

## 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 high voltage 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 correction (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 11548:1986 Reviewed In : 2021	Specification for capacitors for surge protection for use in voltage system above 650 V and up to 33 KV	November, 2021	2	Indigenous
2	IS 13203:1991 IEC 60996:1989 Reviewed In : 2021 IEC 60996:1989	Method for verifying accuracy of tan delta measurements	October, 2021	-	Modified/Technically Equivalent
3	IS 13340 (Part 1):2024 IEC 60831-1: 2014 IEC 60831-1: 2014	Shunt Power Capacitors of the Self-Healing Type for a.c. 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)		-	Identical under dual numbering
4	IS 13340 (Part 2):2024 IEC 60831-2: 2014 IEC 60831-2: 2014	Shunt Power Capacitors of the Self-Healing Type for a.c. Systems Having a Rated Voltage up to and Including 1 000 V Part 2 Ageing Test, Self-Healing Test and Destruction Test (First Revision)		-	Identical under dual numbering
5	IS 13585 (Part 1):2012 IEC 60931-1 : 1996 Reviewed In : 2022 IEC 60931-1:1996	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 - Safety requirements - Guide for installation and operation (First	April, 2022	-	Identical under dual numbering

		Revision)			
6	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
7	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
8	IS 13666:1993 Reviewed In : 2023	Energy storage capacitors - Specification	May, 2023	-	Indigenous
9	IS 13925 (Part 1):2012 IEC 60871-1 : 2005 Reviewed In : 2022 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
10	IS 13925 (Part 2):2002 IEC 60871-2:1999 Reviewed In : 2022 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
11	IS 13925 (Part 3):2002 IEC 60871-3:1996 Reviewed In : 2022 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
12	IS 13925 (Part 4):2013 IEC 60871-4: 1996 Reviewed In : 2023 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
13	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
14	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
15	IS 16636:2017 Reviewed In : 2022	Automatic power factor correction (APFC) panels for voltage rating up to and including 1000 V	March, 2022	-	Indigenous
16	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
17	IS 2993:1998 IEC 252 Reviewed In : 2022 IEC 60252-1: 2010+AMD1:2013	A.C. motor capacitors (Second Revision)	July, 2023	-	Identical under dual numbering
18	IS 2993 (Part 1):2024 IEC 60252-1:2010 IEC 60252-1: 2010+AMD1:2013	a.c. Motor Capacitors Part 1 General - Performance, Testing and Rating - Safety Requirements - Guidance for Installation and Operation ( Third Revision )		1	Identical under dual numbering

19	IS 2993 (Part 2):2024 IEC 60252-2:2010 IEC 60252-1: 2010+AMD1:2013	a.c. Motor Capacitors Part 2 Motor Start Capacitors ( Third Revision )		1	Identical under dual numbering
20	IS/IEC 60110-1:1998 IEC 60110-1 : 1998 Reviewed In : 2021 IS/IEC 60110-1 : 199	Power Capacitors for Induction Heating Installations Part 1 General (First Revision)		-	Identical under single numbering
21	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
22	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
23	IS/IEC 60143-2:2012 IEC 60143-2:2012+ AMD1:2021 Reviewed In : 2024 IEC 60143-2:2012+ AMD1:2021	Series Capacitors for Power Systems Part 2: Protective Equipment for Series Capacitor Banks	October, 2024	-	Identical under single numbering
24	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
25	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
26	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
27	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
28	IS/IEC 61071:2017 IEC 61071:2017 Reviewed In : 2026 IEC 61071:2017	CAPACITORS FOR POWER ELECTRONICS (First Revision)	November, 2026	-	Identical under single numbering
29	IS/IEC 62146-1:2013 IEC 62146-1: 2013 + AMD 1: 2016 Reviewed In : 2024 IEC 62146-1: 2013	Grading capacitors for high-voltage alternating current circuit-breakers Part 1: General	July, 2024	-	Identical under single numbering

	+ AMD 1: 2016				
30	IS/IEC 62146-2:2023 IEC 62146-2:2023 IEC 62146-2:2023	Capacitors for High Voltage Alternating Current Circuit Breakers Part 2: TRV capacitors		-	Identical under single numbering

