

BUREAU OF INDIAN STANDARDS

Program of Work

ETD 31 : Power Electronics

Scope: To prepare standards regarding equipment and their components for electronic power switching

Liaison: **IEC TC-22 (P): Power electronic systems and equipment IEC TC-22 SC-22E (P): Stabilized power supplies IEC TC-22 SC-22G (P): Adjustable speed electric power drive systems (PDS) IEC TC-22 SC-22H (P): Uninterruptible power systems (UPS)**

Published Standards

S.No	IS No.	TITLE	Reaffirm M-Y	No. of Amds	Eqv.
1	IS 11260 (Part 1) : 1985 IEC 60686 Reviewed In : 2021 Reaffirmed but not taken up for revision	Specification for stabilized power supplies, AC output: Part 1 rating and performance	March, 2021	-	Indigenous
2	IS 11260 (Part 2) : 1985 IEC 60686 Reviewed In : 2021 Reaffirmed but not taken up for revision	Specification for stabilized power supplies, AC output: Part 2 tests	March, 2021	-	Indigenous
3	IS 13314 : 1992 Reviewed In : 2023 Decision taken to Reaffirm and Archive	Solid state inverters run from storage batteries - Specification	April, 2023	-	Indigenous
4	IS 15199 (Part 1) : 2002 IEC 61287-1 Reviewed In : 2022 IEC 61287-1:1995	Power convertors installed on board rolling stock: Part 1 characteristics and test methods	September, 2022	-	Identical under dual numbering
5	IS 15199 (Part 2) : 2002 IEC 61287-2 Reviewed In : 2022 IEC 61287-2:2001	Power convertors installed on board railway rolling stock: Part 2 additional technical information	September, 2022	-	Identical under dual numbering
6	IS 16242 (Part 1) : 2014 IEC 62040-1 : 2008 Reviewed In : 2024 IEC 62040-1 : 2008	Uninterruptible power systems (UPS): Part 1 general and safety requirements for UPS	June, 2024	1	Identical under dual numbering
7	IS 16242 (Part 2) :	Uninterruptible Power Systems	-	-	Identical under dual

	2020 IEC 62040-2 : 2020 IEC62040-2:2016	UPS Part 2 Electromagnetic Compatibility EMC Requirements (First Revision)			numbering
8	IS 16242 (Part 3) : 2014 IEC 62040-3 : 2011 Reviewed In : 2024 IEC 62040-3 : 2011	Uninterruptible power systems (UPS): Part 3 method of specifying the performance and test requirements	September, 2024	-	Identical under dual numbering
9	IS 16539 (Part 1/Section 1) : 2017 IEC 60146-1-1 : 2009 Reviewed In : 2022 IEC 60146-1-1 : 2009	Semiconductor Converters Part 1 General and Line Commutated Converters Section 1 Specification of basic requirements	March, 2022	-	Identical under dual numbering
10	IS 17123 (Part 1) : 2019 IEC 61800-1 : 1997 Reviewed In : 2024 IEC 61800-1 : 1997	Adjustable Speed Electrical Power Drive Systems Part 1 General Requirements â€” Rating Specifications for Low Voltage Adjustable Speed d.c. Power Drive Systems	June, 2024	-	Identical under dual numbering
11	IS 17123 (Part 6) : 2019 IEC TR 61800-6 : 2003 Reviewed In : 2024 IEC 61800-6:2003	Adjustable speed electrical power drive systems: Part 6 guide for determination of types of load duty and corresponding current ratings	June, 2024	-	Identical under dual numbering
12	IS/IEC 61204 : 2001 IEC 61204 : 1993 Reviewed In : 2024 IEC 61204:1993 +AMD1	Low-Voltage Power Supply Devices DC Output â€” Performance Characteristics	June, 2024	-	Identical under single numbering
13	IS/IEC 61204-3 : 2016 IEC 61204-3 : 2016 Reviewed In : 2024 IEC 61204-3:2016	Low-Voltage Switch Mode Power Supplies Part 3 Electromagnetic Compatibility (EMC)	September, 2024	-	Identical under single numbering
14	IS/IEC 61204-7 : 2016 IEC 61204-7 : 2016 Reviewed In : 2023 IEC 61204-7:2016	Low-Voltage Power Supplies, d.c. Output Part 7 Safety Requirements	May, 2023	-	Identical under single numbering
15	IS/IEC 61800-2 : 2015 IEC 61800-2 : 2015 Reviewed In : 2024 IEC 61800-2: 2015	Adjustable Speed Electrical Power Drive Systems Part 2 General Requirements â€” Rating Specifications for Low Voltage Adjustable Speed a.c. Power Drive Systems	June, 2024	-	Identical under single numbering
16	IS/IEC 61800-3 : 2017 Reviewed In : 2024 IEC 61800-3: 2017	Adjustable Speed Electrical Power Drive Systems Part 3 EMC Requirements and Specific Test Methods	June, 2024	-	Identical under single numbering
17	IS/IEC 61800-4 : 2002 IEC 61800-4: 2002	Adjustable Speed Electrical Power Drive Systems Part 4 General Requirements â€” Rating Specifications for a.c. Power Drive Systems above 1 000 V a.c. and not Exceeding 35 kV		-	Identical under single numbering

