

BUREAU OF INDIAN STANDARDS

Program of Work

ETD 35 : Power Systems Relays

Scope: To prepare standards for power systems relays including those incorporating solid state devices, also taking into account combination of relays and devices to form schemes for power systems including control equipment associated with that protection

Liaison: **IEC TC-94 (P):** *Electrical relays* **IEC TC-95 (P):** *Measuring relays and protection equipment*

Published Standards

S.No	IS No.	TITLE	Reaffirm M-Y	No. of Amds	Eqv.
1	IS 10075 : 1981 Reviewed In : 2016	Specification for start relay and overload protector for resistance start induction run hermetic compressor		-	Indigenous
2	IS 14122 : 1994 Reviewed In : 2016 IEC 60034-11(1978)	Built - In thermal protection for electric motors rated up to 660 V AC - Specification		-	Modified/Technically Equivalent
3	IS 17064 (Part 1) : 2018 IEC 61810-1 : 2015 Reviewed In : 2024 IEC 61810-1 : 2015	Electromechanical elementary relays: Part 1 general and safety requirements	March, 2024	1	Identical under dual numbering
4	IS 17064 (Part 2) : 2019 IEC 61810-2 : 2017 Reviewed In : 2024 IEC 61810-2: 2017	Electromechanical elementary relays: Part 2 reliability	March, 2024	-	Identical under dual numbering
5	IS 17064 (Part 2/Sec 1) : 2019 IEC 61810-2-1 : 2017 Reviewed In : 2024 IEC 61810-2-1 : 2017	Electromechanical elementary relays: Part 2 reliability: Sec 1 procedure for the verification of b10 values	March, 2024	-	Identical under dual numbering
6	IS 17064 (Part 3) : 2020 IEC 61810-3 : 2015 61810-3:2015	Electromechanical Elementary Relays Part 3 Relays with Forcibly Guided (Mechanically Linked) Contacts		-	Identical under single numbering
7	IS 17065 (Part 1) : 2018 IEC 61811-1 : 2015 Reviewed In : 2024 IEC 61811-1 :2015	Electromechanical telecom elementary relays of assessed quality: Part 1 generic specification and blank detail specification	March, 2024	-	Identical under dual numbering
8	IS 17066 (Part 1) : 2018 IEC 62246-1 : 2015 Reviewed In : 2024	Reed switches: Part 1 generic specification	March, 2024	-	Identical under dual numbering

	IEC 62246-1 :2015				
9	IS 18488 : 2024	GUIDELINES FOR SUBSTATION AUTOMATION SYSTEM BASED ON IEC 61850		-	Indigenous
10	IS 3637 : 1966 Reviewed In : 2016	Specification for gas - Operated relays	September, 2016	1	Indigenous
11	IS 3638 : 1966 Reviewed In : 2016	Application guide for gas - Operated relays	September, 2016	1	Indigenous
12	IS 3842 (Part 1) : 1967 Reviewed In : 2021	Application guide for electrical relays for AC systems: Part i overcurrent relays for feeders and transformers	August, 2021	-	Indigenous
13	IS 3842 (Part 2) : 1966 Reviewed In : 2021	Application guide for electrical relays for AC systems: Part 2 overcurrent relays for generators and motors	August, 2021	-	Indigenous
14	IS 3842 (Part 3) : 1966 Reviewed In : 2021	Application guide for electrical relays for AC systems: Part 3 phase unbalance relays including negative phase sequence relays	August, 2021	1	Indigenous
15	IS 3842 (Part 4) : 1966 Reviewed In : 2021	Application guide for electrical relays for AC systems: Part 4 thermal relays	August, 2021	1	Indigenous
16	IS 3842 (Part 5) : 1968 Reviewed In : 2021	Application guide for electrical relays for AC systems: Part 5 distance protection relays	August, 2021	-	Indigenous
17	IS 3842 (Part 6) : 1972 Reviewed In : 2021	Application guide for electrical relays for AC systems: Part 6 power relays	August, 2021	-	Indigenous
18	IS 3842 (Part 7) : 1972 Reviewed In : 2021	Application guide for electrical relays for AC systems: Part 7 frequency relays	August, 2021	-	Indigenous
19	IS 3842 (Part 8) : 1976 Reviewed In : 2021	Application guide for electrical relays for AC systems: Part 8 voltage relays	August, 2021	-	Indigenous
20	IS 3842 (Part 9) : 1977 Reviewed In : 2021	Application guide for electrical relays for AC systems: Part 9 relays for bus bar protection	August, 2021	-	Indigenous
21	IS 3842 (Part 10) : 1976 Reviewed In : 2016	Application guide for electrical relays for AC systems: Part 10 relays for transverse differential protection		-	Indigenous
22	IS 3842 (Part 12) : 1976 Reviewed In : 2016	Application guide for electrical relays for AC systems: Part 12 differential relays for transformers		-	Indigenous
23	IS 4483 (Part 1) : 1968 Reviewed In : 2016	Preferred panel cut - Out dimensions for electrical relays: Part 1 flush mounting IDMTL relays		-	Indigenous
24	IS 5834 (Part 1) : 1994 Reviewed In : 2019	Electrical timer relays for industrial purposes - Specification: Part 1 pneumatic (First Revision)		-	Indigenous
25	IS 5834 (Part 2) : 1993 Reviewed In : 2018	Electrical timer relays for industrial purposes - Specification: Part 2 motorued (First Revision)	April, 2018	-	Indigenous
26	IS 5834 (Part 3) : 1981 Reviewed In : 2019	Specification for electrical timer relays for industrial purposes: Part 3 electronic		2	Indigenous
27	IS/IEC 60255-1 :	Measuring relays and protection	December, 2020	-	Identical under single

