

BUREAU OF INDIAN STANDARDS

Program of Work

ETD 16 : Transformers

Scope: To prepare standards on power and distribution transformers, reactors, onload tap changers, etc, without limitation on voltage or power. Transformer accessories and voltage stabilizers, testing transformers and furnace transformers are included. (Instrument transformers, welding transformers and traction transformers are excluded)

Liaison: **IEC TC-14 (P):** *Power transformers* **IEC TC-96 (P):** *Transformers, reactors, power supply units, and combinations thereof*

Published Standards

S.No	IS No.	TITLE	Reaffirm M-Y	No. of Amds	Eqv.
1	IS 10028 (Part 1) : 1985 Reviewed In : 2021	Code of practice for selection, installation and maintenance of transformers: Part 1 selection	July, 2021	-	Indigenous
2	IS 10028 (Part 2) : 1981 Reviewed In : 2021	Code of practice for selection, installation and maintenance of transformers: Part 2 installation	July, 2021	-	Indigenous
3	IS 10028 (Part 3) : 1981 Reviewed In : 2018	Code of practice for selection, installation and maintenance of transformers: Part 3 maintenance	July, 2018	1	Indigenous
4	IS 10161 : 1982 Reviewed In : 2021	Specification for moving coil voltage regulators	July, 2021	-	Indigenous
5	IS 1180 (Part 1) : 2014 Reviewed In : 2019	Outdoor Type Oil Immersed Distribution Transformers Upto and Including 2 500 kVA, 33kV - Specification Part 1 Mineral Oil Immersed (Fourth Revision)		4	Indigenous
6	IS 1180 (Part 3) : 2021	Outdoor/Indoor Type Liquid Immersed Distribution Transformers Up to and Including 2 500 kVA, 33 kV — Specification Part 3 Natural/Synthetic Organic Ester Liquid Immersed		-	Indigenous
7	IS 12977 : 1990 Reviewed In : 2019	Arc furnace transformers specification	November, 2019	-	Indigenous
8	IS 13956 : 1994 Reviewed In : 2019	Testing transformers - Specification	November, 2019	-	Indigenous
9	IS 18284 : 2023	REPAIR OF DISTRIBUTION TRANSFORMERS - CODE OF PRACTICE		-	Indigenous
10	IS 2026 (Part 1) : 2011 Reviewed In : 2021 IEC 60076-1 : 2000	Power transformers: Part 1 general (Second Revision)	November, 2021	1	Modified/Technically Equivalent
11	IS 2026 (Part 2) :	Power transformers: Part 2	March, 2020	-	Modified/Technically

	2010 Reviewed In : 2020 IEC 60076-2 : 1993	temperature - Rise (First Revision)			Equivalent
12	IS 2026 (Part 3) : 2018 IEC 60076-3 : 2000 Reviewed In : 2023 IEC 60076-3:2013	Power transformers: Part 3 insulation levels, dielectric tests and external clearances in air (Fourth Revision)	May, 2023	-	Identical under dual numbering
13	IS 2026 (Part 4) : 1977 IEC 60076 Reviewed In : 2021 IEC 60086-3:2000	Specification for power transformers: Part 4 terminal markings, tappings and connections (First Revision)	November, 2021	2	Identical under dual numbering
14	IS 2026 (Part 5) : 2011 Reviewed In : 2016 IEC 60076-5 : 2006	Power transformers: Part 5 ability to with stand short circuit (First Revision)	December, 2016	-	Modified/Technically Equivalent
15	IS 2026 (Part 6) : 2017 IEC 60076-6 : 2007 60076-6 : 2007	Power transformers: Part 6 reactors		-	Identical under dual numbering
16	IS 2026 (Part 7) : 2009 IEC 60076-7 Reviewed In : 2019 IEC 60076-7 : 2005	Power transformers: Part 7 loading guide for oil - Immersed power transformers	March, 2019	-	Identical under dual numbering
17	IS 2026 (Part 8) : 2009 IEC 60076-8 Reviewed In : 2019 IEC 60076-8 : 1997	Power transformers: Part 8 application guide	March, 2019	-	Identical under dual numbering
18	IS 2026 (Part 10) : 2009 IEC 60076-10 Reviewed In : 2019 IEC 60076-10 : 2001	Power transformers: Part 10 determination of sound levels	March, 2019	-	Identical under dual numbering
19	IS 2026 (Part 10/Sec 1) : 2018 IEC 60076 -10-1 : 2016 Reviewed In : 2023 IEC 60076-10-1:2016	Power transformers: Part 10 determination of sound levels	March, 2023	-	Identical under single numbering
20	IS 2026 (Part 11) : 2021 IEC 60076-11 : 2018 IEC 60076-11 : 2018	Power Transformers Part 11 Dry-Type Transformers		-	Identical under dual numbering
21	IS 2026 (Part 12) : 2018 IEC 60076-12 : 2008 Reviewed In : 2023 IEC 60076-12:2008	Power transformers: Part 12 loading guide for dry - Type power transformers	March, 2023	-	Identical under dual numbering
22	IS 2026 (Part 14) : 2018 IEC 60076-14 : 2013 Reviewed In : 2023 IEC 60076-14:2013	Power transformers: Part 14 liquid - Immersed power transformers using high - Temperature insulation materials	March, 2023	-	Identical under dual numbering
23	IS 2026 (Part 15) :	Power transformers: Part 15 gas -	March, 2023	-	Identical under dual

