### **BUREAU OF INDIAN STANDARDS**

### **Program of Work**

### ETD 8: High Voltage Switchgear And Controlgear

Scope: To prepare standards for switchgear and controlgear; such as circuit breakers, switches

contactors, starters, disconnectors, busbars and any switchgear assemblies for voltages more

than 1000 V ac

Liaison: **IEC TC-17 (P):** High-voltage switchgear and controlgear **IEC TC-17 SC-17A (P):** Switching

devices IEC TC-17 SC-17C (P): Assemblies

### **Published Standards**

S.No	IS No.	TITLE	Reaffirm M-Y	No. of Amds	Eqv.
1	IS 5561:2018	Electric power connectors -	March, 2023	1	Modified/Technically
		Specification (First Revision)			Equivalent
	Reviewed In: 2023				
	ANSI/ NEMA CC1 :				
	2009, BS 159 : 1992,				
	BS 3288-1 : 2014,				
	IEC 61284 : 1997,				
	IS/IEC 62271 (Part				
	1):20				
2	IS/IEC	HIGH-VOLTAGE		-	Identical under single
	62271-1:2017	SWITCHGEAR AND			numbering
	IEC 62271-1:2017+	CONTROLGEAR PART 1			
	AMD1:2021 CSV	COMMON SPECIFICATIONS			
	IEC 62271-1:2017+	FOR ALTERNATING CURRENT			
	AMD1:2021 CSV	SWITCHGEAR AND			
		CONTROLGEAR			
3	IS/IEC	High-voltage switchgear and		-	Identical under single
	62271-100:2021	controlgear Part 100 Alternating-			numbering
	IEC 62271-100:2021	current circuit-breakers			
	IEC				
	62271-100:2021				
4	IS/IEC High-Voltage Switchgear and			-	Identical under single
	62271-101:2021	Controlgear Part 101: Synthetic			numbering
	IEC 62271-101:2021	Testing			
	IEC				
	62271-101:2021				
5	IS/IEC	High-Voltage Switchgear and		-	Identical under single
	62271-102:2018	Controlgear Part 102 Alternating			numbering
	IEC 62271-102 :	Current Disconnectors And			
	2018	Earthing Switches			
	IEC 62271-102:				
	2018				
6	IS/IEC	High-voltage switchgear and	October, 2023	-	Identical under single
	62271-103:2021	controlgear Part 103 Alternating			numbering
	IEC 62271-103:	current switches for rated voltages			
l					

	2021 Reviewed In : 2023 IEC 62271-103:	above 1 kV up to and including 52 kV ( First Revision )			
	2021				
7	IS/IEC	High-Voltage Switchgear and		-	Identical under single
	62271-104:2023	Controlgear: Part 104 Alternating			numbering
	IEC 62271-104:2020 IEC				
	62271-104:2020	Voltages Higher than 52 kV			
8	IS/IEC	High-voltage switchgear and		-	Identical under dual
	62271-105:2021	controlgear : Part 105 Alternating			numbering
	IEC 62271-105:	current switch-fuse combinations			
		for rated voltages above 1 kV up to			
	IEC 62271-105:	and including 52 kV			
9	2021 IS/IEC	High-voltage switchgear and			Identical under single
9	62271-106:2021	controlgear Part 106: Alternating		_	numbering
	IEC 62271-106:	current contactors contactor-based			namoernig
	2021	controllers and motorstarters			
	IEC 62271-106:				
10	2021				
10	IS/IEC	High-Voltage switchgear and		-	Identical under single
	62271-109:2019 IEC 62271-109:	Controlgear: Part 109 Alternating- current series capacitor by-pass			numbering
	2019	switches			
	IEC 62271-109:	Switches			
	2019				
11	IS/IEC	High-voltage switchgear and		-	Identical under single
	62271-110:2023	controlgear Part 110: Inductive			numbering
	IEC 62271-110:2023 IEC	load switching			
	62271-110:2023				
12	IS/IEC	High Voltage Switchgear and		-	Identical under single
	62271-111:2019	Controlgear: Part 111 Automatic			numbering
	IEC 62271-111:2019				
		current systems up to and including			
13	62271-111:2019 IS/IEC	38 kV High-voltage switchgear and		_	Identical under single
13	62271-200:2021	Controlgear Part 200 AC metal-		_	numbering
	IEC 62271-200:2021	_			8
	IEC	Controlgear for rated voltages			
	62271-200:2021	above 1 kV and up to and Including			
1.4	IC/IEC	52 kV	Manch 2024		Identical under cincle
14	IS/IEC 62271-201:2014	High-Voltage Switchgear and Controlgear Part 201 ac Solid-	March, 2024	-	Identical under single numbering
		Insulation Enclosed Switchgear and			namoering
	2014	Controlgear for Rated Voltages			
		Above 1 kV up to and Including 52			
	IEC 62271-201:	kV ( First Revision )			
15	2014 IS/IEC	High-voltage switchgear and			Identical under single
13	62271-202:2022	controlgear Part 202: AC		_	Identical under single numbering
		prefabricated substations for rated			namovinis
	IEC	voltages above 1 kV and up to and			
	62271-202:2022	including 52 kV (First Revision)			
16	IS/IEC	High - Voltage switchgear and		-	Identical under single
	62271-202:2014 IEC 62271-202 :	controlgear: Part 202 high - Voltage/low - Voltage			numbering
	2014	prefabricated substation			
	2011	presidented baobilition		I	l l

