

BUREAU OF INDIAN STANDARDS

Program of Work

ETD 29 : Power Capacitors

Scope: To prepare standards for: a) Shunt Capacitors, Series capacitors for ac power systems b) Capacitors for surge protection for use in voltage system c) Shunt capacitors for the self-healing type and nonself-healing type for ac power systems. d) Capacitors for electric fan motors, A.C. motor capacitors, Capacitors for microwave ovens e) Internal fuses and internal overpressure disconnectors for shunt capacitors & , series capacitors and power electronic capacitors f) Coupling capacitor and capacitor dividers, Voltage grading capacitor Grading capacitors for highvoltage alternating current circuit-breaker g) Capacitors for inductive heat generating plants, & induction heating installations h) Power electronics capacitors, Energy storage capacitors i) Automatic power factor connection (APFC) panels

Liaison: **IEC TC-33 (P):** *Power capacitors and their applications*

Published Standards

S.No	IS No.	TITLE	Reaffirm M-Y	No. of Amds	Eqv.
1	IS 11530 : 1985 <i>Reviewed In : 2021</i>	Specification for voltage grading capacitor	November, 2021	-	Indigenous
2	IS 11548 : 1986 <i>Reviewed In : 2021</i>	Specification for capacitors for surge protection for use in voltage system above 650 V and up to 33 KV	November, 2021	2	Indigenous
3	IS 13203 : 1991 IEC 60996:1989 <i>Reviewed In : 2021</i> <i>IEC 60996:1989</i>	Method for verifying accuracy of tan delta measurements	October, 2021	-	Modified/Technically Equivalent
4	IS 13340 (Part 1) : 2012 IEC 60831 - 1 : 2002 <i>Reviewed In : 2017</i> <i>IEC 60831-1:2002</i>	Shunt power capacitors of the self - Healing type for a.c. systems having a rated voltage up to and including 1000 V: Part 1 general - Performance, testing and rating - Safety requirements - Guide for installation and operation (First Revision)	May, 2022	-	Identical under dual numbering
5	IS 13340 (Part 2) : 2012 IEC 60831-2 : 1995 <i>Reviewed In : 2022</i> <i>IEC 60831-2 :1995</i>	Shunt power capacitors of the self - Healing type for a.c. systems having a rated voltage up to and including 1000 V: Part 2 ageing test, self - Healing test and destruction test	April, 2022	-	Identical under dual numbering
6	IS 13585 (Part 1) : 2012 IEC 60931-1 : 1996 <i>Reviewed In : 2017</i> <i>IEC 60931-1:1996</i>	Shunt power capacitors of the non - Self - Healing type for ac systems having a rated voltage up to and including 1 000 v: Part 1 general - Performance, testing and rating -	April, 2022	-	Identical under dual numbering