	2018 IEC 60076-15 : 2015 Reviewed In : 2023 IEC 60076-15:2015	Filled power transformers			numbering
24	IS 2026 (Part 16) : 2023 60076-16 : 2018 60076-16 : 2018	Power transformers: Part 16 transformers for wind turbine applications		-	Identical under dual numbering
25	IS 2026 (Part 18) : 2018 IEC 60076-18 : 2012 IEC 60076-18:2012	Power transformers: Part 18 measurement of frequency response		-	Identical under dual numbering
26	IS 2026 (Part 19) : 2018 IEC 60076-19 : 2013 IEC 60076-19:2013	Power Transformers Part 19 Rules for the Determination of Uncertainties in the Measurement of the Losses on Power Transformers and Reactors		-	Identical under dual numbering
27	IS 2026 (Part 21) : 2018 IEC 60076-21 : 2011 IEC 60076-21:2011	Power transformers: Part 21 standard requirements, terminology and test code for step - Voltage regulators		-	Identical under dual numbering
28	IS 3639 : 1966 Reviewed In : 2021	Specification for fittings and accessories for power transformers	July, 2021	-	Indigenous
29	IS 5142 : 1969 Reviewed In : 2021 Reaffirmed but not taken up for revision	Specification for continuously variable voltage auto - Transformers	July, 2021	2	Indigenous
30	IS/IEC 61558-1 : 2017 61558-1 61558-1	Safety of Transformers, Reactors, Power Supply Units and Combinations Thereof Part 1 General Requirements and Tests (First Revision)		-	Identical under single numbering
31	IS/IEC 61558-1 : 1997 Reviewed In : 2018 61558-1	Safety of power transformers, power supply units and similar: Part 1 general requirements and tests	July, 2018	-	Identical under single numbering
32	IS/IEC 61558-2-4) : 2021 61558-2-4 61558-2-4	Safety of Transformers, Reactors, Power Supply Units and Combinations Thereof Part 2 Particular Requirements and Tests for Safety Isolating Transformers and Power Supply Units Incorporating Section 4 Isolating Transformers for General Applications		-	Identical under single numbering
33	IS/IEC 61558-2-6 : 1997 Reviewed In : 2018 61558-2-6	Safety of power transformers, power supply units and similar: Part 2 particular requirement: Sec 6 safety isolating transformers for general use	July, 2018	-	Identical under single numbering
34	IS/IEC 61558-2-6) : 2021 61558-2-6 61558-2-6	Safety of Transformers, Reactors, Power Supply Units and Combinations Thereof Part 2 Particular Requirements and Tests for Safety Isolating Transformers and Power Supply Units Incorporating Section 6 Safety Isolating Transformers for General		-	Identical under single numbering

		Applications			
35	IS/IEC 61558-2-7 : 2007 IEC 61558_2_7 Reviewed In : 2021 IEC 61558-2-7 : 2007	Safety of power transformers, power supplies reactors and similar products: Part 2 - 7 particular requirements and tests for transformers and power supplies for toys	August, 2021	-	Identical under single numbering
36	IS 8447 : 1989 Reviewed In : 2018	Manually operated voltage regulators for domestic use - Specification (First Revision)	April, 2018	1	Indigenous
37	IS 8448 : 1989 Reviewed In : 2019	Automatic line voltage correctors (Step Type) for domestic use - Specification (First Revision)	March, 2019	2	Indigenous
38	IS 8468 (Part 1) : 2018 IEC 60214-1 : 2014 IEC 60214-1 : 2014	Tap - Changers Part 1 Performance Requirements and Test Methods (First Revision)		-	Identical under dual numbering
39	IS 8478 : 1977 Reviewed In : 2021 IEC DOC: 14 (Central Office) 9	Application guide for on - Load tap - Changers	July, 2021	-	Modified/Technically Equivalent
40	IS 9147 : 1979 Reviewed In : 2021 BS : 2562	Specification for cable sealing boxes for oil - Immersed transformers suitable for paper - Insulated lead sheathed cables for highest system voltages from 12 kV up to and including 36 kV	July, 2021	-	Modified/Technically Equivalent
41	IS 9815 (Part 1) : 1994 Reviewed In : 2019	Servo - Motor operated automatic line voltage correctors: Part 1 correctors for single - Phase applications - Specification (Second Revision)	November, 2019	-	Indigenous