1	IEC	l I		1	1
	62271-202:2022				
17	IS/IEC	High-voltage switchgear and		-	Identical under single
	62271-203:2022	controlgear Part 203: AC gas-			numbering
	IEC 62271-203:2022	insulated metal-enclosed			
	IEC	switchgear for rated voltages above			
	62271-203:2022	52 kV			
18	IS/IEC	High-voltage switchgear and		-	Identical under single
	62271-207:2023	controlgear Part 207: Seismic			numbering
	IEC 62271-207:	qualification for gas-insulated			
	2023	switchgear assemblies metal			
	IEC 62271-207:	enclosed and solid-insulation			
	2023	enclosed switchgear for rated			
		voltages above 1 kV Second			
		Revision			
19	IS/IEC	High - Voltage switchgear and	March, 2016	-	Identical under single
	62271-207:2012	controlgear: Part 207 seismic			numbering
	IEC 62271-207:	qualification for gas - Insulated			
	2012	switchgear assemblies for rated			
	Reviewed In: 2016	voltages above 52 kV (First			
	IEC 62271-207:	Revision)			
20	2023 IS/IEC	High-Voltage Switchgear and	March, 2024		Identical under dual
20	62271-300:2006	Controlgear Part 300 Seismic	Maich, 2024	-	numbering
	IEC 62271-300 :	Qualification of Alternating			numbering
	2006	Current Circuit-Breakers			
	Reviewed In: 2024	Current Circuit-Dicakers			
	IEC 62271-300 :				
	2006				
21	IS/IEC	High Voltage Switchgear &	March, 2023	-	Identical under single
	62271-301:2009	Controlgear Part 301 Dimensional	,		numbering
		Standardization of High Voltage			
	Reviewed In: 2023	Terminals			
	62271 : Part 301 :				
	2009				
22	IS 8084:2025	Interconnecting Bus-Bars for a.c.		-	Indigenous
		Voltage Above 1 kV up to and			
		Including 36 kV � Specification			
		(First Revision)			

# **Standards under Development**

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

	Preliminary Draft Standards		
SI. No.	Doc No.	Title	
1	ETD 8 (27174)	Code of Practice for on-site Diagnostic Tests and Condition Monitoring of High Voltage	
		Substation Equipment	

	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.	SI. No. Doc No. Title		
	No Records Found		

Total Published Standards:19 Total Standards Under development:1

### **Aspect Wise Report**

Product: 17
Code of Practices: 1
Methods of Test: 1
Terminology: 0
Dimensions: 0
System Standard: 0
Safety Standard: 0
Others: 0

Service Specification: 0 Process Specification: 0 Unclassified: 1

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

SI. No.	IS No. & Year	Title
1	IS 10601:1983	Dimensions of terminals of high voltage switchgear and controlgear
	Reviewed In: 2015	
2	IS 12661 (Part 1):1988	High Voltae Motor-starter Part 1 Direct-on-line full Voltage Ac Starters
	Reviewed In: 2005	
3	IS 12729:2004	Common High-Voltage Switchgear and Controlgear Standards
	Reviewed In: 2014	
4	IS 13118:1991	High-Voltage Alternating-Current Circuit-Breakers
	Reviewed In: 2012	
5	IS 13516:1993	Methods of Synthetic Testing of High Voltage Alternating Current Circuit-breakers
	Reviewed In: 2013	
6	IS 14657:1999	Gas insulated metal enclosed switchgear for rated voltages 72 5 kV and above - requirements for
	Reviewed In: 2013	switching of bus-charging currents by disconnectors
7	IS 14658:1999	High Voltage Alternating Current Circuit Breakers - Guide for Short-circuit and Switching Test
	Reviewed In: 2014	Procedures for Metal-enclosed and Dead Tank Circuit Breakers
8	IS 14659:1999	A C Insulation-Enclosed Switchgear and Controlgear for Rated Voltages Above 1 kV and up to
	Reviewed In: 2014	and Including 38 Kv
9	IS 14666:1999	High-voltage Alternating Current Switch-fuse Combinations
	Reviewed In: 2014	
10	IS 14674:1999	High Voltage Alternating Current Circuit-breakers-guide for Seismic Qualification of High
	Reviewed In: 2014	Voltage Alternating Current Circuit-breakers
11	IS 14786:2000	High-Voltage Low-Voltage Prefabricated Substations
	Reviewed In: 2015	
12	IS 1818:1972	Alternating current isolators disconnectors and earthing switches

