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	Specification for capacitors for	November, 2021	2	Indigenous
	Reviewed In: 2021	surge protection for use in voltage			
		system above 650 V and up to 33			
		KV			
2	IS 13203:1991	Method for verifying accuracy of	October, 2021	-	Modified/Technically
	IEC 60996:1989	tan delta measurements			Equivalent
	Reviewed In: 2021				
	IEC 60996:1989				
3	· ·	Shunt Power Capacitors of the Self-		-	Identical under dual
	1):2024	Healing Type for a.c. Systems			numbering
	IEC 60831-1: 2014	Having a Rated Voltage up to and			
	IEC 60831-1: 2014	Including 1 000 V Part 1 General -			
		Performance, Testing and Rating -			
		Safety Requirements - Guide for			
		Installation and Operation (Second			
		Revision)			
4		Shunt Power Capacitors of the Self-		-	Identical under dual
	2):2024	Healing Type for a.c. Systems			numbering
	IEC 60831-2: 2014	Having a Rated Voltage up to and			
	IEC 60831-2: 2014	Including 1 000 V Part 2 Ageing			
		Test, Self-Healing Test and			
		Destruction Test (First Revision)			
5		Shunt power capacitors of the non -	April, 2022	-	Identical under dual
	1):2012	Self - Healing type for ac systems			numbering
	IEC 60931-1:1996	0 0 1			
	Reviewed In: 2022	including 1 000 v: Part 1 general -			
	IEC 60931-1:1996	Performance, testing and rating -			
		Safety requirements - Guide for			
		installation and operation (First			

I		Revision)		1	I
6	IS 13585 (Part	Shunt power capacitors of the non -	February, 2023	-	Identical under dual
	2):2013	Self - Healing type for a.c. systems	•		numbering
	IEC 60931-2: 1995	having a rated voltage up to and			
	Reviewed In: 2023	including 1 000 v: Part 2 ageing			
	IEC 60931-2:1996	test and destruction test			
7		Shunt power capacitors of the non -	February, 2023	=	Identical under dual
	3):2013	Self - Healing type for a.c. systems			numbering
	IEC 60931-3: 1996	having a rated voltage up to and			
	Reviewed In : 2023	including 1 000 V: Part 3 internal			
8	IEC 60931-3:1996 IS 13666:1993	fuses Energy storage capacitors -	May, 2023		Indigenous
0	Reviewed In : 2023	Specification	Way, 2023	_	margenous
9	IS 13925 (Part	Shunt capacitors for a.c. power	April, 2022	-	Identical under dual
	1):2012	systems having a rated voltage			numbering
	· · · · · · · · · · · · · · · · · · ·	above 1000 V: Part 1 general (First			8
	Reviewed In: 2022	Revision)			
	IEC60871-1:2005				
10	IS 13925 (Part	Shunt capacitors for a.c. power	March, 2022	-	Identical under dual
	2):2002	systems having a rated voltage			numbering
	IEC 60871-2:1999	above 1000 V: Part 2 endurance			
	Reviewed In: 2022	testing (First Revision)			
11	IEC60871-2:1999	Claret and it and for a second	M1- 2022		Identical and an Acal
11	IS 13925 (Part 3):2002	Shunt capacitors for a.c. power systems having a rated voltage	March, 2022	-	Identical under dual
	IEC 60871-3:1996	above 1000 V: Part 3 protection of			numbering
	Reviewed In : 2022	shunt capacitors and shunt			
	IEC 60871-3:1996	capacitor banks			
12	IS 13925 (Part	Shunt capacitors for a.c. power	February, 2023	-	Identical under dual
	4):2013	systems having a rated voltage	•		numbering
	IEC 60871-4: 1996	above 1000 V: Part 4 internal fuses			
	Reviewed In: 2023				
	IEC 60871-4:1996				
13		Industrial AC networks affected by	October, 2023	-	Identical under dual
		harmonics application of filters and			numbering
	Reviewed In: 2023 IEC 61642:1997	shunt capacitors			
14	IS 15406 (Part	Capacitors for microwave ovens:	October, 2023		Identical under dual
14	1):2003	Part 1 general	October, 2023	_	numbering
	IEC 61270-1:1996	Tart i general			numbering
	Reviewed In: 2023				
L_	IEC 61270-1: 1996				
15	IS 16636:2017	Automatic power factor correction	March, 2022	-	Indigenous
		(APFC) panels for voltage rating			
	Reviewed In: 2022	up to and including 1000 V			
16	IS 1709:1984	Specification for capacitors or	December, 2024	3	Modified/Technically
	iec 252	electric fan motors (First Revision)			Equivalent
	Reviewed In : 2021				
17	IEC 252:1975 IS 2993:1998	A.C. motor capacitors (Second	July, 2023	+	Identical under dual
1/	IEC 252	Revision)	July, 2023	_	numbering
	Reviewed In: 2022	140 (151011)			numbering
	IEC 60252-1:				
	2010+AMD1:2013				
18	IS 2993 (Part	a.c. Motor Capacitors Part 1		1	Identical under dual
	1):2024	General - Performance, Testing			numbering
		and Rating - Safety Requirements -			
	IEC 60252-1:	Guidance for Installation and			
	2010+AMD1:2013	Operation (Third Revision)			
	I	1		1	1

