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	IS 13340 (Part 1):	Shunt power capacitors of the self -	May, 2022	-	Identical under dual
	2012	Healing type for ac systems having			numbering
		a rated voltage up to and including			
	Reviewed In: 2017	1000 V: Part 1 general -			
	IEC 60831-1: 2014	Performance, testing and rating -			
		Safety requirements - Guide for			
		installation and operation (First			
		Revision)			
4		Shunt Power Capacitors of the Self-		-	Identical under dual
	2024	Healing Type for a.c. Systems			numbering
		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)			
5		Shunt Power Capacitors of the Self-		-	Identical under dual
	2024	Healing Type for a.c. Systems			numbering
	IEC 60831-2: 2014				
	IEC 60831-2: 2014				
		Test, Self-Healing Test and			
					l l

	l	Destruction Test (First Revision)		1	
6	IS 13340 (Part 2):	Shunt power capacitors of the self -	April, 2022	-	Identical under dual
	2012	Healing type for ac systems having			numbering
	IEC 60831-2: 1995	a rated voltage up to and including			
	Reviewed In: 2022	1000 V: Part 2 ageing test, self -			
	IEC 60831-2: 2014	Healing test and destruction test			
7	IS 13585 (Part 1):	Shunt power capacitors of the non -	April, 2022	-	Identical under dual
	2012	Self - Healing type for ac systems	_		numbering
	IEC 60931-1:1996	having a rated voltage up to and			
	Reviewed In: 2017	including 1 000 v: Part 1 general -			
	IEC 60931-1:1996	Performance, testing and rating -			
		Safety requirements - Guide for			
		installation and operation (First			
		Revision)			
8	IS 13585 (Part 2):	Shunt power capacitors of the non -	February, 2023	-	Identical under dual
	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			
9		Shunt power capacitors of the non -	February, 2023	-	Identical under dual
	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			
	IEC 60931-3:1996	fuses			
10	IS 13666 : 1993	Energy storage capacitors -	May, 2023	-	Indigenous
	Reviewed In: 2018	Specification		_	
11	IS 13925 (Part 1):	Shunt capacitors for a.c. power	April, 2022	-	Identical under dual
	2012	systems having a rated voltage			numbering
		above 1000 V: Part 1 general (First			
	Reviewed In: 2017 IEC60871-1: 2005	Revision)			
12	IS 13925 (Part 2):	Shunt capacitors for a.c. power	March, 2022	1	Identical under dual
12	2002	systems having a rated voltage	Maich, 2022	_	numbering
	IEC 60871-2:1999	above 1000 V: Part 2 endurance			numbering
	Reviewed In : 2017	testing (First Revision)			
	IEC60871-2:1999	testing (First Revision)			
13	IS 13925 (Part 3):	Shunt capacitors for a.c. power	March, 2022	_	Identical under dual
15	2002	systems having a rated voltage	11141011, 2022		numbering
		above 1000 V: Part 3 protection of			numo vimg
	Reviewed In: 2017	shunt capacitors and shunt			
	IEC 60871-3:1996	capacitor banks			
14	IS 13925 (Part 4):	Shunt capacitors for a.c. power	February, 2023	-	Identical under dual
	2013	systems having a rated voltage	• *		numbering
	IEC 60871-4: 1996	above 1000 V: Part 4 internal fuses			
	Reviewed In: 2018				
	IEC 60871-4:1996				
15	IS 15395 : 2003	Industrial AC networks affected by	October, 2023	-	Identical under dual
	IEC 61642:1997	harmonics application of filters and			numbering
	Reviewed In: 2023	shunt capacitors			
	IEC 61642:1997				
16	IS 15406 (Part 1):	Capacitors for microwave ovens:	October, 2023	-	Identical under dual
	2003	Part 1 general			numbering
	IEC 61270-1:1996				
	Reviewed In: 2023				
	IEC 61270-1: 1996			1	
17	IS 16636 : 2017	Automatic power factor correction	March, 2022	-	Indigenous
		(APFC) panels for voltage rating			
10	IC 1700 - 1004	up to and including 1000 V	Daggerhan 2004	2	Modified/Testeries11
18	IS 1709 : 1984	Specification for capacitors or	December, 2024	3	Modified/Technically