18	IS/IEC 61800-5-1 : 2016 Reviewed In : 2024 IEC61800-5-1:2016	Adjustable Speed Electrical Power Drive Systems Part 5 Safety Requirements Section 1 Electrical, thermal and energy	June, 2024	-	Identical under dual numbering
19	IS/IEC 61800-5-2) : 2020 IEC61800-5-2:2016	Adjustable Speed Electrical Power Drive Systems Part 5 Safety Requirements Section 2 Functional		-	Identical under single numbering
20	IS 6619 : 1972 Reviewed In : 2024 Decision taken to Reaffirm and Archive	Safety code for semiconductor rectifier equipment	January, 2024	-	Indigenous

Standards under Development

Projects Approved

SI. No.	Doc No.	Title
<i>No Records Found</i>		

Preliminary Draft Standards

SI. No.	Doc No.	Title
<i>No Records Found</i>		

Drafts Standards in WC Stage

SI. No.	Doc No.	Title
1	ETD 31 (26257) Revision of: IS 16539:2017	Semiconductor converters - General requirements and line commutated converters - Part 1-1 Specification of basic requirements
2	ETD 31 (26658) Revision of: IS 16242:2014	Uninterruptible power systems UPS Part 1 Safety requirements

Draft Standards Completed WC Stage

SI. No.	Doc No.	Title
<i>No Records Found</i>		

Finalized Draft Indian Standard

SI. No.	Doc No.	Title
1	ETD 31 (26133) Revision of: IS 17123:2019	Adjustable speed electrical power drive systems - Part 1 General requirements - Rating specifications for low voltage adjustable speed DC power drive systems First Revision
2	ETD 31 (26134)	Adjustable speed electrical power drive systems - Part 2 General requirements - Rating specifications for adjustable speed AC power drive systems First Revision
3	ETD 31 (26137)	Adjustable speed electrical power drive systems Part 3 EMC requirements and specific test methods for PDS and machine tools First Revision
4	ETD 31 (26139)	Adjustable speed electrical power drive systems Part 5 Safety requirements Section 1 Electrical thermal and energy First Revision
5	ETD 31 (26144)	Adjustable speed electrical power drive systems Part 5 Safety requirements Section 3 Functional electrical and environmental requirements for encoders
6	ETD 31 (26157)	Adjustable speed electrical power drive systems PDS Part 9 Ecodesign for motor systems Section 2 Energy efficiency determination and classification

Finalized Draft Indian Standards under Print

SI. No.	Doc No.	Title
1	ETD 31 (25629) Revision of: IS 15199:2002	Railway applications Power converters installed on board rolling stock Part 1 Characteristics and test methods First Revision
2	ETD 31 (26146)	Adjustable speed electrical power drive systems Part 7 Generic interface and use of profiles for power drive systems Section 1 Interface definition
3	ETD 31 (26147)	Adjustable speed electrical power drive systems Part 7 Generic interface and use of profiles for power drive systems Section 201 Profile type 1 specification
4	ETD 31 (26148)	Adjustable speed electrical power drive systems Part 7 Generic interface and use of profiles for power drive systems Section 202 Profile type 2 specification
5	ETD 31 (26149)	Adjustable speed electrical power drive systems Part 7 Generic interface and use of profiles for power drive systems Section 203 Profile type 3 specification
6	ETD 31 (26150)	Adjustable speed electrical power drive systems Part 7 Generic interface and use of profiles for power drive systems Section 204 Profile type 4 specification
7	ETD 31 (26151)	Adjustable speed electrical power drive systems Part 7 Generic interface and use of profiles for power drive systems Section 301 Mapping of profile type 1 to network technologies
8	ETD 31 (26152)	Adjustable speed electrical power drive systems Part 7 Generic interface and use of profiles for power drive systems Section 302 Mapping of profile type 2 to network technologies
9	ETD 31 (26153)	Adjustable speed electrical power drive systems Part 7 Generic interface and use of profiles for power drive systems Section 303 Mapping of profile type 3 to network technologies
10	ETD 31 (26154)	Adjustable speed electrical power drive systems Part 7 Generic interface and use of profiles for power drive systems Section 304 Mapping of profile type 4 to network technologies
11	ETD 31 (26155)	Adjustable Speed Electrical Power Drive Systems Part 8 Voltage at the Power Interface Specification
12	ETD 31 (26156)	Adjustable speed electrical power drive systems Part 9 Ecodesign for power drive systems motor starters power electronics and their driven applications Section 1 General requirements for setting energy efficiency standards for power driven equipment using the extended product approach EPA and semi analytic model SAM
13	ETD 31 (26158)	Uninterruptible power systems UPS Part 4 Environmental aspects - Requirements and reporting
14	ETD 31 (26159)	Uninterruptible power systems UPS Part 5 DC output UPS Section 3 Performance and test requirements