19	2):2024 IEC 60252-2:2010	a.c. Motor Capacitors Part 2 Motor Start Capacitors (Third Revision)		1	Identical under dual numbering
	IEC 60252-1: 2010+AMD1:2013				
20	IS/IEC	Power Capacitors for Induction		-	Identical under single
	60110-1:1998 IEC 60110-1 : 1998	Heating Installations Part 1 General (First Revision)			numbering
	Reviewed In: 2021	,			
	IS/IEC 60110-1 : 199				
21	IS/IEC/TS	POWER CAPACITORS FOR		-	Identical under single
	60110-2:2000	INDUCTION HEATING			numbering
	IEC TS 60110-2 : 2000	INSTALLATIONS PART 2 : AGEING TEST DESTRUCTION			
	IEC 60110-2 : 2000				
		FOR DISCONNECTING			
22	IS/IEC	INTERNAL FUSES SERIES CAPACITORS FOR			Identical under single
22	60143-1:2015	POWER SYSTEMS PART 1 :		_	numbering
	IEC 60143-1:2015	GENERAL (Second Revision)			
	IEC 60143-1:2015		0 + 1 2024		T1 (1 1 1 1 1
23	IS/IEC 60143-2:2012	Series Capacitors for Power Systems Part 2: Protective	October, 2024	-	Identical under single numbering
	IEC 60143-2:2012+	Equipment for Series Capacitor			numbering
	AMD1:2021	Banks			
	Reviewed In : 2024				
	IEC 60143-2:2012+ AMD1:2021				
24	IS/IEC	SERIES CAPACITORS FOR		-	Identical under single
	60143-3:2015	POWER SYSTEMS PART 3:			numbering
	IEC 60143-3:2015 IEC 60143-3:2015	INTERNAL FUSES (First Revision)			
25	IS/IEC 00143-3.2013	SERIES CAPACITORS FOR		_	Identical under single
	60143-4:2010	POWER SYSTEMS PART 4:			numbering
	IEC 60143-4:2010	THYRISTOR CONTROLLED			
26	IEC 60143-4:2010 IS/IEC	SERIES CAPACITORS COUPLING CAPACITORS AND		_	Identical under single
20	60358-1:2012	CAPACITOR DIVIDERS PART 1			numbering
	IEC 60358-1:2012	GENERAL RULES (Second			
27	60358-1:2012	Revision)			Identical under ainele
27	IS/IEC 60358-2:2013	COUPLING CAPACITORS AND CAPACITOR DIVIDERS PART 2		-	Identical under single numbering
	IEC 60358-2:2013	a.c. or d.c. SINGLE-PHASE			
	IEC 60358-2:2013	COUPLING CAPACITOR			
		CONNECTED BETWEEN LINE AND GROUND FOR POWER			
		LINE CARRIER-FREQUENCY			
		(PLC) APPLICATION			
28	IS/IEC 61071:2017	CAPACITORS FOR POWER	November, 2026	-	Identical under single
	IEC 61071:2017 Reviewed In : 2026	ELECTRONICS (First Revision)			numbering
	IEC 61071:2017				
29	IS/IEC	Grading capacitors for high-voltage	July, 2024	-	Identical under single
	62146-1:2013 IEC 62146-1: 2013	alternating current circuit-breakers Part 1: General			numbering
	+ AMD 1: 2016	rait 1; General			
	Reviewed In: 2024				
	IEC 62146-1: 2013				
•	•	. '		•	•

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

Standards under Development

	Projects Approved				
SI. No.	SI. No. Doc No. Title				
	No Records Found				

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

	Drafts Standards in WC Stage				
SI. No.	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.	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