l	iec 252	electric fan motors (First Revision)		I	Equivalent
	Reviewed In: 2021	ciecule rail motors (1 iist Revision)			Equivalent
	IEC 252:1975				
19	IS 2993 (Part 1):	A.C. motor capacitors (Second	July, 2023		Identical under dual
19	1998	Revision)	July, 2023	_	numbering
	IEC 252	Revision)			numbering
	Reviewed In: 2022				
	IEC 60252-1:				
	2010+AMD1:2013			ļ	
20	IS 2993 (Part 1):	a.c. Motor Capacitors Part 1		-	Identical under dual
	2024	General - Performance, Testing			numbering
		and Rating - Safety Requirements -			
	IEC 60252-1:	Guidance for Installation and			
	2010+AMD1:2013	Operation (Third Revision)			
21	IS 2993 (Part 2):	a.c. Motor Capacitors Part 2 Motor		-	Identical under dual
	2024	Start Capacitors (Third Revision)			numbering
	IEC 60252-2:2010	_			_
	IEC 60252-1:				
	2010+AMD1:2013				
22	IS/IEC 60110-1:	Power Capacitors for Induction		-	Identical under single
-		Heating Installations Part 1 General			numbering
	IEC 60110-1:1998	(First Revision)			
	Reviewed In: 2021	(Tilst Revision)			
	IS/IEC 60110-1:				
	199				
23	IS/IEC/TS 60110-2 :	POWER CAPACITORS FOR			Identical under single
23	2000	INDUCTION HEATING		_	
	IEC TS 60110-2 :	INSTALLATIONS PART 2:			numbering
	2000	AGEING TEST DESTRUCTION			
	IEC 60110-2 : 2000	_			
		FOR DISCONNECTING			
24	10/IEC (01.42.1	INTERNAL FUSES			71 1 . 1 . 1
24	IS/IEC 60143-1:	SERIES CAPACITORS FOR		-	Identical under single
	2015	POWER SYSTEMS PART 1:			numbering
	IEC 60143-1:2015	GENERAL (Second Revision)			
	IEC 60143-1:2015				
25	IS/IEC 60143-2:	Series Capacitors for Power		-	Identical under single
	2012	Systems Part 2: Protective			numbering
	IEC 60143-2:2012+	1 1			
	AMD1:2021	Banks			
	IEC 60143-2:2012+				
	AMD1:2021				
26	IS/IEC 60143-3:	SERIES CAPACITORS FOR		-	Identical under single
	2015	POWER SYSTEMS PART 3:			numbering
	IEC 60143-3:2015	INTERNAL FUSES (First			
L	IEC 60143-3:2015	Revision)			
27	IS/IEC 60143-4:	SERIES CAPACITORS FOR		-	Identical under single
	2010	POWER SYSTEMS PART 4:			numbering
	IEC 60143-4:2010	THYRISTOR CONTROLLED			
	IEC 60143-4:2010	SERIES CAPACITORS			
28	IS/IEC 60358-1:	COUPLING CAPACITORS AND		-	Identical under single
	2012	CAPACITOR DIVIDERS PART 1			numbering
	IEC 60358-1:2012	GENERAL RULES (Second			
	60358-1:2012	Revision)			
29	IS/IEC 60358-2 :	COUPLING CAPACITORS AND		 _	Identical under single
-	2013	CAPACITOR DIVIDERS PART 2			numbering
	IEC 60358-2:2013	a.c. or d.c. SINGLE-PHASE			numbering
	IEC 60358-2:2013	COUPLING CAPACITOR			
	110 00330-2,2013	CONNECTED BETWEEN LINE			
		CONNECTED BET WEEN LINE		1	

30	IS/IEC 61071 : 2017 IEC 61071:2017 IEC 61071:2017	AND GROUND FOR POWER LINE CARRIER-FREQUENCY (PLC) APPLICATION CAPACITORS FOR POWER ELECTRONICS (First Revision)	-	Identical under single numbering
31	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
32	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
33	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.	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		
No Records Found				