	2009 IEC 60255-1 : 2009 Reviewed In : 2020 IEC 60255 : Part 1 : 2009	equipment: Part 1 common requirements			numbering
28	IS/IEC 60255-12 : 1980 IEC 60255-12 : 1980 Reviewed In : 2020 IEC 60255 : Part 12 : 1980	Electrical relays: Part 12 directional relays and power relays with two input energizing quantities	December, 2020	-	Identical under single numbering
29	IS/IEC 60255-13 : 1980 IEC 60255-13 : 1980 Reviewed In : 2022 IEC 60255 : Part 13 : 1980	Electrical relays: Part 13 biased (Percentage) differential relays	June, 2022	-	Identical under single numbering
30	IS/IEC 60255-21-2 : 1988 IEC 60255-21-2 : 1988 Reviewed In : 2020 IEC60255-21-2:198 8	Electrical Relays Part 21 Vibration, Shock, Bump and Seismic Tests on Measuring Relays and Protection Equipment Section 2 Shock and bump tests	January, 2020	-	Identical under single numbering
31	IS/IEC 60255-21-3 : 1993 IEC 60255-21-3 : 1993 Reviewed In : 2022 IEC 60255-21-3 : 199	Electrical Relays Part 21 Vibration, Shock, Bump and Seismic Tests on Measuring Relays and Protection Equipment Section 3 Seismic tests	June, 2022	-	Identical under dual numbering
32	IS/IEC 60255-21-1 : 1988 IEC 60255-21-1 : 1988 Reviewed In : 2020 IEC 60255 : Part 21 : Sec 1 : 1988	Electrical relays: Part 21 vibration, shock, bump and seismic tests on measuring relays and protection equipment: Sec 1 vibration tests (Sinusoidal)	December, 2020	-	Identical under single numbering
33	IS/IEC 60255-24 : 2013 IEC 60255-24 : 2013 IEC60255-24:2013	Measuring Relays and Protection Equipment Part 24 Common Format for Transient Data Exchange (COMTRADE) for Power Systems (First Revision)		-	Identical under single numbering
34	IS/IEC 60255-26 : 2013 IEC 60255-26 : 2013 IEC 60255-26 : 2008	Measuring Relays and Protection Equipment Part 26 Electromagnetic Compatibility Requirements (First Revision)		-	Identical under dual numbering
35	IS/IEC 60255-27 : 2013 IEC 60255-27 : 2013 60255-27:2013	Measuring Relays and Protection Equipment Part 27 Product Safety Requirements (First Revision)		-	Identical under single numbering
36	IS/IEC/IEEE 60255-118-1) : 2018 IEC/IEEE 60255-118-1 : 2018 60255-118-1	Measuring Relays and Protection Equipment Part 118 Synchrophasor for Power Systems Section 1 Measurements		-	Identical under single numbering
37	IS/IEC 60255-121 : 2014	Measuring relays and protection equipment: Part 121 functional		-	Identical under single numbering