13	IS 2516 (Part 1/Sec 2):1980	Circuit-breakers Part 1 General and definitions Sec 2 For voltages above 1000V ac
14	IS 2516 (Part 1/Sec 3):1972	Circuit breakers Part 1 General and definitions Sec 3 Voltages above 11 kV
15	IS 2516 (Part 2/Sec 2):1980	Circuit breakers Part 2 Rating Sec 2 For voltages above 1000 V ac
16	IS 2516 (Part 3/Sec 2):1980	Circuit breakers Part 3 Design and construction Sec 2 for Voltages above 1000 V ac
17	IS 2516 (Part 4/Sec 2):1980	Circuit Breakers Part 4 Type Tests and Routine Tests Sec 2 For Voltages Above 1000 V ac
18	IS 2516 (Part 5/Sec 2):1980	Circuit Breakers Part 5 Information to be given with enquiries Tenders and Orders and Ruls of Transport Erection and Maintenance Sec 2 for Voltages above 1000 V ac
19	IS 3427:1997 IEC 298 :1990 Reviewed In : 2012 IEC 298 :1990	A C Metal Enclosed Switchgear and Controlgear for Rated Voltages Above 1 kV and Up to and Including 52 kV
20	IS 4710:1968	Switches and switch-isolators above 1000 V but not exceeding 11000 V
21	IS/IEC 517:1990 Reviewed In : 2012 IEC 517	Gas Insulated Metal Enclosed Switchgear for Rated Voltages of 72 5 kV and above
22	IS/IEC 60470:2000 Reviewed In : 2014 IEC 60470:2000	High-Voltage Switchgear Alternating Current Contactors and Contactor-Based Motor Starters
23	IS 7567:1993 Reviewed In : 2012	Automatic circuit reclosers
24	IS 7987:1976	Guide for selection of high voltage ac circuit breakers
25	IS 9046:1978 Reviewed In : 2007	AC contactors of voltage above 1000 V upto and including 11000 V
26	IS 9135:1979 Reviewed In : 2017 IEC Pub 56-4 ( 1972), IEC Pub 267 ( 1968 )	Guide for testing of circuit - Breakers with respect to out - Of - Phase switching
27	IS 9920 (Part 1):2002 Reviewed In : 2012	High Voltage Switches - Part 1 Switches for Rated Voltages Above 1 kV and Less Than 52 Kv
28	IS 9920 (Part 2):2001 Reviewed In : 2016	High Voltages Switches Part II High Voltage Switches for rated Voltages of 52kV and abve Rating
29	IS 9920 (Part 3):1982 Reviewed In : 2012	Alternating Current Switches for Voltages Above 1 000 V - Part III Design and Construction
30	IS 9920 (Part 4):1985 Reviewed In : 2012	Alternating Current Switches for Voltages Above 1000 V - Part 4 Type Tests and Routine Tests
31	IS 9921 (Part 1):1981 Reviewed In : 2012	Alternating Current Disconnectors Isolators and Earthing Switches for Voltages Above 1 000 V - Part I General and Definitions
32	IS 9921 (Part 2):1982	Alternating current disconnectors isolators and earthing switches for voltages above 1000 V Part 2
33	Reviewed In : 2012 IS 9921 (Part 3):1982	Rating  Alternating Current Disconnectors Isolators and Earthing Switches for Voltages Above 1000 V -
34	Reviewed In : 2012 IS 9921 (Part 4):1985	Part III Design and Construction  Alternating Current Disconnectors isolators and Earthing Switches for Voltages Above 1000 V -
35	Reviewed In: 2012 IS 9921 (Part 5):1985 Reviewed In: 2012	Part 4 Type Tests and Routine Tests  Alternating Current Disconnectors Isolators and Earthing Switches for Voltages Above 1 000 v - Part 5 Information to be Given with Tenders Enquiries and Orders