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

SI. No.	IS No. & Year	Title
1	IS 11530:1985	Specification for voltage grading capacitor
	Reviewed In: 2021	
2	IS 12672:1989	Internal fuses and internal overpressure disconnectors for shunt capacitors - Specification
	IEC 60593	
	Reviewed In: 2021 IEC	
	60593:1977	
3	IS 12677:1989	Internal fuses for series capacitors - Specification
	IEC 60595	
	Reviewed In: 2021 IEC	
	60595 :1977	
4	IS 12730:1989	Internal fuses and internal overpressure disconnectors for capacitors for inductive heat generating
	IEC 60594	plants
	Reviewed In: 2021 IEC	
	594:1977	
5	IS 13340:1993	Power capacitors of self-Healing type for AC power systems having rated voltage up to 650 V -
	IEC 60831-1	Specification
	Reviewed In: 2018 IEC	
	Pub 831-1 (1988)	Device of the Assistant Colf Institute of Device of Transcription Character of the
6	IS 13341:1992 IEC 60831-2	Requirements for Ageing Test Self-healing Test and Destruction Test on Shunt Capacitors of the
	Reviewed In : 2008	Self-healing Type for Ac Power Systems Having a Rated Voltage Upto and Including 650 V
7	IS 13580:1992	Internal fuses and internal everyweeding appropriately for never electronic conscitors
/	IEC 60594	Internal fuses and internal overpressure disconnectors for power electronic capacitors
	Reviewed In : 2018 IEC	
	60931-1:1996	
8	IS 13648:1993	Power electronics capacitors
	IEC 61071	Tower electronics cupacitors
	Reviewed In : 2018 IEC	
	61071-1 :1991	
9	IS 2834:1986	Shunt capacitors for power systems
10	IS 9251:1979	Specification for capacitors for inductive heat generating plants operating at frequencies between
	iec 60110	40 and 24 000 HZ
	Reviewed In: 2021 IS 9295	
	- 1979	
11	IS 9348:1998	Coupling capacitors and capacitor dividers First Revision
	IEC 358	
	Reviewed In: 2018 IEC	
	60358:1990	
12	IS 9835:1981	Specification for series capacitors for power systems
	Reviewed In: 2017 iec	
10	143:1972	
13	IS 9835 (Part 1):2001	Series Capacitors for Power Systems - Part 1 General Performance Testing and Rating - Safety
	IEC 60143-1	Requirements - Guide for Installation
	Reviewed In : 2021 IEC	
14	60143-1:1992 IS 0835 (Part 2):2021	SERIES CAPACITORS FOR POWER SYSTEMS PART 2 PROTECTIVE EQUIPMENT FOR
14	IS 9835 (Part 2):2021 IEC 60143-2:2012	SERIES CAPACITORS FOR POWER SYSTEMS PART 2 PROTECTIVE EQUIPMENT FOR SERIES CAPACITOR BANKS
	ISO 31073: 2022	SERIES CAFACITOR DANKS
15	IS 9835 (Part 3):2012	Series capacitors for power systems Part 3 internal fuses
	IEC 60143 Part 3	sories capacitors for power systems fait 3 internal ruses
I	12C 001+3 1 art 3	

Reviewed In: 2017 IEC 60143-3: 1998

Annexure-II :List of Indian Product Standards

SI. No.	IS No. & Year	Title
1	IS 11548:1986	Specification for capacitors for surge protection for use in voltage system above 650 V and up to
	Reviewed In: 2021	33 KV
2	IS 13340 (Part 1):2024	Shunt Power Capacitors of the Self-Healing Type for a c Systems Having a Rated Voltage up to
	IEC 60831-1: 2014	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	Shunt power capacitors of the non - Self - Healing type for a c systems having a rated voltage up to
	IEC 60931-3: 1996	and including 1 000 V Part 3 internal fuses
	Reviewed In: 2023 IEC	
	60931-3:1996	
4	IS 13666:1993	Energy storage capacitors - Specification
	Reviewed In: 2023	
5	IS 13925 (Part 4):2013	Shunt capacitors for a c power systems having a rated voltage above 1000 V Part 4 internal fuses
	IEC 60871-4: 1996	
	Reviewed In: 2023 IEC	
	60871-4:1996	
6	IS 16636:2017	Automatic power factor correction APFC panels for voltage rating up to and including 1000 V
	Reviewed In: 2022	
7	IS 1709:1984	Specification for capacitors or electric fan motors First Revision
	iec 252	
	Reviewed In: 2021 IEC	
	252:1975	Mar G. C. D. Oliver, G. G. C. Till ID. C.
8	IS 2993 (Part 2):2024	a c Motor Capacitors Part 2 Motor Start Capacitors Third Revision
	IEC 60252-2:2010	
9	IS/IEC 60110-1:1998	Power Capacitors for Induction Heating Installations Part 1 General First Revision
	IEC 60110-1:1998	Tower capacitors for induction reading installations fair i deficial installation
	Reviewed In: 2021	
10	IS/IEC 60143-1:2015	SERIES CAPACITORS FOR POWER SYSTEMS PART 1 GENERAL Second Revision
	IEC 60143-1:2015	
	ISO 14627 : 2012	
11	IS/IEC 60143-2:2012	Series Capacitors for Power Systems Part 2 Protective Equipment for Series Capacitor Banks
	IEC	
	60143-2:2012+AMD1:2021	
	Reviewed In: 2024	
12	IS/IEC 60143-4:2010	SERIES CAPACITORS FOR POWER SYSTEMS PART 4 THYRISTOR CONTROLLED
	IEC 60143-4:2010	SERIES CAPACITORS
13	IS/IEC 61071:2017	CAPACITORS FOR POWER ELECTRONICS First Revision
	IEC 61071:2017	
	Reviewed In: 2026 ISO	
	14705 : 2016	
14	IS/IEC 62146-1:2013	Grading capacitors for high-voltage alternating current circuit-breakers Part 1 General
	IEC 62146-1: 2013 + AMD	
	1: 2016	
	Reviewed In: 2024	
15	IS/IEC 62146-2:2023	Capacitors for High Voltage Alternating Current Circuit Breakers Part 2 TRV capacitors
	IEC 62146-2:2023	