	IEC 60255 : Part 121 : 2014	requirements for distance protection			
38	IS/IEC 60255-127 : 2010 IEC 60255-127 : 2010 IEC 60255-127 : 2010	Measuring relays and protection equipment: Part 127 functional requirements for over/under voltage protection		-	Identical under dual numbering
39	IS/IEC 60255-149 : 2013 IEC 60255-149 : 2013 60255-149:2013	Measuring Relays and Protection Equipment Part 149 Functional Requirements for Thermal Electrical Relays		-	Identical under single numbering
40	IS/IEC 60255-151 : 2009 IEC 60255-151 : 2007 IEC 60255-151 : 2009	Measuring relays and protection equipment: Part 151 functional requirements for over/under current protection		-	Identical under dual numbering
41	IS/IEC 60255-181 : 2019 IEC 60255-181 : 2019 Reviewed In : 2024 60255-181:2019	Measuring Relays and Protection Equipment Part 181 Functional Requirements for Frequency Protection	March, 2024	-	Identical under single numbering
42	IS/IEC 61810-7 : 2006 IEC 61810-7 : 2006 Reviewed In : 2024 IEC 61810 : Part 7 : 2006	Electromechanical elementary relays: Part 7 test and measurement procedures	March, 2024	-	Identical under single numbering
43	IS/IEC 61812-1 : 2011 IEC 61812-1 : 2011 IEC 61812-1 : 2011	Time Relays for Industrial and Residential Use Part 1 Reuirements and Tests		-	Identical under dual numbering
44	IS/IEC 62246-1-1) : 2018 IEC 62246-1-1 : 2018 62246-1-1:2018	Reed Switches Part 1 Generic Specification Section 1 Blank detail specification (First Revision)		-	Identical under single numbering
45	IS/IEC 62314 : 2006 IEC 62314 : 2006 IEC 62314 : 2006	Solid - State relays		-	Identical under single numbering
46	IS 8714 : 1978 Reviewed In : 2016 BS 142: 1966 and ANSI C 37. 90-1971	Specification for electrical protective relays for use in seismic areas		-	Modified/Technically Equivalent
47	IS 9124 : 1979 Reviewed In : 2016	Guide for maintenance and field testing of electrical relays		1	Indigenous
48	IS 9994 : 1981 Reviewed In : 2016	Specfication for potential relays for capacitor - Start capacitor - Run hermetic compressors		-	Indigenous

Standards under Development

Projects Approved

SI. No.	Doc No.	Title
No Records Found		

Preliminary Draft Standards		
SI. No.	Doc No.	Title
No Records Found		

Drafts Standards in WC Stage		
SI. No.	Doc No.	Title
No Records Found		

Draft Standards Completed WC Stage		
SI. No.	Doc No.	Title
1	ETD 35 (24590)	Electromechanical elementary relays - Part 4 General and safety requirements for reed relays
2	ETD 35 (24597)	Electromechanical elementary relays Part 10 Additional functional aspects and safety requirements for high-capacity relays
3	ETD 35 (24600)	Measuring relays and protection equipment Part 187-1 Functional requirements for differential protection Restrained and Unrestrained differential protection of motors generators and transformers

Finalized Draft Indian Standard		
SI. No.	Doc No.	Title
No Records Found		

Finalized Draft Indian Standards under Print		
SI. No.	Doc No.	Title
No Records Found		

Total Published Standards:47 Total Standards Under development:3

Aspect Wise Report
Product : 17
Code of Practices : 4
Methods of Test : 12
Terminology : 0
Dimensions : 0
System Standard : 0
Safety Standard : 2
Others : 13
Service Specification : 0
Process Specification : 0
Unclassified : 0

Annexure-I :List of Indian Standards Withdrawn/Superseded		
SI. No.	IS No. & Year	Title
1	IS 12083 (Part 1) : 1986 Reviewed In : 2016 IEC 60255-0-20 (1974)	Specification for electrical relays Part 1 contact performance
2	IS 12083 (Part 2) : 1986 Reviewed In : 2016 IEC 60255-5 (1977)	Specificati - On for electrical relays Part 2 insulation tests