Standards under Development

Projects Approved

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

Preliminary Draft Standards

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

Drafts Standards in WC Stage

SI. No.	Doc No.	Title
1	ETD 16 (24319) Revision of: IS 10161:1982	SPECIFICATION FOR MOVING COIL VOLTAGE REGULATORS

Draft Standards Completed WC Stage

SI. No.	Doc No.	Title
1	ETD 16 (23039)	Onsite diagnostic testing of power transformers for condition health assessment
2	ETD 16 (23880) Revision of: IS 10161:1982	Power transformers Part 10 determination of sound levels

Finalized Draft Indian Standard

SI. No.	Doc No.	Title
1	ETD 16 (24249) Revision of: IS 9815:1994	SERVO-MOTOR OPERATED AUTOMATIC LINE VOLTAGE CORRECTORS PART 1 CORRECTORS FOR SINGLE-PHASE APPLICATIONS - SPECIFICATION

Finalized Draft Indian Standards under Print

SI. No.	Doc No.	Title
1	ETD 16 (19302)	Power Transformers Part 4 Guide to the Lightning Impulse and Switching Impulse Testing Power Transformers and Reactors
2	ETD 16 (19303)	Guide for the Application Specification and Testing of Phase- Shifting Transformers
3	ETD 16 (19305)	Transformers Part 57 Power Transformers Section 129 Transformers for HVDC Applications IEC IEEE 60076-57-129 2017 MOD
4	ETD 16 (19308)	TRANSFORMERS PART 57 POWER TRANSFORMERS SECTION 1202 LIQUID IMMERSERD PHASE SHIFTING TRANSFORMERS IEC IEEE 60076-57-1202 2017 MOD
5	ETD 16 (23875)	Power transformers Part 3 insulation levels dielectric tests and external clearances in air Fourth Revision Amendment - 1
6	ETD 16 (23877)	Power transformers Part 10 determination of sound levels Amendment - 1

Total Published Standards:39 Total Standards Under development:10

Aspect Wise Report

Product : 22
 Code of Practices : 10
 Methods of Test : 5
 Terminology : 0
 Dimensions : 1
 System Standard : 0
 Safety Standard : 1
 Others : 0
 Service Specification : 0
 Process Specification : 0
 Unclassified : 0

Annexure-I :List of Indian Standards Withdrawn/Superseded

SI. No.	IS No. & Year	Title
1	IS 10561 : 1983 IEC 606 91978) Reviewed In : 2011	Application guide for power transformers
2	IS 11171 : 1985 IEC 60727 Reviewed In : 2016 IEC 60726 : 1982	Specification for dry - Type power transformers
3	IS 1180 (Part 2) : 1989 Reviewed In : 2008	Outdoor Type Three-phase Distribution Transformers Up To And Including 100 Kva 11 Kv part 2 Sealed Type
4	IS 13964 : 1994 IEC 551 Reviewed In : 2019 IEC 60551 (1976)	Methods of measurement of transformer and reactor sound levels
5	IS 1496 : 1959	Transformers used in vibrator power supplies
6	IS 1886 : 1961	Code of practice for installation and maintenance of transformers
7	IS 3151 : 1982 IEC 60289	Earthing transformers

	Reviewed In : 2016	
8	IS 5553 (Part 1) : 1989 IEC 60289 Reviewed In : 2013	Reactors - Part 1 General
9	IS 5553 (Part 2) : 1990 IEC 60289 Reviewed In : 2013	Reactors Part 2 Shunt reactors
10	IS 5553 (Part 3) : 1990 IEC 60289 Reviewed In : 2013	Reactors Part 3 Current limiting reactors and neutral earthing reactors
11	IS 5553 (Part 4) : 1989 IEC 60289 Reviewed In : 2014	Reactors Part 4 Damping reactors
12	IS 5553 (Part 5) : 1989 IEC 60289 Reviewed In : 2014	Reactors Part 5 Tuning reactors
13	IS 5553 (Part 6) : 1990 IEC 60289 Reviewed In : 2016	Reactors Part 6 Earthing transformers Neutral couplers
14	IS 5553 (Part 7) : 1990 IEC 60289 Reviewed In : 2014	Reactors Part 7 Arc suppression reactors
15	IS 5553 (Part 8) : 1990 IEC 60289 Reviewed In : 2014	Reactors Part 8 Smoothing reactors
16	IS 6600 : 1972 Reviewed In : 2011	Guide for loading of oil immersed transformers
17	IS 8468 : 1977 Reviewed In : 2016 IEC 60214 : 1966	On-load Tap Changers