## **Annexure-II : List of Indian Product Standards**

	SI. No.	IS No. & Year	Title
Γ	1	IS 5561:2018	Electric power connectors - Specification First Revision
ı			
1		Reviewed In: 2023 ANSI/	

	1	1
	NEMA CC1 : 2009, BS 159	
	: 1992, BS 3288-1 : 2014,	
	IEC 61284 : 1997, IS/IEC	
	62271 (Part 1) : 20	
2	IS/IEC 62271-1:2017	HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR PART 1 COMMON
	IEC	SPECIFICATIONS FOR ALTERNATING CURRENT SWITCHGEAR AND CONTROLGEAR
	62271-1:2017+AMD1:2021	
	CSV	
	CSV	
	10/FC (2271 100 2021	TT 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
3	IS/IEC 62271-100:2021	High-voltage switchgear and controlgear Part 100 Alternating-current circuit-breakers
	IEC 62271-100:2021	
4	IS/IEC 62271-102:2018	High-Voltage Switchgear and Controlgear Part 102 Alternating Current Disconnectors And
	IEC 62271-102 : 2018	Earthing Switches
5	IS/IEC 62271-103:2021	High-voltage switchgear and controlgear Part 103 Alternating current switches for rated voltages
	IEC 62271-103: 2021	above 1 kV up to and including 52 kV First Revision
	Reviewed In: 2023	
6	IS/IEC 62271-104:2023	High-Voltage Switchgear and Controlgear Part 104 Alternating Current Switches for Rated
Ü	IEC 62271-104:2020	Voltages Higher than 52 kV
	120 022/1 101.2020	Volugeo Higher than 32 KV
7	IS/IEC 62271-105:2021	High-voltage switchgear and controlgear Part 105 Alternating current switch-fuse combinations
,	IEC 62271-105: 2021	
	IEC 022/1-103: 2021	for rated voltages above 1 kV up to and including 52 kV
0	IC/ICC (2271 10( 2021	II'. la alta a cita la contra la con
8	IS/IEC 62271-106:2021	High-voltage switchgear and controlgear Part 106 Alternating current contactors contactor-based
	IEC 62271-106: 2021	controllers and motorstarters
9	IS/IEC 62271-109:2019	High-Voltage switchgear and Controlgear Part 109 Alternating-current series capacitor by-pass
	IEC 62271-109: 2019	switches
10	IS/IEC 62271-110:2023	High-voltage switchgear and controlgear Part 110 Inductive load switching
	IEC 62271-110:2023	
11	IS/IEC 62271-111:2019	High Voltage Switchgear and Controlgear Part 111 Automatic circuit reclosers for alternating
	IEC 62271-111:2019	current systems up to and including 38 kV
		g a surject of the surfect of the su
12	IS/IEC 62271-200:2021	High-voltage switchgear and Controlgear Part 200 AC metal-enclosed switchgear and Controlgear
12	IEC 62271-200:2021	for rated voltages above 1 kV and up to and Including 52 kV
	120 022/1 200.2021	To raced voluges above 1 kV and up to and morading 52 kV
13	IS/IEC 62271-201:2014	High-Voltage Switchgear and Controlgear Part 201 ac Solid-Insulation Enclosed Switchgear and
13	IEC 62271-201:2014	Controlgear for Rated Voltages Above 1 kV up to and Including 52 kV First Revision
		Controlged for Rated Voltages Above 1 kV up to and including 32 kV First Revision
	Reviewed In: 2024 IEC	
	62271-201 : 2014	
14	IS/IEC 62271-202:2022	High-voltage switchgear and controlgear Part 202 AC prefabricated substations for rated voltages
	IEC 62271-202:2022	above 1 kV and up to and including 52 kV First Revision
15	IS/IEC 62271-203:2022	High-voltage switchgear and controlgear Part 203 AC gas-insulated metal-enclosed switchgear for
	IEC 62271-203:2022	rated voltages above 52 kV
16	IS/IEC 62271-301:2009	High Voltage Switchgear Controlgear Part 301 Dimensional Standardization of High Voltage
	1	Terminals
	Reviewed In: 2023 62271:	
	Part 301 : 2009	
	1 art 301 . 2009	
17		Interconnecting Rue Rose for a c Voltage Above 1 LV up to and Including 26 LV Specification
17	IS 8084:2025	Interconnecting Bus-Bars for a c Voltage Above 1 kV up to and Including 36 kV Specification First Revision