3	IS/QC 160000-1 : 1988 IEC Pub 255-7 (1978) Reviewed In : 2014 IEC Pub 255-7 (1978)	Specification for electrical relays Part 1 test and measurement procedures for electromechanical all - Or - Nothing relays
4	IS/QC 160000-2 : 1988 IEC Pub 255-10 (1979) Reviewed In : 2019 IEC Pub 255-10 (1979)	Specification for electrical relays Part 2 application of the IEC quality assessment system for electronic components to all - Or - Nothing relays
5	IS/QC 160100 : 1988 IEC Pub 255-19/QC 160100 (1983) Reviewed In : 2019 IEC Pub 255-19/QC 160100 (1983)	Electrical relays Secal specification electromechanical all - Or -Nothing relays of assessed quality
6	IS/QC 160101 : 1988 IEC Pub 255-19-1(1983)/IEC QC 160101 Reviewed In : 2019 IEC Pub 255-19-1(1983)/IEC QC 160101	Electrical relay Secal specification electromechanical all - Or - Nothing relays of assesed quality
7	IS 3231 (Part 0) : 1986 Reviewed In : 2014	Electrical relays for power systems protection Part 0 General introduction and list of parts
8	IS 3231 (Part 1/Sec 1) : 1986 Reviewed In : 2011	Electrical Relays for Power System Protection Part 1 General Requirements Section 1 Contact Performance
9	IS 3231 (Part 1/Sec 2) : 1986 Reviewed In : 2011	Electrical relays for power system protection Part 1 General requirements Section 2 Insulation tests
10	IS 3231 (Part 1/Sec 3) : 1986 IEC 255-4 Reviewed In : 2011	Electrical realys for power system protection Part 1 General requirements Section 3 High frequency distrubance test for static relays
11	IS 3231 (Part 2/Sec 1) : 1987 IEC 255-1-00 Reviewed In : 2011	Electrical Relays for Power System Protection - Part 2 Requirements for Principal Families - Section 1 All-or-Nothing Relays
12	IS 3231 (Part 2/Sec 2) : 1987 Reviewed In : 2011	Electrical Relays for Power System Protection - Part 2 Requirements for Principal Families - Section 2 General Requirements for Measuring Relays
13	IS 3231 (Part 2/Sec 3) : 1987 IEC 255-8 Reviewed In : 2011	Electrical relays for power system protection Part 2 Requirements for principal families Section 3 General requirements for thermal rlays
14	IS 3231 (Part 3/Sec 1) : 1987 IEC 255-3 Reviewed In : 2011	Electrical Relays for Power System Protection - Part 3 Requirements for Particular Group of Relays - Section 1 Non-specified Time or Independent Specified Time Measuring Relays
15	IS 3231 (Part 3/Sec 2) : 1987 IEC 255-13 Reviewed In : 2011	Electrical Relays for Power System Protection - Part 3 Requirements for Particular Group of Relays - Section 2 Dependent Specified Time Measuring Relays
16	IS 3231 (Part 3/Sec 3) : 1987 IEC 255-13 Reviewed In : 2011	Electrical Relays for Power System Projection - Part 3 Requirements for Particular Group of Relays - Section 3 Biased Percentage Differential Relays
17	IS 3231 (Part 3/Sec 4) : 1987 IEC 255-12	Electrical Relays for Power System Protection - Part 3 Requirements for Particular Group of Relays - Section 4 Directional Relays and Power Relays

