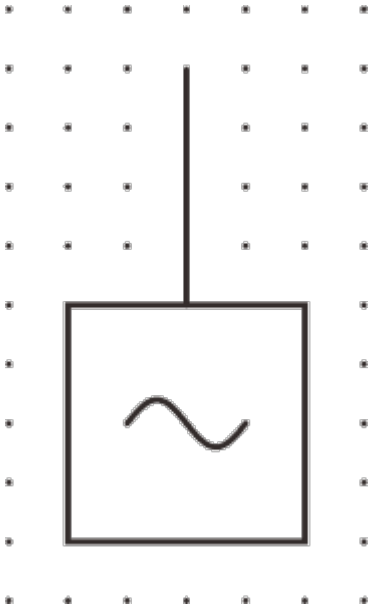
Name:	Variable equalizer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-09-02
Keywords:	cabled sound and television, equalizers
Applies:	S00081; S00440
Shape class:	Arrows, Lines , Parallelograms
Function class:	K Processing signals or information
Application class:	Installation diagrams, Network maps

S00442



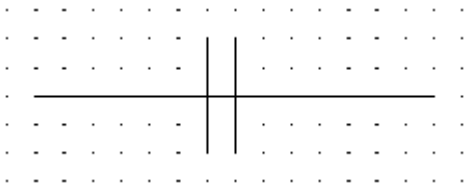
Name:	Attenuator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-09-03
Keywords:	attenuators, cabled sound and television
Alternative forms:	S01244
Applies:	S00059; S01355
Application notes:	A00105
Replacing:	S01168
Shape class:	Lines , Squares
Function class:	K Processing signals or information
Application class:	Installation diagrams, Network maps

S00443



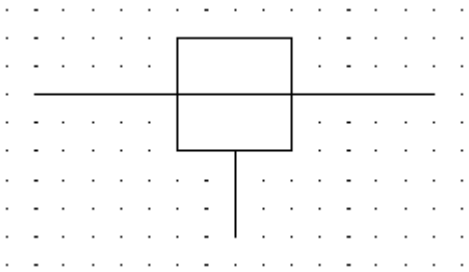
Name:	Line power unit
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-10-01
Keywords:	cabled sound and television, power feeding
Applies:	S00059; S01403
Shape class:	Depicting shapes, Lines , Squares
Function class:	G Initiating a flow
Application class:	Installation diagrams, Network maps
Remarks:	AC type shown.

S00444



Name:	Power block
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-10-02
Keywords:	cabled sound and television, power feeding
Applies:	S00001
Shape class:	Lines
Function class:	R Restricting or stabilising
Application class:	Installation diagrams, Network maps
Remarks:	The symbol is shown in a distribution feeder.

S00445

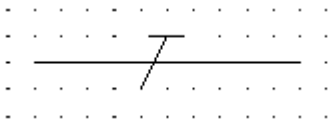


Name:	Power feeding injection point
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-10-03
Keywords:	cabled sound and television, power feeding
Applies:	S00001; S00412
Shape class:	Lines , Squares
Function class:	G Initiating a flow
Application class:	Installation diagrams, Network maps

S00446

Name:	Neutral conductor
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-11-01
Keywords:	electrical installations, identification of conductors, installations in buildings
Applied in:	S01927, S00448, S01929, S00449, S00866
Applies:	S00001
Application notes:	A00106
Shape class:	Dots (points), Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams, Installation diagrams, Overview diagrams

S00447



Name:	Protective earthing conductor
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-11-02
Keywords:	electrical installations, identification of conductors, installations in buildings
Applied in:	S01927, S01928, S00448, S01929, S00449
Applies:	S00001
Application notes:	A00106
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams, Installation diagrams, Overview diagrams

S00449

Name:	Three-phase wiring with neutral conductor and protective conductor
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-11-04
Keywords:	electrical installations, identification of conductors, installations in buildings
Applies:	S00001; S00002; S00446; S00447
Application notes:	A00106
Shape class:	Dots (points), Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams, Installation diagrams, Overview diagrams

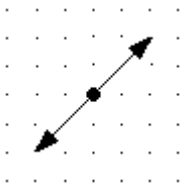
S00450

Name:	Wiring going upwards
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-12-01
Keywords:	installations in buildings, wiring
Application notes:	A00107
Shape class:	Arrows, Dots (points), Lines
Function class:	- Functional elements or attributes
Application class:	Installation diagrams

S00451

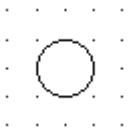
Name:	Wiring going downwards
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-12-02
Keywords:	installations in buildings, wiring
Application notes:	A00108
Shape class:	Arrows, Dots (points), Lines
Function class:	- Functional elements or attributes
Application class:	Installation diagrams

S00452



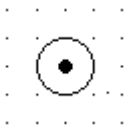
Name:	Wiring passing through vertically
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-12-03
Keywords:	installations in buildings, wiring
Shape class:	Arrows, Dots (points)
Function class:	- Functional elements or attributes
Application class:	Installation diagrams

S00453



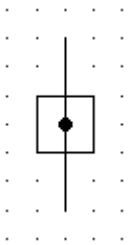
Name:	Box, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-12-04
Keywords:	installations in buildings, wiring
Applied in:	S00454, S00521, S00522
Applies:	S00061
Shape class:	Circles
Function class:	X Connecting
Application class:	Installation diagrams

S00454



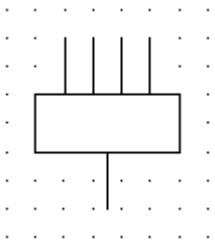
Name:	Connection box; Junction box
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-12-05
Keywords:	installations in buildings, wiring
Applies:	S00016; S00453
Shape class:	Circles, Dots (points)
Function class:	X Connecting
Application class:	Installation diagrams

S00455



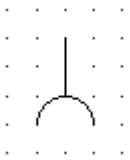
Name:	Consumers terminal, Service entrance equipment
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-12-06
Keywords:	installations in buildings, wiring
Applies:	S00016; S00060
Shape class:	Dots (points), Lines , Squares
Function class:	X Connecting
Application class:	Installation diagrams, Network maps
Remarks:	The symbol is shown with wiring.

S00456



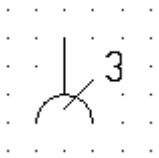
Name:	Distribution centre
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-12-07
Keywords:	installations in buildings, wiring
Applies:	S00060
Shape class:	Lines , Squares
Function class:	X Connecting
Application class:	Installation diagrams
Remarks:	The symbol is shown with five wirings.

S00457



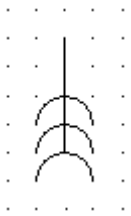
Name:	Socket outlet (power) general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-13-01
Alternative names:	Receptacle outlet (power), general symbol
Keywords:	installations in buildings, socket outlets
Applied in:	S00458, S00464, S00460, S00459, S00461, S00463, S00462
Applies:	S00031
Shape class:	Half-circles, Lines
Function class:	X Connecting
Application class:	Installation diagrams

S00458



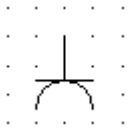
Name:	Multiple socket outlet (power)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-13-02
Keywords:	installations in buildings, socket outlets
Form:	Form 1
Alternative forms:	S00459
Applies:	S00457
Shape class:	Characters, Half-circles, Lines
Function class:	X Connecting
Application class:	Installation diagrams
Remarks:	The symbol is shown with three outlets.

S00459



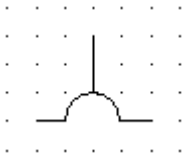
Name:	Multiple socket outlet (power)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-13-03
Keywords:	installations in buildings, socket outlets
Form:	Form 2
Alternative forms:	S00458
Applies:	S00457
Shape class:	Half-circles, Lines
Function class:	X Connecting
Application class:	Installation diagrams
Remarks:	The symbol is shown with three outlets.

S00460



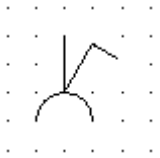
Name:	Socket outlet (power) with protective contact
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-13-04
Keywords:	installations in buildings, socket outlets
Applied in:	S00528, S01892, S01891, S01897
Applies:	S00457
Shape class:	Half-circles, Lines
Function class:	X Connecting
Application class:	Installation diagrams

S00461



Name:	Socket outlet (power) with sliding shutter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-13-05
Keywords:	installations in buildings, socket outlets
Applies:	S00457
Shape class:	Half-circles, Lines
Function class:	X Connecting
Application class:	Installation diagrams

S00462

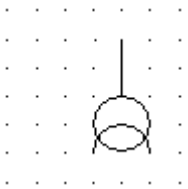


Name:	Socket outlet (power) with single-pole switch
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-13-06
Keywords:	installations in buildings, socket outlets
Applied in:	S00463
Applies:	S00457
Shape class:	Half-circles, Lines
Function class:	X Connecting
Application class:	Installation diagrams

S00463

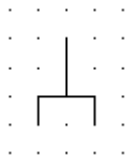
Name:	Socket outlet (power) with interlocked switch
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-13-07
Keywords:	installations in buildings, socket outlets
Applies:	S00457; S00462
Shape class:	Half-circles, Lines
Function class:	X Connecting
Application class:	Installation diagrams

S00464



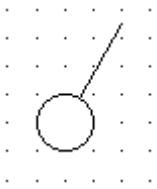
Name:	Socket outlet (power) with isolating transformer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-13-08
Alternative names:	Shaver outlet
Keywords:	installations in buildings, socket outlets
Applies:	S00457
Shape class:	Circles, Half-circles, Lines
Function class:	X Connecting
Application class:	Installation diagrams

S00465



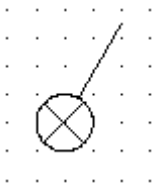
Name:	Socket outlet (telecommunications), general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-13-09
Keywords:	installations in buildings, socket outlets
Applied in:	S01812
Application notes:	A00109
Shape class:	Lines
Function class:	X Connecting
Application class:	Installation diagrams

S00466



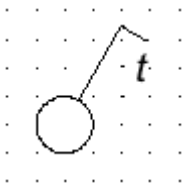
Name:	On/Off switch, general symbol for installation diagrams
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-14-01
Alternative names:	Switch, general symbol for installation diagrams
Keywords:	installations in buildings, switches
Applied in:	S01456, S01455, S01862, S01830, S00473, S00471, S01909, S01905, S01907, S01915, S00470, S01899, S00468, S00472, S01864, S00474, S00467, S00469
Application notes:	A00372, A00373
Shape class:	Circles, Lines
Function class:	Q Controlled switching or varying, S Converting a manual operation into a signal
Application class:	Installation diagrams
Remarks:	In this graphical symbol number of poles is not presented

S00467



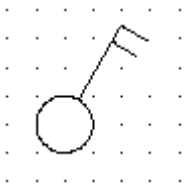
Name:	Switch with signal lamp, general symbol for installation diagram
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-14-02
Alternative names:	Switch with pilot light, general symbol installation diagram
Keywords:	indicator lamps, installations in buildings, switches
Applied in:	S01907
Applies:	S00466; S00965
Application notes:	A00364, A00373
Shape class:	Circles, Lines
Function class:	Q Controlled switching or varying, S Converting a manual operation into a signal
Application class:	Installation diagrams
Remarks:	In this graphical symbol number of poles is not presented

S00468



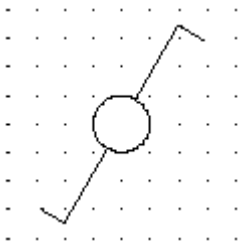
Name:	Period limiting switch, single pole
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-14-03
Keywords:	installations in buildings, switches
Applies:	S00466
Shape class:	Characters, Circles, Lines
Function class:	K Processing signals or information, Q Controlled switching or varying, S Converting a manual operation into a signal
Application class:	Installation diagrams
Remarks:	Letter symbol "t" stands for switching function is time controlled

S00469



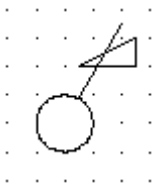
Name:	Two pole switch
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-14-04
Keywords:	installations in buildings, switches
Applied in:	S01890
Applies:	S00466
Application notes:	A00266, A00365
Shape class:	Circles, Lines
Function class:	Q Controlled switching or varying, S Converting a manual operation into a signal
Application class:	Installation diagrams

S00471



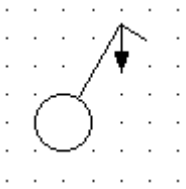
Name:	Two-way single pole switch
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-14-06
Alternative names:	Change over single pole switch
Keywords:	installations in buildings, switches
Applied in:	S01868, S01901, S01908, S01869
Applies:	S00466
Application notes:	A00266, A00366
Shape class:	Circles, Lines
Function class:	Q Controlled switching or varying, S Converting a manual operation into a signal
Application class:	Installation diagrams

S00473



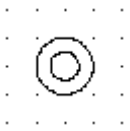
Name:	Dimmer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-14-08
Keywords:	installations in buildings, switches
Applied in:	S01888, S01869
Applies:	S00466
Shape class:	Circles, Lines , Right-angled triangle
Function class:	Q Controlled switching or varying, R Restricting or stabilising, S Converting a manual operation into a signal
Application class:	Installation diagrams

S00474



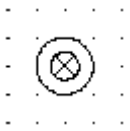
Name:	Pull-cord single pole switch
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-14-09
Keywords:	installations in buildings, switches
Applied in:	S01889
Applies:	S00093; S00466
Application notes:	A00266, A00367
Shape class:	Arrows, Circles, Lines
Function class:	Q Controlled switching or varying, S Converting a manual operation into a signal
Application class:	Installation diagrams

S00475



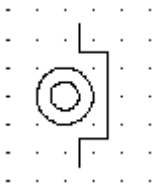
Name:	Push-button
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-14-10
Keywords:	installations in buildings, switches
Applied in:	S00477, S01865, S01866, S00476
Shape class:	Circles
Function class:	S Converting a manual operation into a signal
Application class:	Installation diagrams

S00476



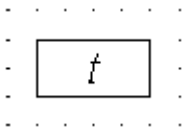
Name:	Push-button with indicator lamp
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-14-11
Keywords:	indicator lamps, installations in buildings, switches
Applies:	S00475; S00965
Shape class:	Circles, Lines
Function class:	P Presenting information, S Converting a manual operation into a signal
Application class:	Installation diagrams

S00477



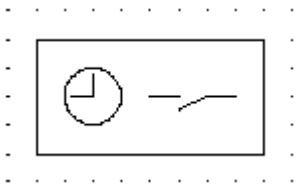
Name:	Push-button protected against unintentional operation
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-14-12
Keywords:	installations in buildings, switches
Applies:	S00168; S00475
Application notes:	A00110
Shape class:	Circles, Lines
Function class:	S Converting a manual operation into a signal
Application class:	Installation diagrams

S00478



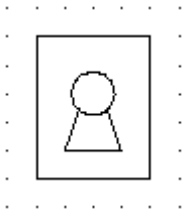
Name:	Timer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-14-13
Alternative names:	Period limiting equipment
Keywords:	installations in buildings, switches
Applies:	S00060; S00327
Shape class:	Characters, Squares
Function class:	K Processing signals or information, Q Controlled switching or varying
Application class:	Installation diagrams

S00479



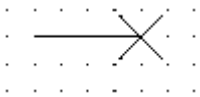
Name:	Time switch
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-14-14
Keywords:	installations in buildings, switches
Applied in:	S01888
Applies:	S00060; S00327; S00959
Shape class:	Depicting shapes, Squares
Function class:	K Processing signals or information, Q Controlled switching or varying
Application class:	Installation diagrams

S00480



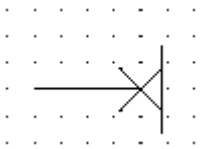
Name:	Key-operated switch
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-14-15
Alternative names:	Watchman's system device
Keywords:	installations in buildings, locks, switches
Applies:	S00060; S00179
Shape class:	Depicting shapes, Squares
Function class:	Q Controlled switching or varying, S Converting a manual operation into a signal
Application class:	Installation diagrams

S00481



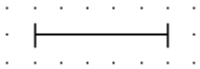
Name:	Lighting outlet position
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-15-01
Keywords:	installations in buildings, lightning outlets and fittings
Applied in:	S01889, S01886, S00482, S00491
Shape class:	Lines
Function class:	U Keeping in defined position, X Connecting
Application class:	Installation diagrams
Remarks:	The symbol is shown with wiring.

S00482



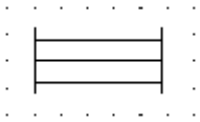
Name:	Lighting outlet on wall
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-15-02
Keywords:	installations in buildings, lightning outlets and fittings
Applies:	S00481
Shape class:	Lines
Function class:	U Keeping in defined position, X Connecting
Application class:	Installation diagrams
Remarks:	The symbol is shown with wiring from the left.

S00484



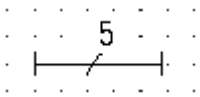
Name:	Luminaire, general symbol; Fluorescent lamp, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-15-04
Keywords:	installations in buildings, lamps, lightning outlets and fittings
Applied in:	S01861, S00485, S00486, S01889, S01886
Shape class:	Lines
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00485



Name:	Luminaire with many fluorescent tubes
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-15-05
Keywords:	installations in buildings, lamps, lightning outlets and fittings
Form:	Form 1
Alternative forms:	S00486
Applies:	S00484
Shape class:	Lines
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams
Remarks:	Shown with three fluorescent tubes.

S00486

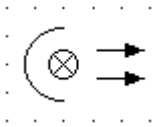


Name:	Luminaire with many fluorescent tubes
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-15-06
Keywords:	installations in buildings, lamps, lightning outlets and fittings
Form:	Form 2
Alternative forms:	S00485
Applies:	S00484
Shape class:	Lines
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams
Remarks:	Shown with five fluorescent tubes.

S00487

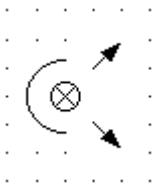
Name:	Projector, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-15-07
Keywords:	installations in buildings, lamps, lightning outlets and fittings
Applied in:	S00488, S00489
Applies:	S00965
Shape class:	Circles, Half-circles, Lines
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00488



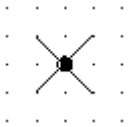
Name:	Spot light
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-15-08
Keywords:	installations in buildings, lamps, lightning outlets and fittings
Applies:	S00127; S00487
Shape class:	Arrows, Circles, Half-circles, Lines
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00489



Name:	Flood light
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-15-09
Keywords:	installations in buildings, lamps, lightning outlets and fittings
Applies:	S00127; S00487
Shape class:	Arrows, Circles, Half-circles, Lines
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00491

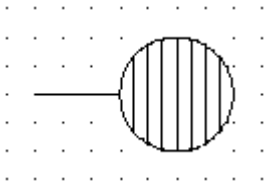


Name:	Emergency lighting luminaire on special circuit
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-15-11
Keywords:	installations in buildings, lamps, lightning outlets and fittings
Applied in:	S00492
Applies:	S00481
Shape class:	Dots (points), Lines
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00492

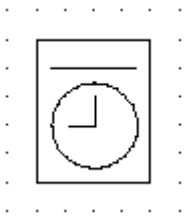
Name:	Self-contained emergency lighting luminaire
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-15-12
Keywords:	installations in buildings, lamps, lightning outlets and fittings
Applies:	S00059; S00491
Shape class:	Dots (points), Lines , Squares
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00493



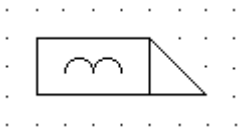
Name:	Water heater
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-16-01
Keywords:	heaters, installations in buildings
Applies:	S00061
Shape class:	Circles, Lines
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams
Remarks:	The symbol is shown with wiring.

S00495



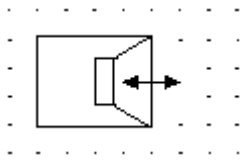
Name:	Time clock, time recorder
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-16-03
Keywords:	clocks, installations in buildings
Applies:	S00060; S00138; S00959
Shape class:	Depicting shapes, Rectangles
Function class:	K Processing signals or information, P Presenting information
Application class:	Installation diagrams

S00496



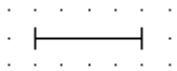
Name:	Electric lock
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-16-04
Keywords:	installations in buildings, locks
Applies:	S00583
Shape class:	Depicting shapes, Rectangles, Right-angled triangle
Function class:	Q Controlled switching or varying, U Keeping in defined position
Application class:	Installation diagrams

S00497



Name:	Audio intercommunication equipment
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-16-05
Keywords:	entry phones, installations in buildings
Applies:	S00101; S01060
Shape class:	Arrows, Depicting shapes, Rectangles
Function class:	B Converting variable to signal, P Presenting information
Application class:	Installation diagrams
Remarks:	For example an entry phone.

S00498

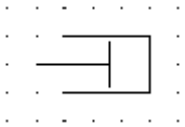


Name:	Straight section, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-01
Keywords:	trunking systems
Applied in:	S00532, S00508, S00527, S00512, S00530, S00499, S00521, S00506, S00507, S00513, S00514, S00502, S00518, S00509, S00520, S00525, S00531, S00504, S00503, S00516, S00529, S00522, S00505, S00515
Application notes:	A00228
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams

S00499

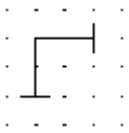
Name:	Assembled straight section
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-02
Keywords:	trunking systems
Applies:	S00498
Application notes:	A00228
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams
Remarks:	The symbol shown is two assembled sections.

S00500



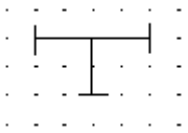
Name:	End cover
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-03
Keywords:	trunking systems
Application notes:	A00228
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams

S00501



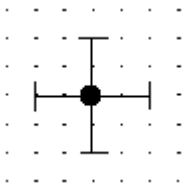
Name:	Elbow
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-04
Keywords:	trunking systems
Application notes:	A00228
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams

S00502



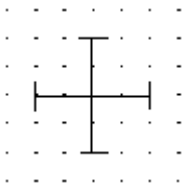
Name:	Tee (three way connection)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-05
Keywords:	trunking systems
Applies:	S00019; S00498
Application notes:	A00228
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams

S00503



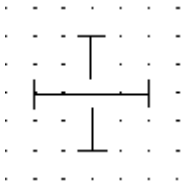
Name:	Cross (four way connection)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-06
Keywords:	trunking systems
Applies:	S00022; S00498
Application notes:	A00228
Shape class:	Dots (points), Lines
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams

S00504



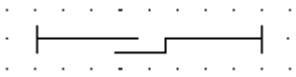
Name:	Crossing of two systems without connection
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-07
Keywords:	trunking systems
Applied in:	S00505
Applies:	S00498
Application notes:	A00228
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams
Remarks:	For example two systems at different levels.

S00505



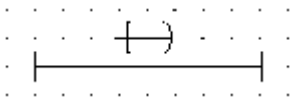
Name:	Crossing of two independent systems
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-08
Keywords:	trunking systems
Applies:	S00498; S00504
Application notes:	A00228
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams

S00506



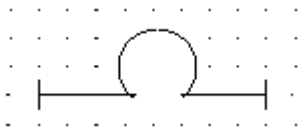
Name:	Straight section adjustable in length
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-09
Keywords:	trunking systems
Applies:	S00498
Application notes:	A00228
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams

S00507



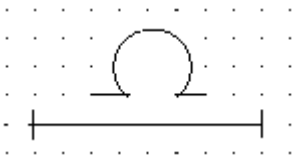
Name:	Straight section internally anchored
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-10
Keywords:	trunking systems
Applies:	S00424; S00498
Application notes:	A00228
Shape class:	Depicting shapes, Lines
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams

S00508



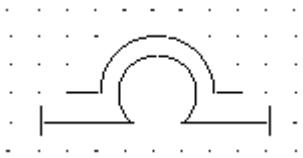
Name:	Expansion unit for enclosure
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-11
Keywords:	trunking systems
Applied in:	S00510
Applies:	S00498
Application notes:	A00228
Shape class:	Circle segments, Lines
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams
Remarks:	This unit accomodates mechanical movement of the enclosure or tray.

S00509



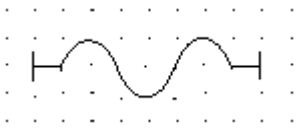
Name:	Expansion unit for conductors
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-12
Keywords:	trunking systems
Applied in:	S00510
Applies:	S00498
Application notes:	A00228
Shape class:	Circle segments, Depicting shapes, Lines
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams
Remarks:	This unit accommodates thermal expansion of the conductors.

S00510



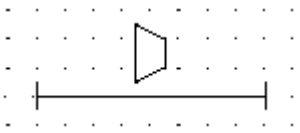
Name:	Expansion unit for enclosure and conductors
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-13
Keywords:	trunking systems
Applies:	S00508; S00509
Application notes:	A00228
Shape class:	Circle segments, Depicting shapes, Lines
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams
Remarks:	This unit accommodates mechanical movement and expansion of both the enclosure or the tray and the conductors.

S00511



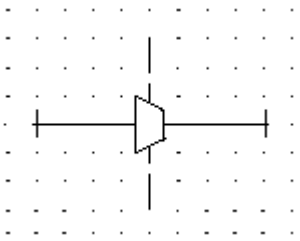
Name:	Flexible unit
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-14
Keywords:	trunking systems
Application notes:	A00228
Shape class:	Depicting shapes, Lines
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams

S00512



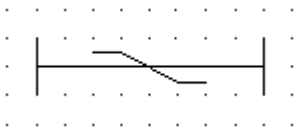
Name:	Reduction unit
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-15
Keywords:	trunking systems
Applies:	S00498; S01282; S01283
Application notes:	A00228
Shape class:	Lines , Trapezoids
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams

S00513



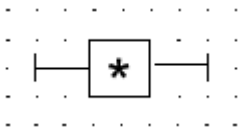
Name:	Straight section with internal pressure tight barrier
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-16
Keywords:	trunking systems
Applies:	S00056; S00498
Application notes:	A00012, A00228
Shape class:	Lines , Trapezoids
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams

S00514



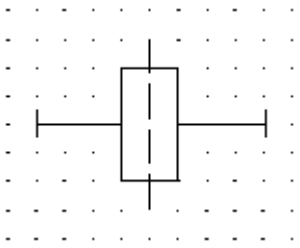
Name:	Phase transposition unit
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-17
Keywords:	trunking systems
Applies:	S00024; S00498
Application notes:	A00228
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams

S00515



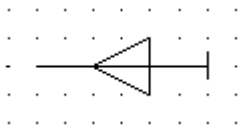
Name:	Equipment box
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-18
Keywords:	trunking systems
Applied in:	S00527, S00526, S00520, S00519
Applies:	S00059; S00498
Application notes:	A00113, A00228
Shape class:	Lines , Squares
Function class:	W Guiding or transporting, X Connecting
Application class:	Installation diagrams, Overview diagrams

S00516



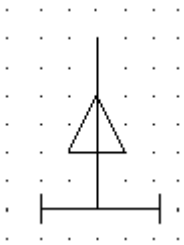
Name:	Straight section with internal fire barrier
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-19
Keywords:	trunking systems
Applies:	S00060; S00498
Application notes:	A00228
Shape class:	Lines , Rectangles
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams

S00517



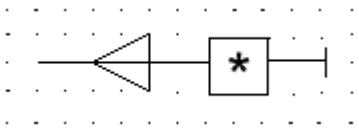
Name:	End feeder unit
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-20
Keywords:	trunking systems
Applied in:	S00519
Application notes:	A00228
Shape class:	Equilateral triangles, Lines
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams
Remarks:	The symbol is shown with supply from the left.

S00518



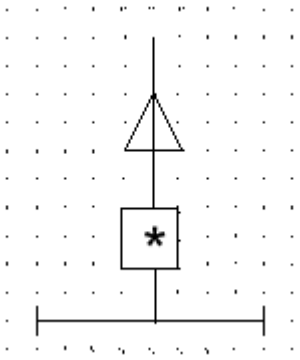
Name:	Central feeder unit
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-21
Keywords:	trunking systems
Applied in:	S00520
Applies:	S00498
Application notes:	A00228
Shape class:	Equilateral triangles, Lines
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams
Remarks:	The symbol is shown with supply from the top.

S00519



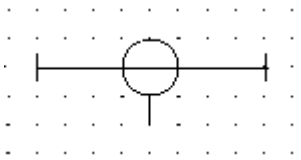
Name:	End feeder unit with equipment box
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-22
Keywords:	trunking systems
Applies:	S00059; S00515; S00517
Application notes:	A00113, A00228
Shape class:	Equilateral triangles, Lines , Squares
Function class:	W Guiding or transporting, X Connecting
Application class:	Installation diagrams, Overview diagrams
Remarks:	The symbol is shown with supply from the left.

S00520



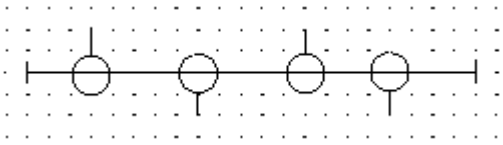
Name:	Central feeder unit with equipment box
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-23
Keywords:	trunking systems
Applies:	S00498; S00515; S00518
Application notes:	A00113, A00228
Shape class:	Equilateral triangles, Lines , Squares
Function class:	W Guiding or transporting, X Connecting
Application class:	Installation diagrams, Overview diagrams
Remarks:	The symbol is shown with supply from the top.

S00521



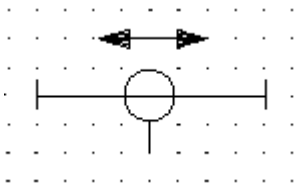
Name:	Straight section with fixed tap-off
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-24
Keywords:	trunking systems
Applied in:	S00524, S00528, S00526, S00523, S00522
Applies:	S00453; S00498
Application notes:	A00228
Shape class:	Circles, Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Installation diagrams, Overview diagrams
Remarks:	The symbol is shown with tap-off downwards.

S00522



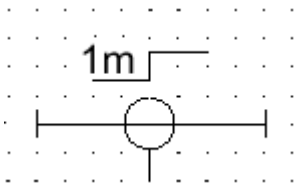
Name:	Straight section with several tap-offs
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-25
Keywords:	trunking systems
Applies:	S00453; S00498; S00521
Application notes:	A00228
Shape class:	Circles, Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Installation diagrams, Overview diagrams
Remarks:	The symbol is shown with four tap-offs, two on each side.

S00523



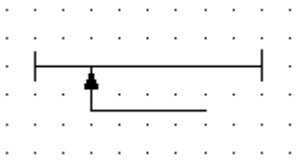
Name:	Straight section with continously movable tap-off
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-26
Keywords:	trunking systems
Applies:	S00094; S00521
Application notes:	A00228
Shape class:	Arrows, Circles, Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Installation diagrams, Overview diagrams

S00524



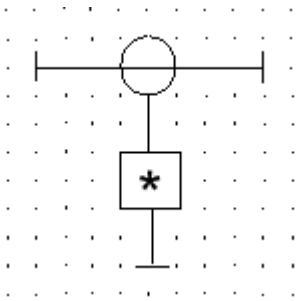
Name:	Straight section with tap-off adjustable in steps
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-27
Keywords:	trunking systems
Applies:	S00087; S00521
Application notes:	A00228
Shape class:	Characters, Circles, Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Installation diagrams, Overview diagrams
Remarks:	The symbol is shown with 1 meter steps.

S00525



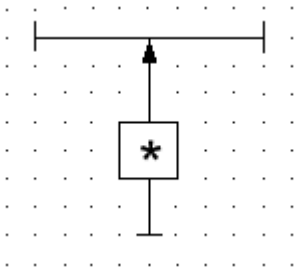
Name:	Straight section with tap-off by movable contact
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-28
Keywords:	trunking systems
Applies:	S00211; S00498
Application notes:	A00228
Shape class:	Arrows, Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Installation diagrams, Overview diagrams
Remarks:	For example sliding contact.

S00526



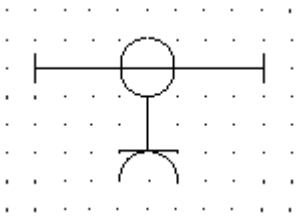
Name:	Straight section with fixed tap-off with equipment box
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-29
Keywords:	trunking systems
Applies:	S00515; S00521
Application notes:	A00113, A00228
Shape class:	Circles, Lines , Squares
Function class:	W Guiding or transporting, X Connecting
Application class:	Installation diagrams, Overview diagrams

S00527



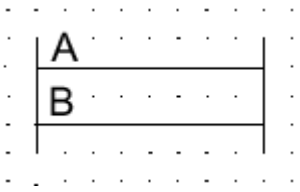
Name:	Straight section with adjustable tap-off with equipment box
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-30
Keywords:	trunking systems
Applies:	S00081; S00498; S00515
Application notes:	A00113, A00228
Shape class:	Arrows, Lines , Squares
Function class:	W Guiding or transporting, X Connecting
Application class:	Installation diagrams, Overview diagrams

S00528



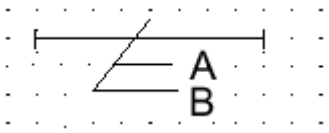
Name:	Straight section with fixed tap-off having socket-outlet with protective contact.
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-31
Keywords:	trunking systems
Applies:	S00460; S00521
Application notes:	A00228
Shape class:	Circles, Half-circles, Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Installation diagrams, Overview diagrams

S00529



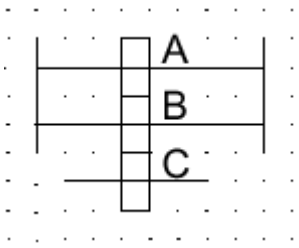
Name:	Straight section consisting of two wiring systems
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-32
Keywords:	trunking systems
Alternative forms:	S00530
Applies:	S00498
Application notes:	A00228
Shape class:	Characters, Lines
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams
Remarks:	The two wiring systems are in this symbol called A and B.

S00530



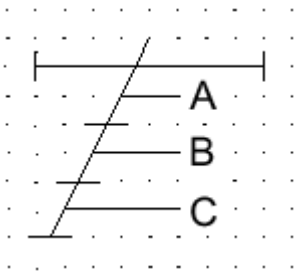
Name:	Straight section consisting of two wiring systems
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-33
Keywords:	trunking systems
Form:	Simplified form
Alternative forms:	S00529
Applies:	S00498
Application notes:	A00228
Shape class:	Characters, Lines
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams
Remarks:	The two wiring systems are in this symbol called A and B.

S00531



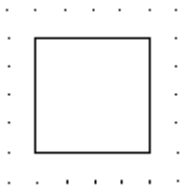
Name:	Straight section consisting of several separate compartments
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-34
Keywords:	trunking systems
Alternative forms:	S00532
Applies:	S00001; S00498
Application notes:	A00228
Shape class:	Characters, Lines
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams
Remarks:	The symbol is shown with three compartments, one compartment for wiring system A, one for wiring system B and one for on-site installation of cable C.

S00532



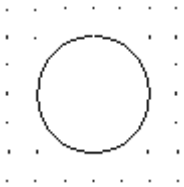
Name:	Straight section consisting of several separate compartments
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-17-35
Keywords:	trunking systems
Form:	Simplified form
Alternative forms:	S00531
Applies:	S00498
Application notes:	A00228
Shape class:	Characters, Lines
Function class:	W Guiding or transporting
Application class:	Installation diagrams, Overview diagrams
Remarks:	The symbol is shown with three compartments, one compartment for wiring system A, one for wiring system B and one for on-site installation of cable C.

S00533



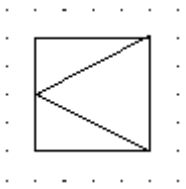
Name:	Aeronautical ground light, elevated, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-18-01
Keywords:	airport lights indicators, outdoor installations
Applied in:	S00535, S00539, S00537
Applies:	S00059
Application notes:	A00114, A00116, A00119
Shape class:	Squares
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00534



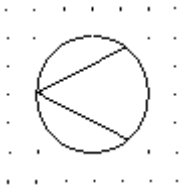
Name:	Aeronautical ground light, surface, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-18-02
Keywords:	airport lights indicators, outdoor installations
Applied in:	S00542, S00536, S00539, S00538, S00540, S00541
Applies:	S00061
Application notes:	A00114, A00116, A00119
Shape class:	Circles
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00535



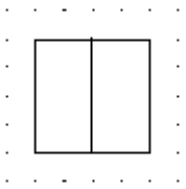
Name:	Aeronautical ground light, white colour and uni-directional beam, elevated
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-18-03
Keywords:	airport lights indicators, outdoor installations
Applied in:	S00547, S00545, S00543
Applies:	S00533
Application notes:	A00114, A00116
Shape class:	Equilateral triangles, Right-angled triangle, Squares
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00536



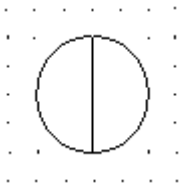
Name:	Aeronautical ground light, white colour and uni-directional beam, surface
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-18-04
Keywords:	airport lights indicators, outdoor installations
Applied in:	S00546
Applies:	S00534
Application notes:	A00114, A00116
Shape class:	Circles, Lines
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00537



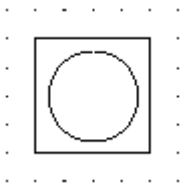
Name:	Aeronautical ground light, white/white colour and bi-directional beam, elevated
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-18-05
Keywords:	airport lights indicators, outdoor installations
Applied in:	S00544
Applies:	S00533
Application notes:	A00114, A00116
Shape class:	Rectangles, Squares
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00538



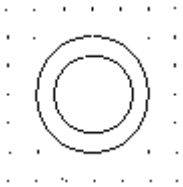
Name:	Aeronautical ground light, white/white colour and bi-directional beam, surface
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-18-06
Keywords:	airport lights indicators, outdoor installations
Applies:	S00534
Application notes:	A00114, A00116
Shape class:	Circles, Lines
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00539



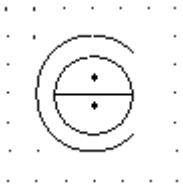
Name:	Aeronautical ground light, white colour and omni-directional beam, elevated
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-18-07
Keywords:	airport lights indicators, outdoor installations
Applied in:	S00550, S00544, S00551, S00543
Applies:	S00533; S00534
Application notes:	A00114, A00116
Shape class:	Circles, Squares
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00540



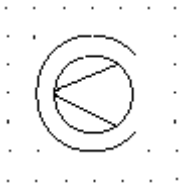
Name:	Aeronautical ground light, white colour and omni-directional beam, surface
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-18-08
Keywords:	airport lights indicators, outdoor installations
Applies:	S00534
Application notes:	A00114, A00116
Shape class:	Circles
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00541



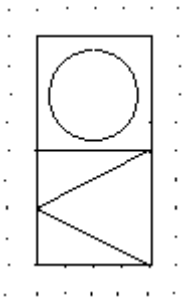
Name:	Curve light, green/green colour and bi-directional beam, surface
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-18-09
Keywords:	airport lights indicators, outdoor installations
Applies:	S00534
Application notes:	A00114, A00116
Shape class:	Circle segments, Circles, Dots (points), Lines
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00542



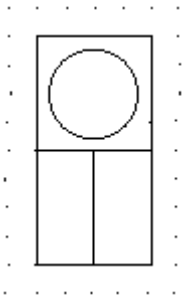
Name:	Curve light, white colour and uni-directional beam, surface
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-18-10
Keywords:	airport lights indicators, outdoor installations
Applies:	S00534
Application notes:	A00114, A00116
Shape class:	Circle segments, Circles, Lines
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00543



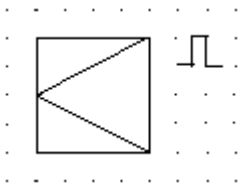
Name:	Aeronautical ground light, white omni-directional beam on top, and white uni-directional beam below, elevated
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-18-11
Keywords:	airport lights indicators, outdoor installations
Applies:	S00535; S00539
Application notes:	A00114, A00116
Shape class:	Circles, Equilateral triangles, Right-angled triangle, Squares
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00544



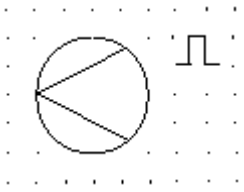
Name:	Aeronautical ground light, white omni-directional beam on top, and white/white bi-directional beam below, elevated
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-18-12
Keywords:	airport lights indicators, outdoor installations
Applies:	S00537; S00539
Application notes:	A00114, A00116
Shape class:	Circles, Rectangles, Squares
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00545



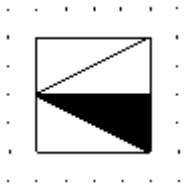
Name:	Aeronautical ground light, white flashing uni-directional beam, elevated
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-18-13
Keywords:	airport lights indicators, outdoor installations
Applies:	S00132; S00535
Application notes:	A00114, A00116
Shape class:	Equilateral triangles, Lines , Right-angled triangle, Squares
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00546



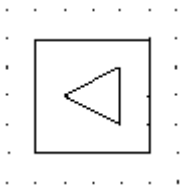
Name:	Aeronautical ground light, white flashing uni-directional beam, surface
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-18-14
Keywords:	airport lights indicators, outdoor installations
Applies:	S00132; S00536
Application notes:	A00114, A00116
Shape class:	Circles, Lines
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00547



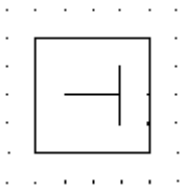
Name:	Precision approach path indicator white/red uni-directional beam
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-18-15
Keywords:	airport lights indicators, outdoor installations
Applies:	S00535
Application notes:	A00114, A00116
Shape class:	Right-angled triangle, Squares
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00548



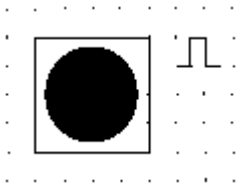
Name:	Wind direction indicator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-18-16
Keywords:	airport lights indicators, outdoor installations
Applies:	S00059
Application notes:	A00114
Shape class:	Equilateral triangles, Squares
Function class:	P Presenting information
Application class:	Installation diagrams

S00549



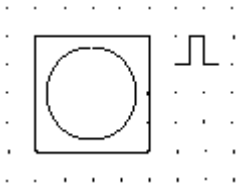
Name:	Landing direction indicator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-18-17
Keywords:	airport lights indicators, outdoor installations
Applies:	S00059
Application notes:	A00114
Shape class:	Lines , Squares
Function class:	P Presenting information
Application class:	Installation diagrams

S00550



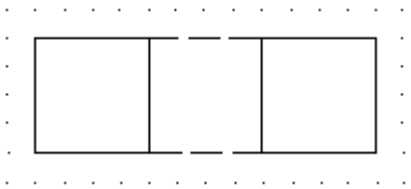
Name:	Obstacle light; Hazard light; Red flashing omni-directional beam
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-18-18
Keywords:	airport lights indicators, outdoor installations
Applies:	S00132; S00539
Application notes:	A00114, A00116
Shape class:	Circles, Lines , Squares
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00551



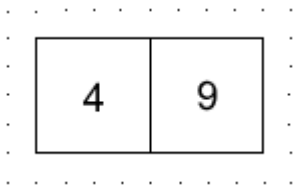
Name:	Aeronautical ground light, white flashing omni-directional beam
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-18-19
Keywords:	airport lights indicators, outdoor installations
Applies:	S00132; S00539
Application notes:	A00114, A00116
Shape class:	Circles, Lines , Squares
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S00552



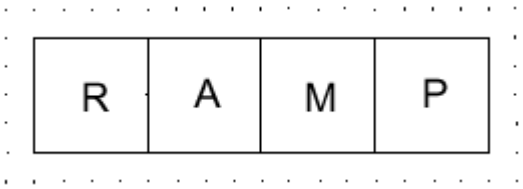
Name:	Warning sign, general symbol; Guidance sign, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-18-20
Keywords:	airport lights indicators, outdoor installations
Applied in:	S00553, S00554
Applies:	S00059
Application notes:	A00114
Shape class:	Squares
Function class:	P Presenting information
Application class:	Installation diagrams

S00553



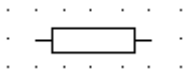
Name:	Distance warning sign
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-18-21
Keywords:	airport lights indicators, outdoor installations
Applies:	S00552
Application notes:	A00114
Shape class:	Characters, Squares
Function class:	P Presenting information
Application class:	Installation diagrams
Remarks:	Distance warning sign shown "4000/9000 feet" shown.

S00554



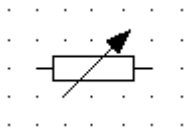
Name:	Taxiing guidance sign
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-11 (ed.2.0) 11-18-22
Keywords:	airport lights indicators, outdoor installations
Applies:	S00552
Application notes:	A00114
Shape class:	Characters, Squares
Function class:	P Presenting information
Application class:	Installation diagrams
Remarks:	Taxiing guidance sign "RAMP" shown.

S00555



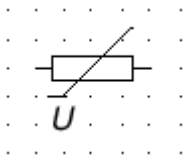
Name:	Resistor, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-01-01
Keywords:	resistors
Applied in:	S01740, S01799, S00558, S00689, S00564, S00560, S00559, S00684, S00562, S00563, S00565, S00566, S01112, S00561, S00557
Replacing:	S01355
Shape class:	Rectangles
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00557



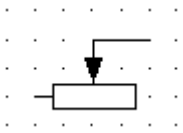
Name:	Resistor, adjustable
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-01-03
Keywords:	resistors
Applies:	S00081; S00555
Shape class:	Arrows, Rectangles
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00558



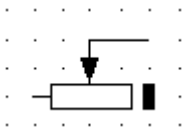
Name:	Resistor, voltage dependent
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-01-04
Alternative names:	Varistor
Keywords:	resistors, varistors
Applies:	S00084; S00555
Shape class:	Lines , Rectangles
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00559



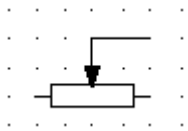
Name:	Resistor with movable contact
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-01-05
Keywords:	resistors
Applies:	S00211; S00555
Shape class:	Arrows, Lines , Rectangles
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00560



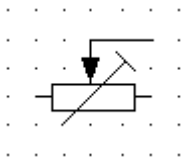
Name:	Resistor with movable contact and off position
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-01-06
Keywords:	resistors
Applies:	S00211; S00555
Shape class:	Arrows, Lines , Rectangles
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00561



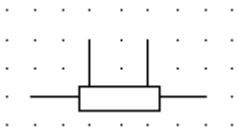
Name:	Potentiometer with movable contact
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-01-07
Keywords:	potentiometers, resistors
Applies:	S00211; S00555
Shape class:	Lines , Rectangles
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00562



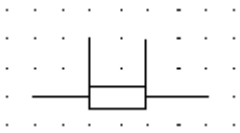
Name:	Potentiometer with movable contact and pre-set adjustment
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-01-08
Keywords:	potentiometers, resistors
Applies:	S00085; S00211; S00555
Shape class:	Arrows, Lines , Rectangles
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00563



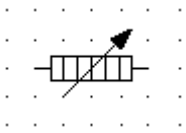
Name:	Resistor with fixed tappings
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-01-09
Keywords:	resistors
Applies:	S00555
Shape class:	Lines , Rectangles
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams
Remarks:	The symbol is shown with two tappings.

S00564



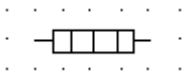
Name:	Resistor with separate current and voltage terminals
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-01-10
Alternative names:	Shunt
Keywords:	resistors, shunts
Applies:	S00555
Shape class:	Lines , Rectangles
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00565



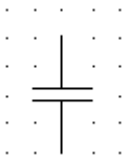
Name:	Carbon-pile resistor
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-01-11
Keywords:	resistors
Applies:	S00081; S00555
Shape class:	Arrows, Lines , Rectangles
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00566



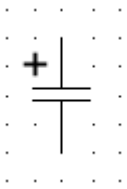
Name:	Heating element
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-01-12
Keywords:	resistors
Applied in:	S01825, S01823, S00759
Applies:	S00555
Shape class:	Lines , Rectangles
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00567



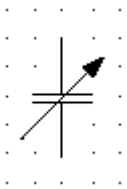
Name:	Capacitor, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-02-01
Keywords:	capacitors
Applied in:	S00582, S00789, S01165, S01163, S00579, S00644, S00573, S01164, S00577, S00356, S00581, S00571, S01054, S00575
Replacing:	S01356
Shape class:	Lines
Function class:	C Storing
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00571



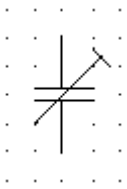
Name:	Capacitor, polarized
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-02-05
Alternative names:	Electrolytic capacitor
Keywords:	capacitors
Applies:	S00077; S00567
Replacing:	S01358
Shape class:	Lines
Function class:	C Storing
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00573



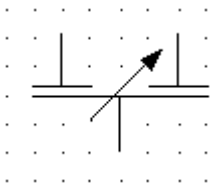
Name:	Capacitor, adjustable
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-02-07
Keywords:	capacitors
Applies:	S00081; S00567
Replacing:	S01359
Shape class:	Arrows, Lines
Function class:	C Storing
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00575



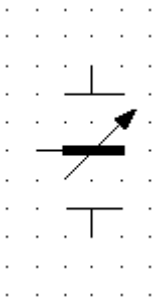
Name:	Capacitor with pre-set adjustment
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-02-09
Keywords:	capacitors
Applies:	S00085; S00567
Replacing:	S01360
Shape class:	Lines
Function class:	C Storing
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00577



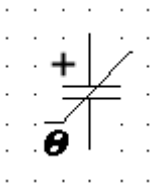
Name:	Capacitor, differential
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-02-11
Keywords:	capacitors
Applies:	S00081; S00567
Replacing:	S01361
Shape class:	Arrows, Lines
Function class:	C Storing
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00579



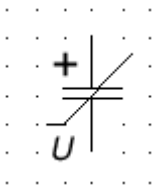
Name:	Capacitor, split and adjustable
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-02-13
Keywords:	capacitors
Applies:	S00081; S00567
Replacing:	S01362
Shape class:	Arrows, Lines
Function class:	C Storing
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00581



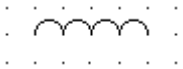
Name:	Capacitor, temperature dependent and polarised
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-02-15
Alternative names:	Ceramic capacitor
Keywords:	capacitors
Applies:	S00077; S00084; S00567
Application notes:	A00231
Shape class:	Lines
Function class:	C Storing
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00582



Name:	Capacitor, voltage dependent and polarised
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-02-16
Alternative names:	Semiconductor capacitor
Keywords:	capacitors
Applies:	S00077; S00084; S00567
Application notes:	A00230
Shape class:	Lines
Function class:	C Storing
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00583



Name:	Coil, general symbol; Winding, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-03-01
Alternative names:	Inductor; Choke
Keywords:	chokes, coils, inductors, windings
Applied in:	S00348, S00828, S01165, S01086, S00847, S00823, S00832, S00845, S00690, S00829, S00588, S00749, S00824, S00586, S00739, S00735, S00833, S00817, S00753, S00842, S00589, S00585, S01164, S00815, S00849, S00755, S00816, S00835, S00830, S00591, S00827, S00590, S00496, S00347, S01198, S00825, S00834
Application notes:	A00127, A00263
Replacing:	S00815; S00816; S00817; S01363
Shape class:	Half-circles
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

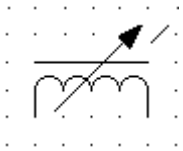
S00585

Name:	Inductor with magnetic core
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-03-03
Keywords:	inductors
Applied in:	S01114, S00591, S00587
Applies:	S00583
Shape class:	Half-circles, Lines
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00586

Name:	Inductor with gap in magnetic core
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-03-04
Keywords:	inductors
Applies:	S00583
Shape class:	Half-circles, Lines
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00587



Name:	Inductor, continuously variable
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-03-05
Keywords:	inductors
Applies:	S00081; S00585
Shape class:	Arrows, Half-circles, Lines
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams
Remarks:	The symbol is shown with magnetic core.

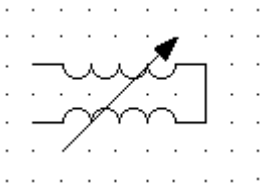
S00588

Name:	Inductor with fixed tappings
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-03-06
Keywords:	inductors
Applies:	S00583
Shape class:	Half-circles, Lines
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams
Remarks:	The symbol is shown with two tappings (taps).

S00589

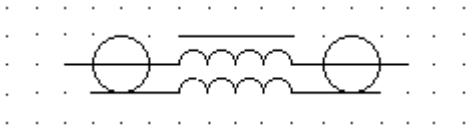
Name:	Inductor with moveable contact, variable in steps
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-03-07
Keywords:	inductors
Applies:	S00087; S00211; S00583
Shape class:	Arrows, Half-circles, Lines
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00590



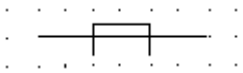
Name:	Variometer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-03-08
Keywords:	inductors, variometers
Applies:	S00081; S00583
Shape class:	Arrows, Half-circles
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00591



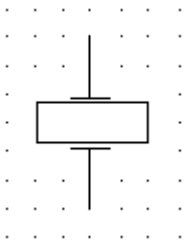
Name:	Coaxial choke with magnetic core
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-03-09
Keywords:	chokes, coaxial cables
Applies:	S00011; S00583; S00585
Shape class:	Circles, Half-circles, Lines
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00592



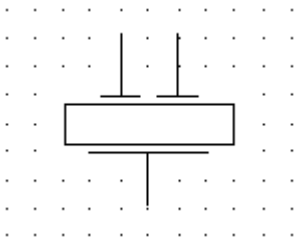
Name:	Ferrite bead
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-03-10
Keywords:	ferrite beads
Applies:	S00001
Shape class:	Lines
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams
Remarks:	Teh ferrite bead is shown on a conductor.

S00600



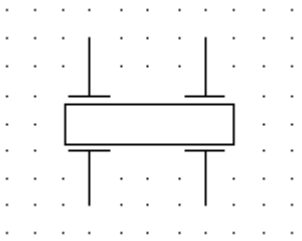
Name:	Piezoelectric crystal with two electrodes
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-07-01
Keywords:	piezoelectrical crystals
Applied in:	S00602, S00601, S00607, S00611
Applies:	S01405
Shape class:	Lines , Rectangles
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams

S00601



Name:	Piezoelectric crystal with three electrodes
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-07-02
Keywords:	piezoelectrical crystals
Applies:	S00600; S01405
Shape class:	Lines , Rectangles
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams

S00602

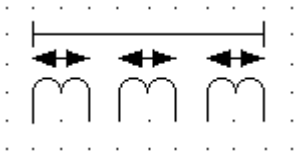


Name:	Piezoelectric crystal with two pairs of electrodes
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-07-03
Keywords:	piezoelectrical crystals
Applies:	S00600; S01405
Shape class:	Lines , Rectangles
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams

S00603

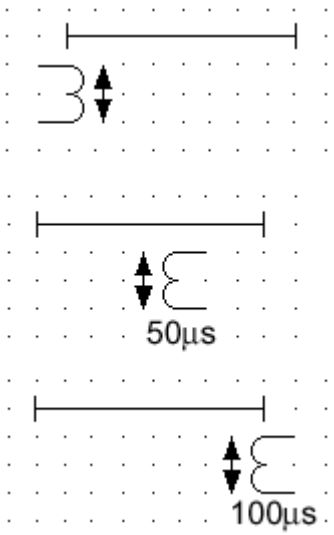
Name:	Electret with electrodes and connections
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-07-04
Keywords:	electrets
Applies:	S00117
Shape class:	Equilateral triangles, Lines
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams
Remarks:	The longer line represents the positive pole.

S00604



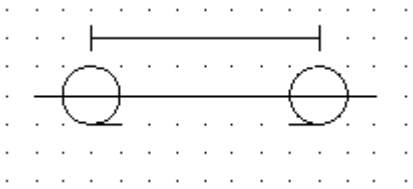
Name:	Delay line, magnetostrictive with windings
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-08-01
Keywords:	delay lines
Form:	Assembled form
Applies:	S00122; S00124
Shape class:	Arrows, Half-circles, Lines
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams
Remarks:	The symbol is shown three windings shown in an assembled representation.

S00605



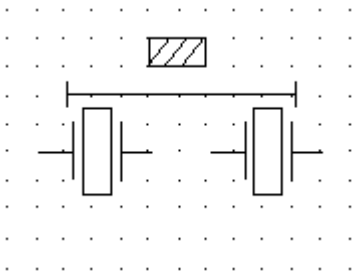
Name:	Delay line, magnetostrictive with windings
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-08-02
Keywords:	delay lines
Form:	Detached form
Applies:	S00122; S00124
Shape class:	Arrows, Half-circles, Lines
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams
Remarks:	The delay line is shown with one input and two outputs windings, in detached representation. The windings are from top to bottom: - Input - Intermediate output with 50 µs delay - Final output with 100 µs delay

S00606



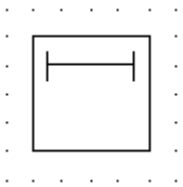
Name:	Delay line, coaxial
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-08-03
Keywords:	delay lines
Applies:	S00011
Shape class:	Circles, Lines
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00607



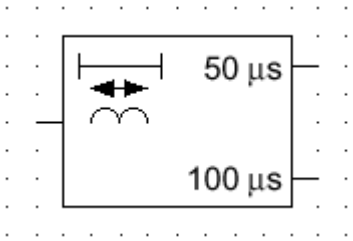
Name:	Delay line, solid material type with piezoelectric transducers
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-08-04
Keywords:	delay lines, piezoelectrical crystals, transducers
Applies:	S00114; S00124; S00600
Shape class:	Lines , Rectangles
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams

S00608



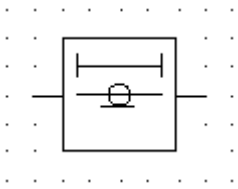
Name:	Delay line, general symbol; Delay element, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-09-01
Keywords:	delay lines
Applied in:	S00612, S00610, S00611
Applies:	S00059; S00124
Shape class:	Lines , Squares
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00609



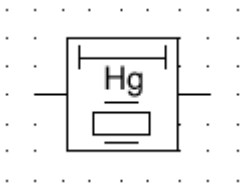
Name:	Delay line, magnetostrictive type
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-09-02
Keywords:	delay lines
Applies:	S00060; S00122; S00124
Shape class:	Arrows, Characters, Half-circles, Lines
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams
Remarks:	The symbol is shown with two outputs. The output signals are delayed 50 microseconds and 100 microseconds respectively.

S00610



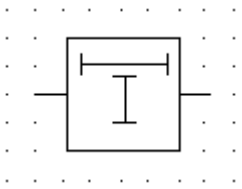
Name:	Delay line, coaxial type
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-09-03
Keywords:	delay lines
Applies:	S00011; S00608
Shape class:	Circles, Lines , Squares
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00611



Name:	Delay line, mercury type with piezoelectric transducers
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-09-04
Keywords:	delay lines
Applies:	S00600; S00608
Shape class:	Lines , Squares
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00612



Name:	Delay line, artificial line type
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-4 (ed.2.0) 04-09-05
Keywords:	delay lines
Applies:	S00608
Shape class:	Lines , Squares
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

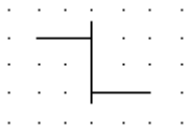
S00613

Name:	Semiconductor region, one connection
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-01
Keywords:	connections, ohmic connections, semiconductor regions, semiconductors, transistors
Applied in:	S00057, S00651, S00653, S00657, S00655, S00641, S00659, S00648, S00663, S00665, S00646, S00661, S00614, S00650, S00656, S00658, S00664, S00660, S00652, S00662, S00654, S00645, S00649, S00615, S00616
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams
Remarks:	The vertical line is the semiconductor region and the perpendicular line is the ohmic connection.

S00614

Name:	Semiconductor region, several connections
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-02
Keywords:	ohmic connections, semiconductor regions, semiconductors, transistors
Form:	Form 1
Alternative forms:	S00615; S00616
Applies:	S00613
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams
Remarks:	Two connections are shown.

S00615

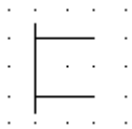


Name:	Semiconductor region, several connections
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-03
Keywords:	ohmic connections, semiconductor regions, semiconductors, transistors
Form:	Form 2
Alternative forms:	S00614; S00616
Applies:	S00613
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams
Remarks:	Two connections shown.

S00616

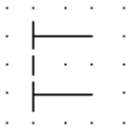
Name:	Semiconductor region, several connections
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-04
Keywords:	ohmic connections, semiconductor regions, semiconductors, transistors
Form:	Form 3
Alternative forms:	S00614; S00615
Applied in:	S00668, S00667, S00671, S00670, S00672, S00669, S00666
Applies:	S00613
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Two connections shown.

S00617



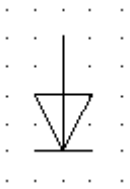
Name:	Conduction channel for depletion devices
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-05
Keywords:	conduction channels, depletion type, semiconductors, transistors
Applied in:	S00682, S00678, S00683, S00671, S00677, S00672, S00679
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00618



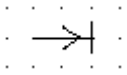
Name:	Conduction channel for enhancement devices
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-06
Keywords:	conduction channels, enhancement type, semiconductors, transistors
Applied in:	S00673, S00676, S00680, S00675, S00674, S00681
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00619



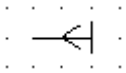
Name:	Rectifying junction
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-07
Keywords:	junctions, rectifiers, semiconductors
Applied in:	S00057, S00651, S00653, S00657, S00655, S00641, S00648, S00646, S00661, S00647, S00650, S00656, S00658, S00660, S00662, S00654, S00378, S00645
Replacing:	S01364
Shape class:	Equilateral triangles, Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00620



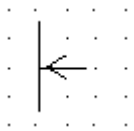
Name:	Junction which influences a semiconductor layer, P-region which influences an N-layer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-09
Keywords:	field effect transistors, gates, junctions, N-layer, P-region, semiconductors, transistors
Applied in:	S00671
Application notes:	A00176
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00621



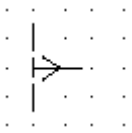
Name:	Junction which influences a semiconductor layer, N-region which influences a P-layer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-10
Keywords:	field effect transistors, gates, junctions, N-region, P-layer, semiconductors, transistors
Applied in:	S00672
Application notes:	A00176
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00622



Name:	Conductivity type of the channel, N-type channel on a P-type substrate
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-11
Keywords:	conduction channels, field effect transistors, IGFET, N-type channel, semiconductors, transistors
Applied in:	S00676, S00677, S00674
Application notes:	A00177
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams
Remarks:	N-type channel on a P-type substrate for a depletion type IGFET is shown.

S00623

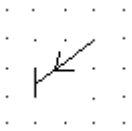


Name:	Conductivity type of the channel, P-type channel on an N-type substrate
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-12
Keywords:	conduction channels, field effect transistors, IGFET, insulated gate, P-type channel, semiconductors, transistors
Applied in:	S00673, S00678, S00675, S00679
Application notes:	A00177
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams
Remarks:	P-type channel on an N-type substrate for an enhancement type IGFET is shown.

S00624

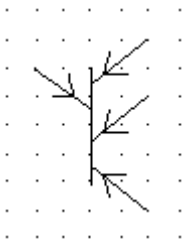
Name:	Insulated gate
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-13
Keywords:	field effect transistors, gates, IGFET, insulated gate, semiconductors, transistors
Applied in:	S00682, S00673, S00676, S00678, S00683, S00680, S00677, S00675, S00674, S00679, S00681, S01931
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams
Remarks:	For an example with multiple gates see symbol S00679.

S00625



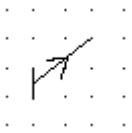
Name:	Emitter on a region of dissimilar conductivity type, P emitter on an N region
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-14
Keywords:	bipolar transistors, emitters, semiconductors, transistors
Applied in:	S00682, S00667, S00663, S00683, S00680, S00670, S00687, S00669, S00681, S00626, S01931
Application notes:	A00178
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00626



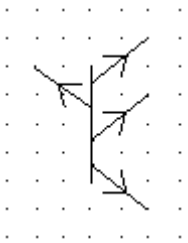
Name:	Emitters on a region of dissimilar conductivity type, P emitters on an N region
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-15
Keywords:	bipolar transistors, emitters, semiconductors, transistors
Applies:	S00625
Application notes:	A00178
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00627



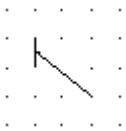
Name:	Emitter on a region of dissimilar conductivity type, N emitter on a P region
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-16
Keywords:	bipolar transistors, emitters, semiconductors, transistors
Applied in:	S00668, S00682, S00665, S00683, S00680, S00664, S00666, S00628, S00681, S01931
Application notes:	A00178
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00628



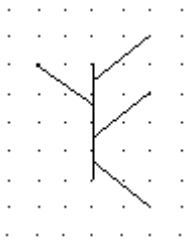
Name:	Emitters on a region of dissimilar conductivity type, N emitters on a P region
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-17
Keywords:	bipolar transistors, emitters, semiconductors, transistors
Applies:	S00627
Application notes:	A00178
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00629



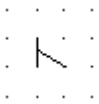
Name:	Collector on a region of dissimilar conductivity type
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-18
Keywords:	bipolar transistors, collectors, semiconductors, transistors
Applied in:	S00668, S00663, S00665, S00630, S00664, S00687
Application notes:	A00179
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00630



Name:	Collectors on a region of dissimilar conductivity type
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-19
Keywords:	bipolar transistors, collectors, semiconductors, transistors
Applies:	S00629
Application notes:	A00179
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00631



Name:	Transition between regions of dissimilar conductivity types
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-20
Keywords:	semiconductor regions, semiconductors, transistors
Applied in:	S00682, S00683, S00680, S00681
Application notes:	A00180
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

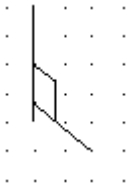
S00632

Name:	Intrinsic region separating regions of dissimilar conductivity type
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-21
Keywords:	intrinsic region, NIP, PIN, semiconductor regions, semiconductors, transistors
Application notes:	A00181
Shape class:	Lines , Parallelograms
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams
Remarks:	A PIN or NIP structure is shown.

S00633

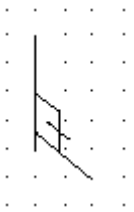
Name:	Intrinsic region between regions of similar conductivity type
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-22
Keywords:	intrinsic region, NIN, PIP, semiconductor regions, semiconductors, transistors
Application notes:	A00181
Shape class:	Lines , Parallelograms
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams
Remarks:	A PIP or NIN structure is shown.

S00634



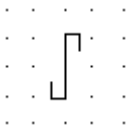
Name:	Intrinsic region between a collector and a region of dissimilar conductivity type
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-23
Keywords:	collectors, intrinsic region, NIP, PIN, semiconductor regions, semiconductors, transistors
Applied in:	S00669
Application notes:	A00182
Shape class:	Lines , Parallelograms
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams
Remarks:	A PIN or NIP structure is shown.

S00635



Name:	Intrinsic region between a collector and a region of similar conductivity type
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-01-24
Keywords:	collectors, intrinsic region, NIN, PIP, semiconductor regions, semiconductors, transistors
Applied in:	S00670
Application notes:	A00182
Shape class:	Lines , Parallelograms
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams
Remarks:	A PIP or NIN structure is shown.

S00636



Name:	Schottky effect
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-02-01
Keywords:	diodes, Schottky, semiconductors, transistors
Application notes:	A00150
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00637

Name:	Tunnel effect
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-02-02
Keywords:	diodes, semiconductors, tunnel
Applied in:	S00645
Application notes:	A00150
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00638

Name:	Unidirectional breakdown effect
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-02-03
Alternative names:	Zener effect
Keywords:	diodes, semiconductors, Zener
Applied in:	S00651, S00665, S00646, S00661, S00660, S00662
Application notes:	A00150
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

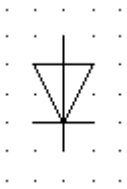
S00639

Name:	Bidirectional breakdown effect
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-02-04
Keywords:	diodes, semiconductors
Applied in:	S00647
Application notes:	A00150
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00640

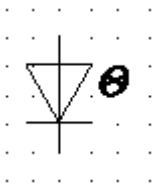
Name:	Backward effect
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-02-05
Alternative names:	Unitunnel effect
Keywords:	diodes, semiconductors, tunnel
Applied in:	S00648
Application notes:	A00150
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams

S00641



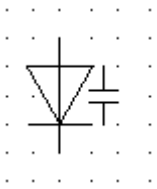
Name:	Semiconductor diode, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-03-01
Keywords:	diodes, semiconductors
Applied in:	S00304, S01263, S00785, S00907, S00685, S01327, S01920, S00644, S00643, S00642, S00906, S01326, S01919, S00895, S01328
Applies:	S00613; S00619
Shape class:	Equilateral triangles, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00643



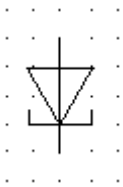
Name:	Temperature sensing diode
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-03-03
Keywords:	diodes, semiconductors, temperature
Applies:	S00641
Shape class:	Characters, Equilateral triangles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams

S00644



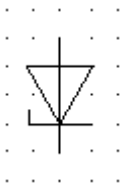
Name:	Variable capacitance diode
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-03-04
Alternative names:	Varactor
Keywords:	capacitors, diodes, semiconductors
Applies:	S00567; S00641
Shape class:	Equilateral triangles, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00645



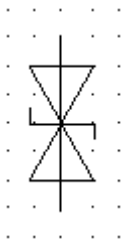
Name:	Tunnel diode
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-03-05
Alternative names:	Esaki diode
Keywords:	diodes, Esaki, semiconductors, tunnel
Applies:	S00613; S00619; S00637
Shape class:	Equilateral triangles, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00646



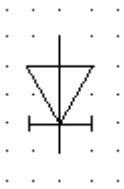
Name:	Breakdown diode, unidirectional
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-03-06
Alternative names:	Zener diode; Voltage regulator diode
Keywords:	diodes, semiconductors, voltage regulators, Zener
Applied in:	S00651
Applies:	S00613; S00619; S00638
Shape class:	Equilateral triangles, Lines
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams

S00647



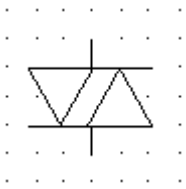
Name:	Breakdown diode, bidirectional
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-03-07
Keywords:	diodes, semiconductors
Applies:	S00619; S00639
Shape class:	Equilateral triangles, Lines
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams

S00648



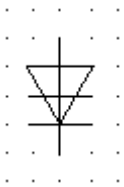
Name:	Backward diode (unitunnel diode)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-03-08
Keywords:	diodes, semiconductors
Applies:	S00613; S00619; S00640
Shape class:	Equilateral triangles, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00649



Name:	Bidirectional diode
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-03-09
Keywords:	diodes, semiconductors
Applied in:	S00652
Applies:	S00613
Shape class:	Equilateral triangles, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00650

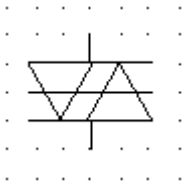


Name:	Reverse blocking diode thyristor
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-04-01
Keywords:	diodes, semiconductors, thyristors
Applies:	S00613; S00619
Shape class:	Equilateral triangles, Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams

S00651

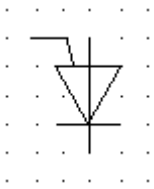
Name:	Reverse conducting diode thyristor
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-04-02
Keywords:	diodes, semiconductors, thyristors
Applies:	S00613; S00619; S00638; S00646
Shape class:	Equilateral triangles, Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams

S00652



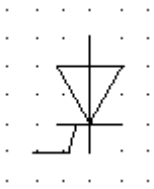
Name:	Bidirectional diode thyristor; Diac
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-04-03
Keywords:	diacs, semiconductors, thyristors
Applies:	S00613; S00649
Shape class:	Equilateral triangles, Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams

S00653



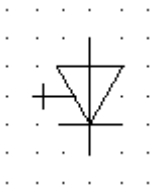
Name:	Reverse blocking triode thyristor, N-gate (anode-side controlled)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-04-05
Keywords:	semiconductors, thyristors
Applies:	S00613; S00619
Shape class:	Equilateral triangles, Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams

S00654



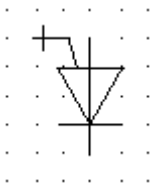
Name:	Reverse blocking triode thyristor, P-gate (cathode-side controlled)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-04-06
Keywords:	semiconductors, thyristors
Applies:	S00613; S00619
Shape class:	Equilateral triangles, Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams

S00655



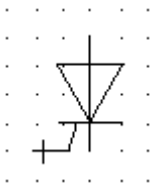
Name:	Turn-off thyristor, gate not specified
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-04-07
Keywords:	semiconductors, thyristors
Applies:	S00613; S00619
Shape class:	Equilateral triangles, Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams

S00656



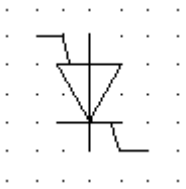
Name:	Turn-off triode thyristor, N-gate (anode-side)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-04-08
Keywords:	semiconductors, thyristors
Applies:	S00613; S00619
Shape class:	Equilateral triangles, Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams

S00657



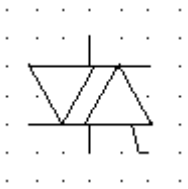
Name:	Turn-off triode thyristor, P-gate (cathode-side controlled)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-04-09
Keywords:	semiconductors, thyristors
Applies:	S00613; S00619
Shape class:	Equilateral triangles, Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams

S00658



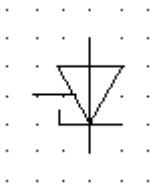
Name:	Reverse blocking thyristor, tetrode type
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-04-10
Keywords:	semiconductors, thyristors
Applies:	S00613; S00619
Shape class:	Equilateral triangles, Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams

S00659



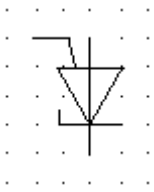
Name:	Bidirectional triode thyristor; Triac
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-04-11
Keywords:	semiconductors, thyristors, triacs
Applies:	S00613
Shape class:	Equilateral triangles, Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams

S00660



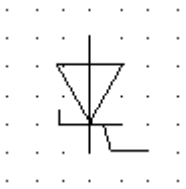
Name:	Reverse conducting triode thyristor, gate not specified
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-04-12
Keywords:	semiconductors, thyristors
Applies:	S00613; S00619; S00638
Shape class:	Equilateral triangles, Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams

S00661



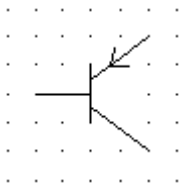
Name:	Reverse conducting triode thyristor, N-gate (anode-side controlled)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-04-13
Keywords:	semiconductors, thyristors
Applies:	S00613; S00619; S00638
Shape class:	Equilateral triangles, Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams

S00662



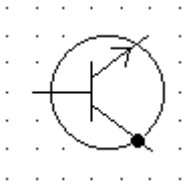
Name:	Reverse conducting triode thyristor, P-gate (cathode-side controlled)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-04-14
Keywords:	semiconductors, thyristors
Applies:	S00613; S00619; S00638
Shape class:	Equilateral triangles, Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams

S00663



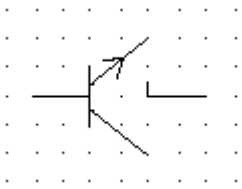
Name:	PNP transistor
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-05-01
Keywords:	PNP, semiconductors, transistors
Applies:	S00613; S00625; S00629
Shape class:	Arrows, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00664



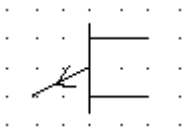
Name:	NPN transistor with collector connected to the envelope
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-05-02
Keywords:	NPN, semiconductors, transistors
Applies:	S00016; S00062; S00613; S00627; S00629
Shape class:	Arrows, Circles, Dots (points), Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00665



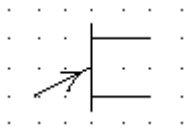
Name:	NPN avalanche transistor
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-05-03
Keywords:	avalanche, NPN, semiconductors, transistors
Applies:	S00613; S00627; S00629; S00638
Shape class:	Arrows, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00666



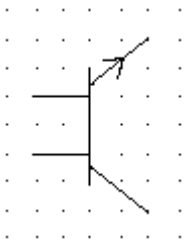
Name:	Unijunction transistor with P-type base
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-05-04
Keywords:	P-type base, semiconductors, transistors, unijunction
Applies:	S00616; S00627
Shape class:	Arrows, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00667



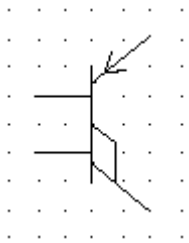
Name:	Unijunction transistor with N-type base
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-05-05
Keywords:	N-type base, semiconductors, transmission devices, unijunction
Applies:	S00616; S00625
Shape class:	Arrows, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00668



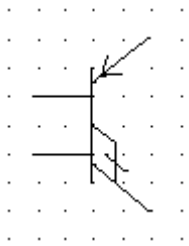
Name:	NPN transistor with transverse biased base
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-05-06
Keywords:	NPN, semiconductors, transistors, transverse biased base
Applies:	S00616; S00627; S00629
Shape class:	Arrows, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00669



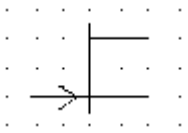
Name:	PNIP transistor with connection to the intrinsic region
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-05-07
Keywords:	intrinsic region, PNIP, semiconductors, transistors
Applies:	S00616; S00625; S00634
Shape class:	Arrows, Lines , Parallelograms
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00670



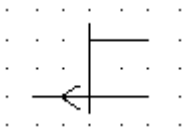
Name:	PNIN transistor with connection to the intrinsic region
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-05-08
Keywords:	intrinsic region, PNIN, semiconductors, transistors
Applies:	S00616; S00625; S00635
Shape class:	Arrows, Lines , Parallelograms
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00671



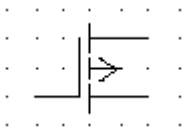
Name:	Junction field effect transistor with N-type channel
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-05-09
Keywords:	field effect transistors, junction field effect, N-type channel, semiconductors, transistors
Applies:	S00616; S00617; S00620
Application notes:	A00164
Shape class:	Arrows, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00672



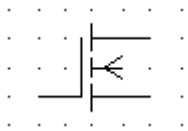
Name:	Junction field effect transistor with P-type channel
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-05-10
Keywords:	field effect transistors, junction field effect, P-type channel, semiconductors, transistors
Applies:	S00616; S00617; S00621
Application notes:	A00164
Shape class:	Arrows, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00673



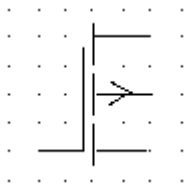
Name:	Insulated gate field effect transistor IGFET enhancement type, single gate, P-type channel without substrate connection
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-05-11
Keywords:	enhancement type, field effect transistors, IGFET, insulated gate, P-type channel, semiconductors, transistors
Applied in:	S00675
Applies:	S00618; S00623; S00624
Shape class:	Arrows, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams
Remarks:	For an example with multiple gates, see symbol S00679.

S00674



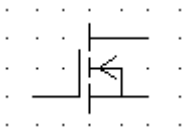
Name:	Insulated gate field effect transistor IGFET enhancement type, single gate, N-type channel without substrate connection
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-05-12
Keywords:	enhancement type, field effect transistors, IGFET, insulated gate, N-type channel, semiconductors, transistors
Applied in:	S00676
Applies:	S00618; S00622; S00624
Shape class:	Arrows, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00675



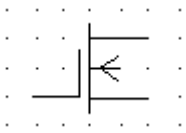
Name:	Insulated gate field effect transistor IGFET enhancement type, single gate, P-type channel with substrate connection brought out
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-05-13
Keywords:	enhancement type, field effect transistors, IGFET, insulated gate, P-type channel, semiconductors, transistors
Applies:	S00618; S00623; S00624; S00673
Shape class:	Arrows, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00676



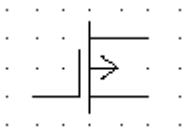
Name:	Insulated gate field effect transistor IGFET enhancement type, single gate, N-type channel with substrate internally connected to source
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-05-14
Keywords:	enhancement type, field effect transistors, IGFET, insulated gate, N-type channel, semiconductors, transistors
Applies:	S00618; S00622; S00624; S00674
Shape class:	Arrows, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00677



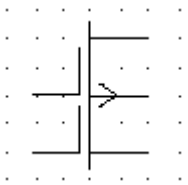
Name:	Insulated gate field effect transistor IGFET, depletion type, single gate, N-type channel without substrate connection
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-05-15
Keywords:	depletion type, field effect transistors, IGFET, insulated gate, N-type channel, semiconductors, transistors
Applies:	S00617; S00622; S00624
Shape class:	Arrows, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00678



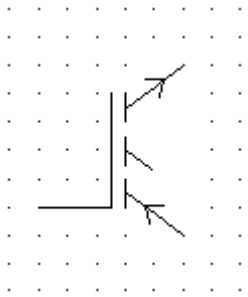
Name:	Insulated gate field effect transistor IGFET, depletion type, single gate, P-type channel without substrate connection
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-05-16
Keywords:	depletion type, field effect transistors, IGFET, insulated gate, P-type channel, semiconductors, transistors
Applied in:	S00679
Applies:	S00617; S00623; S00624
Shape class:	Arrows, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00679



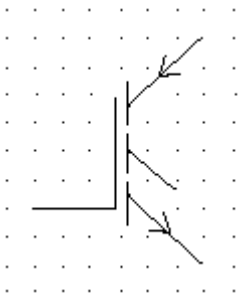
Name:	Insulated gate field effect transistor IGFET, depletion type, two gates, P-type channel with substrate connection brought out
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-05-17
Keywords:	depletion type, field effect transistors, IGFET, insulated gate, P-type channel, semiconductors, transistors
Applies:	S00617; S00623; S00624; S00678
Application notes:	A00183
Shape class:	Arrows, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00680



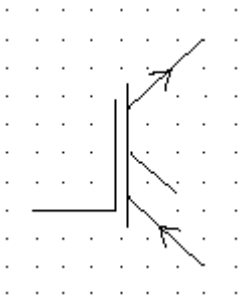
Name:	Insulated-gate bipolar transistor (IGBT) enhancement type, P channel
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-05-18
Keywords:	bipolar transistors, enhancement type, IGBT, insulated gate, P-type channel, semiconductors, transistors
Applies:	S00618; S00624; S00625; S00627; S00631
Shape class:	Arrows, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00681



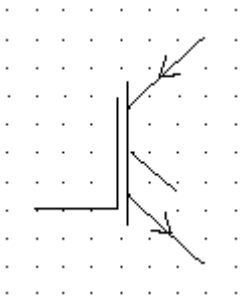
Name:	Insulated-gate bipolar transistor (IGBT) enhancement type, N channel
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-05-19
Keywords:	bipolar transistors, enhancement type, IGBT, insulated gate, N-type channel, semiconductors, transistors
Applies:	S00618; S00624; S00625; S00627; S00631
Shape class:	Arrows, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00682



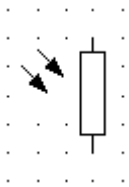
Name:	Insulated-gate bipolar transistor (IGBT) depletion type, P channel
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-05-20
Keywords:	bipolar transistors, depletion type, IGBT, insulated gate, P-type channel, semiconductors, transistors
Applies:	S00617; S00624; S00625; S00627; S00631
Shape class:	Arrows, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00683



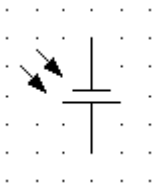
Name:	Insulated-gate bipolar transistor (IGBT) depletion type, N channel
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-05-21
Keywords:	bipolar transistors, depletion type, IGBT, insulated gate, N-type channel, semiconductors, transistors
Applies:	S00617; S00624; S00625; S00627; S00631
Shape class:	Arrows, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00684



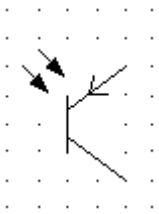
Name:	Light dependent resistor (LDR); Photo resistor
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-06-01
Keywords:	light dependant devices, photo-conductive devices, photo-sensitive devices, resistors
Applies:	S00127; S00555
Shape class:	Arrows, Rectangles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams

S00686



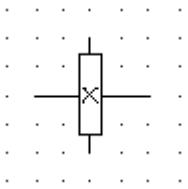
Name:	Photovoltaic cell
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-06-03
Keywords:	photo-sensitive devices, photovoltaic devices, semiconductors
Applies:	S00127; S00898
Shape class:	Arrows, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams

S00687



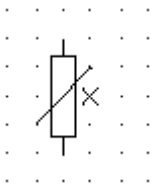
Name:	Phototransistor
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-06-04
Keywords:	photo-sensitive devices, phototransistors, PNP, semiconductors
Applied in:	S00692, S00691
Applies:	S00127; S00625; S00629
Shape class:	Arrows, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams
Remarks:	PNP type is shown

S00688



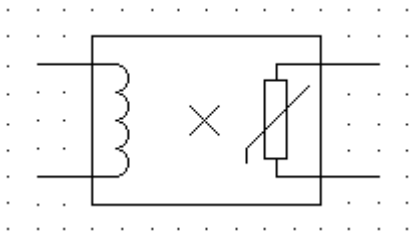
Name:	Hall generator with four connections
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-06-05
Keywords:	Hall generators, magnetic field sensitive devices
Applies:	S00123
Shape class:	Lines , Rectangles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams

S00689



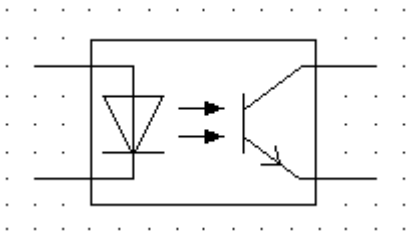
Name:	Magnetoresistor
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-06-06
Keywords:	magnetic field sensitive devices, magnetoresistors, resistors
Applied in:	S00690
Applies:	S00083; S00123; S00555
Shape class:	Lines , Rectangles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams
Remarks:	A linear type is shown.

S00690



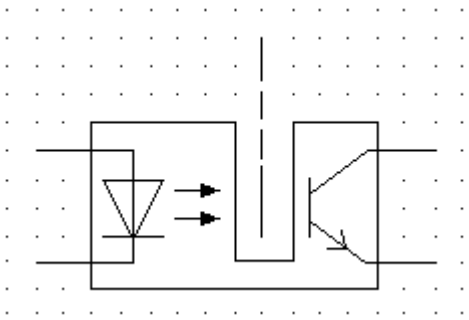
Name:	Magnetic coupling device
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-06-07
Alternative names:	Magnetic isolator
Keywords:	coupling devices, isolators, magnetic field sensitive devices
Applies:	S00084; S00123; S00583; S00689
Shape class:	Half-circles, Lines , Rectangles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams

S00691



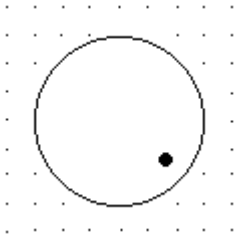
Name:	Optocoupler
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-06-08
Alternative names:	Photocoupler; Opto isolator
Keywords:	coupling devices, isolators, photo-sensitive devices
Applies:	S00642; S00687
Shape class:	Arrows, Equilateral triangles, Lines , Rectangles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams
Remarks:	The symbol is shown with light-emitting diode and photo-transistor.

S00692



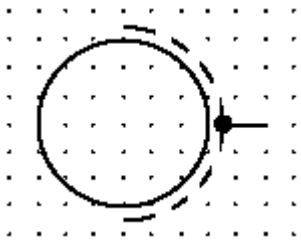
Name:	Optical coupling device with slot for light-barrier
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-06-09
Keywords:	coupling devices, photo-sensitive devices
Applies:	S00642; S00687
Shape class:	Arrows, Depicting shapes, Equilateral triangles, Lines
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams
Remarks:	This symbol is shown with a light-emitting diode and a photo-transistor together with a mechanical barrier.

S00693



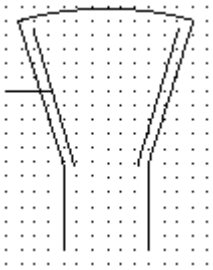
Name:	Gas-filled envelope
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-07-01
Keywords:	electron tubes, envelopes
Applied in:	S00374, S00375, S00790, S00780, S00771, S00772, S00769, S00791
Applies:	S00062; S00116
Shape class:	Circles, Dots (points)
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00694



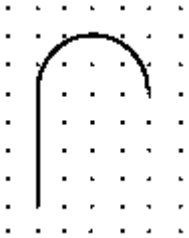
Name:	Envelope with external screen (shield)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-07-02
Keywords:	electron tubes, envelopes, shields
Applies:	S00062; S00065
Shape class:	Circles, Half-circles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00695



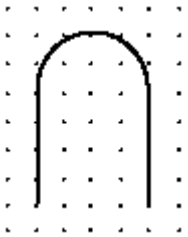
Name:	Envelope, conductive coating on internal surface
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-07-03
Keywords:	electron tubes, envelopes
Shape class:	Depicting shapes, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00696



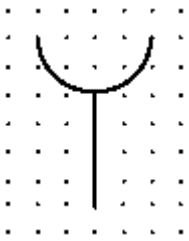
Name:	Hot cathode, indirectly heated
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-07-04
Keywords:	cathodes, electron tubes
Alternative forms:	S00697
Applied in:	S00745, S00751, S00765, S00763, S00749, S00757, S00756, S00759, S00748, S00750, S00753, S00746, S00755, S00767, S00747
Shape class:	Half-circles, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00698



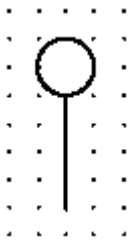
Name:	Hot cathode, directly heated
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-07-06
Alternative names:	Heater for hot cathode, indirectly heated; Heater for thermocouple
Keywords:	cathodes, electron tubes, heaters
Alternative forms:	S00699
Applied in:	S00745, S00744, S00751, S00776, S00765, S00763, S00771, S00749, S00955, S00757, S00756, S00759, S00748, S00750, S00753, S00746, S00957, S00755, S00761, S00767, S00956, S00954, S00747
Shape class:	Half-circles, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00700



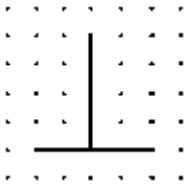
Name:	Photoelectric cathode
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-07-08
Keywords:	cathodes, electron tubes, photoelectric
Applied in:	S00777
Shape class:	Half-circles, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00701



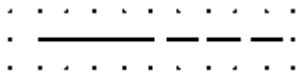
Name:	Cold cathode
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-07-09
Alternative names:	Ionically heated cathode
Keywords:	cathodes, electron tubes
Applied in:	S00774, S00772, S00770, S00769, S00775, S00773
Shape class:	Circles, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00703



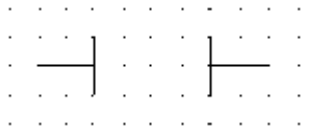
Name:	Anode
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-07-11
Alternative names:	Plate; Collector (microwave devices)
Keywords:	anodes, collectors, electron tubes
Applied in:	S00745, S00744, S00774, S00778, S00777, S00763, S00771, S00770, S00769, S00757, S00756, S00759, S00748, S00753, S00775, S00779, S00746, S00718, S00755, S00754, S00758, S00760, S00747, S00773, S00764
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00705



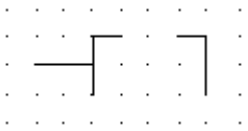
Name:	Grid
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-07-13
Keywords:	electron tubes, grids
Applied in:	S00745, S00744, S00751, S00748, S00750, S00746, S00782, S00747, S00717
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00707



Name:	Lateral deflecting electrodes
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-08-01
Keywords:	cathode ray tubes, electrodes, electron tubes, television tubes
Alternative forms:	S00708
Applied in:	S00781, S00783, S00750, S00782, S00784
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	One pair of electrodes is shown.

S00709

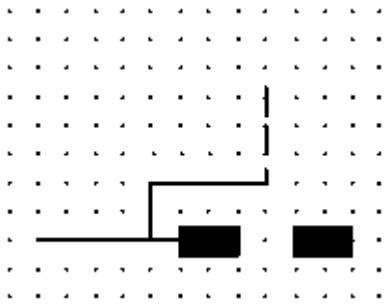


Name:	Intensity modulating electrode
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-08-03
Keywords:	cathode ray tubes, electron tubes, television tubes
Applied in:	S00763, S00749, S00757, S00756, S00759, S00753, S00755, S00767
Application notes:	A00167
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00710

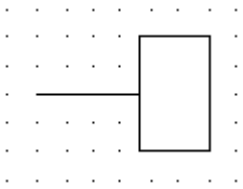
Name:	Focusing electrode with aperture
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-08-04
Alternative names:	Beam-forming plate
Keywords:	cathode ray tubes, electron tubes, television tubes
Applied in:	S00751, S00763, S00749, S00757, S00756, S00759, S00750, S00753, S00755, S00767
Application notes:	A00168
Shape class:	Lines , Rectangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00711



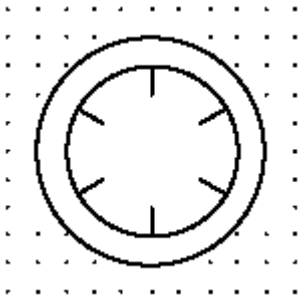
Name:	Beam-splitting electrode
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-08-05
Keywords:	cathode ray tubes, electron guns, electron tubes
Applied in:	S00750
Shape class:	Lines , Rectangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Beam-splitting electrode internally connected to the final focusing electrode of the electron gun.

S00712



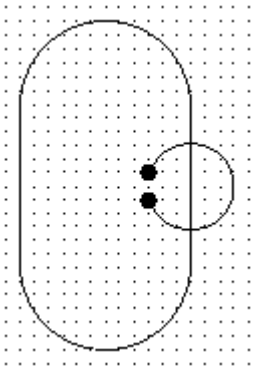
Name:	Cylindrical focusing electrode
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-08-06
Alternative names:	Drift space electrode; Electronic lens element
Keywords:	cathode ray tubes, electron tubes, electronic lenses
Applied in:	S00749, S00753
Application notes:	A00168
Shape class:	Lines , Rectangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00731



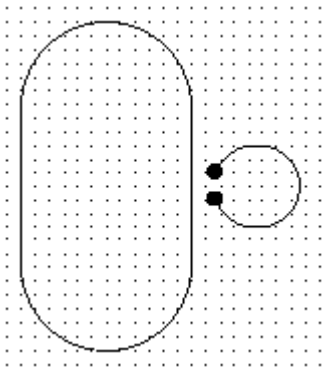
Name:	Closed slow-wave structure
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-09-08
Keywords:	microwave tubes
Applied in:	S00765
Applies:	S00062
Shape class:	Circles, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The symbol is shown with envelope.

S00732



Name:	Cavity resonator forming an integral part of the tube
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-09-09
Keywords:	microwave tubes
Applied in:	S00751, S00752
Applies:	S00063; S01172
Shape class:	Dots (points), Half-circles, Ovals
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00733

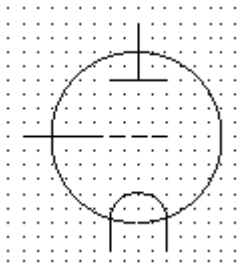


Name:	Cavity resonator, partly or wholly external to the tube
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-09-10
Keywords:	microwave tubes
Applied in:	S00753, S00754
Applies:	S00063; S01172
Shape class:	Circle segments, Dots (points), Ovals
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00740

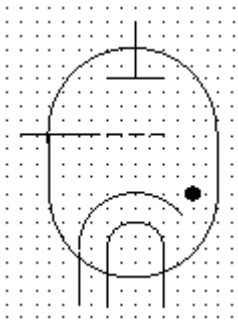
Name:	X-ray tube anode
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-10-01
Keywords:	anodes, electrodes, electron tubes
Applied in:	S00776
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00744



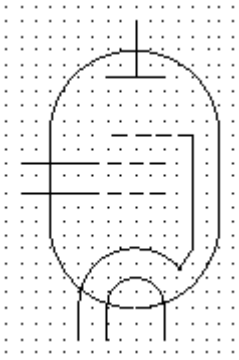
Name:	Triode, with directly heated cathode
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-11-01
Keywords:	electron tubes
Applies:	S00062; S00698; S00703; S00705
Application notes:	A00248
Shape class:	Circles, Half-circles, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00745



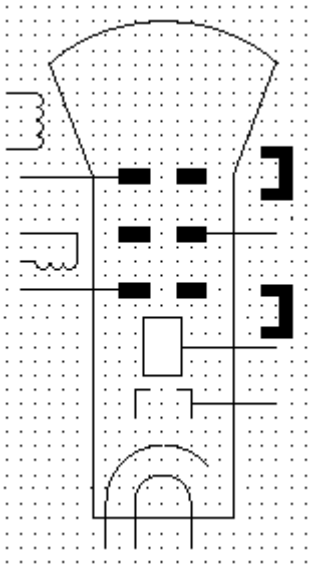
Name:	Triode, gasfilled with indirectly heated cathode
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-11-02
Alternative names:	Thyratron
Keywords:	thyratrones, triodes
Applies:	S00063; S00116; S00696; S00698; S00703; S00705
Application notes:	A00248
Shape class:	Dots (points), Half-circles, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams

S00746



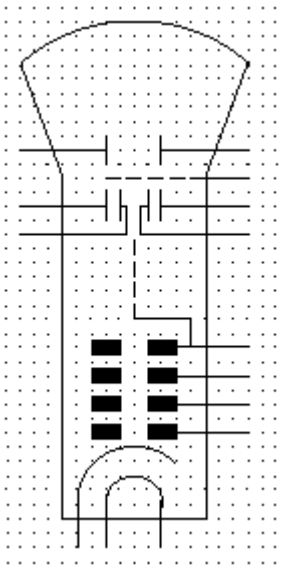
Name:	Pentode
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-11-03
Keywords:	electron tubes
Applies:	S00063; S00696; S00698; S00703; S00705
Application notes:	A00248
Shape class:	Half-circles, Lines , Ovals
Function class:	K Processing signals or information
Application class:	Circuit diagrams
Remarks:	Pentode, with indirectly heated cathode and internal strap between suppressor-grid and cathode.

S00749



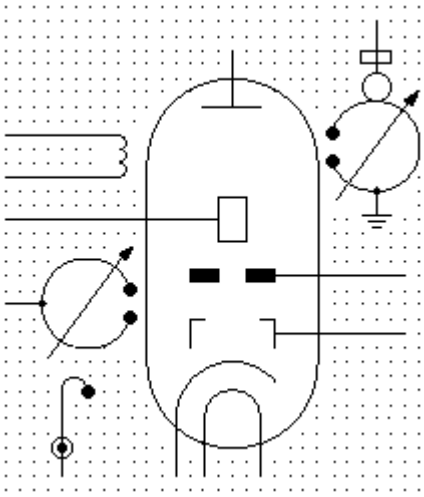
Name:	Cathode-ray tube with electromagnetic deviation
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-12-01
Alternative names:	Television picture tube
Keywords:	cathode ray tubes, electron tubes, television tubes
Applies:	S00210; S00583; S00696; S00698; S00709; S00710; S00712
Application notes:	A00248
Shape class:	Depicting shapes
Function class:	K Processing signals or information, P Presenting information
Application class:	Circuit diagrams
Remarks:	The symbol is shown with: - permanent magnet focusing and ion trap - intensity modulating electrode - indirectly heated cathode.

S00750



Name:	Double-beam cathode-ray tube, split-beam type
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-12-02
Keywords:	cathode ray tubes, electron tubes
Applies:	S00696; S00698; S00705; S00707; S00710; S00711
Application notes:	A00248
Shape class:	Depicting shapes
Function class:	K Processing signals or information, P Presenting information
Application class:	Circuit diagrams
Remarks:	The symbol is shown with: - electrostatic deflection - indirectly heated cathode.

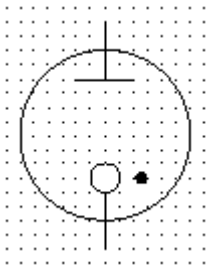
S00753



Name:	Reflex klystron
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-13-03
Keywords:	electron tubes, klystrons, microwave tubes
Alternative forms:	S00754
Applies:	S00063; S00081; S00200; S00583; S00696; S00698; S00703; S00709; S00710; S00712; S00733; S01138; S01142; S01172; S01207; S01209
Application notes:	A00248
Shape class:	Arrows, Circle segments, Circles, Dots (points), Lines , Rectangles
Function class:	E Providing radiant or thermal energy, K Processing signals or information
Application class:	Circuit diagrams
Remarks:	The symbol is shown with: - indirectly heated cathode - intensity modulating electrode - beam-forming plate - external tunable input cavity resonator - drift space electrode - external tunable output cavity resonator with DC connection - collector - focusing coil - input loop coupler to coaxial waveguide

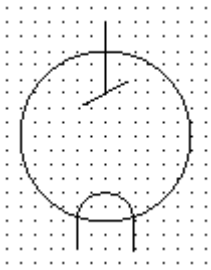
- output window coupler to rectangular waveguide.