	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		
1	ETD 29 (26603)	a c Motor Capacitors Part 1 General - Performance Testing and Rating - Safety Requirements -		
		Guidance for Installation and Operation Third Revision Amendment - 1		
2	ETD 29 (26604)	a c Motor Capacitors Part 2 Motor Start Capacitors Third Revision Amendment - 1		

Total Published Standards:26 Total Standards Under development:2

Aspect Wise Report

Product: 16
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)	
6	IS 13341 : 1992	Requirements for Ageing Test Self-healing Test and Destruction Test on Shunt Capacitors of the
	IEC 60831-2	Self-healing Type for Ac Power Systems Having a Rated Voltage Upto and Including 650 V
	Reviewed In: 2008	
7	IS 13580 : 1992	Internal fuses and internal overpressure disconnectors for power electronic capacitors
	IEC 60594	
	Reviewed In: 2018 IEC	
	60931-1:1996	
8	IS 13648 : 1993	Power electronics capacitors
	IEC 61071	
	Reviewed In: 2018 IEC	
	61071-1 :1991	
9	IS 2834 : 1986	Shunt capacitors for power systems
10	IS 9251 : 1979	
10	iec 60110	Specification for capacitors for inductive heat generating plants operating at frequencies between 40 and 24 000 HZ
	Reviewed In: 2021 IS 9295	
11	- 1979	Coupling capacitors and capacitor dividers First Revision
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 conscitors for never systems
12		Specification for series capacitors for power systems
	Reviewed In : 2017 iec 143:1972	
	145:1972	

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 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 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 : 2018	Energy storage capacitors - Specification
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	and the second s
	Reviewed In: 2018 IEC	
	60871-4:1996	
6	IS 16636 : 2017	Automatic power factor correction APFC panels for voltage rating up to and including 1000 V
7	IS 1709 : 1984	Specification for capacitors or electric fan motors First Revision
,	iec 252	specification for capacitors of electric rail motors i fist Revision
	Reviewed In : 2021 IEC	
	252:1975	
8	IS 2993 (Part 2): 2024	a c Motor Capacitors Part 2 Motor Start Capacitors Third Revision
	IEC 60252-2:2010	
	YG WEG COA 40 4 4000	
9	IS/IEC 60110-1 : 1998	Power Capacitors for Induction Heating Installations Part 1 General First Revision
	IEC 60110-1 : 1998 Reviewed In : 2021	
10	IS/IEC 60143-1 : 2015	SERIES CAPACITORS FOR POWER SYSTEMS PART 1 GENERAL Second Revision
10	IEC 60143-1:2015	SERIES CATACITORS FOR FOWER STOTEMISTARY FOLIALIZATE SECOND REVISION
	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	
12	IC/IEC (01/2 / . 2010	CEDIES CADACITODS FOR DOWER SYSTEMS DART 4 THYDISTOR CONTROL LED
12	IS/IEC 60143-4 : 2010 IEC 60143-4:2010	SERIES CAPACITORS FOR POWER SYSTEMS PART 4 THYRISTOR CONTROLLED SERIES CAPACITORS
	ILC 00143-4.2010	SERIES CAI ACITORS
13	IS/IEC 61071 : 2017	CAPACITORS FOR POWER ELECTRONICS First Revision
	IEC 61071:2017	
	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	
15	IS/IEC 62146-2 : 2023	Capacitors for High Voltage Alternating Current Circuit Breakers Part 2 TRV capacitors
1.5	IEC 62146-2:2023	Capachors for riight voltage Ancinating Current Circuit Dicakers Fait 2 TKV capachors
I	1LC 021+0-2.2023	

16	IS 9835 (Part 2): 2021	SERIES CAPACITORS FOR POWER SYSTEMS PART 2 PROTECTIVE EQUIPMENT FOR
	IEC 60143-2:2012	SERIES CAPACITOR BANKS
	ISO 31073: 2022	