		Safety requirements - Guide for installation and operation (First Revision)			
7	IS 13585 (Part 2) : 2013 IEC 60931-2: 1995 Reviewed In : 2023 IEC 60931-2:1996	Shunt power capacitors of the non-Self - Healing type for a.c. systems having a rated voltage up to and including 1 000 v: Part 2 ageing test and destruction test	February, 2023	-	Identical under dual numbering
8	IS 13585 (Part 3) : 2013 IEC 60931-3: 1996 Reviewed In : 2023 IEC 60931-3:1996	Shunt power capacitors of the non-Self - Healing type for a.c. systems having a rated voltage up to and including 1 000 V: Part 3 internal fuses	February, 2023	-	Identical under dual numbering
9	IS 13666 : 1993 Reviewed In : 2018	Energy storage capacitors - Specification	May, 2023	-	Indigenous
10	IS 13925 (Part 1) : 2012 IEC 60871-1 : 2005 Reviewed In : 2017 IEC60871-1 : 2005	Shunt capacitors for a.c. power systems having a rated voltage above 1000 V: Part 1 general (First Revision)	April, 2022	-	Identical under dual numbering
11	IS 13925 (Part 2) : 2002 IEC 60871-2:1999 Reviewed In : 2017 IEC60871-2:1999	Shunt capacitors for a.c. power systems having a rated voltage above 1000 V: Part 2 endurance testing (First Revision)	March, 2022	-	Identical under dual numbering
12	IS 13925 (Part 3) : 2002 IEC 60871-3:1996 Reviewed In : 2017 IEC 60871-3:1996	Shunt capacitors for a.c. power systems having a rated voltage above 1000 V: Part 3 protection of shunt capacitors and shunt capacitor banks	March, 2022	-	Identical under dual numbering
13	IS 13925 (Part 4) : 2013 IEC 60871-4: 1996 Reviewed In : 2018 IEC 60871-4:1996	Shunt capacitors for a.c. power systems having a rated voltage above 1000 V: Part 4 internal fuses	February, 2023	-	Identical under dual numbering
14	IS 15395 : 2003 IEC 61642:1997 Reviewed In : 2023 IEC 61642:1997	Industrial AC networks affected by harmonics application of filters and shunt capacitors	October, 2023	-	Identical under dual numbering
15	IS 15406 (Part 1) : 2003 IEC 61270-1:1996 Reviewed In : 2023 IEC 61270-1: 1996	Capacitors for microwave ovens: Part 1 general	October, 2023	-	Identical under dual numbering
16	IS 16636 : 2017	Automatic power factor correction (APFC) panels for voltage rating up to and including 1000 V	March, 2022	-	Indigenous
17	IS 1709 : 1984 iec 252 Reviewed In : 2021 IEC 252:1975	Specification for capacitors or electric fan motors (First Revision)	December, 2024	3	Modified/Technically Equivalent
18	IS 2993 : 1998 IEC 252 Reviewed In : 2022 IEC 60252:1993	A.C. motor capacitors (Second Revision)	July, 2023	-	Identical under dual numbering
19	IS/IEC 60110-1 : 1998 IEC 60110-1 : 1998 Reviewed In : 2021	Power Capacitors for Induction Heating Installations Part 1 General (First Revision)		-	Identical under single numbering

	IS/IEC 60110-1 : 199				
20	IS/IEC/TS 60110-2 : 2000 IEC TS 60110-2 : 2000 IEC 60110-2 : 2000	POWER CAPACITORS FOR INDUCTION HEATING INSTALLATIONS PART 2 : AGEING TEST DESTRUCTION TEST AND REQUIREMENTS FOR DISCONNECTING INTERNAL FUSES		-	Identical under single numbering
21	IS/IEC 60143-1 : 2015 IEC 60143-1:2015 IEC 60143-1:2015	SERIES CAPACITORS FOR POWER SYSTEMS PART 1 : GENERAL (Second Revision)		-	Identical under single numbering
22	IS/IEC 60143-3 : 2015 IEC 60143-3:2015 IEC 60143-3:2015	SERIES CAPACITORS FOR POWER SYSTEMS PART 3: INTERNAL FUSES (First Revision)		-	Identical under single numbering
23	IS/IEC 60143-4 : 2010 IEC 60143-4:2010 IEC 60143-4:2010	SERIES CAPACITORS FOR POWER SYSTEMS PART 4: THYRISTOR CONTROLLED SERIES CAPACITORS		-	Identical under single numbering
24	IS/IEC 60358-1 : 2012 IEC 60358-1:2012 60358-1:2012	COUPLING CAPACITORS AND CAPACITOR DIVIDERS PART 1 GENERAL RULES (Second Revision)		-	Identical under single numbering
25	IS/IEC 60358-2 : 2013 IEC 60358-2:2013 IEC 60358-2:2013	COUPLING CAPACITORS AND CAPACITOR DIVIDERS PART 2 a.c. or d.c. SINGLE-PHASE COUPLING CAPACITOR CONNECTED BETWEEN LINE AND GROUND FOR POWER LINE CARRIER-FREQUENCY (PLC) APPLICATION		-	Identical under single numbering
26	IS/IEC 61071 : 2017 IEC 61071:2017 IEC 61071:2017	CAPACITORS FOR POWER ELECTRONICS (First Revision)		-	Identical under single numbering
27	IS/IEC 62146-1 : 2013 IEC 62146-1: 2013 + AMD 1: 2016 IEC 62146-1: 2013 + AMD 1: 2016	Grading capacitors for high-voltage alternating current circuit-breakers Part 1: General		-	Identical under single numbering
28	IS 9835 (Part 2) : 2021 IEC 60143-2:2012 IEC 60143-2:2012	SERIES CAPACITORS FOR POWER SYSTEMS PART 2: PROTECTIVE EQUIPMENT FOR SERIES CAPACITOR BANKS		-	Identical under single numbering