S00769



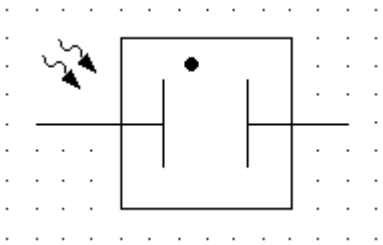
Name:	Cold-cathode tube, gas-filled
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-14-01
Alternative names:	Voltage stabilizer
Keywords:	cold-cathode tubes, voltage stabilizers
Applied in:	S00770, S01217
Applies:	S00062; S00116; S00693; S00701; S00703
Application notes:	A00248
Shape class:	Circles, Dots (points), Lines
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams

S00776



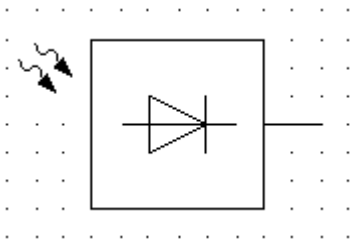
Name:	X-ray tube with directly heated cathode
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-14-08
Keywords:	electron tubes, X-ray tubes
Applies:	S00062; S00698; S00740
Shape class:	Circles, Half-circles, Lines
Function class:	E Providing radiant or thermal energy
Application class:	Circuit diagrams

S00781



Name:	Ionization chamber
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-15-01
Keywords:	radiation detectors
Applies:	S00059; S00116; S00129; S00707
Shape class:	Arrows, Dots (points), Lines , Rectangles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams

S00785



Name:	Detector, semiconductor type
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-5 (ed.2.0) 05-15-05
Keywords:	radiation detectors, semiconductors
Applies:	S00059; S00118; S00129; S00641
Shape class:	Arrows, Equilateral triangles, Lines , Rectangles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams

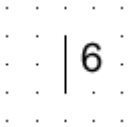
S00796

Name:	One winding
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-01-01
Keywords:	winding interconnections, windings - qualifying symbols, windings - separate
Applied in:	S00797, S00798, S00800, S00799
Application notes:	A00120, A00122
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00797

Name:	Three separate windings
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-01-02
Keywords:	winding interconnections, windings - qualifying symbols, windings - separate
Applied in:	S00028, S00027, S00834
Applies:	S00796
Application notes:	A00120
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00798

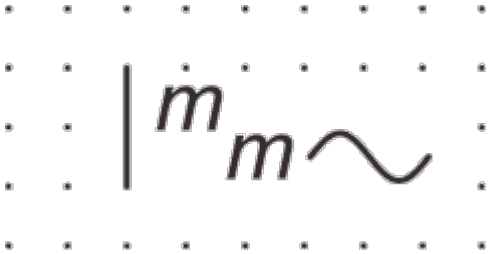


Name:	Six separate windings
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-01-03
Keywords:	winding interconnections, windings - qualifying symbols, windings - separate
Applies:	S00796
Application notes:	A00120
Shape class:	Characters, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00799

Name:	Three-phase winding, phases not interconnected
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-01-04
Keywords:	winding interconnections, windings - qualifying symbols, windings - separate
Applies:	S00796; S01403
Application notes:	A00120, A00122
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00800



Name:	m-phase winding, phases not interconnected
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-01-05
Keywords:	winding interconnections, windings - qualifying symbols, windings - separate
Applies:	S00796; S01403
Application notes:	A00122
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00801

Name:	Two-phase winding, four-wire
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-01-06
Keywords:	winding interconnections, windings - qualifying symbols, windings - separate
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

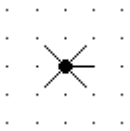
S00802

Name:	Two-phase winding
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-02-01
Keywords:	winding interconnections, windings - internally connected, windings - qualifying symbols
Application notes:	A00135
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00803

Name:	Three-phase winding, V (60°)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-02-02
Keywords:	winding interconnections, windings - internally connected, windings - qualifying symbols
Application notes:	A00135
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00804



Name:	Four-phase winding with neutral brought out
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-02-03
Keywords:	winding interconnections, windings - internally connected, windings - qualifying symbols
Application notes:	A00135
Shape class:	Dots (points), Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00805

Name:	Three-phase winding, T
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-02-04
Keywords:	winding interconnections, windings - internally connected, windings - qualifying symbols
Application notes:	A00135
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00806

Name:	Three-phase winding, delta
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-02-05
Keywords:	winding interconnections, windings - internally connected, windings - qualifying symbols
Applied in:	S00302, S00868, S01913, S00864, S00862, S00858
Application notes:	A00121, A00135
Shape class:	Equilateral triangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

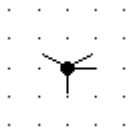
S00807

Name:	Three-phase winding, open delta
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-02-06
Keywords:	winding interconnections, windings - internally connected, windings - qualifying symbols
Application notes:	A00135
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00808

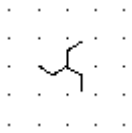
Name:	Three-phase winding, star
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-02-07
Keywords:	winding interconnections, windings - internally connected, windings - qualifying symbols
Applied in:	S00302, S00872, S00868, S01913, S00839, S00864, S00866, S00862, S00860, S00858
Application notes:	A00123, A00135
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00809



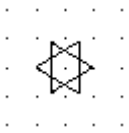
Name:	Three-phase winding, star, with neutral brought out
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-02-08
Keywords:	winding interconnections, windings - internally connected, windings - qualifying symbols
Applied in:	S00833
Application notes:	A00135
Shape class:	Dots (points), Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00810



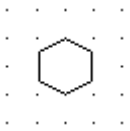
Name:	Three-phase winding, zigzag or interconnected star
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-02-09
Keywords:	winding interconnections, windings - internally connected, windings - qualifying symbols
Applied in:	S00866
Application notes:	A00135
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00811



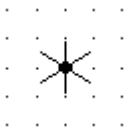
Name:	Six-phase winding, double delta
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-02-10
Keywords:	winding interconnections, windings - internally connected, windings - qualifying symbols
Application notes:	A00135
Shape class:	Equilateral triangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00812



Name:	Six-phase winding, polygon
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-02-11
Keywords:	winding interconnections, windings - internally connected, windings - qualifying symbols
Application notes:	A00135
Shape class:	Hexagons
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00813

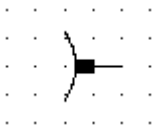


Name:	Six-phase winding, star
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-02-12
Keywords:	winding interconnections, windings - internally connected, windings - qualifying symbols
Application notes:	A00135
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00814

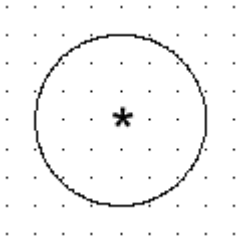
Name:	Six-phase winding, fork with neutral brought out
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-02-13
Keywords:	winding interconnections, windings - internally connected, windings - qualifying symbols
Application notes:	A00135
Shape class:	Dots (points), Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00818



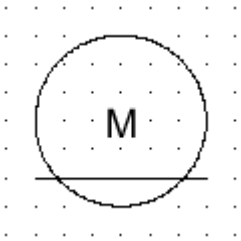
Name:	Brush (on slip-ring or commutator)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-03-04
Keywords:	brushes, machines - elements of
Applied in:	S00825
Application notes:	A00124
Shape class:	Squares
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00819



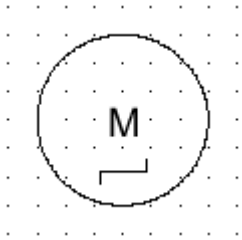
Name:	Machine, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-04-01
Alternative names:	Rotary converter; Generator; Synchronous generator; Motor; Synchronous motor
Keywords:	converters, generators, machines - types of, motors, power generators
Applied in:	S00028, S00828, S00823, S00027, S00832, S00829, S00824, S00833, S00831, S00836, S01009, S00826, S00192, S00839, S00837, S00164, S00165, S00838, S00835, S00830, S00827, S00820, S00821, S00825, S00822, S00834
Application notes:	A00125, A00126, A00191
Shape class:	Circles
Function class:	G Initiating a flow, M Providing mechanical energy, T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S00820



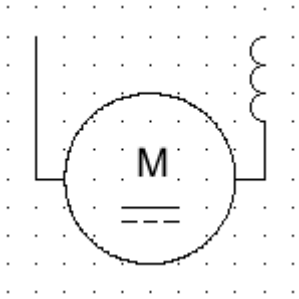
Name:	Linear motor, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-04-02
Keywords:	machines - types of, motors
Applied in:	S00840
Applies:	S00819
Shape class:	Characters, Circles, Lines
Function class:	M Providing mechanical energy
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S00821



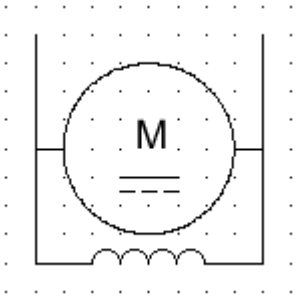
Name:	Stepping motor, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-04-03
Keywords:	machines - types of, motors
Applies:	S00087; S00819
Shape class:	Circles, Lines
Function class:	M Providing mechanical energy
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S00823



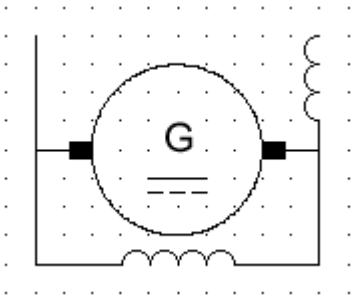
Name:	Series motor, DC
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-05-01
Keywords:	machines - direct current, motors
Applies:	S00583; S00819; S01401
Application notes:	A00126
Shape class:	Circles, Half-circles
Function class:	M Providing mechanical energy
Application class:	Circuit diagrams

S00824



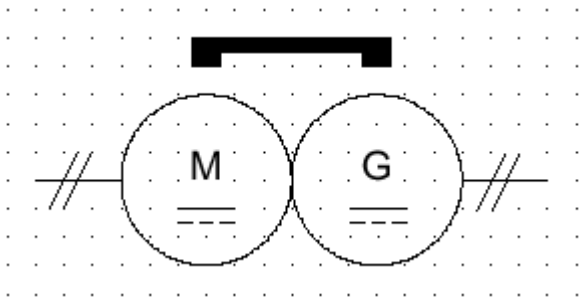
Name:	Shunt motor, DC
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-05-02
Keywords:	machines - direct current, motors
Applies:	S00583; S00819; S01401
Application notes:	A00126
Shape class:	Circles, Half-circles
Function class:	M Providing mechanical energy
Application class:	Circuit diagrams

S00825



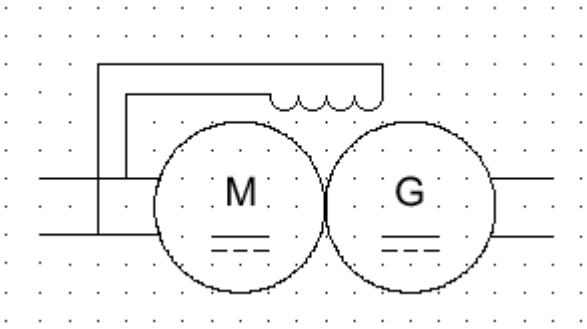
Name:	Generator, DC, compound excited (short shunt)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-05-03
Keywords:	generators, machines - direct current, power generators
Applies:	S00583; S00818; S00819; S01401
Application notes:	A00126
Shape class:	Circles, Half-circles
Function class:	G Initiating a flow
Application class:	Circuit diagrams
Remarks:	Shown with terminals and brushes.

S00826



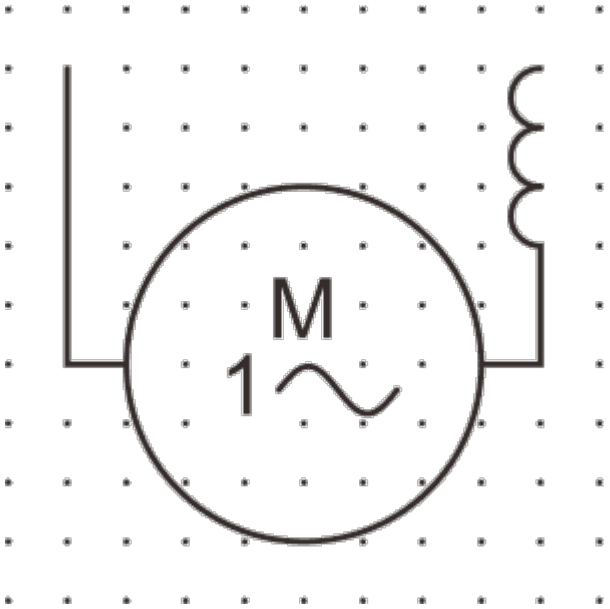
Name:	Rotary converter, DC/DC with common permanent magnet field
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-05-04
Keywords:	converters, machines - direct current
Applies:	S00001; S00210; S00819; S01401
Application notes:	A00126
Shape class:	Circles
Function class:	T Converting but maintaining kind
Application class:	Function diagrams, Overview diagrams

S00827



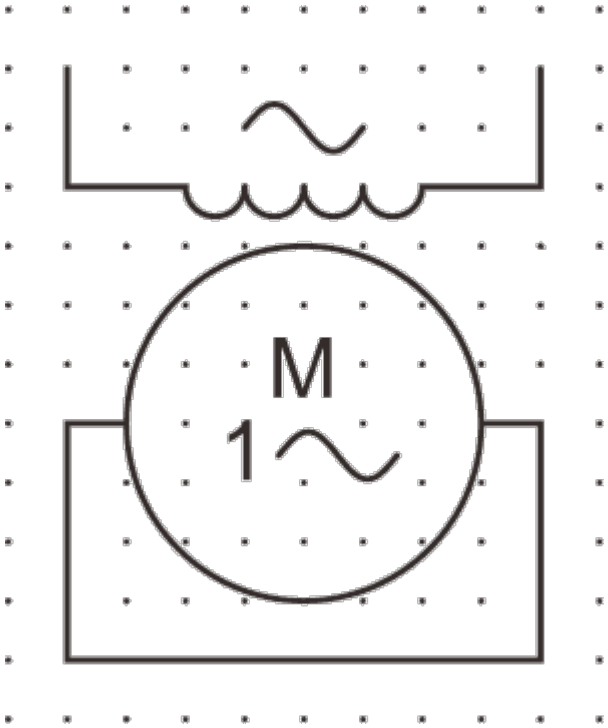
Name:	Rotary converter, DC/DC with common exitation winding
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-05-05
Keywords:	converters, machines - direct current
Applies:	S00583; S00819; S01401
Application notes:	A00126
Shape class:	Circles, Half-circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams

S00828



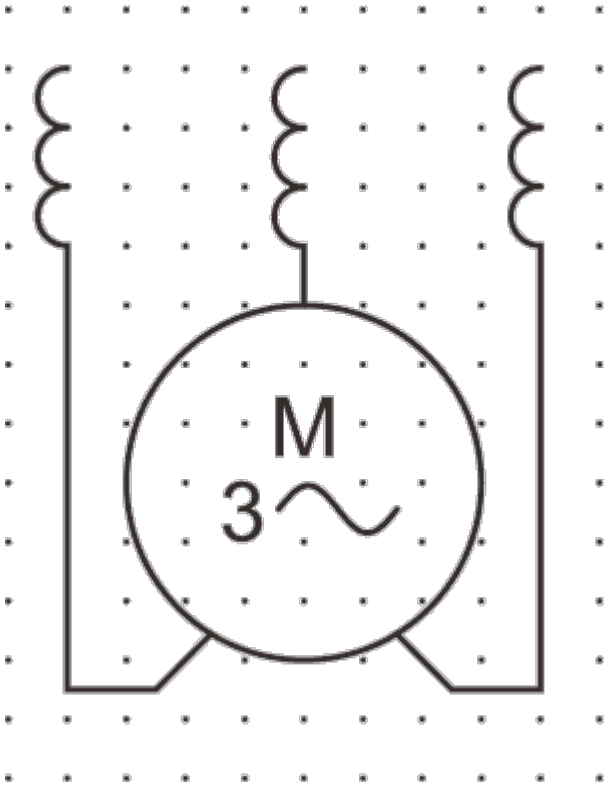
Name:	Series motor, single-phase
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-06-01
Keywords:	commutator machines, machines - alternating current commutator, motors
Applies:	S00583; S00819; S01403
Application notes:	A00126
Shape class:	Circles, Half-circles
Function class:	M Providing mechanical energy
Application class:	Circuit diagrams

S00829



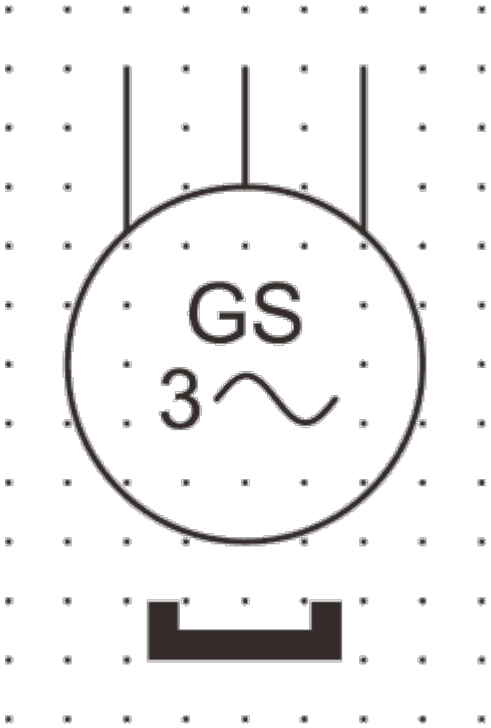
Name:	Repulsion motor, single-phase
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-06-02
Keywords:	commutator machines, machines - alternating current commutator, motors
Applies:	S00583; S00819; S01403
Application notes:	A00126
Shape class:	Circles, Half-circles
Function class:	M Providing mechanical energy
Application class:	Circuit diagrams

S00830



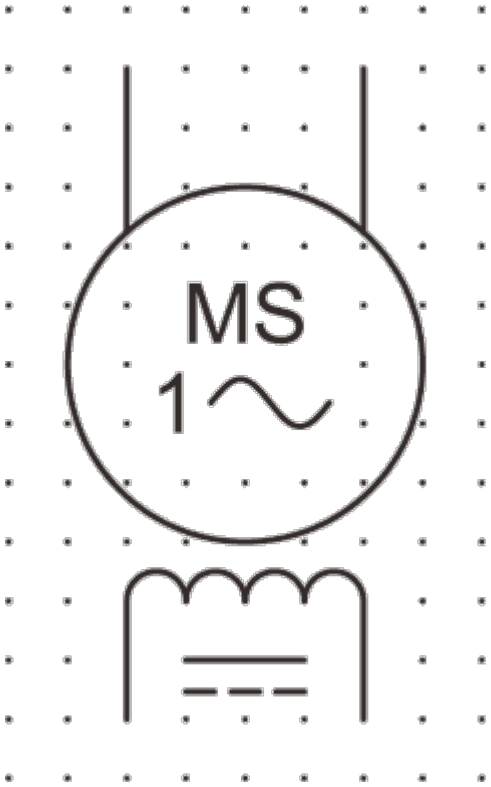
Name:	Series motor, three-phase
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-06-03
Keywords:	commutator machines, machines - alternating current commutator, motors
Applies:	S00583; S00819; S01403
Application notes:	A00126
Shape class:	Circles, Half-circles
Function class:	M Providing mechanical energy
Application class:	Circuit diagrams

S00831



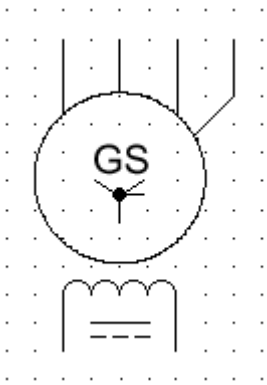
Name:	Synchronous generator, three-phase with permanent magnet
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-07-01
Keywords:	generators, machines - synchronous, power generators
Applies:	S00210; S00819; S01403
Application notes:	A00126
Shape class:	Circles, Depicting shapes
Function class:	G Initiating a flow
Application class:	Circuit diagrams

S00832



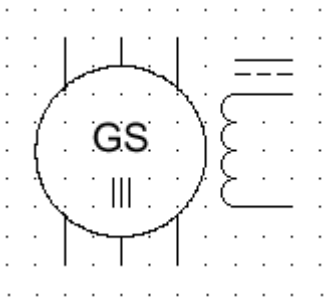
Name:	Synchronous motor, single-phase
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-07-02
Keywords:	machines - synchronous, motors
Applies:	S00583; S00819; S01401; S01403
Application notes:	A00126
Shape class:	Circles, Half-circles
Function class:	M Providing mechanical energy
Application class:	Circuit diagrams

S00833



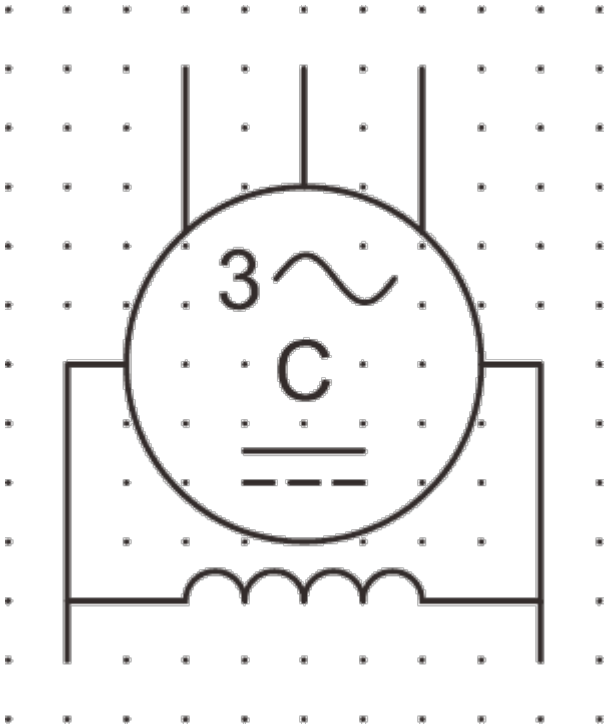
Name:	Synchronous generator, three-phase, star connected, neutral brought out
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-07-03
Keywords:	generators, machines - synchronous, power generators
Applies:	S00583; S00809; S00819; S01401
Application notes:	A00126
Shape class:	Circles, Half-circles
Function class:	G Initiating a flow
Application class:	Circuit diagrams

S00834



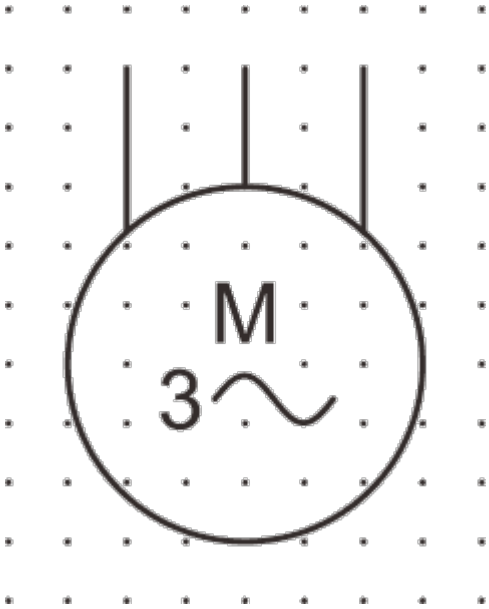
Name:	Synchronous generator, three-phase, both ends of each phase winding brought out
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-07-04
Keywords:	generators, machines - synchronous, power generators
Applies:	S00583; S00797; S00819; S01401
Application notes:	A00126
Shape class:	Circles, Half-circles
Function class:	G Initiating a flow
Application class:	Circuit diagrams

S00835



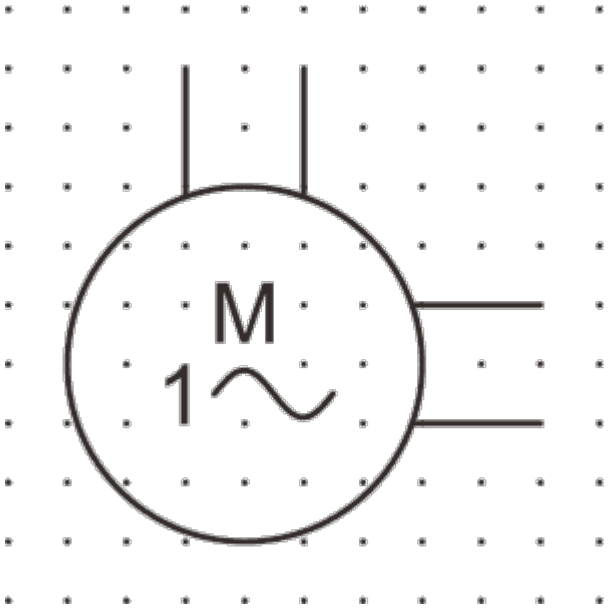
Name:	Synchronous rotary converter, three-phase, shunt-excited
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-07-05
Keywords:	converters, machines - synchronous
Applies:	S00583; S00819; S01401; S01403
Application notes:	A00126
Shape class:	Circles, Half-circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams

S00836



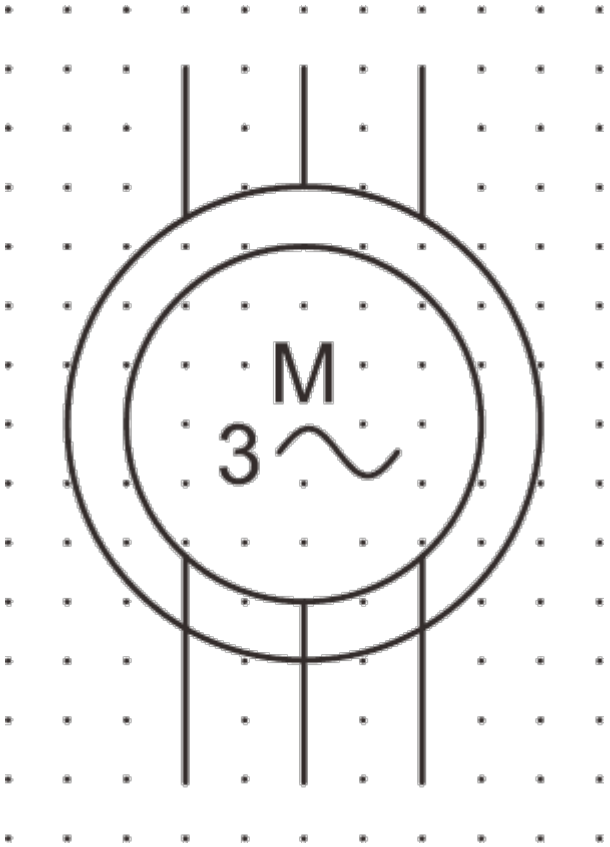
Name:	Induction motor, three-phase, squirrel cage
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-08-01
Keywords:	asynchronous machines, machines - asynchronous, motors
Applies:	S00819; S01403
Application notes:	A00126, A00133
Shape class:	Circles
Function class:	M Providing mechanical energy
Application class:	Circuit diagrams

S00837



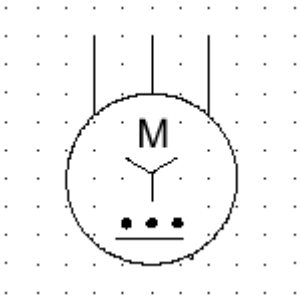
Name:	Induction motor, single-phase, squirrel-cage
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-08-02
Keywords:	asynchronous machines, machines - asynchronous, motors
Applies:	S00819; S01403
Application notes:	A00126, A00133
Shape class:	Circles
Function class:	M Providing mechanical energy
Application class:	Circuit diagrams
Remarks:	Ends of split-phase winding brought out.

S00838



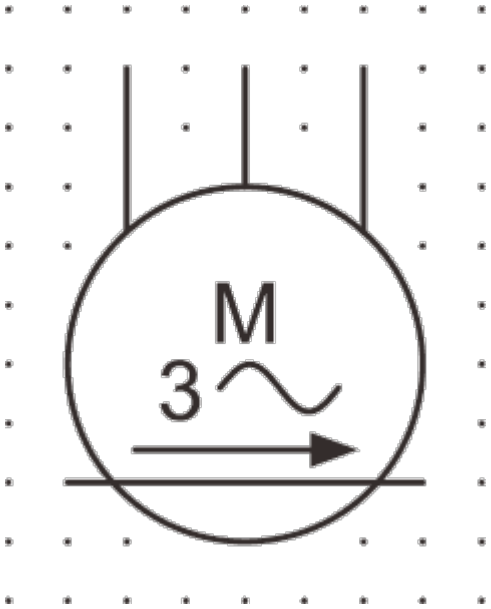
Name:	Induction motor, three-phase, with wound rotor
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-08-03
Keywords:	asynchronous machines, machines - asynchronous, motors
Applies:	S00819; S01403
Application notes:	A00126, A00133
Shape class:	Circles
Function class:	M Providing mechanical energy
Application class:	Circuit diagrams

S00839



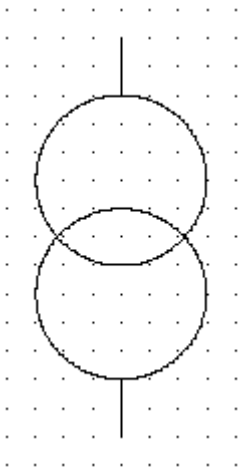
Name:	Induction motor, three-phase, star-connected
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-08-04
Keywords:	asynchronous machines, machines - asynchronous, motors
Applies:	S00808; S00819
Application notes:	A00126, A00133
Shape class:	Circles
Function class:	M Providing mechanical energy
Application class:	Circuit diagrams
Remarks:	With built-in automatic starter

S00840



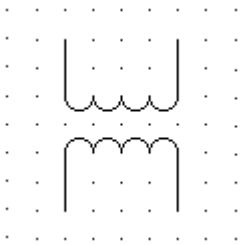
Name:	Linear induction motor, three-phase
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-08-05
Keywords:	asynchronous machines, machines - asynchronous, motors
Applies:	S00093; S00820; S01403
Application notes:	A00126, A00133
Shape class:	Arrows, Circles, Lines
Function class:	M Providing mechanical energy
Application class:	Circuit diagrams
Remarks:	Movement only in one direction

S00841



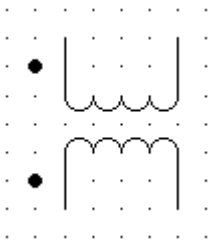
Name:	Transformer with two windings, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-09-01
Keywords:	transformers
Form:	Form 1
Alternative forms:	S00842
Applied in:	S01837, S00878, S00852, S00854, S00856, S00975, S00864, S00866, S00862, S00860, S00858
Application notes:	A00128, A00129
Shape class:	Circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00842



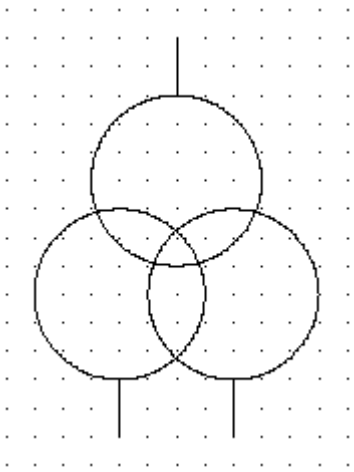
Name:	Transformer with two windings, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-09-02
Keywords:	transformers
Form:	Form 2
Alternative forms:	S00841
Applied in:	S01344, S00851, S00859, S00863, S00843, S00861, S00879, S00877, S00853, S01838, S00867, S00857, S00865, S00855, S00869
Applies:	S00583
Application notes:	A00127, A00128, A00129, A00130
Shape class:	Half-circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams

S00843



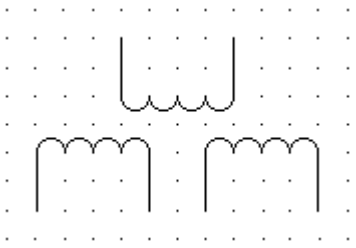
Name:	Transformer with two windings (and instantaneous voltage polarity indicators)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-09-03
Keywords:	polarity indicators, transformers
Form:	Form 2
Applies:	S00842
Application notes:	A00129, A00130
Shape class:	Dots (points), Half-circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams
Remarks:	Instantaneous currents entering the marked ends of the windings produce aiding fluxes.

S00844



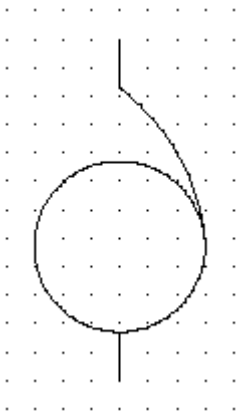
Name:	Transformer with three windings, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-09-04
Keywords:	transformers
Form:	Form 1
Alternative forms:	S00845
Applied in:	S00868
Application notes:	A00128, A00129
Shape class:	Circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00845



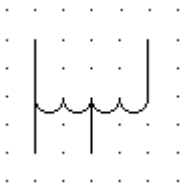
Name:	Transformer with three windings, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-09-05
Keywords:	transformers
Form:	Form 2
Alternative forms:	S00844
Applies:	S00583
Application notes:	A00127, A00128, A00129, A00130
Shape class:	Half-circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams

S00846



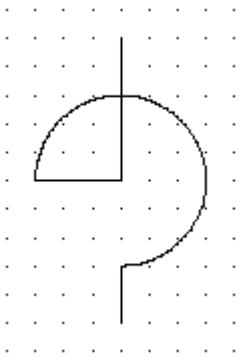
Name:	Auto-transformer, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-09-06
Keywords:	auto-transformers, transformers
Form:	Form 1
Alternative forms:	S00847
Applied in:	S00303, S00872, S00870, S01913, S00874
Application notes:	A00128
Shape class:	Circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00847



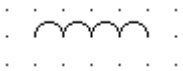
Name:	Auto-transformer, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-09-07
Keywords:	auto-transformers, transformers
Form:	Form 2
Alternative forms:	S00846
Applied in:	S01914, S00875, S00873, S00871
Applies:	S00583
Application notes:	A00128, A00130
Shape class:	Half-circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams

S00848



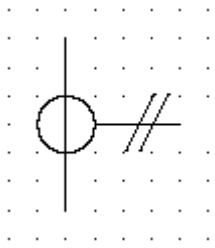
Name:	Reactor, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-09-08
Alternative names:	Choke
Keywords:	chokes, reactors
Form:	Form 1
Alternative forms:	S00849
Applied in:	S01913
Application notes:	A00128
Shape class:	Circle segments, Circles, Lines
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00849



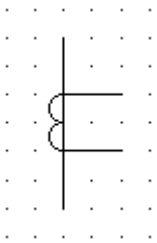
Name:	Reactor, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-09-09
Alternative names:	Choke
Keywords:	chokes, reactors
Form:	Form 2
Alternative forms:	S00848
Applies:	S00583
Application notes:	A00127, A00128, A00130
Shape class:	Half-circles
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams

S00850



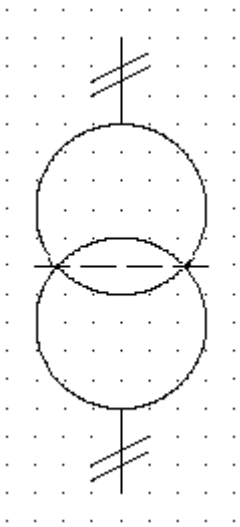
Name:	Current transformer, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-09-10
Keywords:	current transformers, transformers
Form:	Form 1
Alternative forms:	S00851
Applied in:	S01841, S00888, S00886, S00882, S00884, S00880, S00890
Application notes:	A00128, A00129
Shape class:	Circles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00851



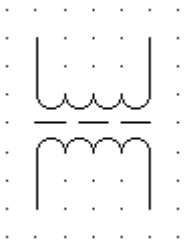
Name:	Current transformer, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-09-11
Keywords:	current transformers, transformers
Form:	Form 2
Alternative forms:	S00850
Applied in:	S01842, S00881, S00885, S00883, S00891, S00889, S00887
Applies:	S00842
Application notes:	A00127, A00128, A00129, A00130
Shape class:	Half-circles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams

S00852



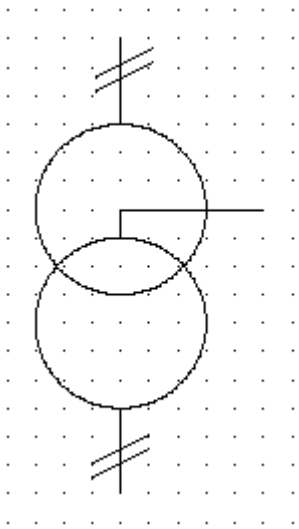
Name:	Transformer with two windings and screen
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-10-01
Keywords:	transformers, transformers with separate windings
Form:	Form 1
Alternative forms:	S00853
Applies:	S00002; S00065; S00841
Application notes:	A00128
Shape class:	Circles, Lines
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00853



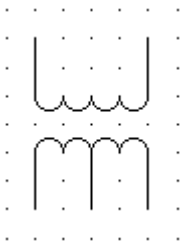
Name:	Transformer with two windings and screen
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-10-02
Keywords:	transformers, transformers with separate windings
Form:	Form 2
Alternative forms:	S00852
Applies:	S00065; S00842
Application notes:	A00127, A00128, A00130
Shape class:	Half-circles, Lines
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams

S00854



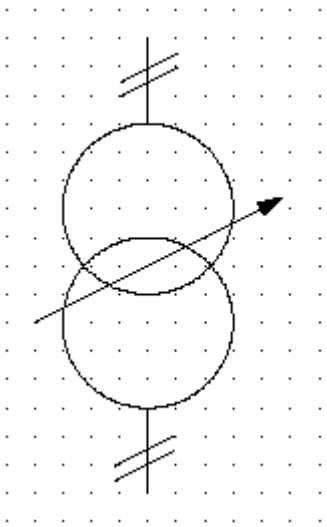
Name:	Transformer with centre tap on one winding
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-10-03
Keywords:	transformers, transformers with separate windings
Form:	Form 1
Alternative forms:	S00855
Applies:	S00002; S00841
Application notes:	A00128
Shape class:	Circles, Lines
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00855



Name:	Transformer with centre tap on one winding
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-10-04
Keywords:	transformers, transformers with separate windings
Form:	Form 2
Alternative forms:	S00854
Applies:	S00842
Application notes:	A00127, A00128, A00130
Shape class:	Half-circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams

S00856

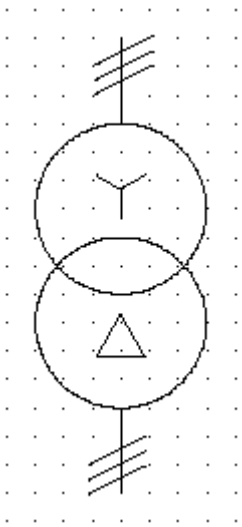


Name:	Transformer with variable coupling
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-10-05
Keywords:	transformers, transformers with separate windings, variability
Form:	Form 1
Alternative forms:	S00857
Applies:	S00002; S00081; S00841
Application notes:	A00128
Shape class:	Arrows, Circles, Lines
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00857

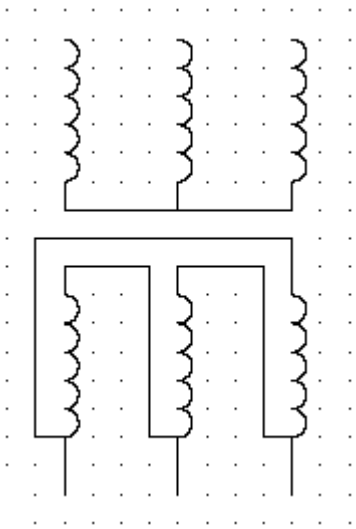
Name:	Transformer with variable coupling
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-10-06
Keywords:	transformers, transformers with separate windings, variability
Form:	Form 2
Alternative forms:	S00856
Applies:	S00081; S00842
Application notes:	A00127, A00128, A00130
Shape class:	Arrows, Half-circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams

S00858



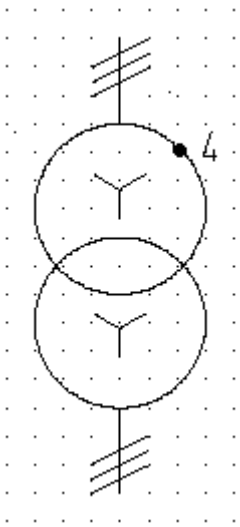
Name:	Three-phase transformer, connection star-delta
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-10-07
Keywords:	transformers, transformers with separate windings
Form:	Form 1
Alternative forms:	S00859
Applies:	S00002; S00806; S00808; S00841
Application notes:	A00128
Shape class:	Circles, Equilateral triangles, Lines
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00859



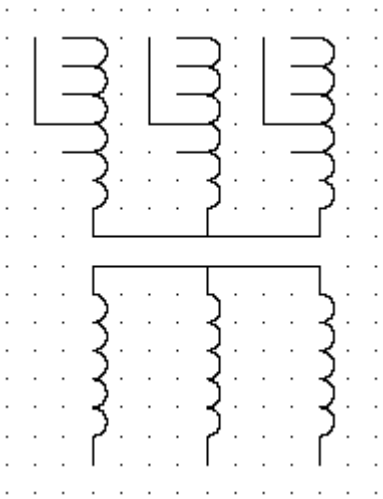
Name:	Three-phase transformer, connection star-delta
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-10-08
Keywords:	transformers, transformers with separate windings
Form:	Form 2
Alternative forms:	S00858
Applies:	S00842
Application notes:	A00127, A00128, A00130
Shape class:	Half-circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams

S00860



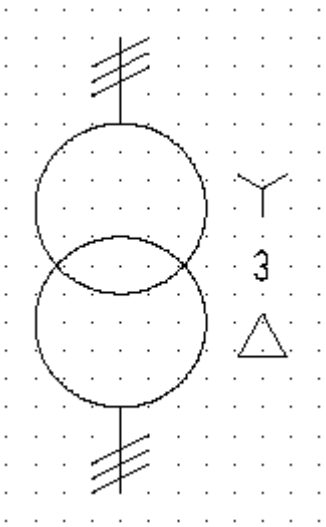
Name:	Three-phase transformer with four taps, connection: star-star
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-10-09
Keywords:	transformers, transformers with separate windings
Form:	Form 1
Alternative forms:	S00861
Applies:	S00002; S00808; S00841
Application notes:	A00128
Shape class:	Characters, Circles, Dots (points), Lines
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams
Remarks:	Each primary winding is shown with four available connection points in addition to those at the winding-ends.

S00861



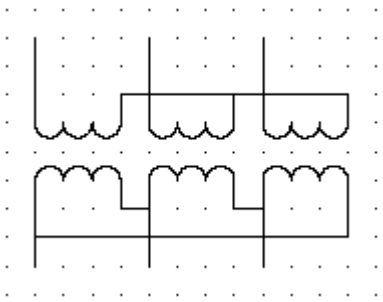
Name:	Three-phase transformer with four taps, connection: star-star
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-10-10
Keywords:	transformers, transformers with separate windings
Form:	Form 2
Alternative forms:	S00860
Applies:	S00842
Application notes:	A00127, A00128, A00130
Shape class:	Half-circles, Lines
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams
Remarks:	Each primary winding is shown with four available connection points in addition to those at the winding-ends.

S00862



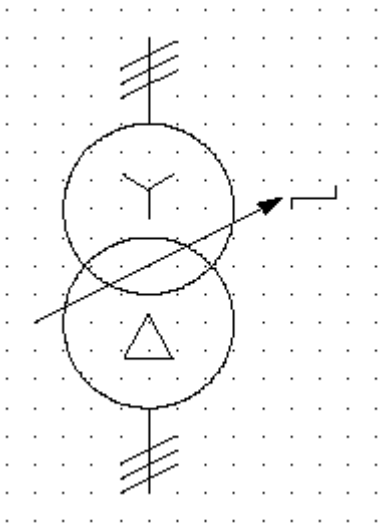
Name:	Three-phase bank of single-phase transformers, connection star-delta
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-10-11
Keywords:	transformers, transformers with separate windings
Form:	Form 1
Alternative forms:	S00863
Applies:	S00002; S00806; S00808; S00841
Application notes:	A00128
Shape class:	Characters, Circles, Lines
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S00863



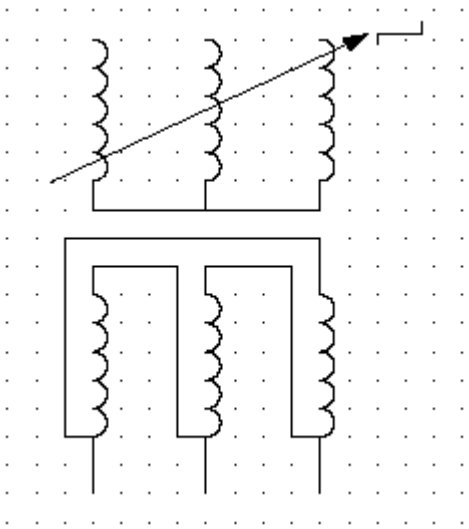
Name:	Three-phase bank of single-phase transformers, connection star-delta
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-10-12
Keywords:	transformers
Form:	Form 2
Alternative forms:	S00862
Applies:	S00842
Application notes:	A00127, A00128, A00130
Shape class:	Half-circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams

S00864



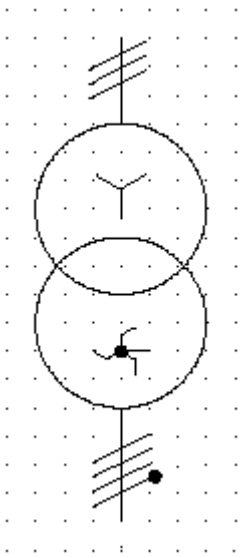
Name:	Three-phase transformer with tap changer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-10-13
Keywords:	tap changers, transformers, transformers with separate windings
Form:	Form 1
Alternative forms:	S00865
Applies:	S00002; S00081; S00087; S00806; S00808; S00841
Application notes:	A00128
Shape class:	Arrows, Circles, Lines
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams
Remarks:	On-load tap changer, connection star-delta

S00865



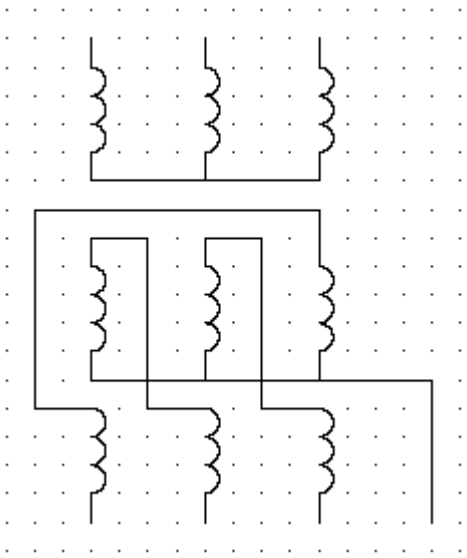
Name:	Three-phase transformer with tap changer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-10-14
Keywords:	tap changers, transformers, transformers with separate windings
Form:	Form 2
Alternative forms:	S00864
Applies:	S00081; S00087; S00842
Application notes:	A00127, A00128, A00130
Shape class:	Arrows, Half-circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams
Remarks:	On-load tap changer, connection star-delta

S00866



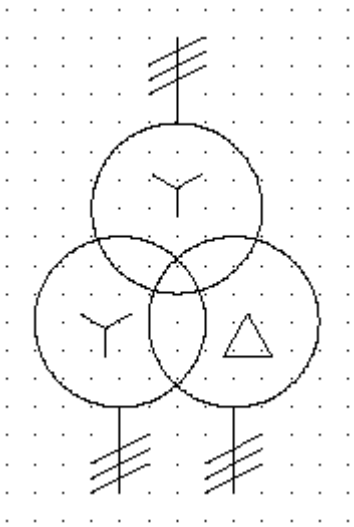
Name:	Three-phase transformer, connection star-zigzag with the neutral brought out
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-10-15
Keywords:	transformers, transformers with separate windings
Form:	Form 1
Alternative forms:	S00867
Applies:	S00002; S00446; S00808; S00810; S00841
Application notes:	A00128
Shape class:	Circles, Lines
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00867



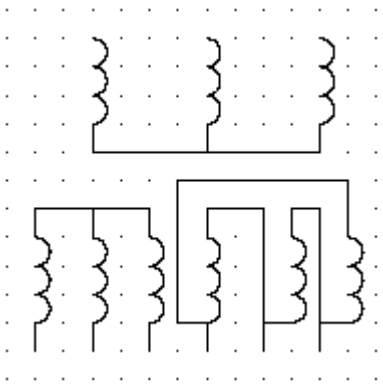
Name:	Three-phase transformer, connection star-zigzag with the neutral brought out
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-10-16
Keywords:	transformers, transformers with separate windings
Form:	Form 2
Alternative forms:	S00866
Applies:	S00842
Application notes:	A00127, A00128, A00130
Shape class:	Half-circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams

S00868



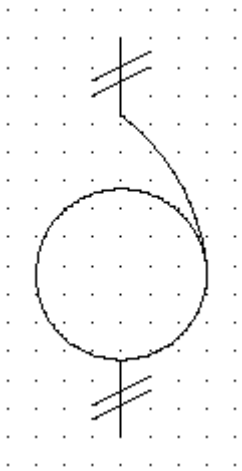
Name:	Three-phase transformer, connection star-star-delta
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-10-17
Keywords:	transformers, transformers with separate windings
Form:	Form 1
Alternative forms:	S00869
Applies:	S00002; S00806; S00808; S00844
Application notes:	A00128
Shape class:	Circles, Equilateral triangles, Lines
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00869



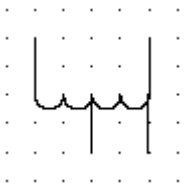
Name:	Three-phase transformer, connection star-star-delta
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-10-18
Keywords:	transformers, transformers with separate windings
Form:	Form 2
Alternative forms:	S00868
Applies:	S00842
Application notes:	A00127, A00128, A00130
Shape class:	Half-circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams

S00870



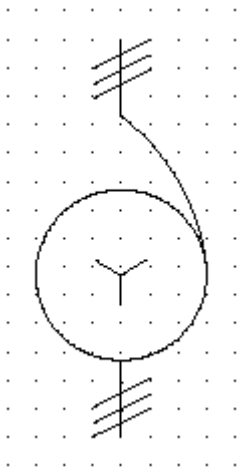
Name:	Auto-transformer, single-phase
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-11-01
Keywords:	auto-transformers, transformers
Form:	Form 1
Alternative forms:	S00871
Applied in:	S00874
Applies:	S00002; S00846
Application notes:	A00128
Shape class:	Circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00871



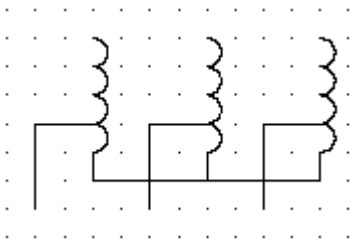
Name:	Auto-transformer, single-phase
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-11-02
Keywords:	auto-transformers, transformers
Form:	Form 2
Alternative forms:	S00870
Applies:	S00847
Application notes:	A00127, A00128
Shape class:	Half-circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams

S00872



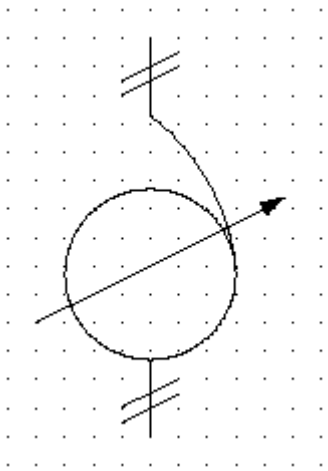
Name:	Auto-transformer, three-phase, connection star
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-11-03
Keywords:	auto-transformers, transformers
Form:	Form 1
Alternative forms:	S00873
Applies:	S00002; S00808; S00846
Application notes:	A00128
Shape class:	Circles, Lines
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00873



Name:	Auto-transformer, three-phase, connection star
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-11-04
Keywords:	auto-transformers, transformers
Form:	Form 2
Alternative forms:	S00872
Applies:	S00847
Application notes:	A00127, A00128, A00130
Shape class:	Half-circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams

S00874

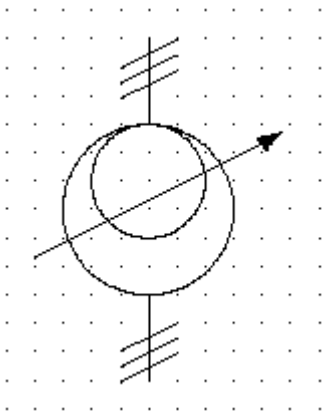


Name:	Auto-transformer, single-phase with voltage regulation
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-11-05
Keywords:	auto-transformers, transformers
Form:	Form 1
Alternative forms:	S00875
Applies:	S00002; S00081; S00846; S00870
Application notes:	A00128
Shape class:	Arrows, Circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00875

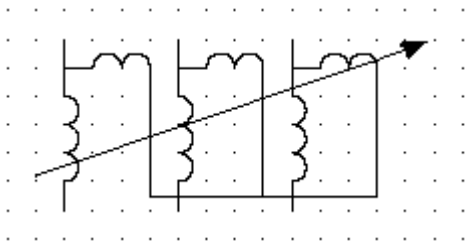
Name:	Auto-transformer, single-phase with voltage regulation
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-11-06
Keywords:	auto-transformers, transformers
Form:	Form 2
Alternative forms:	S00874
Applies:	S00081; S00847
Application notes:	A00127, A00128
Shape class:	Arrows, Half-circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams

S00876



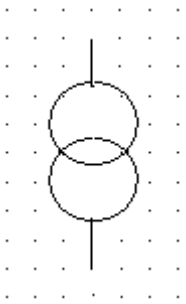
Name:	Three-phase induction regulator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-12-01
Keywords:	induction regulators, inductors, reactors
Form:	Form 1
Alternative forms:	S00877
Applies:	S00002; S00081
Application notes:	A00128
Shape class:	Arrows, Circles, Lines
Function class:	R Restricting or stabilising, T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00877



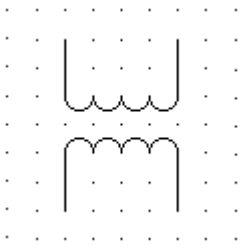
Name:	Three-phase induction regulator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-12-02
Keywords:	induction regulators, inductors, reactors
Form:	Form 2
Alternative forms:	S00876
Applies:	S00081; S00842
Application notes:	A00127, A00128, A00130
Shape class:	Arrows, Half-circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams

S00878



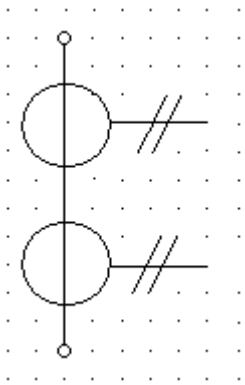
Name:	Voltage transformer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-13-01A
Alternative names:	Measuring transformer
Keywords:	measuring transformers, transformers, voltage transformers
Form:	Form 1
Alternative forms:	S00879
Applied in:	S01840, S01839
Applies:	S00841
Application notes:	A00128, A00134
Shape class:	Circles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00879



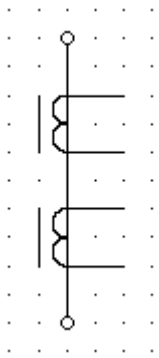
Name:	Voltage transformer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-13-01B
Alternative names:	Measuring transformer
Keywords:	measuring transformers, transformers, voltage transformers
Form:	Form 2
Alternative forms:	S00878
Applies:	S00842
Application notes:	A00127, A00128, A00130, A00134
Shape class:	Half-circles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams

S00880



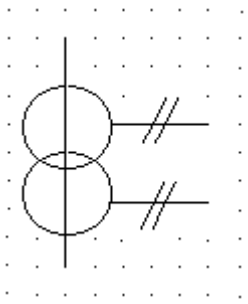
Name:	Current transformer with two cores with one secondary winding on each core
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-13-02
Keywords:	current transformers, measuring transformers, transformers
Form:	Form 1
Alternative forms:	S00881
Applies:	S00002; S00017; S00850
Application notes:	A00128, A00129, A00134
Shape class:	Circles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The terminal symbols shown at each end of the primary circuit indicate that only a single device is represented. The terminal symbols may be omitted if terminal designations are used.

S00881



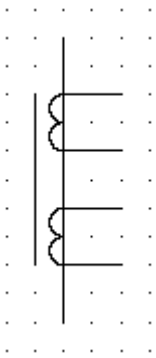
Name:	Current transformer with two cores with one secondary winding on each core
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-13-03
Keywords:	current transformers, measuring transformers, transformers
Form:	Form 2
Alternative forms:	S00880
Applies:	S00017; S00851
Application notes:	A00127, A00128, A00129, A00130, A00134
Shape class:	Half-circles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams
Remarks:	The terminal symbols shown at each end of the primary circuit indicate that only a single device is represented. The terminal symbols may be omitted if terminal designations are used In form 2, core symbols may be omitted.

S00882



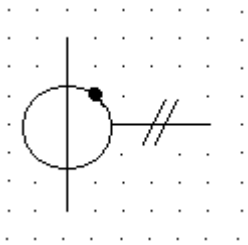
Name:	Current transformer with two secondary windings on one core
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-13-04
Keywords:	current transformers, measuring transformers, transformers
Form:	Form 1
Alternative forms:	S00883
Applies:	S00002; S00850
Application notes:	A00128, A00129, A00134
Shape class:	Circles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00883



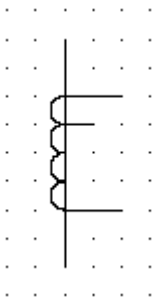
Name:	Current transformer with two secondary windings on one core
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-13-05
Keywords:	current transformers, measuring transformers, transformers
Form:	Form 2
Alternative forms:	S00882
Applies:	S00851
Application notes:	A00127, A00128, A00129, A00130, A00134
Shape class:	Half-circles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams
Remarks:	In form 2, the core symbol shall be drawn

S00884



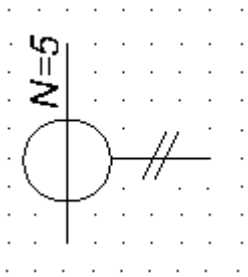
Name:	Current transformer with one secondary winding with one tap
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-13-06
Keywords:	current transformers, measuring transformers, transformers
Form:	Form 1
Alternative forms:	S00855
Applies:	S00002; S00850
Application notes:	A00128, A00129, A00134
Shape class:	Circles, Dots (points), Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00885



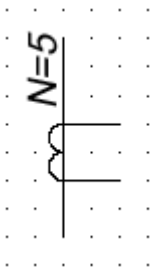
Name:	Current transformer with one secondary winding with one tap
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-13-07
Keywords:	current transformers, measuring transformers, transformers
Form:	Form 2
Alternative forms:	S00884
Applies:	S00851
Application notes:	A00127, A00128, A00129, A00130, A00134
Shape class:	Half-circles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams

S00886



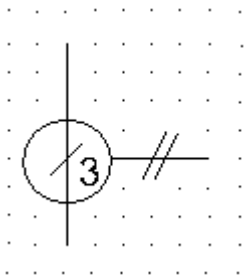
Name:	Current transformer with five passages of a conductor acting as a primary winding
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-13-08
Keywords:	current transformers, measuring transformers, transformers
Form:	Form 1
Alternative forms:	S00887
Applies:	S00002; S00850
Application notes:	A00128, A00129, A00134
Shape class:	Circles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	This kind of current transformer has no built-in primary winding

S00887



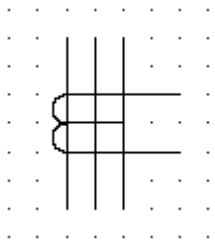
Name:	Current transformer with five passages of a conductor acting as a primary winding
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-13-09
Keywords:	current transformers, measuring transformers, transformers
Form:	Form 2
Alternative forms:	S00886
Applies:	S00851
Application notes:	A00127, A00128, A00129, A00130, A00134
Shape class:	Half-circles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams
Remarks:	This kind of current transformer has no built-in primary winding

S00888



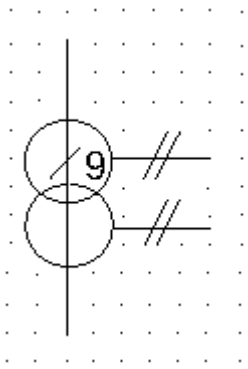
Name:	Pulse or current transformer with three threaded primary conductors
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-13-10
Keywords:	current transformers, measuring transformers, pulse transformers, transformers
Form:	Form 1
Alternative forms:	S00889
Applies:	S00002; S00003; S00850
Application notes:	A00128, A00129, A00134
Shape class:	Circles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00889



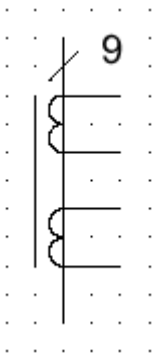
Name:	Pulse or current transformer with three threaded primary conductors
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-13-11
Keywords:	current transformers, measuring transformers, pulse transformers, transformers
Form:	Form 2
Alternative forms:	S00888
Applies:	S00851
Application notes:	A00127, A00128, A00129, A00130, A00134
Shape class:	Half-circles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams

S00890



Name:	Pulse or current transformer with two secondary windings on the same core
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-13-12
Keywords:	current transformers, measuring transformers, pulse transformers, transformers
Form:	Form 1
Alternative forms:	S00891
Applies:	S00002; S00003; S00850
Application notes:	A00128, A00129, A00134
Shape class:	Circles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Shown with nine threaded primary conductors

S00891



Name:	Pulse or current transformer with two secondary windings on the same core
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-13-13
Keywords:	current transformers, measuring transformers, pulse transformers, transformers
Form:	Form 2
Alternative forms:	S00890
Applies:	S00851
Application notes:	A00127, A00128, A00129, A00130, A00134
Shape class:	Half-circles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams
Remarks:	Shown with nine threaded primary conductors

S00893

Name:	DC/DC converter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-14-02
Alternative names:	Chopper
Keywords:	choppers, converters, power converters
Applies:	S00059; S00214; S01401
Shape class:	Squares
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00894

Name:	Rectifier
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-14-03
Keywords:	power converters, rectifiers
Applies:	S00059; S00213; S00214; S01401; S01403
Shape class:	Squares
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00895

Name:	Rectifier in full wave (bridge) connection
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-14-04
Keywords:	power converters, rectifiers
Applies:	S00641
Shape class:	Squares
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

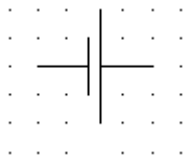
S00896

Name:	Inverter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-14-05
Keywords:	inverters, power converters
Applies:	S00059; S00214; S01401; S01403
Shape class:	Squares
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00897

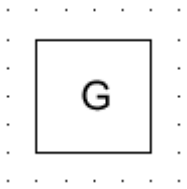
Name:	Rectifier/inverter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-14-06
Keywords:	inverters, power converters, rectifiers
Applies:	S00059; S00101; S00214; S01401; S01403
Shape class:	Arrows, Squares
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00898



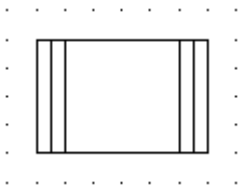
Name:	Primary cell
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-15-01
Alternative names:	Battery
Keywords:	primary cells
Applied in:	S01365, S00686, S01366
Shape class:	Lines
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The longer line represents the positive pole, the shorter one the negative pole

S00899



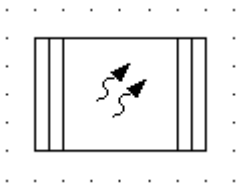
Name:	Static generator, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-16-01
Keywords:	generators, power generators, static generators
Applied in:	S00903, S00907, S00904, S01226, S00906, S01215, S00905, S01217, S01216, S00908
Applies:	S00059
Application notes:	A00131
Shape class:	Squares
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S00900



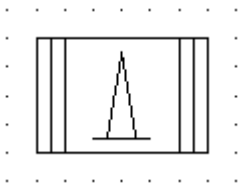
Name:	Heat source, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-17-01
Keywords:	heat sources
Applied in:	S00901, S00902, S00903, S00907, S00904, S00906, S00905
Applies:	S00059
Shape class:	Lines , Rectangles
Function class:	E Providing radiant or thermal energy
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00901



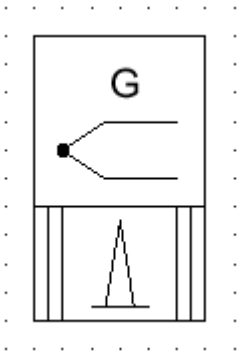
Name:	Radio-isotope heat source
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-17-02
Keywords:	heat sources
Applied in:	S00907, S00905
Applies:	S00129; S00900
Application notes:	A00041, A00042
Shape class:	Arrows, Rectangles
Function class:	E Providing radiant or thermal energy
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00902



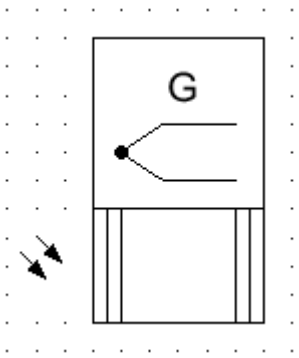
Name:	Combustion heat source
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-17-03
Keywords:	heat sources
Applied in:	S00903
Applies:	S00900
Shape class:	Equilateral triangles, Rectangles
Function class:	E Providing radiant or thermal energy
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00903



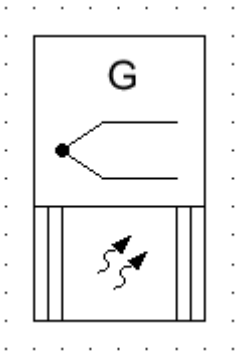
Name:	Thermoelectric generator, with combustion heat source
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-18-01
Keywords:	generators, non-rotary power generators, power generators
Applies:	S00899; S00900; S00902; S00952
Shape class:	Equilateral triangles, Rectangles, Squares
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00904



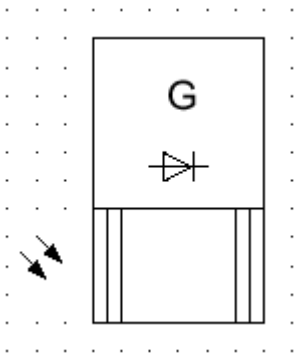
Name:	Thermoelectric generator with non-ionizing radiation heat source
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-18-02
Keywords:	generators, non-rotary power generators, power generators
Applies:	S00127; S00899; S00900; S00952
Shape class:	Arrows, Rectangles, Squares
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00905



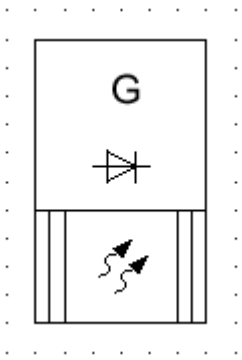
Name:	Thermoelectric generator with radio-isotope heat source
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-18-03
Keywords:	generators, non-rotary power generators, power generators
Applies:	S00129; S00899; S00900; S00901; S00952
Shape class:	Arrows, Rectangles, Squares
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00906



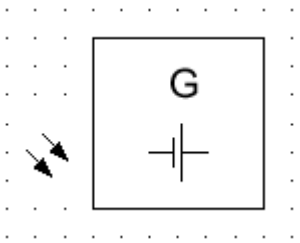
Name:	Thermionic diode generator with non-ionizing radiation heat source
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-18-04
Keywords:	generators, non-rotary power generators, power generators
Applies:	S00127; S00641; S00899; S00900
Shape class:	Arrows, Rectangles, Squares
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00907



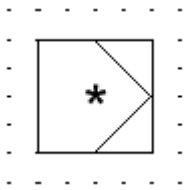
Name:	Thermionic diode generator with radio-isotope heat source
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-18-05
Keywords:	generators, non-rotary power generators, power generators
Applies:	S00129; S00641; S00899; S00900; S00901
Shape class:	Arrows, Rectangles, Squares
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00908



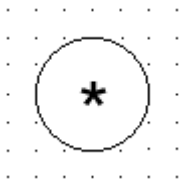
Name:	Photovoltaic generator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-18-06
Keywords:	generators, non-rotary power generators, power generators
Applies:	S00127; S00899; S01342
Shape class:	Arrows, Lines , Squares
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00909



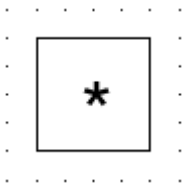
Name:	Closed-loop controller
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-19-01
Keywords:	closed-loop controllers, controllers
Application notes:	A00132, A00256
Shape class:	Equilateral triangles, Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	See A00256 for an example of use.

S00910



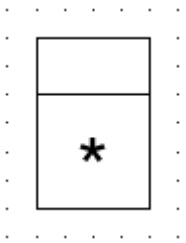
Name:	Indicating instrument, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-01-01
Alternative names:	Instrument
Keywords:	indicating instruments, instruments, measuring instruments
Applied in:	S01426, S01428, S01427, S00916, S00927, S00921, S00917, S00913, S00922, S00923, S00915, S00918, S00926, S00914, S00924, S00919, S00925, S00920, S01843
Application notes:	A00144, A00145, A00146, A00147, A00369
Shape class:	Circles
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams
Remarks:	The asterisk shall be replaced in accordance with the application note A00144.

S00911



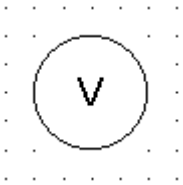
Name:	Recording instrument, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-01-02
Alternative names:	Instrument
Keywords:	instruments, measuring instruments, recording instruments
Applied in:	S00928, S00929, S00930
Application notes:	A00144, A00145, A00146, A00147, A00369
Shape class:	Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams
Remarks:	The asterisk shall be replaced in accordance with the rules in application note A00144.

S00912



Name:	Integrating instrument, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-01-03
Alternative names:	Energy meter
Keywords:	instruments, integrating instruments, measuring instruments
Applied in:	S00935, S00942, S00939, S00936, S00938, S00945, S00931, S00940, S00943, S00944, S00937, S00934, S00941, S00932, S00933
Application notes:	A00144, A00145, A00146, A00147, A00148, A00369
Shape class:	Rectangles
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams
Remarks:	The asterisk shall be replaced in accordance with the rules given in application note A00144.

S00913

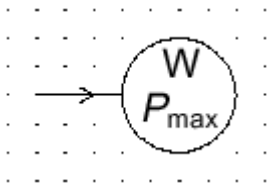


Name:	Voltmeter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-02-01
Keywords:	indicating instruments, instruments, measuring instruments, voltmeters
Applied in:	S01429, S01843
Applies:	S00910
Application notes:	A00145
Shape class:	Characters, Circles
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00914

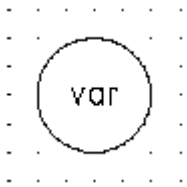
Name:	Reactive current ammeter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-02-02
Keywords:	ammeters, indicating instruments, instruments, measuring instruments
Applies:	S00910
Application notes:	A00145
Shape class:	Characters, Circles
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S00915



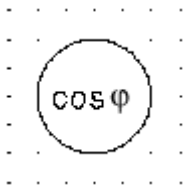
Name:	Maximum demand indicator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-02-03
Keywords:	indicating instruments, indicators, instruments, maximum demand, measuring instruments
Applies:	S00910
Application notes:	A00145
Shape class:	Characters, Circles
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams
Remarks:	Actuated by an integrating meter.

S00916



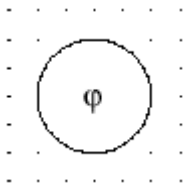
Name:	Varmeter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-02-04
Keywords:	indicating instruments, instruments, measuring instruments, varmeters
Applies:	S00910
Application notes:	A00145
Shape class:	Characters, Circles
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00917



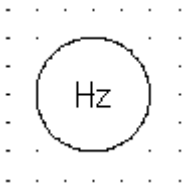
Name:	Power-factor meter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-02-05
Keywords:	indicating instruments, instruments, measuring instruments, power-factor meters
Applies:	S00910
Application notes:	A00145
Shape class:	Characters, Circles
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S00918



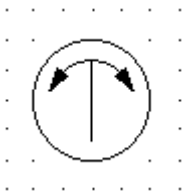
Name:	Phase meter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-02-06
Keywords:	indicating instruments, instruments, measuring instruments, phase meters
Applies:	S00910
Application notes:	A00145
Shape class:	Characters, Circles
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00919



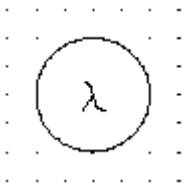
Name:	Frequency meter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-02-07
Keywords:	frequency meters, indicating instruments, instruments, measuring instruments
Applies:	S00910
Application notes:	A00145
Shape class:	Characters, Circles
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S00920



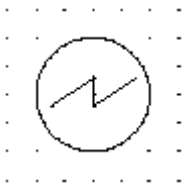
Name:	Synchronoscope
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-02-08
Keywords:	indicating instruments, instruments, measuring instruments, synchronoscopes
Applies:	S00910
Application notes:	A00144
Shape class:	Arrows, Circles
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00921



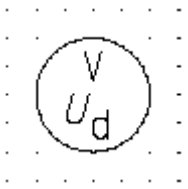
Name:	Wavemeter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-02-09
Keywords:	indicating instruments, instruments, measuring instruments, wavemeters
Applies:	S00910
Application notes:	A00144
Shape class:	Characters, Circles
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00922



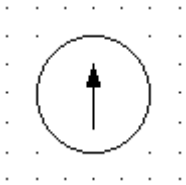
Name:	Oscilloscope
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-02-10
Keywords:	indicating instruments, instruments, measuring instruments, oscilloscopes
Applies:	S00910
Application notes:	A00144
Shape class:	Circles, Lines
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00923



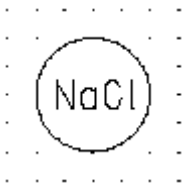
Name:	Differential voltmeter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-02-11
Keywords:	indicating instruments, instruments, measuring instruments, voltmeters
Applies:	S00910
Application notes:	A00144, A00145, A00146
Shape class:	Characters, Circles
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00924



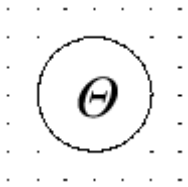
Name:	Galvanometer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-02-12
Keywords:	galvanometers, indicating instruments, instruments, measuring instruments
Applies:	S00910
Application notes:	A00144, A00145
Shape class:	Arrows, Circles
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00925



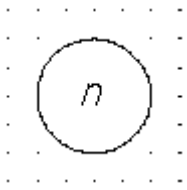
Name:	Salinity meter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-02-13
Keywords:	indicating instruments, instruments, measuring instruments
Applies:	S00910
Application notes:	A00144
Shape class:	Characters, Circles
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00926



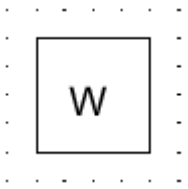
Name:	Thermometer, Pyrometer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-02-14
Keywords:	indicating instruments, instruments, measuring instruments, pyrometers, thermometers
Applies:	S00910
Application notes:	A00144, A00145
Shape class:	Characters, Circles
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00927



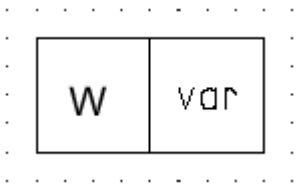
Name:	Tachometer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-02-15
Keywords:	indicating instruments, instruments, measuring instruments, tachometers
Applies:	S00910
Application notes:	A00144
Shape class:	Characters, Circles
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00928



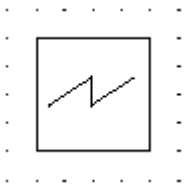
Name:	Recording wattmeter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-03-01
Keywords:	instruments, measuring instruments, recording instruments, wattmeters
Applies:	S00911
Application notes:	A00144, A00145
Shape class:	Characters, Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00929



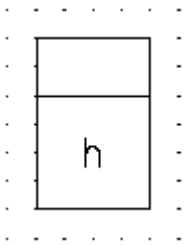
Name:	Combined recording wattmeter and varmeter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-03-02
Keywords:	instruments, measuring instruments, recording instruments, varmeters, wattmeters
Applies:	S00911
Application notes:	A00144, A00145, A00147
Shape class:	Characters, Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00930



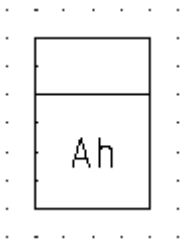
Name:	Oscillograph
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-03-03
Keywords:	instruments, measuring instruments, oscillographs, recording instruments
Applies:	S00911
Application notes:	A00144
Shape class:	Lines , Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00931



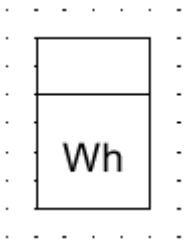
Name:	Hour meter; Hour counter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-04-01
Keywords:	hour meters, instruments, integrating instruments, measuring instruments
Applies:	S00912
Application notes:	A00144
Shape class:	Characters, Rectangles, Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00932



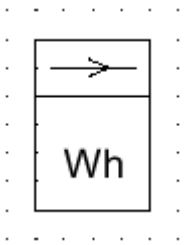
Name:	Ampere-hour meter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-04-02
Keywords:	ampere-hour meters, instruments, integrating instruments, measuring instruments
Applies:	S00912
Application notes:	A00144, A00145
Shape class:	Characters, Rectangles, Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00933



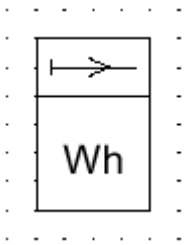
Name:	Watt-hour meter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-04-03
Keywords:	instruments, integrating instruments, measuring instruments, watt-hour meters
Applies:	S00912
Application notes:	A00144, A00145, A00148
Shape class:	Characters, Rectangles, Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00934



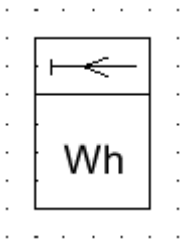
Name:	Watt-hour meter, measuring energy transmitted in one direction only
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-04-04
Keywords:	instruments, integrating instruments, measuring instruments, watt-hour meters
Applies:	S00099; S00912
Application notes:	A00144, A00145, A00148
Shape class:	Arrows, Characters, Rectangles, Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	measuring energy transmitted in one direction only

S00935



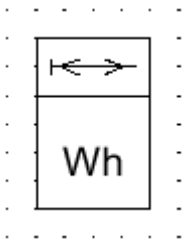
Name:	Watt-hour meter, counting the energy flow from the busbars
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-04-05
Keywords:	instruments, integrating instruments, measuring instruments, watt-hour meters
Applies:	S00104; S00912
Application notes:	A00144, A00145, A00148
Shape class:	Arrows, Characters, Rectangles, Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Counting the energy flow from the busbars

S00936



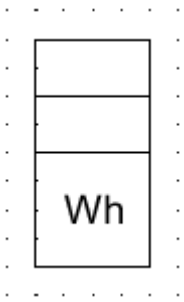
Name:	Watt-hour meter, counting the energy flow towards the busbars
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-04-06
Keywords:	instruments, integrating instruments, measuring instruments, watt-hour meters
Applies:	S00105; S00912
Application notes:	A00144, A00145, A00148
Shape class:	Arrows, Characters, Rectangles, Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Counting the energy flow towards the busbars.

S00937



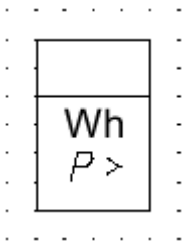
Name:	Watt-hour meter, counting in both energy flow directions
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-04-07
Keywords:	instruments, integrating instruments, measuring instruments, watt-hour meters
Applies:	S00106; S00912
Application notes:	A00144, A00145, A00148
Shape class:	Arrows, Characters, Rectangles, Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Towards or from bus bars.

S00938



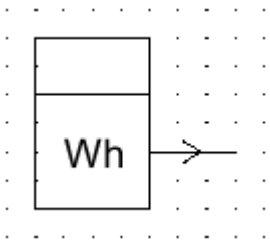
Name:	Multi-rate watt-hour meter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-04-08
Keywords:	instruments, integrating instruments, measuring instruments, watt-hour meters
Applies:	S00912
Application notes:	A00144, A00145, A00148
Shape class:	Characters, Rectangles, Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Two-rate shown

S00939



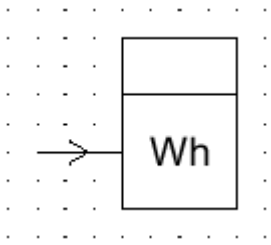
Name:	Excess watt-hour meter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-04-09
Keywords:	instruments, integrating instruments, measuring instruments, watt-hour meters
Applies:	S00912
Application notes:	A00144, A00145, A00148
Shape class:	Characters, Rectangles, Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Function diagrams, Installation diagrams, Overview diagrams

S00940



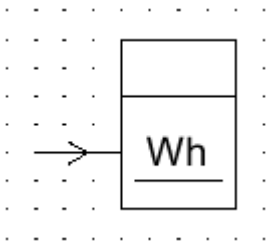
Name:	Watt-hour meter with transmitter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-04-10
Keywords:	instruments, integrating instruments, measuring instruments, watt-hour meters
Applies:	S00099; S00912
Application notes:	A00144, A00145, A00148
Shape class:	Characters, Rectangles, Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00941



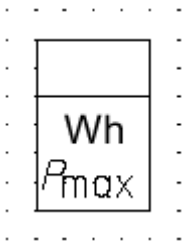
Name:	Slave watt-hour meter (repeater)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-04-11
Keywords:	instruments, integrating instruments, measuring instruments, watt-hour meters
Applies:	S00099; S00912
Application notes:	A00144, A00145, A00148
Shape class:	Characters, Rectangles, Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00942



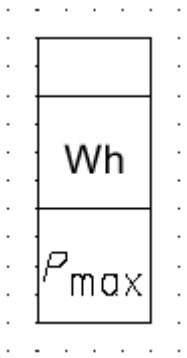
Name:	Slave watt-hour meter (repeater) with printing device
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-04-12
Keywords:	instruments, integrating instruments, measuring instruments, printing, watt-hour meters
Applies:	S00099; S00138; S00912
Application notes:	A00144, A00146
Shape class:	Characters, Lines , Rectangles, Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams

S00943



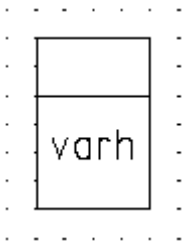
Name:	Watt-hour meter with maximum demand indicator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-04-13
Keywords:	indicators, instruments, integrating instruments, measuring instruments, watt-hour meters
Applies:	S00912
Application notes:	A00144, A00145, A00146
Shape class:	Characters, Rectangles, Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams

S00944



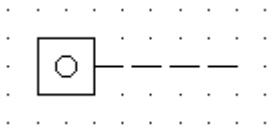
Name:	Watt-hour meter with maximum demand recorder
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-04-14
Keywords:	instruments, integrating instruments, measuring instruments, recording instruments, watt-hour meters
Applies:	S00912
Application notes:	A00145, A00146, A00147, A00148
Shape class:	Characters, Rectangles, Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00945



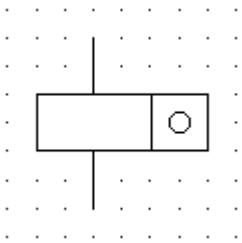
Name:	Var-hour meter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-04-15
Keywords:	instruments, integrating instruments, measuring instruments, var-hour meters
Applies:	S00912
Application notes:	A00144, A00145, A00148
Shape class:	Characters, Rectangles, Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00946



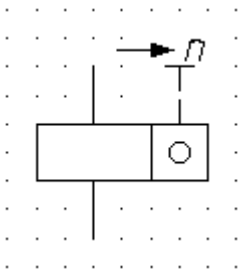
Name:	Counting function of a number of events
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-05-01
Keywords:	counters, measuring instruments
Applied in:	S00196, S00947, S00951, S00949, S00950, S00948
Shape class:	Squares
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S00947



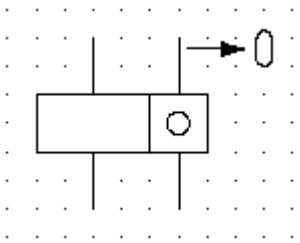
Name:	Pulse counting device
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-05-02
Alternative names:	Electrically operated counting device
Keywords:	counters, measuring instruments, pulse counters
Applied in:	S00949, S00950, S00948
Applies:	S00946
Shape class:	Rectangles, Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams

S00948



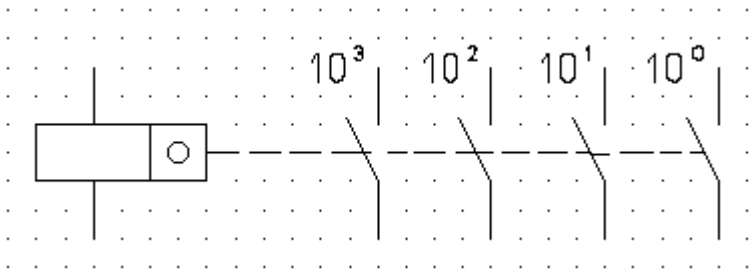
Name:	Pulse counting device, manually pre-set to n
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-05-03
Alternative names:	Manually presettable pulse counter
Keywords:	counters, measuring instruments, pulse counters
Applies:	S00093; S00167; S00946; S00947
Shape class:	Lines , Rectangles, Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams
Remarks:	Shown with pre-set to n (reset if n = 0)

S00949



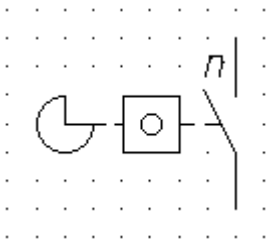
Name:	Pulse counting device, electrically reset to 0
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-05-04
Keywords:	counters, measuring instruments, pulse counters
Applies:	S00093; S00946; S00947
Shape class:	Rectangles, Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams

S00950



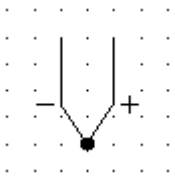
Name:	Pulse counting device with multiple contacts
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-05-05
Keywords:	counters, measuring instruments, pulse counters
Applies:	S00227; S00946; S00947
Shape class:	Lines , Rectangles, Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams
Remarks:	Respective contacts close once at every unit(10 exp0), ten (10 exp1), hundred (10 exp2), thousand (10 exp3)events registered by the counter.

S00951



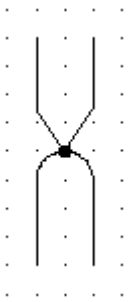
Name:	Counting device, cam driven
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-05-06
Keywords:	counters, measuring instruments
Applies:	S00182; S00227; S00946
Shape class:	Circle segments, Lines , Rectangles, Squares
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams
Remarks:	Closing a contact for each n events.

S00952



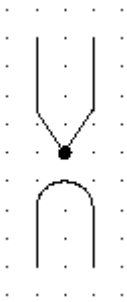
Name:	Thermocouple
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-06-01
Keywords:	temperature sensor, thermocouples
Alternative forms:	S00953
Applied in:	S00903, S00955, S00904, S00905, S00957, S00956, S00954
Applies:	S00016; S00077; S00078
Replacing:	S00953
Shape class:	Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams
Remarks:	Shown with polarity symbols.

S00954



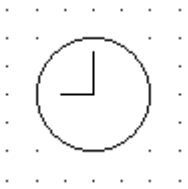
Name:	Thermocouple with non-insulated heating element
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-06-03
Keywords:	thermocouples
Alternative forms:	S00955
Applies:	S00698; S00952
Replacing:	S00955
Shape class:	Half-circles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Function diagrams
Remarks:	Symbol S00699 may be used to represent the heating element instead of symbol S00698.

S00956



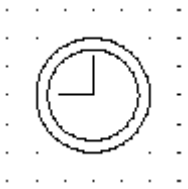
Name:	Thermocouple with insulated heating element
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-06-05
Keywords:	thermocouples
Alternative forms:	S00957
Applies:	S00698; S00952
Replacing:	S00957
Shape class:	Half-circles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Function diagrams
Remarks:	Symbol S00699 may be used to represent the heating element instead of symbol S00698.

S00959



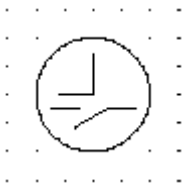
Name:	Clock, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-08-01
Alternative names:	secondary clock
Keywords:	clocks
Applied in:	S00193, S00479, S00961, S00960, S01237, S00495
Shape class:	Circles
Function class:	P Presenting information
Application class:	Circuit diagrams, Function diagrams

S00960



Name:	Master clock
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-08-02
Keywords:	clocks
Applies:	S00959
Shape class:	Circles, Lines
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S00961

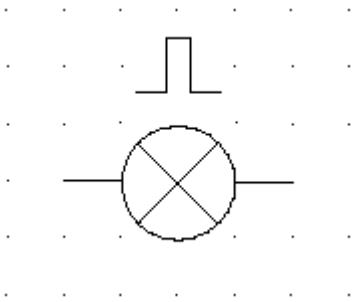


Name:	Clock with contact
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-08-03
Keywords:	clocks
Applies:	S00227; S00959
Shape class:	Circles, Lines
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S00965

Name:	Lamp, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-10-01
Alternative names:	lamp, general symbol; signal lamp, general symbol
Keywords:	installations in buildings, lamps, lightning outlets and fittings, signal lamps, signalling devices
Applied in:	S01861, S00966, S01907, S00487, S00975, S00467, S00476
Application notes:	A00174
Replacing:	S00483
Shape class:	Circles
Function class:	E Providing radiant or thermal energy, P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams

S00966

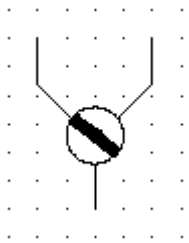


Name:	Signal lamp, flashing type
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-10-02
Keywords:	signal lamps, signalling devices
Applies:	S00132; S00965
Application notes:	A00174
Shape class:	Circles
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams

S00967

Name:	Indicator, electromechanical; annunciator element
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-10-03
Keywords:	signalling devices
Shape class:	Circles, Lines
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams

S00968

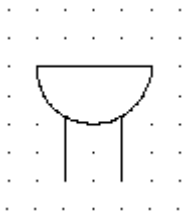


Name:	Electromechanical position indicator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-10-04
Keywords:	position indicators, signalling devices
Shape class:	Circles
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams
Remarks:	Shown with one deenergized and two operated positions.

S00972

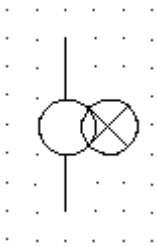
Name:	Siren
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-10-09
Keywords:	indicators, signalling devices, sirens
Shape class:	Right-angled triangle
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams

S00973



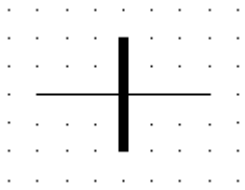
Name:	Buzzer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-10-10
Keywords:	buzzers, indicators, signalling devices
Replacing:	S01385
Shape class:	Half-circles
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams

S00975



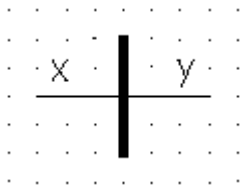
Name:	Signalling lamp energized by a built-in transformer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-8 (ed.2.0) 08-10-13
Keywords:	indicator lamps, signal lamps, signalling devices
Applies:	S00841; S00965
Shape class:	Circles
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams

S00981



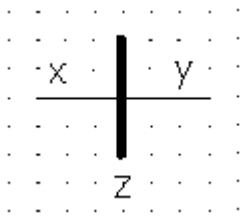
Name:	Connecting stage, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-01-01
Keywords:	connecting, switching
Applied in:	S00990, S00994, S00991, S00992, S00989, S00984, S00988, S00993, S00986, S00987, S00982
Application notes:	A00195, A00196, A00200
Shape class:	Lines
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00982



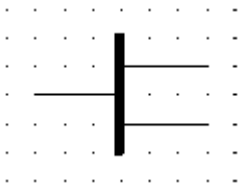
Name:	Connecting stage with x inlets and y outlets
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-01-02
Keywords:	connecting, switching
Applied in:	S00983
Applies:	S00981
Application notes:	A00195, A00196, A00200
Shape class:	Lines
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00983



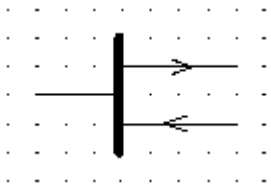
Name:	Connecting stage composed of z grading groups
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-01-03
Keywords:	connecting, switching
Applies:	S00982
Application notes:	A00195, A00196, A00200
Shape class:	Lines
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Symbol restrictions:	Each grading group consist of x inlets and y outlets

S00984



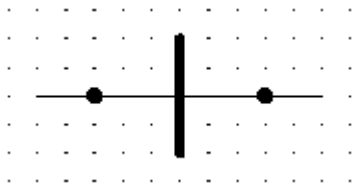
Name:	Connecting stage with one group of inlets and two groups of outlets
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-01-04
Keywords:	connecting, switching
Applied in:	S00985, S00991
Applies:	S00981
Application notes:	A00195, A00196, A00200, A00201
Shape class:	Lines
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00985



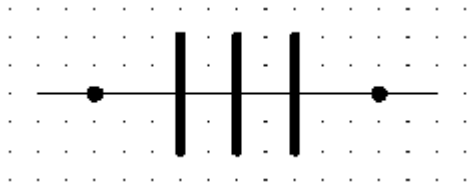
Name:	Connecting stage interconnecting one group of bothway trunks with two groups of unidirectional trunks of opposite sense
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-01-05
Keywords:	connecting, switching
Applies:	S00099; S00984
Application notes:	A00195, A00196, A00200
Shape class:	Arrows, Lines
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00986



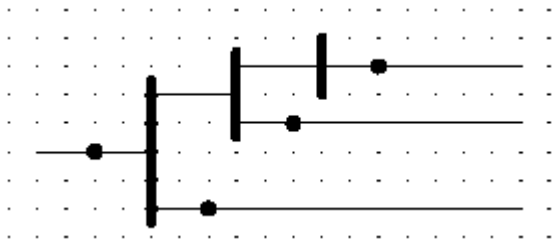
Name:	Marking stage
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-01-06
Keywords:	marking stage, switching
Applied in:	S00992
Applies:	S00981
Application notes:	A00195, A00197, A00202
Shape class:	Dots (points), Lines
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The outgoing calls are via one connecting stage

S00987



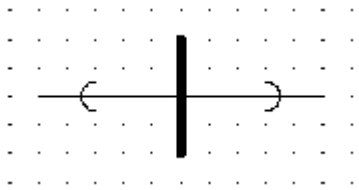
Name:	Marking stage - outgoing calls via several connecting stages
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-01-07
Keywords:	marking stage, switching
Applies:	S00981
Application notes:	A00195, A00197, A00202
Shape class:	Dots (points), Lines
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The symbol is shown with three connecting stages

S00988



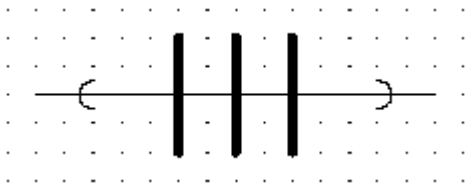
Name:	Mixed marking stage - outgoing calls via different connecting stages
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-01-08
Keywords:	marking stage, switching
Applies:	S00981
Application notes:	A00195, A00197, A00202
Shape class:	Dots (points), Lines
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The symbol is shown with outgoing calls via one, two and three connecting stages.

S00989



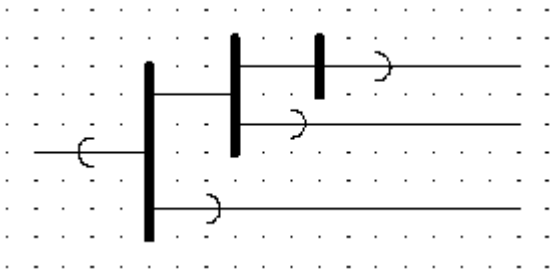
Name:	Switching stage
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-01-09
Keywords:	switching stage
Applied in:	S00993
Applies:	S00981
Application notes:	A00195, A00198, A00203
Shape class:	Half-circles, Lines
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The symbol is shown with outgoing calls via one connecting stage.

S00990



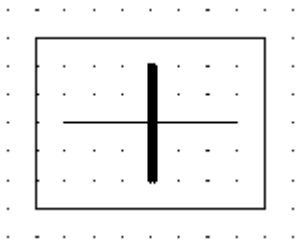
Name:	Switching stage - outgoing calls via several connecting stage
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-01-10
Keywords:	switching stage
Applies:	S00981
Application notes:	A00195, A00198, A00203
Shape class:	Half-circles, Lines
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Symbol restrictions:	The symbol is shown with three connecting stages.

S00991



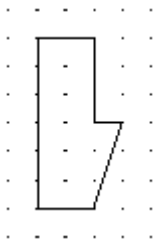
Name:	Mixed switching state - outgoing calls via different connecting stages
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-01-11
Keywords:	switching stage
Applies:	S00981; S00984
Application notes:	A00195, A00198, A00203
Shape class:	Half-circles, Lines
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The symbol is shown woth outgoing calls via one, two and three connecting stages.

S00994



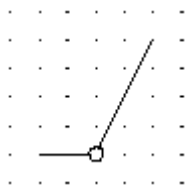
Name:	Automatic switching equipment
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-02-01
Keywords:	switching
Applies:	S00060; S00981
Application notes:	A00205
Shape class:	Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Function diagrams, Overview diagrams

S00995



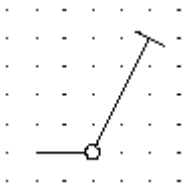
Name:	Manual switchboard
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-02-02
Keywords:	switching
Applied in:	S00993
Application notes:	A00205
Shape class:	Depicting shapes
Function class:	K Processing signals or information
Application class:	Overview diagrams

S00996



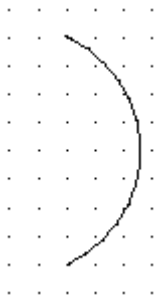
Name:	Selector wiper, non-bridging
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-03-01
Keywords:	selectors
Alternative forms:	S01005
Applied in:	S01007, S01012, S01006, S01005, S01013, S00997, S01008
Application notes:	A00206
Shape class:	Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00997



Name:	Selector wiper, bridging
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-03-02
Keywords:	selectors
Applied in:	S01004
Applies:	S00996
Application notes:	A00206
Shape class:	Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S00998



Name:	Arc or bank of single-motion selector
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-03-03
Keywords:	selectors
Applied in:	S01007, S01010, S01012, S01006, S01009, S00999, S01000
Shape class:	Circle segments
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

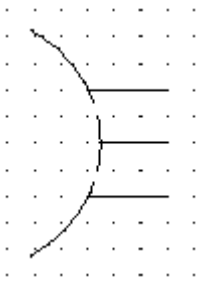
S00999

Name:	Arc or bank of two-motion selector
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-03-04
Keywords:	selectors
Applied in:	S01013, S01008
Applies:	S00998
Shape class:	Circle segments
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01000

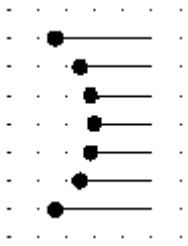
Name:	Selector arc with one special position
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-03-05
Keywords:	selectors
Applies:	S00998
Shape class:	Circle segments
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	An example of a special position is the home position.

S01001



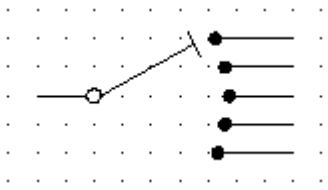
Name:	Selector bank or level
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-03-06
Keywords:	selectors
Application notes:	A00207
Shape class:	Circle segments, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The symbol shows groups of outlets or contacts.