	Reviewed In : 2011	
18	IS 3231 (Part 3/Sec 5) : 1987 IEC 255-16 Reviewed In : 2011	Electrical relays for power system Protection Part 3 Requirements for particular group of relays Section 5 Impedance measuring relays
19	IS/IEC 60255-5 : 2000 IEC 60255-5 : 2000 IEC 60255-5:2000	Measuring relays and protection equipment Part 5 insulation coordination for measuring relays and protection equipment - Requirements and tests
20	IS/IEC 60255-8 : 1990 IEC 60255-8 : 1990 IEC 60255 : Part 8 : 1990	Electrical relays Part 8 thermal electrical relays
21	IS/IEC 60255-11 : 2008 IEC 60255-11 : 2008 IEC 60255 : Part 11 : 2008	Measuring relays and protection equipment Part 11 voltage dips short interruptions variations and ripple on auxiliary power supply port
22	IS/IEC 60255-22-6) : 2001 IEC 60255-22-6 : 2001 IEC 60255-22-6 : 200	Electrical Relays Part 22 Electrical Disturbance Tests for Measuring Relays and Protection Equipment Section 6 Immunity to conducted disturbances induced by radio frequency fields
23	IS/IEC 60255-22-7) : 2003 IEC 60255-22-7 : 2003 IEC 60255-22-7:2003	Electrical Relays Part 22 Electrical Disturbance Tests for Measuring Relays and Protection Equipment Section 7 Power frequency immunity tests
24	IS/IEC 60255-22- 1) : 2007 IEC 60255-22-1 : 2007 IEC 60255 : Part 22 : Sec 1 : 2007	Measuring relays and protection equipment Part 22 electrical disturbance tests Sec 11 MHZ burst immunity tests
25	IS/IEC 60255-25 : 2000 IEC 60255-25 : 2000 IEC 60255 : Part 25 : 2000	Electrical relays Part 25 electromagnetic emission tests for measuring relays and protection equipmen
26	IS 8686 : 1977 IEC 255-4 Reviewed In : 2016 IEC Pub 255-4(1976)	Specification for static protective relays

Annexure-II :List of Indian Product Standards

Sl. No.	IS No. & Year	Title
1	IS 10075 : 1981 Reviewed In : 2016	Specification for start relay and overload protector for resistance start induction run hermetic compressor
2	IS 17064 (Part 3) : 2020 IEC 61810-3 : 2015 61810-3:2015	Electromechanical Elementary Relays Part 3 Relays with Forcibly Guided Mechanically Linked Contacts
3	IS 17065 (Part 1) : 2018 IEC 61811-1 : 2015 Reviewed In : 2024 IEC 61811-1 :2015	Electromechanical telecom elementary relays of assessed quality Part 1 generic specification and blank detail specification
4	IS 17066 (Part 1) : 2018 IEC 62246-1 : 2015 Reviewed In : 2024 IEC 62246-1 :2015	Reed switches Part 1 generic specification
5	IS 3637 : 1966 Reviewed In : 2016	Specification for gas - Operated relays
6	IS 5834 (Part 1) : 1994 Reviewed In : 2019	Electrical timer relays for industrial purposes - Specification Part 1 pneumatic First Revision
7	IS 5834 (Part 2) : 1993 Reviewed In : 2018	Electrical timer relays for industrial purposes - Specification Part 2 motorued First Revision
8	IS 5834 (Part 3) : 1981 Reviewed In : 2019	Specification for electrical timber relays for industrial purposes Part 3 electronic
9	IS/IEC 60255-1 : 2009 IEC 60255-1 : 2009 Reviewed In : 2020 IEC	Measuring relays and protection equipment Part 1 common requirements

	60255 : Part 1 : 2009	
10	IS/IEC 60255-13 : 1980 IEC 60255-13 : 1980 Reviewed In : 2022 IEC 60255 : Part 13 : 1980	Electrical relays Part 13 biased Percentage differential relays
11	IS/IEC 60255-27 : 2013 IEC 60255-27 : 2013 60255-27:2013	Measuring Relays and Protection Equipment Part 27 Product Safety Requirements First Revision
12	IS/IEC 60255-121 : 2014 IEC 60255 : Part 121 : 2014	Measuring relays and protection equipment Part 121 functional requirements for distance protection
13	IS/IEC 60255-149 : 2013 IEC 60255-149 : 2013 60255-149:2013	Measuring Relays and Protection Equipment Part 149 Functional Requirements for Thermal Electrical Relays
14	IS/IEC 62246-1-1) : 2018 IEC 62246-1-1 : 2018 62246-1-1:2018	Reed Switches Part 1 Generic Specification Section 1 Blank detail specification First Revision
15	IS/IEC 62314 : 2006 IEC 62314 : 2006 IEC 62314 : 2006	Solid - State relays
16	IS 8714 : 1978 Reviewed In : 2016 BS 142: 1966 and ANSI C 37. 90-1971	Specification for electrical protective relays for use in seismic areas
17	IS 9994 : 1981 Reviewed In : 2016	Specelfication for potential relays for capacitor - Start capacitor - Run hermetic compressors