Annexure-II :List of Indian Product Standards

SI. No.	IS No. & Year	Title
1	IS 10161 : 1982 Reviewed In : 2021	Specification for moving coil voltage regulators
2	IS 1180 (Part 1) : 2014 Reviewed In : 2019	Outdoor Type Oil Immersed Distribution Transformers Upto and Including 2 500 kVA 33kV - Specification Part 1 Mineral Oil Immersed Fourth Revision
3	IS 1180 (Part 3) : 2021 IEC 60580:2019	Outdoor Indoor Type Liquid Immersed Distribution Transformers Up to and Including 2 500 kVA 33 kV Specification Part 3 Natural Synthetic Organic Ester Liquid Immersed
4	IS 12977 : 1990 Reviewed In : 2019	Arc furnace transformers specification
5	IS 13956 : 1994 Reviewed In : 2019	Testing transformers - Specification
6	IS 2026 (Part 1) : 2011 Reviewed In : 2021 IEC 60076-1 : 2000	Power transformers Part 1 general Second Revision
7	IS 2026 (Part 6) : 2017 IEC 60076-6 : 2007 60076-6 : 2007	Power transformers Part 6 reactors
8	IS 2026 (Part 11) : 2021 IEC 60076-11 : 2018 ISO 5636-4	Power Transformers Part 11 Dry-Type Transformers
9	IS 2026 (Part 14) : 2018 IEC 60076-14 : 2013 Reviewed In : 2023 IEC 60076-14:2013	Power transformers Part 14 liquid - Immersed power transformers using high - Temperature insulation materials
10	IS 2026 (Part 15) : 2018 IEC 60076-15 : 2015	Power transformers Part 15 gas - Filled power transformers

	Reviewed In : 2023 IEC 60076-15:2015	
11	IS 2026 (Part 16) : 2023 60076-16 : 2018	Power transformers Part 16 transformers for wind turbine applications
12	IS 2026 (Part 21) : 2018 IEC 60076-21 : 2011 IEC 60076-21:2011	Power transformers Part 21 standard requirements terminology and test code for step - Voltage regulators
13	IS 3639 : 1966 Reviewed In : 2021	Specification for fittings and accessories for power transformers
14	IS 5142 : 1969 Reviewed In : 2021 Reaffirmed but not taken up for revision	Specification for continuously variable voltage auto - Transformers
15	IS/IEC 61558-1 : 2017 61558-1	Safety of Transformers Reactors Power Supply Units and Combinations Thereof Part 1 General Requirements and Tests First Revision
16	IS/IEC 61558-2-4) : 2021 61558-2-4	Safety of Transformers Reactors Power Supply Units and Combinations Thereof Part 2 Particular Requirements and Tests for Safety Isolating Transformers and Power Supply Units Incorporating Section 4 Isolating Transformers for General Applications
17	IS/IEC 61558-2-6) : 2021 61558-2-6	Safety of Transformers Reactors Power Supply Units and Combinations Thereof Part 2 Particular Requirements and Tests for Safety Isolating Transformers and Power Supply Units Incorporating Section 6 Safety Isolating Transformers for General Applications
18	IS 8447 : 1989 Reviewed In : 2018	Manually operated voltage regulators for domestic use - Specification First Revision
19	IS 8448 : 1989 Reviewed In : 2019	Automatic line voltage correctors Step Type for domestic use - Specification First Revision
20	IS 8468 (Part 1) : 2018 IEC 60214-1 : 2014 IEC 60214-1 : 2014	Tap - Changers Part 1 Performance Requirements and Test Methods First Revision
21	IS 9147 : 1979 Reviewed In : 2021 BS : 2562	Specification for cable sealing boxes for oil - Immersed transformers suitable for paper - Insulated lead sheathed cables for highest system voltages from 12 kV up to and including 36 kV
22	IS 9815 (Part 1) : 1994 Reviewed In : 2019	Servo - Motor operated automatic line voltage correctors Part 1 correctors for single - Phase applications - Specification Second Revision