S01002



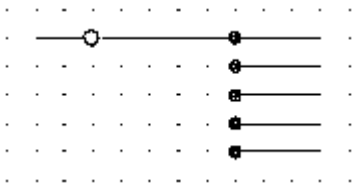
Name:	Selector level showing individual outlets or contacts
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-03-07
Keywords:	selectors
Applied in:	S01004, S01005
Application notes:	A00208
Shape class:	Dots (points)
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01004



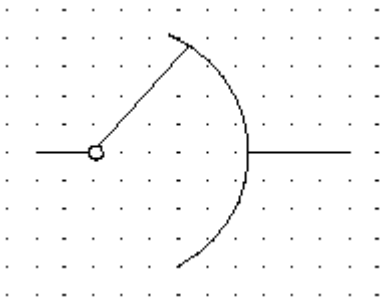
Name:	Selector level with bridging wiper
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-04-01
Keywords:	selectors
Applies:	S00997; S01002
Shape class:	Dots (points), Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01005



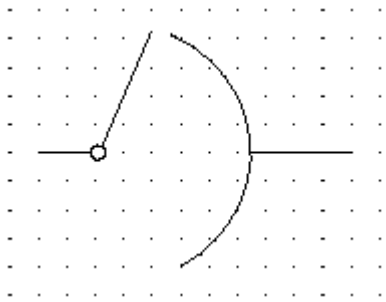
Name:	Selector level with non-bridging wiper
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-04-02
Keywords:	selectors
Applies:	S00996; S01002
Shape class:	Dots (points), Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01006



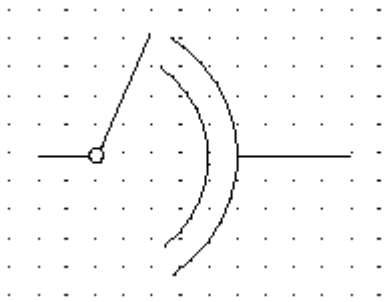
Name:	Single-motion selector, non-homing
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-04-03
Keywords:	selectors
Applied in:	S01011, S01351
Applies:	S00996; S00998
Shape class:	Circle segments, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01007



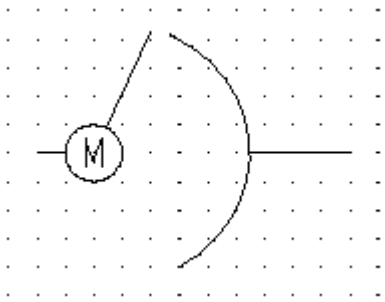
Name:	Single-motion selector, homing
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-04-04
Keywords:	selectors
Applies:	S00996; S00998
Shape class:	Circle segments, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01008



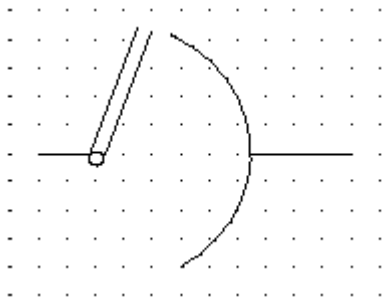
Name:	Two-motion selector, homing
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-04-05
Keywords:	selectors
Applies:	S00996; S00999
Shape class:	Circle segments, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01009



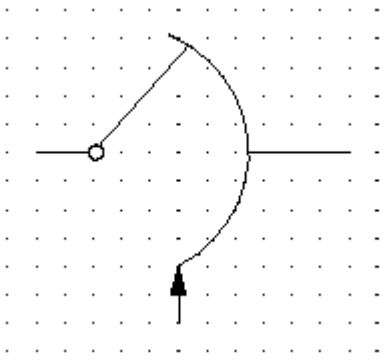
Name:	Selector, motor driven, homing
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-04-06
Keywords:	selectors
Applies:	S00819; S00998
Shape class:	Circle segments, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01010



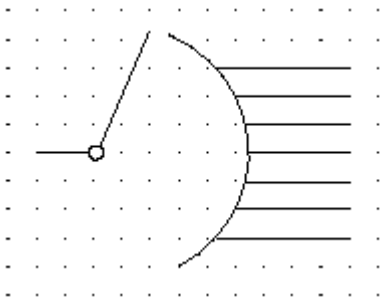
Name:	Selector for four-wire switching, homing
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-04-07
Keywords:	selectors
Applies:	S00998
Shape class:	Circle segments, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01011



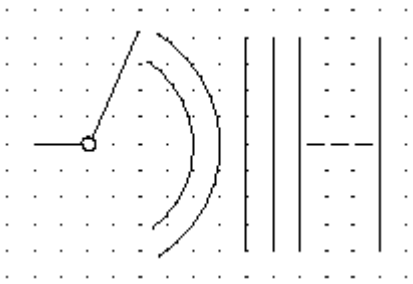
Name:	Single-motion selector, set
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-04-08
Keywords:	selectors
Applies:	S01006
Shape class:	Arrows, Circle segments, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The selector is set via marked bank contact(s), non homing

S01012



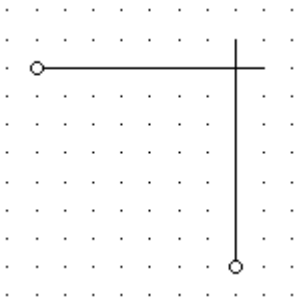
Name:	Single-motion homing selector with individual outlets
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-04-09
Keywords:	selectors
Applies:	S00996; S00998
Shape class:	Circle segments, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The individual outlets could also be groups of outlets.

S01013



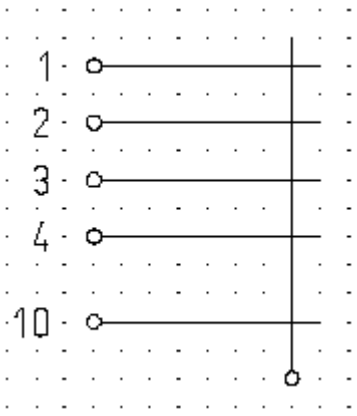
Name:	Two-motion selector showing levels
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-04-10
Keywords:	selectors
Applies:	S00996; S00999
Shape class:	Circle segments, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01014



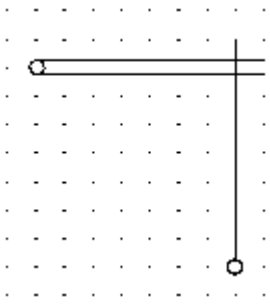
Name:	Crossbar selector, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-04-11
Keywords:	selectors
Applied in:	S01015
Shape class:	Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01015



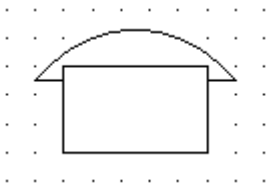
Name:	Crossbar selector, single connecting unit
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-04-12
Keywords:	selectors
Applies:	S01014
Shape class:	Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01016



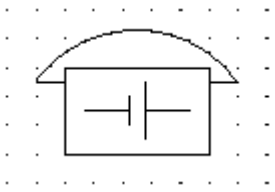
Name:	Crossbar selector, four-wire switching
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-04-13
Keywords:	selectors
Shape class:	Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01017



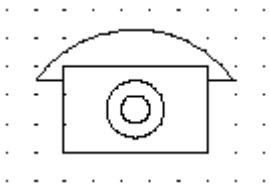
Name:	Telephone set, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-05-01
Keywords:	telephone sets
Applied in:	S01028, S01024, S01019, S01025, S01027, S01026, S01018, S01022, S01021, S01020, S01023
Shape class:	Depicting shapes
Function class:	K Processing signals or information
Application class:	Installation diagrams, Overview diagrams

S01018



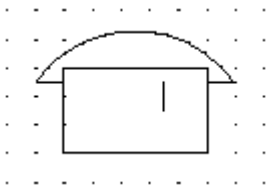
Name:	Telephone set with local battery
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-05-02
Keywords:	telephone sets
Applies:	S01017; S01342
Shape class:	Depicting shapes
Function class:	K Processing signals or information
Application class:	Installation diagrams, Overview diagrams

S01019



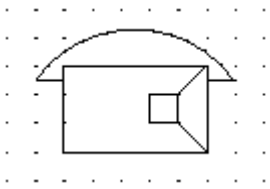
Name:	Telephone set, common battery
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-05-03
Keywords:	telephone sets
Applies:	S01017
Shape class:	Depicting shapes
Function class:	K Processing signals or information
Application class:	Installation diagrams, Overview diagrams

S01023



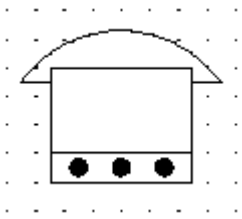
Name:	Telephone set, paying
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-05-07
Keywords:	telephone sets
Applies:	S01017
Shape class:	Depicting shapes
Function class:	K Processing signals or information
Application class:	Installation diagrams, Overview diagrams

S01025



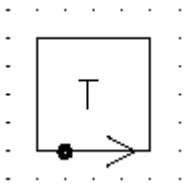
Name:	Telephone set with loudspeaker
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-05-09
Keywords:	telephone sets
Applies:	S01017; S01059
Shape class:	Depicting shapes
Function class:	K Processing signals or information
Application class:	Installation diagrams, Overview diagrams

S01028



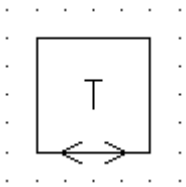
Name:	Telephone set for several lines
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-05-12
Keywords:	telephone sets
Applies:	S01017
Application notes:	A00211
Shape class:	Depicting shapes
Function class:	K Processing signals or information
Application class:	Installation diagrams, Overview diagrams

S01029



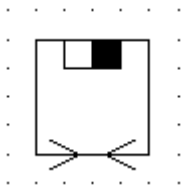
Name:	Telecommunication transmitting apparatus
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-06-01
Keywords:	telecommunication, telegraphy
Applies:	S00059; S00102; S01081
Application notes:	A00212
Shape class:	Arrows, Characters, Dots (points), Squares
Function class:	K Processing signals or information
Application class:	Installation diagrams, Overview diagrams

S01030



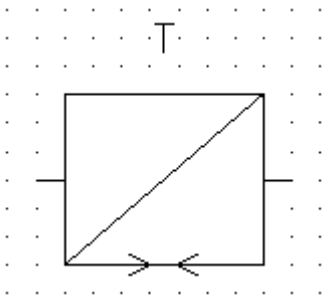
Name:	Telecommunication transmitting and receiving apparatus, two-way simplex
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-06-02
Keywords:	telecommunication, telegraphy
Applies:	S00059; S00101; S01081
Application notes:	A00212
Shape class:	Arrows, Characters, Squares
Function class:	K Processing signals or information
Application class:	Installation diagrams, Overview diagrams

S01033



Name:	Telefax
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-06-05
Keywords:	facsimile, receivers, telefax
Applies:	S00059; S00103; S00143
Application notes:	A00212
Shape class:	Arrows, Dots (points), Rectangles, Squares
Function class:	P Presenting information
Application class:	Installation diagrams, Overview diagrams

S01039



Name:	Telegraph repeater, duplex
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-07-02
Keywords:	repeaters, telegraphy
Applies:	S00100; S00213; S01081
Application notes:	A00214
Shape class:	Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01042

Name:	Magnetic type indication
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-08-01
Keywords:	magnetic
Applied in:	S01069, S01076, S01072, S01068, S01070, S01067, S01071
Application notes:	A00215
Shape class:	Circle segments
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

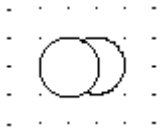
S01043

Name:	Moving coil indication; Ribbon type indication
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-08-02
Keywords:	coils
Application notes:	A00215
Shape class:	Half-circles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01044

Name:	Moving iron type indication
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-08-03
Keywords:	coils
Application notes:	A00215
Shape class:	Half-circles, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01045

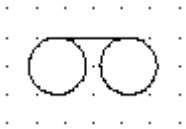


Name:	Stereo type indication
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-08-04
Keywords:	stereo
Applied in:	S01062
Application notes:	A00215
Replacing:	S01387
Shape class:	Circle segments, Circles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01046

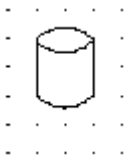
Name:	Disc type indication
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-08-05
Keywords:	discs
Applied in:	S01065, S01066, S01079
Application notes:	A00215
Shape class:	Circles, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01047



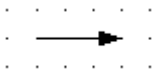
Name:	Tape type indication; Film type indication
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-08-06
Keywords:	films, tapes
Applied in:	S01078
Application notes:	A00215
Shape class:	Circles, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01048



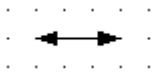
Name:	Drum type indication
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-08-07
Keywords:	drums
Applied in:	S01076
Application notes:	A00215
Shape class:	Depicting shapes
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01049



Name:	Recording indication; Reproducing indication
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-08-08
Keywords:	recording, reproducing
Applied in:	S01068, S01067, S01063, S01062
Application notes:	A00215, A00217
Shape class:	Arrows
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01050



Name:	Recording and reproducing indication
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-08-09
Keywords:	recording, reproducing
Applied in:	S01076, S01072, S01060, S01071
Shape class:	Arrows
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01051

Name:	Erasing indication
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-08-10
Keywords:	erasing
Applied in:	S01069, S01064, S01073, S01072, S01070, S01071
Application notes:	A00215
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

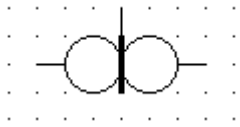
S01052

Name:	Surface-acoustic-wave (SAW) indication
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-08-11
Keywords:	SAW
Applied in:	S01184, S01074, S01266, S01265, S01181, S01264
Application notes:	A00215
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01053

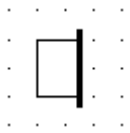
Name:	Microphone, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-09-01
Keywords:	microphones
Applied in:	S01058, S01055, S01054
Application notes:	A00216
Shape class:	Circles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Function diagrams

S01055



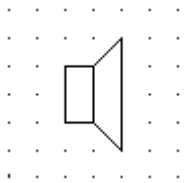
Name:	Microphone, push-pull
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-09-03
Keywords:	microphones
Applies:	S01053
Application notes:	A00216
Shape class:	Circles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Function diagrams

S01056



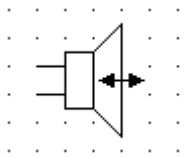
Name:	Earphone, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-09-04
Keywords:	earphones
Applied in:	S01057, S01058
Application notes:	A00216
Shape class:	Lines , Rectangles
Function class:	P Presenting information
Application class:	Circuit diagrams, Function diagrams

S01059



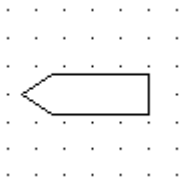
Name:	Loudspeaker, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-09-07
Keywords:	loudspeakers
Applied in:	S01025, S01060
Application notes:	A00216
Shape class:	Depicting shapes, Lines , Rectangles
Function class:	P Presenting information
Application class:	Circuit diagrams, Function diagrams

S01060



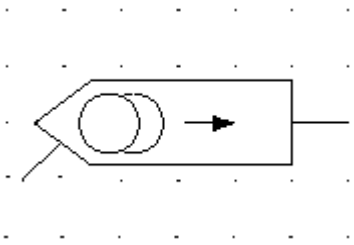
Name:	Loudspeaker-microphone
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-09-08
Keywords:	loudspeakers, microphones
Applied in:	S00497
Applies:	S01050; S01059
Application notes:	A00216
Shape class:	Arrows, Depicting shapes, Lines , Rectangles
Function class:	B Converting variable to signal, P Presenting information
Application class:	Circuit diagrams, Function diagrams

S01061



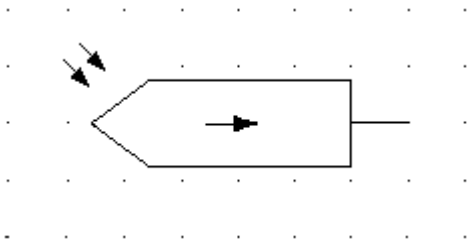
Name:	Transducer head, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-09-09
Keywords:	transducers
Applied in:	S01069, S01075, S01064, S01078, S01065, S01067, S01063, S01079, S01062, S01071
Application notes:	A00216
Shape class:	Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Function diagrams

S01062



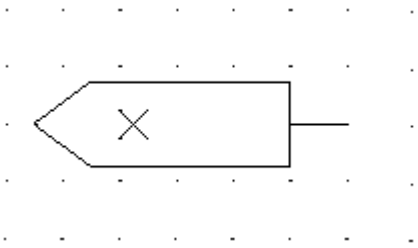
Name:	Reproducing head, stereophonic, stylus operated
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-09-10
Keywords:	transducers
Applies:	S01045; S01049; S01061
Application notes:	A00216
Shape class:	Arrows, Circle segments, Circles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Function diagrams
Remarks:	Reproducing includes reading and playback.

S01063



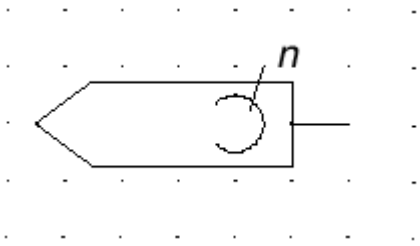
Name:	Light sensitive reproducing head, monophonic
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-09-11
Keywords:	transducers
Applies:	S00127; S01049; S01061
Application notes:	A00216
Shape class:	Arrows, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Function diagrams

S01064



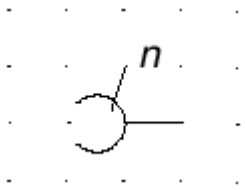
Name:	Erasing head
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-09-12
Keywords:	transducers
Applies:	S01051; S01061
Application notes:	A00216
Shape class:	Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01065



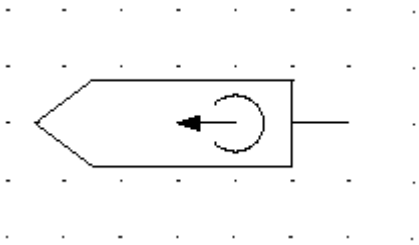
Name:	Magnetic head
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-09-13
Keywords:	transducers
Form:	Complete form
Alternative forms:	S01066
Applies:	S01046; S01061
Application notes:	A00216, A00218
Shape class:	Circle segments, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01066



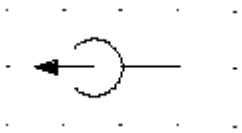
Name:	Magnetic head
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-09-14
Keywords:	transducers
Form:	Simplified form
Alternative forms:	S01065
Applies:	S01046
Application notes:	A00216, A00218
Shape class:	Circle segments, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01067



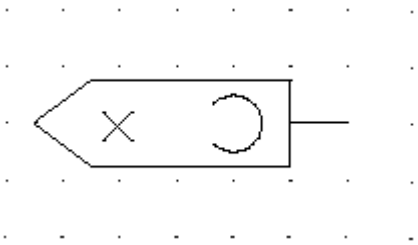
Name:	Magnetic head for writing, monophonic
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-09-15
Keywords:	transducers
Form:	Complete form
Alternative forms:	S01068
Applies:	S01042; S01049; S01061
Application notes:	A00216
Shape class:	Arrows, Circle segments, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01068



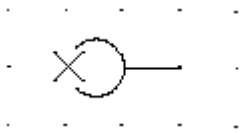
Name:	Magnetic head for writing, monophonic
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-09-16
Keywords:	transducers
Form:	Simplified form
Alternative forms:	S01067
Applies:	S01042; S01049
Application notes:	A00216
Shape class:	Arrows, Circle segments
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01069



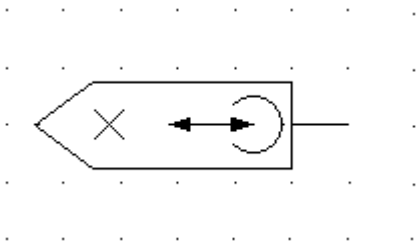
Name:	Magnetic head for erasing
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-09-17
Keywords:	transducers
Form:	Complete form
Alternative forms:	S01070
Applies:	S01042; S01051; S01061
Application notes:	A00216
Shape class:	Circle segments, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01070



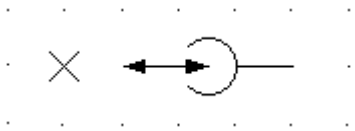
Name:	Magnetic head for erasing
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-09-18
Keywords:	transducers
Form:	Simplified form
Alternative forms:	S01069
Applies:	S01042; S01051
Application notes:	A00216
Shape class:	Circle segments, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01071



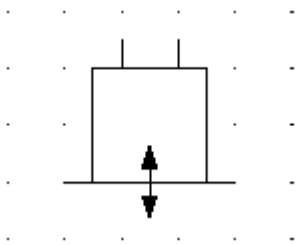
Name:	Magnetic head for writing, reading and erasing, monophonic
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-09-19
Keywords:	transducers
Form:	Complete form
Alternative forms:	S01072
Applies:	S01042; S01050; S01051; S01061
Application notes:	A00216
Shape class:	Arrows, Circle segments, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01072



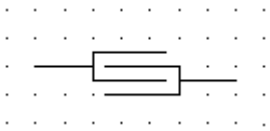
Name:	Magnetic head for writing, reading and erasing, monophonic
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-09-20
Keywords:	transducers
Form:	Simplified form
Alternative forms:	S01071
Applies:	S01042; S01050; S01051
Application notes:	A00216
Shape class:	Arrows, Circle segments, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01073



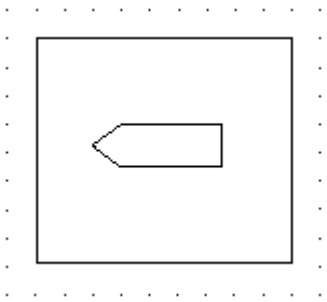
Name:	Ultrasound transmitter-receiver; Hydrophone
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-09-21
Keywords:	hydrophones, receivers, transmitters
Applies:	S01051
Application notes:	A00216
Shape class:	Arrows, Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01074



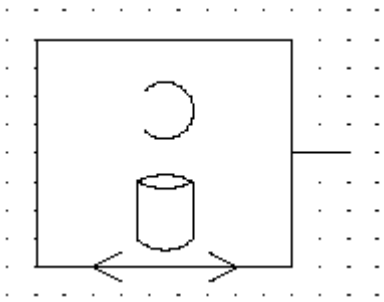
Name:	Surface-acoustic-wave (SAW) transducer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-09-22
Keywords:	SAW, transducers
Applies:	S01052
Application notes:	A00216
Shape class:	Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01075



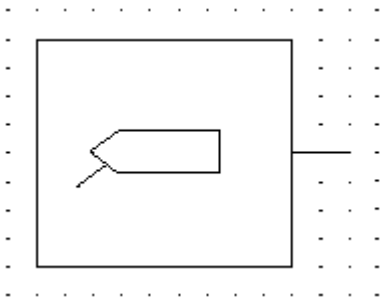
Name:	Recorder, general symbol; reproducer; general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-10-01
Keywords:	recorders, reproducers
Applied in:	S01077
Applies:	S00059; S01061
Application notes:	A00216, A00219
Shape class:	Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01076



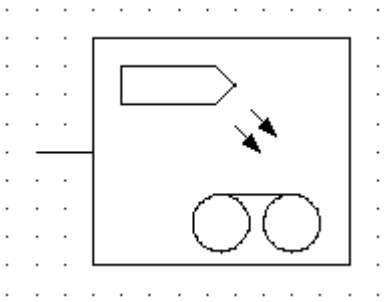
Name:	Recorder and reproducer, magnetic drum type
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-10-02
Keywords:	recorders, reproducers
Applies:	S00059; S01042; S01048; S01050
Application notes:	A00216
Shape class:	Arrows, Circle segments, Depicting shapes, Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01077



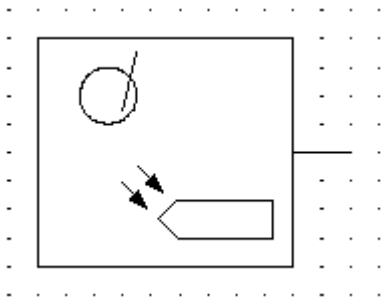
Name:	Stylus-type reproducer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-10-03
Keywords:	reproducers
Applies:	S01075
Application notes:	A00216
Shape class:	Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01078



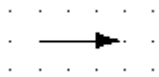
Name:	Optical file-type recorder
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-10-04
Keywords:	recorders
Applies:	S00059; S00127; S01047; S01061
Application notes:	A00216
Shape class:	Arrows, Circles, Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01079



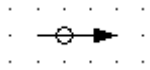
Name:	Optical disc-type reproducer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-9 (ed.2.0) 09-10-05
Keywords:	reproducers
Applies:	S00059; S00127; S01046; S01061
Application notes:	A00216
Shape class:	Arrows, Circles, Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01094



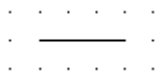
Name:	Plane polarization
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-03-01
Keywords:	antennas, polarisation
Applied in:	S01108, S01105
Application notes:	A00235
Shape class:	Arrows
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01095



Name:	Circular polarization
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-03-02
Keywords:	antennas, polarisation
Applied in:	S01103
Shape class:	Arrows, Circles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01096



Name:	Direction of radiation fixed in azimuth
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-03-03
Keywords:	antennas
Applied in:	S01108, S01097, S01100, S01109, S01105
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01097

Name:	Direction of radiation variable in azimuth
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-03-04
Keywords:	antennas
Applied in:	S01104
Applies:	S00081; S01096
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01098

Name:	Direction of radiation fixed in elevation
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-03-05
Keywords:	antennas
Applied in:	S01099, S01100, S01109
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01099

Name:	Direction of radiation variable in elevation
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-03-06
Keywords:	antennas
Applied in:	S01106
Applies:	S00081; S01098
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

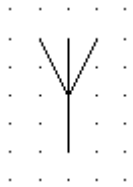
S01100

Name:	Direction of radiation fixed in azimuth and elevation
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-03-07
Keywords:	antennas
Applies:	S01096; S01098
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01101

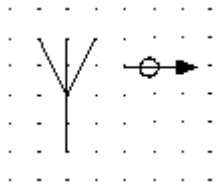
Name:	Direction finder; Radio beacon
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-03-08
Keywords:	antennas, beacons
Applied in:	S01128, S01127, S01136, S01107
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01102



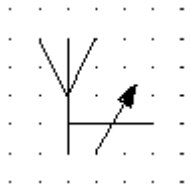
Name:	Antenna, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-04-01
Keywords:	antennas
Applied in:	S01110, S01108, S01103, S01134, S01106, S01104, S01114, S01085, S00428, S01109, S01105, S01125, S01107
Application notes:	A00236
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S01103



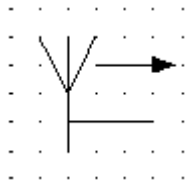
Name:	Antenna with circular polarization
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-04-02
Keywords:	antennas, polarisation
Applies:	S01095; S01102
Shape class:	Arrows, Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S01104



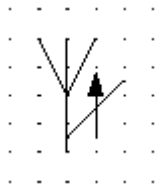
Name:	Antenna with direction of radiation variable in azimuth
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-04-03
Keywords:	antennas
Applies:	S01097; S01102
Shape class:	Arrows, Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S01105



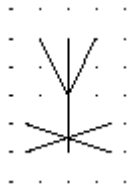
Name:	Directional antenna fixed in azimuth, horizontal polarization
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-04-04
Keywords:	antennas
Applies:	S01094; S01096; S01102
Shape class:	Arrows, Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S01106



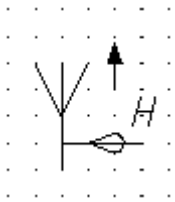
Name:	Antenna with direction of radiation variable in elevation
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-04-05
Keywords:	antennas
Applies:	S01099; S01102
Shape class:	Arrows, Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S01107



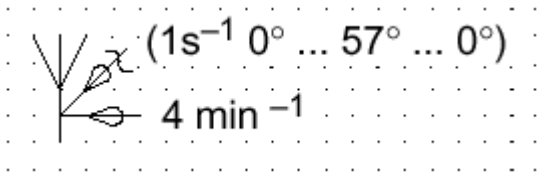
Name:	Direction finding antenna
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-04-06
Alternative names:	Radiogoniometric antenna, Radio beacon
Keywords:	antennas
Applies:	S01101; S01102
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S01108



Name:	Directional antenna
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-04-07
Keywords:	antennas
Applies:	S01094; S01096; S01102
Shape class:	Arrows, Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams
Remarks:	Directional antenna shown fixed in azimuth, vertically polarized, with horizontal polar diagram.

S01109

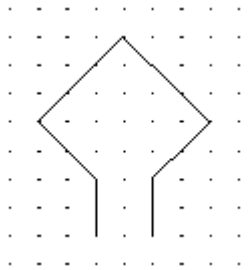


Name:	Radar antenna
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-04-08
Keywords:	antennas
Applies:	S00098; S01096; S01098; S01102
Shape class:	Arrows, Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams
Remarks:	Radar antenna shown rotating four times per minute in azimuth and reciprocating in elevation between 0° ... 57° ... 0° in 1 s.

S01110

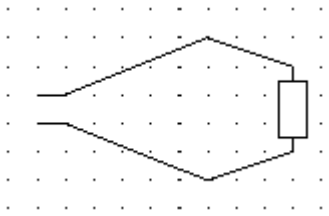
Name:	Antenna, turnstile
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-04-09
Keywords:	antennas
Applies:	S01102
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S01111



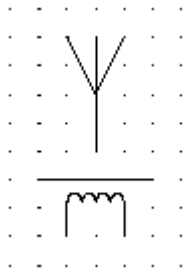
Name:	Antenna, loop; Antenna, frame
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-05-01
Keywords:	antennas
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S01112



Name:	Antenna, rombic
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-05-02
Keywords:	antennas
Applies:	S00555
Shape class:	Lines , Rectangles
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams
Remarks:	Shown terminated by a resistor.

S01114

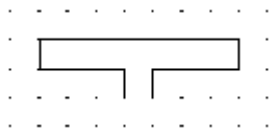


Name:	Antenna, magnetic rod
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-05-04
Alternative names:	Ferrite antenna
Keywords:	antennas
Applies:	S00585; S01102
Application notes:	A00237
Shape class:	Half-circles, Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S01115

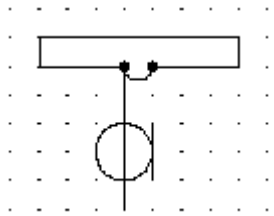
Name:	Dipole
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-05-05
Keywords:	antennas
Applied in:	S01116
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S01116



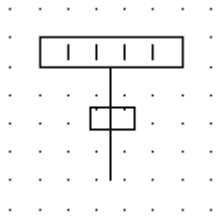
Name:	Dipole, folded
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-05-06
Keywords:	antennas
Applied in:	S01117, S01119
Applies:	S01115
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S01119



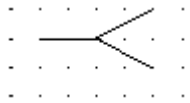
Name:	Dipole, folded, with balun and feeder
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-05-09
Keywords:	antennas
Applies:	S00011; S01116; S01418
Shape class:	Circles, Half-circles, Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S01120



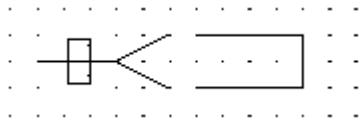
Name:	Antenna, slot type, with feeder
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-05-10
Keywords:	antennas
Applies:	S01138
Shape class:	Lines , Rectangles
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams
Remarks:	Shown with rectangular waveguide feeder.

S01121



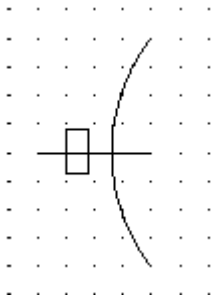
Name:	Antenna, horn type
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-05-11
Keywords:	antennas
Applied in:	S01122
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S01122



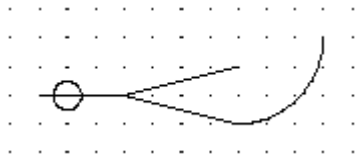
Name:	Reflector, cheese type, with horn feeder
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-05-12
Keywords:	antennas
Applies:	S01121; S01138
Shape class:	Lines , Rectangles
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams
Remarks:	Shown with rectangular waveguide feeder.

S01123



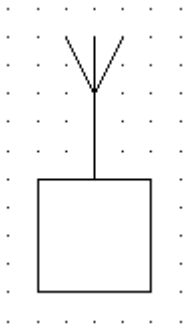
Name:	Antenna, parabolic, with feeder
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-05-13
Keywords:	antennas
Applies:	S01138
Shape class:	Circle segments, Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams
Remarks:	Shown with rectangular waveguide feeder.

S01124



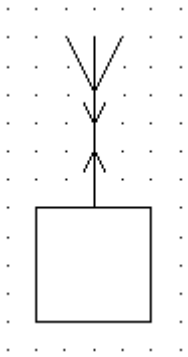
Name:	Antenna with reflector, horn type
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-05-14
Keywords:	antennas
Applies:	S01140
Shape class:	Circle segments, Circles, Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams
Remarks:	Shown with circular waveguide feeder.

S01125



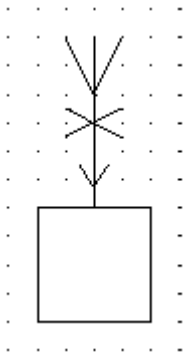
Name:	Radio station, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-06-01
Keywords:	radios, stations
Applied in:	S01128, S01130, S01126, S01129, S01127, S01131, S01137
Applies:	S00059; S01102
Application notes:	A00220
Shape class:	Lines , Squares
Function class:	G Initiating a flow
Application class:	Network maps, Overview diagrams

S01126



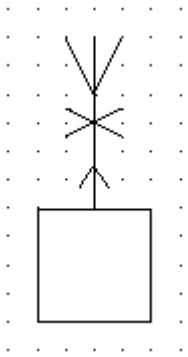
Name:	Radio station, transmitting and receiving
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-06-02
Keywords:	radios, stations
Applies:	S00100; S01125
Shape class:	Arrows, Lines , Squares
Function class:	G Initiating a flow
Application class:	Network maps, Overview diagrams
Remarks:	Simultaneous transmission and reception on the same antenna

S01127



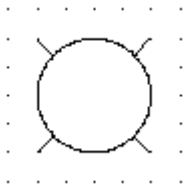
Name:	Radio station, direction finding receiving
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-06-03
Keywords:	radios, stations
Applies:	S00103; S01101; S01125
Shape class:	Arrows, Lines , Squares
Function class:	G Initiating a flow
Application class:	Network maps, Overview diagrams

S01128



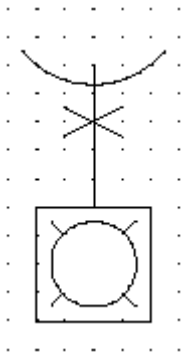
Name:	Radio station, beacon transmitting
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-06-04
Keywords:	radios, stations
Applies:	S00102; S01101; S01125
Shape class:	Arrows, Lines , Squares
Function class:	G Initiating a flow
Application class:	Network maps, Overview diagrams

S01133



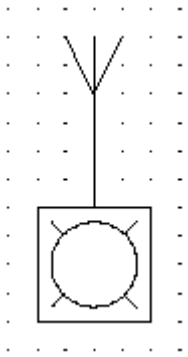
Name:	Space station
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-06-09
Keywords:	radios, stations
Applied in:	S01134, S01136, S01137, S01135
Applies:	S00061
Shape class:	Circles, Lines
Function class:	K Processing signals or information
Application class:	Network maps, Overview diagrams

S01136



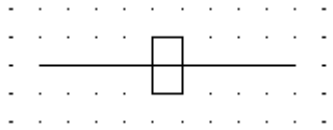
Name:	Earth station only for space station tracking
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-06-12
Keywords:	radios, stations
Applies:	S00059; S01101; S01133
Shape class:	Circle segments, Circles, Lines
Function class:	K Processing signals or information
Application class:	Network maps, Overview diagrams
Remarks:	The symbols is shown with a parabolic antenna.

S01137



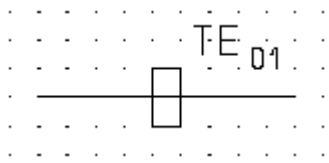
Name:	Earth station for communication with a space station
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-06-13
Keywords:	radios, stations
Applies:	S01125; S01133
Shape class:	Circles, Lines
Function class:	K Processing signals or information
Application class:	Network maps, Overview diagrams

S01138



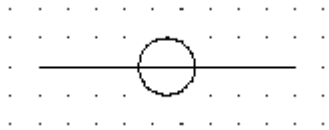
Name:	Waveguide, rectangular
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-07-01
Keywords:	waveguides
Applied in:	S01205, S00766, S01146, S00765, S00763, S00757, S00756, S00759, S01120, S01123, S00753, S01170, S01122, S00755, S00761, S00767, S01139, S00754, S00758, S00760, S01171, S00762, S00768, S00764
Applies:	S00001
Shape class:	Lines , Rectangles
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01139



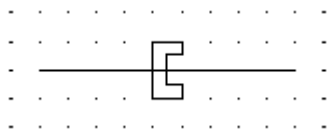
Name:	Waveguide, rectangular
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-07-02
Keywords:	waveguides
Applies:	S01138
Shape class:	Characters, Lines , Rectangles
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The symbol is shown with propagation in the TE01 mode

S01140



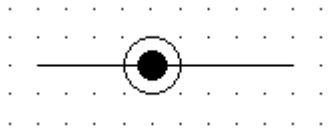
Name:	Waveguide, circular
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-07-03
Keywords:	waveguides
Applied in:	S01170, S01124, S01171
Applies:	S00001
Shape class:	Circles, Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01141



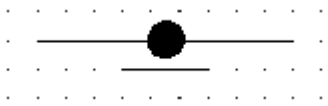
Name:	Waveguide, ridged
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-07-04
Keywords:	waveguides
Applies:	S00001
Shape class:	Depicting shapes, Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01142



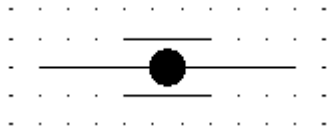
Name:	Waveguide, coaxial
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-07-05
Keywords:	waveguides
Applied in:	S00752, S00753, S00754
Applies:	S00001
Shape class:	Circles, Dots (points), Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01143



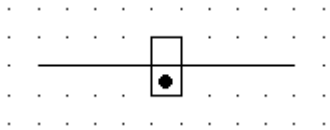
Name:	Stripline
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-07-06
Keywords:	waveguides
Applied in:	S01144
Applies:	S00001
Shape class:	Dots (points), Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	Two conductors shown.

S01144



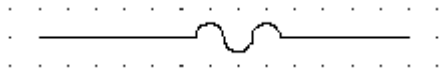
Name:	Stripline
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-07-07
Keywords:	waveguides
Applies:	S01143
Shape class:	Dots (points), Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	Three conductors shown.

S01146



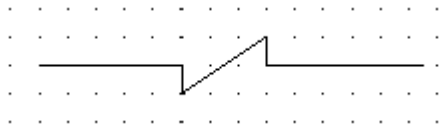
Name:	Waveguide, rectangular, gas-filled
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-07-09
Keywords:	waveguides
Applies:	S01138
Shape class:	Dots (points), Lines , Rectangles
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01147



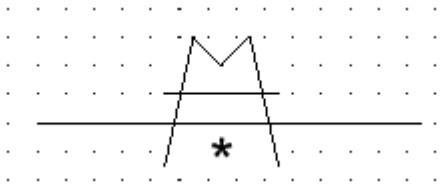
Name:	Waveguide, flexible
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-07-10
Keywords:	waveguides
Applies:	S00006
Shape class:	Depicting shapes
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01148



Name:	Waveguide, twisted
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-07-11
Keywords:	waveguides
Applies:	S00001
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01149



Name:	Mode suppression
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-07-12
Keywords:	waveguides
Applied in:	S01174
Applies:	S00001
Application notes:	A00221
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

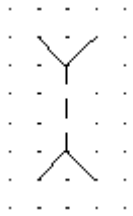
S01153

Name:	Resonator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-07-16
Keywords:	resonators
Applied in:	S01265
Shape class:	Circle segments
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01154

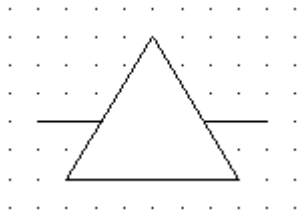
Name:	Reflector, reflecting totally
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-07-17
Keywords:	reflectors
Applied in:	S01181, S01183, S01182
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01155



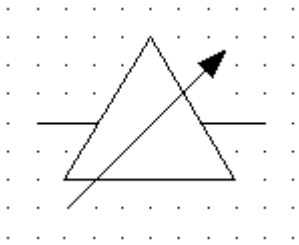
Name:	Reflector, reflecting partially
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-07-18
Keywords:	reflectors
Applied in:	S01183
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01156



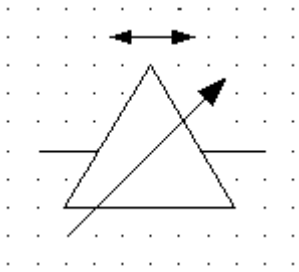
Name:	Discontinuity, two-port, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-01
Keywords:	port devices
Applied in:	S01157, S01161, S01162
Shape class:	Equilateral triangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	Introducing intentional wave reflection.

S01157



Name:	Matching device, adjustable; Discontinuity, adjustable;
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-02
Keywords:	port devices
Applied in:	S01159, S01160, S01158
Applies:	S00081; S01156
Shape class:	Arrows, Equilateral triangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01158

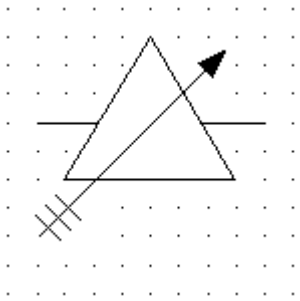


Name:	Matching device, adjustable, slide screw
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-03
Alternative names:	Tuner
Keywords:	port devices
Applies:	S00094; S01157
Shape class:	Arrows, Equilateral triangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01159

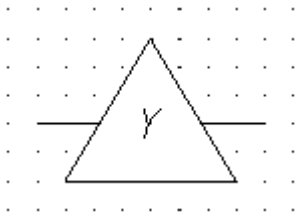
Name:	Matching device, adjustable, E-H
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-04
Alternative names:	Tuner
Keywords:	port devices
Applies:	S01157
Shape class:	Arrows, Characters, Equilateral triangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01160



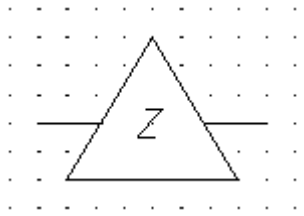
Name:	Matching device, adjustable, multi-stub
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-05
Alternative names:	Tuner
Keywords:	port devices
Applies:	S01157
Shape class:	Arrows, Equilateral triangles, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	The symbol is shown with three stubs.

S01161



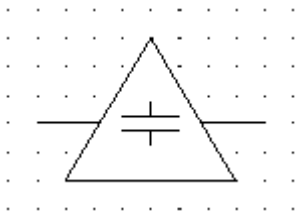
Name:	Discontinuity, in shunt with transmission path
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-06
Keywords:	port devices
Applied in:	S01163, S01164
Applies:	S01156
Application notes:	A00223
Shape class:	Equilateral triangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01162



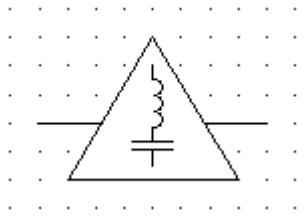
Name:	Discontinuity, in series with transmission path
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-07
Keywords:	port devices
Applied in:	S01165
Applies:	S01156
Application notes:	A00224
Shape class:	Equilateral triangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01163



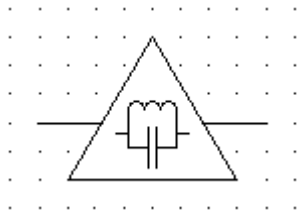
Name:	Discontinuity, capacitive, in shunt with the transmission path
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-08
Keywords:	port devices
Applies:	S00567; S01161
Shape class:	Equilateral triangles, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01164



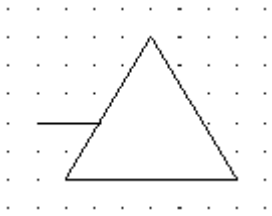
Name:	Discontinuity, series resonant, in shunt with the transmission path
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-09
Keywords:	port devices
Applies:	S00567; S00583; S01161
Shape class:	Equilateral triangles, Half-circles, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01165



Name:	Discontinuity, parallel resonant, in series with the transmission path
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-10
Keywords:	port devices
Applies:	S00567; S00583; S01162
Shape class:	Equilateral triangles, Half-circles, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01166

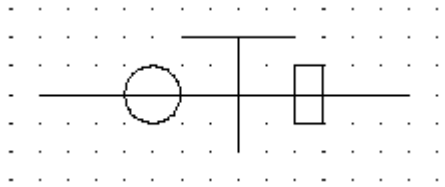


Name:	Discontinuity, terminal
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-11
Keywords:	port devices
Shape class:	Equilateral triangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01169

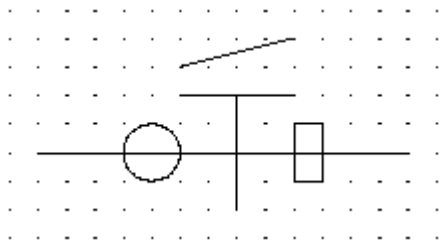
Name:	Transition, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-14
Keywords:	transitions
Applied in:	S01170, S01171
Application notes:	A00225
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01170



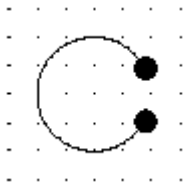
Name:	Transition, from circular to rectangular waveguide
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-15
Keywords:	transitions, waveguides
Applies:	S01138; S01140; S01169
Shape class:	Circles, Lines , Rectangles
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams

S01171



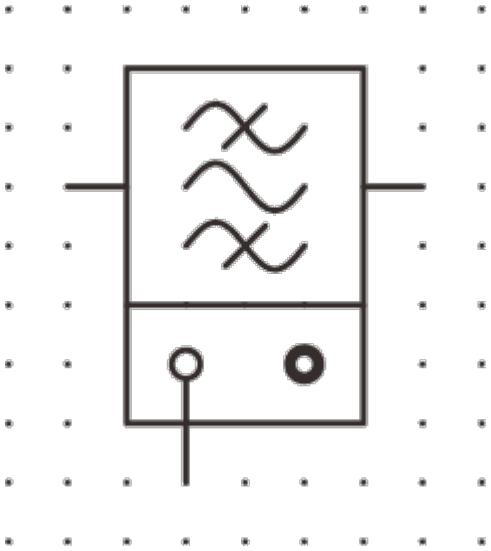
Name:	Transition, taper, from circular to rectangular waveguide
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-16
Keywords:	transitions, waveguides
Applies:	S01138; S01140; S01169
Shape class:	Circles, Lines , Rectangles
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams

S01172



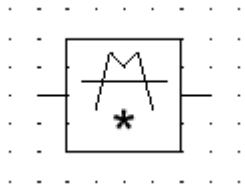
Name:	Cavity resonator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-17
Keywords:	resonators
Applied in:	S00733, S00753, S00754, S00732
Shape class:	Circle segments, Dots (points)
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01173



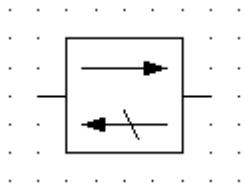
Name:	Band-pass filter switched by gas discharge
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-18
Keywords:	filters
Applies:	S00075
Shape class:	Depicting shapes, Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01174



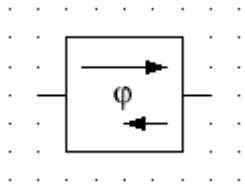
Name:	Mode filter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-19
Keywords:	filters
Applies:	S00059; S01149
Application notes:	A00221
Shape class:	Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams

S01175



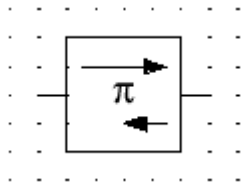
Name:	Isolator for microwaves
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-20
Keywords:	isolators, microwave devices
Applies:	S00059; S00093
Shape class:	Arrows, Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01176



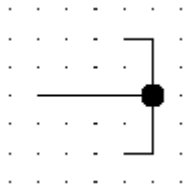
Name:	Directional phase changer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-21
Keywords:	changers, phases
Applied in:	S01177
Applies:	S00059; S00093
Application notes:	A00227
Shape class:	Arrows, Characters, Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	The longer arrow indicates the direction of propagation in which the required phase change occurs.

S01177



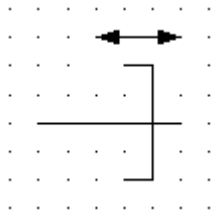
Name:	Gyrator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-22
Keywords:	gyrators
Applies:	S00059; S00093; S01176
Shape class:	Arrows, Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams
Remarks:	The symbol is a special variant of the symbol S01176.

S01178



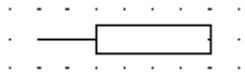
Name:	Termination, short-circuit
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-23
Keywords:	short circuits, terminations
Shape class:	Dots (points), Lines
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Overview diagrams
Remarks:	The dot is optional.

S01179



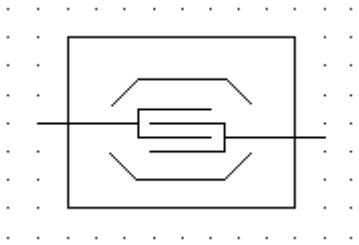
Name:	Terminations, slided short circuit
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-24
Keywords:	short circuits, terminations
Applied in:	S00755
Applies:	S00094
Shape class:	Arrows, Lines
Function class:	R Restricting or stabilising
Application class:	Circuit diagrams, Overview diagrams

S01180



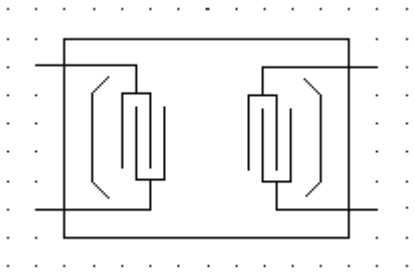
Name:	Termination, matched
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-25
Keywords:	terminations
Replacing:	S01389
Shape class:	Lines , Rectangles
Function class:	K Processing signals or information, R Restricting or stabilising
Application class:	Circuit diagrams, Function diagrams

S01181



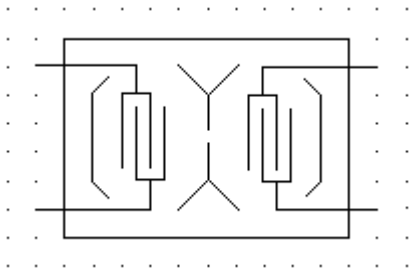
Name:	Surface-acoustic-wave (SAW) device, one-port
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-27
Keywords:	port devices, SAW
Applies:	S00059; S01052; S01154
Shape class:	Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	The symbol is shown with reflectors.

S01182



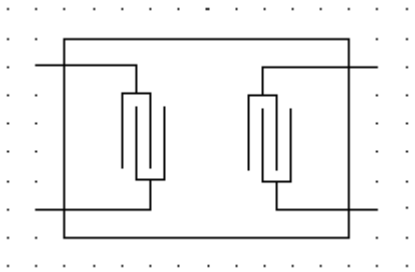
Name:	Surface-acoustic-wave (SAW) device, two-port, reflecting totally
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-28
Keywords:	port devices, SAW
Applies:	S01154; S01184
Shape class:	Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	The symbol is shown with two reflectors.

S01183



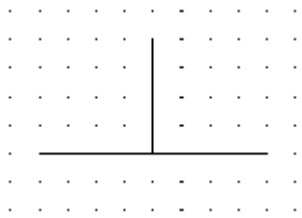
Name:	Surface-acoustic-wave (SAW) device, two-port, reflecting partially and totally
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-29
Keywords:	port devices, SAW
Applies:	S01154; S01155; S01184
Shape class:	Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	The symbol is shown with one reflector reflecting totally and one reflector reflecting partially.

S01184



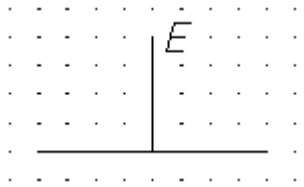
Name:	Surface-acoustic-wave (SAW) device, two-port
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-08-30
Keywords:	port devices, SAW
Applied in:	S01183, S01182
Applies:	S00059; S01052
Shape class:	Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01185



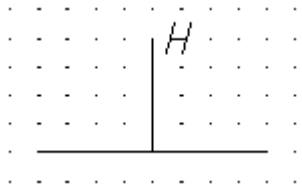
Name:	Three-port junction
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-09-01
Keywords:	microwave devices, multi-port devices (microwave)
Applied in:	S01187, S01186, S01188
Applies:	S00001
Application notes:	A00136
Shape class:	Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams

S01186



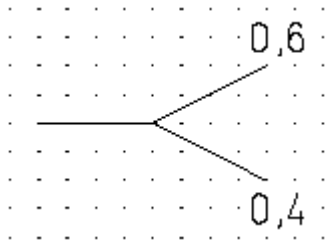
Name:	Three-port junction (Series T, E-plane T)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-09-02
Keywords:	microwave devices, multi-port devices (microwave)
Applies:	S01185
Application notes:	A00136
Shape class:	Characters, Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01187



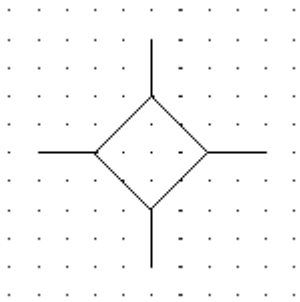
Name:	Three-port junction (Shunt T, H-plane T)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-09-03
Keywords:	microwave devices, multi-port devices (microwave)
Applies:	S01185
Application notes:	A00136
Shape class:	Characters, Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams

S01188



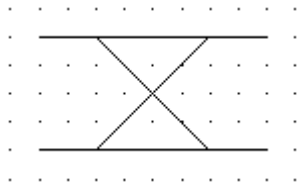
Name:	Three-port junction (power divider)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-09-04
Keywords:	microwave devices, multi-port devices (microwave)
Applies:	S01185
Application notes:	A00136
Shape class:	Characters, Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams
Remarks:	Power divided in ratio 6:4

S01189



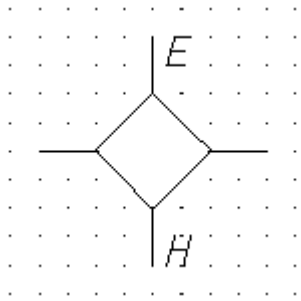
Name:	Four-port junction
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-09-05
Keywords:	microwave devices, multi-port devices (microwave)
Form:	Form 1
Alternative forms:	S01190
Applied in:	S01191, S01192
Application notes:	A00136, A00137
Shape class:	Lines , Squares
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams

S01190



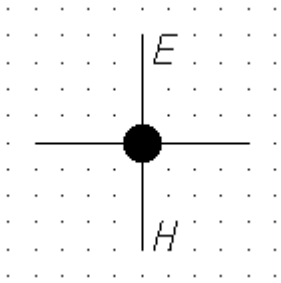
Name:	Four-port junction
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-09-06
Keywords:	microwave devices, multi-port devices (microwave)
Form:	Form 2
Alternative forms:	S01189
Applied in:	S01193, S01194
Application notes:	A00136, A00137
Shape class:	Equilateral triangles, Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams

S01191



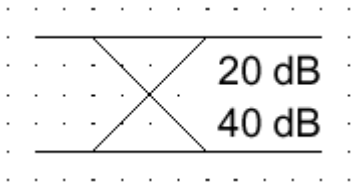
Name:	Four-port junction (magic T hybrid junction)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-09-07
Keywords:	microwave devices, multi-port devices (microwave)
Form:	(Form 1)
Alternative forms:	S01192
Applies:	S01189
Application notes:	A00136, A00137
Shape class:	Characters, Lines , Squares
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams

S01192



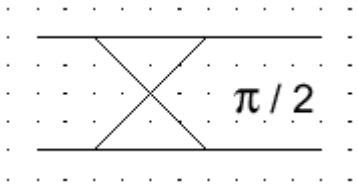
Name:	Four-port junction (magic T hybrid junction)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-09-08
Keywords:	microwave devices, multi-port devices (microwave)
Form:	(Form 1 simplified)
Alternative forms:	S01191
Applies:	S01189
Application notes:	A00136, A00137
Shape class:	Characters, Dots (points), Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams

S01193



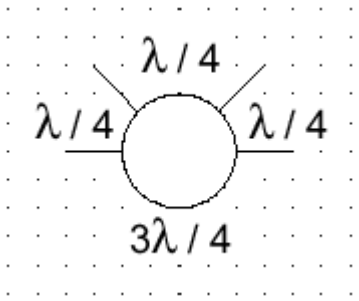
Name:	Four-port junction; Directional coupler
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-09-09
Keywords:	microwave devices, multi-port devices (microwave)
Form:	(Form 2)
Applies:	S01190
Application notes:	A00136, A00137
Shape class:	Characters, Equilateral triangles, Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams
Remarks:	First value: coupling loss Second value: directivity

S01194



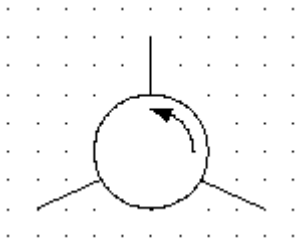
Name:	Four-port junction; Quadrature hybrid junction
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-09-10
Keywords:	microwave devices, multi-port devices (microwave)
Form:	(Form 2)
Applies:	S01190
Application notes:	A00136, A00137
Shape class:	Characters, Equilateral triangles, Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams

S01195



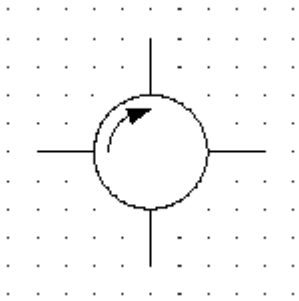
Name:	Hybrid ring junction
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-09-11
Keywords:	microwave devices, multi-port devices (microwave)
Application notes:	A00136
Shape class:	Characters, Circles
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams

S01196



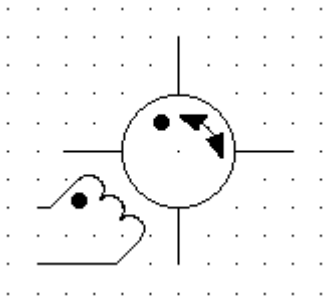
Name:	Circulator, three-port
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-09-12
Keywords:	microwave devices, multi-port devices (microwave)
Applies:	S00095
Application notes:	A00136
Shape class:	Arrows, Circles
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams

S01197



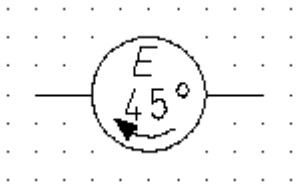
Name:	Circulator, four-port
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-09-13
Keywords:	microwave devices, multi-port devices (microwave)
Applied in:	S01198
Applies:	S00095
Shape class:	Arrows, Circles
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams

S01198



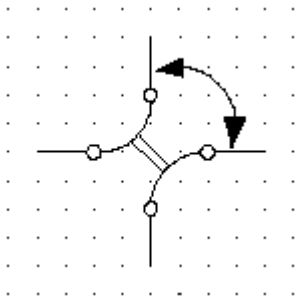
Name:	Circulator, four-port, with reversible direction of circulation
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-09-14
Keywords:	microwave devices, multi-port devices (microwave)
Applies:	S00096; S00583; S01197
Shape class:	Arrows, Circles, Half-circles
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams
Remarks:	Current entering the coil at the end marked with the dot causes the energy in the circulator to flow in the direction of the arrowhead marked with a dot.

S01199



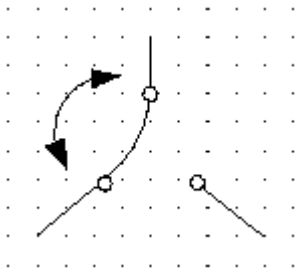
Name:	Field-polarization rotator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-09-15
Keywords:	microwave devices, multi-port devices (microwave)
Applies:	S00095
Shape class:	Arrows, Characters, Circles
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams
Remarks:	Shown for 45°. The arrow indicates the direction of rotation of electric field when viewed in the direction of signal flow.

S01200



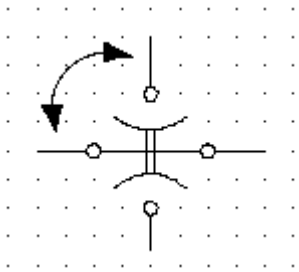
Name:	Two-position microwave switch (90° step)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-09-16
Keywords:	microwave devices, multi-port devices (microwave)
Applies:	S00017; S00096; S00147
Shape class:	Arrows, Circle segments
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams

S01201



Name:	Three-position microwave switch (120° step)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-09-17
Keywords:	microwave devices, multi-port devices (microwave)
Applies:	S00017; S00096
Shape class:	Arrows, Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams

S01202

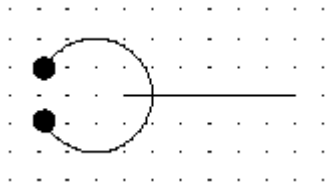


Name:	Four-position microwave switch (45° step)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-09-18
Keywords:	microwave devices, multi-port devices (microwave)
Applies:	S00017; S00096; S00147
Shape class:	Arrows, Circle segments
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams

S01203

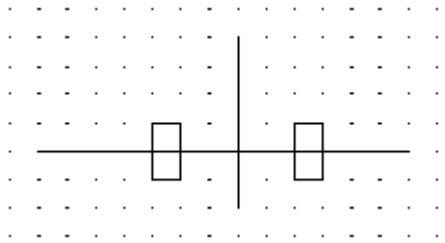
Name:	Coupler (or feed) type unspecified, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-10-01
Keywords:	couplers, microwave devices
Applied in:	S01205, S00752, S01210, S01207, S01209, S01204, S00754
Shape class:	Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams

S01204



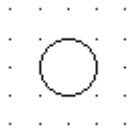
Name:	Coupler to a cavity resonator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-10-02
Keywords:	couplers, microwave devices
Applied in:	S00752, S00754
Applies:	S01203
Shape class:	Circle segments, Dots (points), Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams

S01205



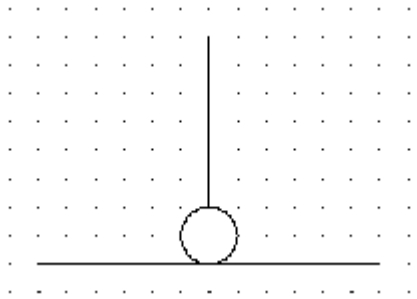
Name:	Coupler to a rectangular waveguide
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-10-03
Keywords:	couplers, microwave devices
Applies:	S01138; S01203
Shape class:	Lines , Rectangles
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams

S01206



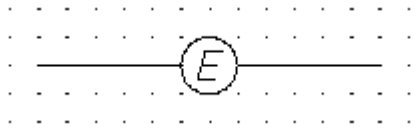
Name:	Window (aperture) coupler, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-10-04
Keywords:	couplers, microwave devices
Applied in:	S01207, S01208
Shape class:	Circles
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams

S01207



Name:	Window (aperture) coupler at a junction
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-10-05
Keywords:	couplers
Applied in:	S00765, S00763, S00759, S00753, S00761, S00767
Applies:	S01203; S01206
Shape class:	Circles, Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams

S01208



Name:	E-plane window (aperture) coupler
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-10-06
Keywords:	couplers, microwave devices
Applies:	S01206
Shape class:	Circles
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams

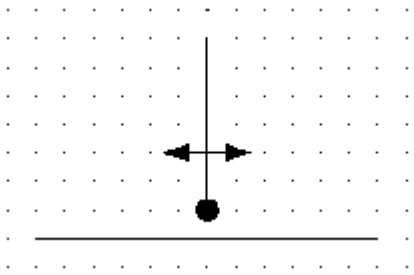
S01209

Name:	Loop coupler
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-10-07
Keywords:	couplers, microwave devices
Applied in:	S00751, S01211, S00737, S00753
Applies:	S01203
Shape class:	Dots (points), Half-circles
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams

S01210

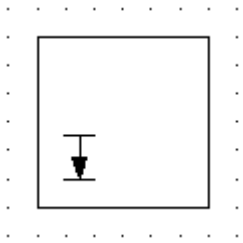
Name:	Probe coupler
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-10-08
Keywords:	couplers, microwave devices, probes
Applies:	S01203
Shape class:	Dots (points), Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams

S01211



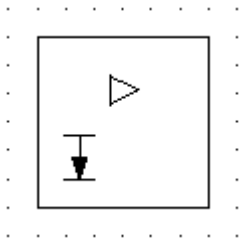
Name:	Sliding probe coupled to a transmission path
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-10-09
Keywords:	couplers, microwave devices, probes
Applies:	S00094; S01209
Shape class:	Arrows, Dots (points), Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams

S01212



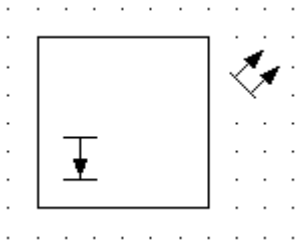
Name:	Maser, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-11-01
Keywords:	masers
Applied in:	S01213
Application notes:	A00138
Shape class:	Arrows, Lines , Squares
Function class:	E Providing radiant or thermal energy
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01213



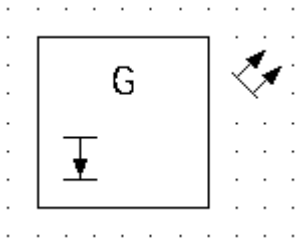
Name:	Maser used as an amplifier
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-11-02
Alternative names:	Amplifier
Keywords:	amplifiers, masers
Applies:	S01212; S01239
Application notes:	A00138
Shape class:	Arrows, Equilateral triangles, Lines , Squares
Function class:	E Providing radiant or thermal energy, K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01214



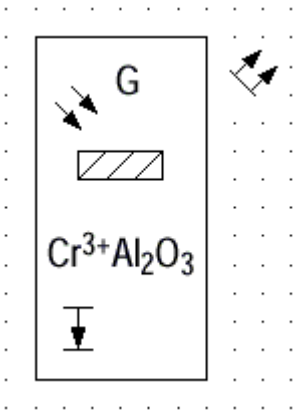
Name:	Laser (optical maser), general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-11-03
Keywords:	lasers
Applied in:	S01215, S01217, S01216
Applies:	S00128
Application notes:	A00138
Shape class:	Arrows, Lines , Squares
Function class:	E Providing radiant or thermal energy, G Initiating a flow, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01215



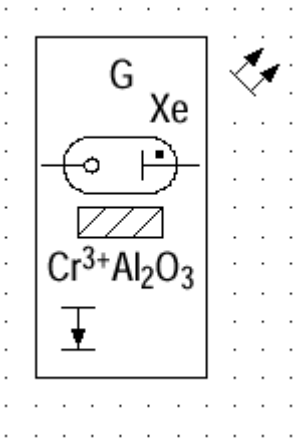
Name:	Laser used as a generator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-11-04
Keywords:	generators, lasers
Applied in:	S01217, S01216
Applies:	S00128; S00899; S01214; S01225
Application notes:	A00138
Shape class:	Arrows, Characters, Lines , Squares
Function class:	E Providing radiant or thermal energy, G Initiating a flow
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01216



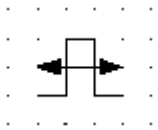
Name:	Ruby laser generator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-11-05
Keywords:	generators, lasers
Applies:	S00114; S00127; S00899; S01214; S01215; S01225
Application notes:	A00040, A00138
Shape class:	Arrows, Characters, Lines , Rectangles, Squares
Function class:	E Providing radiant or thermal energy, G Initiating a flow
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01217



Name:	Ruby laser generator with xenon lamp as pumping source
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-11-06
Keywords:	generators, lasers
Applies:	S00114; S00769; S00899; S01214; S01215; S01225
Application notes:	A00040, A00138
Shape class:	Arrows, Characters, Lines , Ovals, Rectangles, Squares
Function class:	E Providing radiant or thermal energy, G Initiating a flow
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01218

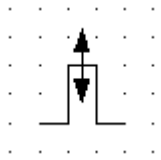


Name:	Pulse-position or pulse-phase modulation
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-12-01
Keywords:	pulse modulation - types of
Applies:	S00094; S00132
Shape class:	Arrows, Depicting shapes
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01219

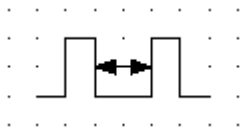
Name:	Pulse-frequency modulation
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-12-02
Keywords:	pulse modulation - types of
Applies:	S00132; S01403
Shape class:	Depicting shapes
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01220



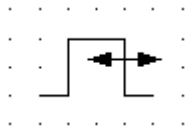
Name:	Pulse-amplitude modulation
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-12-03
Keywords:	pulse modulation - types of
Applies:	S00094; S00132
Shape class:	Arrows, Depicting shapes
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01221



Name:	Pulse-interval modulation
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-12-04
Keywords:	pulse modulation - types of
Applies:	S00094; S00132
Shape class:	Arrows, Depicting shapes
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01222

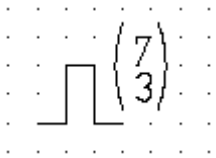


Name:	Pulse-duration modulation
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-12-05
Keywords:	pulse modulation - types of
Alternative forms:	S00094
Applied in:	S01412
Applies:	S00094; S00132
Shape class:	Arrows, Depicting shapes
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01223

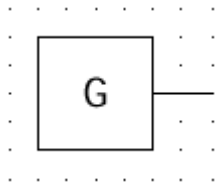
Name:	Pulse-code modulation
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-12-06
Keywords:	PCM, pulse modulation - types of
Applied in:	S01280, S01224
Applies:	S00132
Application notes:	A00141
Shape class:	Characters, Depicting shapes
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01224



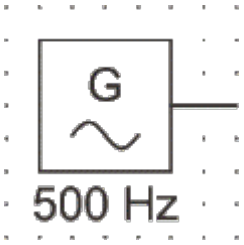
Name:	Pulse-code modulation in 3-out-of-7 code
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-12-07
Keywords:	pulse modulation - types of
Applies:	S01223
Application notes:	A00141
Shape class:	Characters, Depicting shapes
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01225



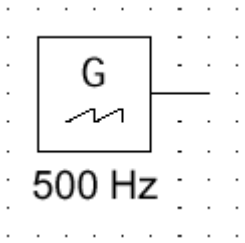
Name:	Signal generator, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-13-01
Alternative names:	Waveform generator
Keywords:	signal generators, waveform generators
Applied in:	S01425, S01226, S01678, S01215, S01229, S01217, S01216, S01228, S01230, S01227
Applies:	S00059
Application notes:	A00013
Shape class:	Characters, Squares
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01226



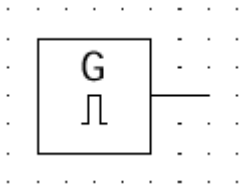
Name:	Sine-wave generator, 500 Hz
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-13-02
Keywords:	signal generators, waveform generators
Applies:	S00899; S01225; S01403
Shape class:	Characters, Depicting shapes, Squares
Function class:	G Initiating a flow, K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01227



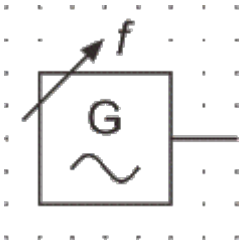
Name:	Saw-tooth generator, 500 Hz
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-13-03
Keywords:	signal generators, waveform generators
Applies:	S00137; S01225
Shape class:	Characters, Depicting shapes, Lines , Squares
Function class:	G Initiating a flow, K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01228



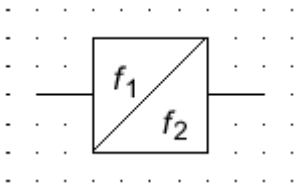
Name:	Pulse generator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-13-04
Keywords:	pulse generators, signal generators, waveform generators
Applied in:	S01280
Applies:	S00132; S01225
Shape class:	Characters, Depicting shapes, Squares
Function class:	G Initiating a flow, K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01229



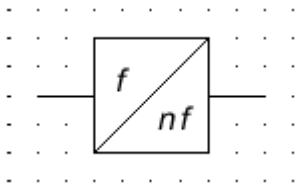
Name:	Sine-wave generator with adjustable frequency
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-13-05
Keywords:	signal generators, waveform generators
Applies:	S00081; S01225; S01403
Shape class:	Arrows, Characters, Depicting shapes, Rectangles
Function class:	G Initiating a flow, K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01232



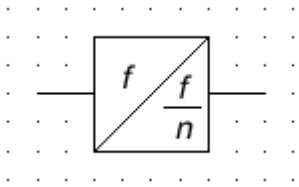
Name:	Frequency converter, changing from f1 to f2
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-14-02
Keywords:	converters
Applies:	S00213
Application notes:	A00143
Shape class:	Characters, Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01233



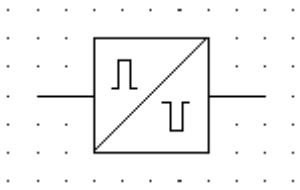
Name:	Frequency multiplier
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-14-03
Keywords:	converters
Applies:	S00213
Application notes:	A00142
Shape class:	Characters, Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01234



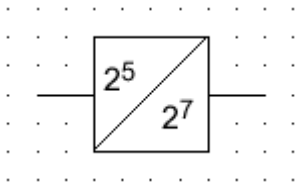
Name:	Frequency divider
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-14-04
Keywords:	converters
Applies:	S00213
Application notes:	A00140
Shape class:	Characters, Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01235



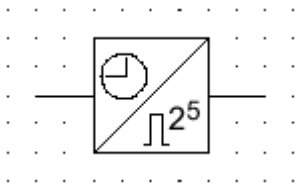
Name:	Pulse inverter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-14-05
Keywords:	converters
Applies:	S00132; S00133; S00213
Shape class:	Depicting shapes, Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01236



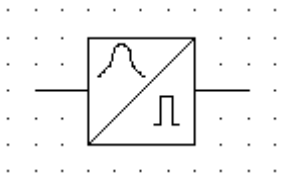
Name:	Code converter of binary code
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-14-06
Keywords:	converters
Applies:	S00213
Shape class:	Characters, Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	Code converter, five-unit binary code to seven-unit binary code shown

S01237



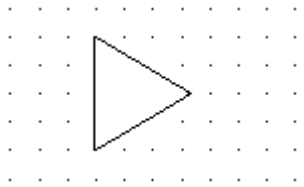
Name:	Converter giving clock-time indication in five-digit binary code
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-14-07
Keywords:	converters
Applies:	S00132; S00213; S00959
Shape class:	Characters, Depicting shapes, Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01238



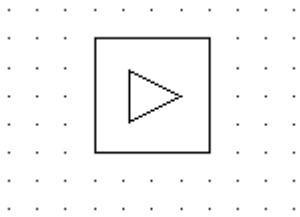
Name:	Pulse regenerator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-14-08
Keywords:	converters
Applies:	S00132; S00213
Shape class:	Depicting shapes, Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01239



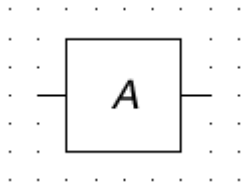
Name:	Amplifier, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-15-01
Alternative names:	Repeater, general symbol
Keywords:	amplifiers, repeaters
Form:	Form 1
Alternative forms:	S01240; S01781
Applied in:	S00420, S00432, S00433, S01087, S01243, S01242, S01026, S01089, S01088, S01091, S00430, S01241, S00428, S01213, S00429, S01092, S00431
Applies:	S01457
Application notes:	A00238, A00351
Shape class:	Equilateral triangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01240



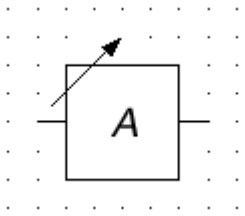
Name:	Amplifier, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-15-02
Alternative names:	Repeater, general symbol
Keywords:	amplifiers, repeaters
Form:	Form 2
Alternative forms:	S01239; S01781
Applied in:	S01683, S00092
Applies:	S01457
Application notes:	A00238
Shape class:	Equilateral triangles, Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S01244



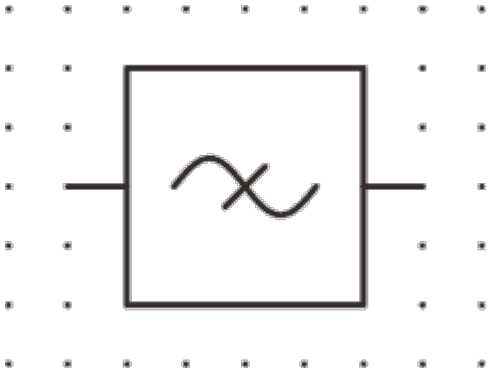
Name:	Attenuator, fixed loss
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-01
Keywords:	attenuators, networks
Alternative forms:	S00442
Applied in:	S01331, S01245
Applies:	S00059
Replacing:	S01167; S01168
Shape class:	Characters, Squares
Function class:	K Processing signals or information, R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01245



Name:	Attenuator, variable loss
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-02
Keywords:	attenuators, networks
Applies:	S00081; S01244
Shape class:	Arrows, Characters, Squares
Function class:	K Processing signals or information, R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01246

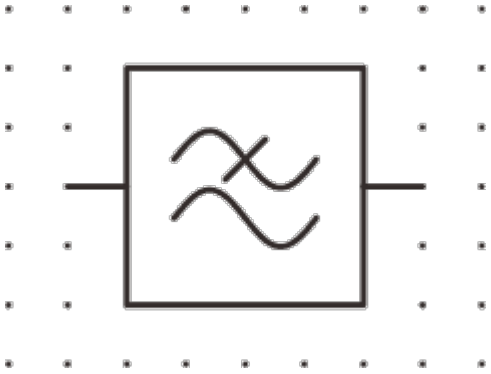


Name:	Filter, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-03
Keywords:	filters, networks
Applied in:	S01249, S01250, S01247, S01248, S01264
Shape class:	Depicting shapes, Squares
Function class:	K Processing signals or information, R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01247

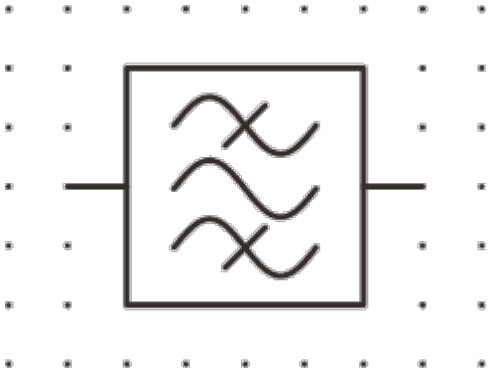
Name:	High-pass filter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-04
Keywords:	filters, networks
Applies:	S01246
Shape class:	Depicting shapes, Squares
Function class:	K Processing signals or information, R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01248



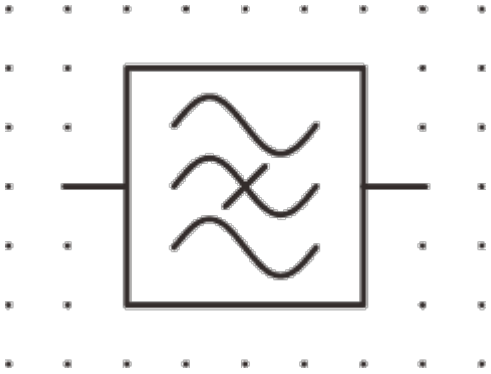
Name:	Low-pass filter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-05
Keywords:	filters, networks
Applies:	S01246
Shape class:	Depicting shapes, Lines , Squares
Function class:	K Processing signals or information, R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01249



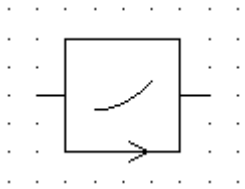
Name:	Band-pass filter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-06
Keywords:	filters, networks
Applied in:	S01429
Applies:	S01246
Shape class:	Depicting shapes, Squares
Function class:	K Processing signals or information, R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01250



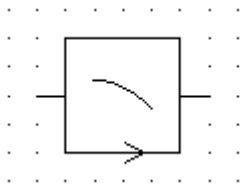
Name:	Band-stop filter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-07
Keywords:	filters, networks
Applies:	S01246
Shape class:	Depicting shapes, Squares
Function class:	K Processing signals or information, R Restricting or stabilising
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01251



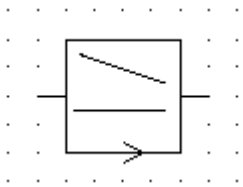
Name:	Device for pre-emphasis of higher frequencies
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-08
Keywords:	networks
Applies:	S00099
Shape class:	Depicting shapes, Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01252



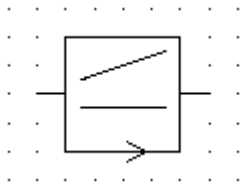
Name:	Device for de-emphasis of higher frequencies
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-09
Keywords:	networks
Applies:	S00099
Shape class:	Arrows, Depicting shapes, Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01253



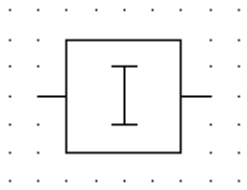
Name:	Compressor
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-10
Keywords:	networks
Applies:	S00099
Shape class:	Arrows, Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01254



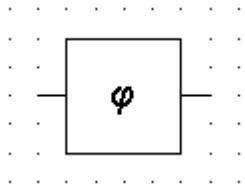
Name:	Expander
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-11
Keywords:	networks
Applies:	S00099
Shape class:	Arrows, Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01255



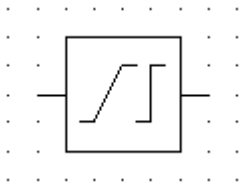
Name:	Artificial line
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-12
Keywords:	networks
Shape class:	Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01256



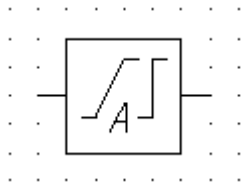
Name:	Phase-changing network
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-13
Keywords:	networks
Application notes:	A00241
Shape class:	Characters, Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01257



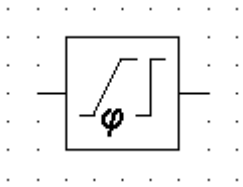
Name:	Distortion corrector, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-14
Keywords:	networks
Applied in:	S01260, S01258, S01259
Applies:	S00135
Shape class:	Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01258



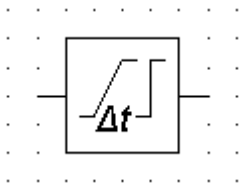
Name:	Attenuation equalizer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-15
Keywords:	attenuators, networks
Applies:	S01257
Shape class:	Characters, Depicting shapes, Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01259



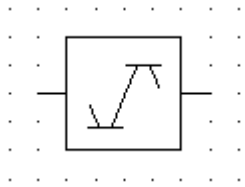
Name:	Phase distortion corrector
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-16
Keywords:	networks
Applies:	S01257
Application notes:	A00244
Shape class:	Characters, Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01260



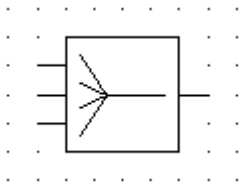
Name:	Delay distortion corrector; Delay equalizer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-17
Keywords:	networks
Applies:	S01257
Shape class:	Characters, Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01261



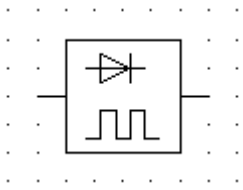
Name:	Amplitude limiter without distortion
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-18
Keywords:	networks
Shape class:	Depicting shapes, Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01262



Name:	Mixing network
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-19
Keywords:	networks
Shape class:	Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01263

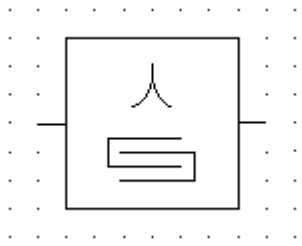


Name:	Electronic chopping device
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-20
Alternative names:	Chopper
Keywords:	choppers, networks
Applies:	S00132; S00641
Shape class:	Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01264

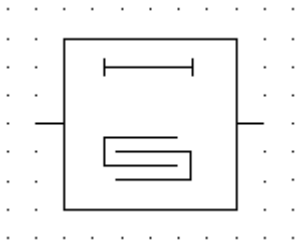
Name:	Surface acoustic wave (SAW) filter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-21
Keywords:	filters, networks
Applies:	S01052; S01246
Shape class:	Depicting shapes, Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01265



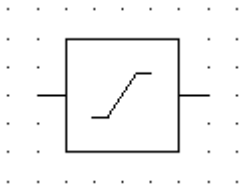
Name:	Surface acoustic wave (SAW) resonator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-22
Keywords:	filters, networks
Applies:	S01052; S01153
Shape class:	Depicting shapes, Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01266



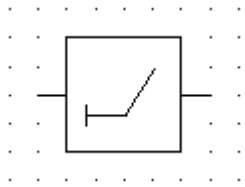
Name:	Surface acoustic wave (SAW) delay line
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-16-23
Keywords:	delay lines, networks
Applies:	S00124; S01052
Shape class:	Depicting shapes, Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01267



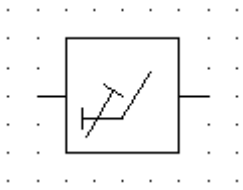
Name:	Clipper
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-17-01
Keywords:	limiters
Applied in:	S01269, S01268, S01270, S01271
Application notes:	A00245
Shape class:	Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01268



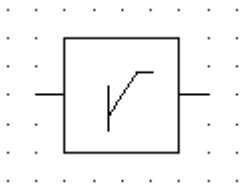
Name:	Base limiter; Threshold device
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-17-02
Keywords:	limiters
Applies:	S01267
Shape class:	Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01269



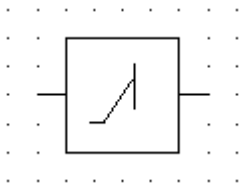
Name:	Base limiter with preset of the threshold adjustment; Threshold device with preset adjustment of the threshold
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-17-03
Keywords:	limiters
Applies:	S01267
Shape class:	Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01270



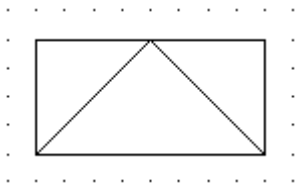
Name:	Positive peak clipper
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-17-04
Keywords:	limiters
Applies:	S01267
Shape class:	Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01271



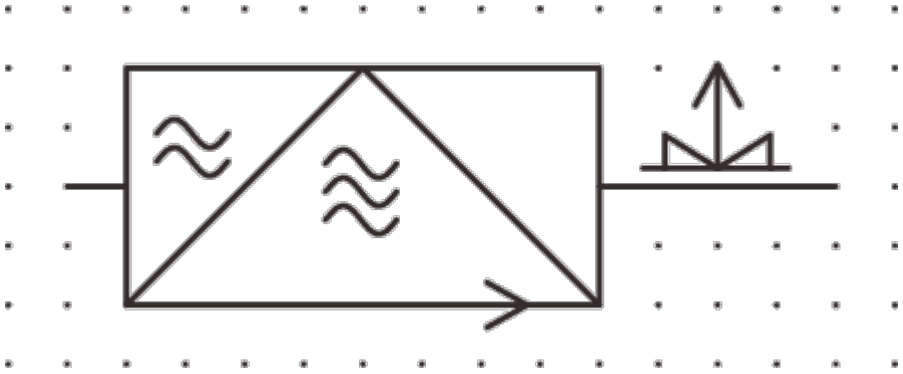
Name:	Negative peak clipper
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-17-05
Keywords:	limiters
Applies:	S01267
Shape class:	Lines , Squares
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01278



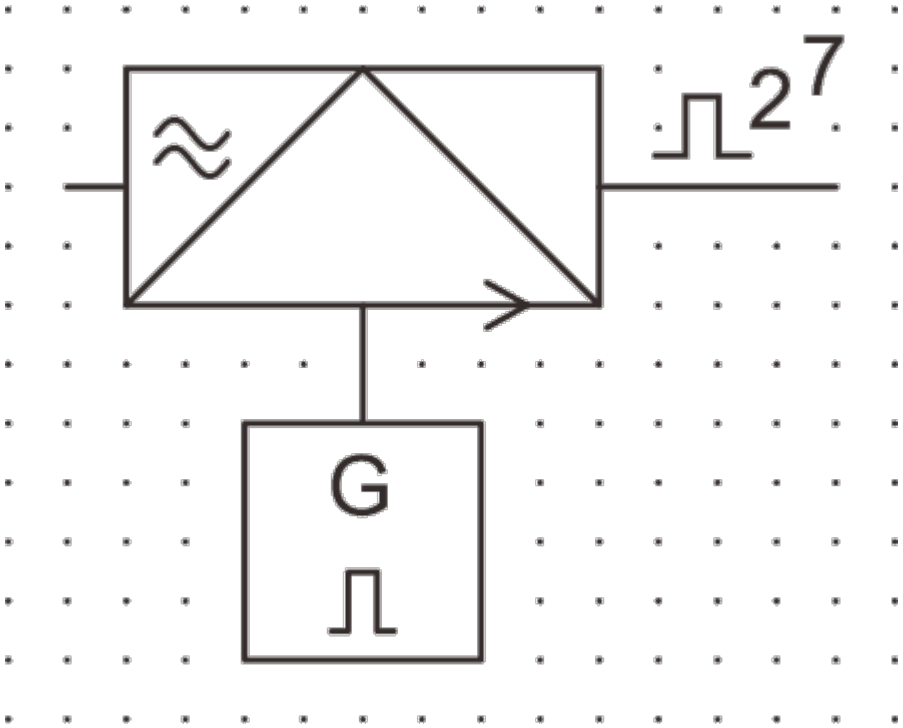
Name:	Modulator, general symbol; Demodulator, general symbol; Discriminator, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-19-01
Keywords:	demodulators, discriminators, modulators
Applied in:	S01280, S01279, S01281
Applies:	S00214
Application notes:	A00246
Shape class:	Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01279



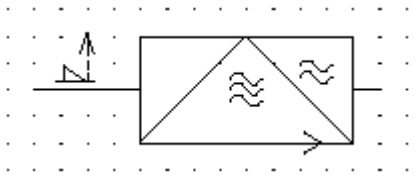
Name:	Modulator, double sideband output
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-19-02
Keywords:	modulators
Applies:	S00074; S00075; S00099; S01278; S01308
Shape class:	Arrows, Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01280



Name:	Pulse code modulator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-19-03
Keywords:	modulators
Applies:	S00074; S00099; S01223; S01228; S01278
Shape class:	Depicting shapes, Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Shown with seven-unit binary code output.

S01281



Name:	Demodulator, single sideband
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-19-04
Keywords:	demodulators
Applies:	S00074; S00075; S00099; S01278; S01312
Shape class:	Depicting shapes, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Demodulator, single sideband with suppressed amplitude of the carrier-frequency, with audio-output, shown.

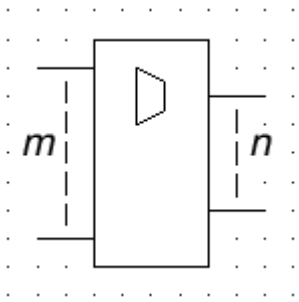
S01282

Name:	Concentrating function
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-20-01
Keywords:	concentrators
Applied in:	S00512, S01285, S01284
Shape class:	Trapezoids
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Concentrating function from left to right.

S01283

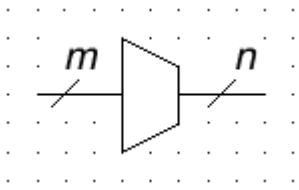
Name:	Expanding function
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-20-02
Keywords:	concentrators
Applied in:	S00512
Shape class:	Trapezoids
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Expanding function from left to right.

S01284



Name:	Concentrator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-20-03
Keywords:	concentrators
Form:	Form 1
Alternative forms:	S01285
Applies:	S01282
Shape class:	Characters, Rectangles, Trapezoids
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Concentrator, shown with m input circuits and n output circuits.

S01285



Name:	Concentrator
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-20-04
Keywords:	concentrators
Form:	Form 2
Alternative forms:	S01284
Applies:	S00003; S01282
Shape class:	Characters, Trapezoids
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Concentrator, shown with m input circuits and n output circuits

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S01286

Name:	Multiplexing function
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-20-05
Keywords:	demultiplexers, multiplexers
Applied in:	S01289
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

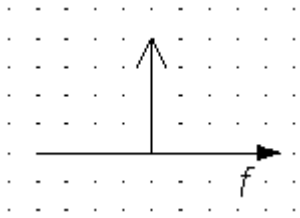
S01287

Name:	Demultiplexing function
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-20-06
Keywords:	demultiplexers, multiplexers
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If confusion can arise, DX may be replaced by DMUX.

S01288

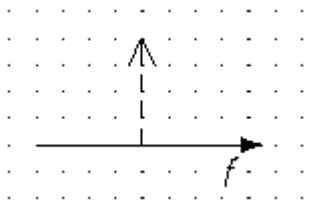
Name:	Multiplexing and demultiplexing function
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-20-07
Keywords:	demultiplexers, multiplexers
Applied in:	S01290
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01291



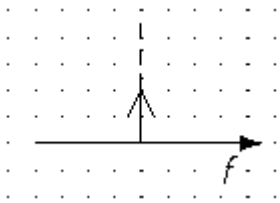
Name:	Carrier frequency
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-21-01
Keywords:	frequency spectra
Applied in:	S01310, S01309, S01315, S01308, S01311
Application notes:	A00149, A00185
Shape class:	Arrows, Characters, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01292



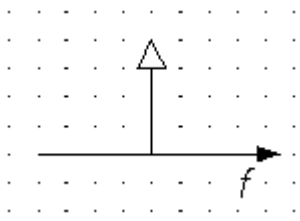
Name:	Suppressed-carrier frequency
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-21-02
Keywords:	frequency spectra
Applied in:	S01312, S01314
Application notes:	A00149
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01293



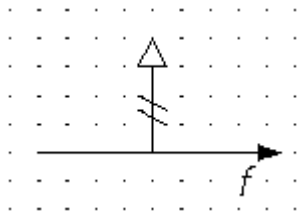
Name:	Reduced-carrier frequency
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-21-03
Keywords:	frequency spectra
Applied in:	S01313
Application notes:	A00149
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01294



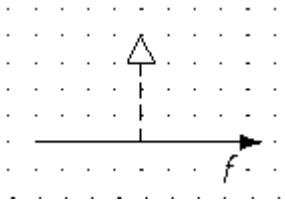
Name:	Pilot frequency
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-21-04
Keywords:	frequency spectra
Applied in:	S01295, S01317
Application notes:	A00149, A00187
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01295



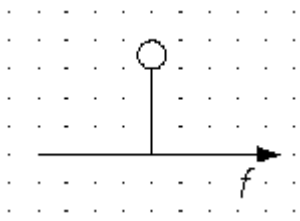
Name:	Pilot frequency; Supergroup pilot frequency
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-21-05
Keywords:	frequency spectra
Applies:	S01294
Shape class:	Arrows
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01296



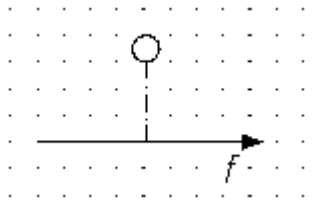
Name:	Suppressed pilot frequency
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-21-06
Keywords:	frequency spectra
Application notes:	A00149
Shape class:	Arrows
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01297



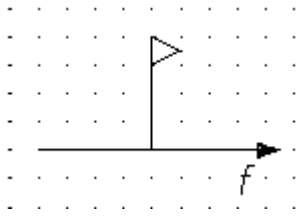
Name:	Additional measuring frequency
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-21-07
Keywords:	frequency spectra
Application notes:	A00149
Shape class:	Arrows, Circles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01298



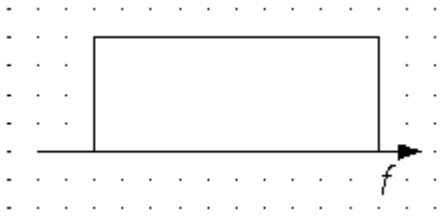
Name:	Additional measuring frequency (on request)
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-21-08
Keywords:	frequency spectra
Application notes:	A00149
Shape class:	Arrows, Circles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Additional measuring frequency, transmitted or measured on request.

S01299



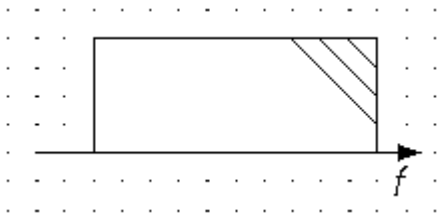
Name:	Signalling frequency
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-21-09
Keywords:	frequency spectra
Application notes:	A00149
Shape class:	Arrows
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01300



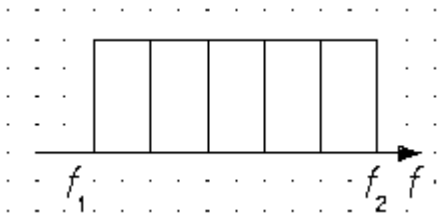
Name:	Frequency band, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-21-10
Keywords:	frequency spectra
Applied in:	S01310, S01309, S01301, S01302
Application notes:	A00149, A00188
Shape class:	Rectangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01301



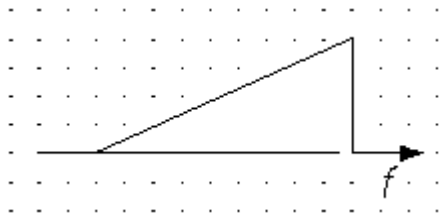
Name:	Frequency band, mastergroup
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-21-11
Keywords:	frequency spectra
Applies:	S01300
Application notes:	A00149, A00188
Shape class:	Lines , Rectangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01302



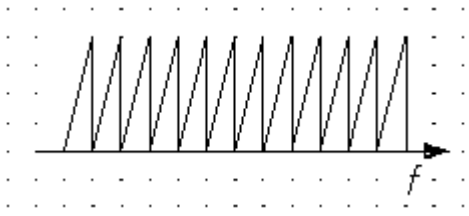
Name:	Band of frequencies
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-21-12
Keywords:	frequency spectra
Applied in:	S01317
Applies:	S01300
Application notes:	A00149, A00188
Shape class:	Lines , Rectangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Band of frequencies from f1 to f2 divided into five channels, groups, etc. is shown.

S01303



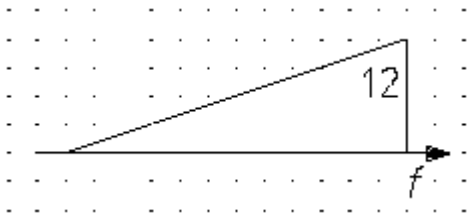
Name:	Erect band of frequencies
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-21-13
Keywords:	frequency spectra
Applied in:	S01310, S01304, S01307, S01305, S01316, S01313, S01315, S01308, S01311, S01314
Application notes:	A00149, A00162
Shape class:	Right-angled triangle
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01304



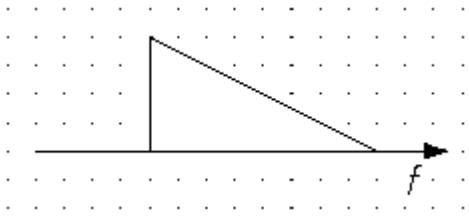
Name:	Erect band of frequencies, a group of several channels
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-21-14
Keywords:	frequency spectra
Alternative forms:	S01305
Applies:	S01303
Application notes:	A00149, A00162
Shape class:	Right-angled triangle
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Band of frequencies consisting of a group of 12 erect channels is shown.

S01305



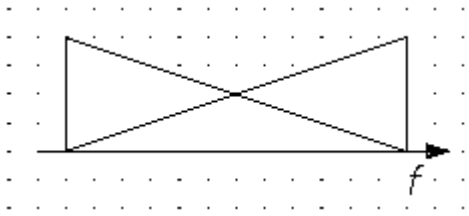
Name:	Erect band of frequencies, a group of several channels
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-21-15
Keywords:	frequency spectra
Form:	Simplified Form
Alternative forms:	S01304
Applies:	S01303
Application notes:	A00149, A00162
Shape class:	Characters, Right-angled triangle
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Band of frequencies consisting of a group of 12 erect channels is shown.