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 29 (28193)		SHUNT CAPACITORS FOR AC POWER SYSTEMS HAVING A RATED VOLTAGE ABOVE 1 000 V PART 1 GENERAL Second Revision		
2	ETD 29 (28194)		SHUNT CAPACITORS FOR AC POWER SYSTEMS HAVING A RATED VOLTAGE ABOVE 1 000 V PART 2 ENDURANCE TESTING Second Revision		
3	ETD 29 (28196)		SHUNT CAPACITORS FOR AC POWER SYSTEMS HAVING A RATED VOLTAGE ABOVE 1 000 V PART 3 PROTECTION OF SHUNT CAPACITORS AND SHUNT CAPACITOR BANKS First Revision		
4	ETD 29 (28199)		SHUNT CAPACITORS FOR AC POWER SYSTEMS HAVING A RATED VOLTAGE ABOVE 1 000 V PART 4 INTERNAL FUSES First Revision		

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:25 Total Standards Under development:4					
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Aspect Wise Report

Product : 15

Code of Practices : 0

Methods of Test : 7

Terminology : 0

Dimensions : 0

System Standard : 0

Safety Standard : 1

Others : 5  
Service Specification : 0  
Process Specification : 0  
Unclassified : 0

### Annexure-I :List of Indian Standards Withdrawn/Superseded

Sl. No.	IS No. & Year	Title
1	IS 11530:1985 Reviewed In : 2021	Specification for voltage grading capacitor
2	IS 12672:1989 IEC 60593 Reviewed In : 2021 IEC 60593:1977	Internal fuses and internal overpressure disconnectors for shunt capacitors - Specification
3	IS 12677:1989 IEC 60595 Reviewed In : 2021 IEC 60595 :1977	Internal fuses for series capacitors - Specification
4	IS 12730:1989 IEC 60594 Reviewed In : 2021 IEC 594:1977	Internal fuses and internal overpressure disconnectors for capacitors for inductive heat generating plants
5	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
6	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
7	IS 13580:1992 IEC 60594 Reviewed In : 2018 IEC 60931-1:1996	Internal fuses and internal overpressure disconnectors for power electronic capacitors
8	IS 13648:1993 IEC 61071 Reviewed In : 2018 IEC 61071-1 :1991	Power electronics capacitors
9	IS 2834:1986	Shunt capacitors for power systems
10	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
11	IS 9348:1998 IEC 358 Reviewed In : 2018 IEC 60358:1990	Coupling capacitors and capacitor dividers First Revision
12	IS 9835:1981 Reviewed In : 2017 iec 143:1972	Specification for series capacitors for power systems
13	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
14	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
15	IS 9835 (Part 3):2012 IEC 60143 Part 3	Series capacitors for power systems Part 3 internal fuses

## Annexure-II :List of Indian Product Standards

Sl. No.	IS No. & Year	Title
1	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
2	IS 13340 (Part 1):2024 IEC 60831-1: 2014	Shunt Power Capacitors of the Self-Healing Type for a c 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
3	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
4	IS 13666:1993 Reviewed In : 2023	Energy storage capacitors - Specification
5	IS 13925 (Part 4):2013 IEC 60871-4: 1996 Reviewed In : 2023 IEC 60871-4:1996	Shunt capacitors for a c power systems having a rated voltage above 1000 V Part 4 internal fuses
6	IS 16636:2017 Reviewed In : 2022	Automatic power factor correction APFC panels for voltage rating up to and including 1000 V
7	IS 1709:1984 iec 252 Reviewed In : 2021 IEC 252:1975	Specification for capacitors or electric fan motors First Revision
8	IS 2993 (Part 2):2024 IEC 60252-2:2010	a c Motor Capacitors Part 2 Motor Start Capacitors Third Revision
9	IS/IEC 60110-1:1998 IEC 60110-1 : 1998 Reviewed In : 2021	Power Capacitors for Induction Heating Installations Part 1 General First Revision
10	IS/IEC 60143-1:2015 IEC 60143-1:2015 ISO 14627 : 2012	SERIES CAPACITORS FOR POWER SYSTEMS PART 1 GENERAL Second Revision
11	IS/IEC 60143-2:2012 IEC 60143-2:2012+AMD1:2021 Reviewed In : 2024	Series Capacitors for Power Systems Part 2 Protective Equipment for Series Capacitor Banks
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 Reviewed In : 2026 ISO 14705 : 2016	CAPACITORS FOR POWER ELECTRONICS First Revision
14	IS/IEC 62146-1:2013 IEC 62146-1: 2013 + AMD 1: 2016 Reviewed In : 2024	Grading capacitors for high-voltage alternating current circuit-breakers Part 1 General
15	IS/IEC 62146-2:2023 IEC 62146-2:2023	Capacitors for High Voltage Alternating Current Circuit Breakers Part 2 TRV capacitors