Standards under Development

Projects Approved

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

Preliminary Draft Standards

SI. No.	Doc No.	Title
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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
No Records Found		

Finalized Draft Indian Standard

SI. No.	Doc No.	Title
No Records Found		

Finalized Draft Indian Standards under Print

SI. No.	Doc No.	Title
1	ETD 29 (16618) Revision of: IS 2993:1998	a c Motor Capacitors Part 1 General Performance Testing and Rating Safety Requirements Guidance for Installation and Operation Third Revision
2	ETD 29 (16619) Revision of: IS 2993:1998	a c Motor Capacitors Part 2 Motor Start Capacitors Third Revision
3	ETD 29 (24351) Revision of: IS 13340:2012	Shunt power capacitors of the self-healing type for ac systems having a rated voltage up to and including 1 000 V Part 1 General- Performance testing and rating - Safety requirements- Guide for installation and operation Second Revision
4	ETD 29 (24352) Revision of: IS 13340:2012	Shunt power capacitors of the self-healing type for ac systems having a rated voltage up to and including 1 000 V Part 2 Ageing test self-healing test and destruction test First Revision
5	ETD 29 (24403)	Series Capacitors for Power Systems Part 2 Protective Equipment for Series Capacitor Banks
6	ETD 29 (24406)	Capacitors for highvoltage alternating current circuitbreakers Part 2 TRV capacitors

Total Published Standards:27 Total Standards Under development:6

Aspect Wise Report

Product : 15
Code of Practices : 0
Methods of Test : 6
Terminology : 0
Dimensions : 0
System Standard : 0
Safety Standard : 1
Others : 6
Service Specification : 0
Process Specification : 0
Unclassified : 0

Annexure-I :List of Indian Standards Withdrawn/Superseded

SI. No.	IS No. & Year	Title
1	IS 12672 : 1989 IEC 60593 Reviewed In : 2021 IEC 60593:1977	Internal fuses and internal overpressure disconnectors for shunt capacitors - Specification
2	IS 12677 : 1989 IEC 60595 Reviewed In : 2021 IEC	Internal fuses for series capacitors - Specification