S01306



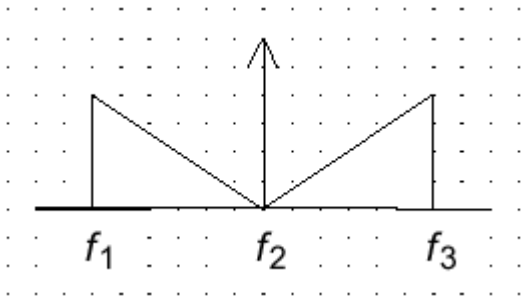
Name:	Inverted band of frequencies
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-21-16
Keywords:	frequency spectra
Applied in:	S01312, S01310, S01307, S01316, S01315, S01308, S01311, S01314
Application notes:	A00149, A00162
Shape class:	Characters, Right-angled triangle
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01307



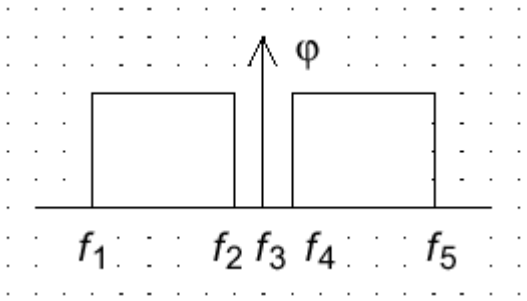
Name:	Band of mixed channels
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-21-17
Keywords:	frequency spectra
Applies:	S01303; S01306
Application notes:	A00149
Shape class:	Right-angled triangle
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Band of mixed channels, groups etc., some erect, remainder inverted is shown.

S01308



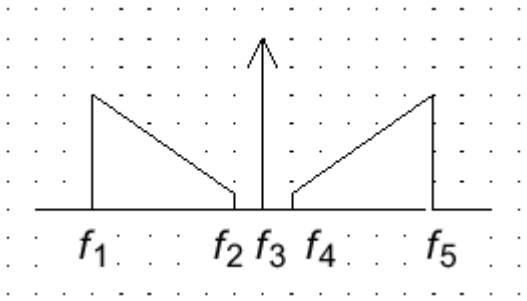
Name:	Amplitude-modulated carrier
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-22-01
Keywords:	frequency spectra
Applied in:	S01279
Applies:	S01291; S01303; S01306
Shape class:	Arrows, Right-angled triangle
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Amplitude-modulated carrier wave with both sidebands shown.

S01309



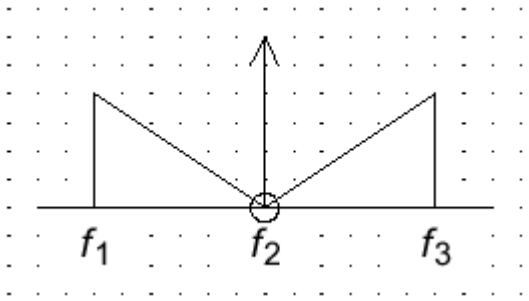
Name:	Phase modulated carrier
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-22-02
Keywords:	frequency spectra
Applies:	S01291; S01300
Application notes:	A00190
Shape class:	Arrows, Characters, Rectangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01310



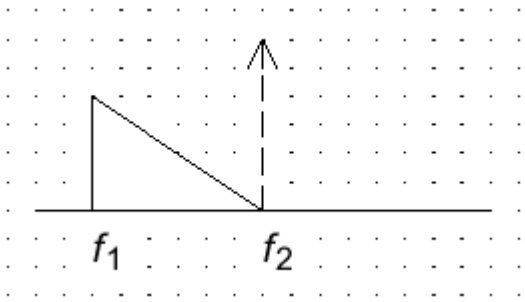
Name:	Amplitude-modulated carrier
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-22-03
Keywords:	frequency spectra
Applies:	S01291; S01300; S01303; S01306
Shape class:	Arrows, Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Amplitude-modulated carrier wave with both sidebands, lower modulating frequencies not being transmitted.

S01311



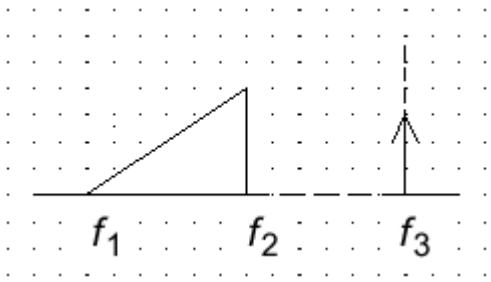
Name:	Amplitude-modulated carrier
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-22-04
Keywords:	frequency spectra
Applied in:	S01315
Applies:	S01291; S01303; S01306
Shape class:	Arrows, Circles, Right-angled triangle
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Amplitude-modulated carrier wave with both sidebands, modulating frequencies down to zero being transmitted.

S01312



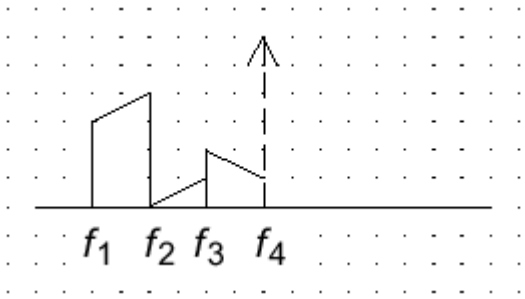
Name:	Single-sideband, suppressed carrier
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-22-05
Keywords:	frequency spectra
Applied in:	S01281
Applies:	S01292; S01306
Shape class:	Arrows, Right-angled triangle
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01313



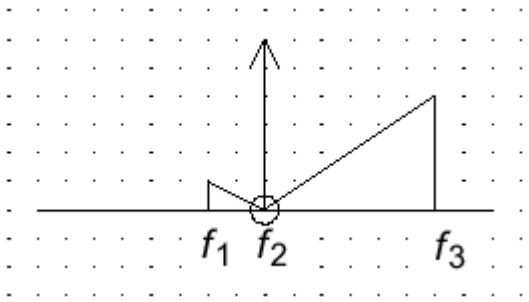
Name:	Reduced-carrier wave, single erect sideband
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-22-06
Keywords:	frequency spectra
Applies:	S01293; S01303
Shape class:	Arrows, Right-angled triangle
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Reduced-carrier wave with single, lower, erect sideband.

S01314



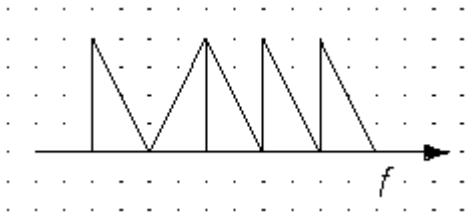
Name:	Suppressed-carrier, scrambled
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-22-07
Keywords:	frequency spectra
Applies:	S01292; S01303; S01306
Shape class:	Arrows, Right-angled triangle
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Suppressed-carrier wave with single-sideband scrambled for secrecy.

S01315



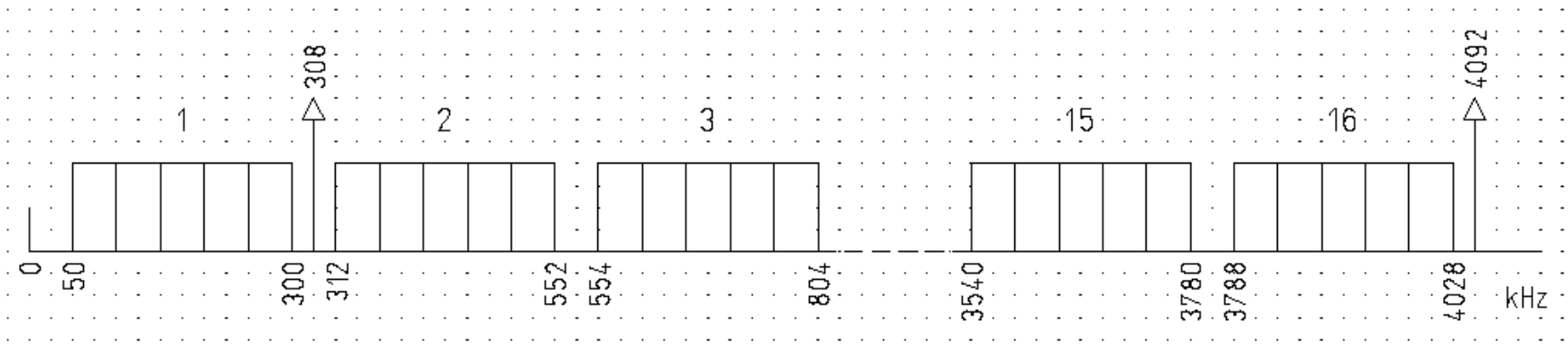
Name:	Amplitude-modulated carrier
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-22-08
Keywords:	frequency spectra
Applies:	S01291; S01303; S01306; S01311
Shape class:	Arrows, Circles, Right-angled triangle
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Amplitude-modulated carrier wave with upper sideband and lower vestigial sideband, modulating frequencies down to zero being transmitted.

S01316



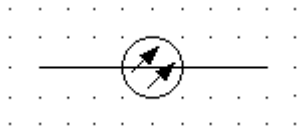
Name:	Band of five channels
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-22-09
Keywords:	frequency spectra
Applies:	S01303; S01306
Shape class:	Right-angled triangle
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Band of five channels, groups, etc., four of which are inverted and one erect is shown.

S01317



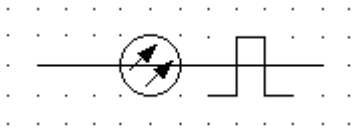
Name:	Transmission system
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-22-10
Keywords:	frequency spectra
Applies:	S01294; S01302
Shape class:	Characters, Equilateral triangles, Rectangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	4 MHz transmission system showing supergroups and pilot frequencies.

S01318



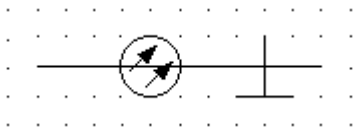
Name:	Optical fibre, general symbol; Optical fibre cable, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-23-01
Keywords:	cables, fibre optics, transmission lines
Applied in:	S01320, S01331, S01321, S01322, S01319, S01330, S01329
Applies:	S00001; S00127
Application notes:	A00151
Shape class:	Arrows, Circles, Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S01319



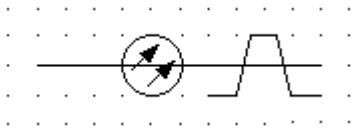
Name:	Optical fibre, multimode stepped index
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-23-02
Keywords:	fibre optics, transmission lines
Applied in:	S01323
Applies:	S01318
Application notes:	A00152
Shape class:	Arrows, Circles, Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01320



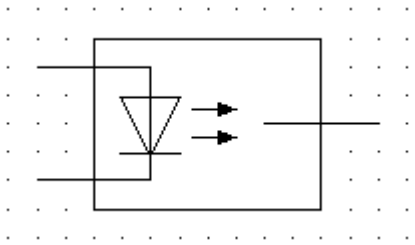
Name:	Optical fibre, single mode stepped index
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-23-03
Keywords:	fibre optics, transmission lines
Applies:	S01318
Application notes:	A00152
Shape class:	Arrows, Circles, Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01321



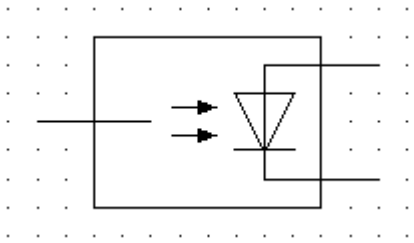
Name:	Optical fibre, graded index
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-23-04
Keywords:	fibre optics, transmission lines
Applies:	S01318
Application notes:	A00152
Shape class:	Arrows, Circles, Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01326



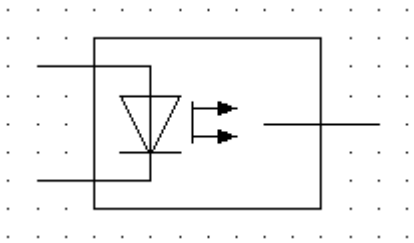
Name:	Guided light transmitter
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-24-01
Keywords:	fibre optics, transmission devices, transmitters
Applies:	S00060; S00127; S00641
Shape class:	Arrows, Equilateral triangles, Rectangles
Function class:	B Converting variable to signal, E Providing radiant or thermal energy
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01327



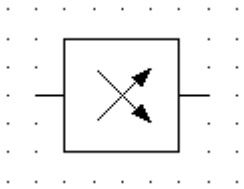
Name:	Guided light receiver
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-24-02
Keywords:	fibre optics, receivers, transmission devices
Applies:	S00060; S00127; S00641
Shape class:	Arrows, Equilateral triangles, Lines , Rectangles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01328



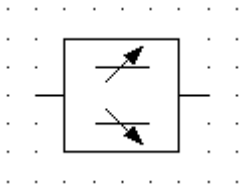
Name:	Guided light transmitter, coherent light
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-24-03
Keywords:	coherent light, fibre optics, lasers, transmission devices, transmitters
Applies:	S00060; S00128; S00641
Shape class:	Arrows, Equilateral triangles, Rectangles
Function class:	E Providing radiant or thermal energy
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Coherent guided light transmitter with laser diode.

S01332



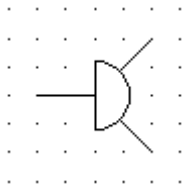
Name:	Mode scrambler
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-24-07
Keywords:	fibre optics, transmission devices
Shape class:	Arrows, Rectangles, Squares
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01333



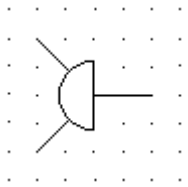
Name:	Cladding mode stripper
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-24-08
Keywords:	fibre optics, transmission devices
Shape class:	Arrows, Lines , Squares
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01334



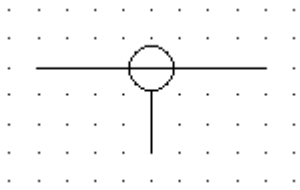
Name:	Splitter, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-24-09
Alternative names:	Splitter, two-way
Keywords:	cabled sound and television, connection devices, fibre optics, splitters, transmission devices
Applied in:	S00435, S01335
Application notes:	A00157
Replacing:	S00434
Shape class:	Half-circles
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams
Remarks:	Two-way splitter shown.

S01335



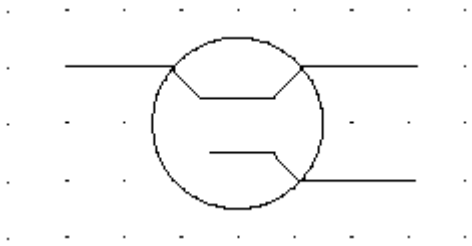
Name:	Combiner, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-24-10
Keywords:	connection devices, fibre optics, transmission devices
Applies:	S01334
Application notes:	A00157
Shape class:	Half-circles
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams
Remarks:	Two-way combiner shown. Information flow from left to right.

S01336



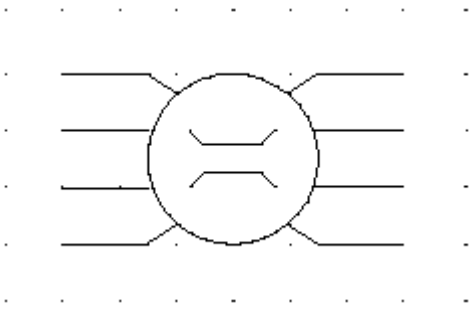
Name:	Tap-off, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-24-11
Alternative names:	Subscriber's tap-off
Keywords:	cabled sound and television, connection devices, fibre optics, tap-off, transmission devices
Applies:	S00001
Application notes:	A00103, A00104
Replacing:	S00437
Shape class:	Circles
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams
Remarks:	Single tap-off shown.

S01337



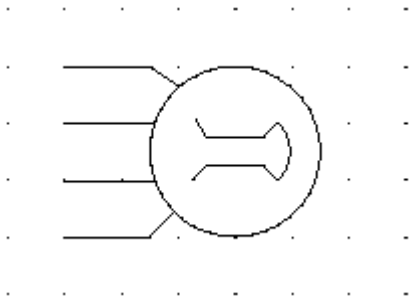
Name:	Fused tap
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-24-12
Alternative names:	Fused coupler
Keywords:	connection devices, fibre optics, transmission devices
Application notes:	A00158, A00159
Shape class:	Circles, Depicting shapes
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams
Remarks:	Fused tap, dividing a signal into two, shown.

S01338



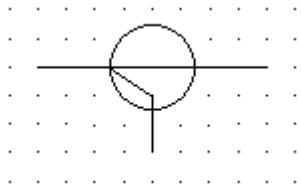
Name:	Fused star coupler, transmissive type
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-24-13
Keywords:	connection devices, fibre optics, transmission devices
Shape class:	Circles
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams
Remarks:	A star coupler of this type connects each input with all outputs, whereas there is isolation between different inputs.

S01339



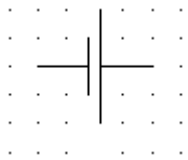
Name:	Fused star coupler, reflective type
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-24-14
Keywords:	connection devices, fibre optics, transmission devices
Shape class:	Circles
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams
Remarks:	In a star coupler of this type each port is bidirectional and may be used as input and output at the same time. Each port feeds every other port.

S01340



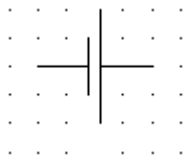
Name:	Directional coupler, general symbol
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-10 (ed.2.0) 10-24-15
Keywords:	cabled sound and television, connection devices, couplers, fibre optics, transmission devices
Replacing:	S00436
Shape class:	Circles
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S01341



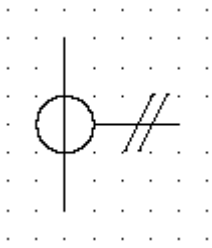
Name:	Secondary cell
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-15-01
Keywords:	secondary cells
Applied in:	S01365, S01366
Shape class:	Lines
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams
Remarks:	The longer line represents the positive pole, the shorter one the negative pole.

S01342



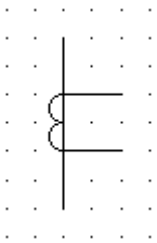
Name:	Battery of primary or secondary cells
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-15-01
Keywords:	accumulators, batteries, primary cells, secondary cells
Applied in:	S01018, S00908
Replacing:	S01365; S01366
Shape class:	Lines
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams
Remarks:	The longer line represents the positive pole, the shorter one the negative pole.

S01343



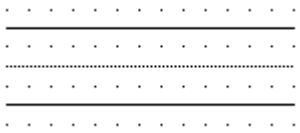
Name:	Pulse transformer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-09-10
Keywords:	pulse transformers, transformers
Form:	Form 1
Alternative forms:	S01344
Application notes:	A00128, A00129
Shape class:	Circles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S01344



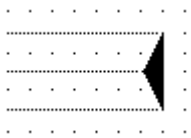
Name:	Pulse transformer
Status level:	Standard
Released on:	2001-07-01
Earlier published in:	IEC 60617-6 (ed.2.0) 06-09-11
Keywords:	pulse transformers, transformers
Form:	Form 2
Alternative forms:	S01343
Applies:	S00842
Application notes:	A00127, A00128, A00129, A00130
Shape class:	Half-circles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams

S01391



Name:	Gas insulated enclosure with internal conductor
Status level:	Standard
Released on:	2002-09-21
Earlier published in:	Not applicable
Keywords:	conductors, gas insulated enclosures, gas zones
Applied in:	S01399, S01400
Applies:	S00001; S00063
Application notes:	A00262
Shape class:	Lines
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The internal conductor is indicated with a dotted line.

S01392

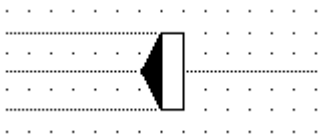


Name:	Gas insulated enclosure - gas-sealing end of compartment
Status level:	Standard
Released on:	2002-09-21
Earlier published in:	Not applicable
Keywords:	gas insulated enclosures, gas zones, sealings
Applied in:	S01396, S01393, S01397
Application notes:	A00262
Shape class:	Equilateral triangles
Function class:	U Keeping in defined position
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01393

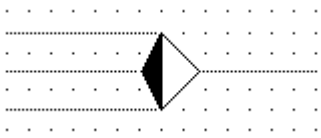
Name:	Gas insulated enclosure - partition between compartments
Status level:	Standard
Released on:	2002-09-21
Earlier published in:	Not applicable
Keywords:	gas insulated enclosures, gas zones
Applied in:	S01398
Applies:	S01392
Application notes:	A00262
Shape class:	Equilateral triangles, Parallelograms
Function class:	U Keeping in defined position
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01396



Name:	Gas insulated conductor - boundary with air insulated bushing
Status level:	Standard
Released on:	2002-09-21
Earlier published in:	Not applicable
Keywords:	conductors, gas insulated conductors, gas insulated enclosures, gas zones
Applies:	S01392
Application notes:	A00262
Shape class:	Equilateral triangles, Rectangles
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01397

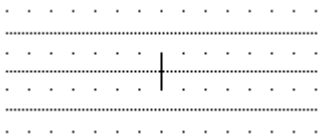


Name:	Gas insulated conductor - boundary with cable sealing end
Status level:	Standard
Released on:	2002-09-21
Earlier published in:	Not applicable
Keywords:	cable fittings, conductors, gas insulated conductors, gas insulated enclosures, gas zones, sealings
Applies:	S00050; S01392
Application notes:	A00262
Shape class:	Equilateral triangles
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01398

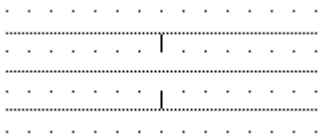
Name:	Gas insulated conductor - boundary with transformer or reactor bushing
Status level:	Standard
Released on:	2002-09-21
Earlier published in:	Not applicable
Keywords:	bushings, conductors, gas insulated conductors, gas insulated enclosures, gas zones
Applies:	S01393
Application notes:	A00262
Shape class:	Equilateral triangles, Half-circles
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01399



Name:	Conductor support insulator without gas boundary
Status level:	Standard
Released on:	2003-01-16
Earlier published in:	Not applicable
Keywords:	conductors, gas insulated conductors, gas insulated enclosures, gas zones
Applies:	S01391
Application notes:	A00262
Shape class:	Lines
Function class:	U Keeping in defined position
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	This kind of support allows gas flow.

S01400



Name:	Straight flange
Status level:	Standard
Released on:	2003-01-16
Earlier published in:	Not applicable
Keywords:	conductors, gas insulated conductors, gas insulated enclosures, gas zones
Applies:	S01391
Application notes:	A00262
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Flange without insulator.

S01401

Name:	Direct current
Status level:	Standard
Released on:	2001-09-15
Earlier published in:	IEC 60617-2 (ed.2.0) 02-02-03
Keywords:	current, kind of current and voltage, voltage
Form:	Form 1
Alternative forms:	S01402
Applied in:	S00004, S00896, S00894, S00823, S00893, S00832, S00824, S00833, S00826, S00897, S00418, S00405, S00835, S00827, S00406, S00825, S00834
Application notes:	A00259
Replacing:	S00067
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The shape of this symbol is equivalent to UCS 2393 of ISO/IEC 10646 "DIRECT CURRENT SYMBOL FORM TWO".

S01402	DC
Name:	Direct current
Status level:	Standard
Released on:	2001-09-15
Earlier published in:	Not applicable
Keywords:	current, kind of current and voltage, voltage
Form:	Form 2
Alternative forms:	S01401
Application notes:	A00259
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Note that "DC" (written with uppe-case letters, without any dots and language independant) is a letter symbol in accordance with IEC 61293. The estblished abbreviation, on the other hand, for "direct current" is "d.c." (with lower-case letters and dots).

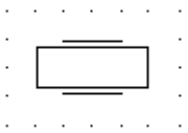
S01403

Name:	Alternating current
Status level:	Standard
Released on:	2001-09-15
Earlier published in:	IEC 60617-2 (ed.2.0) 02-02-04
Keywords:	current, kind of current and voltage, voltage
Form:	Form 1
Alternative forms:	S01404
Applied in:	S01903, S00069, S00316, S01219, S00828, S00896, S00894, S00832, S00829, S00800, S00799, S00831, S00836, S01226, S01229, S00897, S00443, S00837, S00405, S00005, S00838, S01904, S00417, S00835, S00830, S00406, S00840
Application notes:	A00258, A00260
Replacing:	S00070; S00071; S00072; S00107
Shape class:	Depicting shapes
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01404 AC

Name:	Alternating current
Status level:	Standard
Released on:	2001-09-15
Earlier published in:	Not applicable
Keywords:	current, kind of current and voltage, voltage
Form:	Form 2
Alternative forms:	S01403
Application notes:	A00258
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Note that "AC" (written with uppe-case letters, without any dots and language independant) is a letter symbol in accordance with IEC 61293. The estblished abbreviation, on the other hand, for "alternating current" is "a.c." (with lower-case letters and dots).

S01405

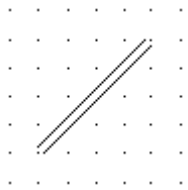


Name:	Piezo-electric effect
Status level:	Standard
Released on:	2001-10-13
Earlier published in:	Not applicable
Keywords:	dependence, effect, piezoelectric
Applied in:	S00600, S00602, S00601
Shape class:	Lines , Rectangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01406

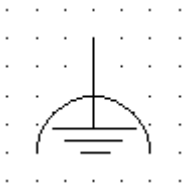
Name:	Spring-operated device
Status level:	Standard
Released on:	2001-10-13
Earlier published in:	Not applicable
Keywords:	mechanical control, other control, springs
Applied in:	S00295
Applies:	S00186
Shape class:	Lines , Rectangles
Function class:	C Storing
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01407



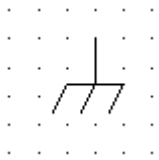
Name:	Conversion with electrical separation
Status level:	Standard
Released on:	2001-10-13
Earlier published in:	Not applicable
Keywords:	conversion, converters, power converters, signal converters
Applied in:	S01791, S01788
Applies:	S00214
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01408



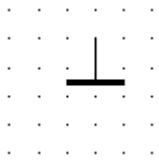
Name:	Functional earthing; Functional grounding (US)
Status level:	Standard
Released on:	2001-11-10
Earlier published in:	Not applicable
Alternative names:	Functional earthing conductor; Functional earthing terminal
Keywords:	earth connection, equipotentiality, frame connection
Applies:	S00200
Replacing:	S00201
Shape class:	Half-circles, Lines
Function class:	- Functional elements or attributes, W Guiding or transporting, X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams, Conceptual elements or qualifiers
Remarks:	For the definition of "functional earthing", see IEV 195-01-13.

S01409



Name:	Functional equipotential bonding
Status level:	Standard
Released on:	2001-11-10
Earlier published in:	Not applicable
Alternative names:	Functional bonding conductor; Functional bonding terminal
Keywords:	equipotentiality, frame connection, functional bonding
Alternative forms:	S01410
Replacing:	S00203
Shape class:	Lines
Function class:	- Functional elements or attributes, W Guiding or transporting, X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams, Conceptual elements or qualifiers
Remarks:	For the definition of "functional equipotential bonding", see IEV 195-01-16".

S01410

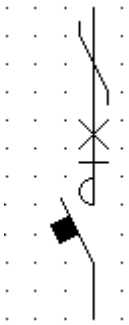


Name:	Functional equipotential bonding
Status level:	Standard
Released on:	2001-11-10
Earlier published in:	Not applicable
Alternative names:	Functional bonding conductor; Functional bonding terminal
Keywords:	equipotentiality, frame connection, functional bonding
Form:	Simplified form
Alternative forms:	S01409
Replacing:	S00203
Shape class:	Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams
Remarks:	For the definition of "functional equipotential bonding", see IEV 195-01-16".

S01411

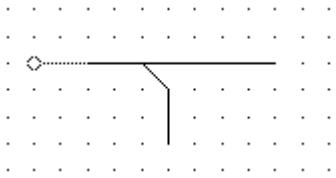
Name:	Capacitor, lead-through
Status level:	Standard
Released on:	2001-11-10
Earlier published in:	Not applicable
Alternative names:	Capacitor, feed-through
Keywords:	capacitors
Replacing:	S00569
Shape class:	Lines
Function class:	C Storing
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams

S01413



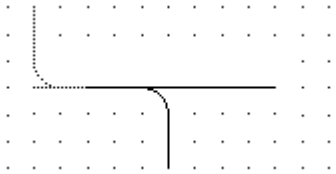
Name:	Multiple-function switching device
Status level:	Standard
Released on:	2003-11-10
Earlier published in:	Not applicable
Alternative names:	Control and protective switching device (CPS); Reversing CPS
Keywords:	circuit breakers, contactors, isolators, reversing
Applies:	S00024; S00218; S00219; S00220; S00222; S00227
Shape class:	Half-circles, Lines , Squares
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The represented multi-function switching device contains: reversing function, circuit breaker function, disconnector function, contactor function and automatic tripping function, as indicated through application of the relevant function symbols. The reversing function is indicated by the symbol for phase interchange. When the symbol is used, the symbol elements for not applicable functions shall be omitted.

S01414



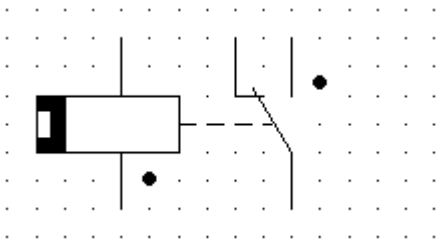
Name:	Directed connection
Status level:	Standard
Released on:	2003-01-24
Earlier published in:	Not applicable
Keywords:	branchings, cables, conductors, connections
Applies:	S00001; S00058
Application notes:	A00192, A00262, A00264
Shape class:	Lines
Function class:	W Guiding or transporting, X Connecting
Application class:	Circuit diagrams, Connection diagrams, Installation diagrams, Overview diagrams
Symbol restrictions:	This symbol shall not be used if there is no electrical connection, e.g. at bundling.
Remarks:	The slanting line shall point in the direction of the the connection point. The symbol is shown with a conductor coming from the right side going to the left side, with a connection going to the bottom through a connection point situated to the left.

S01415



Name:	Point of access to a bundle
Status level:	Standard
Released on:	2003-01-24
Earlier published in:	Not applicable
Keywords:	branchings, bundles, cables
Applies:	S00001
Application notes:	A00192, A00262
Shape class:	Circle segments, Lines
Function class:	- Functional elements or attributes, W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Network maps, Overview diagrams
Symbol restrictions:	This symbol shall not be used to represent an electrical connection.
Remarks:	In diagrams with topgraphical layout this symbol indicates a point of access to a physical bundle of conductors. In diagrams with functional layout, this symbol represent "graphical bundling", i.e. two or more connecting lines are partly occupying the same space on the diagram.

S01416



Name:	Polarized relay, stable positions
Status level:	Standard
Released on:	2002-03-23
Earlier published in:	IEC 60617-2 (ed.2.0)
Keywords:	all-or-nothing relays, operating devices
Applies:	S00230; S00319
Replacing:	S00322
Shape class:	Dots (points), Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	Shown with two stable positions.

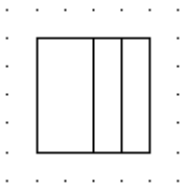
S01417

Name:	Acoustic signalling device, general symbol
Status level:	Standard
Released on:	2003-01-24
Earlier published in:	Not applicable
Alternative names:	Horn; Bell; Single-stroke bell; Whistle
Keywords:	bells, horns, indicators, signalling devices, whistles
Applied in:	S01902, S01893
Replacing:	S00969; S00970; S00971; S00974
Shape class:	Half-circles, Lines
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S01418

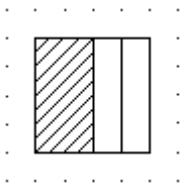
Name:	Balancing unit; Balun
Status level:	Standard
Released on:	2002-07-01
Earlier published in:	Not applicable
Keywords:	antennas
Applied in:	S01119
Replacing:	S01118
Shape class:	Circle segments, Dots (points)
Function class:	W Guiding or transporting
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S01419



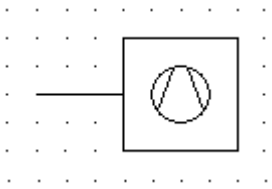
Name:	Combined electric and heat generated station, planned
Status level:	Standard
Released on:	2002-07-05
Earlier published in:	Not applicable
Keywords:	generating station
Applies:	S00060
Application notes:	A00071
Replacing:	S00387
Shape class:	Rectangles, Squares
Function class:	E Providing radiant or thermal energy, G Initiating a flow
Application class:	Network maps

S01420



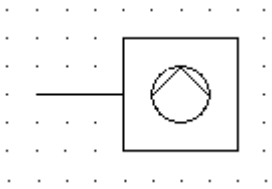
Name:	Combined electric and heat generating station, in service or unspecified
Status level:	Standard
Released on:	2002-07-05
Earlier published in:	Not applicable
Keywords:	generating station
Applies:	S00060
Application notes:	A00071, A00072
Replacing:	S00388
Shape class:	Rectangles, Squares
Function class:	E Providing radiant or thermal energy, G Initiating a flow
Application class:	Network maps

S01421



Name:	Fan
Status level:	Standard
Released on:	2002-07-01
Earlier published in:	Not applicable
Keywords:	fans, installations in buildings, ventilators
Applied in:	S01821, S01824, S01827
Applies:	S00059
Replacing:	S00494
Shape class:	Circles, Lines , Squares
Function class:	G Initiating a flow
Application class:	Installation diagrams
Remarks:	The symbol is shown with wiring. The symbol applies symbol 2302 of ISO 14617.

S01422

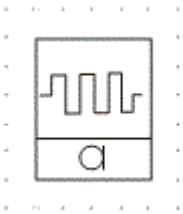


Name:	Pump
Status level:	Standard
Released on:	2002-07-01
Earlier published in:	Not applicable
Keywords:	installations in buildings, pumps
Shape class:	Circles, Lines , Squares
Function class:	G Initiating a flow
Application class:	Installation diagrams
Remarks:	The symbol is shown with wiring. The symbol applies symbol 2301 of ISO 14617.

S01423

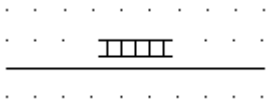
Name:	DC supply function, general symbol
Status level:	Standard
Released on:	2003-08-12
Earlier published in:	Not applicable
Keywords:	power generators
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The longer line represents the positive pole, the shorter one (with the same line width) the negative pole.

S01445



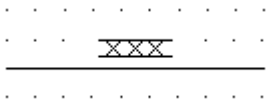
Name:	Glass break detector (window foil), burglar alarm
Status level:	Standard
Released on:	2012-04-12
Earlier published in:	Not applicable
Keywords:	alarms, detectors
Shape class:	Depicting shapes, Lines
Function class:	B Converting variable to signal
Application class:	Installation diagrams

S01449



Name:	Connection on cable ladder
Status level:	Standard
Released on:	2003-08-12
Earlier published in:	Not applicable
Alternative names:	Line on cable ladder
Keywords:	connections, ladders, lines
Applies:	S00001
Shape class:	Lines
Function class:	X Connecting
Application class:	Installation diagrams
Remarks:	Cable ladder (IEV 826-06-08): A table support consisting of a series of transverse supporting elements rigidly fixed to main longitudinal supporting members.

S01450

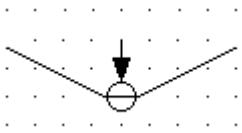


Name:	Connection within cable tray
Status level:	Standard
Released on:	2002-08-12
Earlier published in:	Not applicable
Alternative names:	Line within cable tray
Keywords:	connections, lines
Shape class:	Lines
Function class:	X Connecting
Application class:	Installation diagrams
Remarks:	Cable tray (IEV 826-06-07): A table support consisting of a continuous base and raised edges and no covering. A table tray may be perforated or non perforated.

S01451

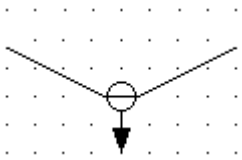
Name:	Connection within wall mounted cable channel
Status level:	Standard
Released on:	2003-08-12
Earlier published in:	Not applicable
Keywords:	connections, lines
Shape class:	Lines
Function class:	X Connecting
Application class:	Installation diagrams
Remarks:	Cable channel (IEV 826-06-05): An element of a wiring system above or in the ground or floor, open, ventilated or closed, and having dimensions which do not permit the entry of persons but allow access to the conduits and/or tables throughout their length during and after installation. A table channel may or may not form part of the building construction.

S01452



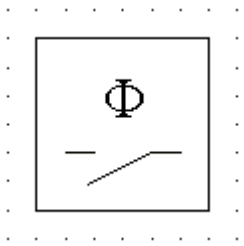
Name:	Overhead line on pole with strut
Status level:	Standard
Released on:	2003-08-12
Earlier published in:	Not applicable
Keywords:	connections, lines
Applies:	S00093; S00409
Shape class:	Lines
Function class:	X Connecting
Application class:	Network maps

S01453



Name:	Overhead line on pole with stay
Status level:	Standard
Released on:	2003-08-12
Earlier published in:	Not applicable
Keywords:	connections, lines
Applies:	S00093; S00409
Shape class:	Arrows, Lines
Function class:	X Connecting
Application class:	Network maps

S01454



Name:	Complex switch, general symbol
Status level:	Standard
Released on:	2003-03-03
Earlier published in:	Not applicable
Keywords:	complex switches, switches
Applied in:	S01856, S01855
Applies:	S00227; S01808
Application notes:	A00268
Replacing:	S00273; S00274; S00275; S00276; S00277; S00280
Shape class:	Characters, Lines , Rectangles
Function class:	B Converting variable to signal, S Converting a manual operation into a signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01457

Name:	Amplification, general symbol
Status level:	Standard
Released on:	2003-03-31
Earlier published in:	Not applicable
Keywords:	amplification, amplifiers
Applied in:	S01499, S01594, S01597, S01603, S01737, S01598, S01601, S01240, S01239, S01596, S01600, S01500, S01781, S01618, S01595, S01599, S01602
Application notes:	A00238
Shape class:	Equilateral triangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The shape of the left-to-right pointing symbol is equivalent to UCS 25B7 of ISO/IEC 10646 "WHITE RIGHT-POINTING TRIANGLE". The shape of the right-to-left pointing symbol is equivalent to UCS 25C1 of ISO/IEC 10646 "WHITE LEFT-POINTING TRIANGLE".

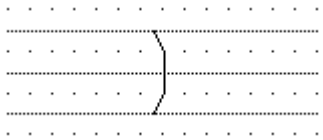
S01458

Name:	Gas insulated enclosure - gas through spacer
Status level:	Standard
Released on:	2003-03-31
Earlier published in:	Not applicable
Keywords:	gas insulated conductors, gas insulated enclosures, gas zones
Application notes:	A00262
Shape class:	Equilateral triangles
Function class:	U Keeping in defined position
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01459

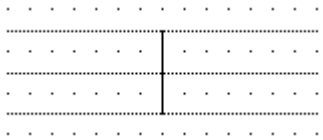
Name:	Gas insulated enclosure - partition between two compartments
Status level:	Standard
Released on:	2003-03-31
Earlier published in:	Not applicable
Keywords:	gas insulated conductors, gas insulated enclosures, gas zones
Form:	Form 2
Alternative forms:	S01393
Application notes:	A00262
Shape class:	Equilateral triangles
Function class:	U Keeping in defined position
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01460



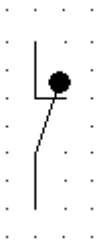
Name:	Gas insulated enclosure - support insulator, inside module
Status level:	Standard
Released on:	2003-03-31
Earlier published in:	Not applicable
Keywords:	gas insulated conductors, gas insulated enclosures, gas zones
Application notes:	A00262
Shape class:	Lines
Function class:	U Keeping in defined position
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01461



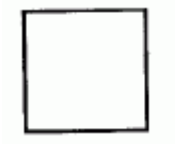
Name:	Gas insulated enclosure - support insulator, external module
Status level:	Standard
Released on:	2003-03-31
Earlier published in:	Not applicable
Keywords:	gas insulated conductors, gas insulated enclosures, gas zones
Application notes:	A00262
Shape class:	Lines
Function class:	U Keeping in defined position
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01462



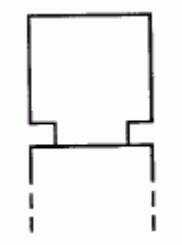
Name:	Mirror contact
Status level:	Standard
Released on:	2003-08-27
Earlier published in:	Not applicable
Keywords:	contacts
Applied in:	S01720, S01719
Applies:	S00229
Shape class:	Dots (points), Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	A mirror contact is a normally closed auxiliary contact, which cannot be in closed position simultaneously with the normally open main contact, not even during abnormal conditions like welding of the main contact.

S01463



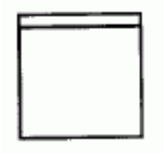
Name:	Element outline
Status level:	Standard
Released on:	2004-08-27
Earlier published in:	IEC 60617-12 (ed.3.0) 12-05-01
Keywords:	binary logic elements, elements, envelopes, outlines
Applied in:	S01791, S01796, S01573, S01571, S01578, S01610, S01629, S01623, S01637, S01636, S01660, S01663, S01662, S01665, S01570, S01675, S01723, S01566, S01567, S01685, S01661, S01668, S01669, S01687, S01734, S01678, S01569, S01627, S01638, S01607, S01639, S01628, S01686, S01709, S01710, S01778, S01659, S01640, S01706, S01781, S01641, S01674, S01800, S01731, S01707, S01708, S01667, S01670, S01626, S01568, S01572, S01664
Applies:	S00059
Application notes:	A00269, A00270, A00271
Shape class:	Rectangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Square shown.

S01464



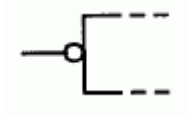
Name:	Common control block outline
Status level:	Standard
Released on:	2004-08-27
Earlier published in:	IEC 60617-12 (ed.3.0) 12-05-02
Keywords:	binary logic elements, elements, envelopes, outlines
Applied in:	S01738, S01701, S01586, S01634, S01684, S01690, S01720, S01598, S01593, S01588, S01631, S01653, S01711, S01691, S01693, S01669, S01713, S01692, S01734, S01624, S01717, S01694, S01635, S01654, S01699, S01730, S01698, S01696, S01721, S01667, S01670, S01632, S01592, S01602, S01719, S01728
Applies:	S00059
Application notes:	A00269, A00270, A00271
Shape class:	Rectangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01465



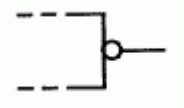
Name:	Common output element outline
Status level:	Standard
Released on:	2004-08-27
Earlier published in:	IEC 60617-12 (ed.3.0) 12-05-03
Keywords:	binary logic elements, elements, envelopes, outlines
Applied in:	S01587
Applies:	S00059
Application notes:	A00269, A00270, A00271
Shape class:	Rectangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01466



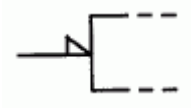
Name:	Logic negation, input
Status level:	Standard
Released on:	2004-08-27
Earlier published in:	IEC 60617-12 (ed.3.0) 12-07-01
Keywords:	binary logic elements, combinative elements
Applied in:	S01716, S01619, S01647, S01597, S01603, S01630, S01652, S01649, S01665, S01677, S01690, S01666, S01726, S01735, S01789, S01806, S01593, S01705, S01711, S01745, S01669, S01734, S01654, S01746, S01473, S01730, S01809, S01792, S01620, S01616, S01805, S01712, S01714, S01715, S01670, S01633, S01599, S01728, S01793, S01646, S01664, S01478
Application notes:	A00269, A00272, A00351
Shape class:	Circles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The symbol is shown at an input. The internal 1-state corresponds to the external 0-state. The connecting line may extend through the circle.

S01467



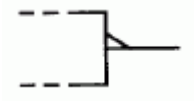
Name:	Logic negation, output
Status level:	Standard
Released on:	2004-08-27
Earlier published in:	IEC 60617-12 (ed.3.0) 12-07-02
Keywords:	binary logic elements, combinative elements
Applied in:	S01647, S01579, S01586, S01597, S01614, S01630, S01665, S01677, S01688, S01593, S01734, S01582, S01624, S01609, S01654, S01746, S01659, S01730, S01616, S01667, S01580, S01633, S01595, S01599, S01793, S01646
Application notes:	A00269, A00272, A00351
Shape class:	Circles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The symbol is shown at an output. The internal 1-state corresponds to the external 0-state. The connecting line may extend through the circle.

S01468



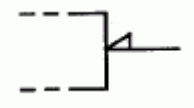
Name:	Polarity indicator, input
Status level:	Standard
Released on:	2004-08-27
Earlier published in:	IEC 60617-12 (ed.3.0) 12-07-03
Alternative names:	Logic polarity, input
Keywords:	binary logic elements, combinative elements
Applied in:	S01787, S01738, S01740, S01474, S01621, S01605, S01615, S01625, S01634, S01648, S01676, S01684, S01666, S01720, S01803, S01802, S01598, S01727, S01653, S01713, S01718, S01683, S01736, S01584, S01596, S01600, S01717, S01741, S01729, S01739, S01743, S01698, S01744, S01712, S01715, S01721, S01618, S01602, S01606, S01644, S01650, S01719
Application notes:	A00269, A00272, A00351
Shape class:	Right-angled triangle
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The symbol is shown at an input. The internal 1-state corresponds to the L-level on the connecting line.

S01469



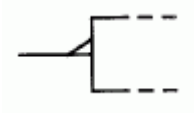
Name:	Polarity indicator, output
Status level:	Standard
Released on:	2004-08-27
Earlier published in:	IEC 60617-12 (ed.3.0) 12-07-04
Alternative names:	Logic polarity, output
Keywords:	binary logic elements, combinative elements
Applied in:	S01581, S01583, S01594, S01615, S01613, S01660, S01662, S01676, S01720, S01737, S01661, S01668, S01683, S01736, S01584, S01590, S01596, S01600, S01608, S01611, S01742, S01612, S01618, S01585, S01602, S01644, S01719
Application notes:	A00269, A00272, A00351
Shape class:	Right-angled triangle
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The symbol is shown at an output. The internal 1-state corresponds to the L-level on the connecting line.

S01470



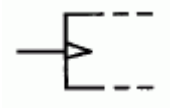
Name:	Polarity indicator, input, right to the left
Status level:	Standard
Released on:	2004-08-27
Earlier published in:	IEC 60617-12 (ed.3.0) 12-07-05
Alternative names:	Logic polarity, input, right to left
Keywords:	binary logic elements, combinative elements
Applied in:	S01596
Application notes:	A00269, A00272, A00351
Shape class:	Right-angled triangle
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The symbol is shown at an input in the case of signal flow from right to left. The internal 1-state corresponds to the L-level on the connecting line.

S01471



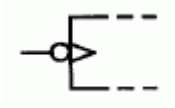
Name:	Polarity indicator, output, right to the left
Status level:	Standard
Released on:	2004-08-27
Earlier published in:	IEC 60617-12 (ed.3.0) 12-07-06
Alternative names:	Logic polarity, output, right to left
Keywords:	binary logic elements, combinative elements
Applied in:	S01736, S01618
Application notes:	A00269, A00272, A00351
Shape class:	Right-angled triangle
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The symbol is shown at an output in the case of signal flow from right to left. The internal 1-state corresponds to the L-level on the connecting line.

S01472



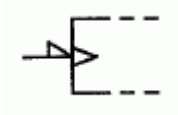
Name:	Dynamic input
Status level:	Standard
Released on:	2004-08-27
Earlier published in:	IEC 60617-12 (ed.3.0) 12-07-07
Keywords:	binary logic elements, combinative elements
Applied in:	S01701, S01474, S01663, S01665, S01675, S01676, S01684, S01677, S01690, S01688, S01720, S01722, S01727, S01661, S01691, S01668, S01745, S01669, S01477, S01683, S01692, S01734, S01694, S01746, S01473, S01674, S01698, S01721, S01667, S01670, S01719, S01478
Application notes:	A00269, A00272, A00351
Shape class:	Equilateral triangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The (transitory) internal 1-state corresponds to the transition from the external 0-state to the external 1-state. At all other times, the internal logic state is 0. On diagrams using the symbol for logic polarity the (transitory) internal 1-state corresponds to the transition from the L-level to the H-level on the connecting line. At all other times, the internal logic state is 0.

S01473



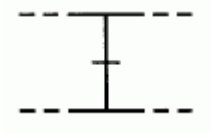
Name:	Dynamic input with logic negation
Status level:	Standard
Released on:	2004-08-27
Earlier published in:	IEC 60617-12 (ed.3.0) 12-07-08
Keywords:	binary logic elements, combinative elements
Applied in:	S01703, S01697, S01696
Applies:	S01466; S01472
Application notes:	A00269, A00272, A00351
Shape class:	Circles, Equilateral triangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The (transitory) internal 1-state corresponds to the transition from the external 1-state to the external 0-state. At all other times the internal logic state is 0.

S01474



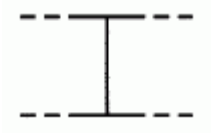
Name:	Dynamic input with polarity indicator
Status level:	Standard
Released on:	2004-08-27
Earlier published in:	IEC 60617-12 (ed.3.0) 12-07-09
Keywords:	binary logic elements, combinative elements
Applied in:	S01704, S01702, S01722, S01689, S01691, S01693, S01695, S01718, S01694, S01699, S01700
Applies:	S01468; S01472
Application notes:	A00269, A00272, A00351
Shape class:	Equilateral triangles, Right-angled triangle
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The (transitory) internal 1-state corresponds to the transition from the H-level to the L-level on the connecting line. At all other times, the internal logic state is 0.

S01475



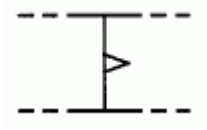
Name:	Internal connection
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-08-01
Keywords:	binary logic elements, combinative elements, internal connections
Alternative forms:	S01476; S01485
Applied in:	S01702, S01806, S01591, S01713, S01683, S01730, S01792, S01729, S01715, S01721, S01670, S01592
Application notes:	A00269, A00273, A00351
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Symbol restrictions:	This symbol may be used for a signal flow from right to left only if the direction of signal flow is obvious. Otherwise, symbol S01485 shall be used.
Remarks:	The internal 1-state [0-state] of the input of the element on the right corresponds to the internal 1-state [0-state] of the output of the element on the left.

S01476



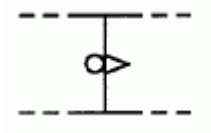
Name:	Internal connection
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-08-01A
Keywords:	binary logic elements, combinative elements, internal connections
Form:	Simplified form
Alternative forms:	S01475; S01485
Applied in:	S01581, S01704, S01619, S01583, S01615, S01789, S01631, S01477, S01584, S01624, S01809, S01620, S01618, S01478
Application notes:	A00269, A00271, A00273
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Symbol restrictions:	Symbol S01476 may be used if no confusion is likely about the number of logic connections. See also A00271 1.2. This symbol may be used for a signal flow from right to left only if the direction of signal flow is obvious. Otherwise, symbol S01485 shall be used.
Remarks:	The internal 1-state [0-state] of the input of the element on the right corresponds to the internal 1-state [0-state] of the output of the element on the left.

S01477



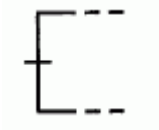
Name:	Internal connection with dynamic character
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-08-03
Keywords:	binary logic elements, combinative elements, internal connections
Applied in:	S01737, S01806, S01718
Applies:	S01472; S01476
Application notes:	A00269, A00273, A00351
Shape class:	Equilateral triangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The (transitory) internal 1-state of the input of the element on the right corresponds to the transition from the internal 0-state to the internal 1-state of the output of the element on the left. At all other times, the internal logic state of the input of the element on the right is 0.

S01478



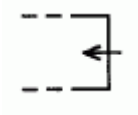
Name:	Internal connection with negation and dynamic character
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-08-04
Keywords:	binary logic elements, combinative elements, internal connections
Applies:	S01466; S01472; S01476
Application notes:	A00269, A00273, A00351
Shape class:	Circles, Equilateral triangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The (transitory) internal 1-state of the input of the element on the right corresponds to the transition from the internal 1-state to the internal 0-state of the output of the element on the left. At all other times, the internal logic state of the input of the element on the right is 0.

S01479



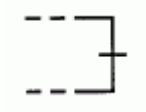
Name:	Internal input (left hand side)
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-08-05
Alternative names:	Virtual input (left hand side)
Keywords:	binary logic elements, combinative elements, internal connections
Applied in:	S01483, S01689, S01696, S01617, S01715, S01667, S01670, S01632
Application notes:	A00269, A00273, A00351
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Symbol restrictions:	The symbols associated with negation, logic polarity and dynamic input shall not be applied to internal inputs and outputs, except as shown in symbol S01483.
Remarks:	The symbol is shown on the left-hand side. This input always stands at its internal 1-state unless it is affected by a dependency relationship that has an overriding or modifying effect. (see symbols S01670 and S01689) . This symbol may be shown at the external boundary of an element to emphasize the fact that there is no external input line that has been forgotten. A virtual input at the common boundary of two abutted elements should be indicated by dependency notation without these symbols. Internal inputs and outputs have internal logic states only. This symbol should not be confused with symbol S01475, which is used for a connection between abutted elements.

S01480



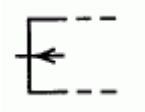
Name:	Internal input (right-hand side)
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-08-05A
Alternative names:	Virtual input (right-hand side)
Keywords:	binary logic elements, combinative elements, internal connections
Applied in:	S01696
Application notes:	A00269, A00273, A00351
Shape class:	Arrows
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The symbol is shown on the right-hand side. This input always stands at its internal 1-state unless it is affected by a dependency relationship that has an overriding or modifying effect. (see symbols S01670 and S01689) . This symbol may be shown at the external boundary of an element to emphasize the fact that there is no external input line that has been forgotten. A virtual input at the common boundary of two abutted elements should be indicated by dependency notation without these symbols. Internal inputs and outputs have internal logic states only.

S01481



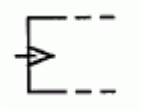
Name:	Internal output (right-hand side)
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-08-06
Alternative names:	Virtual output (right-hand side)
Keywords:	binary logic elements, combinative elements, internal connections
Applied in:	S01483
Application notes:	A00269, A00273, A00351
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Symbol restrictions:	The symbols associated with negation, logic polarity and dynamic input shall not be applied to internal inputs and outputs, except as shown in symbol S01483.
Remarks:	The symbol is shown on the right-hand side. The effect of this output on an input or output to which it is connected shall be indicated by dependency notation. Internal inputs and outputs have internal logic states only. This symbol should not be confused with symbol S01475, which is used for a connection between abutted elements.

S01482



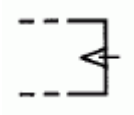
Name:	Internal output (left-hand side)
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-08-06A
Alternative names:	Virtual output (left-hand side)
Keywords:	binary logic elements, combinative elements, internal connections
Application notes:	A00269, A00273, A00351
Shape class:	Arrows
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The symbol is shown on the left-hand side. This output always stands at its internal 1-state unless it is affected by a dependency relationship that has an overriding or modifying effect. (See symbols S01670 and S01689) . This symbol may be shown at the external boundary of an element to emphasize the fact that there is no external input line that has been forgotten. A virtual input at the common boundary of two abutted elements should be indicated by dependency notation without these symbols. Internal inputs and outputs have internal logic states only.

S01483



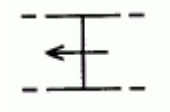
Name:	Internal input with dynamic character (left-hand side)
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-08-07
Alternative names:	Virtual input with dynamic character (left-hand side)
Keywords:	binary logic elements, combinative elements, internal connections
Applied in:	S01683, S01700
Applies:	S01479; S01481
Application notes:	A00269, A00273
Shape class:	Equilateral triangles, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The symbol is shown on the left-hand side. The (transitory) internal 1-state corresponds to the transition from the internal 0-state to the internal 1-state that would occur if this input were not dynamic. The source of the transitioning signal shall be shown by dependency notation. The identifying number of the transitioning signal shall be the left-most character in the label string at this input. This holds whether this input is shown on the left-hand side or on the right-hand side of the symbol outline.

S01484



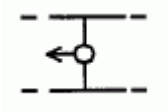
Name:	Internal input with dynamic character (right-hand side)
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-08-07A
Alternative names:	Virtual input with dynamic character (right-hand side)
Keywords:	binary logic elements, combinative elements, internal connections
Application notes:	A00269, A00273
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The symbol is shown on the right-hand side. The (transitory) internal 1-state corresponds to the transition from the internal 0-state to the internal 1-state that would occur if this input were not dynamic. The source of the transitioning signal shall be shown by dependency notation. The identifying number of the transitioning signal shall be the left-most character in the label string at this input. This holds whether this input is shown on the left-hand side or on the right-hand side of the symbol outline.

S01485



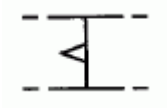
Name:	Internal connection for signal flow from right to left
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-08-08
Keywords:	binary logic elements, combinative elements, internal connections
Alternative forms:	S01475; S01476
Application notes:	A00269, A00273
Shape class:	Arrows
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The internal 1-state [0-state] of the input of the element on the left corresponds to the internal 1-state [0-state] of the output of the element on the right. If no confusion is likely, symbols S01475 or S01476 may be used instead.

S01486



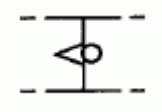
Name:	Internal connection with logic negation for signal flow from right to left
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-08-09
Keywords:	binary logic elements, combinative elements, internal connections
Applied in:	S01721
Applies:	S01809
Application notes:	A00269, A00273
Shape class:	Arrows, Circles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The internal 1-state [0-state] of the input of the element on the left corresponds to the internal 0-state [1-state] of the output of the element on the right. If no confusion is likely, symbol S01809 may be used instead. The vertical line may extend through the circle.

S01487



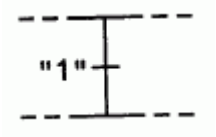
Name:	Internal connection with dynamic character for signal flow from right to left
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-08-10
Keywords:	binary logic elements, combinative elements, internal connections
Application notes:	A00269, A00273
Shape class:	Equilateral triangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The (transitory) internal 1-state of the input of the element on the left corresponds to the transition from the internal 0-state to the internal 1-state of the output of the element on the right. At all other times, the internal logic state of the input of the element on the left is 0.

S01488



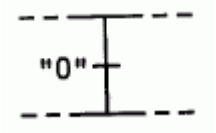
Name:	Internal connection with logic negation and dynamic character for signal flow from right to left
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-08-11
Keywords:	binary logic elements, combinative elements, internal connections
Application notes:	A00269, A00273
Shape class:	Circle segments, Equilateral triangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The (transitory) internal 1-state of the input of the element on the left corresponds to the transition from the internal 1-state to the internal 0-state of the output of the element on the right. At all other times, the internal logic state of the input of the element on the left is 0.

S01489



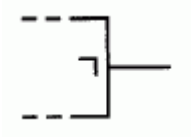
Name:	Fixed 1-state output, shown at an internal connection
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-08-12
Keywords:	binary logic elements, combinative elements, internal connections
Applies:	S01543
Application notes:	A00269, A00273
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01490



Name:	Fixed 0-state output, shown at an internal connection
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-08-13
Keywords:	binary logic elements, combinative elements, internal connections
Applies:	S01544
Application notes:	A00269, A00273
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01491



Name:	Postponed output
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-01
Keywords:	binary logic elements, combinative elements
Applied in:	S01702, S01663, S01662, S01666
Application notes:	A00269, A00304, A00335
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

Remarks:

The change of the internal state of this output is postponed until the input signal which initiates the change returns to its initial external logic state or logic level. The internal logic state of any input(s) affecting or affected by the initiating input must not change while this initiating input stands at its internal 1-state or the resulting output state will not be specified by the symbol. If the input signal which initiates the change appears at an internal connection, the change of state is postponed until the output of the preceding element returns to its initial internal logic state.

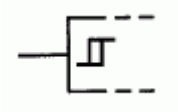
If this symbol is shown without prefix, it should be assumed that the output is postponed with respect to each →, ←, +, -, and T-input and to each Cm-input or Cm-output (see symbols S01558 and S01559); in all other cases, the identifying numbers (or if necessary the full labels) of all inputs and outputs with respect to which the output is postponed shall be shown as a prefix to this symbol. See symbol S01702.

Care should be taken that this symbol is a right angle with lines of equal length, to avoid confusion with other symbols, for example the character 7.

For the application of this symbol and additional explanation, see A00304.

The symbol is defined equivalent to UCS 2510 of ISO/IEC 10646 "BOX DRAWINGS LIGHT DOWN AND LEFT".

S01492

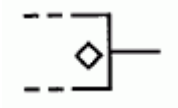


Name:	Bi-threshold input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-02
Alternative names:	Input with hysteresis
Keywords:	binary logic elements, combinative elements, hysteresis
Applied in:	S01597, S01676, S01737, S01806, S01683, S01608, S01609, S01607, S01700, S01602
Application notes:	A00269, A00336
Shape class:	Characters, Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The input takes on its internal 1-state when the external signal level reaches a threshold value V1. It maintains this state until the external signal level has returned through V1 and reaches another threshold value V0. If this symbol (without the negation symbol or polarity symbol) appears on a diagram that uses either the symbol for logic polarity or the positive-logic convention, V1 is more positive than V0. If it appears on a diagram that uses the negative-logic convention, V1 is more negative than V0. If the negation or polarity symbol is present at the input, the relationship between V1 and V0 is reversed. For an illustration to the text, see A00336. The symbols S01607, S01608 and S01608 show the use of the symbol as a general qualifying symbol for an element. The absence of this symbol does not necessarily indicate the absence of hysteresis. Most practical devices exhibit this characteristic to some extent. This symbol should only be used when an identification of the

characteristic is important to the application of the device.

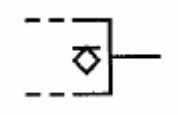
The symbol is equivalent to UCS 238E of ISO/IEC 10646 "HYSTERESIS SYMBOL".

S01493



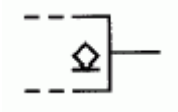
Name:	Open-circuit output
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-03
Keywords:	binary logic elements, combinative elements
Applied in:	S01495, S01494
Application notes:	A00269, A00289
Shape class:	Squares
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Examples: open-collector, open-emitter, open-drain, open-source. One of the two possible internal logic states of this type of output corresponds to an external high-impedance condition. In order to produce a proper logic level in this condition, an externally connected component or circuit, often a resistor, is required. This type of output is usually capable of forming part of a distributed connection. This symbol should be drawn adjacent to the output line, except when using the bit-grouping symbol (symbol S01517) in the manner defined in A00289, where an alternative position is permitted. Although this symbol is shown inside the outline, it refers to external states and levels only. If it is necessary to indicate which logic level is the one with the low impedance, use can be made of symbol S01494 or S01495. The symbol is equivalent to UCS 25C7 of ISO/IEC 10646 "WHITE DIAMOND".

S01494



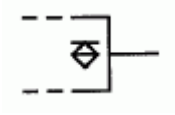
Name:	Open-circuit output (H-type)
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-04
Keywords:	binary logic elements, combinative elements
Applied in:	S01578, S01583, S01586, S01587, S01634, S01806, S01591, S01654, S01667, S01496
Applies:	S01493
Application notes:	A00269
Shape class:	Lines , Squares
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Examples: PNP open-collector, NPN open-emitter, P-channel open-drain, N-channel open-source. When not in its external high-impedance condition, this type of output produces a relatively low-impedance H-level. See also symbol S01578. The meaning of this symbol is not altered by the presence of a negation or polarity indicator. The symbol is equivalent to UCS 238F of ISO/IEC 10646 "OPEN-CIRCUIT-OUTPUT H-TYPE SYMBOL".

S01495



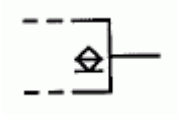
Name:	Open-circuit output (L-type)
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-05
Keywords:	binary logic elements, combinative elements
Applied in:	S01738, S01578, S01594, S01648, S01649, S01794, S01806, S01801, S01653, S01582, S01596, S01717, S01497, S01739, S01747, S01618, S01650, S01622
Applies:	S01493
Application notes:	A00269
Shape class:	Lines , Squares
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Examples: NPN open-collector, PNP open-emitter, N-channel open-drain, P-channel open-source. When not in its external high-impedance condition, this type of output produces a relatively low-impedance L-level. The meaning of this symbol is not altered by the presence of a negation or polarity indicator. See also symbol S01578. The symbol is equivalent to UCS 2390 of ISO/IEC 10646 "OPEN-CIRCUIT-OUTPUT L-TYPE SYMBOL".

S01496



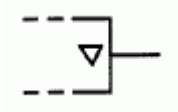
Name:	Passive-pull-down output
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-06
Keywords:	binary logic elements, combinative elements
Applied in:	S01578
Applies:	S01494
Application notes:	A00269
Shape class:	Lines , Squares
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	This type of output is similar to the H-type open-circuit output (symbol S01494) and can likewise be used as part of a distributed connection but without the need for an additional external component or circuit. See also symbol S01578. The meaning of this symbol is not altered by the presence of a negation or polarity indicator. The symbol is equivalent to UCS 2391 of ISO/IEC 10646 "PASSIVE-OUTPUT-PULL-DOWN SYMBOL.

S01497



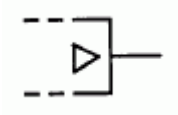
Name:	Passive-pull-up output
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-07
Keywords:	binary logic elements, combinative elements
Applied in:	S01578, S01803, S01742, S01618, S01602, S01644
Applies:	S01495
Application notes:	A00269
Shape class:	Lines , Squares
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	This type of output is similar to the L-type open-circuit output (symbol S01495) and can likewise be used as part of a distributed connection but without the need for an additional external component or circuit. See also symbol S01578. The meaning of this symbol is not altered by the presence of a negation or polarity indicator. The symbol is equivalent to UCS 2392 of ISO/IEC 10646 "PASSIVE-OUTPUT-PULL-UP SYMBOL".

S01498



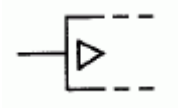
Name:	3-state output
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-08
Keywords:	binary logic elements, combinative elements
Applied in:	S01619, S01621, S01597, S01603, S01652, S01735, S01598, S01711, S01745, S01713, S01736, S01734, S01742, S01620, S01743, S01744, S01712, S01714, S01715, S01670, S01599, S01793
Application notes:	A00269
Shape class:	Equilateral triangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	This output can take on a third external state, which is a high-impedance condition, having no logic significance. This symbol should be drawn adjacent to the output line, except when using the bit-grouping symbol (symbol S01517) in the manner defined in A00289, where an alternative position is permitted. The symbol is equivalent to UCS 25BD of ISO/IEC 10646 "WHITE DOWN-POINTING TRIANGLE".

S01499



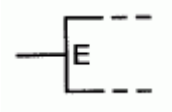
Name:	Output with special amplification (drive capability)
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-08A
Keywords:	binary logic elements, combinative elements
Applies:	S01457
Application notes:	A00269, A00351
Shape class:	Equilateral triangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The symbol S01457 emphasizes the function of amplification. It shall point in the direction of signal flow. This symbol should be drawn adjacent to the output line, except when using the bit-grouping symbol (symbol S01517) in the manner defined in A00289, where an alternative position is permitted. If this symbol is used with symbols S01493, S01494, S01495, S01496, S01497 and S01498, those symbols are placed between the amplification symbol and the edge of the element. The absence of this symbol does not necessarily indicate the absence of special amplification. The symbols S01594 to S01599 show the use of symbol S01457 as a general qualifying symbol for an element.

S01500



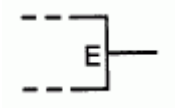
Name:	Input with special amplification (sensitivity)
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-08B
Keywords:	binary logic elements, combinative elements
Applies:	S01457
Application notes:	A00269, A00351
Shape class:	Equilateral triangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The symbol S01457 emphasizes the function of amplification. It shall point in the direction of signal flow. If one or more of the symbols S01540, S01500 or S01492 are required at an input, they shall be shown, as needed, in the following order: symbol S01540 shall be placed closest to the input(s), followed by symbol S01500, and then by symbol S01492. The absence of this symbol does not necessarily indicate the absence of special amplification. The symbols S01594 to S01599 show the use of symbol S01457 as a general qualifying symbol for an element. Its use at an input, rather than as a general qualifying symbol, shows that the input is unusually sensitive rather than that the output has increased drive capability.

S01501



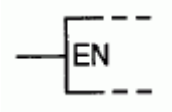
Name:	Extension input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-09
Keywords:	binary logic elements, combinative elements
Application notes:	A00269
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	An input of a binary element to which the output of an extender element may be connected (see symbol S01502). The description that characterizes the relationship between the external logic states of binary variables and their corresponding physical quantities is normally not valid for extension inputs and extender outputs.

S01502



Name:	Extender output
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-10
Keywords:	binary logic elements, combinative elements
Application notes:	A00269
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	An output of a binary element that may be connected to the extension input of another binary element in order to extend the number of inputs of that element (see symbol S01501). The description that characterizes the relationship between the external logic states of binary variables and their corresponding physical quantities is normally not valid for extension inputs and extender outputs.

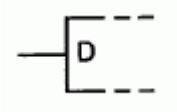
S01503



Name:	Enable input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-11
Keywords:	binary logic elements, combinative elements
Applied in:	S01716, S01619, S01621, S01562, S01597, S01630, S01648, S01652, S01649, S01775, S01598, S01727, S01717, S01730, S01620, S01729, S01714, S01650, S01728
Application notes:	A00269, A00274, A00337
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If this input stands at its internal 1-state, all outputs stand at their normally defined internal logic states and have their normally defined effect on elements or distributed connections that may be connected to the outputs, provided no other inputs or outputs have an overriding and contradicting effect. If the input stands at its internal 0-state, all outputs of the type S01493, S01494 or S01495 are in their external high-impedance conditions, all passive-pull-down outputs stand at their high-impedance L-levels, all passive-pull-up outputs stand at their high-impedance H-levels, all 3-state outputs stand at their normally defined internal logic states and are in their external high-impedance conditions, and all other outputs stand at their internal 0-states. This input only affects outputs shown as external outputs. If it is an input of an element having an internal connection indicated by the symbols S01475, S01476, S01477 and S01809, even when the remark with symbol S01475 is applied, or if an internal connection is implied (for example, by a common control block, common output element or dependency notation), the input is also an EN-input of the element to which the internal connection is connected. If ambiguity can arise, for

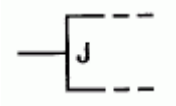
example because of the presence of embedded outlines, EN-dependency should be used.

S01504



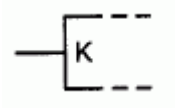
Name:	D-input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-12
Keywords:	binary logic elements, combinative elements
Applied in:	S01660, S01668, S01669, S01667, S01670
Application notes:	A00269, A00274
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The internal logic state of the D-input is stored by the element. See symbol S01660. The internal logic state of this input is always subject to an affecting input or output.

S01505



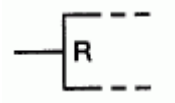
Name:	J-input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-13
Keywords:	binary logic elements, combinative elements
Applied in:	S01663, S01662, S01661
Application notes:	A00269, A00274, A00338
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	When this input takes on its internal 1-state, a 1 is stored by the element. When the input stands at its internal 0-state, it has no effect on the element. See also symbol S01506: Each occurrence of the combination J=K=1 causes a single change of the internal state of the output to its complement.

S01506



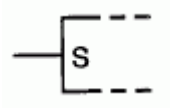
Name:	K-input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-14
Keywords:	binary logic elements, combinative elements
Applied in:	S01663, S01662, S01661
Application notes:	A00269, A00274, A00338
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	When this input takes on its internal 1-state, a 0 is stored by the element. When the input stands at its internal 0-state, it has no effect on the element. See also symbol S01505: Each occurrence of the combination J=K=1 causes a single change of the internal state of the output to its complement.

S01507



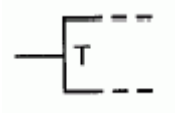
Name:	R-input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-15
Keywords:	binary logic elements, combinative elements
Applied in:	S01663, S01662, S01665, S01676, S01677, S01666, S01661, S01659, S01667, S01664
Application notes:	A00269, A00274, A00338
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	When this input takes on its internal 1-state, a 0 is stored by the element. When the input stands at its internal 0-state, it has no effect on the element. See also symbol S01508: The effect of the combination R=S=1 is not specified by the symbol; this effect may be indicated by means of SET-/RESET-dependency.

S01508



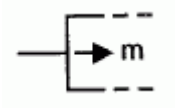
Name:	S-input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-16
Keywords:	binary logic elements, combinative elements
Applied in:	S01663, S01665, S01666, S01668, S01659, S01667, S01664
Application notes:	A00269, A00274, A00338
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	When this input takes on its internal 1-state, a 1 is stored by the element. When the input stands at its internal 0-state, it has no effect on the element. See also symbol S01507: The effect of the combination R=S=1 is not specified by the symbol; this effect may be indicated by means of SET-/RESET-dependency.

S01509



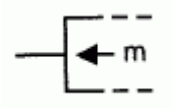
Name:	T-input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-17
Keywords:	binary logic elements, combinative elements
Application notes:	A00269, A00274, A00338
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Each time this input takes on its internal 1-state, a single change of the internal state of the output to its complement takes place. When the input stands at its internal 0-state, it has no effect on the element.

S01510



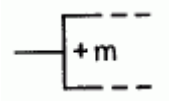
Name:	Shifting input, left to right or top to bottom
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-18
Keywords:	binary logic elements, combinative elements
Application notes:	A00269, A00274, A00338
Shape class:	Arrows, Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Each time this input takes on its internal 1-state, the information contained in the element will be shifted once m positions from left to right or from top to bottom, depending on the orientation of the symbol for the element. When the input stands at its internal 0-state, it has no effect on the element. m shall be replaced by the relevant value. If m=1, the 1 may be omitted. All directions above are relative to an orientation of the symbol in which the arrow is pointing to the right. The symbol "→" is equivalent to UCS 2192 of ISO/IEC 10646 "RIGHTWARDS ARROW".

S01511



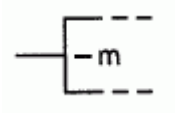
Name:	Shifting input, right to left or bottom to top
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-19
Keywords:	binary logic elements, combinative elements
Application notes:	A00269, A00274, A00338
Shape class:	Arrows
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Each time this input takes on its internal 1-state, the information contained in the element will be shifted once m positions from right to left or from bottom to top, depending on the orientation of the symbol for the element. When the input stands at its internal 0-state, it has no effect on the element. m shall be replaced by the relevant value. If m=1, the 1 may be omitted. NOTE - All directions above are relative to an orientation of the symbol in which the arrow is pointing to the left. The symbol "←" is equivalent to UCS 2190 (Table 59) of ISO/IEC 10646 "LEFTWARDS ARROW".

S01512



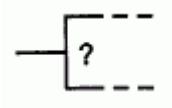
Name:	Counting-up input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-20
Keywords:	binary logic elements, combinative elements
Application notes:	A00269, A00274, A00338
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Each time this input takes on its internal 1-state, the content of the element is increased once by m units. When the input stands at its internal 0-state, it has no effect on the element. m shall be replaced by the relevant value. If m=1, the 1 may be omitted.

S01513



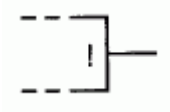
Name:	Counting-down input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-21
Keywords:	binary logic elements, combinative elements
Application notes:	A00269, A00274, A00338
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Each time this input takes on its internal 1-state, the content of the element is decreased once by m units. When the input stands at its internal 0-state, it has no effect on the element. m shall be replaced by the relevant value. If m=1, the 1 may be omitted.

S01514



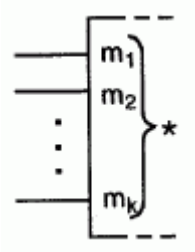
Name:	Query input of an associative memory
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-22
Alternative names:	Interrogate input of an associative memory
Keywords:	binary logic elements, combinative elements
Application notes:	A00269, A00274, A00338
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If this input takes on its internal 1-state, an interrogation of the content of the element takes place. If the input stands at its internal 0-state, it has no effect on the element.

S01515



Name:	Compare output of an associative memory
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-23
Alternative names:	Match output of an associative memory
Keywords:	binary logic elements, combinative elements
Application notes:	A00269
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The internal 1-state at this output indicates a match.

S01516

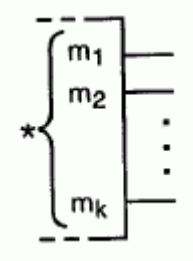


Name:	Bit grouping for multibit input, general symbol
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-24
Keywords:	binary logic elements, combinative elements
Applied in:	S01716, S01645, S01740, S01634, S01630, S01648, S01652, S01649, S01722, S01631, S01653, S01711, S01713, S01717, S01635, S01654, S01741, S01712, S01714, S01715, S01651, S01633, S01650, S01646
Application notes:	A00269, A00339, A00351
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Inputs grouped by this symbol produce a number that is the sum of the individual weights of the inputs standing at their internal 1-states. The individual inputs shall be shown in ascending or descending order by weight. This number can be regarded - as a number on which a mathematical function is performed, or - as defining an identifying number in the sense of dependency notation, or - as a value to become the content of the element. m_1 ... m_k shall be replaced by the decimal equivalents of the actual

weights. If all weights are powers of 2, m_1 ... m_k may be replaced by the exponents of the powers of 2. Labels between $m_1$and m_k may be omitted to the extent that no confusion is likely.

The asterisk shall be replaced by an appropriate indication of the operand on which the mathematical function is performed (for example P or Q), by an appropriate indication in the sense of dependency notation or by CT. In the latter case, the number produced by the inputs is the value that is loaded into the element.

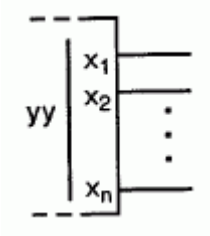
S01517



Name:	Bit grouping for multibit output, general symbol
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-25
Keywords:	binary logic elements, combinative elements
Applied in:	S01645, S01648, S01649, S01697, S01735, S01742, S01743, S01747, S01646
Application notes:	A00269, A00339, A00351
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Outputs grouped by this symbol represent a number that is the sum of the individual weights of the outputs standing at their internal 1-states. The individual outputs shall be shown in ascending or descending order by weight. This number can be regarded - as the result of the performance of a mathematical function, or - as the value of the content of the element. m_1 ... m_k shall be replaced by the decimal equivalents of the actual weights. If all weights are powers of 2, m_1 ... m_k may be replaced by the exponents of the powers of 2. Labels between m_1 and m_k may be omitted to the extent that no confusion is likely.

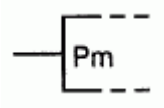
The asterisk shall be replaced by an appropriate indication of the result of the performance of the mathematical function or by CT. In the latter case, the number represented by the outputs standing at their internal 1-states is the actual value of the content of the element.

S01518



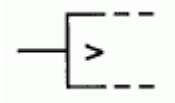
Name:	Label grouping, general symbol
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-25A
Keywords:	arithmetic elements, binary logic elements, combinative elements
Applied in:	S01716, S01704, S01738, S01703, S01720, S01722, S01735, S01737, S01803, S01718, S01736, S01734, S01788, S01739, S01744, S01747, S01786, S01712, S01714, S01715, S01719
Application notes:	A00269, A00340
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Symbol shown at the output side. This symbol indicates the grouping of adjacent and associated connecting lines whose labels are partially alike. The differing portions of these labels (x_1,..., x_n) are placed at the side of the vertical line against the connecting lines. The common portion (yy) is placed only once at the other side of the vertical line. If the differing portions are numbers, intermediate numbers within consecutive groups may be omitted to the extent that no confusion is likely. Although the differing portions may be numeric, the numbers they contain should not be considered as weights for the respective inputs and outputs. They might, for example, only identify the relative ordering of inputs or outputs. This symbol may be applied in cases where the bit grouping symbol is not applicable because the inputs or outputs grouped together do not produce or represent a number.

S01519



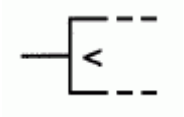
Name:	Operand input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-26
Keywords:	binary logic elements, combinative elements
Application notes:	A00269, A00274
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Pm-input shown. This input represents one bit of an operand on which one or more mathematical functions are performed. m shall be replaced by the decimal equivalent of the weight of the bit. If the weights of all Pm-inputs of the element are powers of 2, at each Pm-input m may be replaced by the exponent of the power of 2. If an operand consists of two or more bits represented by adjacent input lines, the bit grouping symbol S01516 may be used. Preferred letters for operands are P and Q. If these letters are not suitable or if more than two operands are involved, other characters may be used providing no confusion is likely.

S01520



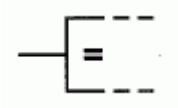
Name:	Greater-than input of a magnitude comparator
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-27
Keywords:	binary logic elements, combinative elements
Applied in:	S01651
Application notes:	A00269, A00274
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	This symbol is intended for use when representing cascaded comparators. For an example of use, see symbol S01651. This symbol should not be drawn adjacent to the outline, to avoid confusion with the dynamic input indicator symbol S01472. Other symbols in accordance with ISO 31-11 may be used to qualify other inputs of magnitude comparators, as follows: ≥, ≤, ≠. The symbol "≥" is equivalent to UCS 2265 of ISO/IEC 10646 "GREATER-THAN OR EQUAL TO".

S01521



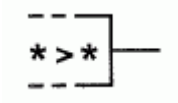
Name:	Less-than input of a magnitude comparator
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-28
Keywords:	binary logic elements, combinative elements
Applied in:	S01651
Application notes:	A00269, A00274
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	This symbol is intended for use when representing cascaded comparators. For an example of use, see symbol S01651. Other symbols in accordance with ISO 31-11 may be used to qualify other inputs of magnitude comparators, as follows: ≥, ≤, ≠. The symbol "≥" is equivalent to UCS 2265 of ISO/IEC 10646 "GREATER-THAN OR EQUAL TO". The symbol "≤" is equivalent to UCS 2264 of ISO/IEC 10646 "LESS-THAN OR EQUAL TO". The symbol "≠" is equivalent to UCS 2260 of ISO/IEC 10646 "NOT EQUAL TO".

S01522



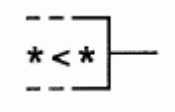
Name:	Equal input of a magnitude comparator
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-29
Keywords:	binary logic elements, combinative elements
Applied in:	S01651
Application notes:	A00269, A00274
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	This symbol is intended for use when representing cascaded comparators. For an example of use, see symbol S01651. Other symbols in accordance with ISO 31-11 may be used to qualify other inputs of magnitude comparators, as follows: ≥, ≤, ≠. The symbol "≥" is equivalent to UCS 2265 of ISO/IEC 10646 "GREATER-THAN OR EQUAL TO". The symbol "≤" is equivalent to UCS 2264 of ISO/IEC 10646 "LESS-THAN OR EQUAL TO". The symbol "≠" is equivalent to UCS 2260 of ISO/IEC 10646 "NOT EQUAL TO".

S01523



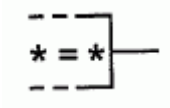
Name:	Greater-than output of a magnitude comparator
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-30
Keywords:	binary logic elements, combinative elements
Applied in:	S01652, S01770, S01651
Application notes:	A00269
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The asterisks shall be replaced by designations of the operands, for example P and Q, respectively. If this symbol appears in one element of a series of cascaded comparators, the output marked with this symbol is affected not only by the operands, but also by the inputs marked with the symbols S01520, S01521 or S01522. Other symbols in accordance with ISO 31-11 may be used to qualify other outputs of magnitude comparators, as follows: * ≥ *, * ≤ *, * ≠ *. The symbol "≥" is equivalent to UCS 2265 of ISO/IEC 10646 "GREATER-THAN OR EQUAL TO". The symbol "≤" is equivalent to UCS 2264 of ISO/IEC 10646 "LESS-THAN OR EQUAL TO". The symbol "≠" is equivalent to UCS 2260 of ISO/IEC 10646 "NOT EQUAL TO".

S01524



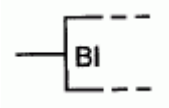
Name:	Less-than output of a magnitude comparator
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-31
Keywords:	binary logic elements, combinative elements
Applied in:	S01771, S01652, S01651
Application notes:	A00269
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The asterisks shall be replaced by designations of the operands, for example P and Q, respectively. If this symbol appears in one element of a series of cascaded comparators, the output marked with this symbol is affected not only by the operands, but also by the inputs marked with the symbols S01520, S01521 or S01522. Other symbols in accordance with ISO 31-11 may be used to qualify other outputs of magnitude comparators, as follows: * ≥ *, * ≤ *, * ≠ *. The symbol "≥" is equivalent to UCS 2265 of ISO/IEC 10646 "GREATER-THAN OR EQUAL TO". The symbol "≤" is equivalent to UCS 2264 of ISO/IEC 10646 "LESS-THAN OR EQUAL TO". The symbol "≠" is equivalent to UCS 2260 of ISO/IEC 10646 "NOT EQUAL TO".

S01525



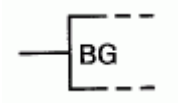
Name:	Equal output of a magnitude comparator
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-32
Keywords:	binary logic elements, combinative elements
Applied in:	S01772, S01652, S01651
Application notes:	A00269
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The asterisks shall either be replaced by designations of the operands, for example P and Q, respectively, or, providing no confusion is likely, be omitted. If this symbol appears in one element of a series of cascaded comparators, the output marked with this symbol is affected not only by the operands, but also by the inputs marked with the symbols S01520, S01521 or S01522. Other symbols in accordance with ISO 31-11 may be used to qualify other outputs of magnitude comparators, as follows: * ≥ *, * ≤ *, * ≠ *. The symbol "≥" is defined as character 3/10 of IEC 61286 "GREATER-THAN OR EQUAL TO", equivalent to UCS 2265 (Table 60) of ISO/IEC 10646 "GREATER-THAN OR EQUAL TO". The symbol "≤" is defined as character 2/10 of IEC 61286 "LESS-THAN OR EQUAL TO", equivalent to UCS 2264 (Table 60) of ISO/IEC 10646 "LESS-THAN OR EQUAL TO". The symbol "≠" is defined as character 3/6 of IEC 61286 "NOT EQUAL TO", equivalent to UCS 2260 (Table 60) of ISO/IEC 10646 "NOT EQUAL TO".

S01526



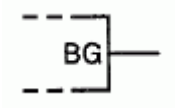
Name:	Borrow-in input of an arithmetic element
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-33
Keywords:	binary logic elements, combinative elements
Applied in:	S01646
Application notes:	A00269, A00274
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If this input stands at its internal 1-state, this indicates that a subtraction operation performed by a lower-ordered arithmetic element produces an arithmetic borrow. A decimal indication of the weight may be added as a suffix to this label; if the weight is a power of 2, this indication may be replaced by the exponent if no confusion is likely.

S01527



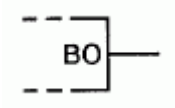
Name:	Borrow-generate input of an arithmetic element
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-34
Keywords:	binary logic elements, combinative elements
Application notes:	A00269, A00274
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If this input stands at its internal 1-state, this indicates to a borrow-acceleration element that the arithmetic element that produces the BG-signal is in the borrow-generate state (see description of symbol S01528). The borrow acceleration element uses its BG-, BP-, and BI-input signals to determine, with reduced propagation delays, the states of the arithmetic borrow signals for a group of arithmetic elements performing binary subtraction. A decimal indication of the weight may be added as a suffix to this label; if the weight is a power of 2, this indication may be replaced by the exponent if no confusion is likely.

S01528



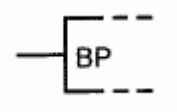
Name:	Borrow-generate output of an arithmetic element
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-35
Keywords:	binary logic elements, combinative elements
Application notes:	A00269
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If this output stands at its internal 1-state, this indicates that an arithmetic element performing subtraction is in the borrow-generate state, that is, that the subtrahend applied to the element is larger than the minuend, causing a borrow from that element independent of the state of the BI-input to that element. A decimal indication of the weight may be added as a suffix to this label; if the weight is a power of 2, this indication may be replaced by the exponent if no confusion is likely.

S01529



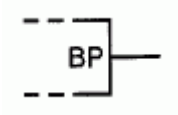
Name:	Borrow-out output of an arithmetic element
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-36
Alternative names:	Ripple-borrow output of an arithmetic element
Keywords:	binary logic elements, combinative elements
Applied in:	S01646
Application notes:	A00269
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If this output stands at its internal 1-state, this indicates that a subtraction operation performed by an arithmetic element produces an arithmetic borrow (see description of symbol S01526). A decimal indication of the weight may be added as a suffix to this label; if the weight is a power of 2, this indication may be replaced by the exponent if no confusion is likely.

S01530



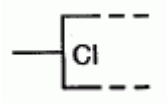
Name:	Borrow-propagate input of an arithmetic element
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-37
Keywords:	binary logic elements, combinative elements
Application notes:	A00269, A00274
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If this input stands at its internal 1-state, this indicates to a borrow-acceleration element that the arithmetic element that produces the BP-signal is in the borrow-propagate state. See description of symbol S01531. A decimal indication of the weight may be added as a suffix to this label; if the weight is a power of 2, this indication may be replaced by the exponent if no confusion is likely.

S01531



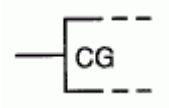
Name:	Borrow-propagate output of an arithmetic element
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-38
Keywords:	binary logic elements, combinative elements
Application notes:	A00269
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If this output stands at its internal 1-state, this indicates that an arithmetic element performing subtraction is in the borrow-propagate state, that is, that the subtrahend and minuend applied to the element are equal in value, so that the BO-output will stand at its internal 1-state if and only if the BI-input is at its internal 1-state. A decimal indication of the weight may be added as a suffix to this label; if the weight is a power of 2, this indication may be replaced by the exponent if no confusion is likely.

S01532



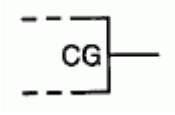
Name:	Carry-in input of an arithmetic element
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-39
Keywords:	binary logic elements, combinative elements
Applied in:	S01647, S01653, S01654, S01643
Application notes:	A00269, A00274
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If this input stands at its internal 1-state, this indicates that an addition performed by a lower-ordered arithmetic element produces an arithmetic carry. A decimal indication of the weight may be added as a suffix to this label; if the weight is a power of 2, this indication may be replaced by the exponent if no confusion is likely.

S01533



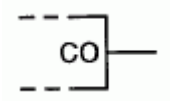
Name:	Carry-generate input of an arithmetic element
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-40
Keywords:	binary logic elements, combinative elements
Applied in:	S01647
Application notes:	A00269, A00274
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If this input stands at its internal 1-state, this indicates to a carry-acceleration element whether or not the arithmetic element that produces the CG-signal is in the carry-generate state (see description of symbol S01534). The carry-acceleration element uses its CG-, CP-, and CI-input signals to determine, with reduced propagation delays, the states of the arithmetic carry signals for a group of elements performing addition. A decimal indication of the weight may be added as a suffix to this label; if the weight is a power of 2, this indication may be replaced by the exponent if no confusion is likely.

S01534



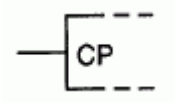
Name:	Carry-generate output of an arithmetic element
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-41
Keywords:	binary logic elements, combinative elements
Applied in:	S01647, S01653, S01654
Application notes:	A00269
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If this output stands at its internal 1-state, this indicates that an arithmetic element performing addition is in the carry-generate state, that is, that the sum of its addends is sufficiently large to cause a carry from the element independent of the state of the CI-input to that element. A decimal indication of the weight may be added as a suffix to this label; if the weight is a power of 2, this indication may be replaced by the exponent if no confusion is likely.

S01535



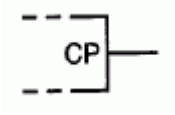
Name:	Carry-out output of an arithmetic element
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-42
Alternative names:	Ripple-carry output of an arithmetic element
Keywords:	binary logic elements, combinative elements
Applied in:	S01647, S01642, S01653, S01654, S01643
Application notes:	A00269
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If this output stands at its internal 1-state, this indicates that an addition operation performed by an arithmetic element produces an arithmetic carry (see description of symbol S01532). A decimal indication of the weight may be added as a suffix to this label; if the weight is a power of 2, this indication may be replaced by the exponent if no confusion is likely.

S01536



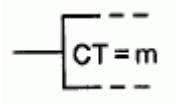
Name:	Carry-propagate input of an arithmetic element
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-43
Keywords:	binary logic elements, combinative elements
Applied in:	S01647
Application notes:	A00269, A00274
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If this input stands at its internal 1-state, this indicates to a carry-acceleration element that the arithmetic element that produces the CP-signal is in the carry-propagate state (see description of symbol S01537). A decimal indication of the weight may be added as a suffix to this label; if the weight is a power of 2, this indication may be replaced by the exponent if no confusion is likely.

S01537



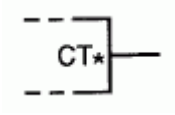
Name:	Carry-propagate output of an arithmetic element
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-44
Keywords:	binary logic elements, combinative elements
Applied in:	S01647, S01653
Application notes:	A00269
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If this output stands at its internal 1-state, this indicates that an arithmetic element performing addition is in the carry-propagate state, that is that the sum of its addends is one less than the value at which the element produces an output carry. As a result, the CO-output will stand at its internal 1-state if and only if its CI-input is at its internal 1-state. A decimal indication of the weight may be added as a suffix to this label; if the weight is a power of 2, this indication may be replaced by the exponent if no confusion is likely.

S01538



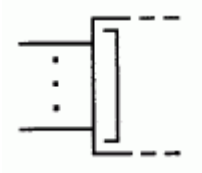
Name:	Content input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-45
Keywords:	binary logic elements, combinative elements
Applied in:	S01703
Application notes:	A00269
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	m shall be replaced by an appropriate indication of the content of the element (for example a counter) that results whenever this input takes on its internal 1-state. If this input stands at its internal 0-state, it has no effect on the element.

S01539



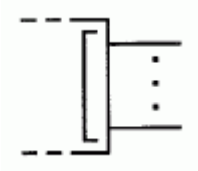
Name:	Content output
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-46
Keywords:	binary logic elements, combinative elements
Applied in:	S01699, S01618
Application notes:	A00269
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The asterisk shall be replaced by an appropriate indication of those values of the content of the element (for example a counter) for which the output stands at its internal 1-state.

S01540



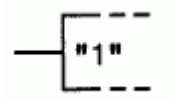
Name:	Line grouping at the input side
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-47
Keywords:	binary logic elements, combinative elements
Applied in:	S01787, S01605, S01625, S01724, S01584, S01600
Application notes:	A00269, A00351
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	This symbol indicates that two or more connections are needed to implement a single logic input. The logic levels on connections grouped by this symbol may differ from those on the other input and output terminals. See symbol S01600. The absence of this symbol does not necessarily indicate the absence of special amplification. The symbols S01594 to S01599 show the use of symbol S01457 as a general qualifying symbol for an element. Its use at an input, rather than as a general qualifying symbol, shows that the input is unusually sensitive rather than that the output has increased drive capability.

S01541



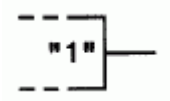
Name:	Line grouping at the output side
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-48
Keywords:	binary logic elements, combinative elements
Applied in:	S01585
Application notes:	A00269, A00351
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	This symbol indicates that two or more connections are needed to implement a single logic output. The logic levels on connections grouped by this symbol may differ from those on the other input and output terminals.

S01542



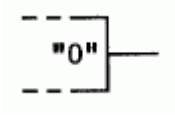
Name:	Fixed-mode input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-49
Keywords:	binary logic elements, combinative elements
Applied in:	S01695, S01694
Application notes:	A00269
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If an element can perform several functions but only a restricted number of functions is of interest, this representation can be used to identify an input that must be in the internal 1-state for the element to perform the functions of interest indicated by the symbol. A fixed-mode input must not be affected by dependency notation nor have other functions.

S01543



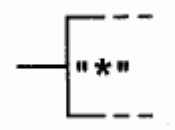
Name:	Fixed-1-state output
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-50
Keywords:	binary logic elements, combinative elements
Applied in:	S01489, S01622
Application notes:	A00269, A00274
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	This representation may be used to identify an output that always stands at its internal 1-state. This output shall neither be affected by dependency notation nor have other functions.

S01544



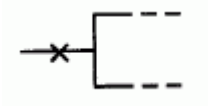
Name:	Fixed-0-state output
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-51
Keywords:	binary logic elements, combinative elements
Applied in:	S01490
Application notes:	A00269, A00274
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	This representation may be used to identify an output that always stands at its internal 0-state. This output shall neither be affected by dependency notation nor have other functions.

S01545



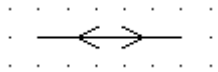
Name:	Required connection
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-09-52
Keywords:	binary logic elements, combinative elements
Applied in:	S01704, S01658
Application notes:	A00269, A00274
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Shown at an input. This symbol identifies an input or output that must be connected to one or more other inputs or outputs in the same element for the element to perform as otherwise indicated by the symbol. The asterisk shall be replaced by a label other than 0 or 1. Each input and output that is to be connected (outside the element) to this one shall have an identical required-connection label. A required connection shall not be affected by dependency notation. However, the input or output may have other functions that are affected by dependency notation.

S01546



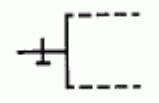
Name:	Non-logic connection
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-10-01
Keywords:	binary logic elements, connections
Applied in:	S01785, S01799, S01676, S01684, S01677, S01683, S01798, S01752, S01792
Application notes:	A00269, A00275
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Symbol shown on the left-hand side. This symbol may be used to indicate a connection which does not carry any logic information (for example reference voltage connection). Additional information associated with non-logic connections may be shown without brackets inside the outline. The symbol is equivalent to UCS 00D7 of ISO/IEC 10646 "MULTIPLICATION SIGN".

S01547



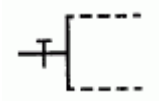
Name:	Bidirectional signal flow
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-10-02
Keywords:	binary logic elements, flow, signal flow
Applied in:	S01604, S01603, S01605
Applies:	S00101
Application notes:	A00269, A00275
Shape class:	Arrows
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01548



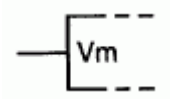
Name:	Input with internal pulldown
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-10-03
Keywords:	binary logic elements
Applied in:	S01705
Application notes:	A00269, A00275
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	When this input is not connected externally, the external logic level is L. The absence of this symbol does not necessarily indicate the absence of internal pulldown.

S01549



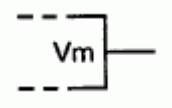
Name:	Input with internal pullup
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-10-04
Keywords:	binary logic elements
Application notes:	A00269, A00275
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	When this input is not connected externally, the external logic level is H. The absence of this symbol does not necessarily indicate the absence of internal pullup.

S01550



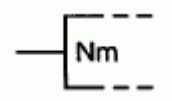
Name:	Vm-input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-15-01
Keywords:	binary logic elements, dependency notation, OR dependency
Applied in:	S01802, S01617, S01618, S01622
Application notes:	A00269, A00276, A00278, A00288, A00289
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If a Vm-input stands at its internal 1-state, all inputs and outputs affected by this Vm-input stand at their internal 1-states. If a Vm-input stands at its internal 0-state, all inputs and outputs affected by this Vm-input stand at their normally defined internal logic states. m shall be replaced by the relevant identifying number. The note with table I of A00276 applies.

S01551



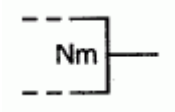
Name:	Vm-output
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-15-02
Keywords:	binary logic elements, dependency notation, OR dependency
Applied in:	S01665
Application notes:	A00269, A00276, A00278, A00288, A00289
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If a Vm-output stands at its internal 1-state, all inputs and outputs affected by this Vm-output stand at their internal 1-states. If a Vm-output stands at its internal 0-state, all inputs and outputs affected by this Vm-output stand at their normally defined internal logic states. m shall be replaced by the relevant identifying number. The note with table I of A00276 applies.