Total Published Standards:20 Total Standards Under development:22

Aspect Wise Report

Product : 8
 Code of Practices : 1
 Methods of Test : 7
 Terminology : 1
 Dimensions : 0
 System Standard : 0
 Safety Standard : 3
 Others : 0
 Service Specification : 0
 Process Specification : 0
 Unclassified : 0

Annexure-I :List of Indian Standards Withdrawn/Superseded

SI. No.	IS No. & Year	Title
1	IS 14256 : 1995 IEC 61136--1 Reviewed In : 2015 IEC 61136-1:1992	Rating specification for semiconductor power converters for adjustable speed electric drive systems - Particularly for DC motor drives
2	IS 2511 : 1963 IEC 60119 Reviewed In : 2016 IEC 60119-1960	Specification for polycrystalline semi - Conductor rectifier stacks
3	IS 3136 : 1965	Specification for polycrystalline semiconductor rectifier equipment

	IEC 60119 Reviewed In : 2016 IEC 60119-1960	
4	IS 3895 : 1966 IEC 60146 Reviewed In : 2016 IEC 60146(1963)	Specification for monocrystalline semiconductor rectifier cells and stacks
5	IS 4540 : 1968 IEC 60146 Reviewed In : 2016 IEC 60146(1963)	Specification for monocrystalline semiconductor rectifier assemblies and equipment
6	IS 7204 (Part 1) : 1974 Reviewed In : 2016	Specification for stabilized power supplies DC output Part 1 terms and definitions
7	IS 7204 (Part 2) : 1980 IEC 60478-2 Reviewed In : 2016 IEC 60478-2(1975)	Specification for stabilized power supplies DC output Part 2 rating and performance
8	IS 7204 (Part 3) : 1980 IEC 60478-3 Reviewed In : 2016 IEC 60478-3(1976)	Specification for stabilized power supplies DC output Part 3 radio - Frequency interference test
9	IS 7204 (Part 4) : 1980 IEC 60478-4 Reviewed In : 2016 IEC 60478-4(1976)	Specification for stabilized power supplies DC output Part 4 tests other than radio - Frequency interference
10	IS 7788 : 1975 IEC 60411 Reviewed In : 2016 IEC 60411(1973)	Specification for single - Phase traction power convertors

Annexure-II :List of Indian Product Standards

SI. No.	IS No. & Year	Title
1	IS 13314 : 1992 Reviewed In : 2023 Decision taken to Reaffirm and Archive	Solid state inverters run from storage batteries - Specification
2	IS 16242 (Part 1) : 2014 IEC 62040-1 : 2008 Reviewed In : 2024 IEC 62040-1 : 2008	Uninterruptible power systems UPS Part 1 general and safety requirements for UPS
3	IS 17123 (Part 1) : 2019 IEC 61800-1 : 1997 Reviewed In : 2024 IEC 61800-1 : 1997	Adjustable Speed Electrical Power Drive Systems Part 1 General Requirements Rating Specifications for Low Voltage Adjustable Speed d c Power Drive Systems
4	IS/IEC 61204 : 2001 IEC 61204 : 1993 Reviewed In : 2024 IEC 61204:1993 +AMD1	Low-Voltage Power Supply Devices DC Output Performance Characteristics
5	IS/IEC 61800-2 : 2015 IEC 61800-2 : 2015 Reviewed In : 2024 IEC 61800-2: 2015	Adjustable Speed Electrical Power Drive Systems Part 2 General Requirements Rating Specifications for Low Voltage Adjustable Speed a c Power Drive Systems
6	IS/IEC 61800-4 : 2002 IEC 61800-4: 2002	Adjustable Speed Electrical Power Drive Systems Part 4 General Requirements Rating Specifications for a c Power Drive Systems above 1 000 V a c and not Exceeding 35 kV
7	IS/IEC 61800-5-1 : 2016 Reviewed In :	Adjustable Speed Electrical Power Drive Systems Part 5 Safety Requirements Section 1 Electrical thermal and energy

	2024 IEC61800-5-1:2016	
8	IS/IEC 61800-5-2) : 2020 IEC61800-5-2:2016	Adjustable Speed Electrical Power Drive Systems Part 5 Safety Requirements Section 2 Functional