	60595 :1977	
3	IS 12730 : 1989 IEC 60594 Reviewed In : 2021 IEC 594:1977	Internal fuses and internal overpressure disconnectors for capacitors for inductive heat generating plants
4	IS 13340 : 1993 IEC 60831-1 Reviewed In : 2018 IEC Pub 831-1 (1988)	Power capacitors of self-Healing type for AC power systems having rated voltage up to 650 V - Specification
5	IS 13341 : 1992 IEC 60831-2 Reviewed In : 2008	Requirements for Ageing Test Self-healing Test and Destruction Test on Shunt Capacitors of the Self-healing Type for Ac Power Systems Having a Rated Voltage Upto and Including 650 V
6	IS 13580 : 1992 IEC 60594 Reviewed In : 2018 IEC 60931-1:1996	Internal fuses and internal overpressure disconnectors for power electronic capacitors
7	IS 13648 : 1993 IEC 61071 Reviewed In : 2018 IEC 61071-1 :1991	Power electronics capacitors
8	IS 2834 : 1986	Shunt capacitors for power systems
9	IS 9251 : 1979 iec 60110 Reviewed In : 2021 IS 9295 - 1979	Specification for capacitors for inductive heat generating plants operating at frequencies between 40 and 24 000 HZ
10	IS 9348 : 1998 IEC 358 Reviewed In : 2018 IEC 60358:1990	Coupling capacitors and capacitor dividers First Revision
11	IS 9835 : 1981 Reviewed In : 2017 iec 143:1972	Specification for series capacitors for power systems
12	IS 9835 (Part 1) : 2001 IEC 60143-1 Reviewed In : 2021 IEC 60143-1:1992	Series Capacitors for Power Systems - Part 1 General Performance Testing and Rating - Safety Requirements - Guide for Installation
13	IS 9835 (Part 3) : 2012 IEC 60143 Part 3 Reviewed In : 2017 IEC 60143-3 : 1998	Series capacitors for power systems Part 3 internal fuses

Annexure-II :List of Indian Product Standards

SI. No.	IS No. & Year	Title
1	IS 11530 : 1985 Reviewed In : 2021	Specification for voltage grading capacitor
2	IS 11548 : 1986 Reviewed In : 2021	Specification for capacitors for surge protection for use in voltage system above 650 V and up to 33 KV
3	IS 13340 (Part 2) : 2012 IEC 60831-2 : 1995 Reviewed In : 2022 IEC 60831-2 :1995	Shunt power capacitors of the self - Healing type for a c systems having a rated voltage up to and including 1000 V Part 2 ageing test self - Healing test and destruction test
4	IS 13585 (Part 3) : 2013 IEC 60931-3: 1996 Reviewed In : 2023 IEC 60931-3:1996	Shunt power capacitors of the non - Self - Healing type for a c systems having a rated voltage up to and including 1 000 V Part 3 internal fuses
5	IS 13666 : 1993 Reviewed In : 2018	Energy storage capacitors - Specification

6	IS 13925 (Part 4) : 2013 IEC 60871-4: 1996 Reviewed In : 2018 IEC 60871-4:1996	Shunt capacitors for a c power systems having a rated voltage above 1000 V Part 4 internal fuses
7	IS 16636 : 2017	Automatic power factor correction APFC panels for voltage rating up to and including 1000 V
8	IS 1709 : 1984 iec 252 Reviewed In : 2021 IEC 252:1975	Specification for capacitors or electric fan motors First Revision
9	IS 2993 : 1998 IEC 252 Reviewed In : 2022 IEC 60252:1993	A C motor capacitors Second Revision
10	IS/IEC 60110-1 : 1998 IEC 60110-1 : 1998 Reviewed In : 2021	Power Capacitors for Induction Heating Installations Part 1 General First Revision
11	IS/IEC 60143-1 : 2015 IEC 60143-1:2015 ISO 14627 : 2012	SERIES CAPACITORS FOR POWER SYSTEMS PART 1 GENERAL Second Revision
12	IS/IEC 60143-4 : 2010 IEC 60143-4:2010	SERIES CAPACITORS FOR POWER SYSTEMS PART 4 THYRISTOR CONTROLLED SERIES CAPACITORS
13	IS/IEC 61071 : 2017 IEC 61071:2017 ISO 14705 : 2016	CAPACITORS FOR POWER ELECTRONICS First Revision
14	IS/IEC 62146-1 : 2013 IEC 62146-1: 2013 + AMD 1: 2016	Grading capacitors for high-voltage alternating current circuit-breakers Part 1 General
15	IS 9835 (Part 2) : 2021 IEC 60143-2:2012 ISO 31073: 2022	SERIES CAPACITORS FOR POWER SYSTEMS PART 2 PROTECTIVE EQUIPMENT FOR SERIES CAPACITOR BANKS