S01552



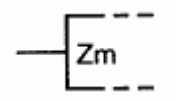
Name:	Nm-input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-16-01
Keywords:	binary logic elements, dependency notation, NEGATE dependency
Applied in:	S01634, S01593, S01653, S01654
Application notes:	A00269, A00276, A00279, A00288, A00289
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If a Nm-input stands at its internal 1-state, the internal logic state of each input and each output affected by this Nm-input is the complement of the normally defined internal logic state of that input. If a Nm-input stands at its internal 0-state, all inputs and outputs affected by this Nm-input stand at their normally defined internal logic states. m shall be replaced by the relevant identifying number. The note with table I of A00276 applies.

S01553



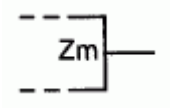
Name:	Nm-output
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-16-02
Keywords:	binary logic elements, dependency notation, NEGATE dependency
Application notes:	A00269, A00276, A00279, A00288, A00289
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If a Nm-output stands at its internal 1-state, the internal logic state of each input and each output affected by this Nm-output is the complement of the normally defined internal logic state of that output. If a Nm-output stands at its internal 0-state, all inputs and outputs affected by this Nm-output stand at their normally defined internal logic states. m shall be replaced by the relevant identifying number. The note with table I of A00276 applies.

S01554



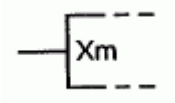
Name:	Zm-input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-17-01
Keywords:	binary logic elements, dependency notation, INTERCONNECTION dependency
Applied in:	S01591, S01766, S01729, S01617, S01721, S01667, S01670
Application notes:	A00269, A00276, A00280, A00288, A00289
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If a Zm-input stands at its internal 1-state, all inputs and outputs affected by this Zm-input stand at their internal 1-states unless modified by additional dependency notation. If a Zm-input stands at its internal 0-state, all inputs and outputs affected by this Zm-input stand at their internal 0-states unless modified by additional dependency notation. m shall be replaced by the relevant identifying number. The note with table I of A00276 applies.

S01555



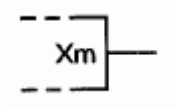
Name:	Zm-output
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-17-02
Keywords:	binary logic elements, dependency notation, INTERCONNECTION dependency
Applied in:	S01689, S01683, S01767, S01696
Application notes:	A00269, A00276, A00280, A00288, A00289
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If a Zm-output stands at its internal 1-state, all inputs and outputs affected by this Zm-output stand at their internal 1-states unless modified by additional dependency notation. If a Zm-output stands at its internal 0-state, all inputs and outputs affected by this Zm-output stand at their internal 0-states unless modified by additional dependency notation. m shall be replaced by the relevant identifying number. The note with table I de A00276 applies.

S01556



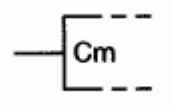
Name:	Xm-input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-17A-01
Keywords:	binary logic elements, dependency notation, TRANSMISSION dependency
Applied in:	S01604, S01605, S01776, S01805, S01606
Application notes:	A00269, A00276, A00281, A00288, A00289
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If an Xm-input stands at its internal 1-state, a transmission path is established to which all ports affected by this input are connected. However, if a port is affected by two or more Xm-inputs and/or Xm-outputs whose identifying numbers are separated by commas, then the port is connected to the transmission paths established by these Xm-inputs only if all these affecting inputs stand at their internal 1-states. All ports connected to a transmission path stand at the same analogue signal level or internal logic state unless modified by additional notation, for example dependency notation. If an Xm-input stands at its internal 0-state, no transmission paths are established by this input or output. If an Xm-input is modified by additional notation to have no effect on the function of the element, there is no transmission path established by that input or output. m shall be replaced by the relevant identifying number. The note with table I of A00276 applies.

S01557



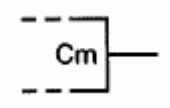
Name:	Xm-output
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-17A-02
Keywords:	binary logic elements, dependency notation, TRANSMISSION dependency
Applied in:	S01777, S01635
Application notes:	A00269, A00276, A00281, A00288, A00289
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If an Xm-output stands at its internal 1-state, a transmission path is established to which all ports affected by this output are connected. However, if a port is affected by two or more Xm-inputs and/or Xm-outputs whose identifying numbers are separated by commas, then the port is connected to the transmission paths established by these Xm-outputs only if all these affecting outputs stand at their internal 1-states. All ports connected to a transmission path stand at the same analogue signal level or internal logic state unless modified by additional notation, for example dependency notation. If an Xm-output stands at its internal 0-state, no transmission paths are established by this input or output. If an Xm-output is modified by additional notation to have no effect on the function of the element, there is no transmission path established by that input or output. m shall be replaced by the relevant identifying number. The note with table I of A00276 applies.

S01558



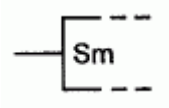
Name:	Cm-input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-18-01
Keywords:	binary logic elements, CONTROL dependency, dependency notation
Applied in:	S01716, S01701, S01702, S01660, S01663, S01662, S01676, S01677, S01690, S01688, S01666, S01722, S01806, S01727, S01689, S01661, S01693, S01668, S01695, S01669, S01713, S01718, S01692, S01717, S01694, S01654, S01792, S01698, S01721, S01667
Application notes:	A00269, A00276, A00282, A00286
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If a Cm-input stands at its internal 1-state, the inputs affected by this Cm-input have their normally defined effect on the function of the element. If a Cm-input stands at its internal 0-state, the inputs affected by this Cm-input have no effect on the function of the element. m shall be replaced by the relevant identifying number. The note with table I of A00276 applies.

S01559



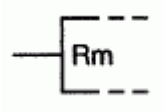
Name:	Cm-output
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-18-02
Keywords:	binary logic elements, CONTROL dependency, dependency notation
Applied in:	S01676, S01677, S01737
Application notes:	A00269, A00276, A00282, A00286, A00288, A00289
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If a Cm-output stands at its internal 1-state, the inputs affected by this Cm-output have their normally defined effect on the function of the element. If a Cm-output stands at its internal 0-state, the inputs affected by this Cm-output have no effect on the function of the element. m shall be replaced by the relevant identifying number. The note with table I of A00276 applies.

S01560



Name:	Sm-input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-19-01
Keywords:	binary logic elements, dependency notation, SET dependency
Applied in:	S01806
Application notes:	A00269, A00276, A00283, A00288, A00289
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If an Sm-input stands at its internal 1-state, the outputs affected by this Sm-input will take on the internal logic state they normally would take on for the combination S=1, R=0, regardless of the state of any R-input. If an Sm-input stands at its internal 0-state, it has no effect. m shall be replaced by the relevant identifying number. The note with table I of A00276 applies.

S01561

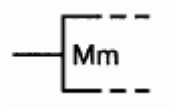


Name:	Rm-input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-19-02
Keywords:	binary logic elements, dependency notation, RESET dependency
Applied in:	S01701, S01690, S01803, S01691, S01695, S01692, S01694, S01698, S01696, S01670
Application notes:	A00269, A00276, A00283, A00288, A00289
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If an Rm-input stands at its internal 1-state, the outputs affected by this Rm-input will take on the internal logic state they normally would take on for the combination S=0, R=1, regardless of the state of any S-input. If an Rm-input stands at its internal 0-state, it has no effect. m shall be replaced by the relevant identifying number. The note with table I of A00276 applies.

S01562

Name:	ENm-input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-20-01
Keywords:	binary logic elements, dependency notation, ENABLE dependency
Alternative forms:	S01503; S01562
Applied in:	S01702, S01603, S01615, S01596, S01746, S01620, S01617, S01805, S01721, S01670, S01599, S01606, S01793
Applies:	S01503; S01563; S01620
Application notes:	A00269, A00276, A00284, A00286, A00288, A00289
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The effect of this input on its affected outputs is the same as that of an EN-input (see symbol S01503). The effect of this input on its affected inputs is the same as that of an Mm-input (see symbol S01563). m shall be replaced by the relevant identifying number. The note with table I of A00276 applies.

S01563



Name:	Mm-input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-21-01
Keywords:	binary logic elements, dependency notation, MODE dependency
Applied in:	S01702, S01562, S01634, S01690, S01689, S01705, S01695, S01713, S01698
Application notes:	A00269, A00276, A00285, A00286, A00288, A00289
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

Remarks:

If an Mm-input stands at its internal 1-state, any input affected by this Mm-input has its normally defined effect on the function of the element, and any output affected by this Mm-input stands at its normally defined internal logic state or analogue signal value. That is, the inputs and outputs are enabled.

If an Mm-input stands at its internal 0-state, its effect on inputs and outputs is as follows:

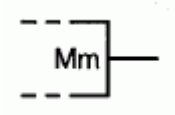
- any input affected by this Mm-input has no effect on the function of the element;
- if an affected input has several sets of labels separated by solidi, any set containing the identifying number of the Mm-input has no effect and shall be ignored. This represents disabling some of the functions of a multifunction input;
- at each output affected by this Mm-input, any set of labels containing the identifying number of that Mm-input has no effect and shall be ignored;
- if an output has several sets of labels separated by solidi (see A00289), any set containing the identifying number of this Mm-input shall be ignored. This represents disabling or selecting some of the functions of a multifunction output or modifying some of the

characteristics or dependent relationships of the output.

m shall be replaced by the relevant identifying number.

The note with table I of A00276 applies.

S01564



Name:	Mm-output
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-21-02
Keywords:	binary logic elements, dependency notation, MODE dependency
Application notes:	A00269, A00276, A00285, A00286, A00288, A00289
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

Remarks:

If an Mm-output stands at its internal 1-state, any input affected by this Mm-output has its normally defined effect on the function of the element, and any output affected by this Mm-output stands at its normally defined internal logic state or analogue signal value. That is, the inputs and outputs are enabled.

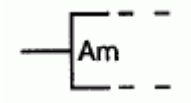
If an Mm-output stands at its internal 0-state, its effect on inputs and outputs is as follows:

- any input affected by this Mm-output has no effect on the function of the element;
- if an affected input has several sets of labels separated by solidi, any set containing the identifying number of the Mm-output has no effect and shall be ignored. This represents disabling some of the functions of a multifunction input;
- at each output affected by this Mm-output, any set of labels containing the identifying number of that Mm-output has no effect and shall be ignored;
- if an output has several sets of labels separated by solidi (see A00289), any set containing the identifying number of this Mm-output shall be ignored. This represents disabling or selecting some of the functions of a multifunction output or modifying some of the characteristics or dependent relationships of the output.

m shall be replaced by the relevant identifying number.

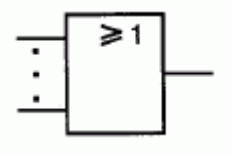
The note with table I of A00276 applies.

S01565



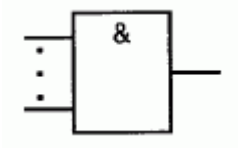
Name:	Am-input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-23-01
Keywords:	ADDRESS dependency, binary logic elements, dependency notation
Applied in:	S01716, S01722, S01711, S01713, S01718, S01717, S01730, S01712, S01714, S01715
Application notes:	A00269, A00276, A00287, A00288, A00289
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If this input stands at its internal 1-state, the inputs affected by this input (that is the inputs of the section of the array selected by this input) have their normally defined effect on the elements of the selected section and the internal logic states of the outputs affected by this input (that is the outputs of the selected section) have their normal effect on the OR functions (or the indicated functions) determining the internal logic states of the outputs of the array. If the input stands at its internal 0-state, the inputs affected by this input (that is the inputs of the section selected by this input) have no effect on the elements of this section and the outputs affected by this input (that is the outputs of the section selected by this input) have no effect on the outputs of the array. m shall be replaced by the relevant identifying number. The note with table I of A00276 applies.

S01566



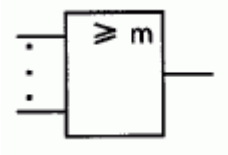
Name:	OR element, general symbol
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-27-01
Keywords:	binary logic elements, combinative elements
Applied in:	S01581, S01583, S01586, S01587, S01584, S01617, S01667, S01670, S01580, S01632, S01618, S01644
Applies:	S01463
Application notes:	A00269, A00290, A00291, A00348
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The output stands at its 1-state if and only if one or more of the inputs stand at their 1-states. "≥" is equivalent to UCS 2265 of ISO/IEC 10646 "GREATER-THAN OR EQUAL TO". "≥1" may be replaced by "1" if no ambiguity is likely.

S01567



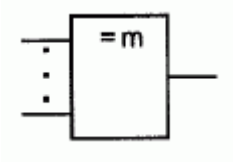
Name:	AND element, general symbol
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-27-02
Keywords:	binary logic elements, combinative elements
Applied in:	S01581, S01704, S01619, S01579, S01583, S01615, S01634, S01648, S01652, S01649, S01676, S01688, S01666, S01722, S01789, S01711, S01693, S01718, S01683, S01692, S01582, S01584, S01624, S01609, S01620, S01721, S01670, S01700, S01618, S01633, S01585, S01595, S01602, S01644
Applies:	S01463
Application notes:	A00269, A00290, A00291, A00348
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The output stands at its 1-state if and only if all inputs stand at their 1-states.

S01568



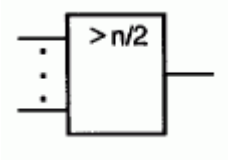
Name:	Logic threshold element, general symbol
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-27-03
Keywords:	binary logic elements, combinative elements
Applies:	S01463
Application notes:	A00269, A00290
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The output stands at its 1-state if and only if the number of inputs which stand at their 1-states is equal to or greater than the number in the qualifying symbol, represented here by m. m shall always be smaller than the number of inputs. An element with m=1 is generally known as an OR element (see symbol S01566). "≥" is equivalent to UCS 2265 of ISO/IEC 10646 "GREATER-THAN OR EQUAL TO".

S01569



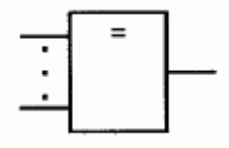
Name:	m and only m element, general symbol
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-27-04
Keywords:	binary logic elements, combinative elements
Applies:	S01463
Application notes:	A00269, A00290, A00291
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The output stands at its 1-state if and only if the number of inputs which stand at their 1-states is equal to the number in the qualifying symbol, represented here by m. A 2-input element with m=1 is generally known as an exclusive-OR element (see symbol S01574). m shall always be smaller than the number of inputs.

S01570



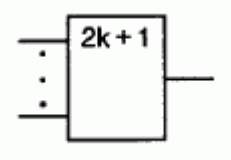
Name:	MAJORITY element, general symbol
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-27-05
Keywords:	binary logic elements, combinative elements
Applies:	S01463
Application notes:	A00269, A00290, A00291
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The output stands at its 1-state if and only if the majority of the inputs stand at their 1-states.

S01571



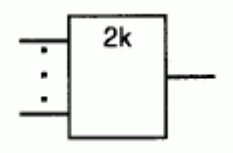
Name:	LOGIC IDENTITY element, general symbol
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-27-06
Keywords:	binary logic elements, combinative elements
Applied in:	S01631, S01592
Applies:	S01463
Application notes:	A00269, A00290, A00291
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The output stands at its 1-state if and only if all inputs stand at the same logic state.

S01572



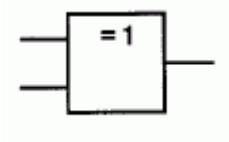
Name:	ODD element, general symbol
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-27-07
Alternative names:	ODD-parity element, general symbol; Addition modulo 2 element, general symbol
Keywords:	binary logic elements, combinative elements
Applied in:	S01589, S01591
Applies:	S01463
Application notes:	A00269, A00290, A00291
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The output stands at its 1-state if and only if the number of inputs which stand at their 1-states is odd (1, 3, 5, etc.).

S01573



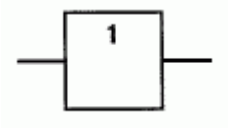
Name:	EVEN element, general symbol
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-27-08
Alternative names:	EVEN-parity element, general symbol
Keywords:	binary logic elements, combinative elements
Applied in:	S01590, S01592
Applies:	S01463
Application notes:	A00269, A00290, A00291
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The output stands at its 1-state if and only if the number of inputs which stand at their 1-states is even (0, 2, 4, etc.).

S01574



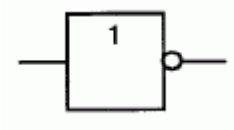
Name:	Exclusive-OR element
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-27-09
Keywords:	binary logic elements, combinative elements
Applied in:	S01587, S01588, S01632
Application notes:	A00269, A00290, A00291, A00348
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The output stands at its 1-state if one and only one of the two inputs stands at its 1-state. In the case of more than two inputs, either symbol S01569 with m=1 or symbol S01572 should be used depending on the function involved.

S01575



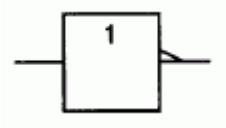
Name:	Buffer without specially amplified output
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-27-10
Keywords:	binary logic elements, combinative elements
Applied in:	S01593, S01596, S01607
Application notes:	A00269, A00290, A00291, A00348
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The output stands at its 1-state if and only if the input stands at its 1-state.

S01576



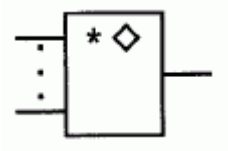
Name:	Negator
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-27-11
Alternative names:	Inverter (in the case of device representation using the logic-negation symbol)
Keywords:	binary logic elements, combinative elements
Application notes:	A00269, A00290, A00291, A00348
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The output stands at its external 0-state if and only if the input stands at its external 1-state.

S01577



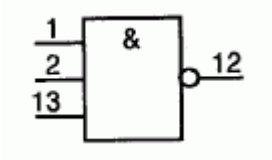
Name:	Inverter (in the case of device representation using the qualifying symbol for logic polarity)
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-27-12
Keywords:	binary logic elements, combinative elements
Applied in:	S01601
Application notes:	A00269, A00290, A00291, A00348
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The output stands at its L-level if and only if the input stands at its H-level.

S01578



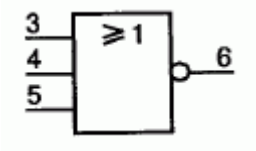
Name:	Distributed connection, general symbol
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-27-13
Alternative names:	Dot function, general symbol; Wired function, general symbol
Keywords:	binary logic elements, combinative elements
Applies:	S01463; S01494; S01495; S01496; S01497
Application notes:	A00269, A00290, A00291
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	A distributed connection is a connection of specific outputs of a number of elements which are joined together to achieve either the AND- or the OR-function. The asterisk shall be replaced by the qualifying symbol for the function, that is, & or ≥1. As an alternative to the use of the general symbol, a distributed connection may be shown by one of the symbols for a junction of conductors (S00019 and S00020). At each point where lines are joined together the qualifying symbol for the function, that is, & or ≥1, shall be shown if confusion is otherwise likely.

S01579



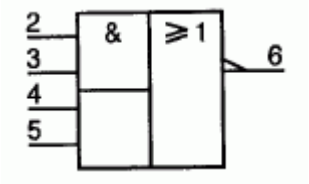
Name:	AND with negated output (NAND)
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-28-01
Keywords:	binary logic circuits, combinative circuits
Applies:	S01467; S01567
Application notes:	A00269, A00348
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	(e.g. part of SN 7410)

S01580



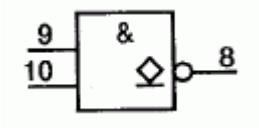
Name:	OR with negated output (NOR)
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-28-02
Keywords:	binary logic circuits, combinative circuits
Applies:	S01467; S01566
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. part of SN 7427)

S01581



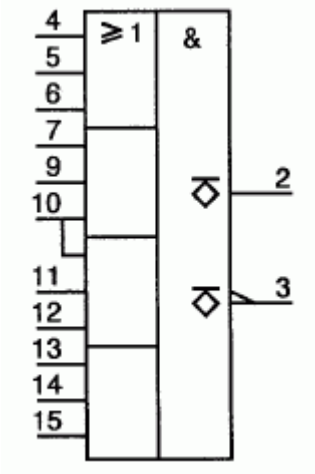
Name:	AND-OR-Invert
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-28-03
Keywords:	binary logic circuits, combinative circuits
Applies:	S01469; S01476; S01566; S01567
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. part of SN 74L51)

S01582



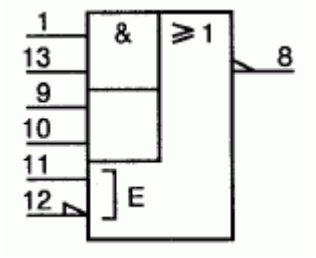
Name:	NAND with open-circuit output of the L-type
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-28-04
Keywords:	binary logic circuits, combinative circuits
Applies:	S01467; S01495; S01567
Application notes:	A00269, A00348
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. part of SN 7403)

S01583



Name:	OR-AND with complementary open-circuit outputs of the H-type
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-28-05
Keywords:	binary logic circuits, combinative circuits
Applies:	S01469; S01476; S01494; S01566; S01567
Application notes:	A00269
Shape class:	Characters, Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. MC 10121)

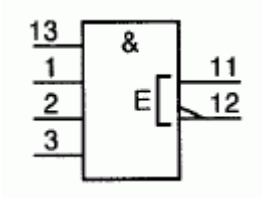
S01584



Name:	AND-OR-Invert, expandable
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-28-06
Keywords:	binary logic circuits, combinative circuits
Applies:	S01468; S01469; S01476; S01540; S01566; S01567
Application notes:	A00269
Shape class:	Characters, Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. part of SN 7450)

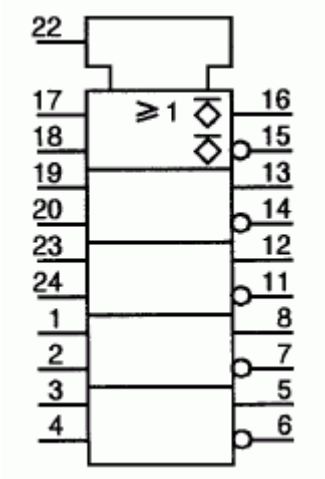
The line grouping symbol (S01540) indicates that two wires are needed to implement the single extension connection.

S01585



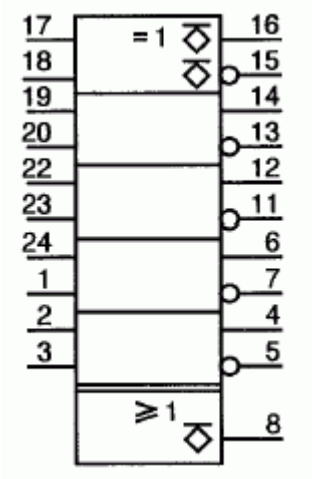
Name:	Expander
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-28-07
Keywords:	binary logic circuits, combinative circuits
Applies:	S01469; S01541; S01567
Application notes:	A00269
Shape class:	Characters, Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. part of SN 7460)

S01586



Name:	OR, with one common input and with complementary outputs, quintuple
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-28-08
Keywords:	binary logic circuits, combinative circuits
Applies:	S01464; S01467; S01494; S01566
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. F 100102)

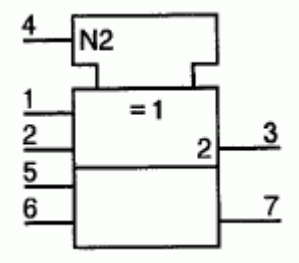
S01587



Name:	Exclusive-OR, with complementary outputs and one common output, quintuple
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-28-09
Keywords:	binary logic circuits, combinative circuits
Applies:	S01465; S01494; S01566; S01574
Application notes:	A00269, A00271
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. F 100107)

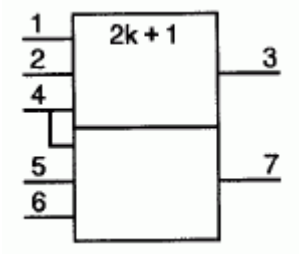
One output of each of the five elements is internally connected to an input of the common output element. The internal logic state of this input corresponds with that of the output to which it is connected and does not depend on the choice of that output because both outputs of each element have identical internal logic states (see application note A00271).

S01588



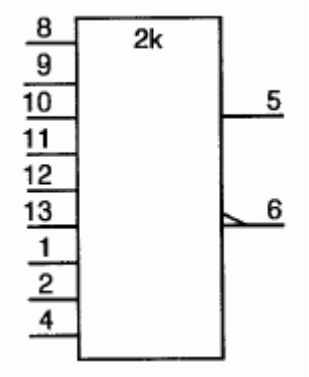
Name:	Exclusive-OR/NOR, dual
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-28-10
Keywords:	binary logic circuits, combinative circuits
Alternative forms:	S01589
Applies:	S01464; S01574
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. part of SN 74S135) Symbol S01589 depicts the same device in another way.

S01589



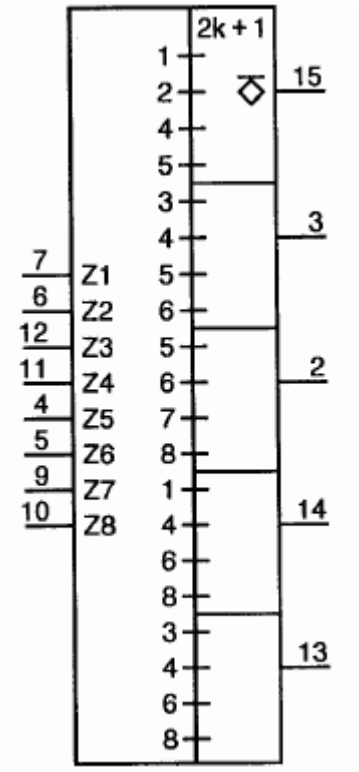
Name:	ODD element, with one common input, dual
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-28-11
Keywords:	binary logic circuits, combinative circuits
Alternative forms:	S01588
Applies:	S01572
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. part of SN 74S135) Symbol S01588 depicts the same device in another way.

S01590



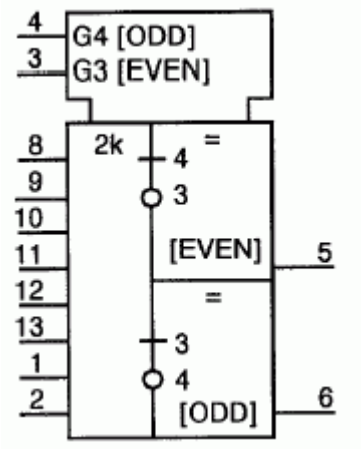
Name:	Parity generator/checker with complementary outputs
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-28-12
Keywords:	binary logic circuits, combinative circuits
Applies:	S01469; S01573
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. SN 74280)

S01591



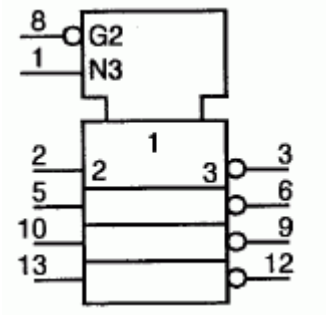
Name:	Error detection/correction element
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-28-13
Keywords:	binary logic circuits, combinative circuits
Applies:	S01475; S01494; S01554; S01572
Application notes:	A00269
Shape class:	Characters, Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. MC 10163)

S01592



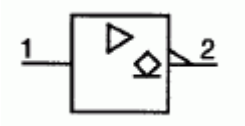
Name:	Parity generator/checker, odd/even
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-28-14
Keywords:	binary logic circuits, combinative circuits
Applies:	S01464; S01475; S01571; S01573; S01809
Application notes:	A00269
Shape class:	Characters, Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. SN 74180)

S01593



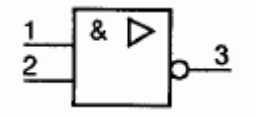
Name:	True/complement, zero/one element, quadruple
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-28-15
Keywords:	binary logic circuits, combinative circuits
Applies:	S01464; S01466; S01467; S01552; S01575; S01810
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. SN 74H87)

S01594



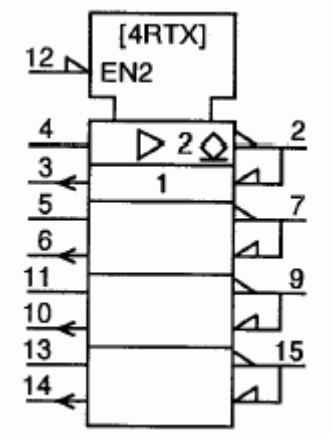
Name:	Buffer/driver with inverted open-circuit output of the L-type
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-29-01
Keywords:	amplifiers, binary logic circuits, buffers, drivers
Applies:	S01457; S01469; S01495
Application notes:	A00269, A00293
Shape class:	Equilateral triangles, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. part of SN 7406)

S01595



Name:	NAND buffer
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-29-02
Keywords:	amplifiers, binary logic circuits, buffers, drivers
Applies:	S01457; S01467; S01567
Application notes:	A00269, A00293
Shape class:	Characters, Equilateral triangles, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. part of SN 7437)

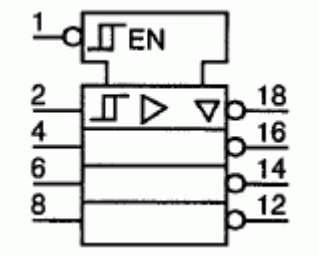
S01596



Name:	Bus transceiver, quadruple
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-29-03
Keywords:	binary logic circuits, drivers, receivers, tranceivers
Applies:	S00099; S01457; S01468; S01469; S01470; S01495; S01562; S01575
Application notes:	A00269, A00271, A00293
Shape class:	Arrows, Characters, Equilateral triangles, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. Am 26S10)

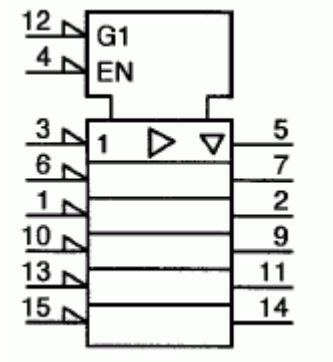
The general qualifying symbols and those associated with the inputs and outputs of the two outlines forming the first element of the array have been omitted from the remaining elements of the array in accordance with application note A00271.

S01597



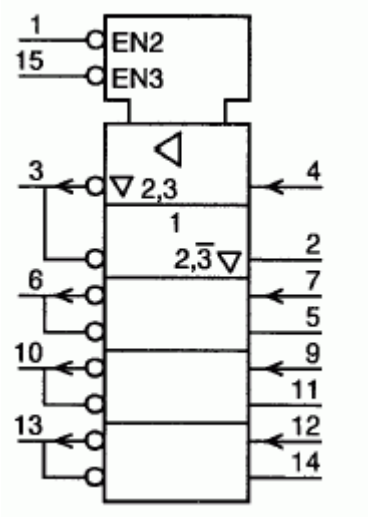
Name:	Bus driver with bi-threshold inputs and 3-state outputs, quad
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-29-04
Keywords:	binary logic circuits, drivers
Applies:	S01457; S01466; S01467; S01492; S01498; S01503
Application notes:	A00269, A00293
Shape class:	Characters, Equilateral triangles, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. part of SN 74S240)

S01598



Name:	Buffer, inverting, with 3-state outputs, hex
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-29-05
Keywords:	binary logic circuits, buffers, inverters
Applies:	S01457; S01464; S01468; S01498; S01503; S01810
Application notes:	A00269
Shape class:	Characters, Equilateral triangles, Rectangles, Right-angled triangle
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. CD 4502B)

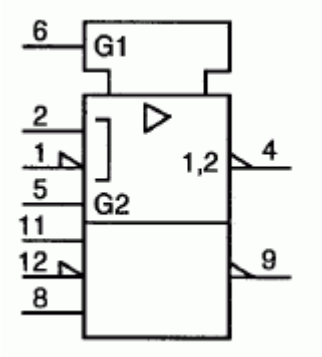
S01599



Name:	Bus driver, bidirectional, quadruple
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-29-06
Keywords:	binary logic circuits, drivers
Applies:	S00099; S01457; S01466; S01467; S01498; S01562
Application notes:	A00269
Shape class:	Arrows, Characters, Equilateral triangles, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. 8226)

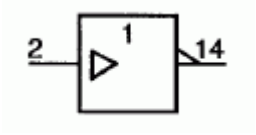
Terminal 1 could be labelled as an EN-input (symbol S01503) without dependency notation, that is, the identifying number 2 may be omitted at three places inside the outline.

S01600



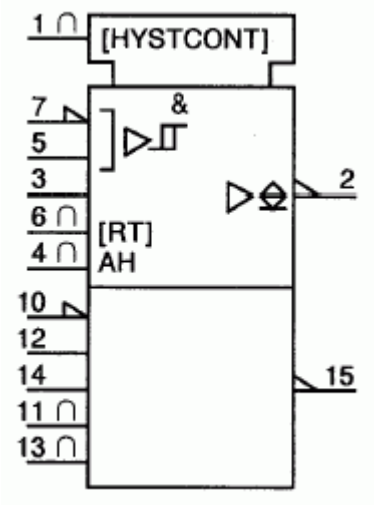
Name:	Line receiver, dual
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-29-07
Keywords:	binary logic circuits, receivers
Applies:	S01457; S01468; S01469; S01540; S01810
Application notes:	A00269
Shape class:	Characters, Equilateral triangles, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. SN 75107)

S01601



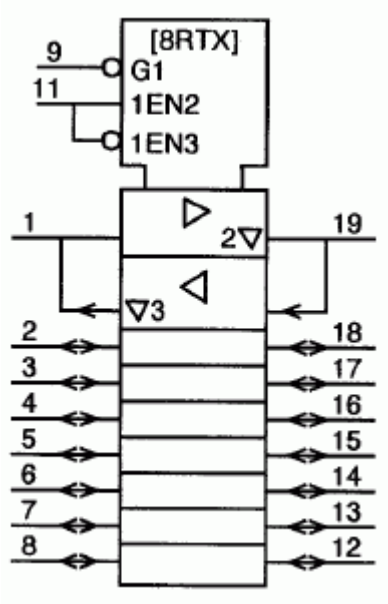
Name:	Line receiver
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-29-07A
Keywords:	binary logic circuits, receivers
Applies:	S01457; S01577
Application notes:	A00269
Shape class:	Characters, Equilateral triangles, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. part of SN 75127)

S01602



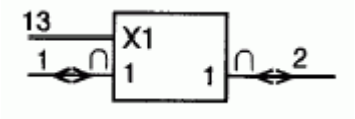
Name:	Line receiver, dual
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-29-07B
Keywords:	binary logic circuits, receivers
Applies:	S01457; S01464; S01468; S01469; S01492; S01497; S01567; S01748; S01764
Application notes:	A00269
Shape class:	Characters, Equilateral triangles, Rectangles, Right-angled triangle
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. SN 55152)

S01603



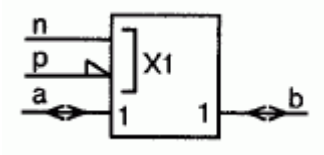
Name:	Bus driver, bidirectional, 8-bit parallel
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-29-08
Keywords:	binary logic circuits, drivers
Applies:	S00099; S00101; S01457; S01466; S01498; S01547; S01562; S01810
Application notes:	A00269
Shape class:	Arrows, Characters, Equilateral triangles, Right-angled triangle
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. SN8286)

S01604



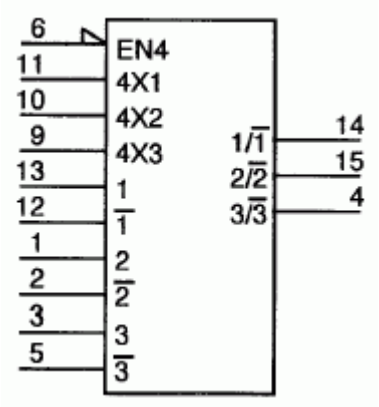
Name:	Bidirectional switch
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-29-09
Keywords:	binary logic circuits, static switches, switches
Applies:	S01547; S01556; S01748; S01749
Application notes:	A00269
Shape class:	Arrows, Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. part of CD 4016B) The arrowheads (S01547) and/or the symbols S01748 and S01749 are optional.

S01605



Name:	CMOS transmission gate
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-29-10
Keywords:	binary logic circuits, static switches, switches
Applies:	S01468; S01540; S01547; S01556
Application notes:	A00269, A00341
Shape class:	Arrows, Characters, Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	The arrowheads (S01547) are optional. The symbol represents an internal transmission gate used in many integrated circuits such as CD 4013B and is equivalent to the circuit shown A00341.

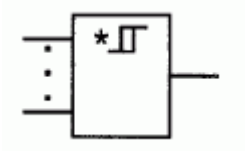
S01606



Name:	Bidirectional change-over switch with common enable, triple
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-29-11
Keywords:	binary logic circuits, switches
Alternative forms:	S01805
Applies:	S01468; S01556; S01562
Application notes:	A00269
Shape class:	Characters, Rectangles, Right-angled triangle
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. 74HC4053)

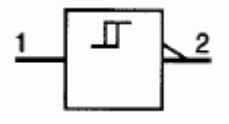
Symbol S01805 depicts the same device in another way.

S01607



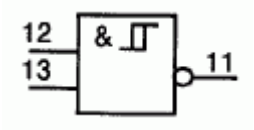
Name:	Element with hysteresis, general symbol
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-30-01
Keywords:	binary logic elements, combinative elements, hysteresis
Applies:	S01463; S01492; S01575
Application notes:	A00269
Shape class:	Characters, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	When used within an element as a general qualifying symbol, the hysteresis symbol designates an element whose overall input/output characteristics include hysteresis as described by symbol S01492. The asterisk must be replaced by a general qualifying symbol designating the logic function of the element unless that qualifying symbol is the numeral 1 (of symbol S01575) in which case it shall be omitted.

S01608



Name:	Bi-threshold detector with inverted output
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-31-01
Alternative names:	Schmitt-trigger inverter; Inverter with hysteresis
Keywords:	binary logic circuits, detectors, hysteresis, inverters
Applies:	S01469; S01492
Application notes:	A00269, A00354
Shape class:	Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. part of SN 74LS14)

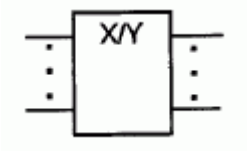
S01609



Name:	NAND Schmitt-trigger
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-31-02
Alternative names:	NAND with hysteresis
Keywords:	binary logic circuits, hysteresis, triggers
Applies:	S01467; S01492; S01567
Application notes:	A00269, A00336, A00355
Shape class:	Characters, Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. part of SN 74132)

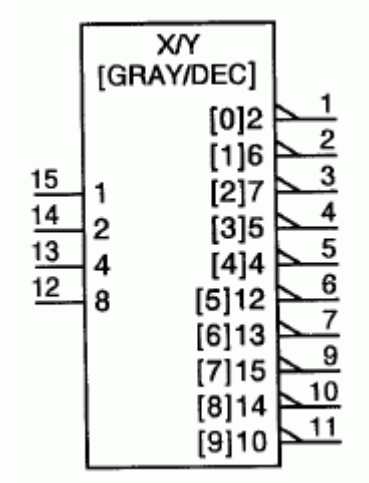
The output takes on its internal 1-state only when the external level applied to each input reaches its V1 threshold (see description of symbol S01492). The output will maintain the internal 1-state until the external level applied to one of its inputs reaches its V2 threshold.

S01610



Name:	Coder, general symbol
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-32-01
Alternative names:	Code converter, general symbol
Keywords:	binary logic elements, code converters, coders
Applied in:	S01619, S01621, S01614, S01615, S01613, S01727, S01611, S01620, S01616, S01617, S01612, S01632, S01618, S01622
Applies:	S01463
Application notes:	A00269, A00296
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The relationship between inputs and outputs shall be shown by - indications in the general qualifying symbol together with labels at the inputs and outputs, - and/or by a referenced table. X and Y may be replaced by appropriate indications of the code used to represent the information at the inputs and at the outputs respectively.

S01611

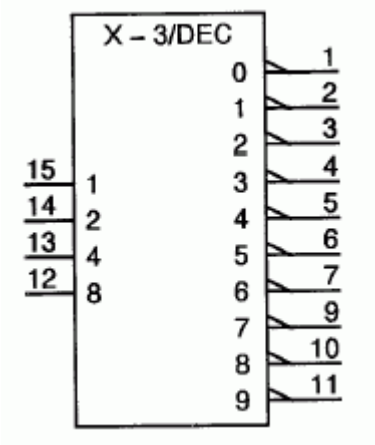


Name:	Code converter, Gray-to-decimal
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-33-01
Keywords:	binary logic circuits, code converters
Applies:	S01469; S01610
Application notes:	A00269, A00296
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	(e.g. SN 7444)

Because it is not possible to label the inputs with characters referring to the Gray code, the general symbol for a coder is shown here in accordance with the first alternative in each of the second and the third paragraphs of 1.1. of A00296.

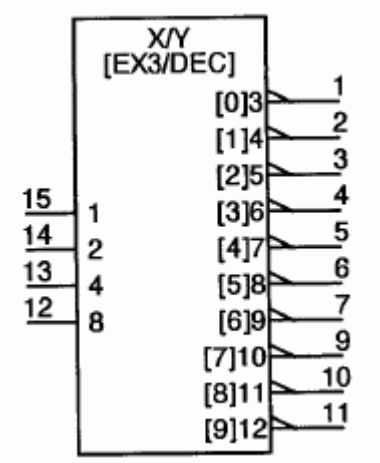
Supplementary information has been added to indicate a particular application of this device to implement a particular Gray code.

S01612



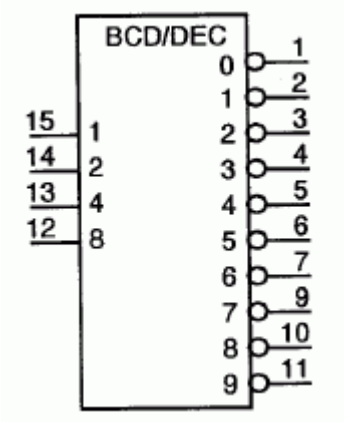
Name:	Code converter, excess-3-to-decimal
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-33-01A
Keywords:	binary logic circuits, code converters
Form:	form 1
Alternative forms:	S01613
Applies:	S01469; S01610
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. SN 7443)

S01613



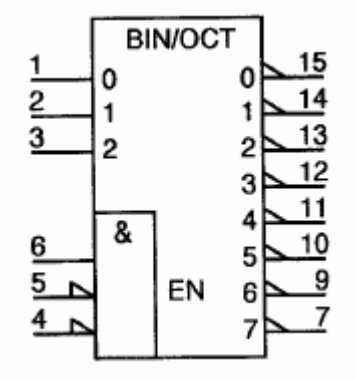
Name:	Code converter, excess-3-to-decimal
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-33-01B
Keywords:	binary logic circuits, code converters
Form:	form 2
Alternative forms:	S01612
Applies:	S01469; S01610
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. SN 7443)

S01614



Name:	Code converter, BCD-to-decimal
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-33-02
Keywords:	binary logic circuits, code converters
Applies:	S01467; S01610
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. SN 7442)

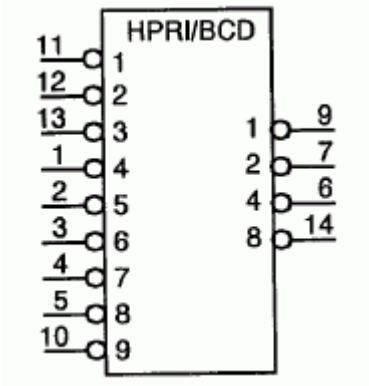
S01615



Name:	Code converter, three-to-eight-line
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-33-03
Keywords:	binary logic circuits, code converters
Alternative forms:	S01633
Applies:	S01468; S01469; S01476; S01562; S01567; S01610
Application notes:	A00269
Shape class:	Characters, Rectangles, Right-angled triangle
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. SN 74LS138)

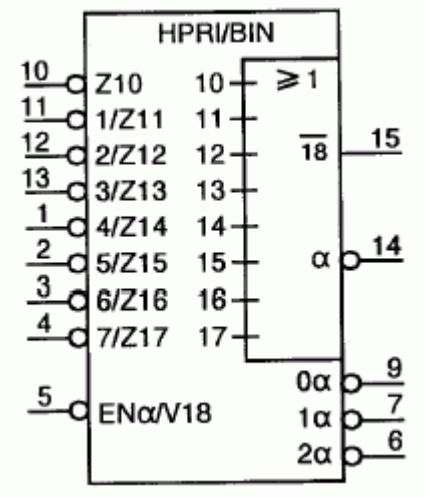
Symbol S01633 depicts the same device in another way.

S01616



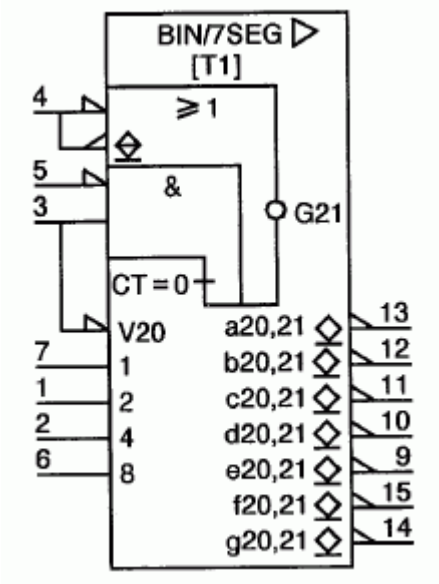
Name:	Highest-priority encoder, encoding 9 data lines to 4-line BCD
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-33-04
Keywords:	binary logic circuits, code converters, coders
Applies:	S01466; S01467; S01610
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. SN 74147)

S01617



Name:	Highest-priority encoder, encoding 8 data lines to 3-line binary (octal)
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-33-05
Keywords:	binary logic circuits, code converters, coders
Applies:	S01479; S01550; S01554; S01562; S01566; S01610
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. SN 74148)

S01618

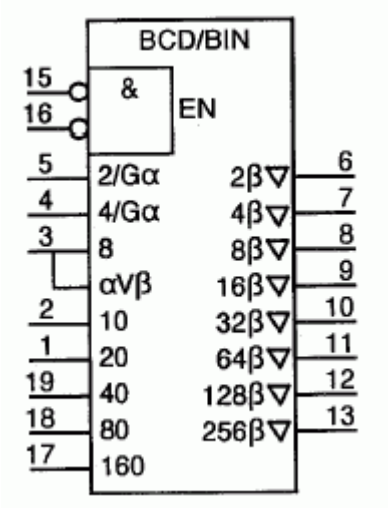


Name:	Decoder/driver, binary-to-seven-segment
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-33-06
Keywords:	binary logic circuits, code converters, decoders, drivers
Applies:	S01457; S01468; S01469; S01471; S01476; S01495; S01497; S01539; S01550; S01566; S01567; S01610; S01809; S01810
Application notes:	A00269, A00272, A00297
Shape class:	Characters, Rectangles, Right-angled triangle
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. SN 74LS47)

This example shows the use of the polarity indicator at external connections together with the use of the negation indicator at internal connections (see A00272).

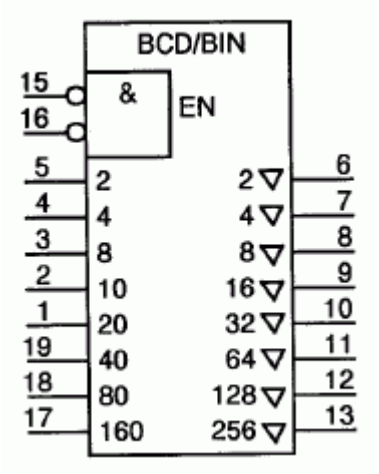
The font table T1 is shown in A00297.

S01619



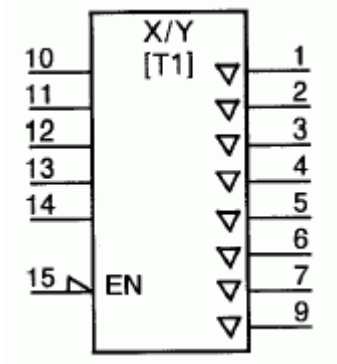
Name:	Code converter, BCD-to-binary
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-33-07
Keywords:	binary logic circuits, code converters
Alternative forms:	S01620
Applied in:	S01620
Applies:	S01466; S01476; S01498; S01503; S01567; S01610
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. SN 74S484)

S01620



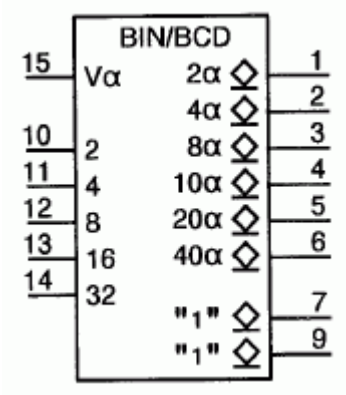
Name:	Code converter, BCD-to-binary
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-33-08
Keywords:	binary logic circuits, code converters, coders
Form:	simplified form
Applied in:	S01562
Applies:	S01466; S01476; S01498; S01503; S01562; S01567; S01610; S01619
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams

S01621



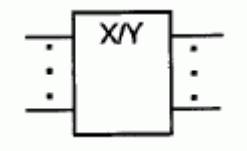
Name:	Coder for arbitrary code
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-33-09
Keywords:	binary logic circuits, code converters, coders
Applies:	S01468; S01498; S01503; S01610
Application notes:	A00269, A00343
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. TBP 18S030, formerly SN 74S288) The combinative relationships between inputs and outputs are implemented in a PROM (or a ROM). "T1" refers to a table showing the logic function of the device, for an example see A00343.

S01622



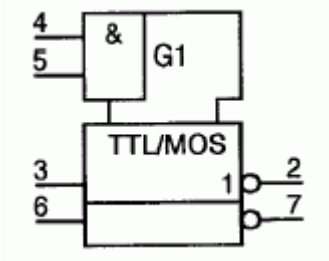
Name:	Code converter, binary-to-BCD
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-33-10
Keywords:	binary logic circuits, code converters
Applies:	S01495; S01543; S01550; S01610
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information, S Converting a manual operation into a signal
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. SN 74185)

S01623



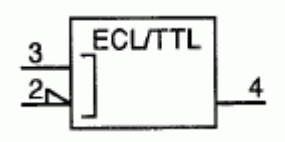
Name:	Signal-level converter, general symbol
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-34-01
Keywords:	binary logic elements, converters
Applied in:	S01625, S01624
Applies:	S01463
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The level references may be shown inside the symbol and shall replace X and Y if confusion with the coder is likely. The general qualifying symbol X/Y may be replaced by X//Y if it is necessary to indicate electrical isolation.

S01624



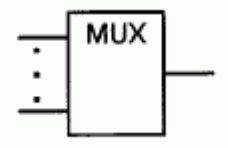
Name:	Level converter, TTL-to-MOS, dual
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-35-01
Keywords:	binary logic circuits, converters, signal-level converters
Applies:	S01464; S01467; S01476; S01567; S01623; S01810
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams
Remarks:	Exemple: part of SN75356.

S01625



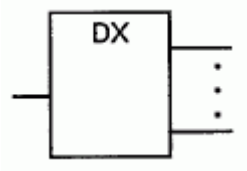
Name:	Level converter, ECL-to-TTL
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-35-02
Keywords:	binary logic circuits, converters, signal-level converters
Applies:	S01468; S01540; S01623
Application notes:	A00269
Shape class:	Characters, Lines , Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams
Remarks:	Example: part of MC 10125.

S01626



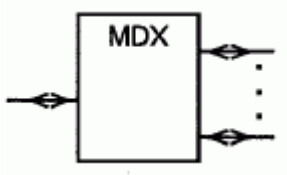
Name:	Multiplexer, general symbol
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-36-01
Keywords:	binary logic elements, demultiplexers, multiplexers
Applied in:	S01629, S01630, S01631, S01628, S01632
Applies:	S01463
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	If one input of a multiplexer is selected, the internal logic state of the output takes on the internal state of the selected input. If no input is selected, the output stands at its internal 0-state. The inputs and logic relationships that control the selecting action should also be shown, for example by showing those inputs and the associated dependency notation either within the element or within a common control block.

S01627



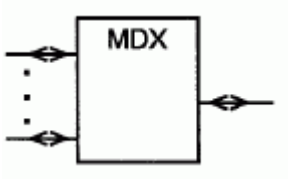
Name:	Demultiplexer, general symbol
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-36-02
Keywords:	binary logic elements, demultiplexers
Applied in:	S01629, S01634, S01628, S01633
Applies:	S01463
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	If an output of a demultiplexer is selected, the internal logic state of that output takes on the internal logic state of the input. Otherwise, the output takes on its internal 0-state. If confusion is likely, DX may be replaced by DMUX. The inputs and logic relationships that control the selecting action should also be shown, for example by showing those inputs and the associated dependency notation either within the element or within a common control block.

S01628



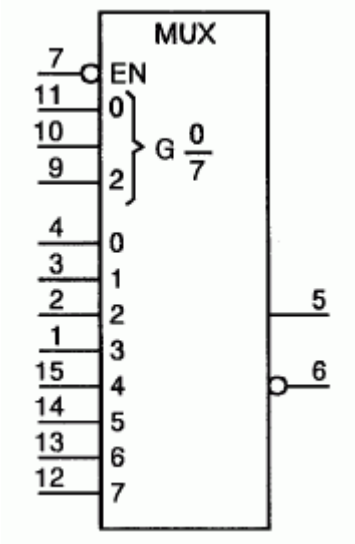
Name:	Bidirectional multiplexer/demultiplexer (selector), general symbol
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-36-03
Keywords:	binary logic elements, demultiplexers, multiplexers
Applied in:	S01635
Applies:	S00101; S01463; S01626; S01627
Application notes:	A00269
Shape class:	Arrows, Characters, Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams
Remarks:	This element establishes a bidirectional connection between one input-output port and another that is selected from a group of input-output ports. The inputs and logic relationships that control the selecting action should also be shown, for example by showing those inputs and the associated dependency notation either within the element or within a common control block. The arrowheads are optional. If confusion is likely, MDX may be replaced by MUXDX.

S01629



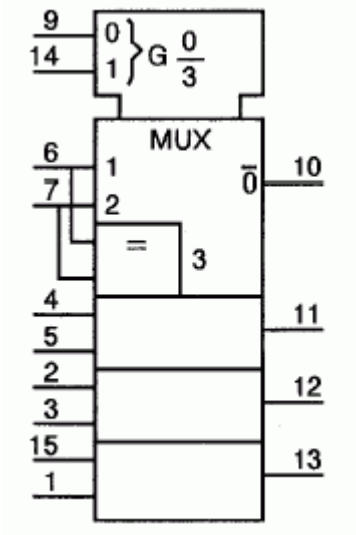
Name:	Bidirectional multiplexer/demultiplexer (selector), general symbol
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-36-04
Keywords:	binary logic elements, demultiplexers, multiplexers
Applies:	S00101; S01463; S01626; S01627
Application notes:	A00269
Shape class:	Arrows, Characters, Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams
Remarks:	This element establishes a bidirectional connection between one input-output port and another that is selected from a group of input-output ports. The inputs and logic relationships that control the selecting action should also be shown, for example by showing those inputs and the associated dependency notation either within the element or within a common control block. If confusion is likely, DX may be replaced by DMUX. The arrowheads are optional. If confusion is likely, MDX may be replaced by MUXDX.

S01630



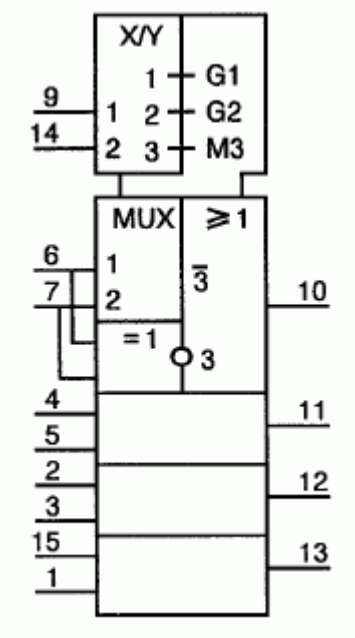
Name:	Multiplexer (one-of-eight)
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-37-01
Keywords:	binary logic circuits, multiplexers
Applies:	S01466; S01467; S01503; S01516; S01626; S01810
Application notes:	A00269
Shape class:	Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. SN 74151.

S01631



Name:	Multiplexer, quadruple
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-37-02
Keywords:	binary logic circuits, multiplexers
Alternative forms:	S01632
Applies:	S01464; S01476; S01516; S01571; S01626; S01810
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. MC 14519) The "0 with negation bar" is optional (see description of symbol S01626). Symbol S01632 depicts the same device in another way.

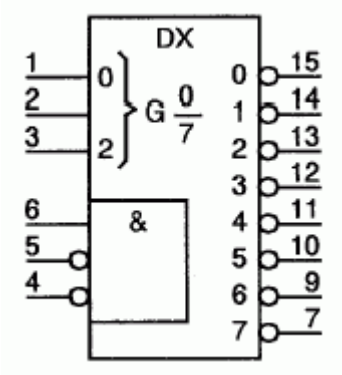
S01632



Name:	Exclusive NOR, quadruple
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-37-03
Keywords:	binary logic circuits, combinative elements, multiplexers
Alternative forms:	S01631
Applies:	S01464; S01479; S01566; S01574; S01610; S01626; S01809; S01810
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. MC 14519)

Symbol S01631 depicts the same device in another way.

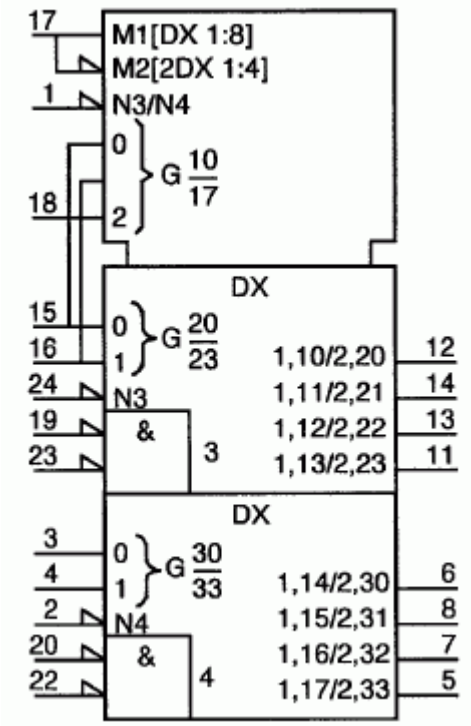
S01633



Name:	Demultiplexer (one-to-eight)
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-37-04
Keywords:	binary logic circuits, demultiplexers
Alternative forms:	S01615
Applies:	S01466; S01467; S01516; S01567; S01627; S01810
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. SN 74LS138)

Symbol S01615 depicts the same device in another way.

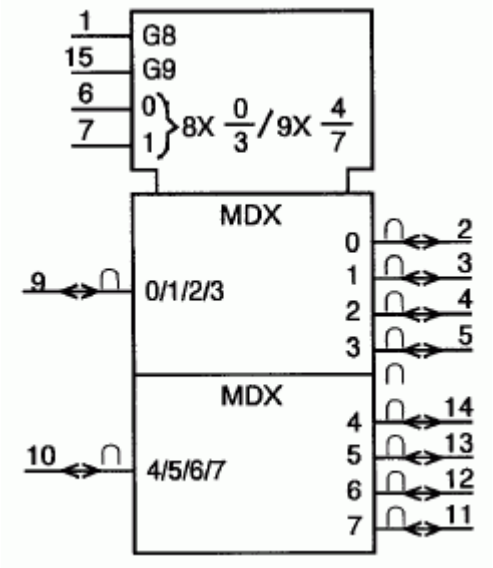
S01634



Name:	Demultiplexer/decoder, universal, dual
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-37-05
Keywords:	binary logic circuits, coders, demultiplexers
Applies:	S01464; S01468; S01494; S01516; S01552; S01563; S01567; S01627; S01810
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams
Remarks:	E.g. F 100170. In order to perform the function DX1:8 correctly, it is necessary to make an external connection between terminals 19 and 20, and also between terminals 22 and 23.

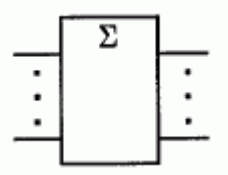
The symbol for open-circuit output (symbol S01494) is not shown in this example because all ECL outputs of this ECL family are of the same open-circuit type.

S01635



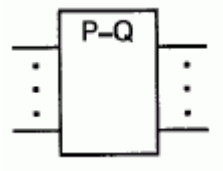
Name:	Analogue data selector (multiplexer/demultiplexer), 4-channel, dual
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-37-06
Keywords:	analogue circuits, binary logic circuits, demultiplexers, multiplexers
Applies:	S00101; S00216; S01464; S01516; S01557; S01628; S01810
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams
Remarks:	E.g. MC 14529B. When using the general qualifying symbol MDX, the identifying numbers of the X-dependencies, (for example, 0/1/2/3) may be omitted at the multiplexed port if no confusion is likely. The arrowheads and the identifiers of analogue signals are optional.

S01636



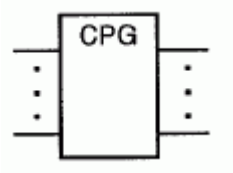
Name:	Adder, general symbol
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-38-01
Keywords:	arithmetic elements, binary logic elements
Applied in:	S01642, S01643
Applies:	S01463
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	"Σ" is equivalent to UCS 03A3 of ISO/IEC 10646 "GREEK CAPITAL LETTER SIGMA".

S01637



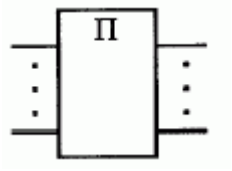
Name:	Subtractor, general symbol
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-38-02
Keywords:	arithmetic elements, binary logic elements
Applied in:	S01646
Applies:	S01463
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01638



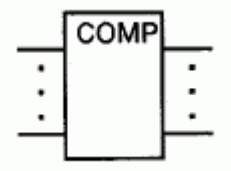
Name:	Look-ahead carry generator (carry, propagate and generate), general symbol
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-38-03
Keywords:	arithmetic elements, binary logic elements
Applied in:	S01647
Applies:	S01463
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01639



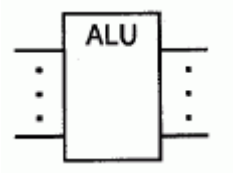
Name:	Multiplier, general symbol
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-38-04
Keywords:	arithmetic elements, binary logic elements
Applied in:	S01648, S01649
Applies:	S01463
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	"Π" is equivalent to UCS 03A0 of ISO/IEC 10646 "GREEK CAPITAL LETTER PI".

S01640



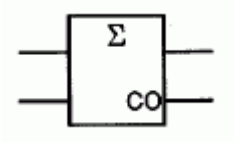
Name:	Magnitude comparator, general symbol
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-38-05
Keywords:	arithmetic elements, binary logic elements
Applied in:	S01652, S01651, S01650
Applies:	S01463
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	A cascadable comparator is assumed to implement a portion of a comparison that proceeds from lower to higher order unless otherwise indicated, for example by "[H - L]" placed below the qualifying symbol "COMP".

S01641



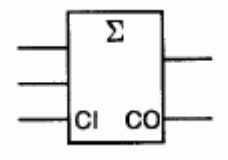
Name:	Arithmetic logic unit, general symbol
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-38-06
Keywords:	arithmetic elements, binary logic elements
Applied in:	S01653, S01654
Applies:	S01463
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	Supplementary information shall be added to the general qualifying symbol to specify the function of the element (see for example, symbol S01653).

S01642



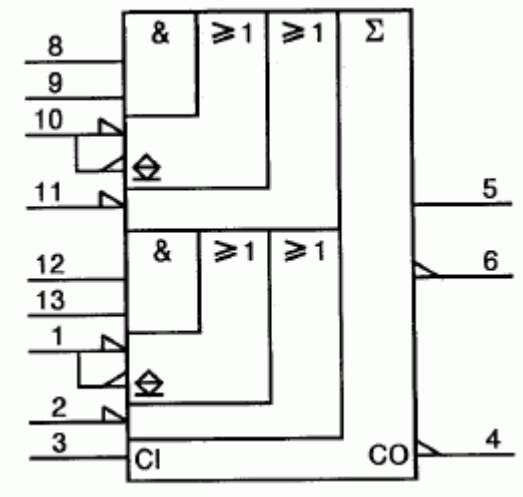
Name:	Half adder
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-38-07
Keywords:	arithmetic elements, binary logic elements
Applies:	S01535; S01636
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01643



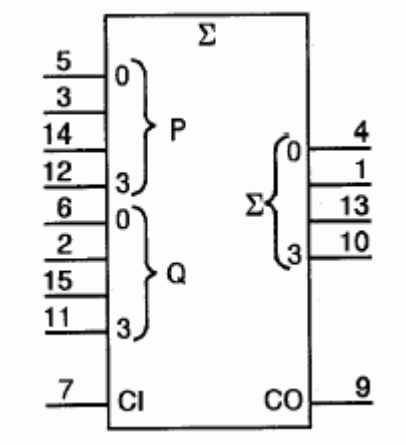
Name:	Single-bit full adder
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-38-08
Keywords:	arithmetic elements, binary logic elements
Applied in:	S01645, S01644
Applies:	S01532; S01535; S01636
Application notes:	A00269, A00301
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	A simple single-bit full adder may alternatively be depicted by the combination of the symbol for the ODD element (modulo 2 adder) and shown as in A00301.

S01644



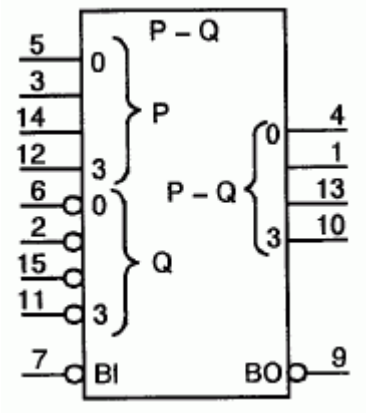
Name:	Single-bit full adder with complementary sum outputs and inverted carry output
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-39-01
Keywords:	arithmetic circuits, binary logic circuits
Applies:	S01468; S01469; S01497; S01566; S01567; S01643
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams
Remarks:	E.g. SN 7480.

S01645



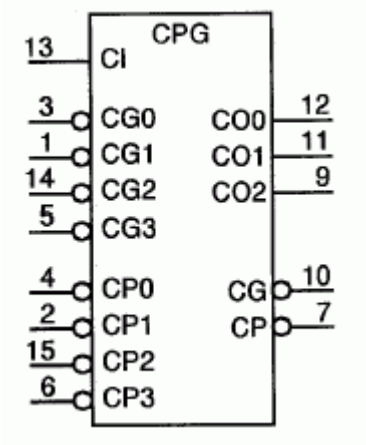
Name:	Full adder, 4-bit
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-39-02
Keywords:	arithmetic circuits, binary logic circuits
Alternative forms:	S01646
Applies:	S01516; S01517; S01643
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams
Remarks:	E.g. SN 74283. Symbol S01646 depicts the same device in another way.

S01646



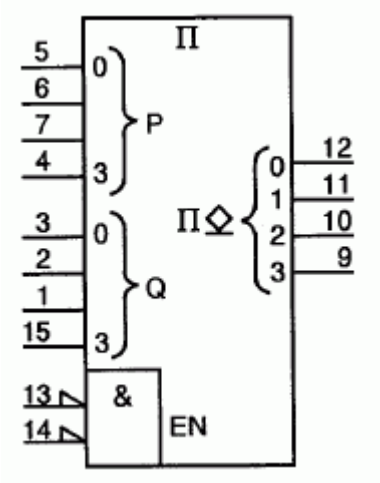
Name:	Full subtractor, 4-bit
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-39-03
Keywords:	arithmetic circuits, binary logic circuits
Alternative forms:	S01645
Applies:	S01466; S01467; S01516; S01517; S01526; S01529; S01637
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams
Remarks:	E.g. SN 74283. Symbol S01645 depicts the same device in another way.

S01647



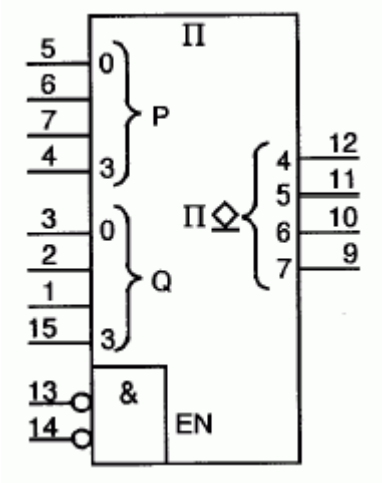
Name:	Look-ahead carry generator, 4-bit
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-39-04
Keywords:	arithmetic circuits, binary logic circuits
Applies:	S01466; S01467; S01532; S01533; S01534; S01535; S01536; S01537; S01638
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. SN 74182)

S01648



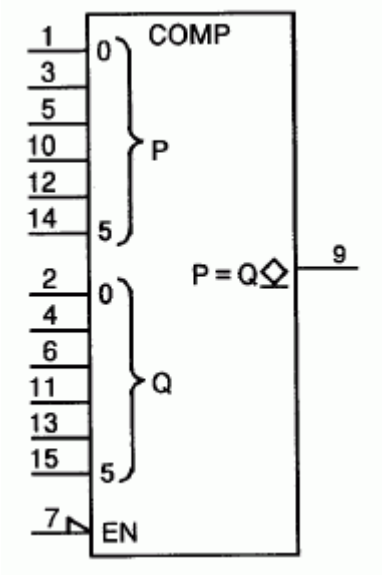
Name:	Multiplier, 4-bit parallel, generating the four least significant bits of the product
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-39-05
Keywords:	arithmetic circuits, binary logic circuits
Applies:	S01468; S01495; S01503; S01516; S01517; S01567; S01639
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. SN 74285)

S01649



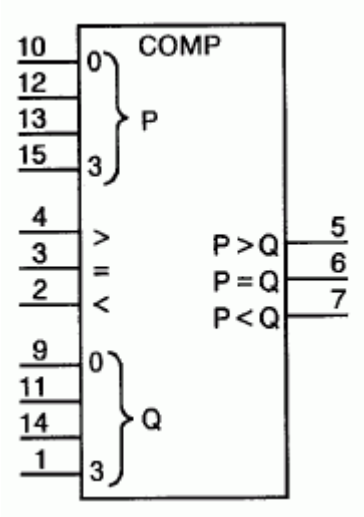
Name:	Multiplier, 4-bit parallel, generating the four most significant bits of the product
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-39-06
Keywords:	arithmetic circuits, binary logic circuits
Applies:	S01466; S01495; S01503; S01516; S01517; S01567; S01639
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams
Remarks:	E.g. SN 74284.

S01650



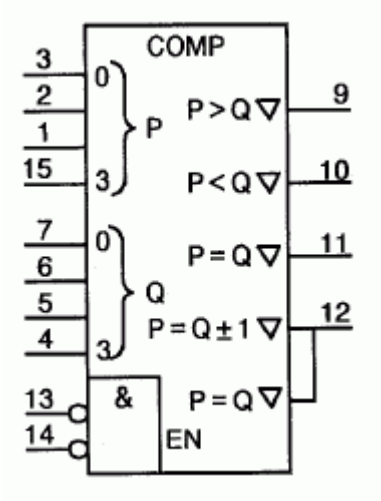
Name:	Magnitude comparator with open-circuit output of the L-type, 6-bit
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-39-07
Keywords:	arithmetic circuits, binary logic circuits
Applies:	S01468; S01495; S01503; S01516; S01640
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. DM 7160)

S01651



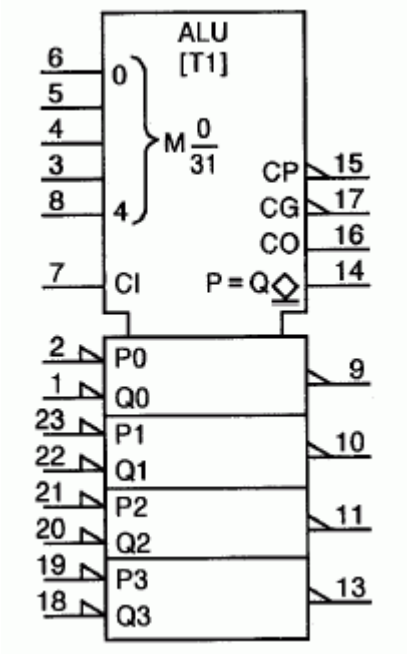
Name:	Magnitude comparator with cascading inputs, 4-bit
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-39-08
Keywords:	arithmetic circuits, binary logic circuits, comparators
Applies:	S01516; S01520; S01521; S01522; S01523; S01524; S01525; S01640
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. SN 7485

S01652



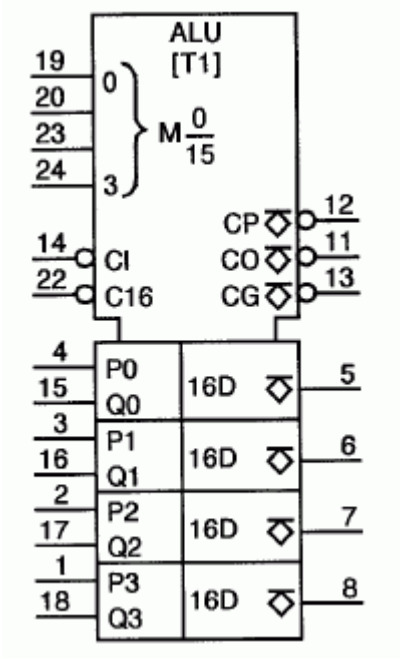
Name:	Magnitude comparator with 3-state outputs, 4-bit
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-39-09
Keywords:	binary logic circuits, comparators
Applies:	S01466; S01498; S01503; S01516; S01523; S01524; S01525; S01567; S01640
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g. DM 76L24)

S01653



Name:	Arithmetic logic unit, 4-bit
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-39-10
Keywords:	arithmetic circuits, binary logic circuits
Applies:	S01464; S01468; S01495; S01516; S01532; S01534; S01535; S01537; S01552; S01641
Application notes:	A00269, A00285
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams
Remarks:	E.g. SN 74181 [T1] refers to supplementary documentation detailing the element's function in various modes. The Ms at the outputs have been omitted in accordance with 21.2 of application note A00285.

S01654

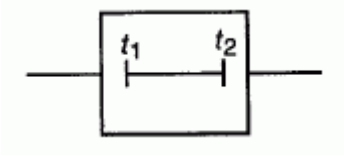


Name:	Arithmetic logic unit with output latches, 4-bit
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-39-11
Keywords:	arithmetic circuits, binary logic circuits
Applies:	S01464; S01466; S01467; S01494; S01516; S01532; S01534; S01535; S01552; S01558; S01641
Application notes:	A00269, A00285
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. F 100181

[T1] refers to supplementary documentation detailing the element's function in various modes.

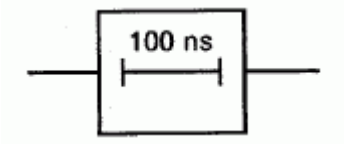
The Ms at the outputs have been omitted in accordance with 21.2 of application note A00285.

S01655



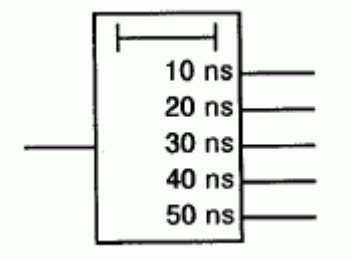
Name:	Delay element with specified delay times
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-40-01
Keywords:	binary logic elements, delay elements, delayed operation
Applied in:	S01656, S01658, S01657
Applies:	S00059; S00124
Application notes:	A00269, A00303
Shape class:	Characters, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	A transition from the internal 0-state to the internal 1-state at the output occurs after a delay of t1 with reference to the same transition at the input. The transition from the internal 1-state to the internal 0-state at the output occurs after a delay of t2 with reference to the same transition at the input. t1 and t2 may be replaced by the actual delays, expressed in seconds, word units or digit units, and may be placed inside or outside the outline. If the two delays are equal, it is sufficient to insert one value only.

S01656



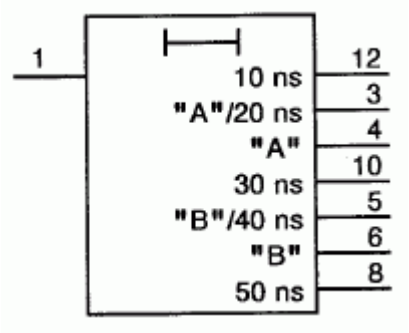
Name:	Delay element (100 ns)
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-40-02
Keywords:	binary logic elements, delay element, delayed operation
Applies:	S01655
Application notes:	A00269, A00303
Shape class:	Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01657



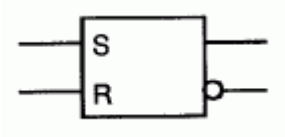
Name:	Tapped delay element (in steps of 10 ns)
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-40-03
Keywords:	binary logic elements, delay elements, delayed operation
Applies:	S01655
Application notes:	A00269
Shape class:	Characters, Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

S01658



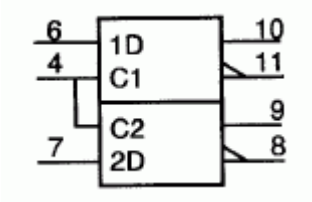
Name:	Delay line, 5 taps
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-40-04
Keywords:	binary logic circuits, delay elements, delayed operation
Applies:	S01545; S01655
Application notes:	A00269
Shape class:	Characters, Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. composite representation of BEL FUSE S423-0050-02, and Fil-Mag 77Z14A050. This symbol is a composite representation of two devices that have identical functions but different terminal assignments. On the printed circuit board, the different "pinning" is accommodated by a common footprint with some pads connected together. To illustrate this, symbol S01545 is used. The terminal designations shown are those of the common footprint.

S01659



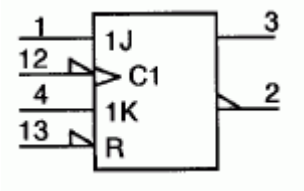
Name:	RS-bistable
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-42-01
Alternative names:	RS-latch
Keywords:	binary logic elements, bistable elements
Applied in:	S01672, S01671, S01673
Applies:	S01463; S01467; S01507; S01508
Application notes:	A00269, A00304
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

S01660



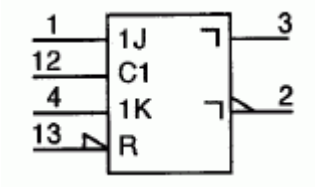
Name:	D-latch, dual
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-42-02
Keywords:	binary logic circuits, bistable circuits
Applies:	S01463; S01469; S01504; S01558
Application notes:	A00269, A00304
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. part of SN 7475.

S01661



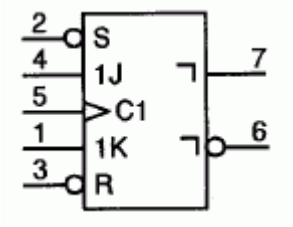
Name:	Edge-triggered JK-bistable
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-42-03
Keywords:	binary logic circuits, bistable circuits
Applies:	S01463; S01469; S01472; S01505; S01506; S01507; S01558
Application notes:	A00269, A00304
Shape class:	Characters, Rectangles, Right-angled triangle
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. part of SN 74LS107.

S01662



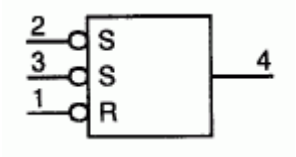
Name:	Pulse-triggered JK-bistable
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-42-04
Keywords:	binary logic circuits, bistable circuits
Applies:	S01463; S01469; S01491; S01505; S01506; S01507; S01558
Application notes:	A00269, A00304
Shape class:	Characters, Lines , Rectangles, Right-angled triangle
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. part of SN 74107.

S01663



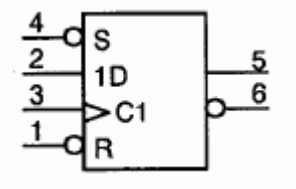
Name:	Data-lock-out JK-bistable
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-42-05
Keywords:	binary logic circuits, bistable circuits
Applies:	S01463; S01472; S01491; S01505; S01506; S01507; S01508; S01558
Application notes:	A00269, A00304
Shape class:	Characters, Equilateral triangles, Rectangles, Right-angled triangle
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. part of SN 74111.

S01664



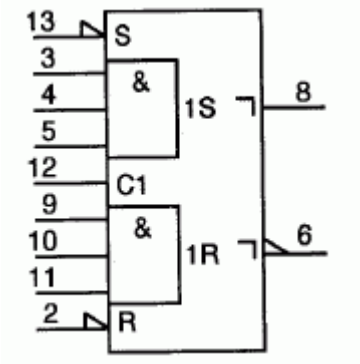
Name:	RS-latch with negated inputs
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-42-06
Keywords:	binary logic circuits, bistable circuits
Applies:	S01463; S01466; S01507; S01508
Application notes:	A00269, A00304
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. part of SN 74279.

S01665



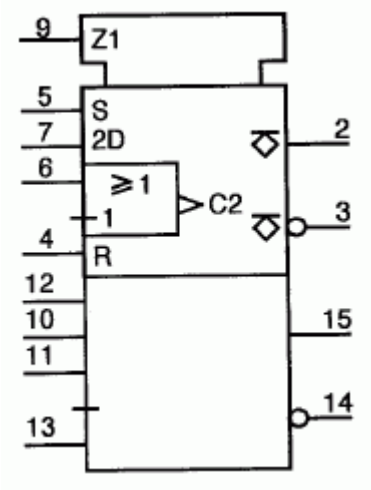
Name:	Edge-triggered D-bistable
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-42-07
Keywords:	binary logic circuits, bistable circuits
Applies:	S01463; S01466; S01467; S01472; S01507; S01508; S01551
Application notes:	A00269, A00283, A00304, A00305
Shape class:	Characters, Equilateral triangles, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. part of SN 7474. If the effect of the combination S=R=1 is specified, this effect may be shown using the S- and R-dependency (A00283). For an example, see A00305.

S01666



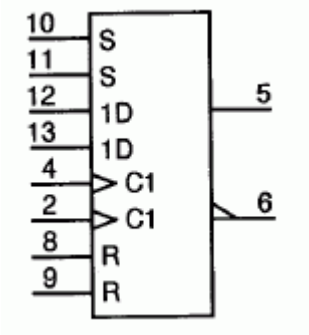
Name:	Pulse-triggered RS-bistable
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-42-08
Keywords:	binary logic circuits, bistable circuits
Applies:	S01466; S01468; S01491; S01507; S01508; S01558; S01567
Application notes:	A00269, A00304
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. SN 74L71.

S01667



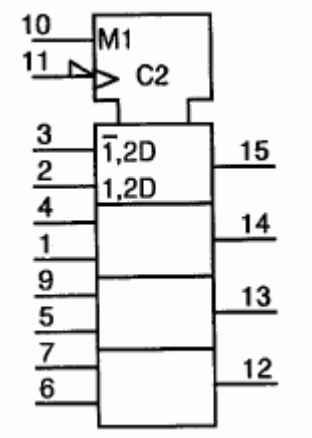
Name:	Edge-triggered D-bistable, dual
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-42-09
Keywords:	binary logic circuits, bistable circuits
Applies:	S01463; S01464; S01467; S01472; S01479; S01494; S01504; S01507; S01508; S01554; S01558; S01566
Application notes:	A00269, A00304
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. MC 10131.

S01668



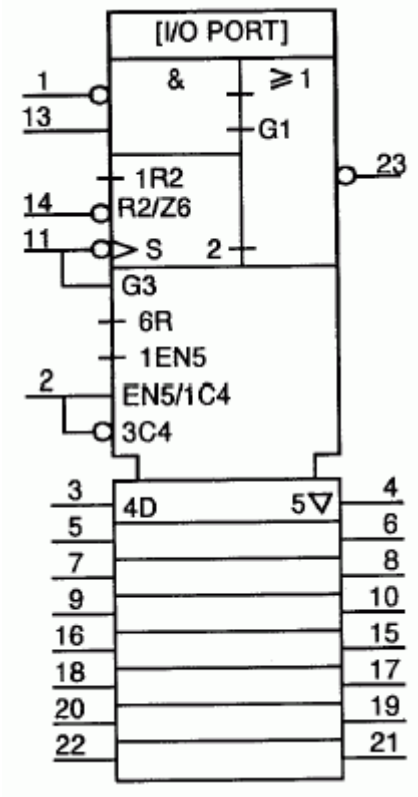
Name:	Edge-triggered D-bistable
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-42-10
Keywords:	binary logic circuits, bistable circuits
Applies:	S01463; S01469; S01472; S01504; S01508; S01558
Application notes:	A00269, A00304
Shape class:	Characters, Equilateral triangles, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. MC 1222.

S01669



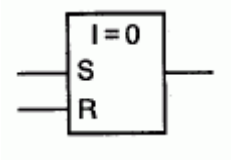
Name:	Multiplexer with storage, quadruple 2-input
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-42-11
Keywords:	binary logic circuits, bistable circuits, multiplexers
Applies:	S01463; S01464; S01466; S01472; S01504; S01558
Application notes:	A00269, A00304
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. SN 74298. The "M1" at pin 10 may be replaced by "G1".

S01670



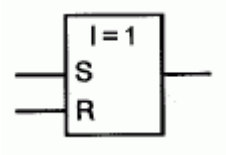
Name:	Input/output port, 8-bit
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-42-12
Keywords:	binary logic circuits, bistable circuits
Applies:	S01463; S01464; S01466; S01472; S01475; S01479; S01498; S01504; S01554; S01561; S01562; S01566; S01567
Application notes:	A00269, A00304
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. 8212.

S01671



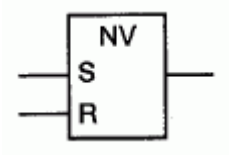
Name:	RS-bistable with initial 0-state
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-43-01
Keywords:	binary logic elements, bistable elements
Applies:	S01659
Application notes:	A00269, A00304, A00306
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	At the moment the supply is switched on, the output will stand at its internal 0-state.

S01672



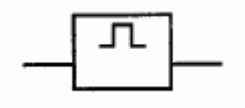
Name:	RS-bistable with initial 1-state
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-43-02
Keywords:	binary logic elements, bistable elements
Applies:	S01659
Application notes:	A00269, A00304, A00306
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	At the moment the supply is switched on, the output will stand at its internal 1-state.

S01673



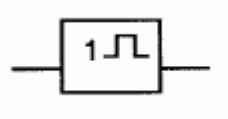
Name:	RS-bistable, non-volatile
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-43-03
Keywords:	binary logic elements, bistable elements
Applies:	S01659
Application notes:	A00269, A00304, A00306
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	At the moment the supply is switched on, the internal logic state of the output will be the same as it was when the supply was switched off.

S01674



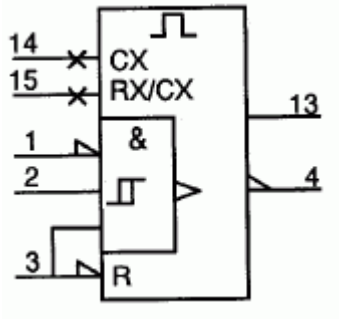
Name:	Monostable, retriggerable (during the output pulse), general symbol
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-44-01
Alternative names:	Single shot, general symbol
Keywords:	binary logic elements, monostable elements
Applied in:	S01676, S01806, S01721
Applies:	S00132; S01463; S01472
Application notes:	A00269
Shape class:	Lines , Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	The output changes to or remains at its 1-state each time the input changes to its 1-state. The output returns to its 0-state after a period of time that is characteristic of the particular device, beginning at the last change of the input to its 1-state. The use of the dynamic input symbol (symbol S01472) at the input is optional (for example of use see symbol S01676).

S01675



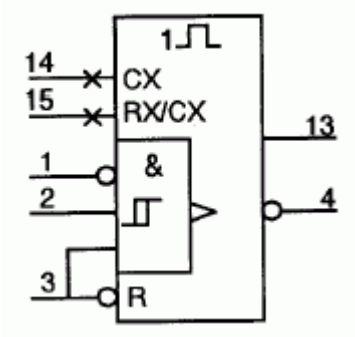
Name:	Monostable, non-retriggerable (during the output pulse), general symbol
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-44-02
Keywords:	binary logic elements, monostable elements
Applied in:	S01677
Applies:	S00132; S01463; S01472
Application notes:	A00269
Shape class:	Characters, Depicting shapes, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	The output changes to its 1-state only when the input changes to its 1-state. The output returns to its 0-state after a period of time that is characteristic of the particular device, regardless of any changes of the input variable during this period. The use of the dynamic input symbol (symbol S01472) at the input is optional (for example of use see symbol S01677).

S01676



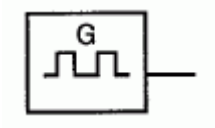
Name:	Monostable, retriggerable
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-45-01
Keywords:	binary logic circuits, monostable circuits
Applies:	S01468; S01469; S01472; S01492; S01507; S01546; S01558; S01559; S01567; S01674
Application notes:	A00269, A00308
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams
Remarks:	E.g. part of SN 74LS123. See the application note A00308 for the function table.

S01677



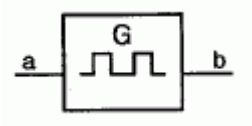
Name:	Monostable, non-retriggerable
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-45-02
Keywords:	binary logic circuits, monostable circuits
Applies:	S01466; S01467; S01472; S01507; S01546; S01558; S01559; S01675
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams
Remarks:	E.g. part of SN 74221.

S01678



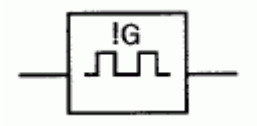
Name:	Astable element, general symbol
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-46-01
Alternative names:	Signal generator producing an alternating sequence of zeros and ones.
Keywords:	binary logic elements, signal generators
Applied in:	S01683, S01734, S01679, S01742
Applies:	S01225; S01463
Application notes:	A00269
Shape class:	Characters, Lines , Rectangles
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Function diagrams
Remarks:	In this symbol, the letter G is the qualifying symbol for a generator. If the waveform is evident, this symbol may be shown without the associated symbol.

S01679



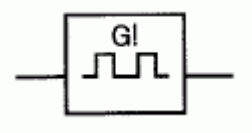
Name:	Controlled astable element, general symbol
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-46-02
Keywords:	astable elements, binary logic elements
Applied in:	S01682, S01681
Applies:	S01678
Application notes:	A00269, A00309
Shape class:	Characters, Depicting shapes, Rectangles
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Overview diagrams
Remarks:	In this symbol, the letter G is the qualifying symbol for a generator. If the waveform is evident, this symbol may be shown without the associated symbol.

S01680



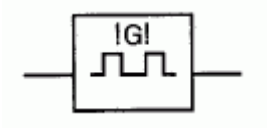
Name:	Astable element, synchronously starting, general symbol
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-46-03
Keywords:	astable elements, binary logic elements
Applied in:	S01684
Application notes:	A00269, A00344
Shape class:	Characters, Depicting shapes, Squares
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Overview diagrams
Remarks:	The output starts with a complete pulse at the instant at which the input takes on its internal 1-state. See A00344. In this symbol, the letter G is the qualifying symbol for a generator. If the waveform is evident, this symbol may be shown without the associated symbol.

S01681



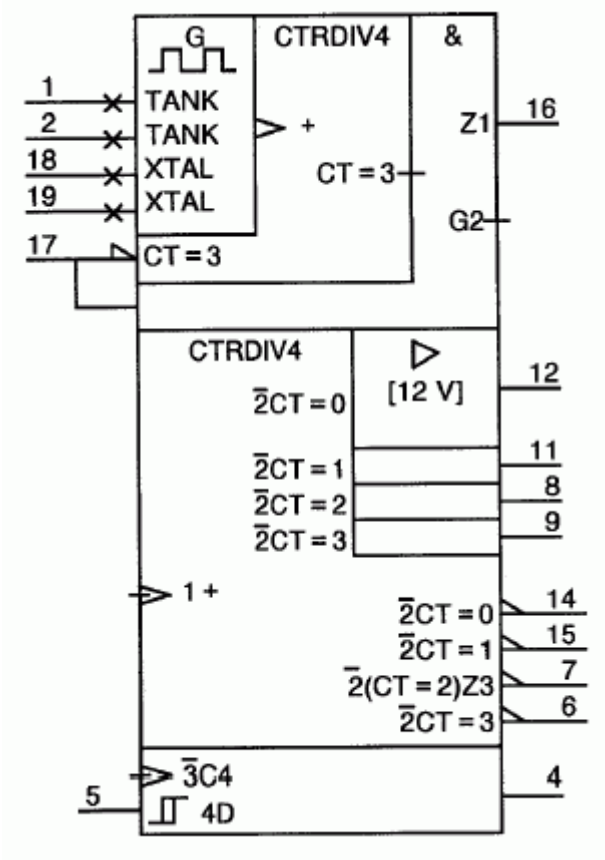
Name:	Astable element stopping after completing the last pulse, general symbol
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-46-04
Keywords:	astable elements, binary logic elements
Applies:	S01679
Application notes:	A00269, A00345
Shape class:	Characters, Depicting shapes, Rectangles
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Function diagrams
Remarks:	When the input returns to its internal 0-state, the output remains at its internal 0-state or completes its final pulse. See A00345. In this symbol, the letter G is the qualifying symbol for a generator. If the waveform is evident, this symbol may be shown without the associated symbol.

S01682



Name:	Astable element, synchronously starting, stopping after completing the last pulse, general symbol
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-46-05
Keywords:	astable elements, binary logic elements
Applies:	S01679
Application notes:	A00269, A00346
Shape class:	Characters, Depicting shapes, Rectangles
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Function diagrams
Remarks:	In this symbol, the letter G is the qualifying symbol for a generator. If the waveform is evident, this symbol may be shown without the associated symbol.

S01683

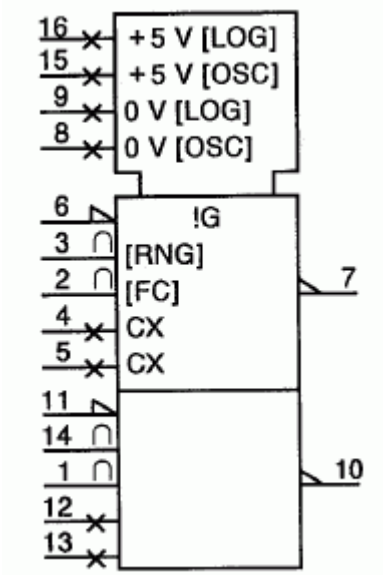


Name:	Clock generator/driver, four-phase
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-47-01
Keywords:	binary logic circuits, clock generators, astable circuits
Applies:	S01240; S01468; S01469; S01472; S01475; S01483; S01492; S01546; S01555; S01567; S01678; S01687; S01811
Application notes:	A00269
Shape class:	Characters, Depicting shapes, Equilateral triangles, Rectangles, Right-angled triangle
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. TIM 9904, formerly SN 74LS362.

For the use of CTRDIV4, see symbol S01687.

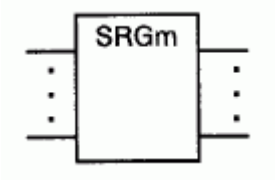
Symbol S01737 depicts the same device using the rules for complex-function elements.

S01684



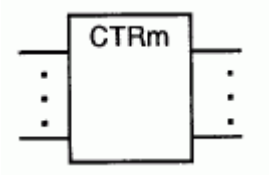
Name:	Voltage-controlled oscillator, dual
Status level:	Standard
Released on:	2004-09-02
Earlier published in:	IEC 60617-12 (ed.3.0) 12-47-02
Keywords:	astable circuits, binary logic circuits, oscillators
Applies:	S00216; S01464; S01468; S01472; S01546; S01680
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. SN 74S124. This symbol illustrates a method of showing supply terminals common to an array of elements.

S01685



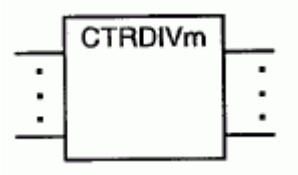
Name:	Shift register, general symbol
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-48-01
Keywords:	binary logic elements, registers
Applied in:	S01690, S01688, S01689, S01691, S01695, S01692, S01694
Applies:	S01463
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The m shall be replaced by the number of stages.

S01686



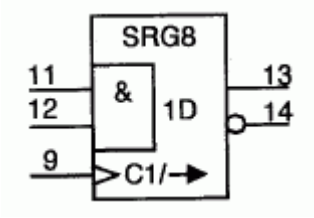
Name:	Counter with cycle length 2 to the power m, general symbol
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-48-02
Alternative names:	Counter modulo 2 to the power m, general symbol
Keywords:	binary logic elements, counters
Applied in:	S01704, S01702, S01703, S01697, S01720, S01696, S01719
Applies:	S01463
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	C Storing, K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	m shall be replaced by the actual value. In order to distinguish ripple counters, the prefix R may be added to the general qualifying symbol; for example: RCTRm.

S01687



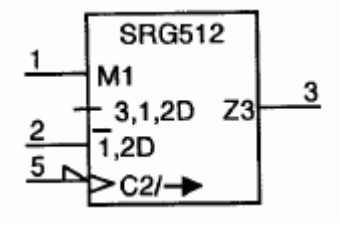
Name:	Counter with cycle length m, general symbol
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-48-03
Alternative names:	Counter modulo m, general symbol
Keywords:	binary logic elements, counters
Applied in:	S01701, S01705, S01683, S01699, S01698, S01700
Applies:	S01463
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	C Storing, K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	m shall be replaced by the actual value. In order to distinguish ripple counters, the prefix R may be added to the general qualifying symbol; for example: RCTRm. In an array of elements having different cycle lengths, that applying to each should be indicated by DIVm in each element. In such a case, the letters CTR need only be shown in the common control block (for example of application, see symbol S01699).

S01688



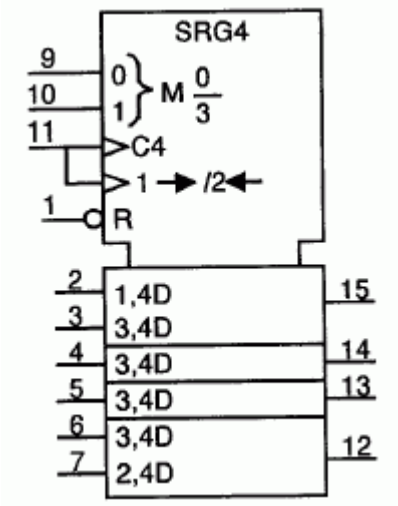
Name:	Shift register, 8-bit, with serial input and complementary serial outputs
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-49-01
Keywords:	binary logic circuits, registers
Applies:	S01467; S01472; S01558; S01567; S01685
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. part of SN 7491.

S01689



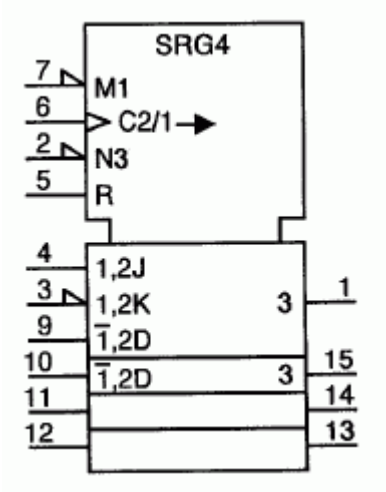
Name:	Shift register, 512-bit, static
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-49-02
Keywords:	binary logic circuits, registers
Applies:	S01474; S01479; S01555; S01558; S01563; S01685
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. MM 4057.

S01690



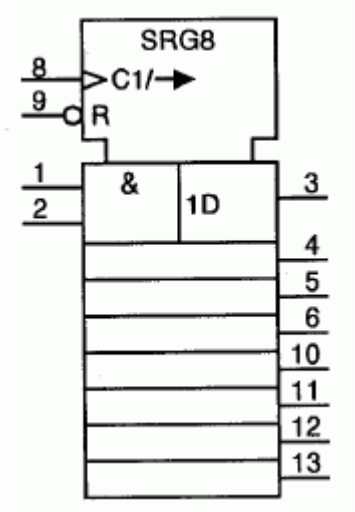
Name:	Shift register, 4-bit, bidirectional
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-49-03
Keywords:	binary logic circuits, registers
Applies:	S01464; S01466; S01472; S01558; S01561; S01563; S01685
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. SN 74LS194.

S01691



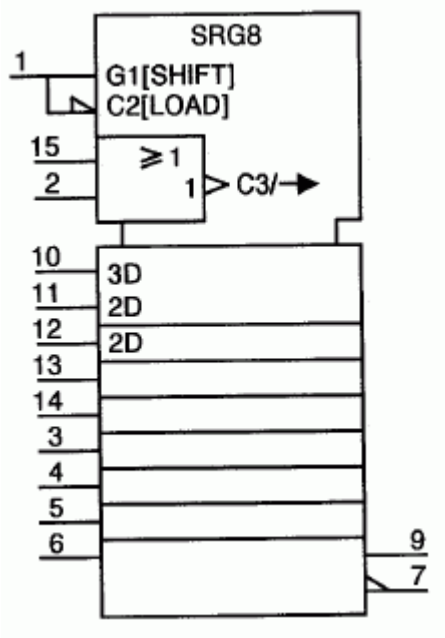
Name:	Shift register, 4-bit, parallel in/parallel out
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-49-04
Keywords:	binary logic circuits, registers
Applies:	S01464; S01472; S01474; S01561; S01685
Application notes:	A00269, A00312
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. CD 4035A. The use of the bar can be avoided as shown in A00312.

S01692



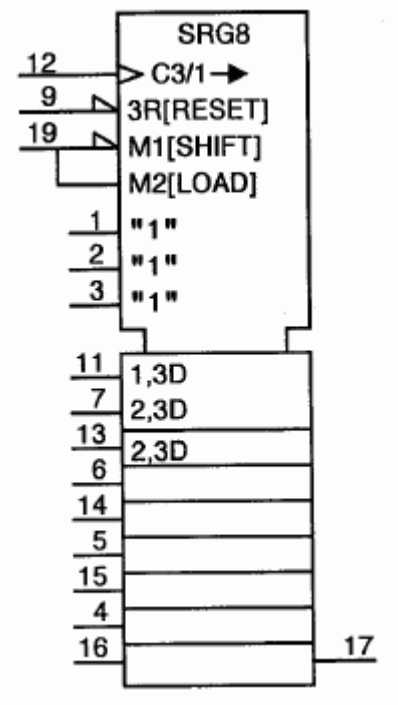
Name:	Shift register, 8-bit, with parallel outputs
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-49-05
Keywords:	binary logic circuits, registers
Applies:	S01464; S01472; S01558; S01561; S01567; S01685
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. SN 74164.

S01693



Name:	Shift register with parallel load, 8-bit
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-49-06
Keywords:	binary logic circuits, registers
Applies:	S01464; S01474; S01558; S01567; S01810
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. SN 74165.

S01694

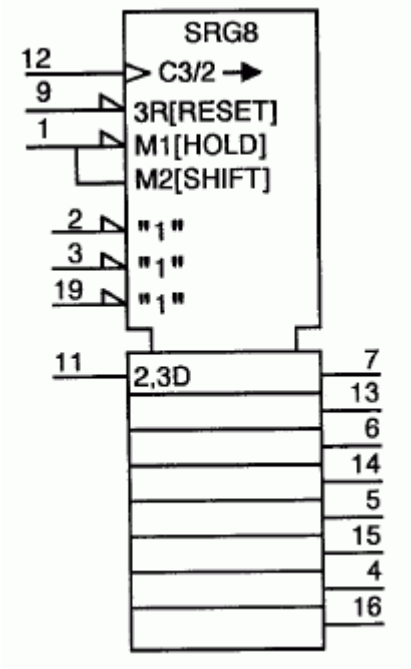


Name:	Register, universal shift/storage, 8-bit
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-49-07
Keywords:	binary logic circuits, registers
Form:	Form 1
Alternative forms:	S01695
Applies:	S01464; S01472; S01474; S01542; S01558; S01561; S01685
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. SN 74LS323, for which only the reset, shift and parallel-load modes are shown.

This symbol illustrates how an incompletely utilized device may be represented by a symbol suited to the application. For this purpose use is made of the fixed-mode input, symbol S01542.

Symbol S01695 depicts the same device performing another function.

S01695

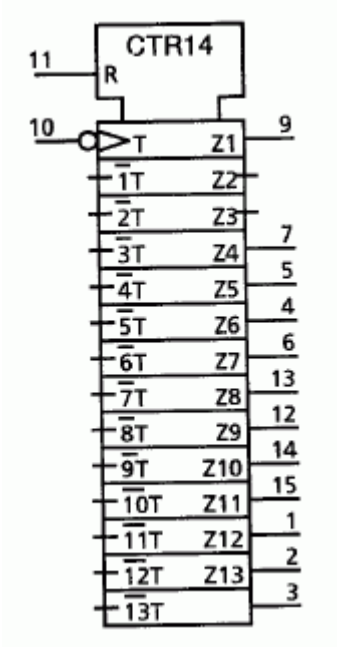


Name:	Register, universal shift/storage, 8-bit
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-49-08
Keywords:	binary logic circuits, registers
Form:	Form 2
Alternative forms:	S01694
Applies:	S01474; S01542; S01558; S01561; S01563; S01685
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. SN 74LS323 for which only the reset, hold and shift modes are shown. This symbol illustrates how an incompletely utilized device may be

represented by a symbol suited to the application. For this purpose use is made of the fixed-mode input, symbol S01542.

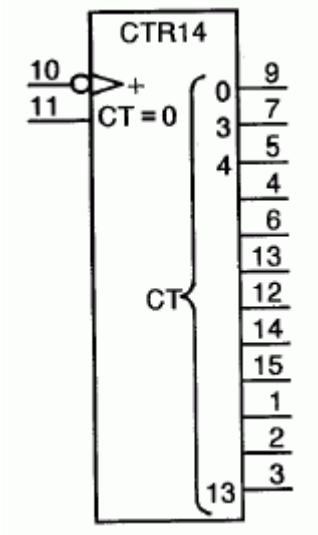
Symbol S01694 depicts the same device performing another function.

S01696



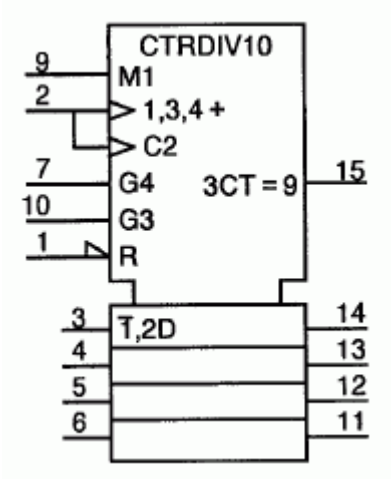
Name:	Binary ripple counter, 14-stage
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-49-09
Keywords:	binary logic circuits, counters
Form:	Form 1
Applies:	S01464; S01473; S01479; S01480; S01555; S01561; S01686
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. CD 4020. If it is not necessary to indicate the ripple effect, symbol S01697 may be used. As a simplified way of indicating the ripple effect, symbol S01697 may be used with the addition of the prefix R to the general qualifying symbol.

S01697



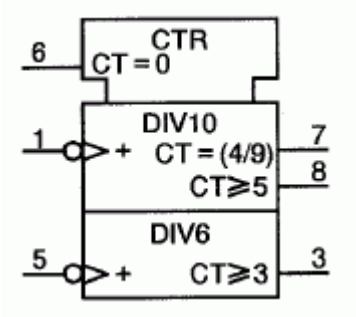
Name:	Binary counter, 14-stage
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-49-10
Keywords:	binary logic circuits, counters
Form:	Form 2
Applies:	S01473; S01517; S01686
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. CD 4020. If it is necessary to indicate the ripple effect, the prefix R shall be added to the general qualifying symbol, for example RCTR14, or symbol S01696 shall be used.

S01698



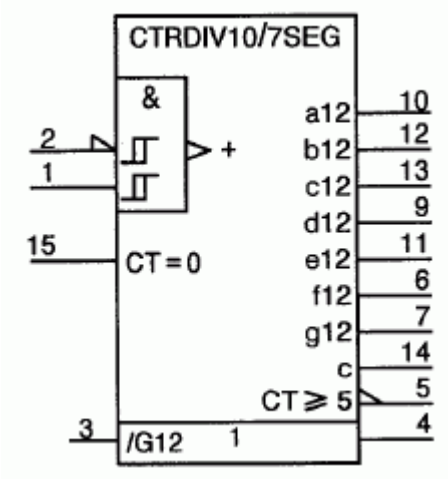
Name:	Counter, synchronous, decade, with parallel load
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-49-11
Keywords:	binary logic circuits, counters
Applies:	S01464; S01468; S01472; S01558; S01561; S01563; S01687; S01810
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. SN 74LS160.

S01699



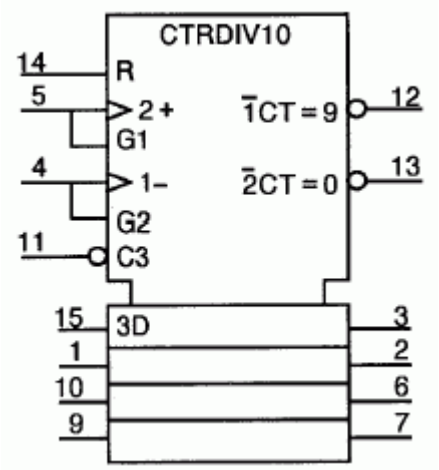
Name:	Counters, one dividing by 5 and 10 and the other by 6
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-49-12
Keywords:	binary logic circuits, counters
Applies:	S01464; S01474; S01539; S01687; S01770; S01772
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. SN 74LS57.

S01700



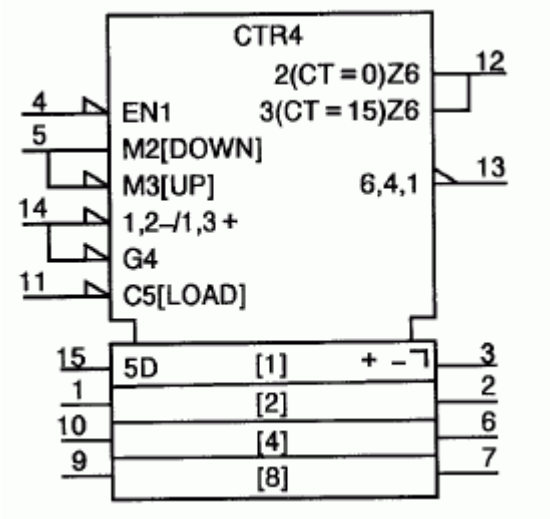
Name:	Decade counter/divider with decoded 7-segment-display outputs
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-49-13
Keywords:	binary logic circuits, counters, dividers
Applies:	S01474; S01483; S01492; S01567; S01687; S01770; S01810
Application notes:	A00269, A00347
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. CD 4026. For the segment identification, see A00347.

S01701



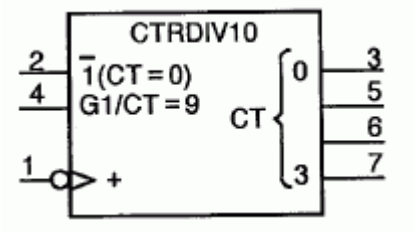
Name:	Counter, decade, synchronous up/down
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-49-14
Keywords:	binary logic circuits, counters
Applies:	S01464; S01472; S01558; S01561; S01687; S01772; S01810
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. SN 74192.

S01702



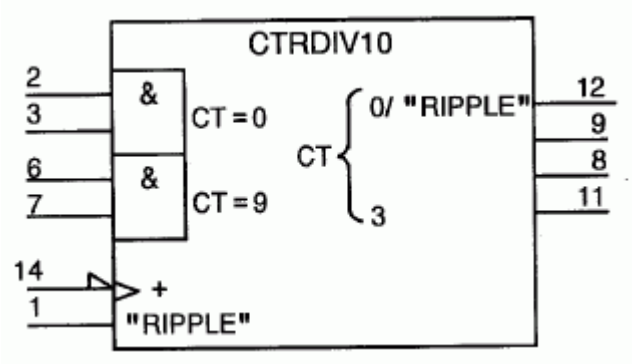
Name:	Binary counter, 4-bit, synchronous up/down
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-49-15
Keywords:	binary logic circuits, counters
Applies:	S01474; S01475; S01491; S01558; S01562; S01563; S01686; S01810
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	Shown with supplementary clarifying information in the array. E.g. SN 74191.

S01703



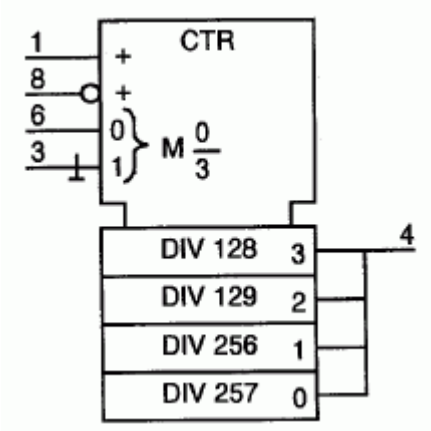
Name:	Counter, decade
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-49-16
Keywords:	binary logic circuits, counters
Applies:	S01473; S01518; S01538; S01686; S01810
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	C Storing, K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. part of SN 74490.

S01704



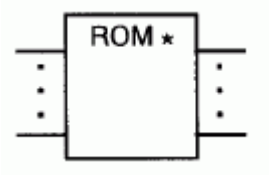
Name:	Counter, decade
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-49-17
Keywords:	binary logic circuits, counters
Applies:	S01474; S01476; S01518; S01545; S01567; S01686
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	C Storing, K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. SN 7490. This symbol illustrates how a device may be represented by a symbol suited to the application. Symbol S01545 is used here to indicate that the symbol is a valid representation only if an external connection is made between terminals 1 and 12.

S01705



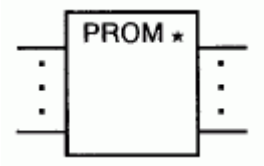
Name:	Prescaler with four scaling factors
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-49-18
Keywords:	binary logic circuits, counters, registers
Applies:	S01466; S01548; S01563; S01687
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	C Storing, K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. MB507.

S01706



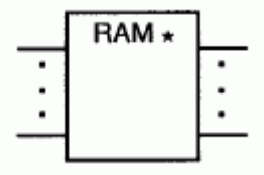
Name:	Read-only memory, general symbol
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-50-01
Keywords:	binary logic elements, memories
Applied in:	S01711, S01712
Applies:	S01463
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	C Storing, K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The asterisk shall be replaced by an appropriate indication of the number of addresses and bits. In such indications 1k stands for 1024 (= 1 Ki) and 1M for 1 048 576 (=1 Mi). That is k (Ki) and M (Mi) may be used as multiplication factors.

S01707



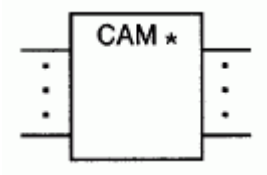
Name:	Programmable read-only memory, general symbol
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-50-02
Keywords:	binary logic elements, memories
Applied in:	S01713, S01715
Applies:	S01463
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	C Storing, K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The asterisk shall be replaced by an appropriate indication of the number of addresses and bits. In such indications 1k stands for 1024 (= 1 Ki) and 1M for 1 048 576 (=1 Mi). That is k (Ki) and M (Mi) may be used as multiplication factors.

S01708



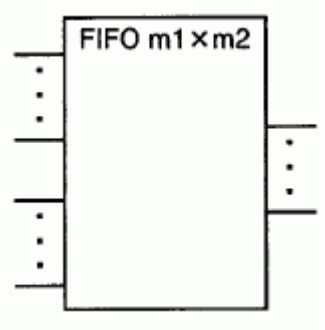
Name:	Random-access memory, general symbol
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-50-03
Alternative names:	Read/write memory, general symbol
Keywords:	binary logic elements, memories
Applied in:	S01716, S01722, S01718, S01717
Applies:	S01463
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	C Storing, K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The asterisk shall be replaced by an appropriate indication of the number of addresses and bits. In such indications 1k stands for 1024 (= 1 Ki) and 1M for 1 048 576 (=1 Mi). That is k (Ki) and M (Mi) may be used as multiplication factors.

S01709



Name:	Content-addressable memory, general symbol
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-50-04
Alternative names:	Associative memory, general symbol
Keywords:	binary logic elements, memories
Applies:	S01463
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	C Storing, K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The asterisk shall be replaced by an appropriate indication of the number of addresses and bits. In such indications 1k stands for 1024 (= 1 Ki) and 1M for 1 048 576 (=1 Mi). That is k (Ki) and M (Mi) may be used as multiplication factors.

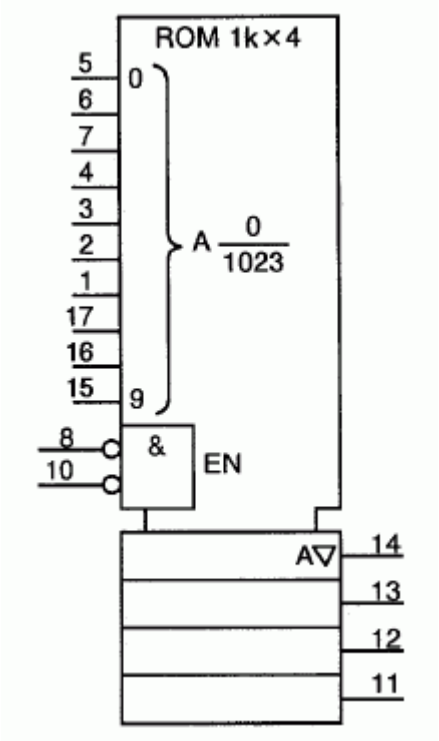
S01710



Name:	First-in first-out memory, general symbol
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-50-05
Keywords:	binary logic elements, memories
Applied in:	S01720, S01721, S01719
Applies:	S01463
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	C Storing, K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The general qualifying symbol signifies that, as in all memory elements, each associated element represents a single general case of the sections of a multi-dimensional array, although ADDRESS dependency is usually not used in symbols for first-in first-out memories. The internal logic states of the m2 data outputs correspond to the values of the bits of the word first entered of those words presently stored. As each word is clocked out, subsequently stored words become available at the outputs in the order in which they were entered. If no words are presently stored, the internal logic states of the data outputs are not specified by the general qualifying symbol. m1 shall be replaced by the maximum number of words that can be stored. m2 shall be replaced by the number of data outputs. This symbol will normally require a counter to be shown as an

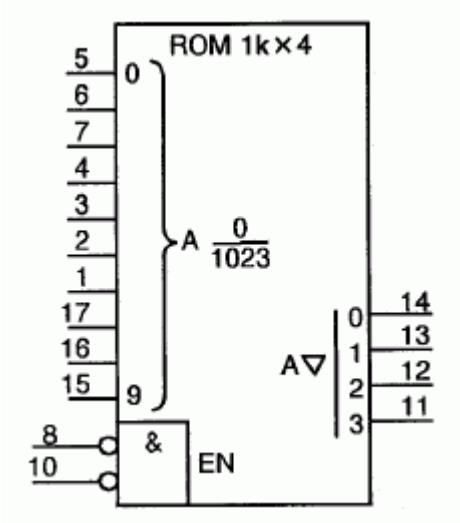
embedded symbol, although this may not necessarily represent the actual implementation. The content of the counter represents the number of words presently stored, that is, the number of words that have been clocked in less the number of words that have been clocked out. The indication of the cycle length of the counter is omitted from the CTR qualifying symbol because, by definition, the counter cannot be incremented beyond m1 to start a new cycle.

S01711



Name:	Read-only memory (ROM) 1024x4-bit
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-51-01
Keywords:	binary logic circuits, memories
Alternative forms:	S01712
Applies:	S01464; S01466; S01498; S01516; S01565; S01567; S01706
Application notes:	A00269
Shape class:	Characters
Function class:	C Storing
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. INTEL 3625.

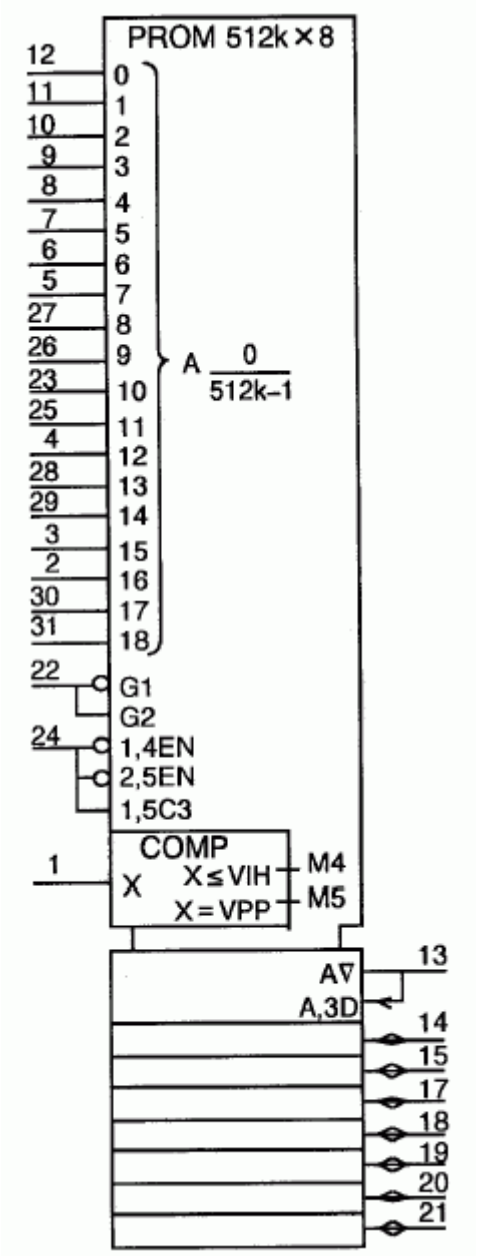
S01712



Name:	Read-only memory (ROM) 1024x4-bit
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-51-02
Keywords:	binary logic circuits, memories
Form:	Simplified form
Alternative forms:	S01711
Applies:	S01466; S01468; S01498; S01516; S01518; S01565; S01706
Application notes:	A00269
Shape class:	Characters
Function class:	C Storing
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. INTEL 3625. Because no confusion is likely concerning the correspondence between data inputs and data outputs and because each section has only one output, it is not necessary to show the array. Simplification of the output labeling is achieved by the use of label

grouping; see symbol S01518. The relative order of the individual outputs is identified by the numbers adjacent to the connecting lines grouped by the label grouping. In this simplified form, the square brackets around these numbers have been omitted.

S01713



Name:	Programmable read-only memory (PROM), 512kx8-bit
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-51-03
Keywords:	binary logic circuits, memories
Alternative forms:	S01714
Applies:	S00099; S00101; S01464; S01468; S01475; S01498; S01516; S01558;

S01563; S01565; S01707; S01800; S01801

Application notes: A00269

Shape class: Characters

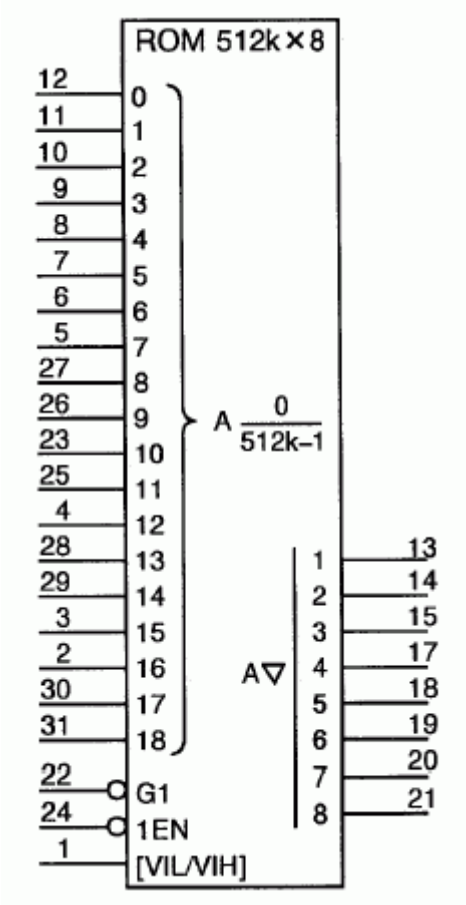
Function class: C Storing

Application class: Circuit diagrams, Function diagrams

Remarks: Shown with READ and WRITE function.

E.g. M27C4001.

S01714



Name:	Programmable read-only memory (PROM), 512kx8-bit
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-51-04
Keywords:	binary logic circuits, memories
Form:	Simplified form
Alternative forms:	S01713
Applies:	S01466; S01498; S01503; S01516; S01518; S01565; S01810
Application notes:	A00269
Shape class:	Characters
Function class:	C Storing

Application class: Circuit diagrams, Function diagrams

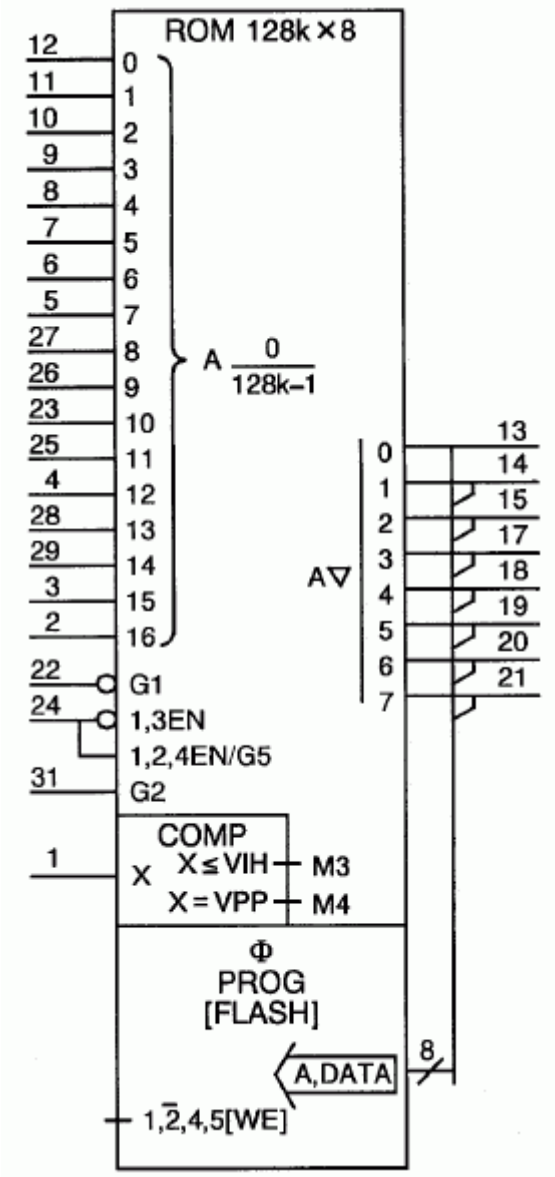
Remarks: The simplified form only shows the READ function.

E.g. M27C4001.

Because no confusion is likely concerning the correspondence between data inputs and data outputs and because each section has only one output, it is not necessary to show the array.

Simplification of the output labeling is achieved by the use of label grouping; see symbol S01518. The relative order of the individual outputs is identified by the numbers adjacent to the connecting lines grouped by the label grouping. In this simplified form, the square brackets around these numbers have been omitted.

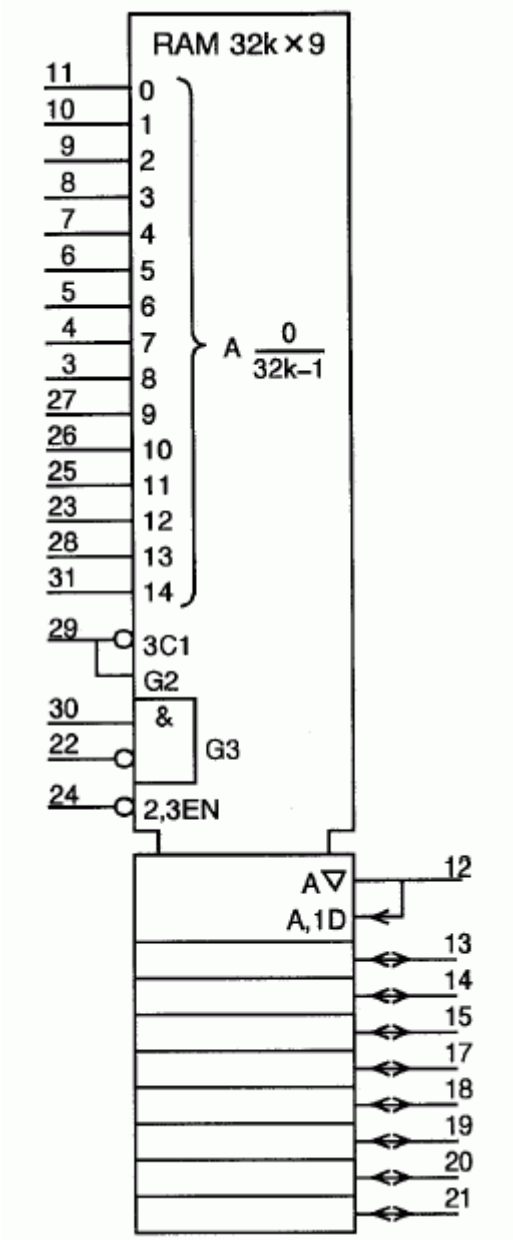
S01715



Name:	Programmable read-only memory, electrically alterable, 128kx8-bit
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-51-04A
Alternative names:	Flash memory, 128kx8-bit
Keywords:	binary logic circuits, memories
Applies:	S01466; S01468; S01475; S01479; S01498; S01516; S01518; S01565; S01707; S01731; S01732; S01800; S01810

Application notes:	A00269
Shape class:	Characters
Function class:	C Storing
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. AM28F010.

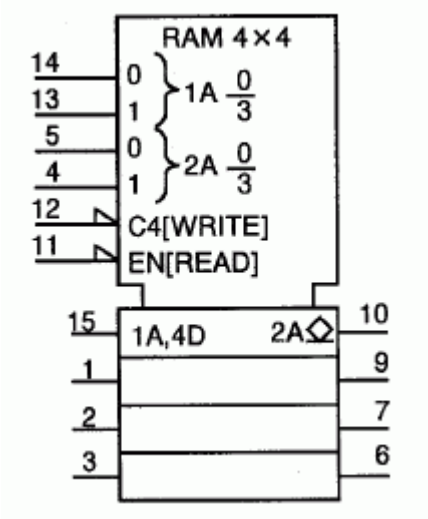
S01716



Name:	Random-access memory (RAM), 32kx9-bit
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-51-05
Keywords:	binary logic circuits, memories
Applies:	S00099; S00101; S01466; S01503; S01516; S01518; S01558; S01565; S01708; S01810
Application notes:	A00269

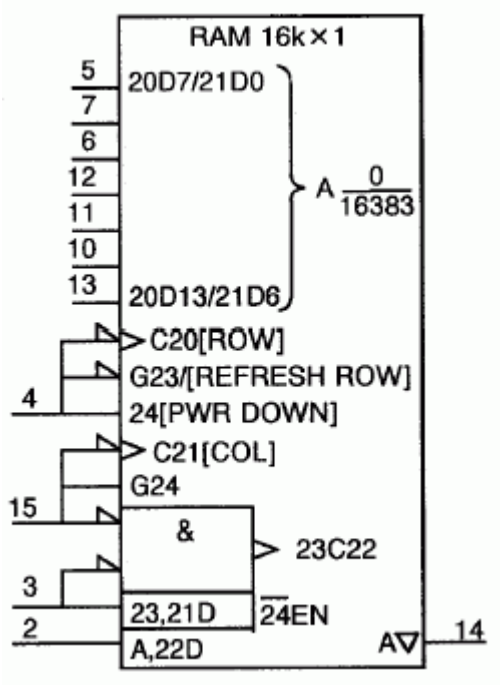
Shape class:	Characters, Rectangles
Function class:	C Storing
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. TC55329.

S01717



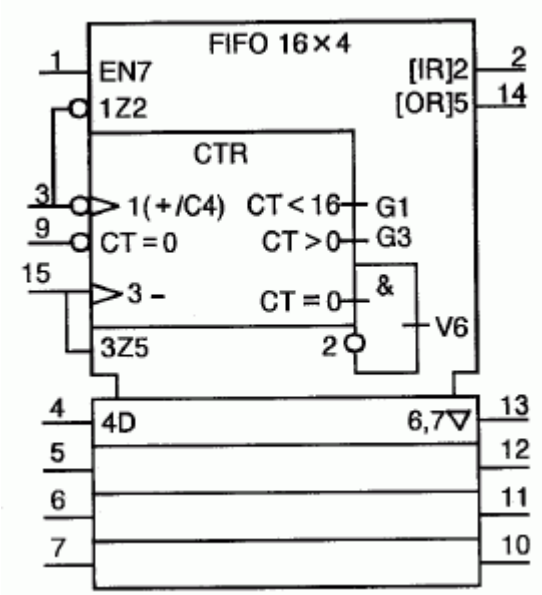
Name:	Random-access memory, 4x4-bit, with separate write and read addresses
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-51-06
Keywords:	binary logic circuits, memories
Applies:	S01464; S01468; S01495; S01503; S01516; S01558; S01565; S01708
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	C Storing
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. SN 74170.

S01718



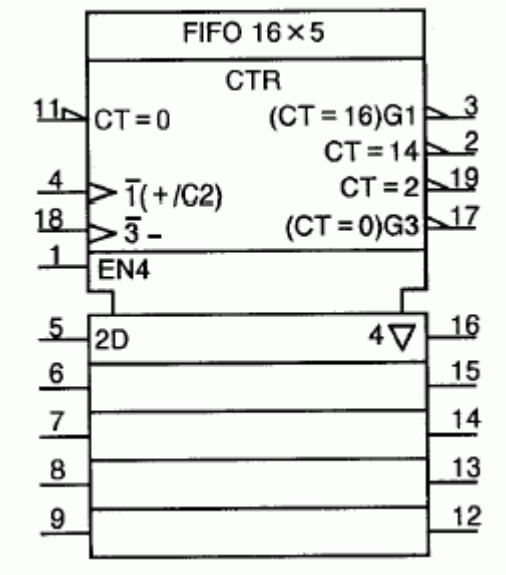
Name:	Random-access memory, dynamic, 16384x1-bit
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-51-07
Keywords:	binary logic circuits, memories
Applies:	S01468; S01474; S01477; S01518; S01558; S01565; S01567; S01708; S01810
Application notes:	A00269
Shape class:	Rectangles
Function class:	C Storing
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. TMS 4116.

S01719



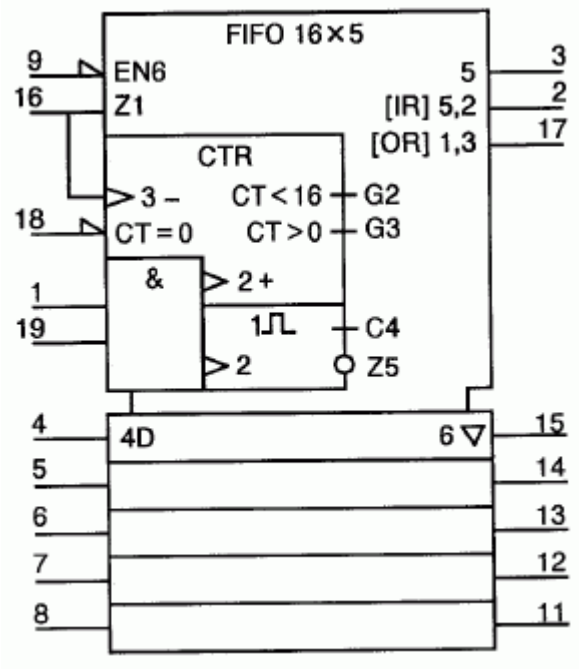
Name:	First-in first-out memory, counter-controlled, 16x4-bit
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-51-08
Keywords:	binary logic circuits, memories
Applies:	S01462; S01464; S01468; S01469; S01472; S01518; S01686; S01710; S01772; S01811
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	C Storing
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. SN 74LS224.

S01720



Name:	First-in first-out memory, counter-controlled, 16x5-bit
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-51-09
Keywords:	binary logic circuits, memories
Applies:	S01462; S01464; S01468; S01469; S01472; S01518; S01686; S01710; S01811
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	C Storing
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. SN 74ALS229.

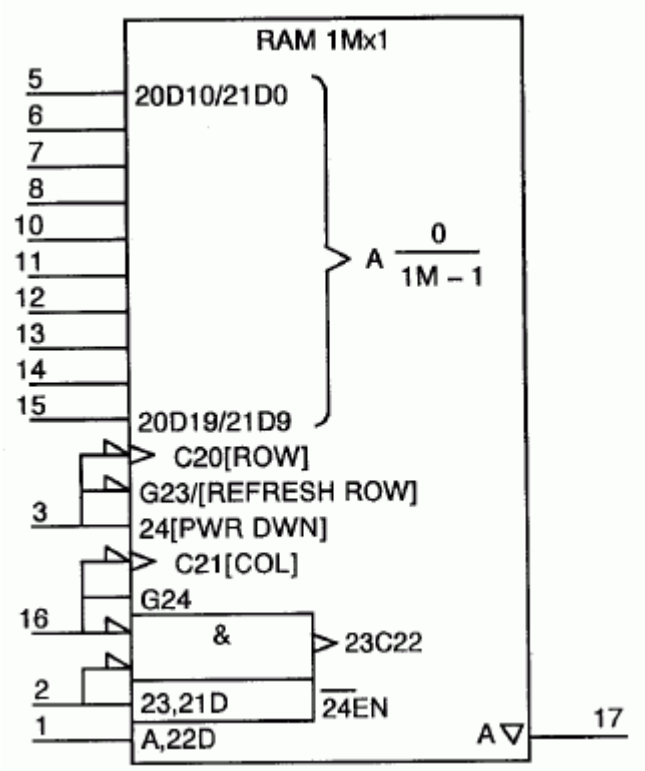
S01721



Name:	First-in first-out memory, fall-through, 16x5-bit
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-51-10
Keywords:	binary logic circuits, memories
Form:	Form 1
Alternative forms:	S01744
Applies:	S01464; S01468; S01472; S01475; S01486; S01554; S01558; S01562; S01567; S01674; S01710; S01770; S01771; S01772
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	C Storing
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. SN 74S225.

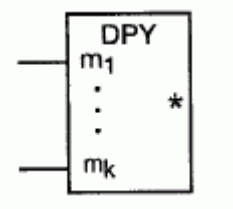
Symbol S01744 depicts the same device using the techniques for complex-function elements.

S01722



Name:	Random-access memory, dynamic, 1048576x1-bit
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-51-11
Keywords:	binary logic circuits, memories
Applies:	S01472; S01474; S01516; S01518; S01558; S01565; S01567; S01708; S01810
Application notes:	A00269
Shape class:	Characters, Rectangles
Function class:	C Storing
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. TMS 4C1024.

S01723

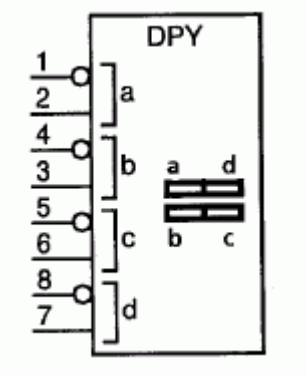


Name:	Display element, general symbol
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-52-01
Keywords:	binary logic elements, display elements
Applied in:	S01726, S01725, S01727, S01745, S01724, S01746, S01730, S01729, S01728
Applies:	S01463
Application notes:	A00269, A00315
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	The asterisk shall be replaced either by - an appropriate indication of the display; and/or by - a reference to a table. The elements that make up the display shall always be shown in their correct physical positions relative to each other. Rotation of symbols to preserve the relative orientation of the display with respect to the reader is sometimes advisable. m_1 ... m_k shall each be replaced either by - an appropriate indication of the visual signals controlled by those inputs; or by - appropriate designations referring to entries in a table. If reference is made to a table in which the terminal designations are used to identify the inputs, these designations may be omitted.

It should be recognized that the visual (optical) signals produced by display elements, for example LED or LCD, bar or dot matrices, are external outputs of those elements.

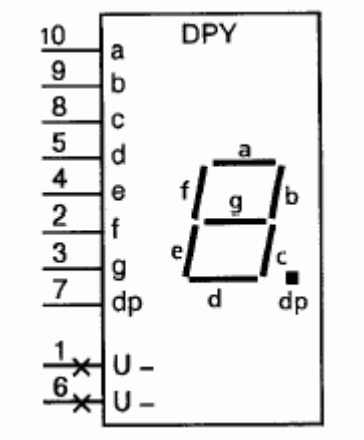
For the representation of of complex-function display elements, see symbols S01745 and S01746.

S01724



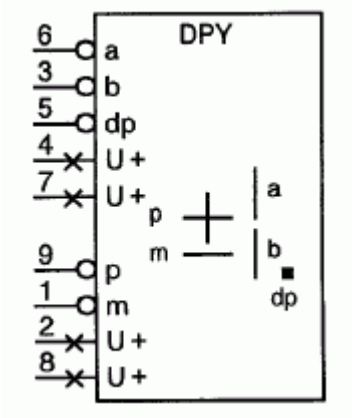
Name:	LED light bars
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-53-01
Keywords:	binary logic circuits, display elements
Applies:	S01540; S01723
Application notes:	A00269
Shape class:	Characters
Function class:	P Presenting information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. HLMP 2600.

S01725



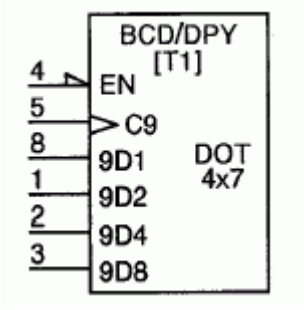
Name:	Seven-segment display
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-53-02
Keywords:	binary logic circuits, display elements
Applies:	S01723; S01753
Application notes:	A00269
Shape class:	Characters
Function class:	P Presenting information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. HDSP 3603.

S01726



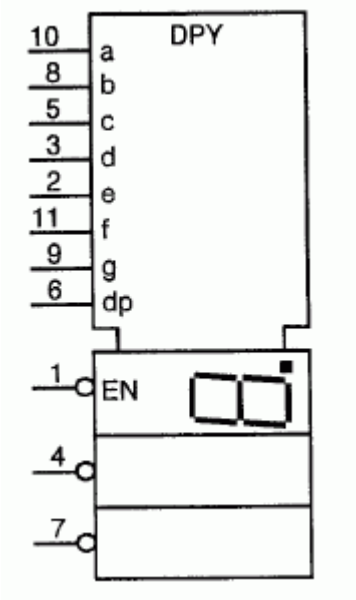
Name:	Overflow display
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-53-03
Keywords:	binary logic circuits, display elements
Applies:	S01466; S01723; S01753
Application notes:	A00269
Shape class:	Characters
Function class:	P Presenting information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. HDSP 5607.

S01727



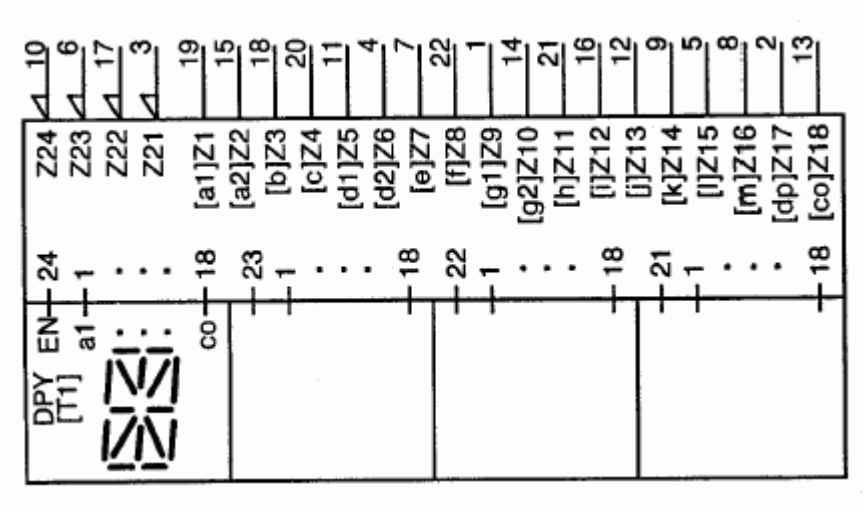
Name:	Hexadecimal display
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-53-04
Keywords:	binary logic circuits, display elements
Applies:	S01468; S01472; S01503; S01558; S01610; S01723
Application notes:	A00269
Shape class:	Characters
Function class:	P Presenting information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. 5082-7340. [T1] refers to a font table describing the decoding from BCD to a dotmatrix 4x7. The visual signals are visible only if the EN-input stands at its internal 1-state. The latching of the data is not controlled by the EN-input.

S01728



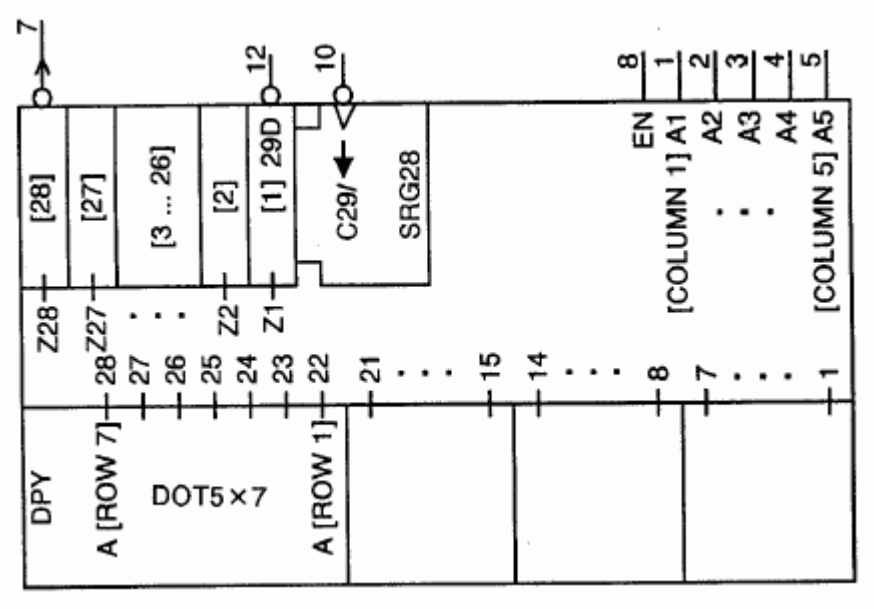
Name:	Numeric display, three 7-segment characters with decimal point
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-53-05
Keywords:	binary logic circuits, display elements
Applies:	S01464; S01466; S01503; S01723
Application notes:	A00269
Shape class:	Characters
Function class:	P Presenting information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. 5082-7433.

S01729



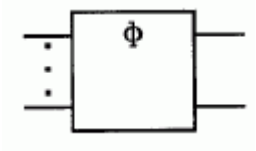
Name:	Alphanumeric display, four 16-segment characters
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-53-06
Keywords:	binary logic circuits, display elements
Applies:	S01468; S01475; S01503; S01554; S01723
Application notes:	A00269, A00316
Shape class:	Characters
Function class:	P Presenting information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. HDSP 6504.

S01730



Name:	Alphanumeric display, four 5x7-dot characters
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-53-07
Keywords:	binary logic circuits, display elements
Applies:	S01464; S01466; S01467; S01475; S01503; S01565; S01723
Application notes:	A00269
Shape class:	Characters
Function class:	P Presenting information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. HDSP 2000.

S01731



Name:	Complex-function element ("gray box"), general symbol
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-54-01
Keywords:	arithmetic elements, binary logic elements, combinative elements, complex function elements
Applied in:	S01738, S01740, S01735, S01737, S01803, S01745, S01736, S01734, S01741, S01746, S01742, S01739, S01743, S01744, S01747, S01715
Applies:	S01463; S01808
Application notes:	A00269, A00317
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The letter Φ shall be supported by an indication, preferably short, of the function. In addition, a reference to supporting documentation (for example a type number or reference designation) shall be included within or adjacent to the symbol outline.

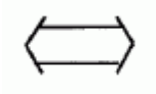
S01732

Name:	Bus indicator, unidirectional
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-55-01
Keywords:	binary logic elements, bus indicators, complex function elements
Applied in:	S01740, S01745, S01736, S01734, S01741, S01743, S01744, S01747, S01715
Application notes:	A00269, A00318
Shape class:	Arrows
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Symbol shown for signal flow from left to right

If associated with terminals, a bit-grouping symbol (symbol S01516 or symbol S01517) or a label-grouping symbol (see symbol S01518), as appropriate, shall be shown between the bus indicator and the symbol outline. Then the connecting lines grouped together need no arrowheads to indicate the direction of signal flow.

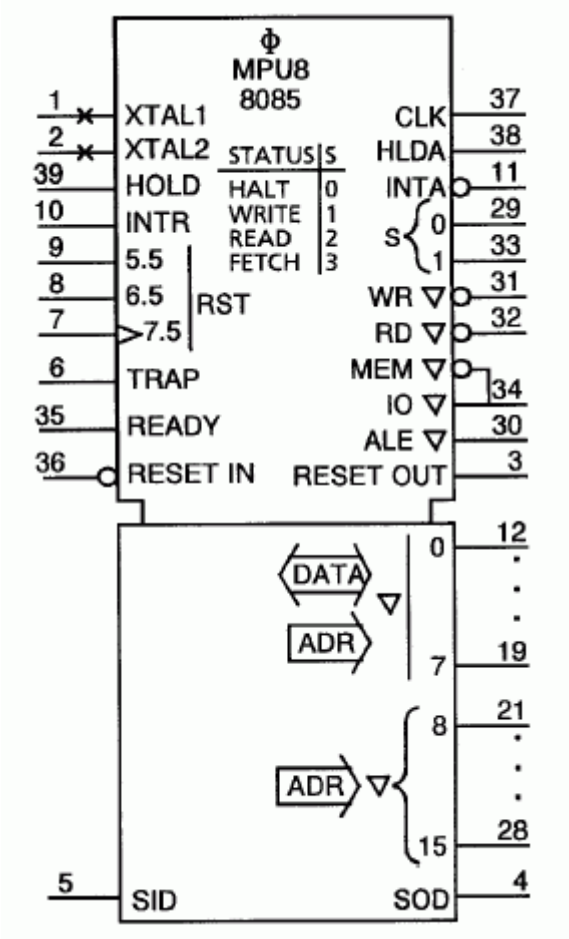
If a bus name or a common portion of the labels for the associated terminals is shown, that name or common portion should be placed inside the bus indicator.

S01733



Name:	Bus indicator, bidirectional
Status level:	Standard
Released on:	2004-09-03
Earlier published in:	IEC 60617-12 (ed.3.0) 12-55-02
Keywords:	binary logic elements, bus indicators, complex function elements
Applied in:	S01735, S01736, S01734, S01742, S01898, S01747
Application notes:	A00269, A00318
Shape class:	Arrows
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams, Function diagrams
Remarks:	If associated with terminals, a bit-grouping symbol (symbol S01516 or symbol S01517) or a label-grouping symbol (see symbol S01518), as appropriate, shall be shown between the bus indicator and the symbol outline. Then the connecting lines grouped together need no arrowheads to indicate the direction of signal flow. If a bus name or a common portion of the labels for the associated terminals is shown, that name or common portion should be placed inside the bus indicator.

S01734



Name:	Microprocessor, 8-bit
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-12 (ed.3.0) 12-56-01
Keywords:	binary logic circuits, complex function circuits, microprocessors
Applies:	S01463; S01464; S01466; S01467; S01472; S01498; S01518; S01678; S01731; S01732; S01733
Application notes:	A00269, A00317, A00356
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams

Remarks: E.g. INTEL 8085.

In accordance with 2 of A00317:

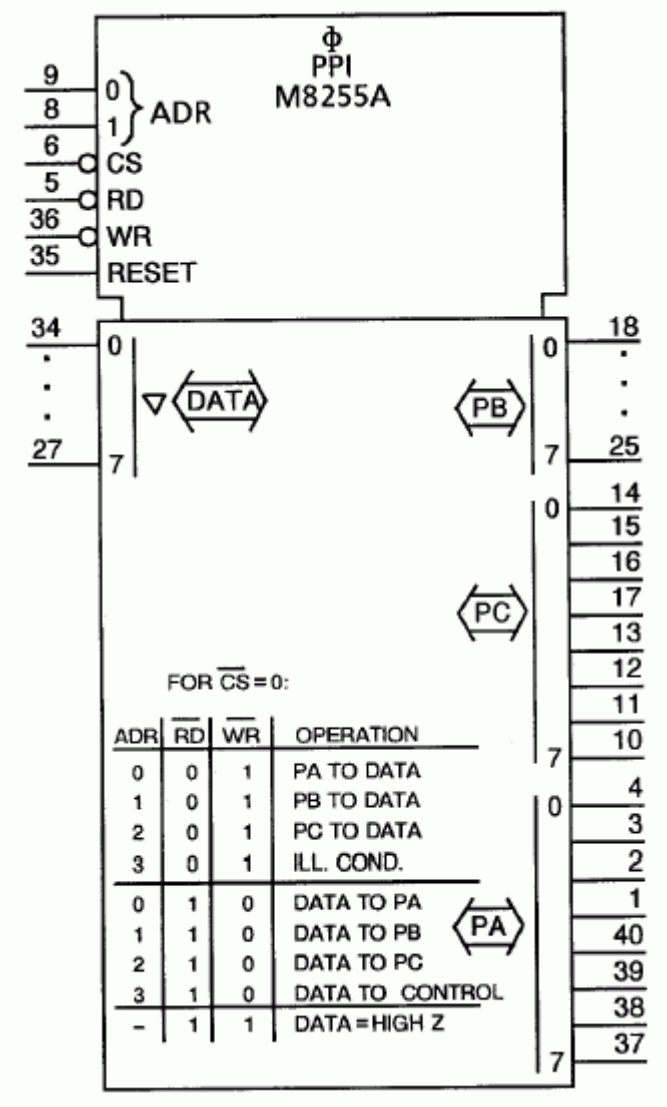
- ADR replaces A,

- ADR and DATA replace AD, and

- MEM replaces M.

The table is shown for the assistance of the reader but may be omitted.

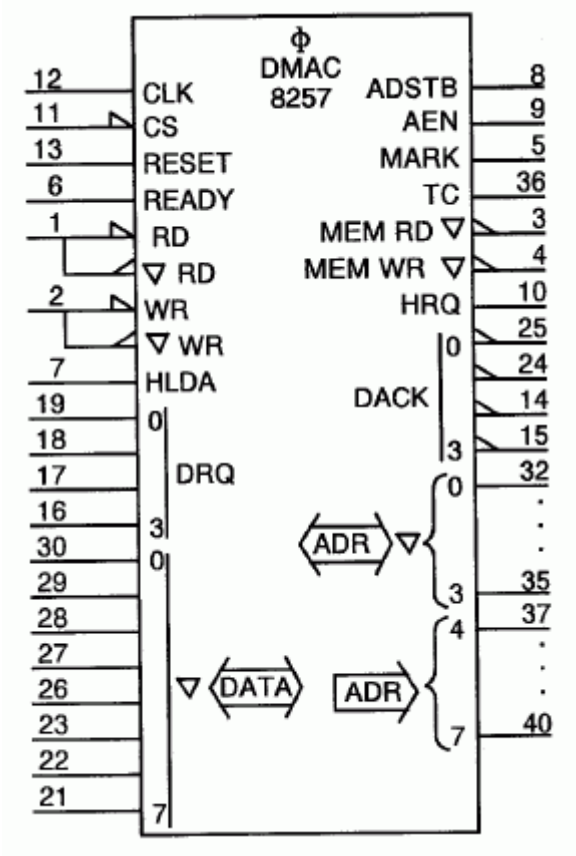
S01735



Name:	Programmable peripheral interface
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-12 (ed.3.0) 12-56-02
Keywords:	binary logic circuits, complex function circuits, interfaces, microprocessors
Applies:	S01466; S01498; S01517; S01518; S01731; S01733
Application notes:	A00269, A00305, A00317, A00356
Shape class:	Characters, Rectangles

Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. INTEL M8255A.
	The table is shown for the assistance of the reader but may be omitted.
	In accordance with 54.2 of A00317:
	- ADR replaces A, and
	- DATA replaces D.

S01736

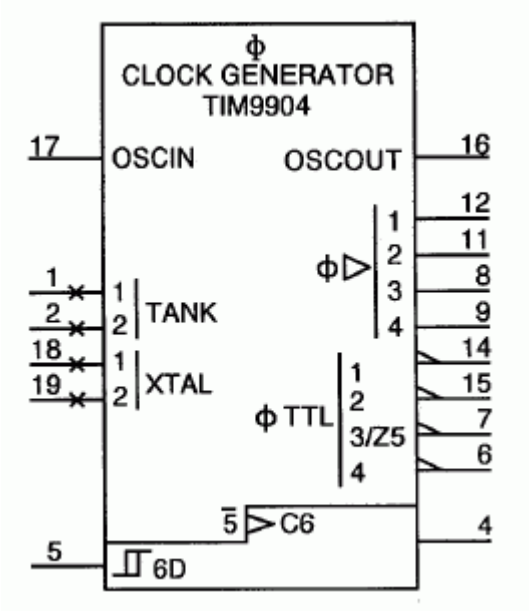


Name:	Programmable DMA controller
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-12 (ed.3.0) 12-56-03
Keywords:	binary logic circuits, complex function circuits, microprocessors
Applies:	S01468; S01469; S01471; S01498; S01518; S01731; S01732; S01733
Application notes:	A00269, A00317, A00356
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. INTEL 8257. In accordance with 54.2 of A00317:

- ADR replaces A, and

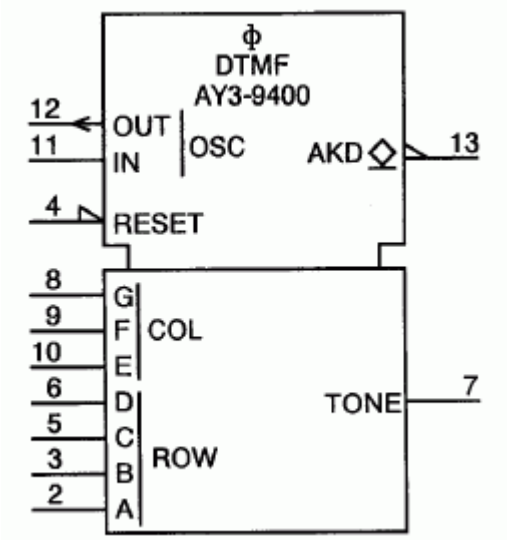
- DATA replaces D.

S01737



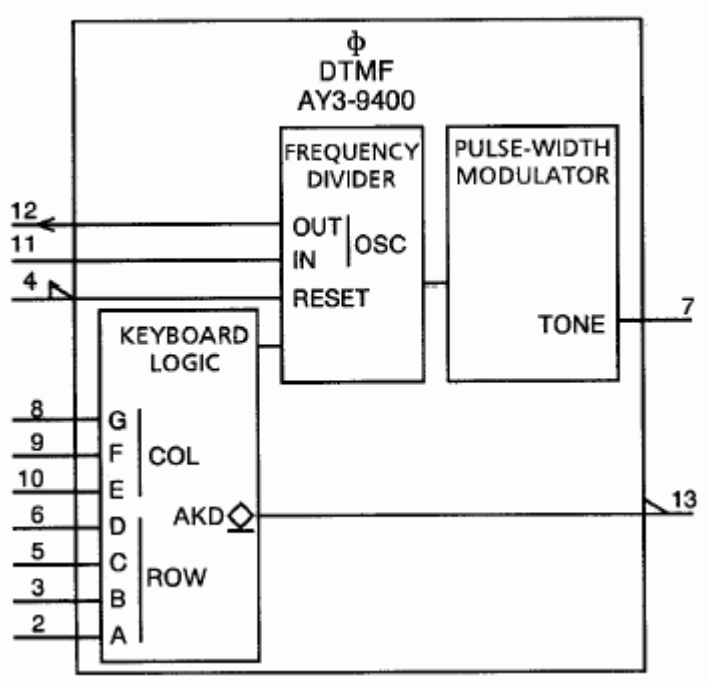
Name:	Clock generator/driver, four-phase
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-12 (ed.3.0) 12-56-04
Keywords:	binary logic circuits, clock generators, complex function circuits, signal generators
Applies:	S01457; S01469; S01477; S01492; S01518; S01559; S01731; S01752
Application notes:	A00269, A00305, A00317, A00356
Shape class:	Characters, Rectangles
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. Texas Instruments TIM9904, formerly SN 74LS362. The symbol S01683 depicts the same device.

S01738



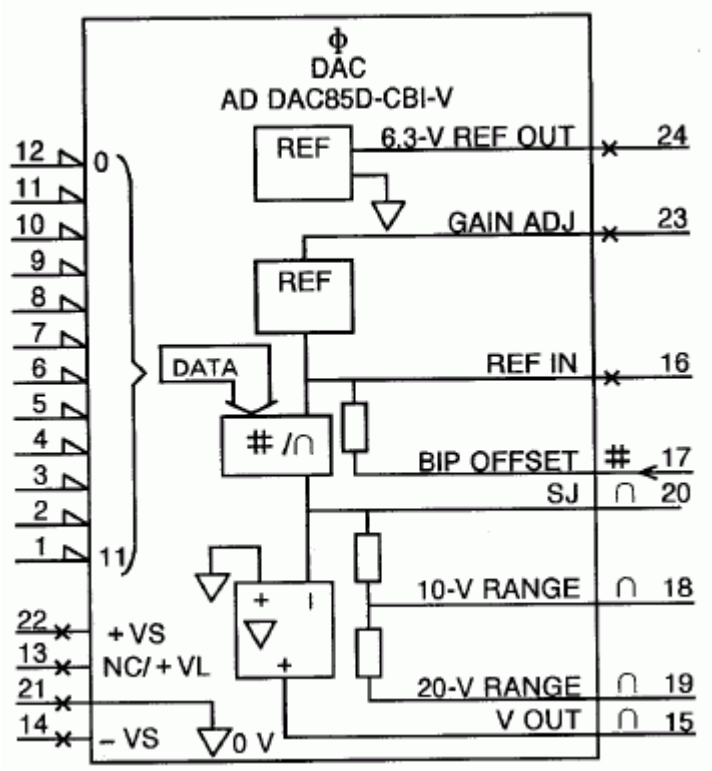
Name:	Dual-tone multi-frequency generator (generates 12 tone-pairs)
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-12 (ed.3.0) 12-56-05
Keywords:	binary logic circuits, clock generators, complex function circuits, signal generators
Alternative forms:	S01739
Applies:	S00099; S01464; S01468; S01495; S01518; S01731
Application notes:	A00269, A00317, A00356
Shape class:	Characters, Rectangles
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. General Instruments AY3-9400. See also symbol S01739.

S01739



Name:	Dual-tone multi-frequency generator (generates 12 tone-pairs)
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-12 (ed.3.0) 12-56-06
Keywords:	binary logic circuits, clock generators, complex function circuits, signal generators
Alternative forms:	S01738
Applies:	S00099; S01468; S01495; S01518; S01731
Application notes:	A00269, A00317, A00356
Shape class:	Characters, Rectangles
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. General Instruments AY3-9400. See also symbol S01738.

S01740



Name:	Digital-to-analogue converter, 12-bit
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-12 (ed.3.0) 12-56-07
Keywords:	analogue circuits, binary logic circuits, complex function circuits, converters, signal converters
Alternative forms:	S01741
Applies:	S00555; S01231; S01468; S01516; S01731; S01732; S01749; S01750; S01752; S01753; S01782
Application notes:	A00269, A00317, A00356
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. Analog Devices AD DAC85D-CBI-V.

See also symbol S0741.

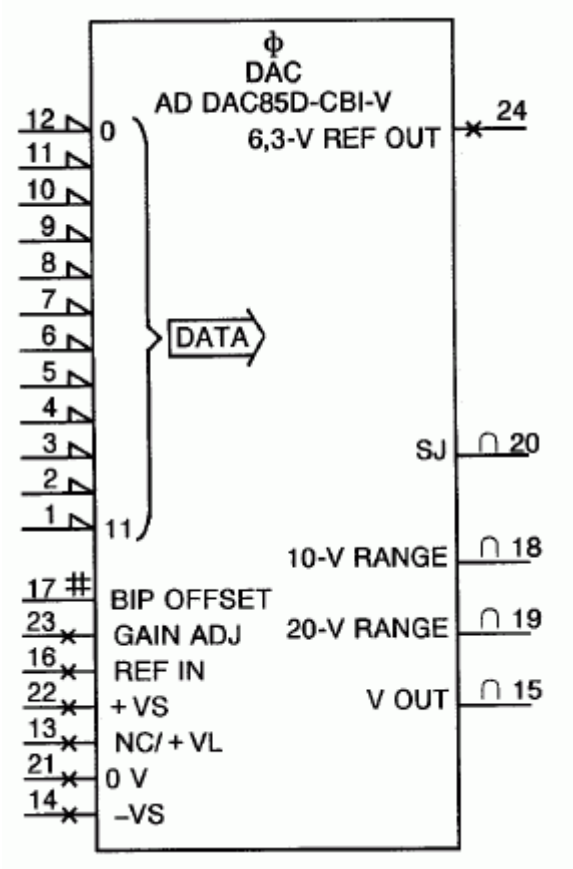
Because the logic inputs produce a number, use has been made of the bit-grouping symbol. Consequently the labelling of these inputs differs from that of the manufacturer.

If no confusion is likely, ∩ at the inputs and outputs may be omitted.

Arrowheads may be used on terminals 18, 19, and 20, depending on the application.

See also S01791, S01792 and S01793 for other methods of representing digital-to-analogue converters and analogue-to-digital converters.

S01741



Name:	Digital-to-analogue converter, 12-bit
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-12 (ed.3.0) 12-56-08
Keywords:	analogue circuits, binary logic circuits, complex function circuits, converters, signal converters
Form:	Simplified form
Alternative forms:	S01740
Applies:	S01468; S01516; S01731; S01732; S01749; S01752; S01753; S01757
Application notes:	A00269, A00317, A00356
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information

Application class: Circuit diagrams, Function diagrams

Remarks: E.g. Analog Devices AD DAC85D-CBI-V.

See also symbol S01740.

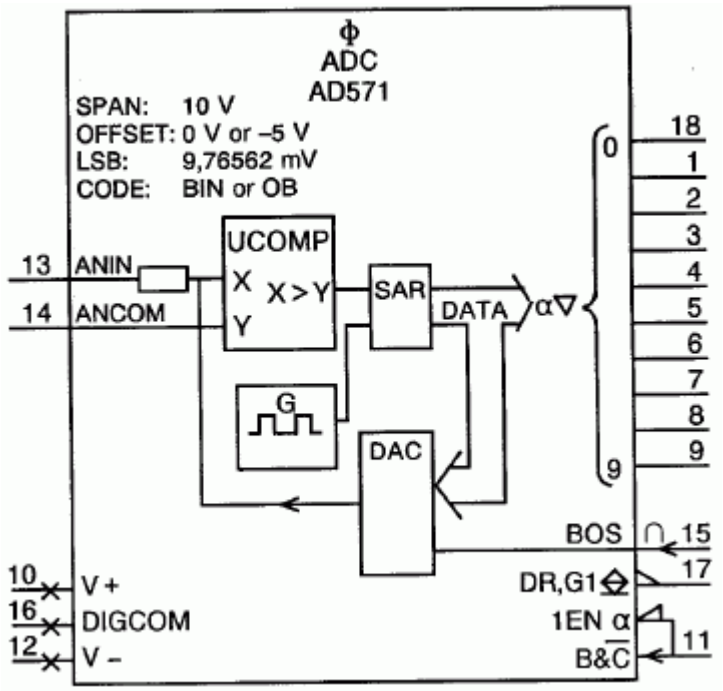
Because the logic inputs produce a number, use has been made of the bit-grouping symbol. Consequently the labelling of these inputs differs from that of the manufacturer.

If no confusion is likely, ∩ at the inputs and outputs may be omitted.

Arrowheads may be used on terminals 18, 19, and 20, depending on the application.

See also S01791, S01792 and S01793 for other methods of representing digital-to-analogue converters and analogue-to-digital converters.

S01742



Name:	Analog-to-digital converter, 10-bit
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-12 (ed.3.0) 12-56-09
Keywords:	analogue circuits, binary logic circuits, complex function circuits, converters, signal converters
Alternative forms:	S01743
Applies:	S01469; S01497; S01498; S01517; S01678; S01731; S01733; S01752; S01753; S01801
Application notes:	A00269, A00317, A00356
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. Analog Devices AD571. See also symbol S01743.

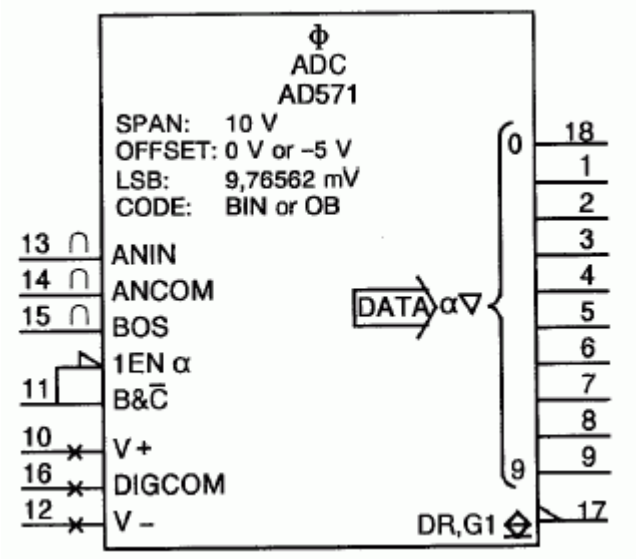
In symbol S01742, the layout of the internal diagram has been chosen such that the feedback function of the internal digital-to-analogue converter is emphasized.

Because the logic outputs represent a number, use has been made of the bit grouping symbol. Consequently, the labelling of these outputs differs from that of the manufacturer.

If no confusion is likely, ∩ at the inputs and outputs may be omitted.

See also S01791, S01792 and S01793 for other methods of representing digital-to-analogue converters and analogue-to-digital converters.

S01743



Name:	Analog-to-digital converter, 10-bit
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-12 (ed.3.0) 12-56-10
Keywords:	analogue circuits, binary logic circuits, complex function circuits, converters, signal converters
Form:	Simplified form
Alternative forms:	S01742
Applies:	S01468; S01498; S01517; S01731; S01732; S01749; S01750; S01752; S01753
Application notes:	A00269, A00317, A00356
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. Analog Devices AD571. See also symbol S01742. In symbol S01742, the layout of the internal diagram has been chosen

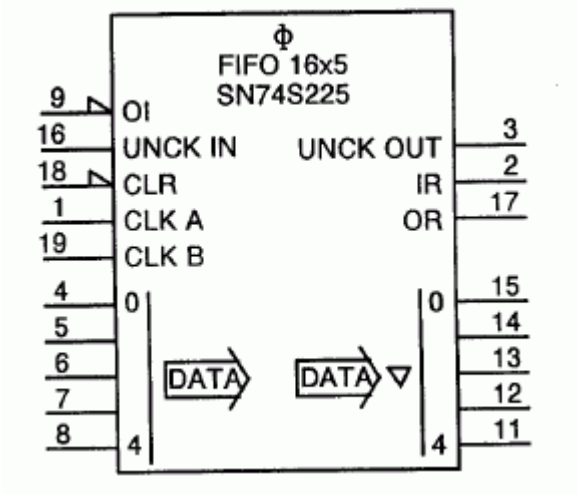
such that the feedback function of the internal digital-to-analogue converter is emphasized.

Because the logic outputs represent a number, use has been made of the bit grouping symbol. Consequently, the labelling of these outputs differs from that of the manufacturer.

If no confusion is likely, ∩ at the inputs and outputs may be omitted.

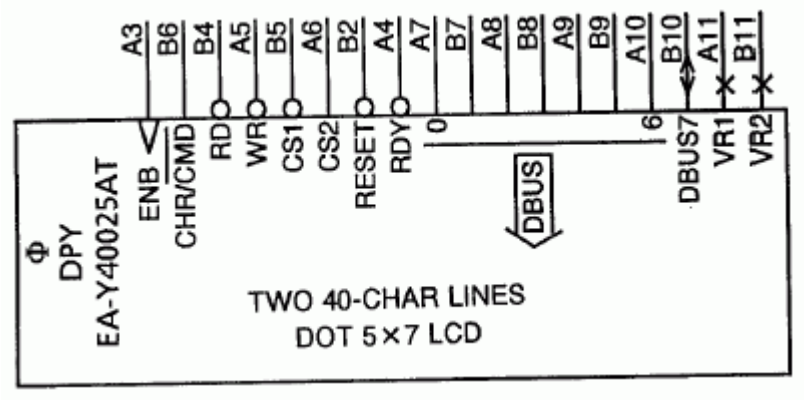
See also S01791, S01792 and S01793 for other methods of representing digital-to-analogue converters and analogue-to-digital converters.

S01744



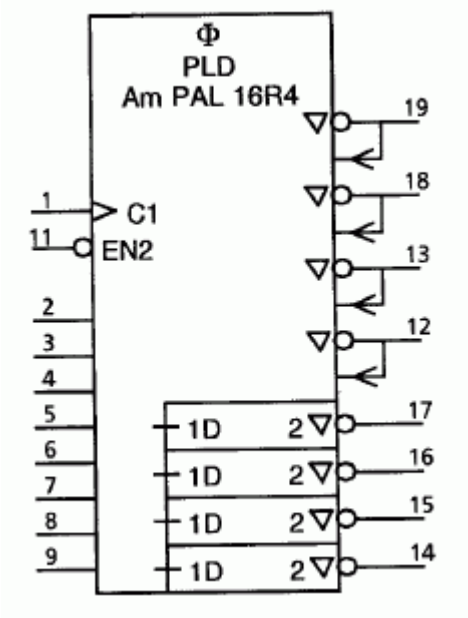
Name:	First-in first-out memory, fall-through, 16x5-bit
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-12 (ed.3.0) 12-56-11
Keywords:	binary logic circuits, complex function circuits, memories
Form:	Form 2
Alternative forms:	S01721
Applies:	S01468; S01498; S01518; S01731; S01732
Application notes:	A00269, A00317, A00356
Shape class:	Characters, Rectangles
Function class:	C Storing
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. Texas Instruments SN 74S225. Symbol S01721 depicts the same device.

S01745



Name:	Display element, dot matrix, alphanumeric, with two 40-character lines
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-12 (ed.3.0) 12-56-12
Keywords:	binary logic circuits, complex function circuits, display elements
Applies:	S01466; S01472; S01498; S01723; S01731; S01732
Application notes:	A00269, A00356
Shape class:	Characters, Rectangles
Function class:	P Presenting information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. EPSON EA-Y40025AT.

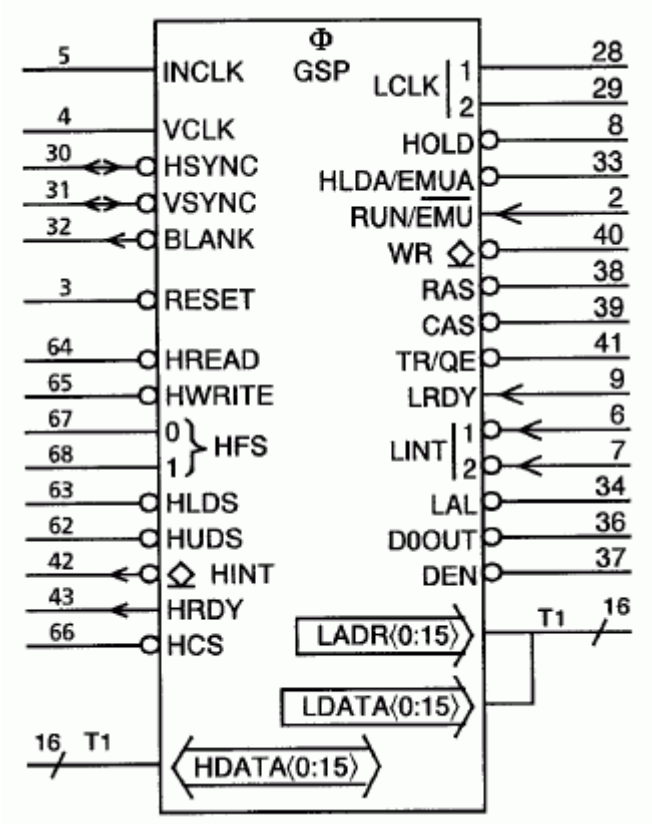
S01746



Name:	Programmable logic device (PLD)
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-12 (ed.3.0) 12-56-13
Keywords:	binary logic circuits, complex function circuits
Applies:	S00099; S01466; S01467; S01472; S01562; S01723; S01731
Application notes:	A00269, A00356
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. Advanced Micro Devices Am PAL 16R4. There are 16 array inputs. Eight of them are directly accessable unidirectional inputs, four of them are connected to bidirectional input/outputs, and four are internal feedbacks from the latches. The latter four are not shown in this symbol. Since no labels other than pin numbers appear on the circuit data sheet of the manufacturer, no terminal names are shown besides the ones required by the use of dependency notation.

The symbol shows the unprogrammed device. If the symbol is to be used to show the device after programming, the labels and/or the functional indication may be changed to correspond to the supporting documentation for the programmed device.

S01747

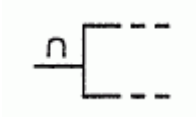


Name:	Graphics system processor
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-12 (ed.3.0) 12-56-14
Keywords:	binary logic circuits, complex function circuits, graphics processors, microprocessors
Applies:	S01495; S01517; S01518; S01731; S01732; S01733
Application notes:	A00269, A00319, A00356
Shape class:	Arrows, Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. Texas Instruments TMS34010. The table T1 is considered to be part of the symbol and shall be shown

on the circuit diagram or in a supporting document. See A00319.

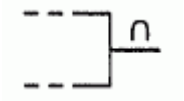
Use has been made of the technique described in IEC 61082-1, subclause 7.4.7, to simplify the two 16-bit-wide busses.

S01748



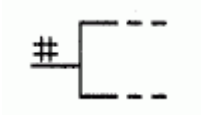
Name:	Analogue input
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-04-01
Keywords:	analogue, analogue elements, arithmetic elements, binary logic elements, connections
Applied in:	S01604, S01792, S01602, S01793
Applies:	S00216
Application notes:	A00321, A00352
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The symbol ∩ is equivalent to UCS 2229 of ISO/IEC 10646 "INTERSECTION".

S01749



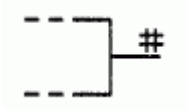
Name:	Analogue output
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-04-02
Keywords:	analogue, analogue elements, arithmetic elements, binary logic elements, connections
Applied in:	S01740, S01604, S01803, S01741, S01743
Applies:	S00216
Application notes:	A00321, A00352
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The symbol ∩ is equivalent to UCS 2229 of ISO/IEC 10646 "INTERSECTION".

S01750



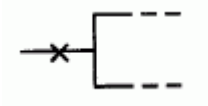
Name:	Digital input
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-04-03
Keywords:	analogue elements, arithmetic elements, binary, binary logic elements, connections, digital
Applied in:	S01740, S01790, S01743
Applies:	S00217
Application notes:	A00321, A00352
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01751



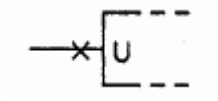
Name:	Digital output
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-04-04
Keywords:	analogue elements, arithmetic elements, binary, binary logic elements, connections, digital
Applies:	S00217
Application notes:	A00321, A00352
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01752



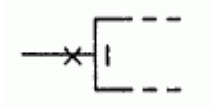
Name:	Subsidiary connection
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-04-05
Keywords:	analogue elements, arithmetic elements, binary logic elements, connections
Applied in:	S01740, S01737, S01754, S01763, S01741, S01762, S01742, S01753, S01743
Applies:	S01546
Application notes:	A00321, A00352
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	An input supplying power to the device or a connection the knowledge of whose level is not important to understand the function of the element and the circuit (e.g., a connection to an external supplementary resistor or capacitor).

S01753



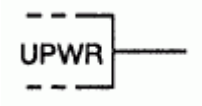
Name:	Supply-voltage terminal
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-01
Keywords:	analogue circuits, arithmetic circuits, binary logic circuits, connections, terminals
Alternative forms:	S01754
Applied in:	S01740, S01726, S01725, S01779, S01780, S01794, S01803, S01806, S01790, S01741, S01792, S01742, S01743, S01793, S01795
Applies:	S01752
Application notes:	A00322, A00352
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Symbol shown on the left-hand side. U may be followed by the polarity sign or may be replaced by - the nominal signed value (e.g., +5 V) or by - a suitable mnemonic (e.g., VCC, GND). Supply terminals are not always shown in a diagram.

S01754



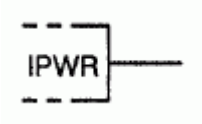
Name:	Supply-current terminal
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-02
Keywords:	analogue circuits, arithmetic circuits, binary logic circuits, connections, terminals
Alternative forms:	S01753
Applies:	S01752
Application notes:	A00322, A00352
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Symbol shown on the left-hand side. I may be followed by the polarity sign or may be replaced by - the nominal signed value (e.g., 10 mA) or by - a suitable mnemonic (e.g., VCC, GND). Supply terminals are not always shown in a diagram.

S01755



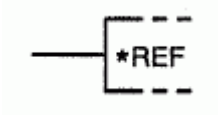
Name:	Supply-voltage output
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-03
Keywords:	analogue circuits, arithmetic circuits, binary logic circuits, supply circuits
Application notes:	A00322, A00352
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	An output that is a source of power. U [I] may be followed by the polarity sign or may be replaced by - the nominal signed value (e.g., resulting in +5 V PWR, 1 A PWR), or by - a suitable mnemonic (e.g., resulting in VCCPWR, GNDPWR). If it is not necessary to emphasize the fact that it is a power output, use symbol S01760.

S01756



Name:	Supply-current output
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-04
Keywords:	analogue circuits, arithmetic circuits, binary logic circuits, supply circuits
Application notes:	A00322, A00352
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	An output that is a source of power. I [U] may be followed by the polarity sign or may be replaced by - the nominal signed value (e.g., resulting in +5 V PWR, 1 A PWR), or by - a suitable mnemonic (e.g., resulting in VCCPWR, GNDPWR). If it is not necessary to emphasize the fact that it is a power output, use symbol S01760.

S01757

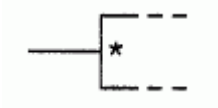


Name:	Reference input
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-05
Keywords:	analogue circuits, analogue elements, arithmetic circuits, arithmetic elements, binary logic circuits, binary logic elements
Applied in:	S01741
Application notes:	A00322, A00352
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	An input to be connected to a reference source. The asterisk shall be replaced by the symbol for the reference quantity (e.g., U, I, f, φ). The quantity symbol may be followed by the polarity sign or may be replaced by - the nominal signed value (e.g., resulting in + 5 V REF, 10 mA REF), or by - a suitable mnemonic (e.g., resulting in VCCREF, GNDREF). If it is not necessary to emphasize the fact that it is a reference input use symbol S01759.

S01758

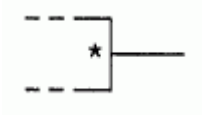
Name:	Reference output
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-06
Keywords:	analogue circuits, analogue elements, arithmetic circuits, arithmetic elements, binary logic circuits, binary logic elements
Application notes:	A00352
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	An output that is a reference source. The asterisk shall be replaced by the symbol for the reference quantity (e.g., U, I, f, φ). The quantity symbol may be followed by the polarity sign or may be replaced by - the nominal signed value (e.g., resulting in + 5 V REF, 10 mA REF), or by - a suitable mnemonic (e.g., resulting in VCCREF, GNDREF). If it is not necessary to emphasize the fact that it is a reference output use symbol S01760.

S01759



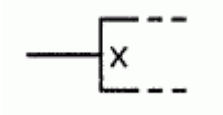
Name:	Quantity-sensing input
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-07
Keywords:	analogue circuits, analogue elements, arithmetic circuits, arithmetic elements, binary logic circuits, binary logic elements
Application notes:	A00322, A00352
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Input for which the indicated quantity represents the information. The asterisk shall be replaced by the symbol for the quantity representing the information (e.g., U, I, f, φ). The quantity symbol may be followed by the polarity sign or may be replaced by one of the following indications of the range or fixed value: - a nominal signed value or values (e.g., +5 V, 0 mA...20 mA,440 Hz) or - a suitable mnemonic (e.g., VCC, GND, A#). If the polarity sign is not shown, U should be omitted unless confusion is likely. If this symbol is combined with other symbols (e.g., S01761) it should follow those other symbols, enclosed, if necessary, in square brackets.

S01760



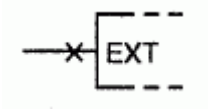
Name:	Quantity output
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-08
Keywords:	analogue circuits, analogue elements, arithmetic circuits, arithmetic elements, binary logic circuits, binary logic elements
Application notes:	A00322, A00352
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Output for which the indicated quantity represents the information. The asterisk shall be replaced by the symbol for the quantity representing the information (e.g., U, I, f, φ). The quantity symbol may be followed by the polarity sign or may be replaced by one of the following indications of the range or fixed value: - a nominal signed value or values (e.g., +5 V, 0 mA...20 mA,440 Hz) or - a suitable mnemonic (e.g., VCC, GND, A#). If the polarity sign is not shown, U should be omitted unless confusion is likely. If this symbol is combined with other symbols (e.g., S01761) it should follow those other symbols, enclosed, if necessary, in square brackets.

S01761



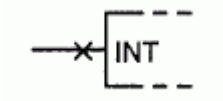
Name:	Analogue operand input
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-09
Keywords:	analogue circuits, analogue elements
Applied in:	S01779, S01780
Application notes:	A00322, A00352
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	X-input shown. This input represents an operand on which one or more analogue functions are performed. For analogue operands, the letters X and Y should be used. If more than two operands are involved, other characters may be used or suffixes may be added, providing no confusion is likely.

S01762



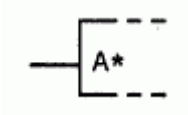
Name:	Terminal to be externally connected to a subsidiary circuit or circuit element
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-10
Keywords:	analogue circuits, analogue elements, arithmetic circuits, arithmetic elements, binary logic circuits, binary logic elements
Applies:	S01752
Application notes:	A00322, A00352
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Shown on the left-hand side. EXT should be replaced by another designation, e.g., RX resistance CX capacitance RCX resistance and capacitance XTAL crystal This symbol may be shown without the symbol for subsidiary connection (symbol S01752) if no confusion is likely. If an indication of the polarity is necessary, a + or a - may be added as a suffix to the symbol.

S01763



Name:	Terminal of a subsidiary internal circuit or circuit component
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-11
Keywords:	analogue circuits, analogue elements, arithmetic circuits, arithmetic elements, binary logic circuits, binary logic elements
Applies:	S01752
Application notes:	A00322, A00352
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Shown on the left-hand side. INT should be replaced by another designation, e.g., RINT resistance CINT capacitance RCINT resistance and capacitance XTALINT crystal This symbol may be shown without the symbol for subsidiary connection (symbol S01752) if no confusion is likely. If an indication of the polarity is necessary, a + or a - may be added as a suffix to the symbol.

S01764



Name:	Adjustment terminal
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-12
Keywords:	analogue circuits, analogue elements, arithmetic circuits, arithmetic elements, binary logic circuits, binary logic elements
Applied in:	S01787, S01785, S01799, S01779, S01784, S01780, S01794, S01783, S01788, S01786, S01602
Application notes:	A00322, A00352
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Shown on the left-hand side. The A* shall be replaced by ADJ, or only the asterisk shall be replaced by an indication of the property or quantity to be adjusted. The following indications should be used for the properties or quantities listed: B - bias CL - current limit f - frequency H - hysteresis m - amplification OFS - offset P - power

SR - slew rate

SYM - symmetry

T - temperature

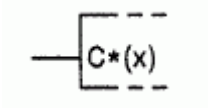
U or V - voltage

WF - waveform

Z - impedance

φ or Φ- phase

S01765



Name:	Compensation terminal
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-13
Keywords:	analogue circuits, analogue elements, arithmetic circuits, arithmetic elements, binary logic circuits, binary logic elements
Applied in:	S01787, S01784, S01794, S01803, S01790, S01786
Application notes:	A00322, A00352
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Shown on the left-hand side. The C* shall be replaced by CPN, or only the asterisk shall be replaced by an indication of the property or quantity to be adjusted. The x shall be replaced by an indication of the property or quantity that causes the adjustment or compensation to be necessary. The following indications should be used in replacing the asterisk and/or the X: B - bias; CL - current limit; f - frequency; H - hysteresis; m - amplification; OFS - offset;

P - power;

SR - slew rate;

SYM - symmetry;

T - temperature;

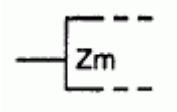
U or V - voltage;

WF - waveform;

Z - impedance;

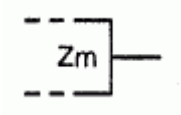
φ or Φ - phase.

S01766



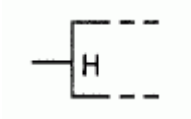
Name:	Zm-input (analogue)
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-14
Keywords:	analogue elements, dependency notation, INTERCONNECTION dependency
Applies:	S01554
Application notes:	A00276, A00289, A00322, A00352
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Affecting analogue Zm-inputs or Zm-outputs impose their signal levels on the analogue inputs and outputs affected by them. These symbols imply the application of dependency notation including the replacement of "m" by the relevant identifying number. For an explanation of the techniques involved, see A00276 and A00289. For affecting digital Zm-inputs and Zm-outputs, see S01554.

S01767



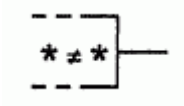
Name:	Zm-output (analogue)
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-15
Keywords:	analogue elements, dependency notation, INTERCONNECTION dependency
Applies:	S01555
Application notes:	A00276, A00289, A00322, A00352
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Affecting analogue Zm-inputs or Zm-outputs impose their signal levels on the analogue inputs and outputs affected by them. These symbols imply the application of dependency notation including the replacement of "m" by the relevant identifying number. For an explanation of the techniques involved, see A00276 and S00289. For affecting digital Zm-inputs and Zm-outputs, see S01555.

S01768



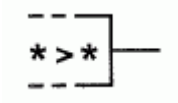
Name:	Hold input
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-16
Keywords:	analogue circuits, analogue elements, arithmetic circuits, arithmetic elements
Applied in:	S01787, S01789
Application notes:	A00321, A00322, A00352, A00353
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	When this input takes on its internal 1-state, the analogue outputs hold their values. When this input is in its internal 0-state, it has no effect on the element.

S01769



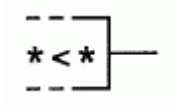
Name:	Not-equal output of a comparator
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-17
Keywords:	analogue elements
Application notes:	A00321, A00322, A00352, A00353
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The asterisks shall be replaced by designations of the quantities or operands whose values are compared. The symbol ≠ is equivalent to UCS 2260 of ISO/IEC 10646 "NOT EQUAL TO".

S01770



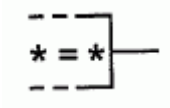
Name:	Greater-than output of a comparator
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-18
Keywords:	analogue elements
Applied in:	S01802, S01801, S01699, S01721, S01700
Applies:	S01523
Application notes:	A00321, A00322, A00352, A00353
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The asterisks shall be replaced by designations of the quantities or operands whose values are compared.

S01771



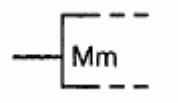
Name:	Less-than output of a comparator
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-19
Keywords:	analogue elements
Applied in:	S01721
Applies:	S01524
Application notes:	A00321, A00322, A00352, A00353
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The asterisks shall be replaced by designations of the quantities or operands whose values are compared.

S01772



Name:	Equal output of a comparator
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-20
Keywords:	analogue elements
Applied in:	S01701, S01699, S01721, S01719
Applies:	S01525
Application notes:	A00321, A00322, A00352, A00353
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The asterisks shall be replaced by designations of the quantities or operands whose values are compared.

S01773



Name:	Mm-input
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-21
Keywords:	analogue elements, dependency notation, MODE dependency
Applied in:	S01775, S01790
Application notes:	A00276, A00289, A00321, A00352, A00353
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams

Remarks:

This symbol imply the application of dependency notation including the replacement of "m" by the relevant identifying number.

For an explanation of the techniques involved, see A00276 and A00289.

If an Mm-input [Mm-output) stands at its internal 1-state, any input affected by this Mm-input [Mm-output] has its normally defined effect on the function of the element, and any output affected by this Mm-input [Mm-output] stands at its normally defined internal logic state or analogue signal level. That is, the inputs and outputs are enabled.

If an Mm-input [Mm-output] stands at its internal 0-state, its effect on inputs and outputs is as follows:

- Any input affected by this Mm-input [Mm-output] has no effect on the function of the element.

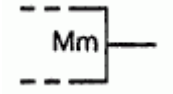
- If an affected input has several sets of labels separated by solidi, any set containing the identifying number of the Mm-input [Mm-output] has no effect and is to be ignored. This represents disabling some of the functions of a multi-function input.

- At each output affected by this Mm-input [Mm-output], any set of labels containing the identifying number of that Mm-input [Mm-output] has no

effect and is to be ignored.

- If an output has several sets of labels separated by solidi (see A00289), any set containing the identifying number of this Mm-input [Mm-output] is to be ignored. This represents disabling or selecting some of the functions of a multi-function output, or modifying some of the characteristics or dependent relationships of the output.

S01774



Name:	Mm-output
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-22
Keywords:	analogue elements, dependency notation, MODE dependency
Application notes:	A00276, A00289, A00321, A00352, A00353
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

Remarks:

This symbol imply the application of dependency notation including the replacement of "m" by the relevant identifying number.

For an explanation of the techniques involved, see A00276 and A00289.

If an Mm-input [Mm-output) stands at its internal 1-state, any input affected by this Mm-input [Mm-output] has its normally defined effect on the function of the element, and any output affected by this Mm-input [Mm-output] stands at its normally defined internal logic state or analogue signal level. That is, the inputs and outputs are enabled.

If an Mm-input [Mm-output] stands at its internal 0-state, its effect on inputs and outputs is as follows:

- Any input affected by this Mm-input [Mm-output] has no effect on the function of the element.

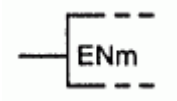
- If an affected input has several sets of labels separated by solidi, any set containing the identifying number of the Mm-input [Mm-output] has no effect and is to be ignored. This represents disabling some of the functions of a multi-function input.

- At each output affected by this Mm-input [Mm-output], any set of labels containing the identifying number of that Mm-input [Mm-output] has no effect and is to be ignored.

- If an output has several sets of labels separated by solidi (see IEC

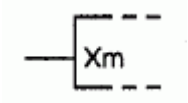
617-12, Section 25), any set containing the identifying number of this Mm-input [Mm-output] is to be ignored. This represents disabling or selecting some of the functions of a multi-function output, or modifying some of the characteristics or dependent relationships of the output.

S01775



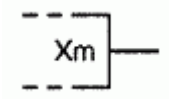
Name:	ENm-input
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-23
Keywords:	analogue elements, dependency notation, ENABLE dependency
Applies:	S01503; S01773
Application notes:	A00276, A00289, A00321, A00352, A00353
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The effect of this input on its affected inputs is the same as that of an Mm-input (see symbol S01773). The effect of this input on its affected digital outputs is the same as that of an EN-input (see symbol S01503). For any affected analogue output, if the ENm-input stands at its internal 1-state, the output has its normally defined function and analogue signal level. Otherwise, neither the function nor the level is specified by the symbol. If the ENm-input affects all outputs as defined in the note to symbol S01503, and no inputs, the identifying numbers (m) may be omitted. This symbol implies the application of dependency notation including the replacement of "m" by the relevant identifying number. For an explanation of the techniques involved, see A00276 and A00289.

S01776



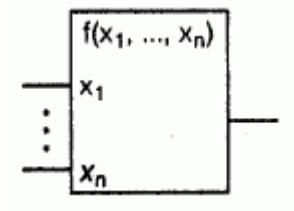
Name:	Xm-input
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-24
Keywords:	analogue elements, dependency notation, TRANSMISSION dependency
Applied in:	S01804
Applies:	S01556
Application notes:	A00321, A00352, A00353
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	See also symbol S01556 and application note A00281. This symbol implies the application of dependency notation including the replacement of "m" by the relevant identifying number. For an explanation of the techniques involved, see A00276 and A00289.

S01777



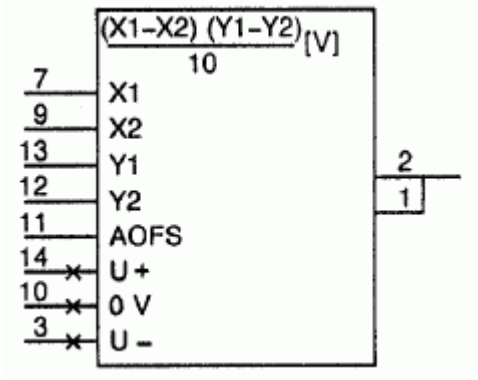
Name:	Xm-output
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-05-25
Keywords:	dependency notation
Applies:	S01557
Application notes:	A00276, A00281, A00289, A00321, A00352, A00353
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	See also symbol S01557 and application note A00281. This symbol implies the application of dependency notation including the replacement of "m" by the relevant identifying number. For an explanation of the techniques involved, see A00276 and A00289.

S01778



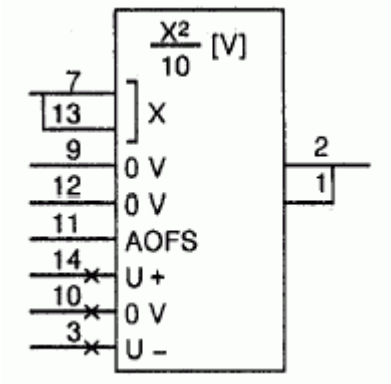
Name:	Function-computing element, general symbol
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-06-01
Keywords:	analogue elements, arithmetic elements
Applied in:	S01779, S01780, S01792
Applies:	S01463
Application notes:	A00323, A00352
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	f (x1, ..., xn) shall be replaced by an appropriate indication (a symbol or a graph) of, or reference to, the function (see e.g., IEC 27-1). x1, ..., xn shall be replaced by appropriate indications of the arguments of the function. To avoid ambiguity with the symbols for level converter and the code converter, the solidus shall not be used to indicate division.

S01779



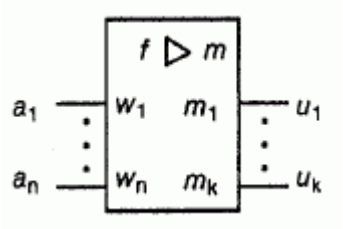
Name:	Multiplier
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-07-01
Keywords:	analogue circuits, mathematical function circuits
Alternative forms:	S01780
Applies:	S01753; S01761; S01764; S01778
Application notes:	A00352
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams
Remarks:	E.g. AD532D. Symbol S01780 depicts the same device performing another function.

S01780



Name:	Squarer
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-07-02
Keywords:	analogue circuits, mathematical function circuits
Alternative forms:	S01779
Applies:	S01753; S01761; S01764; S01778
Application notes:	A00352
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams
Remarks:	E.g. AD532D. Symbol S01779 depicts the same device performing another function.

S01781



Name:	Amplifier, general symbol
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-08-01
Keywords:	amplifiers, analogue elements
Form:	form 3
Alternative forms:	S01239; S01240
Applied in:	S01787, S01785, S01782, S01784, S01789, S01783, S01790, S01788, S01786
Applies:	S01457; S01463
Application notes:	A00325, A00352
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	$u_i = m \cdot m_i \cdot f\,(w_1 \cdot a_1, w_2 \cdot a_2, ..., w_n \cdot a_n)$ where i = 1, 2, ..., k If an element performs a specific function in addition to amplification, "*f* " may be replaced by an appropriate qualifying symbol. Otherwise "*f* " shall be omitted. The following qualifying symbols should be used for the functions listed: Σ - summing; ∫ - integration; d/dt - differentiating with respect to time; exp - exponentiation; log - logarithmic (base 10);

SH - sample-and-hold.

$m \cdot m_i$ equals the amplification for output i.

m represents the common factor of the amplification.

If the common factor is fixed and is to be shown, the "*m* " shall be replaced by a number or expression giving the absolute value of the common factor or the range within which it is fixed.

If the common factor is variable and that fact is to be shown, "*m* " shall be shown and the way to determine the value of m shall be shown either inside the symbol or in supporting documentation. Otherwise the "*m* " shall be omitted.

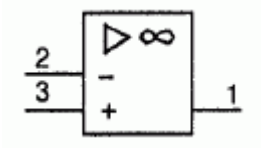
The following indications should be used for indicating a fixed common factor:

∞ - if the common factor is large;
1 - if the common factor is 1;
a number - if the common factor is to be shown explicitly;
*1 ... *2 - if the common factor is fixed within the range *1 ... *2.

*1 and *2 shall be replaced by the smallest and by the largest factors in the range, respectively.

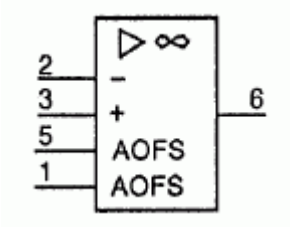
$m_1 ... m_k$ represe

S01782



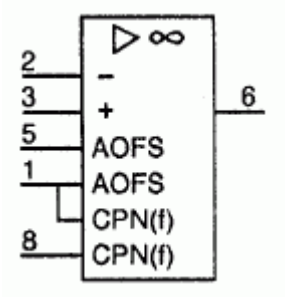
Name:	Operational amplifier
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-09-01
Keywords:	amplifiers, analogue circuits
Applied in:	S01740
Applies:	S01781
Application notes:	A00352
Shape class:	Equilateral triangles, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. part of LM324.

S01783



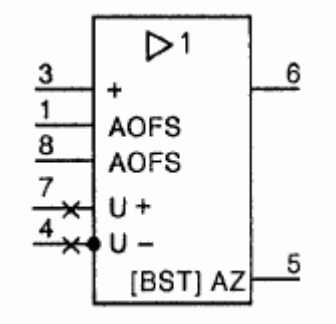
Name:	Operational amplifier
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-09-02
Keywords:	amplifiers, analogue circuits
Applies:	S01764; S01781
Shape class:	Equilateral triangles, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. LM741.

S01784



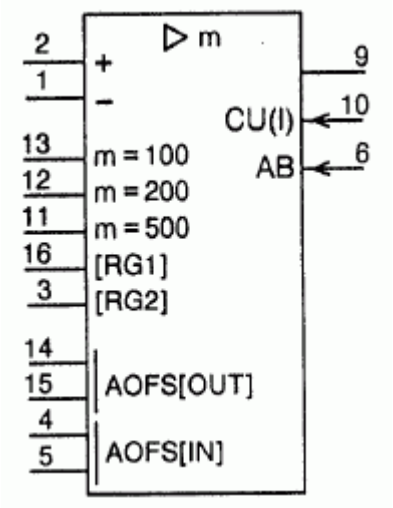
Name:	Operational amplifier
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-09-03
Keywords:	amplifiers, analogue circuits
Applies:	S01764; S01765; S01781
Shape class:	Equilateral triangles, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. LM301A.

S01785



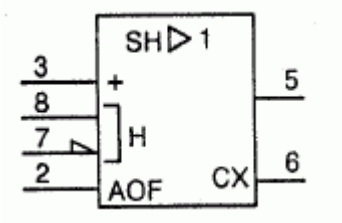
Name:	Voltage follower
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-09-04
Keywords:	amplifiers, analogue circuits
Applies:	S00016; S01546; S01764; S01781
Application notes:	A00352
Shape class:	Characters, Equilateral triangles, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g., LM310, metal-can package. This use of symbol S00016 (the dot) represents the connection of the case (envelope) to a terminal.

S01786



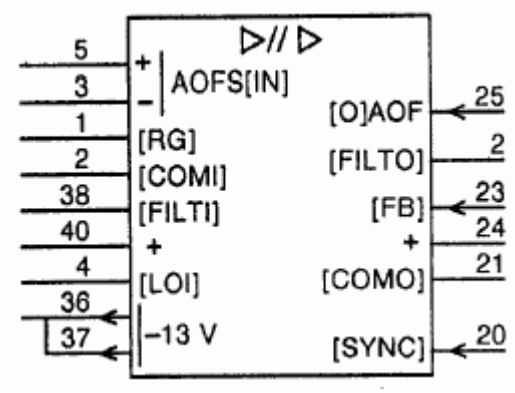
Name:	Amplifier with selectable amplification
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-09-05
Keywords:	amplifiers, analogue circuits
Applies:	S01518; S01764; S01765; S01781
Application notes:	A00352
Shape class:	Equilateral triangles, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. AD624.

S01787



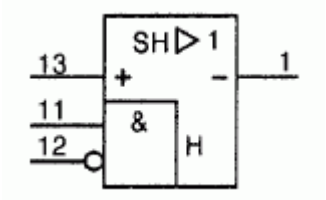
Name:	Sample-and-hold amplifier with an amplification factor of one
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-09-06
Keywords:	amplifiers, analogue circuits
Applies:	S01468; S01540; S01764; S01765; S01768; S01781
Application notes:	A00352
Shape class:	Characters, Equilateral triangles, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. LF398.

S01788



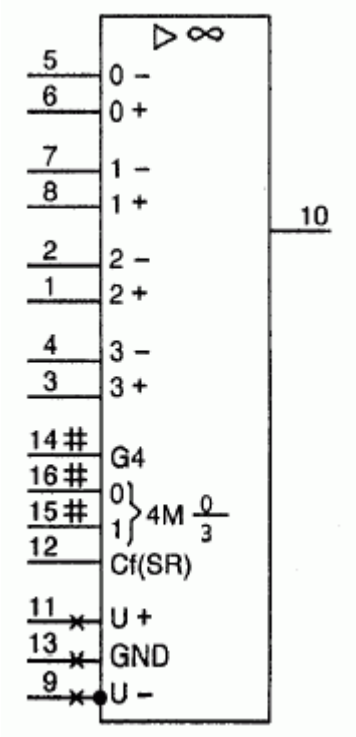
Name:	Amplifier, isolating
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-09-07
Keywords:	amplifiers, analogue circuits
Applies:	S01407; S01518; S01764; S01781
Application notes:	A00352
Shape class:	Characters, Equilateral triangles, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. AD293.

S01789



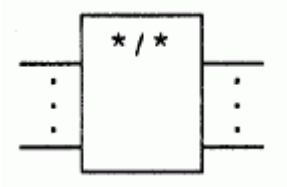
Name:	Sample-and-hold amplifier with an amplification factor of one
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-09-08
Keywords:	amplifiers, analogue circuits
Applies:	S01466; S01476; S01567; S01768; S01781
Application notes:	A00352
Shape class:	Characters, Equilateral triangles, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. 4860

S01790



Name:	Operational amplifier with multiplexed inputs (one of four)
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-09-09
Keywords:	amplifiers, analogue circuits
Applies:	S00016; S01750; S01753; S01765; S01773; S01781; S01810
Application notes:	A00352
Shape class:	Characters, Equilateral triangles, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. HA-2400. This use of symbol S00016 (the dot) represents the connection of the case (envelope) to a terminal.

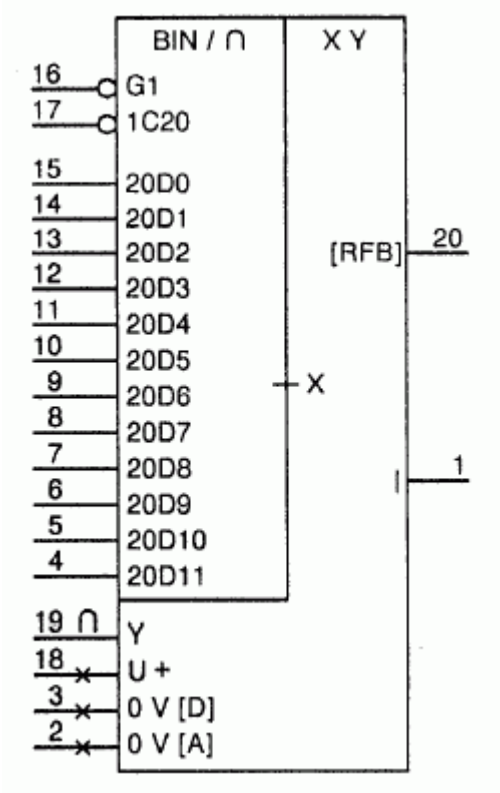
S01791



Name:	Converter, general symbol
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-10-01
Keywords:	analogue elements, converters
Applied in:	S01794, S01792, S01793, S01795
Applies:	S00214; S01407; S01463
Application notes:	A00296, A00327, A00352
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The general qualifying symbol * / * may be replaced by * //* if it is necessary to indicate electrical isolation. The asterisks shall be replaced by appropriate indications of the quantities or qualities con-cerned. The left asterisk refers to the input; the right asterisk refers to the output. The following indications should be used for the items listed: # - digital, code unspecified; ∩ - analogue, function unspecified; U or V - voltage; f - frequency; φ or Φ - phase; I - current; T - temperature. The general qualifying symbols #/∩ and ∩/# may be replaced by DAC and ADC rsp.

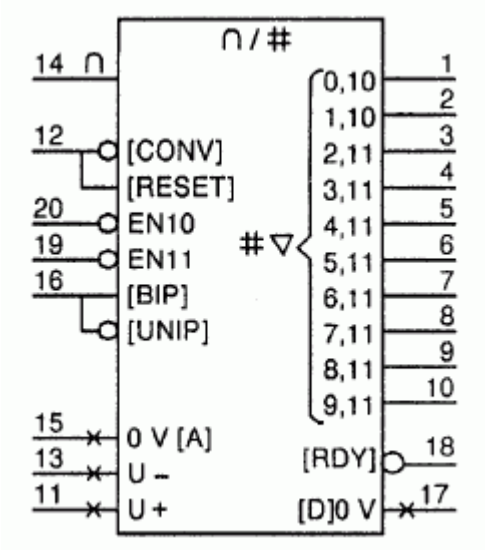
In the general qualifying symbols #/∩ and ∩/#, # may be replaced by an appropriate indication of the code used at the digital inputs [outputs] to determine [represent] the internal value, In this case, the digital inputs [outputs] shall be labelled with characters that refer to this code. See 1.1 of A00296 for further information on this method.

S01792



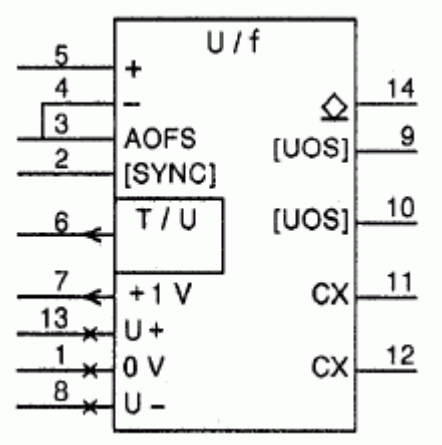
Name:	Converter, digital to analogue (DAC), multiplying
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-11-01
Keywords:	analogue circuits, arithmetic circuits, converters, mathematical function circuits
Applies:	S01466; S01475; S01546; S01558; S01748; S01753; S01778; S01791; S01810
Application notes:	A00352
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. AD7545.

S01793



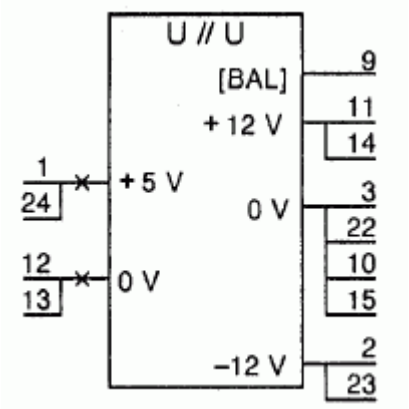
Name:	Converter, analogue to digital (ADC)
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-11-02
Keywords:	analogue circuits, arithmetic circuits, converters, mathematical function circuits
Applies:	S01466; S01467; S01498; S01562; S01748; S01753; S01791
Application notes:	A00352
Shape class:	Characters, Lines , Rectangles
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. AD573. The general qualifying symbols #/∩ and ∩/# may be replaced by DAC and ADC rsp.

S01794



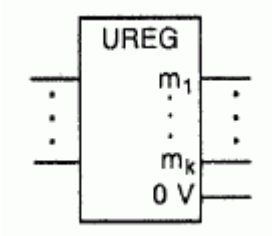
Name:	Converter, voltage to frequency
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-11-03
Keywords:	analogue circuits, converters
Applies:	S01495; S01753; S01764; S01765; S01791
Application notes:	A00352
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. AD537.

S01795



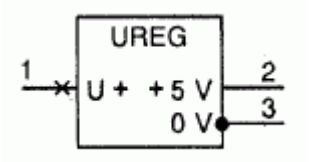
Name:	Converter, d.c.-to-d.c., isolating
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-11-04
Keywords:	analogue circuits, converters, supply circuits
Applies:	S01753; S01791
Application notes:	A00328, A00352
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. PM671P. Internal branches are shown, e.g., between terminals 2 and 23. If it is not important to emphasize this fact, label-grouping symbols may be used, see A00328.

S01796



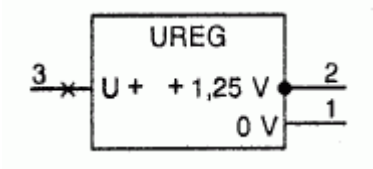
Name:	Voltage regulator, general symbol
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-12-01
Keywords:	analogue elements, regulators, stabilizers, supply circuits
Applied in:	S01799, S01797, S01798
Applies:	S01463
Application notes:	A00352
Shape class:	Characters, Rectangles
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	m1 ... mk represent the regulated (stabilized) voltages with respect to the common (0 V) terminal. m1 ... mk shall be replaced by: - U1 ... Uk, each followed by the polarity sign, or by - the actual values or ranges of the regulated voltages.

S01797



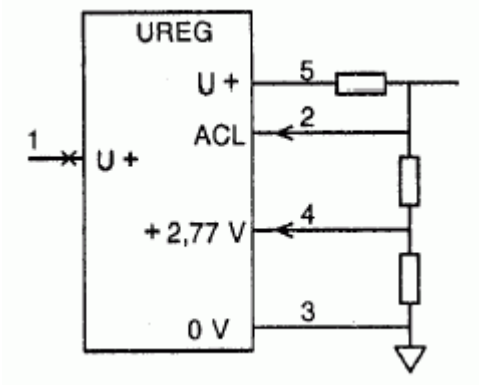
Name:	Voltage regulator, positive, fixed
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-13-01
Keywords:	analogue circuits, supply circuits, voltage regulators, voltage stabilizers
Applies:	S00016; S01796
Application notes:	A00352
Shape class:	Characters, Rectangles
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. LM309H. This use of symbol S00016 (the dot) represents the connection of the case (envelope) to a terminal.

S01798



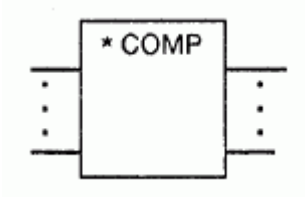
Name:	Voltage regulator, positive, adjustable
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-13-02
Keywords:	analogue circuits, supply circuits, voltage regulators
Applies:	S00016; S01546; S01796
Application notes:	A00330, A00352
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. LM317T. This use of symbol S00016 (the dot) represents the connection of the case (envelope) to a terminal. Although the voltage between terminals 2 and 1 is fixed, an external network can be used to obtain a different regulated voltage between terminal 2 and another point in the network, see A00330.

S01799



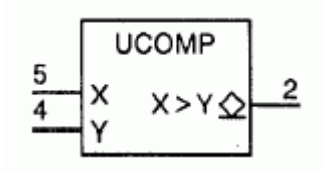
Name:	Voltage regulator, positive, adjustable, with current limiting
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-13-03
Keywords:	analogue circuits, supply circuits, voltage regulators
Applies:	S00204; S00555; S01546; S01764; S01796
Application notes:	A00352
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. L200CV.

S01800



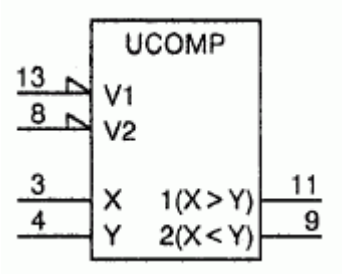
Name:	Comparator, general symbol
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-14-01
Keywords:	analogue elements, comparators
Applied in:	S01806, S01802, S01801, S01713, S01715
Applies:	S01463
Application notes:	A00352
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	The asterisk shall be replaced by the appropriate letter symbol for the quantity or operands whose values are to be compared. If no confusion is likely, this letter symbol may be omitted.

S01801



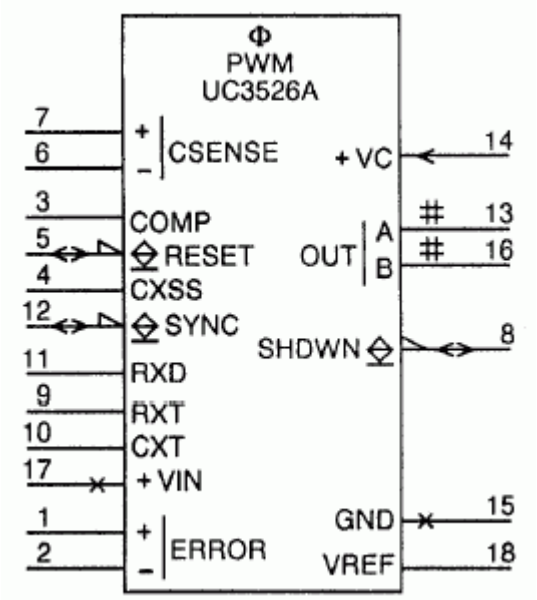
Name:	Voltage comparator
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-15-01
Keywords:	analogue circuits, comparators
Applied in:	S01713, S01742
Applies:	S01495; S01770; S01800
Application notes:	A00352
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. part of LM339.

S01802



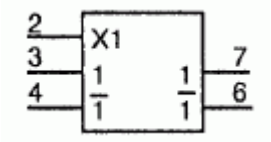
Name:	Voltage comparator
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-15-02
Keywords:	analogue circuits, comparators
Applies:	S01468; S01550; S01770; S01800
Application notes:	A00352
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. LM361.

S01803



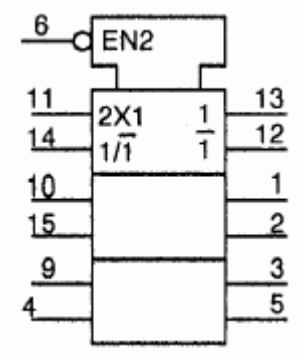
Name:	Pulse-width modulator
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-16-01
Keywords:	analogue circuits, complex function circuits, modulators
Applies:	S00100; S01468; S01497; S01518; S01561; S01731; S01749; S01753; S01765
Application notes:	A00352
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	(e.g., Unitrode UC3526 A)

S01804



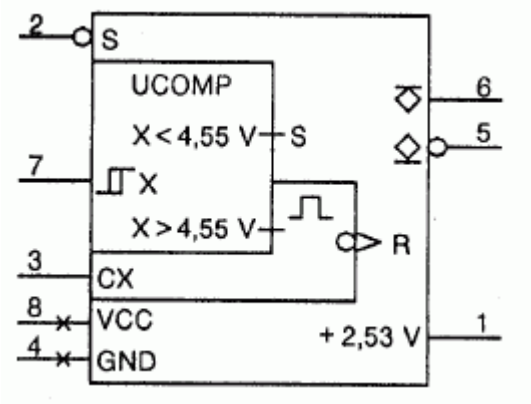
Name:	Analogue switch
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-17-01
Keywords:	analogue circuits, switches
Applies:	S01776
Application notes:	A00281, A00352
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. TL604. In electronic switches, the connections between inputs and outputs shall be shown by TRANSMISSION (Xm) dependancy as described in A00281.

S01805



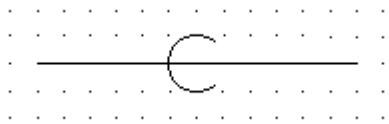
Name:	Analogue multiplexer/demultiplexer, triple
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-17-02
Keywords:	analogue circuits, demultiplexers, multiplexers
Alternative forms:	S01606
Applies:	S01466; S01556; S01562
Application notes:	A00281, A00352
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. 74HC4053. Symbol S01606 depicts the same device in another way.

S01806



Name:	Voltage supervisor
Status level:	Standard
Released on:	2004-09-13
Earlier published in:	IEC 60617-13 (ed.2.0) 13-18-01
Keywords:	analogue circuits, supervisors, supply circuits
Applies:	S01466; S01475; S01477; S01492; S01494; S01495; S01558; S01560; S01674; S01753; S01800
Application notes:	A00352
Shape class:	Characters, Rectangles
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Function diagrams
Remarks:	E.g. TL7705 A.

S01807

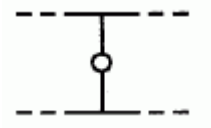


Name:	Concentric conductor
Status level:	Standard
Released on:	2004-03-27
Earlier published in:	Not applicable
Keywords:	conductors
Applies:	S00001
Shape class:	Circle segments
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams
Symbol restrictions:	Not to be used for an screen or a coaxial pair.

S01808

Name:	Complex function
Status level:	Standard
Released on:	2003-07-20
Earlier published in:	Not applicable
Keywords:	complex functions
Applied in:	S01454, S01731
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	The letter Φ shall be supported by an indication, preferably short, of the function. "Φ" is equivalent to UCS 03A6 of ISO/IEC 10646 "GREEK CAPITAL LETTER PHI".

S01809

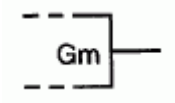


Name:	Internal connection with negation
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-08-02
Keywords:	binary logic elements, combinative elements, internal connections
Alternative forms:	S01486
Applied in:	S01486, S01632, S01618, S01592
Applies:	S01466; S01476
Application notes:	A00269, A00273
Shape class:	Circles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Symbol restrictions:	This symbol may be used for a signal flow from right to left only if the direction of the signal flow is obvious. Otherwise, symbol S01486 shall be used.
Remarks:	The internal 1-state [0-state] of the input of the element on the right corresponds to the internal 0-state [1-state] of the output of the element on the left. The vertical line may extend through the circle.

S01810

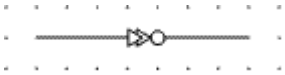
Name:	Gm-input
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-14-01
Keywords:	AND dependency, binary logic elements, dependency notation
Applied in:	S01716, S01701, S01702, S01703, S01603, S01634, S01630, S01722, S01598, S01593, S01631, S01693, S01718, S01790, S01600, S01624, S01635, S01792, S01698, S01714, S01715, S01700, S01632, S01618, S01633
Application notes:	A00269, A00276, A00277, A00288, A00289
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	If a Gm-input stands at its internal 1-state, all inputs and outputs affected by this Gm-input stand at their normally defined internal logic states. If a Gm-input stands at its internal 0-state, all inputs and outputs affected by this Gm-input stand at their internal 0-states. m shall be replaced by the relevant identifying number. The note with table I of A00276 applies.

S01811



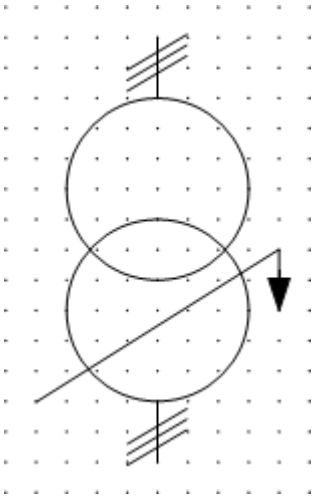
Name:	Gm-output
Status level:	Standard
Released on:	2004-09-01
Earlier published in:	IEC 60617-12 (ed.3.0) 12-14-02
Keywords:	AND dependency, binary logic elements, dependency notation
Applied in:	S01720, S01683, S01719
Application notes:	A00269, A00276, A00277, A00288, A00289
Shape class:	Characters
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	Each output affected by a Gm-output stands in an AND relationship with this Gm-output. If a Gm-output stands at its internal 1-state, all inputs and outputs affected by this Gm-output stand at their normally defined internal logic states. If a Gm-output stands at its internal 0-state, all inputs and outputs affected by this Gm-output stand at their internal 0-states. m shall be replaced by the relevant identifying number. The note with table I of A00276 applies.

S01836



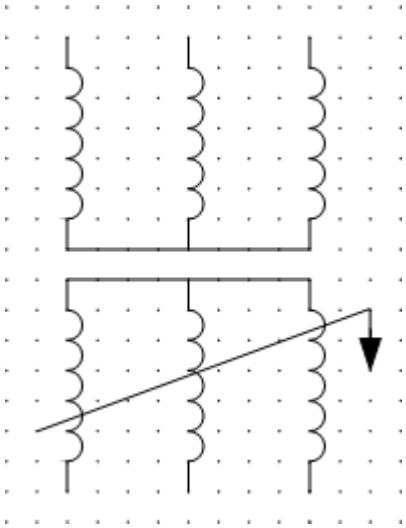
Name:	Live connection terminal
Status level:	Standard
Released on:	2009-01-19
Earlier published in:	Not applicable
Keywords:	connection devices, live connectable, terminals
Applies:	S00017; S01849
Shape class:	Arrows, Dots (points), Equilateral triangles, Lines
Function class:	X Connecting
Application class:	Circuit diagrams, Connection diagrams
Symbol restrictions:	The symbol indicates a terminal that shall only be opened or closed under no-load current conditions.

S01837



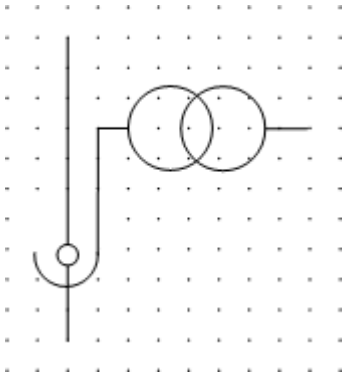
Name:	Phase-shifting transformer, three-phase
Status level:	Standard
Released on:	2005-11-15
Earlier published in:	Not applicable
Keywords:	phase-shifting, transformers
Form:	Form 1
Alternative forms:	S01838
Applies:	S00002; S00841; S01846
Application notes:	A00128
Shape class:	Arrows, Circles, Lines
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams

S01838



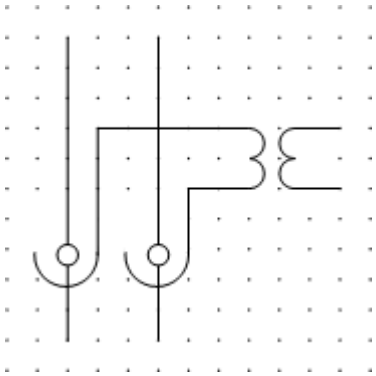
Name:	Phase-shifting transformer, three-phase
Status level:	Standard
Released on:	2005-11-15
Earlier published in:	Not applicable
Keywords:	phase-shifting, transformers
Form:	Form 2
Alternative forms:	S01837
Applies:	S00842; S01846
Application notes:	A00128
Shape class:	Arrows, Half-circles, Lines
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams

S01839



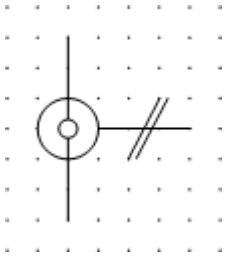
Name:	Bushing type voltage transformer
Status level:	Standard
Released on:	2005-11-15
Earlier published in:	Not applicable
Keywords:	measuring transformers, transformers, voltage transformers
Form:	Form 1
Alternative forms:	S01840
Applies:	S00017; S00878
Shape class:	Circles, Half-circles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams

S01840



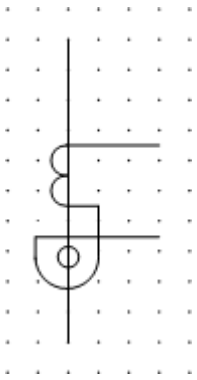
Name:	Bushing type voltage transformer
Status level:	Standard
Released on:	2005-11-15
Earlier published in:	Not applicable
Keywords:	measuring transformers, transformers, voltage transformers
Form:	Form 2
Alternative forms:	S01839
Applies:	S00017; S00878
Application notes:	A00128
Shape class:	Half-circles
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams

S01841



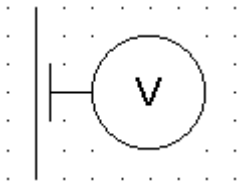
Name:	Bushing type current transformer
Status level:	Standard
Released on:	2005-11-15
Earlier published in:	Not applicable
Keywords:	current transformers, transformers
Form:	Form 1
Alternative forms:	S01842
Applies:	S00017; S00850
Application notes:	A00128
Shape class:	Circles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams

S01842



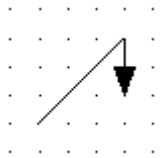
Name:	Bushing type current transformer
Status level:	Standard
Released on:	2005-11-15
Earlier published in:	Not applicable
Keywords:	current transformers, measuring transformers
Form:	Form 2
Alternative forms:	S01841
Applies:	S00017; S00851
Application notes:	A00128
Shape class:	Half-circles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Connection diagrams

S01843



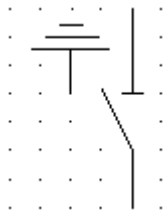
Name:	Simplicity voltage detector
Status level:	Standard
Released on:	2005-11-15
Earlier published in:	Not applicable
Keywords:	indicating instruments, instruments, measuring instruments, voltmeters
Applies:	S00910; S00913
Shape class:	Characters, Circles, Lines
Function class:	P Presenting information
Application class:	Circuit diagrams, Connection diagrams

S01846



Name:	Phase-shifting
Status level:	Standard
Released on:	2005-11-15
Earlier published in:	Not applicable
Keywords:	phase-shifting
Applied in:	S01837, S01838
Shape class:	Arrows, Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01848



Name:	Combined disconnector and earthing switch
Status level:	Standard
Released on:	2007-04-04
Earlier published in:	Not applicable
Keywords:	disconnectors, earth connection, switches
Applies:	S00200; S00288
Shape class:	Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams, Function diagrams, Overview diagrams
Remarks:	Individual actuator equipment may be added.

S01849

Name:	Live connectable, live disconnectable
Status level:	Standard
Released on:	2009-01-19
Earlier published in:	Not applicable
Keywords:	live connectable, live line
Applied in:	S01836
Shape class:	Equilateral triangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01851

Name:	Heat (occurrence of), general symbol
Status level:	Standard
Released on:	2009-09-18
Earlier published in:	Not applicable
Keywords:	alarms, detectors, heat detectors
Applied in:	S01433, S01434, S01432, S01885, S01882, S01883, S01884
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	This general symbol illustrates the occurrence of heat. The symbol may apply as part of a detector symbol.

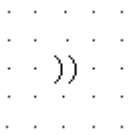
S01852

Name:	Smoke (occurrence of), general symbol
Status level:	Standard
Released on:	2009-09-18
Earlier published in:	Not applicable
Keywords:	alarms, detectors, smoke detectors
Applied in:	S01435, S01436, S01876, S01874, S01875, S01902, S01893
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	This general symbol illustrates the occurrence of smoke. The symbol may apply as part of a detector symbol.

S01853

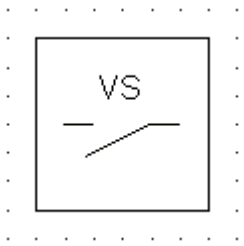
Name:	Flame (occurrence of), general symbol
Status level:	Standard
Released on:	2009-09-18
Earlier published in:	Not applicable
Keywords:	alarms, detectors, flame detectors
Applied in:	S01437, S01880, S01879, S01878, S01881
Shape class:	Equilateral triangles
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	This general symbol illustrate the occurrence of a flame. The symbol may apply as part of a detector symbol.

S01854



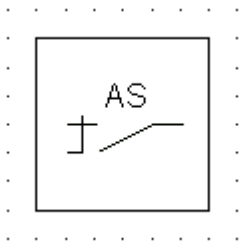
Name:	Motion (occurrence of), general symbol
Status level:	Standard
Released on:	2009-09-18
Earlier published in:	Not applicable
Keywords:	alarms, detectors, motion detectors
Applied in:	S01438, S01872, S01873
Shape class:	Circle segments
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Remarks:	This general symbol illustrate the occurrence of motion. The symbol may apply as part of a detector symbol.

S01855



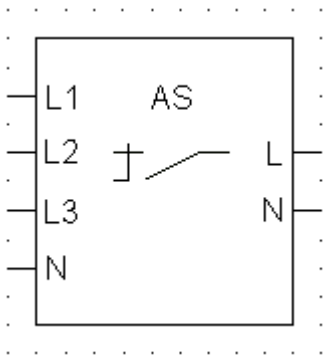
Name:	Instrument multi-position selector switch for voltage circuit
Status level:	Standard
Released on:	2009-09-11
Earlier published in:	Not applicable
Alternative names:	Instrument diverter switch for voltage circuit
Keywords:	instrument switches, switches
Applied in:	S01858
Applies:	S00227; S01454
Shape class:	Characters, Rectangles
Function class:	Q Controlled switching or varying, S Converting a manual operation into a signal
Application class:	Circuit diagrams
Remarks:	VS: Voltmeter change-over Switch

S01856



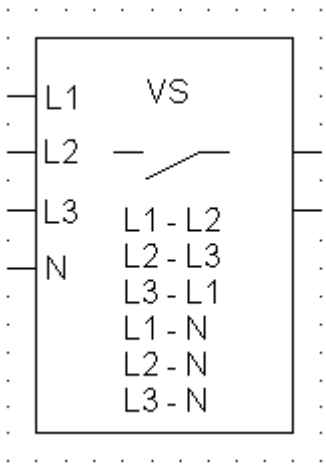
Name:	Instrument multi-position selector switch for current circuit
Status level:	Standard
Released on:	2009-09-11
Earlier published in:	Not applicable
Alternative names:	Instrument diverter switch for current circuit
Keywords:	instrument switches, switches
Applied in:	S01857
Applies:	S00233; S01454
Shape class:	Characters, Rectangles
Function class:	Q Controlled switching or varying, S Converting a manual operation into a signal
Application class:	Circuit diagrams
Remarks:	AS: Amperemeter change-over Switch

S01857



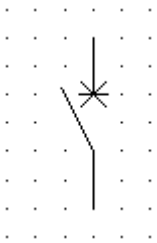
Name:	Instrument multi-position selector switch for current circuit with shown terminals
Status level:	Standard
Released on:	2009-09-11
Earlier published in:	Not applicable
Keywords:	instrument switches, switches
Applies:	S01856
Shape class:	Characters, Rectangles
Function class:	Q Controlled switching or varying, S Converting a manual operation into a signal
Application class:	Circuit diagrams

S01858



Name:	Instrument multi-position selector switch for voltage circuit with shown terminals
Status level:	Standard
Released on:	2009-09-11
Earlier published in:	Not applicable
Keywords:	instrument switches, switches
Applies:	S01855
Shape class:	Lines
Function class:	Q Controlled switching or varying, S Converting a manual operation into a signal
Application class:	Circuit diagrams, Overview diagrams

S01859



Name:	Disconnecting circuit breaker
Status level:	Standard
Released on:	2008-09-10
Earlier published in:	Not applicable
Keywords:	circuit breakers, DCB, disconnectors
Applies:	S00227; S01860
Shape class:	Lines
Function class:	Q Controlled switching or varying
Application class:	Circuit diagrams, Overview diagrams
Remarks:	This symbol shall be used only if breaking and isolating are functionally integrated and controlled as one action. NOTE - Locking of the breaker in the isolated position shall normally be performed as a separate, additional action. If the two functions breaking and isolating are controlled as separate actions (also if integrated in into one component), the symbols S00219 (Circuit breaker function) and S00220 (Disconnector function) should be used and combined with the symbol S00227 (Switch) as indicated in symbol S01413 (Multiple-function switching device).

S01860

Name:	Disconnecting circuit breaker function
Status level:	Standard
Released on:	2008-09-10
Earlier published in:	Not applicable
Keywords:	circuit breakers, disconnectors, isolators
Applied in:	S01859
Applies:	S00219; S00220
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers
Symbol restrictions:	This symbol shall be used only if breaking and isolating are functionally integrated and controlled as one action.

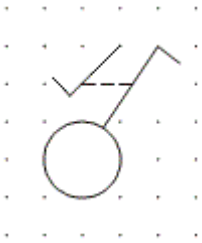
S01863

Name:	Wireless connection
Status level:	Standard
Released on:	2012-10-12
Earlier published in:	Not applicable
Keywords:	connections, installations in buildings, wireless
Application notes:	A00374
Shape class:	Circle segments
Function class:	T Converting but maintaining kind
Application class:	Installation diagrams

S01864

Name:	Stand alone emergency switch equipment
Status level:	Standard
Released on:	2013-01-19
Earlier published in:	Not applicable
Alternative names:	emergency stop
Keywords:	emegency, installations in buildings, switches
Applies:	S00151; S00174; S00466
Application notes:	A00266, A00371
Shape class:	Circle segments, Circles, Lines
Function class:	S Converting a manual operation into a signal
Application class:	Installation diagrams

S01865

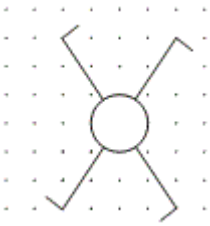


Name:	Foot switch
Status level:	Standard
Released on:	2012-10-12
Earlier published in:	IEC 60617-2 (ed.2.0)
Alternative names:	push button operated by foot
Keywords:	installations in buildings, operated by foot, switches
Applies:	S00176; S00475
Application notes:	A00367
Shape class:	Circles, Lines
Function class:	Q Controlled switching or varying, S Converting a manual operation into a signal
Application class:	Installation diagrams

S01866

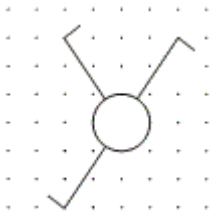
Name:	Push button group unit
Status level:	Standard
Released on:	2010-05-22
Earlier published in:	Not applicable
Alternative names:	keypad
Keywords:	installations in buildings, keypad, push button, push button group, switches
Applies:	S00475
Shape class:	Circles, Lines , Squares
Function class:	Q Controlled switching or varying
Application class:	Installation diagrams

S01867



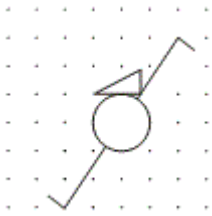
Name:	Double two-way single pole switch
Status level:	Standard
Released on:	2012-03-18
Earlier published in:	Not applicable
Keywords:	installation in buildings, switches
Applies:	S00470
Shape class:	Circles, Lines
Function class:	Q Controlled switching or varying
Application class:	Installation diagrams

S01868



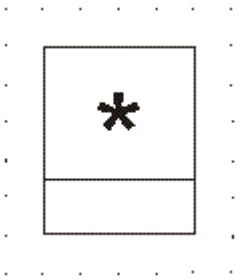
Name:	Combi-switch: two-way single pole and single pole on-off switch
Status level:	Standard
Released on:	2012-10-12
Earlier published in:	Not applicable 11-14-00
Keywords:	installation in buildings, switches
Applies:	S00471
Shape class:	Circles, Lines
Function class:	Q Controlled switching or varying
Application class:	Installation diagrams

S01869



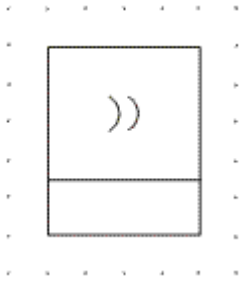
Name:	Combi-switch: two-way single pole switch with dimmer
Status level:	Standard
Released on:	2012-10-12
Earlier published in:	Not applicable
Keywords:	installation in buildings, switches
Applies:	S00471; S00473
Shape class:	Circles, Lines
Function class:	Q Controlled switching or varying
Application class:	Installation diagrams

S01870



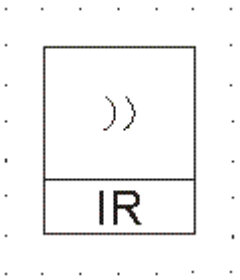
Name:	Detector, General symbol
Status level:	Standard
Released on:	2010-10-21
Earlier published in:	Not applicable
Keywords:	alarms, detectors, installation in buildings, security system
Applied in:	S01880, S01885, S01876, S01874, S01882, S01879, S01872, S01875, S01878, S01883, S01871, S01884, S01873, S01881
Application notes:	A00266, A00357
Shape class:	Lines , Squares
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Installation diagrams

S01871



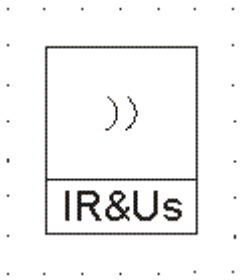
Name:	Motion detector (type not specified)
Status level:	Standard
Released on:	2010-10-21
Earlier published in:	Not applicable
Keywords:	alarms, detectors, installations in buildings, motion detectors
Applied in:	S01872
Applies:	S01870
Application notes:	A00266
Shape class:	Circle segments, Lines , Rectangles
Function class:	B Converting variable to signal
Application class:	Installation diagrams

S01872



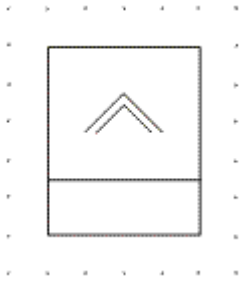
Name:	Motion detector, Infrared
Status level:	Standard
Released on:	2010-10-21
Earlier published in:	Not applicable
Keywords:	alarms, detectors, installation in buildings, motion detectors
Applies:	S01854; S01870; S01871
Application notes:	A00266
Shape class:	Lines , Squares
Function class:	B Converting variable to signal
Application class:	Installation diagrams

S01873



Name:	Motion detector, infrared and ultrasonic
Status level:	Standard
Released on:	2010-10-21
Earlier published in:	Not applicable
Keywords:	alarms, detectors, installation in buildings, motion detectors
Applies:	S01854; S01870
Application notes:	A00266
Shape class:	Lines , Squares
Function class:	B Converting variable to signal
Application class:	Installation diagrams

S01874



Name:	Smoke detector, (type not specified)
Status level:	Standard
Released on:	2010-10-21
Earlier published in:	Not applicable
Keywords:	alarms, detectors, installation in buildings, smoke detectors
Applied in:	S01876
Applies:	S01852; S01870
Application notes:	A00266
Shape class:	Lines , Squares
Function class:	B Converting variable to signal
Application class:	Installation diagrams

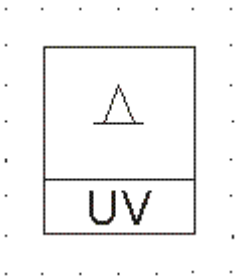
S01875

Name:	Smoke detector, ionizing
Status level:	Standard
Released on:	2010-10-21
Earlier published in:	Not applicable
Keywords:	alarms, detectors, installation in buildings, smoke detectors
Applies:	S00129; S01852; S01870
Application notes:	A00266
Shape class:	Lines , Squares
Function class:	B Converting variable to signal
Application class:	Installation diagrams

S01876

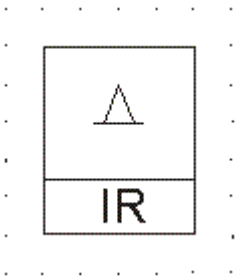
Name:	Smoke detector, optical
Status level:	Standard
Released on:	2010-10-21
Earlier published in:	Not applicable
Keywords:	alarms, detectors, installation in buildings, smoke detectors
Applies:	S00128; S01852; S01870; S01874
Application notes:	A00266
Shape class:	Lines , Squares
Function class:	B Converting variable to signal
Application class:	Installation diagrams

S01878



Name:	Flame detector, Ultraviolet
Status level:	Standard
Released on:	2010-10-21
Earlier published in:	Not applicable
Keywords:	alarms, detectors, flame detectors, installation in buildings
Applies:	S01853; S01870; S01881
Application notes:	A00266
Shape class:	Lines , Squares
Function class:	B Converting variable to signal
Application class:	Installation diagrams

S01879

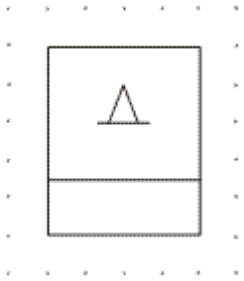


Name:	Flame detector, Infrared
Status level:	Standard
Released on:	2010-10-21
Earlier published in:	Not applicable
Keywords:	alarms, detectors, flame detectors, installation in buildings
Applies:	S01853; S01870; S01881
Application notes:	A00266
Shape class:	Lines , Squares
Function class:	B Converting variable to signal
Application class:	Installation diagrams

S01880

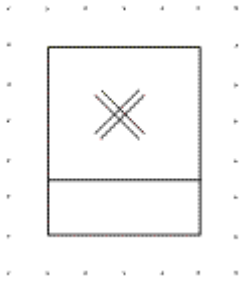
Name:	Flame detector, Infrared and ultraviolet
Status level:	Standard
Released on:	2010-10-21
Earlier published in:	Not applicable
Keywords:	alarms, detectors, flame detectors, installation in buildings
Applies:	S01853; S01870; S01881
Application notes:	A00266
Shape class:	Lines , Squares
Function class:	B Converting variable to signal
Application class:	Installation diagrams

S01881



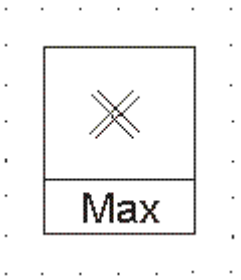
Name:	Flame detector, (type not specified)
Status level:	Standard
Released on:	2010-10-21
Earlier published in:	Not applicable
Keywords:	alarms
Applied in:	S01880, S01879, S01878
Applies:	S01853; S01870
Application notes:	A00266
Shape class:	Lines , Squares
Function class:	B Converting variable to signal
Application class:	Installation diagrams

S01882



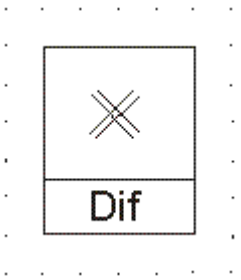
Name:	Heat detector, (type not specified)
Status level:	Standard
Released on:	2010-10-21
Earlier published in:	Not applicable
Keywords:	alarms, detectors, heat detectors, installation in buildings
Applied in:	S01885, S01883, S01884
Application notes:	A00266
Shape class:	Lines , Squares
Function class:	B Converting variable to signal
Application class:	Installation diagrams

S01883



Name:	Heat detector, maximum
Status level:	Standard
Released on:	2010-10-21
Earlier published in:	Not applicable
Keywords:	alarms, detectors, heat detectors, installation in buildings
Applies:	S01851; S01870; S01882
Application notes:	A00266
Shape class:	Lines , Squares
Function class:	B Converting variable to signal
Application class:	Installation diagrams

S01884

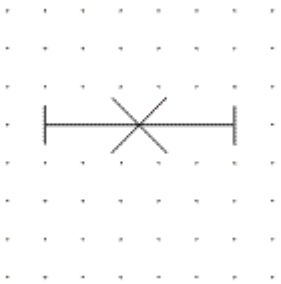


Name:	Heat detector, differential
Status level:	Standard
Released on:	2010-10-21
Earlier published in:	Not applicable
Keywords:	alarms, detectors, heat detectors, installation in buildings
Applies:	S01851; S01870; S01882
Application notes:	A00266
Shape class:	Lines , Octagons, Ovals, Parallelograms, Rectangles, Right-angled triangle, Squares
Function class:	B Converting variable to signal
Application class:	Installation diagrams

S01885

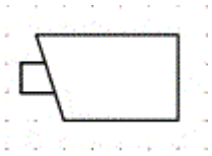
Name:	Heat detector, maximum and differential
Status level:	Standard
Released on:	2010-10-21
Earlier published in:	Not applicable
Keywords:	alarms, detectors, heat detectors, installation in buildings
Applies:	S01851; S01870; S01882
Application notes:	A00266
Shape class:	Lines , Squares
Function class:	B Converting variable to signal
Application class:	Installation diagrams

S01886



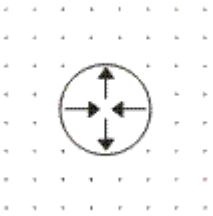
Name:	Fluorescent lamp, general symbol
Status level:	Standard
Released on:	2010-11-01
Earlier published in:	Not applicable
Keywords:	installation in buildings, lamps, lightning outlets and fittings
Applies:	S00481; S00484
Shape class:	Lines
Function class:	E Providing radiant or thermal energy
Application class:	Installation diagrams

S01887



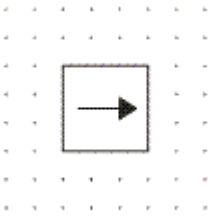
Name:	Camera
Status level:	Standard
Released on:	2010-11-01
Earlier published in:	Not applicable
Alternative names:	Video camera
Keywords:	camera, CCTV, installations in buildings, surveillance camera
Applies:	S00060
Application notes:	A00358
Shape class:	Depicting shapes
Function class:	B Converting variable to signal
Application class:	Installation diagrams, Overview diagrams

S01894



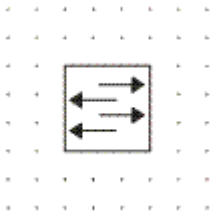
Name:	Router
Status level:	Standard
Released on:	2011-04-21
Earlier published in:	Not applicable
Keywords:	Ethernet, IP, LAN, networking, networks, Router, WAN
Applies:	S00061
Shape class:	Arrows, Circles
Function class:	K Processing signals or information, Q Controlled switching or varying
Application class:	Connection diagrams, Function diagrams, Network maps, Overview diagrams

S01895



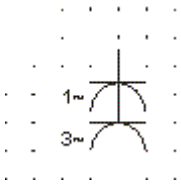
Name:	Hub
Status level:	Standard
Released on:	2011-04-21
Earlier published in:	Not applicable
Keywords:	Ethernet, Hub, IP, LAN, networking, networks, WAN
Applies:	S00051
Shape class:	Arrows, Squares
Function class:	K Processing signals or information, Q Controlled switching or varying
Application class:	Connection diagrams, Function diagrams, Network maps, Overview diagrams

S01896



Name:	Network switch
Status level:	Standard
Released on:	2011-04-21
Earlier published in:	Not applicable
Keywords:	Ethernet, IP, LAN, network switch, networking, networks, WAN
Applies:	S00059
Shape class:	Arrows, Squares
Function class:	K Processing signals or information, Q Controlled switching or varying
Application class:	Connection diagrams, Function diagrams, Network maps, Overview diagrams

S01897

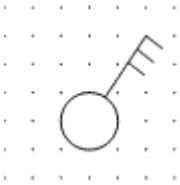


Name:	3 phase and 1 phase socket outlet
Status level:	Standard
Released on:	2012-04-23
Earlier published in:	Not applicable
Keywords:	installations in buildings, socket outlets
Applies:	S00460
Application notes:	A00266
Replacing:	S01892
Shape class:	Depicting shapes, Half-circles, Lines
Function class:	X Connecting
Application class:	Installation diagrams

S01898

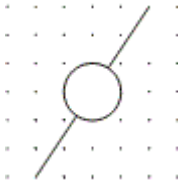
Name:	Bus coupling unit
Status level:	Standard
Released on:	2012-05-07
Earlier published in:	Not applicable
Keywords:	Bus, Bus interface, installations in buildings
Applies:	S01733
Shape class:	Arrows, Lines , Rectangles
Function class:	T Converting but maintaining kind, X Connecting
Application class:	Installation diagrams

S01899



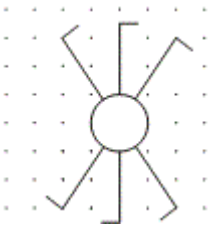
Name:	Three pole switch
Status level:	Standard
Released on:	2012-04-23
Earlier published in:	Not applicable
Alternative names:	Three phase switch
Keywords:	installation in buildings, switches
Applies:	S00466
Application notes:	A00266, A00362
Shape class:	Circles, Lines
Function class:	Q Controlled switching or varying, S Converting a manual operation into a signal
Application class:	Installation diagrams

S01900



Name:	Two-way switch, general symbol for installation diagram
Status level:	Standard
Released on:	2012-04-23
Earlier published in:	Not applicable
Alternative names:	Change over switch, general symbol for installation diagrams
Keywords:	installation in buildings, switches
Application notes:	A00372, A00373
Shape class:	Circles, Lines
Function class:	Q Controlled switching or varying, S Converting a manual operation into a signal
Application class:	Installation diagrams
Remarks:	In this graphical symbol number of poles is not presented

S01901



Name:	Triple two-way single pole switch
Status level:	Standard
Released on:	2012-04-23
Earlier published in:	Not applicable
Alternative names:	Triple change over single pole switch
Keywords:	installation in buildings, switches
Applies:	S00471
Application notes:	A00266, A00363
Shape class:	Circles, Lines
Function class:	Q Controlled switching or varying, S Converting a manual operation into a signal
Application class:	Installation diagrams

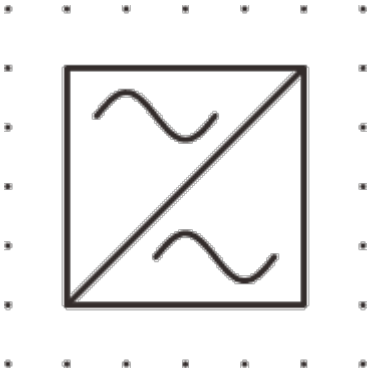
S01902

Name:	Smoke alarm device
Status level:	Standard
Released on:	2012-04-23
Earlier published in:	Not applicable
Keywords:	alarm device, installations in buildings, smoke detectors
Applies:	S01417; S01852
Application notes:	A00266
Replacing:	S01893
Shape class:	Half-circles, Lines
Function class:	B Converting variable to signal
Application class:	Installation diagrams

S01903

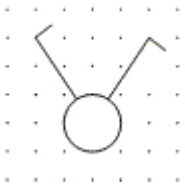
Name:	AC power supply
Status level:	Standard
Released on:	2012-05-23
Earlier published in:	Not applicable
Keywords:	power feeding, power generators
Applies:	S00061; S01403
Shape class:	Circles, Depicting shapes
Function class:	G Initiating a flow
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Installation diagrams, Overview diagrams

S01904



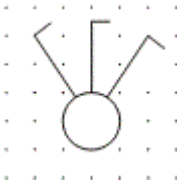
Name:	Frequency converter
Status level:	Standard
Released on:	2012-05-23
Earlier published in:	Not applicable
Keywords:	converters, power converters
Alternative forms:	S01232
Applies:	S00059; S00214; S01403
Application notes:	A00143
Shape class:	Depicting shapes, Squares
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01905



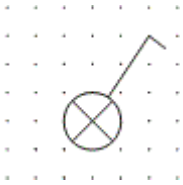
Name:	Double single pole switch.
Status level:	Standard
Released on:	2012-04-12
Earlier published in:	Not applicable
Keywords:	installations in buildings, switches
Applies:	S00466
Application notes:	A00360
Replacing:	S00470
Shape class:	Circles, Lines
Function class:	Q Controlled switching or varying
Application class:	Installation diagrams

S01906



Name:	Triple On-Off switch
Status level:	Standard
Released on:	2012-04-23
Earlier published in:	Not applicable
Keywords:	installations in buildings, switches
Alternative forms:	S01909
Application notes:	A00266, A00361
Replacing:	S01862
Shape class:	Circles, Lines
Function class:	Q Controlled switching or varying
Application class:	Installation diagrams

S01907

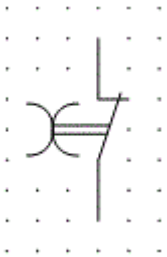


Name:	Single pole switch with signal lamp
Status level:	Standard
Released on:	2012-04-23
Earlier published in:	Not applicable
Keywords:	indicator lamps, installation in buildings
Applies:	S00466; S00467; S00965
Application notes:	A00266, A00364
Shape class:	Circles, Lines
Function class:	Q Controlled switching or varying
Application class:	Installation diagrams

S01909

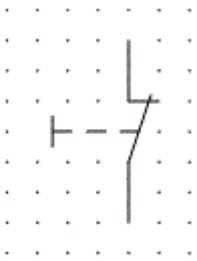
Name:	Triple single pole switch
Status level:	Standard
Released on:	2012-10-10
Earlier published in:	Not applicable
Alternative names:	Triple On-Off switch
Keywords:	installations in buildings, switches
Form:	Form B
Alternative forms:	S01906
Applies:	S00466
Application notes:	A00266, A00361, A00370
Shape class:	Circles, Lines
Function class:	Q Controlled switching or varying, S Converting a manual operation into a signal
Application class:	Installation diagrams

S01911



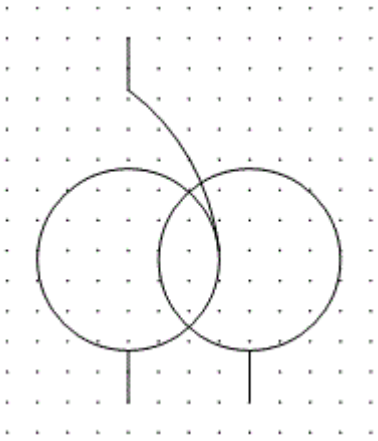
Name:	Break contact, delayed
Status level:	Standard
Released on:	2012-12-10
Earlier published in:	Not applicable
Keywords:	contacts, switches
Applies:	S00148; S00149; S00229
Application notes:	A00060, A00061, A00070
Shape class:	Half-circles, Lines
Function class:	K Processing signals or information
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams
Remarks:	The contact is delayed both when the device containing the contact is being activated and when it is being de-activated.

S01912



Name:	Switch, manually operated, break contact
Status level:	Standard
Released on:	2012-12-10
Earlier published in:	Not applicable
Keywords:	contacts, switches
Applies:	S00229
Application notes:	A00060, A00061, A00082, A00083
Shape class:	Lines
Function class:	S Converting a manual operation into a signal
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01913

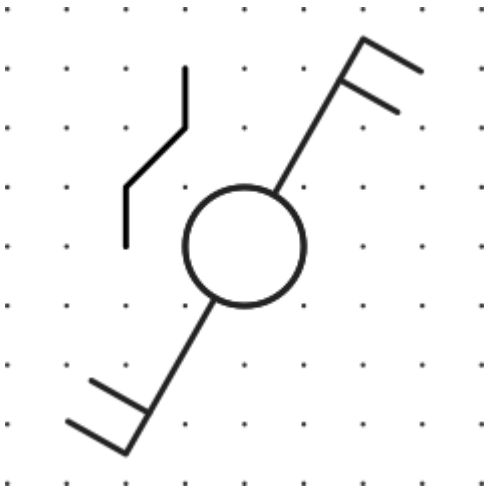


Name:	Auto-transformer with tertiary winding, general
Status level:	Standard
Released on:	2012-12-10
Earlier published in:	Not applicable
Keywords:	auto-transformers, transformers, transformers with separate windings
Alternative forms:	S01914
Applies:	S00002; S00806; S00808; S00846; S00848
Shape class:	Circles, Equilateral triangles, Lines
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams, Connection diagrams, Function diagrams, Overview diagrams

S01914

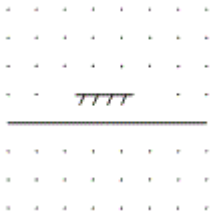
Name:	Auto-transformer with tertiary winding, general
Status level:	Standard
Released on:	2012-12-10
Earlier published in:	Not applicable
Keywords:	auto-transformers, transformers, transformers with separate windings
Alternative forms:	S01913
Applies:	S00847
Shape class:	Half-circles
Function class:	T Converting but maintaining kind
Application class:	Circuit diagrams

S01915



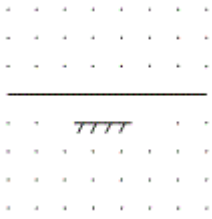
Name:	Pole exchanger, two-pole
Status level:	Standard
Released on:	2013-07-07
Earlier published in:	IEC 60617-11 (ed.2.0)
Alternative names:	Intermediate pole changer, two poles
Keywords:	installations in buildings, switches
Applies:	S00024; S00466
Application notes:	A00254, A00266
Replacing:	S00472
Shape class:	Circles, Lines
Function class:	Q Controlled switching or varying, S Converting a manual operation into a signal
Application class:	Installation diagrams

S01916



Name:	Connection, behind surface
Status level:	Standard
Released on:	2013-07-07
Earlier published in:	Not applicable
Alternative names:	Flush mounted connector
Keywords:	cables, connections, connectors, wiring
Applies:	S00001
Replacing:	S01448
Shape class:	Depicting shapes, Lines
Function class:	X Connecting
Application class:	Installation diagrams

S01917

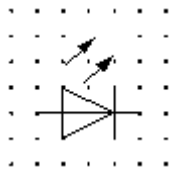


Name:	Connection, surface mounted
Status level:	Standard
Released on:	2013-07-07
Earlier published in:	Not applicable
Keywords:	cables, connections, connectors, wiring
Applies:	S00001
Replacing:	S01448
Shape class:	Depicting shapes, Lines
Function class:	X Connecting
Application class:	Installation diagrams

S01918

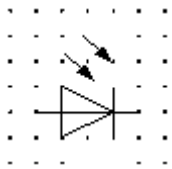
Name:	Mechanically lockable
Status level:	Standard
Released on:	2013-12-17
Earlier published in:	Not applicable
Keywords:	lock, lockable, locked, padlock
Shape class:	Depicting shapes
Function class:	- Functional elements or attributes
Application class:	Conceptual elements or qualifiers

S01919



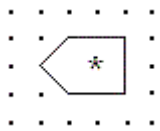
Name:	Light emitting diode (LED), general symbol
Status level:	Standard
Released on:	2013-12-17
Earlier published in:	IEC 60617-5 (ed.2.0)
Keywords:	diodes, LED, photo-emissive devices, semiconductors
Applies:	S00127; S00641
Application notes:	A00042
Replacing:	S00642
Shape class:	Arrows, Equilateral triangles, Lines
Function class:	E Providing radiant or thermal energy
Application class:	Circuit diagrams

S01920



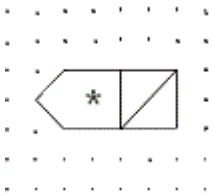
Name:	Photodiode
Status level:	Standard
Released on:	2013-12-17
Earlier published in:	IEC 60617-5 (ed.2.0)
Keywords:	diodes, photo-conductive devices, photo-sensitive devices
Applies:	S00127; S00641
Application notes:	A00042
Replacing:	S00685
Shape class:	Arrows, Equilateral triangles, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams

S01921



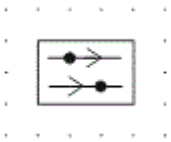
Name:	Sensor
Status level:	Standard
Released on:	2014-06-29
Earlier published in:	Not applicable
Keywords:	Sensor
Applied in:	S01922
Application notes:	A00375
Shape class:	Depicting shapes, Lines
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Installation diagrams, Overview diagrams
Remarks:	The asterisk shall be replaced by a letter symbol in accordance with ISO 80000 or IEC 60027, or a standardized graphical symbol for the quantity being measured. Note that a letter symbol may be composed of letters and numbers. Anything else shall be omitted

S01922



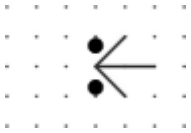
Name:	Transducer
Status level:	Standard
Released on:	2015-02-09
Earlier published in:	Not applicable
Keywords:	transducers
Applies:	S00213; S01921
Application notes:	A00375
Shape class:	Depicting shapes, Lines , Squares
Function class:	B Converting variable to signal
Application class:	Circuit diagrams, Installation diagrams, Overview diagrams
Remarks:	The asterisk shall be replaced with a letter symbol in accordance with ISO 80000 or IEC 60027, or a graphical symbol for the quantity being measured, or else shall be omitted.

S01923



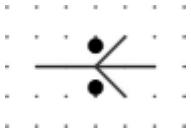
Name:	Transceiver
Status level:	Standard
Released on:	2015-02-08
Earlier published in:	Not applicable
Alternative names:	Transmitter-receiver
Keywords:	tranceivers
Applies:	S00060; S00102; S00103
Application notes:	A00376
Shape class:	Circles, Depicting shapes, Lines , Squares
Function class:	K Processing signals or information, T Converting but maintaining kind
Application class:	Circuit diagrams, Installation diagrams, Overview diagrams

S01924



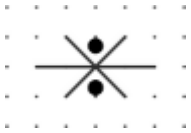
Name:	Superconducting region, One superconducting connection
Status level:	Standard
Released on:	2017-10-11
Earlier published in:	Not applicable
Keywords:	superconducting electronic devices, superconducting line, superconducting region, switches
Applies:	S01925; S01926
Shape class:	Dots (points), Lines
Function class:	X Connecting
Application class:	Circuit diagrams
Remarks:	Vertical two dots pair is superconducting region, and perpendicular line with right angle wedge is superconducting connection.

S01925



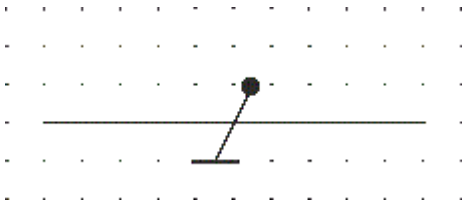
Name:	Normal-superconducting boundary
Status level:	Standard
Released on:	2017-10-11
Earlier published in:	Not applicable
Keywords:	conductors, normal-conducting line, superconducting electronic devices, superconducting line, superconducting region
Applied in:	S01924
Shape class:	Dots (points), Lines
Function class:	X Connecting
Application class:	Circuit diagrams
Remarks:	Vertical two dots pair is superconducting region, perpendicular line with right angle wedge on right hand side is superconducting connection, perpendicular line on left hand side is normal conducting connection.

S01926



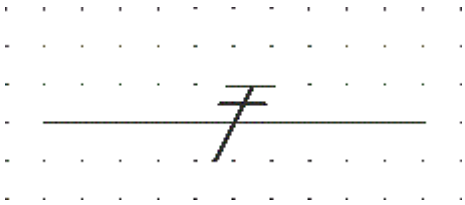
Name:	Josephson junction
Status level:	Standard
Released on:	2017-10-11
Earlier published in:	Not applicable
Keywords:	conductors, SIS, SNS, STJ, superconducting bridges, superconducting electronic devices, superconducting tunnel junctions, superconductor insulator superconductor junctions, superconductor normal-conductor superconductor junctions
Applied in:	S01924
Shape class:	Dots (points), Lines
Function class:	X Connecting
Application class:	Circuit diagrams
Remarks:	Vertical two dots pair is superconducting region, perpendicular lines with right angle wedges are superconducting connections on both sides. Josephson junction formed from two superconductors separated by insulator or normal conductor of very small thickness of by superconducting bridge of small section, so that two superconductors are only weakly coupled non-superconducting region which is normal conducting or insulating is extremely small.

S01927



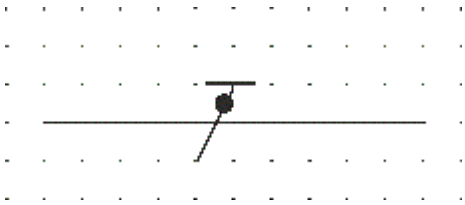
Name:	System-referencing-conductor
Status level:	Standard
Released on:	2021-02-16
Earlier published in:	Not applicable
Keywords:	electrical installations, identification of conductors, installation in buildings
Applies:	S00001; S00446; S00447
Shape class:	Dots (points), Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams, Installation diagrams, Overview diagrams

S01928



Name:	PEL conductor
Status level:	Standard
Released on:	2022-09-27
Earlier published in:	Not applicable
Alternative names:	Combined protective earthing conductor and line conductor
Keywords:	electrical installations, identification of conductors, installation in buildings
Applies:	S00001; S00447
Shape class:	Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams, Installation diagrams, Overview diagrams
Remarks:	Old Name: Combined protective and line conductor (PEL) and Old Alternative name: PEL conductor were replaced by respective new names taking into account 3/1545/DC. (2022-01-16)

S01929



Name:	PEN conductor
Status level:	Standard
Released on:	2021-02-17
Earlier published in:	IEC 60617-11 (ed.2.0) 11-11-03
Alternative names:	PEM conductor
Keywords:	electrical installations, identification of conductors, installation in buildings
Applies:	S00001; S00446; S00447
Application notes:	A00106
Replacing:	S00448
Shape class:	Dots (points), Lines
Function class:	- Functional elements or attributes
Application class:	Circuit diagrams, Installation diagrams, Overview diagrams

Application note A00001

A drawing method in which the symbol for conductors in a cable (S00009), screened conductor (S00007), or twisted connection (S00008) is shown either above, below, or beside the intermingled group of conductor symbols may be used if several conductors are contained within the same screen or cable or are twisted together, but the symbols for these conductors are intermingled with symbols for other connections.
The symbol shall be connected by a leader line pointing to the individual lines representing the conductors within the same screen, cable or twisted group.

For an example, see S00010.

Applies to: S00007, S00008, S00009, S00010, S01831

IEC 60617 database snapshot created on 2024-06-04

Application note A00002

Terminal markings may be added.

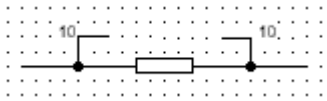
Applies to: S00018

IEC 60617 database snapshot created on 2024-06-04

Application note A00003

"n" shall be replaced by the total number of circuits. The figure shall be placed adjacent to the junction symbol. See IEC 61082-1.
A pair of mirror-imaged symbols indicates the extent of the circuit(s).

Illustration of concept: 10 parallel and identical resistors, see "A00003Illustration.gif" below.



Applies to: S00023, S00026, S01351

A00003Illustration.gif

Application note A00004

The symbol applies to multi-phase or DC power circuits. The interchanged conductors may be indicated.

Applies to: S00024, S00025

Application note A00005

The stroke shall be drawn parallel to the symbol for the non-interrupted conductor.

Applies to: S00029

Application note A00006

In single line representation the symbol denotes the female part of a multi-contact connector.

Applies to: S00031, S01352, S01354

Application note A00007

In single line representation the symbol denotes the male part of a multi-contact connector.

Applies to: S00032, S01353, S01354

IEC 60617 database snapshot created on 2024-06-04

Application note A00008

The symbol "Connector, fixed portion of an assembly" should be used only when it is desired to distinguish between the fixed and movable parts in a connector assembly.

Applies to: S00036, S00037, S00038

Application note A00009

The longest pole on the plug symbol "Telephone type plug and jack" represents the tip of the plug, and the shortest the sleeve.

Applies to: S00039, S00040

Application note A00010

If the coaxial plug or socket is connected to a coaxial pair, the tangential stroke shall be extended on the appropriate side.

Applies to: S00042

IEC 60617 database snapshot created on 2024-06-04

Application note A00011

If the coaxial structure is not maintained, the tangential line shall be drawn only on the coaxial side.

Applies to: S00011, S00012

Application note A00012

The high pressure side is the longer side of the trapezium thus retaining gland in bulk-head.

Applies to: S00056, S00513

IEC 60617 database snapshot created on 2024-06-04

Application note A00013

Suitable symbols or legends shall be inserted in or added to the symbol outline to indicate the type of object.

Applies to: S00059, S00060, S00061, S01225

Application note A00014

An outline of another shape may be used if layout demands it.

Applies to: S00062, S00063

Application note A00015

If the enclosure has special protective features attention may be drawn to these by a note.

Applies to: S00062, S00063

Application note A00016

The envelope symbol may be omitted if no confusion is likely. The envelope must be shown if there is a connection to it.

Applies to: S00062, S00063

Application note A00017

If necessary the envelope symbol may be split.

Applies to: S00062, S00063

Application note A00018

The symbol is used to indicate a boundary of a group of objects associated physically, mechanically or functionally.

Applies to: S00064

Application note A00019

Any combination of short and long strokes may be used.

Applies to: S00064

Application note A00020

The symbol may be drawn in any convenient shape.

Applies to: S00065

IEC 60617 database snapshot created on 2024-06-04

Application note A00021

The asterisk shall be replaced by the symbol(s) for an equipment or device protected against unintentional direct contact.

Applies to: S00066

Application note A00022

The voltage may be indicated at the right of the symbol and the type of system at the left.

EXAMPLE: 2/M <symbol S00067> 220/110 V

Applies to: S00067, S01349

IEC 60617 database snapshot created on 2024-06-04

Application note A00023

The numerical value of the frequency or the frequency range may be added at the right-hand side of the symbol.

Applies to: S00069, S00070, S00071, S00072, S00107

Application note A00024

The voltage value may also be indicated to the right of the symbol.

Applies to: S00071, S00072, S00107

Application note A00025

The number of phases and the presence of a neutral may be indicated at the left-hand side of the symbol.

Applies to: S00071, S00107

IEC 60617 database snapshot created on 2024-06-04

Application note A00026

If it is necessary to indicate a system in accordance with the designations established in IEC 60364-3 the corresponding designation shall be added to the symbol.

Applies to: S00072, S00107

IEC 60617 database snapshot created on 2024-06-04

Application note A00027

Symbols S00073, S00074 and S00075 may be used when it is necessary on a given drawing to distinguish between different frequency ranges

Applies to: S00073, S00074, S00075

Application note A00028

Adjustability is a kind of non-inherent variability which enables to perform an adjustment, i.e. to set the variable quantity on a suitable value.

Application note A00029

Variability is non-inherent when the variable quantity is controlled by an external device, for example, when the resistance is controlled by a regulator.

Application note A00030

Variability is inherent when the variable quantity depends on qualities of the device itself, for example, when the resistance changes as a function of voltage or of temperature.

Application note A00031

The symbols for adjustabillity, variability and automatic control should be drawn across the main symbol at about 45° to the centre line of the latter symbol.

Applies to: S00083, S00084, S00085, S00086, S00088, S00089, S00090, S00091, S00092

Application note A00032

Information on the controlling quantity, for example voltage or temperature, may be shown adjacent to the symbol.

Applies to: S00083, S00084, S00085, S00086

Application note A00033

Information on the conditions under which adjustibility is permitted may be shown adjacent to the symbol.

Applies to: S00085, S00086

Application note A00034

A figure indicating the number of steps may be added.

Applies to: S00087, S00088

Application note A00035

The controlled quantity may be indicated adjacent to the symbol.

Applies to: S00091, S00092, S00095, S00097, S00098

IEC 60617 database snapshot created on 2024-06-04

Application note A00036

An arrow may be used to indicate the direction in which the movable part of a device shall move to give a required effect (see A00036Example.pdf below).
It may also indicate the direction of a force or the direction of motion of the physical part symbolized. In such cases a note to indicate the view point may be required.

Applies to: S00093, S00094, S00095, S00096, S00097, S00098

A00036Example.pdf

Application note A00037

The effect caused by movement may be explained by symbols or by a text.

Applies to: S00093, S00094, S00096

Application note A00038

The dot may be omitted if the sense is unambiguously given by the arrowhead in combination with the symbol to which it is applied. For example see symbol S01128.

Applies to: S00102

Application note A00039

The dot may be omitted if the sense is unambiguously given by the arrowhead in combination with the symbol to which it is applied. For example see symbol S01127.

Applies to: S00103

Application note A00040

The type of material may be indicated either by using its chemical symbol,or by one of the qualifying symbols given below.
These symbols have been drawn in rectangles, but the rectangle may be omitted when they are used in conjunction with another symbol.
If necessary, use may be made of the symbols for materials given in ISO 128

Applies to: S00113, S00114, S00115, S00116, S00117, S00118, S00119, S01216, S01217

Application note A00041

Arrows pointing towards a symbol denote that the device symbolized will respond to incident radiation of the indicated type.
Arrows pointing away from a symbol denote the emission of the indicated type of radiation by the device symbolized.

Arrows located within a symbol denote an internal radiation source.

Applies to: S00127, S00128, S00129, S00130, S00131, S00901

IEC 60617 database snapshot created on 2024-06-04

Application note A00042

If source and target are shown, the arrows shall point from source to target.
If there is a target but no specific source shown, the arrows shall point downwards and to the right.

If there is no specific target shown, the arrows shall point upwards and to the right.

These rules are applied for the original combination of the symbol in the 60617 database which means "Variant A" described in ISO 81714-1. For the other variants, the arrows rotate together with the other elements to keep the position in the whole combination of "Variant A"

Applies to: S00127, S00128, S00129, S00685, S00901, S01919, S01920

Application note A00043

If it is necessary to show the specific type of ionizing radiation, the symbol may be augmented by the addition of symbols or letters such as the following:

ALPHA = alpha particle
BETA = beta particle
GAMMA = gamma rays
DELTA = deuteron
RHO = proton
ETA = neutron
PI = pion
KAPPA = K meson
MY = muon
X = X-ray

Applies to: S00129

Application note A00044

Each symbol represents an idealized shape of the waveform.

Applies to: S00132, S00133, S00134, S00135, S00136, S00137

Application note A00045

The length of the link symbol may be adjusted to the layout of the diagram.

Applies to: S00144, S00145, S00146, S00147

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Application note A00046

The arrow is assumed to be placed in front of the link symbol.

Applies to: S00146

Application note A00047

Action is delayed when the direction of movement is from the arc towards its centre.

Applies to: S00148, S00149

Application note A00048

The triangle is pointed in the return direction.

Applies to: S00150

Application note A00049

If desired, a more detailed drawing of the cam may be shown. This applies also to a profile plate.

Applies to: S00182, S00183, S00185

IEC 60617 database snapshot created on 2024-06-04

Application note A00050

Information showing the form of stored energy may be added in the square.

Applies to: S00186

Application note A00051

Supplementary information may be given to define the status or the purpose of the earth if this is not readily apparent.

Application note A00052

This symbol may be used in place of symbol S00200 to indicate an earth connection having a specified protective function, for example for protection against electrical shock in case of a fault.

Application note A00053

The hatching may be completely or partly omitted if there is no ambiguity. If the hatching is omitted, the line representing the frame or chassis shall be thicker as shown in symbol S01410.

Applies to: S00203

IEC 60617 database snapshot created on 2024-06-04

Application note A00054

Additional indications may be added to the symbols S00205 to S00207 according to IEC 60375.

Applies to: S00205, S00206, S00207

Application note A00055

If the direction of change is not obvious, it may be indicated by an arrowhead on the outline of the symbol.

Applies to: S00213

IEC 60617 database snapshot created on 2024-06-04

Application note A00056

A symbol or legend indicating the input or output quantity, waveform etc. may be inserted in each half of the general symbol to show the nature of the conversion.
Example see symbol S00894.

Applies to: S00213

Application note A00057

This symbol shall be used only when it is necessary to distinguish between analogue and other forms of signals and connections.

Applies to: S00216, S00217

Application note A00058

See also A00321.

Applies to: S00216

IEC 60617 database snapshot created on 2024-06-04

Application note A00059

See also A00321 and ISO/IEC 646.

Applies to: S00217

Application note A00060

A small circle, open or filled in, representing the hinge point, may be added to most of the symbols. For
example, see symbol S00228.
In some symbols the circle indicating the hinge point shall be shown. For example, see symbol S00231.

Applies to: S00227, S00229, S00230, S00232, S00233, S00234, S00235, S00236, S00237, S00238, S00239, S00240, S00241, S00242, S00243, S00244, S00245, S00246, S00247, S00248, S00249, S00250, S00251, S00253, S00254, S00255, S00256, S00257, S00258, S00259, S00260, S00261, S00262, S00263, S00264, S00265, S00271, S00272, S00274, S00284, S00285, S00286, S00287, S00288, S00290, S00291, S00292, S00294, S00295, S01911, S01912

Application note A00061

For other methods of representing switches, especially complex, electronic switches, see S01556 (12-17A-01), S01557 (12-17A-02), S01604 (12-29-09), S01606 (12-29-11), S01804 (13-17-01), S01805 (13-17-02).

Applies to: S00218, S00219, S00220, S00221, S00222, S00223, S00224, S00225, S00226, S00227, S00228, S00229, S00230, S00231, S00232, S00233, S00234, S00235, S00236, S00237, S00238, S00239, S00240, S00241, S00242, S00243, S00244, S00245, S00246, S00247, S00248, S00249, S00250, S00251, S00252, S00253, S00254, S00255, S00256, S00257, S00258, S00259, S00260, S00261, S00262, S00263, S00264, S00265, S00267, S00268, S00269, S00270, S00271, S00272, S00273, S00274, S00275, S00276, S00277, S00278, S00279, S01911, S01912

Application note A00062

This qualifying symbol may be applied to simple contact symbols to indicate position switches if there is no need to show the means of operating the contact. In complicated cases, where it is desireable to show the means of operation, one of the symbols 02-13-16 through 02-13-19 may be used instead.

Applies to: S00223

Application note A00063

To depict a contact which is mechanically operated in both directions, this symbol shall be placed on both sides of the contact symbol.

Applies to: S00223

Application note A00064

This symbol may be used to indicate automatic return. For example, see 07-06-01.

Applies to: S00224, S00249, S00251

Application note A00065

This symbol shall not be used together with qualifying symbols S00218, S00219, S00220 and S00221. In many cases, symbol S00150 may be used.

Applies to: S00224, S00249, S00251

IEC 60617 database snapshot created on 2024-06-04

Application note A00066

This symbol may be used to indicate non-automatic return function. When this convention is invoked, its use should be appropriately referenced.

Applies to: S00225

Application note A00067

This symbol should not be used together with qualifying symbols S00218, S00219, S00220 and S00221. In many cases, symbol S00151 may be used.

Applies to: S00225

Application note A00068

This symbol shall be used to indicate that the positive operation of a mechanical device in the direction shown is ensured or is required. This means that the operation ensures that all contacts are in the position corresponding to the activating device.

Applies to: S00226

Application note A00069

If contacts are shown linked, the symbol shall apply to all the linked contacts unless otherwise indicated (see symbol 07-08-07).

Applies to: S00226

Application note A00070

See symbols S00148 and S00149. Closing and opening of the contact is delayed with respect to the activation or deactivation operation. The movement is delayed in the direction towards the centre of the arc ("parachute effect"). The symbol for delayed action may be drawn on that side of the contact symbol which is most suitable for the application and for the placing of item designations.

Applies to: S00243, S00244, S00245, S00246, S00247, S00248, S01911

Application note A00071

A rectangular outline may be used instead of a square.

Applies to: S00385, S00386, S00387, S00388, S00391, S00392, S00393, S00394, S00395, S00396, S00397, S00398, S00399, S00400, S00401, S00402, S00403, S00404, S01419, S01420

IEC 60617 database snapshot created on 2024-06-04

Application note A00072

On small scale maps it may be desirable to replace the hatched areas in the symbols by completely filled-in areas.

Applies to: S00386, S00388, S00390, S00392, S00394, S00396, S00398, S00400, S00402, S00404, S00406, S01420

Application note A00073

Examples of lines are given in S00001 and S00058.

Applies to: S00407, S00408, S00409, S00410, S00411, S00412, S00413, S00414, S00415, S00416, S00417, S00418

Application note A00074

Additional information may be shown above the line representing the duct route, for example the number of ways.

Applies to: S00410

IEC 60617 database snapshot created on 2024-06-04

Application note A00075

Qualifying symbols or designations may be used to indicate the apparatus contained in the enclosure.

Applies to: S00419, S00420

Application note A00076

Inputs and outputs may be oriented as required.

Applies to: S00421

Application note A00077

The symbol should be shown on the "creepout" side of the access chamber.

Applies to: S00424

Application note A00079

The type of anode material may be indicated by adding its chemical letter symbol.

Applies to: S00426

Application note A00082

Devices with "push" or "pull" operation most often have automatic return. It is therefore not necessary to show the automatic return symbol S00150.

On the other hand, a detent symbol S00151 shall be shown in those cases where non-return exists.

Applies to: S00253, S00254, S00255, S00257, S00258, S00267, S00268, S00269, S00273, S00292, S00294, S00295, S01912

Application note A00083

Devices operated by turning do not usually have automatic return. It is therefore not necessary for the detent symbol S00151 to be shown.
On the other hand, the automatic return symbol S00150 should be shown in those cases where an automatic return exists.

Applies to: S00253, S00256, S00267, S00268, S00269, S00273, S00292, S00294, S00295, S01912

IEC 60617 database snapshot created on 2024-06-04

Application note A00084

Where in a set of contacts one or some of them are constructed to have positive opening operation this positivity may concern:
- either the opening of break contact(s) (for example S00262: Position switch and S00258: Emergency stop switch) or the closing of a make contact (for example S00257: Alarm) and

- either all the contacts or only particular contacts (see for example S00296) but

- not both the opening and the closing of the same contact.

Applies to: S00259, S00260, S00261, S00262

IEC 60617 database snapshot created on 2024-06-04

Application note A00085

The letter THETA may be replaced by the operating temperature conditions.

Applies to: S00263

Application note A00086

There are many ways in which complex switching functions can be achieved mechanically, for example by rotary wafer switches, slide switches, drum controllers, cam-operated contact assemblies, etc. There are also many ways in which the switching functions may be symbolized on circuit diagrams (see IEC 61082-1).
Studies have shown that there is no unique system of symbolization which is superior in every application. The system employed should be chosen with due regard to the purpose of the diagram and the degree of complexity of the switching device that it is desired to symbolize.

Therefore this symbol presents only one of the possible methods for symbolizing complex switches. To facilitate understanding, each example includes a constructional drawing of the device symbolized. The method shown here uses a general symbol for a complex switch which must be supplemented by a table of connections. Two examples are shown.

Applies to: S00280

Application note A00087

Qualifying symbols may be shown inside the general symbol to indicate particular types of starters. See symbols S00301, S00302 and S00303.

Applies to: S00297

Application note A00088

The number of steps may be indicated

Applies to: S00298

Application note A00089

Operating devices with several windings may be indicated by inclusion inside the outline of the appropriate number of inclined strokes, see symbol S00308.

Applies to: S00305, S00306

Application note A00090

Polarity dots may be used to indicate the relationship between the direction of the current through the winding of a polarized relay and the movement of the contact arm according to the following connection.
When the winding terminal identified by the polarity dot is positive with respect to the other winding terminal, the contact arm moves or tends to move towards the position marked with the dot.

Applies to: S00319

Application note A00091

The asterisk shall be replaced by one or more letters or qualifying symbols indicating the parameters of the device, in the following order:
- characteristic quantity and its mode of variation;
- direction of energy flow;
- setting range;
- re-setting ratio;
- delayed action;
- value of time delay

Applies to: S00327

Application note A00092

Letter symbols for characteristic quantities shall be in accordance with established standards, for example, IEC 60027 and ISO 31.

Applies to: S00327

Application note A00093

A figure giving the number of similar measuring elements may be included in the symbol as shown in example S00342.

Applies to: S00327

Application note A00094

The symbol may be used as a functional symbol representing the whole of the device, or as a symbol representing only the actuating element of the device.

Applies to: S00327

Application note A00095

The method of operating may be indicated.

Applies to: S00355

Application note A00096

The small circle representing the hinge point (see application note A00060) shall not be added to this symbol.

Applies to: S00376

Application note A00097

Appropriate qualifying symbols may be added to denote the function of the static switch. See symbols S00229 to S00247.

Applies to: S00376

Application note A00098

A qualifying symbol to denote the type of actuating element may be added.

Applies to: S00379

Application note A00099

1. The asterisk (*) shall either be replaced by the symbol for the coupling medium or be omitted.
2. X and Y shall either be replaced by the appropriate indications for the quantities concerned or be omitted.

3. The double solidus may be replaced by a double diagonal.

Applies to: S00383

Application note A00100

Branch feeders may be drawn from any convenient point on the circle.

Application note A00101

The dot is used to distinguish an output at a relatively higher level.

Applies to: S00430, S00435

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Application note A00102

Branch or spur feeders may leave the sloping sides of the symbol at any convenient angle.

Applies to: S00430, S00435

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Application note A00103

The stroke inside the circle may be replaced by a designation.

Applies to: S00437, S01336

Application note A00104

The stroke representing the subscriber's feeder may be omitted if no ambiguity will arise.

Applies to: S00437, S01336

Application note A00105

Symbol S01244 may also be used.

Applies to: S00442

Application note A00106

The symbols shown in S00446 ... S00449 may be replaced by letter symbols given in IEC 60445.

Applies to: S00446, S00447, S00448, S00449, S01929

Application note A00107

If the arrow is pointing towards the top border (edge) of the drawing sheet, the wiring goes upwards.

Applies to: S00450

Application note A00108

If the arrow is pointing towards the bottom border (edge) of the drawing sheet, the wiring goes downwards.

Applies to: S00451

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Application note A00109

Designations in accordance with relevant IEC or ISO standards, may be used to distinguish different types of outlet symbols:
TELEPHONE SYSTEMS
TP = Telephone system
WT = Wireless telephone system
DP = Door phone system
IC = Intercom system

COMMUNICATION SYSTEMS
TV = TV system
PA = Public address system (SS = sound system)
AV = Audio visual system
IS = Information service system
CS = Conference- and interpretation system (congress system)
BC = Broadcasting system

ANNOUNCEMENT SYSTEMS
DB = Door bell system
EC = Entry call system
NC = Nurse call system
OL = Occupied light system
TC = Time clock system
SC = Service call system
IL = Info lighting system
EC = Emergency call system
PS = Paging system

SECURITY SYSTEMS
EL = Electric lock system
AC = Time attendance and access control system
IA = Intrusion alarm system
PN = Panic call system
CC = CCTV system
DG = Door- and gate control system
FA = Fire detection and fire alarm system
FW = Fire warning system
FP = Fire protection control system
SE = Smoke exhaust system

INFORMATION NETWORK SYSTEMS
GC = Generic cabling system
IT = IT systems

INTEGRATED CONTROL SYSTEMS
BS = Bus control system
MC = Multi-control system

BUILDING AUTOMATION SYSTEMS
BM = Building management system

Note that these letters are qualifiers to the symbols only and that the qualifier are intended for used in the area of Building installations.

For the purpose of identification of a connection or outlet, the relevant letter codes in IEC 61346-2 should be applied.

Applies to: S00465

Application note A00110

Protection can be by means of a break-glass cover

Applies to: S00477

Application note A00111

The symbol may be qualified as shown in S00965

Application note A00112

The symbol shall only be used when the auxiliary apparatus is not incorporated in the luminaire.

Applies to: S00490

Application note A00113

The asterisk shall be replaced by the proper equipment desgnation, or be omitted.

Applies to: S00515, S00519, S00520, S00526, S00527

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Application note A00114

Surface lights are light fixtures inset flush in the surface of runways, stopways, taxiways and aprons.
Elevated navigation aids are lights and indicators not flush mounted.

The beam types are defined as shown in the file A00114BeamTypes.pdf attached below.

Applies to: S00533, S00534, S00535, S00536, S00537, S00538, S00539, S00540, S00541, S00542, S00543, S00544, S00545, S00546, S00547, S00548, S00549, S00550, S00551, S00552, S00553, S00554

A00114BeamTypes.pdf

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Application note A00116

Colours are indicated by adaption of the symbol according to Table 1 (omni-directional) and Table 2 (bi-directional), see the files A00116Table1.pdf and A00116Table2.pdf attached below. If use is made of colours or combinations of colours not listed in Table 1 or 2, the colour name or the colour code according to IEC 60757 shall be indicated adjacent to the symbol.

Applies to: S00533, S00534, S00535, S00536, S00537, S00538, S00539, S00540, S00541, S00542, S00543, S00544, S00545, S00546, S00547, S00550, S00551

A00116Table1.pdf A00116Table2.pdf

Application note A00118

Colours may be indicated in accordance with A00116. See also Tables 1 and 2 (A00115).

Application note A00119

If confusion can arise, an arrow showing the beam direction may be added.

Applies to: S00533, S00534

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Application note A00120

The number of separate windings should be indicated:
- either by the number of strokes drawn,
- or by adding a figure to the symbol

Applies to: S00796, S00797, S00798, S00799

Application note A00121

Symbol S00806 may be used to symbolize a multiphase polygon connection of windings by adding a figure to denote the number of phases.

Applies to: S00806

Application note A00122

Symbol S00796 may also be used to represent windings which can be externally connected in various ways .

Applies to: S00796, S00799, S00800

Application note A00123

Symbol 00808 may also be used to symbolize a multiphase star connection of windings by adding a figure to denote the number of phases.

Applies to: S00808

Application note A00124

Brushes are shown only if necessary. For an example of application, see symbol S00825.

Applies to: S00818

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Application note A00125

The asterisk, *, shall be replaced by one of the following letter designations:
C Rotary converter
G Generator
GP Permanent magnet generator
GS Synchronous generator
M Motor
MG Machine capable of use as a generator or motor
MGS Synchronous generator - motor
MP Permanent magnet motor
MS Synchronous motor
RC Rotary Condenser

Applies to: S00819

Application note A00126

The symbols S00067 and S00107 may be added, as shown in many of the examples.

Applies to: S00819, S00823, S00824, S00825, S00826, S00827, S00828, S00829, S00830, S00831, S00832, S00833, S00834, S00835, S00836, S00837, S00838, S00839, S00840

Application note A00127

If it is desired to show that there is a magnetic core, a single line may be added parallel to the symbol. The line may be annotated to indicate non-magnetic materials; it may be interrupted to indicate a gap in the core.

Applies to: S00583, S00842, S00845, S00849, S00851, S00853, S00855, S00857, S00859, S00861, S00863, S00865, S00867, S00869, S00871, S00873, S00875, S00877, S00879, S00881, S00883, S00885, S00887, S00889, S00891, S01344

Application note A00128

Two forms of symbols are given for the same type of transformer:
- Form 1 uses a circle to represent each winding. Its use is preferably restricted to single-line representation. Symbols for transformer cores are not used with this form.
- Form 2 uses symbol S00583 to represent each winding. The number of half-circles may be varied to differentiate between winding.

Applies to: S00841, S00842, S00844, S00845, S00846, S00847, S00848, S00849, S00850, S00851, S00852, S00853, S00854, S00855, S00856, S00857, S00858, S00859, S00860, S00861, S00862, S00863, S00864, S00865, S00866, S00867, S00868, S00869, S00870, S00871, S00872, S00873, S00874, S00875, S00876, S00877, S00878, S00879, S00880, S00881, S00882, S00883, S00884, S00885, S00886, S00887, S00888, S00889, S00890, S00891, S01343, S01344, S01837, S01838, S01840, S01841, S01842

Application note A00129

In the case of symbols for current and pulse transformers, straight lines, representing primary windings may be used for form 1 and form 2.

Applies to: S00841, S00842, S00843, S00844, S00845, S00850, S00851, S00880, S00881, S00882, S00883, S00884, S00885, S00886, S00887, S00888, S00889, S00890, S00891, S01343, S01344

Application note A00130

The instantaneous voltage polarities may be indicated in form 2 of the symbol. IEC 60375 gives a method of indicating the instantaneous voltage polarities of coupled electric circuits. For an example, see S00843.

Applies to: S00842, S00843, S00845, S00847, S00849, S00851, S00853, S00855, S00857, S00859, S00861, S00863, S00865, S00867, S00869, S00873, S00877, S00879, S00881, S00883, S00885, S00887, S00889, S00891, S01344

Application note A00131

For a rotary generator, use symbol S00819.

Applies to: S00899

Application note A00132

The asterisk shall either be replaced by letter(s) or a graph denoting the transition behavior, or be omitted.
To indicate an open-loop controller the symbol shall be used with only one input

Applies to: S00909

Application note A00133

The general symbol for a machine S00819 should be used to represent an asynchronous machine, if no external connections to the rotor exist, for example in a squirrel cage motor. An inner circle, representing the rotor, should be shown in those cases where external connections to the rotor exist, see for example symbol S00838.

Applies to: S00836, S00837, S00838, S00839, S00840

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Application note A00134

For measuring transformers and pulse transformers use the appropriate symbols S00841 - S00851 and S01343 - S01344.

Applies to: S00878, S00879, S00880, S00881, S00882, S00883, S00884, S00885, S00886, S00887, S00888, S00889, S00890, S00891

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Application note A00135

The method of connecting transformer windings may also be indicated by codes. See IEC 60076: Power transformers.

Applies to: S00802, S00803, S00804, S00805, S00806, S00807, S00808, S00809, S00810, S00811, S00812, S00813, S00814

Application note A00136

The type of coupling, power division proportions, reflection coefficients, etc., may be indicated. The angles between the ports may be drawn as convenient.

Applies to: S01185, S01186, S01187, S01188, S01189, S01190, S01191, S01192, S01193, S01194, S01195, S01196

Application note A00137

The convention is that the power entering at one port is conveyed only to the two directly connected ports and thence away from the device.

Applies to: S01189, S01190, S01191, S01192, S01193, S01194

Application note A00138

The symbol, consisting of a downwards pointing vertical arrow between two horizontal lines, represents the transition from one energy level to a lower one. It should be drawn in the lower left-hand corner of the square.
Pumping by light may be shown by placing symbol S00127 above the appropriate material symbol, see S00113 ... S00119.

For an example of application, see symbol S01216 .

Applies to: S01212, S01213, S01214, S01215, S01216, S01217

Application note A00140

The f and f/n may be replaced by indications of the input and output frequencies .

Applies to: S01234

Application note A00141

The asterisk shall be replaced by details of the code.

Applies to: S01223, S01224

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Application note A00142

The f and nf may be replaced by indications of the input and output frequencies

Applies to: S01233

Application note A00143

The f1 and f2 or the sine symbols may be replaced by indications of the input and output frequencies.

Applies to: S01232, S01904

Application note A00144

The asterisk within the symbol shall be replaced with one of the following:
- the letter symbol for the unit of the quantity measured, or a multiple or sub-multiple thereof (see examples S00913 and S00919);
- the letter symbol for the quantity measured (see examples S00917 and S00918);
- a chemical formula (see example S00925);
- a graphical symbol (see example S00920).

The symbol or formula used shall be related to the information displayed by the instrument regardless of the means used to obtain the information.

Applies to: S00910, S00911, S00912, S00920, S00921, S00922, S00923, S00924, S00925, S00926, S00927, S00928, S00929, S00930, S00931, S00932, S00933, S00934, S00935, S00936, S00937, S00938, S00939, S00940, S00941, S00942, S00943, S00945

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Application note A00145

The letter symbols for the units and for the quantities measured shall be selected from one of the parts of IEC 60027 Letter symbols to be used in electrical technology.
Provided IEC 60027, or the letter symbols for chemical elements, do not apply, other letter symbols may be used, if they are explained on the diagram or in referenced documents.

Applies to: S00910, S00911, S00912, S00913, S00914, S00915, S00916, S00917, S00918, S00919, S00923, S00924, S00926, S00928, S00929, S00932, S00933, S00934, S00935, S00936, S00937, S00938, S00939, S00940, S00941, S00943, S00944, S00945

Application note A00146

If the letter symbol for the unit of the quantity measured is used, it may be necessary to show the letter symbol for the quantity as supplementary information. It should be placed below the letter symbol (see example S00914).
Supplementary information concerning the quantity measured, and any necessary qualifying symbols may be shown below the quantity letter symbol.

Applies to: S00910, S00911, S00912, S00923, S00942, S00943, S00944

Application note A00147

If more than one quantity is indicated or recorded by an instrument, the appropriate symbol outlines shall be placed attached in line, horizontally or vertically (see examples S00929 and S00944).

Applies to: S00910, S00911, S00912, S00929, S00944

Application note A00148

This symbol may also be used for a remote instrument, which repeats a reading transmitted from an integrating meter. For example, see S00941.
This symbol may be combined with that for a recording instrument to represent a combined instrument. For example, see S00944.

Symbols S00099...S00106 may be used to specify the direction of energy flow. For examples, see S00934 and S00937.

The number of rectangles at the top of the symbol indicates the number of different summations by a multirate meter. For example, see S00939.

Applies to: S00912, S00933, S00934, S00935, S00936, S00937, S00938, S00939, S00940, S00941, S00944, S00945

Application note A00149

A frequency spectrum is represented on a diagram by means of symbols on a horizontal frequency axis. The symbols show the functions of the various frequencies and frequency bands used in the transmission system as well as their relative positions in the spectrum.

Applies to: S01291, S01292, S01293, S01294, S01296, S01297, S01298, S01299, S01300, S01301, S01302, S01303, S01304, S01305, S01306, S01307

Application note A00150

This is a qualifying symbol particular to semiconductor devices. If necessary, a special function or property essential for circuit operation may be indicated by a qualifying symbol placed adjacent to, or forming part of the symbol of the device.

Applies to: S00636, S00637, S00638, S00639, S00640

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Application note A00151

Symbol S00128 may be used to indicate that coherent light is being used.
If no confusion can arise the symbol element denoting an optical wave guide (S00127 or S00128 in a small circle) may be omitted.

Applies to: S01318

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Application note A00152

Fibre index identifiers should be placed adjacent to the symbol element denoting an optical wave guide to avoid confusion with signal waveforms.

Applies to: S01319, S01320, S01321

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Application note A00153

The diameter of optical fibres shall be indicated from the inside of the fibre towards the outside, for example:
a = core,
b = cladding,
c = first coating,
d = jacketing.

Applies to: S01322, S01323, S01324

Application note A00154

When a single line represents a group of optical fibres, their number may be indicated either by adding small strokes or one stroke and a figure.

Applies to: S01323, S01324

Application note A00155

For transmission systems (FDM) the order of the group to which the pilot refers, for example: group, supergroup, mastergroup or supermastergroup, may be indicated by adding the respective number 1, 2, 3 or 4 of oblique strokes.

Application note A00156

Example of a composite cable containing both copper conductors and optical fibres.

Application note A00157

The symbol S01334 may also be used to represent a combiner if the direction of information flow corresponds with a combiner. See symbol S01335.

Applies to: S01334, S01335

Application note A00158

The circle may be omitted if no confusion can arise.

Applies to: S01337

Application note A00159

This symbol may also be used to represent a fused coupler if the direction of information flow corresponds with a fused coupler.

Applies to: S01337

Application note A00160

In a star coupler of this type each port is bidirectional and may be used as input and output at the same time. Each port feeds every other port.

Application note A00161

The division of a band into channels, groups, etc., may be shown by adding vertical lines.

Application note A00162

There is no indication of how much of the bandwidth shown by the symbol is actually used. The symbols for this rule to be applied may be used to represent a single channel, group, etc., or a number of channels, groups, etc., providing they are all erect.

Applies to: S01303, S01304, S01305, S01306

Application note A00164

The gate and source connections shall be drawn in line.

Applies to: S00671, S00672

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Application note A00165

The connection line to the symbol S00702 may be shown horizontally. See symbol S00770.

Applies to: S00702, S00770

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Application note A00166

Symbol S00703 may be used if no confusion is likely.

Applies to: S00704

Application note A00167

Symbol S00705 may be used if no confusion will arise.

Applies to: S00709, S00714

Application note A00168

Symbol S00709 may be used if no confusion will arise.

Applies to: S00710, S00712

Application note A00169

The step from the low-resistance to the high-resistance state is reached by making the electrode marked with the step-function symbol the anode

Applies to: S00792

Application note A00170

The letters (I, G, O, C) are not part of solion tetrode symbol.
I = input
G = grid
O = output
C = common

Application note A00171

A conductivity cell is an element for measuring the conductivity of liquids.

Applies to: S00795

Application note A00172

If desired, the direction of rotation of the discharge may be shown by an arrow.

Applies to: S00774, S00775

Application note A00173

The asterisk shall be replaced by the appropriate letters for the particular synchronous device being symbolized. The letters to be used according to the function are as follows:
First letter - Function
C - Control
T - Torque
R - Resolver

Succeeding letter - Function
D - Differential
R - Receiver
T - Transformer
X - Transmitter
B - Rotatable stator winding

In the symbol, the inner circle represents the rotor and the outer circle the stator or, in certain instances, a rotatable outer winding.

Applies to: S00962, S00963

Application note A00174

If it is desired to indicate the colour, a notation according to the following code is placed adjacent to the symbol:
RD = red
YE = yellow
GN = green
BU = blue
WH = white

If it is desired to indicate the type of lamp, a notation according to the following code is placed adjacent to the symbol:

Ne = neon
Xe = xenon
Na = sodium vapour
Hg = mercury
I = iodine
IN = incandescent
EL = electroluminescent
ARC = arc
FL = fluorescent
IR = infra-red
UV = ultra-violet
LED = light emitting diode

Applies to: S00965, S00966

Application note A00175

Respective contacts close once at every unit (10 0), ten (10 1), hundred (10 2), thousand (10 3) events registered by the counter

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Application note A00176

Junction influences a semiconductor layer by means of an electric field, for example in a junction field effect transistor

Applies to: S00620, S00621

Application note A00177

This symbol indicates the conductivity type of the channel for insulated gate field effect transistors (IGFET).

Applies to: S00622, S00623

Application note A00178

The slanting line with arrow represents the emitter.

Applies to: S00625, S00626, S00627, S00628

Application note A00179

The slanting line represents the collector.

Applies to: S00629, S00630

Application note A00180

The short slanting line indicates the point of change along the vertical line from P to N, or from N to P.
No ohmic connection shall be made to the short slanting line.

Applies to: S00631

Application note A00181

The intrinsic region lies between the linked slanting lines.
Any ohmic connection to the region shall be made between the short slanting lines and not to them.

Applies to: S00632, S00633

Application note A00182

The connection to the collector is made to the long slanting line.

Applies to: S00634, S00635

Application note A00183

In the case of multiple gates, the primary gate and the source connection shall be drawn in line.

Applies to: S00679

Application note A00184

This symbol is used to represent a reverse blocking triode thyristor, if it is not necessary to specify the type of gate.

Applies to: S00057

Application note A00185

When this symbol is used to represent a carrier which is modulated in frequency or phase, the letter symbols f or "phi" shall be added. For example, see symbol S01309.
The arrowhead on the vertical line representing the carrier (and the arrowhead on the frequency axis) may be omitted if no confusion is likely.

Applies to: S01291

Application note A00187

For transmission systems (FDM) the order of the group to which the pilot refers, for example: group, supergroup, mastergroup or supermastergroup, may be indicated by adding the respective number 1, 2, 3 or 4 of oblique strokes.

Applies to: S01294

Application note A00188

If it is desired to show whether a particular band of frequencies is erect or inverted, symbol S01303 or S01306 shall be used.
The order of a band of frequencies forming part of a transmission system may be indicated by adding oblique strokes according to the rule with symbol S01294.

Applies to: S01300, S01301, S01302

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Application note A00190

For frequency modulation, replace "phi" by f.

Applies to: S01309

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Application note A00191

For static power generators, see symbol S00899 and the examples of that.

Applies to: S00819

Application note A00192

If a single line represents a group of conductors, the number of connections may be indicated either by adding as many oblique strokes or one stroke followed by the figure for the number of connections.

Applies to: S00002, S00003, S00058, S01414, S01415

Application note A00193

Additional information may be indicated such as:
- kind of current
- system of distribution
- frequency
- voltage
- number of conductors
- cross-sectional area of each conductor
- the chemical symbol for the conductor material

The number of conductors is followed by the sectional area, separated by x.

If different sizes are used, their particulars should be separated by +.

For dimensional data:
- for low-frequency cables and wires, see IEC 60189 (series); and
- for multicore and symmetrical pair/quad cables for digital communications, see IEC 61156-1;
- for radio-frequency cables, see IEC 61196 (series)
- for optical fibres, see IEC 60793-1 (Series) , IEC 60793-2 (series) and ITU specifications for optical fibres.

Applies to: S00001, S00002, S00003, S00004, S00005, S00058

Application note A00194

The length of the symbol for connection, or group of connections, may be adjusted to the layout of the diagram.

Applies to: S00001, S00002, S00003, S00004, S00005, S00058

Application note A00195

The symbol may be used to represent switching systems wiyhout regard to the type of equipment used

Applies to: S00981, S00982, S00983, S00984, S00985, S00986, S00987, S00988, S00989, S00990, S00991

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Application note A00196

Connection stage:
An arrangement of inlets and outlets such that only one switching point is used to connect inlet to an outlet. A number of connections may exist at any time in one connection stage.

Applies to: S00981, S00982, S00983, S00984, S00985, S00992, S00993

Application note A00197

Marking stage:
In a common-control system, that sequence of connectiong stages which is controlled by one marking process. A marking stage may consist of one or more connecting stages.

Applies to: S00986, S00987, S00988, S00992, S00993

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Application note A00198

Switching stage:
A sequence of connecting stages which jointly preform a specified switching function, for example preselection or route selection.

Applies to: S00989, S00990, S00991, S00992, S00993

Application note A00199

Highway-group:
The maximum number of circuits which have access to one highway.

Applies to: S00992, S00993

Application note A00200

Circuits on one side may be connected individually to circuits on the other side.

Applies to: S00981, S00982, S00983, S00984, S00985

Application note A00201

The number of inlets and outlets in each group may be indicated by a figure on the relevant line.

Applies to: S00984

Application note A00202

The qualifying symbol indicating a marking stage is a dot. It shall be added to the inlets of the first connecting stage and to the oulets of the last connecting stage of that marking stage.

Applies to: S00986, S00987, S00988

Application note A00203

The qualifying symbol indicating a switching stage is an arc. It shall be added to the inlets of the first connecting stage and to the aoutlets f the last connecting stage of that switching stage.

Applies to: S00989, S00990, S00991

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Application note A00204

The symbol S00060 may be qualified to represent switching equipment by the inclusion of symbol S00981

Application note A00205

A suitable designation, for example a letter symbol, may be added to indicate a particular type of equipment.

Applies to: S00994, S00995

Application note A00206

The small circle representing the hinge point may be open or filled in.

Applies to: S00996, S00997

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Application note A00207

The groups of outlets or contacts may be shown in a line instead of in an arc

Applies to: S01001

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Application note A00208

The individual outlets or contacts may be shown in a line instead of in an arc.

Applies to: S01002

Application note A00209

The dots in the circle may be omitted if no confusion is likely.

Applies to: S01020

Application note A00210

In single line representation the symbol denotes the female part and the male part of a multi-contact connector.

Applies to: S00033

Application note A00211

The lines could be exchange or extension lines.

Applies to: S01028

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Application note A00212

The symbol may be used to represent the complete local end equipment.

Applies to: S01029, S01030, S01031, S01032, S01033, S01034, S01035, S01037

Application note A00213

If the tapes are cut and fed one by one to the transmitter, the dashed line between the block symbols is omitted.

Applies to: S01036

Application note A00214

The ± sign indicates double current.
The "+0", "0+", "-0" or "0-" signs indicate single current.
The "0f" sign indicates alternating current.

The signs within the quotation marks are within the symbols shown with the first character above the second.

Applies to: S01038, S01039, S01040, S01041

Application note A00215

The symbols applying this application note are qualifying symbols specifically to be applied to the symbols applying the application note A00216.

Applies to: S01042, S01043, S01044, S01045, S01046, S01047, S01048, S01049, S01051, S01052

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Application note A00216

The symbols applying this note may be qualified with the symbols applying the note A00215. The symbols applying the note A00215 are spesifically constructed to be applicable for those symbols applying this note.

Applies to: S01053, S01054, S01055, S01056, S01057, S01058, S01059, S01060, S01061, S01062, S01063, S01064, S01065, S01066, S01067, S01068, S01069, S01070, S01071, S01072, S01073, S01074, S01075, S01076, S01077, S01078, S01079

Application note A00217

The arrow points in the direction of energy transfer.

Applies to: S01049

Application note A00218

n shall be replaced by the actual number of tracks but may be omitted if n = 1.

Applies to: S01065, S01066

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Application note A00219

The qualifying symbol representing the transducer head may be omitted if qualifying symbols linked to application note A00215 is applied.

Applies to: S01075

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Application note A00220

Symbol S00102 or S00103 is used to indicate a transmitting or receiving radio station. For examples of use, see symbols S01126 to S01130

Applies to: S01125

Application note A00221

The asterisk shall be replaced by the indication of the propagation mode suppression.

Applies to: S01149, S01174

Application note A00222

The line is not interrupted at the junction regardless of the type of connector.

Applies to: S01151

Application note A00223

Y may be replaced by the appropriate lumped circuit symbol.

Applies to: S01161

Application note A00224

Z may be replaced by the appropriate lumped circuit symbol.

Applies to: S01162

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Application note A00225

Appropriate indications may be added to specify the type of transition .

Applies to: S01169

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Application note A00227

The letter PHI may be replaced by the letter B.

Applies to: S01176

Application note A00228

The symbols S00498 ... S00532 may be used to show installation details of:
- enclosures of trays used to house electrical conductors or
- prefabricated assemblies including electrical conductors or
- special communication transmission paths.

Typical applications are for:

a) power distribution systems with:
- site installed wiring or
- factory installed wiring and outlets or
- factory-built busbar trunking systems, according to IEC 60439-2;

b) installation channels, ducts or wireways for:
- telephone circuits,
- TV and radio broadcasting distribution systems
- data transmission circuits,
- signalling systems,
- flexible coaxial and fiber optic cables;

c) coaxil radio-frequency transmission lines;

d) waveguide runs.

Applies to: S00498, S00499, S00500, S00501, S00502, S00503, S00504, S00505, S00506, S00507, S00508, S00509, S00510, S00511, S00512, S00513, S00514, S00515, S00516, S00517, S00518, S00519, S00520, S00521, S00522, S00523, S00524, S00525, S00526, S00527, S00528, S00529, S00530, S00531, S00532

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Application note A00230

The symbol is applied where deliberate use is made of the voltage dependent characteristic.

Applies to: S00582

Application note A00231

The symbol is applied where deliberate use is made of the temperature dependent characteristic.

Applies to: S00581

Application note A00232

Information on the direction of current, its relative amplitude and the logic conditions imposed by the state in the magnetic remanence may be added.

Applies to: S00596

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Application note A00233

Symbol S000001 is used to represent a line or other telecommunication circuit. The usage of circuits may be indicated by letters, symbols S01080 to S01083.

Applies to: S01080, S01081, S01082, S01083

Application note A00234

A dashed line may be used to identify a radio link or any section of a radio circuit.
The antenna symbol S01102 may be placed at the radio terminal points.

Applies to: S01084

Application note A00235

Horizontal (vertical) polarization shall be indicated by an arrow shown perpendicular (parallel) to the stem of the antenna symbol.

Applies to: S01094

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Application note A00236

Symbol S01102 may be used to represent any type of antenna or aerial array. The stem of the symbol may represent any type of balanced or unbalanced feeder, including a single conductor. A drawing of the general shapes of the main lobes of the polar diagrams of the antenna may be given adjacent to the antenna symbol.

Supplementary references in figures or letter symbols may be taken from the current Radio Regulations published by the International Telecommunication Union (ITU), Geneva.

Alternatively a name or a reference may be written adjacent to the general antenna symbol.

Applies to: S01102

Application note A00237

If there is no risk of confusion, the general antenna symbol (S01102) may be omitted.

Applies to: S01114

Application note A00238

The triangle is pointed in the direction of transmission.

Applies to: S01239, S01240, S01457

Application note A00239

The quantity to be adjusted may be indicated beside the arrowhead.

Applies to: S01241

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Application note A00240

The Greek letter "phi" may be replaced by B if no confusion arises.

Application note A00241

The Greek letter φ may be replaced by *B* if no confusion arises.

Applies to: S01256

Application note A00242

If it is desirable to indicate that the equalization refers to the time derivative of "phi", "phi" may be replaced by "phi dot".

Application note A00243

If it is desirable to indicate that the equalization refers to the time derivative of "phi", "phi" may be replaced by "phi dot".

Application note A00244

If it is desirable to indicate that the equalization refers to the time derivative of φ, φ may be replaced by "φ dot".

Applies to: S01259

Application note A00245

There are two ways of showing details of the operation carried out by a limiter.
The first is the use of the symbol S01267 supplemented by appropriate waveform symbols on the input and output lines.

The second is the use of a specific symbol consisting of a rectangle containing a figure derived from the input/output characteristic in the following manner:

a) The axes are deleted, but the origin is indicated by a short vertical stroke representing the y-axis.

b)The origin may be located in the rectangle in such a position that the characteristic makes the maximum use of the available space.

See symbols S01268 - S01271.

Applies to: S01267

Application note A00246

Symbol S01278 is used as follows:
The left hand side represents the modulating or modulated signal input.

The right hand side represents the modulated or demodulated signal output.

The bottom side represents the input of the carrier-wave if required.

Qualifying symbols may be placed inside or outside the symbol.

Applies to: S01278

Application note A00247

Dashed lines representing the various parts of the linkage system shall be located in the following way:
To the left: From the operating means for opening and closing.

To the right: To associated main and auxiliary contacts.

Top or below: From actuator having an overriding opening function.

Applies to: S00293

Application note A00248

The graphical representation of any one tube need show only those elements and details which are, for the purpose of the drawing or diagram, relevant to a correct interpretation and/or necessary for showing circuit connections.

Applies to: S00744, S00745, S00746, S00747, S00748, S00749, S00750, S00751, S00752, S00753, S00754, S00755, S00756, S00757, S00758, S00759, S00760, S00761, S00762, S00763, S00764, S00765, S00766, S00767, S00769, S00770, S00771, S00772, S00773, S00774

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Application note A00250

For an example of application, see A00250Application.pdf below.

Applies to: S00212

A00250Application.pdf

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Application note A00251

It is sometimes convenient to indicate the purpose of each switch position by adding text to the position diagram. It is also possible to indicate limitations of movement of the operating device as shown in the drawing A00251Example.pdf below.

Applies to: S00272

A00251Example_rev.pdf

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Application note A00252

18-position rotary wafer switch with six terminals, here designated A to F, constructed as shown in the drawing A00252Example.pdf below, switch shown in position 1.

Applies to: S00281

A00252Example.pdf

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Application note A00253

Six-position rotary drum switch with 5 terminals, constructed as shown in drawing A00253Example.pdf below:
The symbols (+ - o) in the table indicate the terminals that are connected together at any position (restposition or intermediate position) of the switch, i.e. terminals having the same indicating symbols, for example +, are interconnected.

Where additional symbols are required, the characters available on a computer keyboard (english) should be used, for example x, =.

Applies to: S00282

A00253Example.pdf

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Application note A00254

For the equivalent circuit diagram, see A00254 Equivalent.pdf below.
A component with presented function has two poles that can be interchanged. This component if applied in an installation circuit for e.g. lighting in stairs, is connected in one single electrical phase, but that is carried by two alternate wires that are interchanged by this polechanger. In other applications it might be used for different purposes.

Applies to: S00472, S01456, S01915

A00254Equivalent.pdf

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Application note A00255

See A00255Explication.pdf for explanations.

Applies to: S00595

A00255Explication.pdf

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Application note A00256

See A00256Example.pdf for an example.

Applies to: S00909

A00256Example.pdf

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Application note A00257

Application example: Trunking diagram for a switching system. See A00257Ex.pdf.

Applies to: S00992, S00993

A00257Ex.pdf

Application note A00258

1. The numerical value of the frequency or the frequency range may be added at the right-hand side of the symbol.
Example "Alternating current, 50 Hz":

- Using symbol S01403: <Symbol S01403> 50 Hz
- Using symbol S01404: AC 50 Hz

Example "Alternating current, frequency range 100 kHz to 600 kHz":

- Using symbol S01403: <Symbol S01403> 100 kHz ... 600 kHz
- Using symbol S01404: AC 100 kHz ... 600 kHz

2. The voltage value may also be indicated to the right of the symbol. The number of phases and the presence of a neutral may be indicated at the left-hand side of the symbol.
Example "Alternating current: three-phase with neutral, 400 V (230 V between phase and neutral), 50 Hz". (See also IEC 61293):

- Using symbol S01403: 3/N <Symbol S01403> 400/230 V 50 Hz
- Using symbol S01404: 3/N AC 400/230 V 50 Hz

3. If it is necessary to indicate a system in accordance with the designations established in IEC 60364-1 the corresponding designation shall be added to the symbol.
Example "Alternating current, three-phase, 50 Hz; system having one point directly earth-connected and separate neutral and protective conductors throughout":

- Using symbol S01403: 3/N/PE <symbol S01403> 50 Hz / TN-S
- Using symbol S01404: 3/N/PE AC 50 Hz / TN-S

Applies to: S01403, S01404

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Application note A00259

The voltage may be indicated at the right of the symbol and the type of system at the left. Example "Two conductors with mid-wire, 220/110 V":

- Using symbol S01401: 2/M <symbol S01401> 220/110 V
- Using symbol S01402: 2/M DC 220/110 V

Applies to: S01401, S01402

Application note A00260

For different unspecified frequency ranges see symbols S00073, S00074 and S00075.

Applies to: S01403

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Application note A00261

"Variability" pertains to a quantity associated with a device represented by the symbol, the value of which is dependent on factors internal to the device.
"Adjustability" pertains to a quantity associated with a device represented by the symbol, the value of which may be set or controlled by external means.

Applies to: S00081, S00082, S00083, S00084, S00085, S00086, S00088, S00089, S00090, S00091, S00092

Application note A00262

Dotted lines are used to indicate the context of the actually described symbol in order to facilitate the understanding and application of it.
At the application of the symbol such lines are to be replaced by other types of lines in accordance with applicable rules for the preparation of diagrams.

Applies to: S00024, S00026, S01391, S01392, S01393, S01396, S01397, S01398, S01399, S01400, S01414, S01415, S01458, S01459, S01460, S01461

Application note A00263

The number of half-circles may be varied to suit the application.

Applies to: S00583

Application note A00264

Symbol S00019 is used if it is not necessary to specify in which end of the horizontal connecting line the physical connection is made to the line coming from below.
Symbol S01414 is used if it is required to explicitely specify in which end of the horzontal connecting line the physical connection is made to the line coming from below.

Applies to: S01414

Application note A00265

The asterisk shall be replaced by the relevant device symbol.

Applies to: S01440, S01441, S01442

Application note A00266

The mounting methods and/or directions of a device may be specified by the addition of letter codes adjacent to the symbol. IEC 61082-1 (clause 8.3) specifies the following letters:
- H = Horizontal (components mounted side by side)
- V = Vertical
- F = Flush (recessed)
- S = Surface
- B = Floor (bottom)
- T = Ceiling (top)

For the mounting in hidden locations, which may be of relevance for detectors, additional letters may be specified. Such letters shall be explained in the document or in supporting documentation.

Applies to: S00469, S00471, S00472, S00474, S01432, S01433, S01434, S01435, S01436, S01437, S01438, S01850, S01864, S01870, S01871, S01872, S01873, S01874, S01875, S01876, S01878, S01879, S01880, S01881, S01882, S01883, S01884, S01885, S01897, S01899, S01901, S01902, S01906, S01907, S01908, S01909, S01910, S01915

Application note A00267

An indication of any specific kind of substation may be added inside the symbol, for example: "AC/DC".

Applies to: S00389, S00390

Application note A00268

For more specific types of complex switches, replace the general switch symbol S00227, with more specific ones, for example: S00253 to get a manual complex switch.

Applies to: S01454

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Application note A00269

1 Graphical symbols for binary logic elements
IEC 60617 DB contains graphical symbols that have been developed to represent logic functions. They are intended also to represent physical devices or combinations of physical devices capable of carrying out these functions. The symbols have been prepared with a view to electrical applications, but many can also be applied to non-electrical devices, for example pneumatic, hydraulic or mechanical.

2 General notes

2.1 For explanation of "logic states", "logic levels", etc., see 7.4.1 of IEC 61082-1.

2.2 The symbols 0 and 1 are used to identify the two logic states of a binary variable. These states are referred to as 0-state and 1 -state.

2.3 A binary variable may be equated to any physical quantity for which two distinct ranges can be defined. These distinct ranges are referred to as logic levels and are denoted H and L. H is used to denote the logic level with the more positive algebraic value, and L is used to denote the logic level with the less positive algebraic value.

2.4 In the case of a system in which logic states are equated with other qualities of a physical quantity (for example positive or negative pulses, presence or absence of a pulse), H and L may be used to represent these qualities or may be replaced by more suitable designations.

3 Explanation of terms
To facilitate understanding of the descriptions for the binary logic elements, it is useful to define three terms.

3.1 "Internal logic state" describes a logic state assumed to exist inside a symbol outline at an input or an output.

3.2 "External logic state" describes a logic state assumed to exist outside a symbol outline:

- on an input line prior to any external qualifying symbol at that input, or

- on an output line beyond any external qualifying symbol at that output.

3.3 "Logic level" describes the physical quality assumed to represent a logic state of a binary variable (see clauses 2.2 and 2.3). For illustrations, see A00269_Illustration_a_EN.pdf below.

4 Composition of the symbol - Symbol construction

4.1 A symbol comprises an outline or combination of outlines together with one or more qualifying symbols. Application of the symbols requires in addition the representation of input and output lines. For illustrations, see A00269_Illustration_b_EN.pdf below. The single asterisks (*) denote possible positions for qualifying symbols relating to inputs and outputs.

If and only if the function of an element is completely determined by the qualifying symbols associated with its inputs and/or outputs, no general qualifying symbol is needed.

4.2 General additional information may be included in a symbol outline as described in IEC 61082-1.

4.3 Information not standardized in this standard relating to a specific input [output] may be shown in square brackets inside the outline adjacent to the relevant input [output] and should follow [precede] any qualifying symbols applying to the input [output] as shown in symbol S01592 (12-28-14).

Additional information relating to the general logic function of the element may be shown in square brackets inside the outline.

4.4 All outputs of an element represented by a single un-subdivided symbol always have identical internal logic states determined by the function of the element except when indicated otherwise by an associated qualifying symbol or label inside the symbol outline. The subdivision of a symbol and the qualifying symbols referred to here include those explicitly shown and those only implied according to the simplification rules of A00271, clause 3.

4.5 In some figures, lowercase letters which are not part of the symbols have been shown outside the outline just to identify the inputs outputs] as referred to in the description.

4.6 The symbols and descriptions in this standard are intended for signal flow from left to right. If a symbol is instead intended for right-to-left flow, this is explicitly stated in the description of the symbol or indicated in the symbol itself.

When interpreting a symbol, one should assume, unless otherwise indicated, that a terminal shown on the left with respect to the normal reading orientation of the labels inside the symbol is an input, and that one shown on the right is an output. Inputs may also be shown on the right and outputs on the left if it aids the layout of the diagram or better conveys the structure of the device.

The direction of signal flow shall be clearly implied or indicated. Explicit indication may be done by using qualifying symbols that inherently indicate the direction of signal flow (such as qualifying symbols defined only for inputs or only for outputs, or general qualifying symbols that indicate flow direction) or by other symbols on the diagram that are connected mto the terminal.

If the direction of signal flow on a terminal line is not otherwise obvious, that line shall be marked with an arrowhead (symbol S00099 (02-05-01)) pointing in the direction of signal flow or with the symbol for bidirectional signal flow (symbol S01547 (12-10-02)), whichever applies. No arrowhead shall touch the outline or any other qualifying symbol. See, for example, symbol S01599 (12-29-06).

Applies to: S01463, S01464, S01465, S01466, S01467, S01468, S01469, S01470, S01471, S01472, S01473, S01474, S01475, S01476, S01477, S01478, S01479, S01480, S01481, S01482, S01483, S01484, S01485, S01486, S01487, S01488, S01489, S01490, S01491, S01492, S01493, S01494, S01495, S01496, S01497, S01498, S01499, S01500, S01501, S01502, S01503, S01504, S01505, S01506, S01507, S01508, S01509, S01510, S01511, S01512, S01513, S01514, S01515, S01516, S01517, S01518, S01519, S01520, S01521, S01522, S01523, S01524, S01525, S01526, S01527, S01528, S01529, S01530, S01531, S01532, S01533, S01534, S01535, S01536, S01537, S01538, S01539, S01540, S01541, S01542, S01543, S01544, S01545, S01546, S01547, S01548, S01549, S01550, S01551, S01552, S01553, S01554, S01555, S01556, S01557, S01558, S01559, S01560, S01561, S01562, S01563, S01564, S01565, S01566, S01567, S01568, S01569, S01570, S01571, S01572, S01573, S01574, S01575, S01576, S01577, S01578, S01579, S01580, S01581, S01582, S01583, S01584, S01585, S01586, S01587, S01588, S01589, S01590, S01591, S01592, S01593, S01594, S01595, S01596, S01597, S01598, S01599, S01600, S01601, S01602, S01603, S01604, S01605, S01606, S01607, S01608, S01609, S01610, S01611, S01612, S01613, S01614, S01615, S01616, S01617, S01618, S01619, S01620, S01621, S01622, S01623, S01624, S01625, S01626, S01627, S01628, S01629, S01630, S01631, S01632, S01633, S01634, S01635, S01636, S01637, S01638, S01639, S01640, S01641, S01642, S01643, S01644, S01645, S01646, S01647, S01648, S01649, S01650, S01651, S01652, S01653, S01654, S01655, S01656, S01657, S01658, S01659, S01660, S01661, S01662, S01663, S01664, S01665, S01666, S01667, S01668, S01669, S01670, S01671, S01672, S01673, S01674, S01675, S01676, S01677, S01678, S01679, S01680, S01681, S01682, S01683, S01684, S01685, S01686, S01687, S01688, S01689, S01690, S01691, S01692, S01693, S01694, S01695, S01696, S01697, S01698, S01699, S01700, S01701, S01702, S01703, S01704, S01705, S01706, S01707, S01708, S01709, S01710, S01711, S01712, S01713, S01714, S01715, S01716, S01717, S01718, S01719, S01720, S01721, S01722, S01723, S01724, S01725, S01726, S01727, S01728, S01729, S01730, S01731, S01732, S01733, S01734, S01735, S01736, S01737, S01738, S01739, S01740, S01741, S01742, S01743, S01744, S01745, S01746, S01747, S01809, S01810, S01811

Application note A00270

The length-width ratio of outlines is arbitrary.
For combinations of outlines, see A00271.

Applies to: S01463, S01464, S01465

Application note A00271

Use and combination of outlines
1 To reduce the space required for the representation of a group of associated elements, the outlines of the elements may be joined or embedded provided the following rules are observed.

1.1 There is no logic connection between elements when the line common to their outlines is in the direction of signal flow.

For illustrations, see A00271_Illustration_a.pdf below.

NOTE - This rule does not necessarily apply in those arrays in which there exist two or more directions of signal flow, for example indicated by a common control block, a common output element, or by dependency notation.

1.2 There is at least one logic connection between elements if the line common to the two outlines is perpendicular to the direction of ignal flow.

Because common control blocks are not elements, no logic connections to or from a common control block exist except those to the attached array and connections that are explicitly shown.

Each connection can be shown by the presence of qualifying symbols at one or both sides of the common line. If confusion is likely about number of logic connections, use should be made of the internal connection symbol (symbol S01475 (12-08-01)).

If no indications are shown on either side of the common line, it is assumed that there exists only one logic connection.

For illustrations, see A00271_Illustration_b EN.pdf below.

2 The common control block may be used in conjunction with an array of related elements as a point of placement for inputs or outputs associated with more than one element of the array, or with no element of the array. Such inputs and outputs shall be labelled if appropriate.

2.1 If an input shown at a common control block is an affecting input in the sense of dependency notation (see A00276), it is connected as an input only to those elements of the array in which its identifying number appears. If an input shown at a common control is not an affecting input in the sense of dependency notation, it is an input common to, or affecting, all elements of the array.

The common control block is placed on one end of an array of related elements.

Unless indicated otherwise, the element next to the common control block is assumed to be the lowest order element.

For illustrations, see A00271_Illustration_c.pdf below.

2.2 A common output, depending on all elements of the array, can be shown as the output of a common output element. In the case where any array element has more than one output, the common output element may be used only if those outputs always have identical internal logic states. There is one internal connection from each of the elements to the common output element and these shall not be shown. In addition, the common output element may have other inputs and they must be explicitly shown. The function of the common output element shall be indicated.

Each input of a common output element corresponding with an output of the array has the same internal logic state as that output.

A common output element is shown

- inside the common control block, or

- at the end of the array, opposite the common control block if there is one.

Where it is appropriate to show an array of common output elements, the double line needs to be shown only once.

For illustrations, see A00271_Illustration_d_EN.pdf below.

3 To represent an array of elements having the same qualifying symbols, it may be sufficient to show the symbols that are inside the outline in only the first of the outlines, provided no confusion is likely. Similarly, in the case of an array of elements each consisting of several identical subarrays, it is sufficient to show the first one in full and to represent each of the others by a simple outline. It is assumed that the identifying numbers of affecting inputs [outputs] in the sense of dependency notation and of inputs [outputs] affected thereby differ in each element of the array (for illustration of the concept see A00277). See also the simplifications resulting from the use of dependency notation.

For illustrations, see A00271_Illustration_e_EN.pdf below.

4 If in a simplified array of identical elements the representation of the functions of a terminal requires two or more lines connected together outside the outline, it is sufficient to show these lines only with the first element and represent them with each simplified element by a single line. Symbols outside the outline common to all lines connected together shall be shown with this single line. Symbols outside the outline not common to all lines connected together may be omitted, or the most suitable set may be shown.

For illustrations, see A00271_Illustration_f_EN.pdf below.

Applies to: S01463, S01464, S01465, S01476, S01587, S01596

A00271_Illustration_a.pdf A00271_Illustration_b_EN.pdf A00271_Illustration_b_FR.pdf A00271_Illustration_d_EN.pdf A00271_Illustration_d_FR.pdf A00271_Illustration_c.pdf

Application Note


A00271_Illustration_e_EN.pdf

A00271_Illustration_e_FR.pdf

A00271_Illustration_f_EN.pdf

A00271_Illustration_f_FR.pdf

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Application note A00272

The symbol defines the relationship between the internal logic state and the external logic state or level.
If a symbol is not shown at an input or output, it is assumed that the internal logic 1-state corresponds to

- the external logic 1-state in a diagram using the symbol for logic negation, or

- the logic H-level in a diagram using the the symbol for logic polarity.

In the latter kind of diagram, external logic states do not exist.

The symbols for logic negation and logic polarity shall not be used together on the same diagram, except when internal connections with logic negation are to be shown on diagrams using the symbol for logic polarity. See symbols S01809 and S01478.

See also IEC 61082-1.

Applies to: S01466, S01467, S01468, S01469, S01470, S01471, S01472, S01473, S01474, S01618

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Application note A00273

An internal connection is a connection within a logic element. It is useful to be able to symbolize such a connection in order to show the logic relationships between elements whose outlines are combined. In many applications, it is also convenient to use the symbols to show the function of complex elements. In such cases, dependency notation (see A00276 and A00277) should be used to define effects of any internal inputs and outputs.

Applies to: S01475, S01476, S01477, S01478, S01479, S01480, S01481, S01482, S01483, S01484, S01485, S01486, S01487, S01488, S01489, S01490, S01809

A00273_Illustration.pdf

Application note A00274

If identical symbols are shown at two or more inputs to indicate functions of those inputs, the inputs are assumed to stand in an OR relationship. For example, see symbol S01664.

Applies to: S01503, S01504, S01505, S01506, S01507, S01508, S01509, S01510, S01511, S01512, S01513, S01514, S01519, S01520, S01521, S01522, S01526, S01527, S01530, S01532, S01533, S01536, S01543, S01544, S01545

Application note A00275

Non-logic connections and signal-flow indicators, internal pull-down and internal pull-up
1 Symbols S01748 (13-04-01) through S01751 (13-04-04) may be used to denote an input or an output carrying analogue or digital signals respectively.

2 For supply voltage inputs, use symbol S01753 (13-05-01).

3 In principle, the direction of signal flow within a symbol is from left to right and from top to bottom. If this rule cannot be maintained and the direction of signal flow is not obvious, then the signal lines should be marked with arrowheads pointing in the direction of signal flow. These arrowheads shall not touch the outline or any qualifying symbol. See, for example, symbol S01599 (12-29-06).

Applies to: S01546, S01547, S01548, S01549

Application note A00276

Dependency notation
1 General explanation

Dependency notation is a means of denoting the relationships between inputs, between outputs, or between inputs and outputs, without actually showing all the elements and interconnections involved.

NOTE - Apart from its use in complex elements, dependency notation should not be used to replace the symbols for combinative elements.

The information provided by dependency notation supplements that provided by the qualifying symbols for an element's function.

In the convention for dependency notation, use will be made of the terms "affecting" and "affected". In the case where it is not evident which inputs must be considered as being the affecting or the affected ones (for example, if they stand in an AND relationship), the choice may be made in any convenient way.

In some complex elements, outputs may have an effect on inputs and other outputs. For the sake of simplicity, the text of sections 2 and 3 refers to "affecting inputs" only, but it should be understood that the recommended notation applies to affecting outputs also.

2 Convention

Dependency notation usually defines relationships between internal logic states. However, in the case of 3-state outputs, passive-pull-down outputs, passive-pull-up outputs and open-circuit outputs (symbols S01493 (12-09-03) through S01498 12-09-08)), ENABLE dependency (A00284) defines relationships between the internal logic states of affecting inputs and the external states of affected outputs.

Application of dependency notation is accomplished by

- labelling the input affecting other inputs or outputs with a particular letter symbol denoting the relationship involved followed by an identifying number, and

- labelling each input or output affected by that affecting input with that same number.

If it is the complement of the internal logic state of the affecting input [output] that does the affecting, a bar shall be placed over the identifying number at the affected input [output].

NOTE - For an example of use, see symbol S01669 (12-42-11). For a technique avoiding the use of a bar, see the note with symbol S01691 (12-49-04).

If the affected input or output requires a label to denote an effect it has on the element, this label shall be prefixed by the identifying number of the affecting input.

If an input or output is affected by more than one affecting input, the identifying numbers of each of the affecting inputs shall appear in the label of the affected one, separated by commas.

The left-to-right order of these identifying numbers is the same as the sequence of the affecting relationships (see also A00289).

Two affecting inputs labelled with different letters shall not have the same identifying number unless one of the letters is A (see A00287).

If two affecting inputs have the same letter and the same identifying number, they stand in an OR relationship to each other.

If the labels denoting the functions of affected inputs or outputs must be numbers (for example, outputs of a coder), the identifying numbers to be associated with both affecting inputs and affected inputs or outputs shall be replaced by another character selected to avoid ambiguity, for exampie Greek letters.

An affecting input affects only the corresponding affected inputs and outputs of the symbol.

3 Types of dependency

The following types of dependency are defined.

AND, OR, and NEGATE dependencies are used to denote Boolean relationships between inputs and/or outputs.

INTERCONNECTION dependency is used to indicate that an input or output imposes its logic state on one or more other inputs and/or outputs.

TRANSMISSION dependency is used to indicate controlled transmission paths between affected ports.

CONTROL dependency is used to identify a timing input or a clock input of a sequential element and to indicate which inputs are controlled by it.

SET and RESET dependencies are used to specify the internal logic states of an RS-bistable element when the R- and S-inputs both stand at their internal 1-States.

ENABLE dependency is used to identify an Enable input and to indicate which inputs and/or outputs are controlled by it (for example which outputs take on their high-impedance condition).

MODE dependency is used to identify an input that selects the mode of operation of an element and to indicate the inputs and/or outputs that depend on that mode.

ADDRESS dependency is used to identify the Address inputs of a memory.

Table I (see A00276_Table_EN.pdf below) lists the various dependencies and summarizes their effects. More detailed definitions appear in A00277 through A00289, together with illustrations of the concepts.

In these illustrations, following general symbols are used.

S01566 (12-27-01) through S01578 (12-27-13)
S01607 (12-30-01)
S01610 (12-32-01)

S01623 (12-34-01)
S01626 (12-36-01) through S01629 (12-36-04)
S01636 (12-38-01) through S01643 (12-38-08)
S01655 (12-40-01)
S01674 (12-44-01) and S01675 (12-44-02)
S01678 (12-46-01) through S01682 (12-46-05)
S01685 (12-48-01) through S01687 (12-48-03)
S01706 (12-50-01) through S01710 (12-50-05)
S01723 (12-52-01)

In Table I, the word "action" implies

- that affecting inputs will have their normally defined effect on the function of the element;

- that affected outputs will take on the internal logic States determined by the function of the element.

Applies to: S01550, S01551, S01552, S01553, S01554, S01555, S01556, S01557, S01558, S01559, S01560, S01561, S01562, S01563, S01564, S01565, S01766, S01767, S01773, S01774, S01775, S01777, S01810, S01811


A00276_Table_EN.pdf

A00276_Table_FR.pdf

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Application note A00277

AND dependency (G-dependency)
Each input [output] affected by a Gm-input [Gm-output] stands in an AND relationship with this Gm-input [Gm-output].

See A00277_Illustration.pdf

Applies to: S01810, S01811

A00277_Illustration.pdf

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Application note A00278

OR dependency (V-dependency)
Each input [output] affected by a Vm-input [Vm-output] stands in an OR relationship with this Vm-input [Vm-output].

See A00278_Illustration.pdf below.

Applies to: S01550, S01551

A00278_Illustration.pdf

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Application note A00279

NEGATE dependency (N-dependency)
Each input [output] affected by an Nm-input [Nm-output] stands in an EXLCUSIVE-OR relationship with this Nm-input [Nm-output].

See A00279_Illustration.pdf below.

Applies to: S01552, S01553

A00279_Illustration_EN.pdf A00279_Illustration_FR.pdf

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Application note A00280

INTERCONNECTION dependency (Z-dependency)
INTERCONNECTICIN dependency is used to indicate that an input [output] imposes its internal logic state on one or more other inputs. For an example of use, see symbol S01591 (12-28-13).

The internal logic state of an input [output] affected by a Zm-input [Zm-output] is identical to the internal logic state of its affecting Zm-input [Zm-output] unless modified by additional dependency notation.

See A00280_Illustration.pdf below.

Applies to: S01554, S01555

A00280_Illustration.pdf

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Application note A00281

TRANSMISSION dependency (X-dependency)
TRANSMISSION dependency is used to indicate controlled transmission paths between affected ports (inputs, outputs and/or input-outputs). Unless otherwise indicated, the transmission paths are bidirectional. The TRANSMISSION dependency provides a way of symbolizing simple analogue switches and it enables more complicated devices to be depicted in a concise manner.

See A00281_Illustration_EN.pdf

Applies to: S01556, S01557, S01777, S01804, S01805

A00281_Illustration_EN.pdf A00281_Illustration_FR.pdf

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Application note A00282

CONTROL dependency (C-dependency)
CONTROL dependency shall be used only for sequential elements and may imply more than a simple AND relationship. It identifies an input that produces action, for example the dock of an edge-triggered bistable circuit or the data enable of a level-operated transparent latch.

See A00282_Illustration_EN.pdf below.

For comparison of C-, EN-, and M-effects on inputs, See A00286.

Applies to: S01558, S01559

A00282_Illustration_EN.pdf A00282_Illustration_FR.pdf

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Application note A00283

SET and RESET dependency (S- and R-dependency)
SET and RESET dependencies are used if it is necessary to specify the effect of the combination R = S = 1 on a bistable element. These dependencies should not be used if such specification is not necessary. For an example of application, see the remark with symbol S01665 (12-42-07).

Affecting S- and R-inputs can affect only outputs.

See A00283_Illustration_EN.pdf

Applies to: S01560, S01561, S01665

A00283_Illustration_EN.pdf A00283_Illustration_FR.pdf

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Application note A00284

ENABLE dependency (EN-dependency)
ENABLE dependency is used to indicate an ENABLE input that does not necessarily affect all outputs of an element. It can also be used if one or more inputs of an element are affected.

See A00284_Illustration_EN.pdf

For comparison of C-, EN-, and M-effects on inputs, see A00286.

Applies to: S01562

A00284_Illustration_EN.pdf A00284_Illustration_FR.pdf

Application note A00285

MODE dependency (M-dependency)
1 MODE dependency is used to indicate that the effects of particular inputs and outputs of an element depend on the mode in which the element is operating.

For comparison of C-, EN-, and M-effects on inputs, see A00286.

The use of the bit-grouping symbol and the solidus is explained in A00288 and A00289, respectively.

- M-dependency affecting inputs:

For illustrations, see A00285_Illustration_a.pdf below.

Mode 0 (b = 0, c = 0): the outputs remain at their existing states as none of the inputs has an effect.

Mode 1 (b = 1, c = 0): parallel loading takes place through inputs e and f.

Mode 2 (b = 0, c = 1): shifting down and serial loading through input d take place.

Mode 3 (b = 1, c = 1): counting up by increment of 1 per clock pulse takes place (input a).

- Determining the function of an output:

For illustrations, see A00285_Illustration_b.pdf below.

If input a stands at its interna1 1-state establishing mode 1 output b will stand at its internal 1-state if the content of the register equals 15. If input a stands at its internal 0-state, output b will stand at its interna1 1-state if the content of the register equals 0.

For explanation, see also A00289.

- Modifying dependent relationships of outputs:

For illustrations, see A00285_Illustration_c.pdf below.

At output e the label set causing negation (if c = 1) is effective in modes 2 and 3 only. In modes 0 and 1, this output stands at its normally defined state as if it had no labels.

At output f the label set has effect if the mode is not 0, so output f is negated (if c = 1) in modes 1, 2 and 3. In mode 0 the label set has no effect so the output stands at its normally defined state. In this example 0 (with macron),4 is equivalent to (1/2/3) 4.

At output g there are two label sets. The first set, causing negation (if c = 1), is effective only in mode 2. The second set, subjecting g to AND dependency on d, has effect only in mode 3.

Note that in mode 0 none of the dependency relationships has any effect on the outputs, so e, f and g will all stand at the same state.

2 In complex elements with a large number of different modes, application of the convention for MODE dependency may lead to a very extended labelling.

In such cases, the inputs and outputs affected by any affecting Mm-input are simply labelled with the letter M, but then the diagram containing the symbol must also contain either a table in which the effects of these inputs in the different modes are clearly explained or a statement as to where such a table is to be found. If no confusion is likely, these letters M may be omitted.

Applies to: S01563, S01564, S01653, S01654


A00285_Illustration_a.pdf

A00285_Illustration_b.pdf

A00285_Illustration_c.pdf

Application note A00286

Comparison of C-, EN-, and M-effects on Inputs
With regard to affected inputs, Cm-, ENm,- and Mm-inputs all have the same effect. However, their intended applications are different:

- Cm should be used to identify an input that produces action;

- ENm should be used to identify an input that produces a single preparatory effect;

- Mm should be used to identify one or more inputs that singly or together produce alternative preparatory effects.

Applies to: S01558, S01559, S01562, S01563, S01564

Application note A00287

ADDRESS dependency (A-dependency)

1 ADDRESS dependency provides a clear representation of those elements, particularly memories, which use address control inputs to select specified sections of a multidimensional array. ADDRESS dependency allows a symbolic representation of only a single general case of the sections of the array, rather than requiring a symbolic presentation of the entire array. An input of the array shown at a particular element of this general section is common to the corresponding elements of all sections of the array. An output of the array shown at a particular element of this general section is the result of the OR function of the outputs of the corresponding elements of the selected sections. If any function other than OR is performed, this should be indicated by adding the appropriate qualifying symbol below the general qualifying symbol, for an example, see A00287_example.pdf below.

If the label of an output of the array shown at a particular element of this general section indicates that this output is an open-circuit output or a 3-state output, then this indication refers to the output of the array and not to those of the sections of the array.

Inputs which are not affected by any affecting ADDRESS input have their normally defined effect on all sections of the array, whereas inputs affected by an ADDRESS input have their normally defined effect only on the section selected by that ADDRESS input.

An affecting ADDRESS input is labelled with the letter A followed by an identifying number which corresponds to the address of the particular section of the array selected by this input.

Within the general section presented by the symbol, inputs and outputs affected by an Am-input are labelled with the letter A, which stands for the identifying numbers, i.e. the addresses, of the particular sections. This letter A is subject to the rules of dependency notation concerning identifying numbers associated with affected inputs and outputs.

If an output affected by an Am-input also has other labels, then the labels preceding the letter A affect the output of the section selected by this Am-input and the labels placed behind the letter A affect the output of the array, that is, after the application of the OR function (or the indicated function) to the corresponding outputs of the selected sections of the array.

For an illustration, see A00287_Illustration_a.pdf below.

2 The identifying numbers of affecting ADDRESS inputs correspond to the addresses of the sections selected by these inputs. They need not necessarily differ from those of other affecting dependency-inputs (for example, G, V, N, ...), because in the general section presented by the symbol they are replaced by the letter A.

If there are several sets of affecting Am-inputs for the purpose of independent and possibly simultaneous access to sections of the array, then the letter A is modified to 1A, 2A, ... Because they have access to the same sections of the array, these sets of Am-inputs may have the same identifying numbers.

Two affecting ADDRESS inputs having the same identifying number stand in no relation to each other nor to any affecting dependency-input (for example, Gm, Vm, Nm, ...) having the same

identifying number.

For illustrations, see A00287_Illustration_b_EN.pdf below.

The use of the bit-grouping symbol is explained in A00288.

Applies to: S01565

A00287_Illustration_a.pdf A00287_Illustration_b_EN.pdf A00287_Illustration_b_FR.pdf A00287_example.pdf

Application note A00288

Special techniques used in dependency notation
1 Use of a coder to produce affecting Inputs

1.1 If the effect of a set of affecting inputs is produced by decoding the signals on these inputs, the symbol for a coder (S01610 (12-32-01)) may be used as an embedded symbol.

For an illustration, see A00288_Illustration_a.pdf below.

1.2 If all affecting inputs produced by a coder are of the same type and if their identifying numbers correspond with the numbers shown at the outputs of the coder, the Y in the qualifying symbol X/Y may be replaced by the letter denoting the type of dependency and the indications of the affecting inputs should then be omitted.

For an illustration, see A00288_Illustration_b.pdf below.

2 Use of bit grouping to produce affecting Inputs
If all affecting inputs produced by a coder are of the same type and have consecutive identifying numbers (not necessarily corresponding with the numbers that would have been shown at the outputs of the coder), the bit grouping symbol (symbol S01516 (12-09-24)) can be used. In this case, the asterisk shall be replaced by the letter denoting the type of dependency followed by m1/m2. The m1 shall be replaced by the smallest identifying number and the m2 shall be replaced by the largest. The range of the identifying numbers (m2 - m1 + 1) must equal the number of outputs of the coder.

To reduce the space required for showing numbers that are powers of 2 and have more than 3 digits, m1 and m2 may be replaced by a 1-to-3-digit number that is a power of 2 followed by k indicating multiplication factor of 1024 or by M indicating a multiplication factor of 1 048 576, whichever applies.

For example, 1 024 may be replaced by 1k, 65 536 by 64k, and 1 048 576 by 1 M.

For illustrations, see A00288_Illustration_c.pdf below.

3 Designation of labelled inputs having inherent storage

It often occurs that a labelled input other than a D-input has inherent storage. Such an input may be labelled mD,*, in which:

- m shall be replaced by the identifying numbers of the inputs that affect the storage operation;

- the asterisk shall be replaced by the symbol denoting the function of the stored input. If that symbol is a number, the comma following the D may be omitted.

For illustrations, see A00288_Illustration_d.pdf below.

See also A00289.

Applies to: S01550, S01551, S01552, S01553, S01554, S01555, S01556, S01557, S01559, S01560, S01561, S01562, S01563, S01564, S01565, S01810, S01811


A00288_Illustration_a.pdf

A00288_Illustration_b.pdf

A00288_Illustration_c.pdf

A00288_Illustration_d.pdf

Application note A00289

The ordering of labels associated with inputs and with outputs
1 Order of input labels

1.1 If one or more of the symbols S01540 (12-09-47), S01498 (12-09-08B) and S01492 (12-09-02) are required at an input, they shall be shown, as needed, in that order (S01540 (12-09-47), S01498 (12-09-08B), S01492 (12-09-02)) reading from the input towards the interior of the element. These symbols shall be drawn between the input line(s) and any input-qualifying symbol, for example, dependency notation.

For an illustration, see A00289_Illustration_a_EN.pdf below.

1.2 If an input exerting a single function is affected by other inputs, the qualifying symbol for that function shall be preceded by the identifying numbers of the affecting inputs. The left-to-right order of these identifying numbers shall be the order in which the effects or modifications must be applied. The affected input exerts no function if the logic state of any one of the affecting inputs or outputs, considered separately, would cause the affected input to have no effect, regardless of the logic states of other affecting inputs.

For an illustration, see A00289_Illustration_b_EN.pdf below.

1.3 If an input exerts more than one function or has more than one set of labels of affecting inputs, the indications of these functions or these sets may be shown on different input lines, which must be connected together outside the outline (see examples S01619 (12-33-07), S01698 (12-49-11), S01702 (12-49-15)). However, there are cases in which this method of presentation is not advantageous. In those cases, the input may be shown once with the different sets of labels separated by solidi. No meaning is attached to the order of these sets of labels. If one of the functional effects of an input is that of an unlabelled input of the element, a solidus shall precede the first set of labels shown (see, for example, symbol S01700 (12-49-13)).

For illustrations, see A00289_Illustration_c.pdf below.

1.4 If all inputs of a combinative element are disabled (caused to have no effect on the function of the element), the internal logic states of the outputs of the element are not specified by the symbol. If all inputs of a sequential element are disabled (caused to have no effect on the function of the element), the content of this element is not changed and the outputs remain at their existing internal logic states.

1.5 Labels may be factored using algebraic techniques.

For illustrations, see A00289_Illustration_d.pdf below.

1.6 In general, dependency notation shown at the inputs to the left of the bit-grouping symbol applies to the inputs of the coder, and dependency notation shown after the bit-grouping symbol applies to the inputs fed by the outputs of the coder. However, for inputs with inherent storage, see 1.7.

For illustrations, see A00289_Illustration_e.pdf below.

1.7 Any combinatorial logic element together with a storage register on all its inputs is functionally equivalent to that same element together with a storage register on its outputs.

For an illustration, see A00289_Illustration_f.pdf below.

Thus element A of the illustration is functionally equivalent to element B.
Because of this, inherent storage at an input may be indicated by placing the "mD", as defined in clause 3 of A00288, either between the bit-grouping symbol and the symbol denoting the function of the stored input, or directly at the inputs.

For an illustration, see A00289_Illustration_g.pdf below.

2 Order of output labels

2.1 If an output has a number of different labels, regardless of whether they are identifying numbers of affecting inputs or outputs or not, these labels shall be shown in the following order:

- if the postponed output symbol (S01491 (12-09-01)) has to be shown, this comes first, if necessary preceded by the indications of the inputs to which it must be applied;

- followed by the qualifying symbols determining or modifying the internal logic state of the output, such that the left-to-right order of these labels correspond to the order in which their effects must be applied. For application, see symbol S01702 (12-49-15);

- followed by the label indicating the effect of the output on inputs and other outputs of the element.

Symbols for open-circuit, passive-pull-down, passive-pull-up and 3-state outputs, and outputs with special amplification (drive capability) shall each be drawn adjacent to their output lines as described with these symbols (S01493 (12-09-03) ... S01499 (12-09-08A)).

If an output needs several different sets of labels which can be considered to stand in an internal OR relationship (for example, depending on the mode of action), these sets may be shown on different output lines which must be connected together outside the outline. However, there are cases in which this method of presentation is not advantageous. In those cases the output may be shown once with the different sets of labels separated by solidi.

Two adjacent identifying numbers of affecting inputs in a set of labels not already separated by a non-numeric character shall be separated by a comma (see A00276).

For illustrations, see A00289_Illustration_h.pdf below.

2.2 Labels may also be factored using algebraic techniques.

For illustrations, see A00289_Illustration_j.pdf below.

2.3 If the bit grouping symbol for outputs (symbol S01517 (12-09-25)) is used and the sets of labels of all outputs grouped together differ only in the indications of the weights, the sets of labels, including the symbols for open-circuit, passive-pull-down, passive-pull-up and 3-state outputs, and outputs with special amplification (drive capability) (symbols S01493 (12-09-03) ... S01499 (12-09-08A)) but excluding the indications of the weights, may be shown only once between the symbol replacing the asterisk and the grouping symbol, provided that, except for the grouping symbol and the weights, the proper order of the labels is maintained.

For an illustration, see A00289_Illustration_k_EN.pdf below.

Applies to: S01493, S01550, S01551, S01552, S01553, S01554, S01555, S01556, S01557, S01559, S01560, S01561, S01562, S01563, S01564, S01565, S01766, S01767, S01773, S01774, S01775, S01777, S01810, S01811

A00289_Illustration_a_EN.pdf A00289_Illustration_a_FR.pdf A00289_Illustration_b_EN.pdf A00289_Illustration_b_FR.pdf A00289_Illustration_c.pdf A00289_Illustration_d.pdf A00289_Illustration_e.pdf A00289_Illustration_f.pdf A00289_Illustration_g.pdf A00289_Illustration_h.pdf A00289_Illustration_j.pdf A00289_Illustration_k_EN.pdf A00289_Illustration_k_FR.pdf

Application note A00290

Combinative and sequential elements
General notes

1 All qualifying symbols inside the outline are defined in terms of the internal logic states of the relevant inputs and outputs (see sections 1, 2, and 3 of A00269).

2 In many cases, examples are based on commercial devices, and terminal numbers (for one unspecified package type) have been shown for the assistance of the reader. Where the type number implies the product of a specific manufacturer, this is done to avoid uncertainties caused by functional variations that sometimes occur between devices that have the same generic portion of the type number and are made by different manufacturers.

3 Where the logic polarity indicator has not been used, positive logic convention is assumed.

4 A given element may be symbolized in more than one way depending on the purpose it serves in the system (for example, symbols S01588 (12-28-10) and S01589 (12-28-11)). Also, use is often made of the complementary representation especially of combinative elements to enhance the understanding of the diagram. For example, an OR element is shown by the symbol for an AND but with negated inputs and outputs. In any case, the choice of the symbol should be governed by the relevant application of the element being shown on the diagram (see IEC 61082-1 for detailed information).

Applies to: S01566, S01567, S01568, S01569, S01570, S01571, S01572, S01573, S01574, S01575, S01576, S01577, S01578

Application note A00291

The qualifying symbol for the function of the element indicates the number of inputs which must take on the internal 1-state to cause the outputs to take on their internal 1-states.
Subject to this rule other qualifying symbols may be developed.

Applies to: S01566, S01567, S01569, S01570, S01571, S01572, S01573, S01574, S01575, S01576, S01577, S01578

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Application note A00293

The symbol for amplification (S01457) may be combined with other symbols for functions. The absence of this symbol does not necessarily indicate the absence of special amplification.

Applies to: S01594, S01595, S01596, S01597

Application note A00296

Coders, code converters
1 Relationships between inputs and outputs of coders

1.1 Indication of input and output codes in the general qualifying symbol

This method of indicating code conversion is based on the following rule:

Depending on the input code, the internal logic states of the inputs determine an internal value (or its equivalent). This internal value is reproduced by the internal logic states of the outputs, depending on the output code.

The relationships between the internal logic states of the inputs and the internal value shall be indicated in one of the following ways:

- label the inputs with numbers, in which case the internal value equals the sum of the numbers associated with those inputs that stand at their internal 1-states; or

- replace X by an appropriate designation of the input code and label the inputs with characters that refer to this code.

The relationships between the internal value and the internal logic states of the outputs shall be indicated in one of the following ways:

- label each output with a list of numbers representing the internal values that lead to the internal 1-state of that output. These numbers shall be separated by solidi. This method may also be applied when Y is replaced by a letter denoting a type of dependency (see also A00288). If a continuous range of internal values produces the internal 1-state of an output, this can be indicated by two numbers that are inclusively the beginning and the end of the range, with these two numbers separated by three dots, for example, 4 ... 9 = 4/5/6/7/8/9; or

- replace Y by an appropriate indication of the output code and label the outputs with characters that refer to this code.

For illustrations, see A00296_Illustration_a_EN.pdf below.

NOTE - Alternatively, the general qualifying symbol BIN/6 may be used instead of X/Y. See 1.1.1 and 1.1.2.

If X or Y is replaced by an indication of a specific code, further rules apply.
In the following text, the codes are subdivided into three categories:

- summing codes,

- direct-indication codes, and

- identification codes.

1.1.1 Summing Codes

With these codes, like "X", there is an internal numeric value that corresponds to the sum of the weights of the inputs [outputs] that stand at their internal 1-states.

The indication of the relationships between the internal logic states of the inputs [outputs] and the internal value shall be accomplished by replacing X [Y] of the qualifying symbol with an appropriate indication of the input [output] code and by labelling the inputs [outputs] with numbers indicating their individual weights.

The following summing codes are defined:

- BIN Binary code
The number code in which the individual weights are all powers of 2. Inputs [outputs] shall be labelled either with decimal weights or with decimal exponents of the powers of 2.

- BCD 8-4-2-1 Binary-coded decimal
The number code in which each digit in the decimal representation of a number is encoded as a binary number in 4 bits with the relative weights of 8, 4, 2, and 1.

For an example, see A00296_Example_a_EN.pdf below.

Inputs [outputs] shall be labelled with decimal weights, for example 1, 2, 4, 8, 10, 20, etc.

NOTE - For inputs, the behaviour of the element is unspecified by the symbol if the internal value produced by any set of four inputs exceeds 9 (x10^n). For outputs, the behaviour of the element is unspecified by the symbol if the internal value requires more digits than are provided at the outputs.

- X-3 Excess-three code
The BCD code in which the internal value of each 4 inputs [outputs] is 3 (X10^n) less than the sum of those inputs [outputs]. See note to BCD.

For illustrations, see A00296_Illustration_b_EN.pdf below.

For invalid BCD codes, that is, those that would produce an internal value greater than 9, the resulting output states are not specified by this symbol. If the general qualifying symbol were BIN/Y, then the symbol would show that all outputs stand at the internal 0-state for internal values greater than 9.

- 2CMPL Twos complement code
The n-bit number code (xn-1, ..., x0) representing a number y in the range $-2^{k+n-1} \leq y \leq 2^{k+n-1} - 2^k$. (For integers, k = 0. For fixed-point fractions, k is negative.)

The individual weights of x0 through xn-2 are powers of 2(2^k through 2^{k+n-2}). The additional bit (xn-1,) indicates -2^{k+n-1}. The relationship between the values of the individual bits and y can be expressed by

$y = -2^{k+n-1}\, xn-1, + \sum 2^{k+i}\, xi$

A negative [positive] number is represented by 2^k plus the one’s-complement (logic complement) of the corresponding positive [negative] number.

For an example, see A00296_Example_b_EN.pdf below.

Inputs [outputs] shall be labelled either with positive decimal weights or with exponents of the powers of 2 including the highest order (sign) bit.

For an illustration, see A00296_Illustration_c.pdf below.

1.1.2 Direct-indication codes

With these codes, like "Y", the relationship between the internal numeric value and the internal logic state of each input [output] shall be indicated by replacing X [Y] of the qualifying symbol with an appropriate indication of the input [output] code and by labelling each input with a number indicating the internal value produced, or by labelling each output with a list of numbers indicating those internal values that lead to the internal 1-state of that output. These numbers shall be separated by solidi.

If a continuous range of internal values produces the internal 1-state of an output, this may be indicated by two numbers that are inclusively the beginning and the end of the range, with these two numbers separated by three dots, for example:

4 ... 9 = 4/5/6/7/8/9.

The following codes are defined:

- m General code with m states (m shall be replaced by a number)
A code in which m combinations of internai logic states are defined for inputs or possibly for outputs.

- HPRI Highest-priority input code
An input code in which the input with the highest weight takes priority if more than one input stands at its internal 1-state. If no input stands at its internal 7-state, the internal value is zero.

- DEC Decimal code
The code in which 10 inputs [outputs] exist and have the weights 0 through 9.

NOTE - If the input [output] with the weight of zero is omitted, the internal value of zero corresponds to all inputs [outputs] standing at their internal 0-states.

- OCT Octal code
The code in which 8 inputs [outputs] exist and have the weights 0 through 7. See note to DEC.

- HEX Hexadecimal code
The code in which 16 inputs [outputs] exist and have the weights 0 through 15. See note to DEC.
Except for HPRI, if these codes are used for inputs and more than one input stands at its internal l-state, the behaviour of the element is not specified by the symbol.

For illustrations, see A00296_Illustration_d_EN.pdf below.

1.1.3 Identification codes

With these codes there is no internal numeric value. Instead, each input [output] pattern identifies a symbol (for example the letter "E") or other object according to a named coding scheme. The equivalent of the internal numeric value is the symbol or object identified by the input [output] pattern. Examples of these codes are ISO Latin-1, ASCII, EBCDIC, and 7-segment. The relationship between the internal symbol or object and the internal logic state of each input [output] shall be indicated by

replacing X [Y] of the qualifying symbol with an appropriate indication of the input [output] code and by labelling each input [output] with an appropriate indication of its bit position within the code.

If a code identifying a symbol is used in a coder together with a code that is associated with internal numeric values, the conversion to or from these codes is based on the symbolic decimal representation of those internal numeric values. If there is no symbolic representation for a value in the code, the behaviour of the element for that value is unspecified by the symbol for the element.

For an illustration, see A00296_Illustration_e.pdf below.

1.2 Use of coding tables

As an alternative to the use of the previously defined codes and labelling, the general qualifying symbol X/Y (or another, more appropriate, qualifying symbol) may be used together with an appropriate reference to a table (as, for example, in symbol S01621 (12-33-09)) in which the relationship between the inputs and outputs is indicated. The correspondence between inputs [outputs] and the columns in the table may be given in any convenient way, for example by using terminal designations. In this case, any internal labelling that might be confused with that arising in one of the other methods shall be avoided.

For an illustration, see A00296_Illustration_f_EN.pdf below.

2 Replacement of X and Y by indications other than designations of the input code or the output code

2.1 The internal value of a coder may also be produced by other means, for example by a counter whose content is the internal value, by a multi-position switch whose position produces the internal value, etc. In such cases, the X shall be replaced by an appropriate indication of the means involved.

For illustrations, see A00296_Illustration_g_EN.pdf below.

2.2 The internal value of a coder may also be represented by a visual display or be regarded as a value to become the content of an element or as a value on which a mathematical operation is performed. In such cases, the Y shall be replaced by the general qualifying symbol of the function involved.

For an illustration, see A00296_Illustration_h_EN.pdf below.

2.3 It may be necessary, especially if an internal register is involved, to specify both an input code and an output code in addition to the type of register found in between the inputs and outputs, for example, "BCD/CTRDIV1OO/BIN".

For an illustration, see A00296_Illustration_j_EN.pdf below.

Applies to: S01610, S01611, S01791

A00296_Example_a_EN.pdf A00296_Example_a_FR.pdf A00296_Example_b_EN.pdf A00296_Example_b_FR.pdf A00296_Illustration_b_EN.pdf A00296_Illustration_b_FR.pdf

A00296_Illustration_c.pdf A00296_Illustration_d_EN.pdf A00296_Illustration_d_FR.pdf A00296_Illustration_e.pdf A00296_Illustration_f_EN.pdf A00296_Illustration_f_FR.pdf






A00296_Illustration_g_EN.pdf A00296_Illustration_g_FR.pdf A00296_Illustration_h_EN.pdf A00296_Illustration_h_FR.pdf A00296_Illustration_j_EN.pdf A00296_Illustration_a_EN.pdf


A00296_Illustration_a_FR.pdf A00296_Illustration_j_FR.pdf

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Application note A00297

For the Font table T1, see A00297_Table_EN.pdf below.

Applies to: S01618

A00297_Table_EN.pdf A00297_Table_FR.pdf

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Application note A00301

A simple single-bit full adder may alternatively be depicted by the combination of the symbol for the ODD element (modulo 2 adder) and the logic threshold element as shown in A00301_Example.pdf below.

Applies to: S01643

A00301_Example.pdf

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Application note A00303

Binary delay elements
For an illustration, see A00303_illustration.pdf below.

Applies to: S01655, S01656

A00303_illustration.pdf

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Application note A00304

Bistable elements
1 The symbol for a bistable element does not contain a general qualifying symbol for the function, the latter being indicated by qualifying symbols associated with the inputs and outputs.

2 For bistable elements controlled by Cm-inputs (symbol S01558 (12-18-01)), it is necessary to distinguish between four types, that is: latches, edge-triggered bistables, pulse-triggered bistables, and data-lock-out bistables. In accordance with the descriptions of the symbols for a dynamic input (S01472 (12-07-07)) and for a postponed output (S01491 (12-09-01)), see A00304_Example.pdf below.

For edge-triggered, pulse-triggered and data-lock-out bistables, the inputs affected by the Cm-input are assumed to be stable during the period that the Cm-input stands at its internal 1-state. If they do change their states during this period, the function of the element is not specified by the symbol.

The same symbology is used for more complex elements such as shift registers and counters to indicate whether they are of the edge-triggered, the pulse-triggered or the data-lock-out type. For elements of the pulse- riggered or the data-lock-out type, if reference is made to the content of the element (for example, by a CT-output), this content shall be considered as being the content after the application of the postponed-output symbol.

Applies to: S01491, S01659, S01660, S01661, S01662, S01663, S01664, S01665, S01666, S01667, S01668, S01669, S01670, S01671, S01672, S01673

A00304_Example_EN.pdf A00304_Example_FR.pdf

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Application note A00305

For an example, see A00305_Example.pdf.

Applies to: S01665, S01735, S01737

A00305_Example.pdf

Application note A00306

In some applications (for example fail-safe systems) it is necessary to indicate the internal logic state of the otputs of a bistable element at the moment the supply is switched on. The symbols associated to this application note show how this maybe done. The qualifying symbols may be applied to other types of bistable elements.

Applies to: S01671, S01672, S01673

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Application note A00308

For the function table, see A00308_Table_EN.pdf below.
NOTE -The second and third line of the function table each indicate the logic levels the outputs will take on after the completion of any output pulse started before the relevant input took on its indicated level.

Applies to: S01676

A00308_Table_EN.pdf A00308_Table_FR.pdf

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Application note A00309

For an explanatory diagram, see A00309_diagram_EN.pdf below.

Applies to: S01679

A00309_diagram_EN.pdf A00309_diagram_FR.pdf

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Application note A00312

The use of the bar can be avoided by replacement as shown in A00312_graphic_EN.pdf below.

Applies to: S01691

A00312_graphic_EN.pdf A00312_graphic_FR.pdf

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Application note A00315

Display elements
1 It should be recognized that the visual (optical) signals produced by display elements, for example LED or LCD, bar or dot matrices, are external outputs of those elements.

2 For the representation of complex-function display elements, see A00317.

For illustrations, see A00315_Illustration_EN.pdf below.

Applies to: S01723

A00315_Illustration_EN.pdf A00315_Illustration_FR.pdf

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Application note A00316

For the detail [T1] Segment identification, see A00316_Graphic.pdf.

Applies to: S01729

A00316_Graphic.pdf

Application note A00317

Complex-function elements
The use of the qualifying symbols and dependency notation as described in A00269 through A00291, A00293, A00296, A00303, A00304, A00306, A00315, A00338, A00348 and relating graphical symbols may become impracticable for more complex circuit assemblies such as large-scale and very-large-scale integrated circuits. In these cases, the following techniques may be used.

1 General

All of the above-mentioned rules and concepts may be employed. However, dependency notation may be used only if no confusion with other labelling is likely.

2 Input and output designation

Inside the symbol outline, all inputs and outputs should be designated with the terminal names appearing on the selected data sheet or other documentation referenced in the description of symbol S01731 (12-54-01). This data sheet or other documentation should preferably be one that uses terminal names from a terminal-naming standard. Further abbreviation of these names should be considered only if these names are inconveniently long. For clarity, terminal names may be expanded or supplemented.

If labels defined in A00272 through A00291, A00293, A00296, A00303, A00304, A00306, A00315, A00338, A00348 and A00269 are used on the data sheet with a meaning other than that defined in those chapters, such labels shall be expanded to prevent confusion (for example DBUS instead of D).

In cases where the manufacturer's labelling prevents the use of the bit-grouping symbol for a clear representation of a bus, these labels may be modified provided correspondence with the data sheet is still possible.

3 Negated terminal names

Negated terminal names may be converted to the un-negated form inside the symbol by using the negation or polarity symbols, depending upon the convention in force. If an input or output serves two functions that are activated at opposite polarities, a branch on the connecting line may be used to permit two separate labels to be shown, thus avoiding a negation bar.

For an illustration, see A00317_Illustration_a_EN.pdf below.

4 In-line negation indication

If only an in-line notation can be used, the symbol ¬ (symbol 11-2.3 of ISO 31-11) shall be used instead of the negation bar defined in section 2 of A00276.

If this symbol is immediately followed by an identifying number in the sense of dependency notation, it applies to that identifying number only.

If this symbol is not immediately followed by an identifying number in the sense of dependency notation, the negation applies to the string to the right of the symbol up to the first of the following:

- an unmatched closing parenthesis, or

- a solidus that is itself not enclosed within a matching set of parentheses to the right of the symbol, or

- the end of the string.

For illustrations, see A00317_Illustration_b.pdf below.

5 Functional grouping

The connecting lines should be functionally grouped and, where appropriate, be partitioned into control and data lines. The control lines may appear on the "control block outline" for which the common control block outline as described in A00270 is used.

6 Long character strings

Long character strings associated with input or output lines may be narrowed (at the expense of height) by inclusion in an open box as shown A00317_Illustration_c_EN.pdf below. The box shall open away from the input or output line. The broken character string shall be justified flush against the closed side, taking into account embedded spaces. To avoid ambiguity as to the continuity of a negation bar, multiple characters under a single bar shall not be split. Strings should not be broken in such a way that readability is impaired or an intended space is lost.

7 Consecutive labels and terminal designations If both the internal labels and the (external) terminal designations are consecutive, then grouping of inputs [outputs] may be simplified by showing only the first and last connecting lines and their respective labels, the connecting lines being separated by dots or short strokes. Dots or short strokes may also be shown inside the symbol outline.

For an illustration, see A00317_Illustration_d.pdf below.

8 Function tables and truth tables When tables are used to provide additional information about the behaviour of the circuit, the table entries should refer to logic levels or to external logic states.

If the table entries refer to external logic states on a theoretical logic diagram or when using a single logic convention, then, in the table, any label derived from one appearing inside the symbol at an input or output bearing a negation symbol must be modified by adding (or removing) a negation bar. All other labels should appear on the table without modification.

For an example of use, see symbol S001735 (12-56-02).

9 Internal diagrams

To depict the functional behavior of a complex- unction element, a diagram inside the outline of a symbol (referred to as an internal diagram) may be used. In this case, the following rules shall be observed:

- the negation or polarity indicator shall be shown at the symbol outline at those inputs [outputs] to which it applies to indicate the relationship between the internal logic state of the input [output] and its external logic state or logic level;

- by definition, logic States, and not logic levels, exist within the outline of a symbol. Therefore the symbol for logic polarity cannot be used on an internal diagram, and the symbol for logic negation shall be applied where appropriate;

- input and output labels shall be shown inside and adjacent to the symbol outline and/or inside and adjacent to the outlines of the symbols appearing on the internal diagram. Labels containing identifying numbers in the sense of dependency notation shall only be shown inside the outlines of the internal symbols to which they apply. When labels are repeated after the application of logic negation, they shall be modified by adding (or removing) a negation bar;
- connections solely between elements of the internal diagram need not be labelled.

For illustrations, see A00317_Illustration_e_EN.pdf below.

Applies to: S01731, S01734, S01735, S01736, S01737, S01738, S01739, S01740, S01741, S01742, S01743, S01744

A00317_Illustration_a_EN.pdf A00317_Illustration_a_FR.pdf A00317_Illustration_b.pdf A00317_Illustration_c_EN.pdf A00317_Illustration_c_FR.pdf A00317_Illustration_d.pdf

A00317_Illustration_e_EN.pdf A00317_Illustration_e_FR.pdf

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Application note A00318

Bus indicators and data path representation
1 Bus indicators

In many cases, the use of a symbol for a bus can clarify the function of a complex element.

For illustrations, see A00318_Illustration_a.pdf below.

For the correspondence between the sequence of terminal designations and the sequence of bit numbers, the order of sequence of the terminal designations and the bit numbers shall be such that a left-to-right order corresponds to a top-to-bottom order.

2 Data path representation

The technique used for bus indicators may be extended to represent data paths (buses) on an internal diagram as A00318_Illustration_b_EN.pdf below.

Applies to: S01732, S01733

A00318_Illustration_a.pdf A00318_Illustration_b_EN.pdf A00318_Illustration_b_FR.pdf

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Application note A00319

See A00319_table.pdf.

Applies to: S01747

A00319_table.pdf

Application note A00321

The symbol ∩ (S00216) and # (S00217) shall be used when it is necessary to distinguish between analogue and digital signals. They may also be added to a general qualifying symbol or placed adjacent to symbols for internal connections (S01475, S01479 and S01481) if confusion is likely regarding whether the function or signal is digital or analogue.

Applies to: S01748, S01749, S01750, S01751, S01752, S01768, S01769, S01770, S01771, S01772, S01773, S01774, S01775, S01776, S01777

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Application note A00322

Any necessary supplementary information may be added to the symbol, provided no confusion is likely.

Applies to: S01753, S01754, S01755, S01756, S01757, S01759, S01760, S01761, S01762, S01763, S01764, S01765, S01766, S01767, S01768, S01769, S01770, S01771, S01772

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Application note A00323

Elements performing mathematical functions
For illustrations, see A00323_Illustration_EN.pdf below.

Applies to: S01778

A00323_Illustration_EN.pdf A00323_Illustration_FR.pdf

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Application note A00325

Amplifiers
For illustrations, see A00325_Illustration_EN.pdf below.

Applies to: S01781


A00325_Illustration_EN.pdf 
A00325_Illustration_FR.pdf

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Application note A00327

Converters
For illustrations, see A00327_Illustration_EN.pdf below.

Applies to: S01791

A00327_Illustration_EN.pdf A00327_Illustration_FR.pdf

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Application note A00328

For an illustration, see A00328_Illustration.pdf below.

Applies to: S01795

A00328_Illustration.pdf

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Application note A00330

For an illustration, see A00330_Illustration.pdf below.

Applies to: S01798

A00330_Illustration.pdf

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Application note A00335

If there are no other inputs with an overriding effect, the transition at the output takes place when the input changes
- in a diagram using the symbol for logic negation as A00355_a_EN.pdf;

- in a diagram using the symbol for logic polarity as A00355_b_EN.pdf.

Applies to: S01491

A00335_a_EN.pdf A00335_b_EN.pdf A00335_a_FR.pdf A00335_b_FR.pdf

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Application note A00336

For an illustration, see A00336_Illustration_EN.pdf.

Applies to: S01492, S01609

A00336_Illustration_EN.pdf A00336_Illustration_FR.pdf

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Application note A00337

For an illustration to S01503 (12-09-11), see A00337_Illustration.pdf.

Applies to: S01503

A00337_Illustration.pdf

Application note A00338

The description to the symbol may give the reader the impression that this is a dynamic input. This is not always the case, as it must be remembered that the internal logic state or level may possibly be modified by the effects of other inputs (for example Cm-inputs). If inputs represented by symbols S01505 to S01514 have a dynamic character, symbol S01472 should be used in addition. See, for example symbol S01683.

Applies to: S01505, S01506, S01507, S01508, S01509, S01510, S01511, S01512, S01513, S01514

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Application note A00339

For an illustration to S01516 (12-09-24) and S01517 (12-09-25), see A00339_Illustration.pdf. See also examples S01645 (12-39-02), S01646 (12-39-03), S01648 (12-39-05), S01649 (12-39-06), S01650 (12-39-07), S01651 (12-39-08), S01652 (12-39-09), S01653 (12-39-10) and S01654 (12-39-11).

Applies to: S01516, S01517

A00339_Illustration.pdf

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Application note A00340

For an illustration to S01518 (12-09-25A), see A00340_Illustration_EN.pdf.

Applies to: S01518


A00340_Illustration_FR.pdf

A00340_Illustration_Rev 1_EN.pdf

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Application note A00341

1 The arrowheads are optional.
2 The symbol represents an internal transmission gate used in many integrated circuits such as CD 4013B and is equivalent to A00341_Illustration.pdf below.

Applies to: S01605

A00341_Illustration.pdf

IEC 60617 database snapshot created on 2024-06-04

Application note A00343

For an example, see A00343_Illustration_EN.pdf below.

Applies to: S01621

A00343_Illustration_FR.pdf A00343_illustration_EN.pdf

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Application note A00344

For an explanatory diagram, see A00344_diagram_EN.pdf below.

Applies to: S01680

A00344_diagram_EN.pdf A00344_diagram_FR.pdf

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Application note A00345

For an explanatory diagram, see A00345_diagram_EN.pdf below.

Applies to: S01681

A00345_diagram_EN.pdf A00345_diagram_FR.pdf

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Application note A00346

For an explanatory diagram, see A00346_diagram_EN.pdf below.

Applies to: S01682

A00346_diagram_EN.pdf A00346_diagram_FR.pdf

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Application note A00347

For the illustration of segment identification, see A00347_Graphic_EN.pdf.

Applies to: S01700

A00347_Graphic_EN.pdf A00347_Graphic_FR.pdf

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Application note A00348

Symbols in accordance with the superseded IEC 117-15 (60117-15) Recommended graphical symbols, Part 15: Binary Logic Elements, will be required for a prolonged changeover period but should be progressively superseded by the symbols in this standard. Although non-preferred, the use of other binary logic symbols recognized by official national standards, that is distinctive shapes in place of symbols S01566, S01567, S01574, S01575, S01576, S01577, S01579, S01580 and S01582 shall not be considered to be in contradiction to this standard. Usage of these other symbols in combination to form complex symbols (for example, use as embedded symbols) is discouraged.

Applies to: S01566, S01567, S01574, S01575, S01576, S01577, S01579, S01582

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Application note A00349

For an example of an instrument multi-position selector switch used in a voltage measuring circuit, see the attached file A00349_illustration.pdf

Applies to: S01844

A00349_illustration.pdf

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Application note A00350

For an example of an instrument multi-position selector switch used in a current measuring circuit, see attached file A00350_illustration.pdf

Applies to: S01845

A00350_illustration.pdf

Application note A00351

The following symbols shall be oriented as described or shown within this standard with respect to the inputs, outputs and outlines of the elements in which they appear. That is, these symbols, together with any associated terminal lines, shall be mirrored when the direction of signal flow is reversed:
S01239 (10-15-01) Amplifier, general symbol
S01466 (12-07-01) Logic negation, shown at an input
S01467 (12-07-02) Logic negation, output
S01468 (12-07-03) Polarity indicator, input
S01469 (12-07-04) Polarity indicator, output
S01470 (12-07-05) Polarity indicator, input, right to the left
S01471 (12-07-06) Polarity indicator, output, right to the left
S01472 (12-07-07) Dynamic input
S01473 (12-07-08) Dynamic input with logic negation
S01474 (12-07-09) Dynamic input with polarity indicator
S01475 (12-08-01) Internal connection
S01477 (12-08-03) Internal connection with dynamic character
S01478 (12-08-04) Internal connection with negation and dynamic character
S01479 (12-08-05) Internal input (left hand side)
S01480 (12-08-05A) Internal input (right-hand side)
S01481 (12-08-06) Internal output (right-hand side)
S01482 (12-08-07) Internal output (left-hand side)
S01499 (12-09-08A) Output with special amplification
S01500 (12-09-08B) Input with special amplification
S01516 (12-09-24) Bit grouping for multibit input
S01517 (12-09-25) Bit grouping for multibit output
S01540 (12-09-47) Line grouping at the input side
S01541 (12-09-48) Line grouping at the output side

Applies to: S01239, S01466, S01467, S01468, S01469, S01470, S01471, S01472, S01473, S01474, S01475, S01477, S01478, S01479, S01480, S01481, S01482, S01499, S01500, S01516, S01517, S01540, S01541

Application note A00352

1 Scope
IEC 60617 contains graphical symbols that have been developed to represent functions operating on and/or producing analogue quantities. They are intended also to represent physical devices or combinations of physical devices capable of carrying out these functions.

The symbols have been prepared with a view to electrical applications, but many can also be applied to non-electrical devices, for example pneumatic, hydraulic or mechanical.

2 General notes

2.1 Construction and combination of outlines, labels and dependency notation should follow the applicable general rules of A00269 with the understanding that analogue connections carry a continuous range of signal levels rather than two logic states. Provided the direction of signal flow is clear or properly indicated, inputs may be shown on the right and outputs may be shown on the left if it aids layout of the diagram or better conveys the structure of the device.

2.2 In some figures, lower-case letters that are not part of the symbols have been shown outside the outline just to identify the inputs and outputs as referenced in the description.

2.3 Weighting factors applied to the input signals are each indicated by a sign indicator in combination with a numerical value placed inside the outline of the symbol adjacent to the relevant input.

In this International Standard w1, w2, ... wn, which are understood to include the proper sign, are used to denote the values of the weighting factors. The symbols for sign indication are + and -. If
the weighting factor is + 1 or -1, such as where a simple non-inverting or inverting input is shown, the number 1 may be omitted.

3.4 In IEC 60027, letter symbols for quantities are shown in italic (inclined) type. Upright lettering is allowed and normally used on diagrams. In this International Standard, upright letters are used for all lettering that is intended to be a final part of a symbol or a diagram.

2.5 In IEC 60027, the letters V and v are recommended as reserve symbols for voltage. For new graphical symbols for diagrams standardized letter codes in accordance with ISO/IEC 80000 series and IEC 60027 shall be used.

2.6 In symbols in this International Standard, the comma has been used for the decimal sign, as recommended in IEC 60027.

2.7 In this International Standard, the character "φ" has been used for phase (difference). The "Φ" is considered to be equivalent.

2.8 In many cases, examples are based on commercially available devices. Therefore, type numbers and terminal designations (for one unspecified package type) are shown for the assistance of the reader. Where the type number implies the product of a specific manufacturer,

this is done to avoid uncertainties caused by functional variations that sometimes occur between devices that have the same generic portion of the type number but are made by different manufacturers.

2.9 Some symbols are shown in this International Standard with external connections or external networks. The function indicated by the symbol might be performed only when these external connections or external networks are present.

2.10 In cases where binary inputs or outputs are shown in this International Standard and the logic polarity indicator has not been used, positive logic convention is to be assumed.

2.11 Label grouping (see Clause 6 of A00317) may be employed to group adjacent and associated connecting lines whose labels are partially alike.

Applies to: S01748, S01749, S01750, S01751, S01752, S01753, S01754, S01755, S01756, S01757, S01758, S01759, S01760, S01761, S01762, S01763, S01764, S01765, S01766, S01767, S01768, S01769, S01770, S01771, S01772, S01773, S01774, S01775, S01776, S01777, S01778, S01779, S01780, S01781, S01782, S01783, S01784, S01785, S01786, S01787, S01788, S01789, S01790, S01791, S01792, S01793, S01794, S01795, S01796, S01797, S01798, S01799, S01800, S01801, S01802, S01803, S01804, S01805, S01806

Application note A00353

The inputs and outputs are digital in nature. See also A00321.

Applies to: S01768, S01769, S01770, S01771, S01772, S01773, S01774, S01775, S01776, S01777

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Application note A00354

In accordance with the description of symbol S01492 (12-09-02), symbol S01608 (12-31-01) is equivalent to symbol S01577 (12-27-12) with a bi-threshold input (S01492 (12-09-02)).
For an illustration, see A00354_Illustration.pdf below.

Applies to: S01608

A00354_Illustration.pdf

IEC 60617 database snapshot created on 2024-06-04

Application note A00355

This symbol is not equivalent to and AND gate with hysteresis function applied to each input instance.
For an illustration, see A00355_Illustration.pdf below.

Applies to: S01609

A00355_Illustraton.pdf

Application note A00356

In the examples of complex circuits, the following techniques have been used:
- the type number is shown within the symbol outline to satisfy the requirements of a reference to supporting documentation;

- the indication of the function and the type number are shown on separate lines.

If, on a diagram, other informations lead to the specific data sheet or documentation from which the symbol was derived, this type number may be omitted.

Applies to: S01734, S01735, S01736, S01737, S01738, S01739, S01740, S01741, S01742, S01743, S01744, S01745, S01746, S01747

Application note A00357

The asterisk shall be replaced by one or more following qualifying symbols to indicating the type of the detector:
- S01851 Heat (occurrence of), general symbol see S01882
- S01852 Smoke (occurrence of), general symbol see S01874
- S01853 Flame (occurrence of), general symbol see S01881
- S01854 Motion (occurrence of), general symbol see S01871

Applies to: S01870

Application note A00358

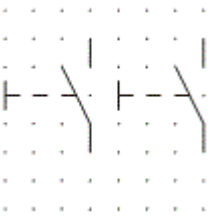
The symbols S00216 Analoque and S00217 Digital shall be applied to symbol S01887 Camera when it is necessary to distinguish camera has analog or digital output signals or connections.

Applies to: S00216, S00217, S01887

IEC 60617 database snapshot created on 2024-06-04

Application note A00359

Graphical symbol S01897 represent device (switch) in installation diagrams which has double actuators. Function of such device is illustrated in figure 1.

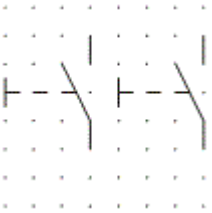


A00241.gif

IEC 60617 database snapshot created on 2024-06-04

Application note A00360

Graphical symbol S01897, for use in installation diagrams, represents a device (switch) which has double actuators. The function of such device is illustrated in attached File:
See Circuit diagram presentation of symbol S01897: A00360 Illustration.



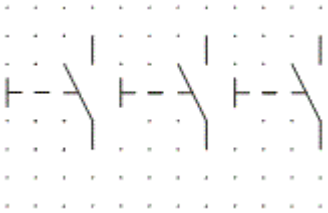
Applies to: S00470, S01905

A00360_Illustration.gif

IEC 60617 database snapshot created on 2024-06-04

Application note A00361

Graphical symbol S01862, for use in installation diagrams, represents a device (switch) which has triple actuators. The function of such device is illustrated in attached File
See Circuit diagram presentation of symbol S01862: A00361 Illustration.



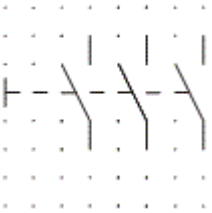
Applies to: S01862, S01906, S01909

A00361 Illustration.gif

IEC 60617 database snapshot created on 2024-06-04

Application note A00362

Graphical symbol S01899, for use in installation diagrams, represents a device (switch) which has one actuator for three contacts. The function of such device is illustrated in attached File See Circuit diagram presentation of symbol S01899: A00362 Illustration



Applies to: S01899

A00362 Illustration.gif

IEC 60617 database snapshot created on 2024-06-04

Application note A00363

Graphical symbol S01901, for use in installation diagrams, represents a device (switch) which has triple actuators. The function of such device is illustrated in attached File
See Circuit diagram presentation of symbol S01901: A00363 Illustration

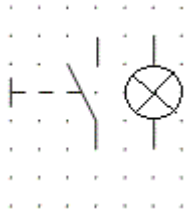
Applies to: S01901

A00363 Illustration.gif

IEC 60617 database snapshot created on 2024-06-04

Application note A00364

Graphical symbol S00467, for use in installation diagrams, represents a device (switch) which has one actuator and one lamp. The function of such device is illustrated in attached File
See Circuit diagram presentation of symbol S00467: A00364 Illustration



Applies to: S00467, S01907

A00364 Illustration.gif

IEC 60617 database snapshot created on 2024-06-04

Application note A00365

Graphical symbol S00469, for use in installation diagrams, represents a device (switch) which has one actuator and two contacts. The function of such device is illustrated in attached File See Circuit diagram presentation of symbol S00469: A00365 Illustration

Applies to: S00469

A00365 Illustration.gif

IEC 60617 database snapshot created on 2024-06-04

Application note A00366

Graphical symbol S00471, for use in installation diagrams, represents a device (switch) which has one actuator operating one swith-over contact. The function of such device is illustrated in attached File
See Circuit diagram presentation of symbol S004471: A00366 Illustration

Applies to: S00471

A00366 Illustration.gif

IEC 60617 database snapshot created on 2024-06-04

Application note A00367

Graphical symbol S00474, for use in installation diagrams, represents a device (switch) which has a single actuator. The function of such device is illustrated in attached File
See Circuit diagram presentation of symbol S004474: A00367 Illustration

Applies to: S00474, S01865

A00367 Illustration.gif

Application note A00368

If appropriate symbols indicating the parameter of the device are not applicable, the asterisk may also be replaced by commonly accepted designations e.g. IEC TR 62711.

Applies to: S00327

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Application note A00369

If appropriate symbols indicating measuring instrument are not found, the asterisk may also be replaced by commonly accepted designations e.g. IEC TR 62711.

Applies to: S00910, S00911, S00912

Application note A00370

The alternative form of representing a switching device for installation purpose is used for indicating the number of contacts operated from individual actuators but assemblied together in one device. The shown number indicates the number of contacts and does not indicate a multiplication of the complete symbol. If a different number of contacts than shown in symbol S01908 or S01909 are used, the number written at the symbol shall be changed to indicate the correct number of contacts.

Applies to: S01908, S01909

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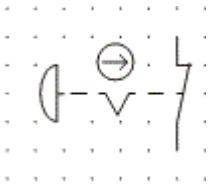
Application note A00371

Graphical symbol S01864, for use in installation diagrams, represents a device (switch) which has an actuator designed for emergancy stop. The function of such device is illustrated in attached File
See Circuit diagram presentation of symbol S01864: A00371 Illustration



Applies to: S01864

A00371 Illustration.gif

IEC 60617 database snapshot created on 2024-06-04

Application note A00372

General symbols S00466 and S01900 have been used to construct graphical symbol presenting different kind of functionalities of switches in installation diagrams.
Following principles have been applied to all graphical symbols for switches to be used in installation diagrams.

General symbol S00466 shall be used as basic symbol to construct graphical symbol presenting single or multi pole On/Off switch with one or more actuators.

General symbol S01900 shall be used as basic symbol to construct graphical symbol presenting single or multi pole two-way (change over) switch with one or more actuators.

Shape of circle in S00466 and S01900 represents device's installation box or housing.

If switch object has more than one actuator then stroke (On/Off or Two-way) representing actuators shall be added to the general symbol (see e.g. S00471 Two-way single pole switch, S01901 Triple two-way single pole switch, S00470 Double single pole switch, S01862 Triple single pole switch).

Number of poles controlled by the actuator(s) shall be presented by using "flag" symbol rotating clockwise at end of "actuator" symbol (see e.g. S00469 Two pole switch, S01899 Three pole switch).

Applies to: S00466, S01900

C00265-A00372_Application_note_for_poles_and_actuators_for_swithes_rev1.doc

IEC 60617 database snapshot created on 2024-06-04

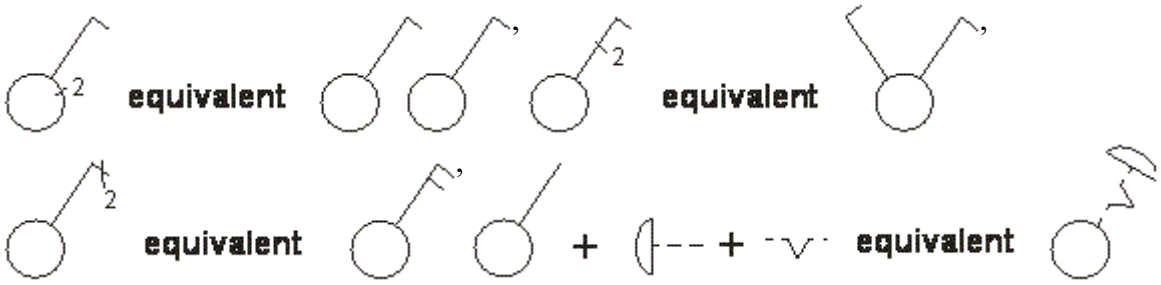
Application note A00373

If IEC 61082-1 clause 7.1.2.3 Simplified presentation is applied to graphical symbols for switches in installation diagrams then following examples (1 to 4) of interpretations should be considered.
EXAMPLE 1
Two single pole switch devices:see figure below

EXAMPLE 2
Double single pole device:see figure below

EXAMPLE 3
Two pole switch:see figure below

EXAMPLE 4
Stand alone emergency switch equipment:see figure below



Applies to: S00466, S00467, S01900

A00373_1.gif A00373_2.gif A00373_3.gif A00373_4.gif

Application note A00374

Graphical symbol S01863 shall be applied to graphical symbol which representing object with wireless connection. Direction of waves should be incoming (see fig.1 below).
Figure 1. Two pole switch (S00469) with wireless connection

Objects which have wireless connection between and when communicating objects have IEC 81346 reference designation then this reference designation adjacent to symbol S01863 show other part of wireless connection (see fig.2). Signal names (see IEC 61175) can be used as part of designations (See Fig. 2 below).

Figure 2. Camera (S01887) with wireless connection to video surveillance centre

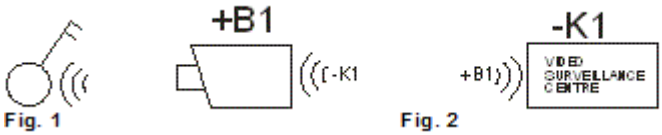


Fig. 1 Fig. 2

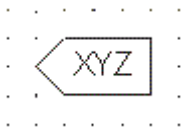
Applies to: S01863

A00374.gif

IEC 60617 database snapshot created on 2024-06-04

Application note A00375

The rectangular part of the symbol can be increased due to the amount of characters needed (see example). However, the angle of the arrowhead shall be kept constant.



Applies to: S01921, S01922

A00375.gif

Application note A00376

Graphical symbol for transceiver should be used with relevant type of connection symbols (e.g. S00001 electrical, S00011 coaxial, S01318 optical, S01863 wireless) see examples on table 1. Example of measuring application (temperature sensor, converter, transceiver) using graphical symbol transceiver as part of diagram see Figure 1

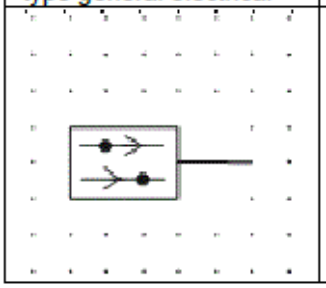
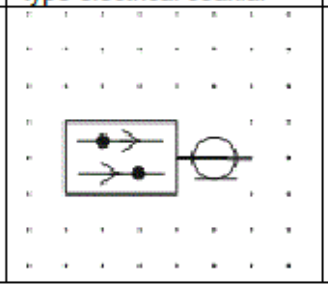
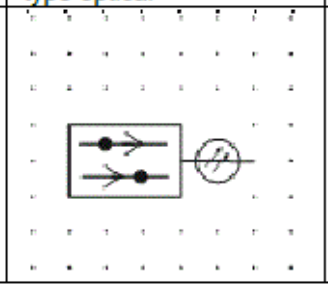
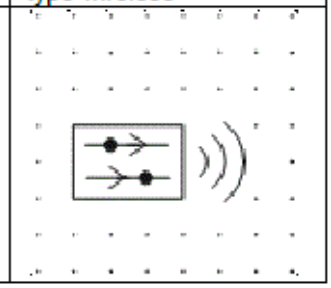
Transceiver, connection type general electrical	Transceiver, connection type electrical coaxial	Transceiver, connection type optical	Transceiver, connection type wireless
			

Table 1. Examples of transceiver symbol with different type of connections.

,

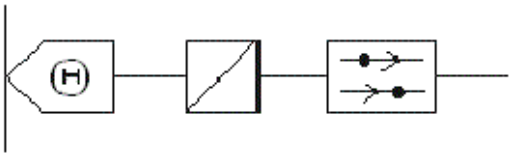


Figure 1. Example of measuring application (temperature sensor, converter, transceiver).

Applies to: S01923

A00376 Illustration_1A.gif A00376 Illustration_2A.gif

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