

BUREAU OF INDIAN STANDARDS

Program of Work

ETD 42 : Wind Turbines

Scope: To prepare Indian standards for wind turbines that convert wind energy into electrical energy. These standards address design requirements, engineering integrity, measurement techniques and test procedures. Their purpose is to provide a basis for design, quality assurance and certification. The standards are concerned with all subsystems of wind turbines, such as mechanical and internal electrical systems, support structures and control and protection systems. They are intended to be used together with appropriate Indian Standards.

Liaison: **IEC TC-88 (P):** *Wind energy generation systems*

Published Standards

S.No	IS No.	TITLE	Reaffirm M-Y	No. of Amds	Eqv.
1	IS 16589 (Part 4) : 2017 IEC 61400-4 : 2012 Reviewed In : 2022 IEC 61400 : Part 4 : 2012	Wind turbines: Part 4 design requirements for wind turbine gearboxes	March, 2022	-	Identical under dual numbering
2	IS 16589 (Part 11) : 2018 IEC61400-11 : 2012 IEC61400-11 : 2012	Wind Turbines Part 11 Acoustic Noise Measurement Techniques		1	Identical under dual numbering
3	IS/IEC 61400-2 : 2013 IEC 61400-2:2013 IEC 61400-2:2013	Wind Turbines Part 2: Small Wind Turbines		-	Identical under single numbering
4	IS/IEC 61400-12-1) : 2017 IEC 61400-12-1 : 2017 IEC61400 -12-1: 2017	Wind Energy Generation Systems Part 12 Electricity Producing Wind Turbines Section 1 Power performance measurements		-	Identical under single numbering
5	IS/IEC 61400-12-3) : 2022 IEC 61400-12-3:2022 IEC 61400-12-3:2022	Wind energy generation systems - Part 12: Power performance - Section 3: Measurement based site calibration		-	Identical under single numbering
6	IS/IEC 61400-12-4) : 2020 IEC TR 61400-12-4:2020 IEC TR 61400-12-4:2020	Wind energy generation systems - Part 12- Power performance - Section 4 Numerical site calibration for power performance testing of wind turbines		-	Identical under single numbering

7	IS/IEC 61400-12-5) : 2022 IEC 61400-12-5:2022 IEC 61400-12-5:2022	Wind energy generation systems - Part 12: Power performance - Section 5: Assessment of obstacles and terrain		-	Identical under single numbering
8	IS/IEC 61400-12-6) : 2022 IEC 61400-12-6:2022 IEC 61400-12-6:2022	Wind energy generation systems - Part 12-6: Measurement based nacelle transfer function of electricity producing wind turbines		-	Identical under single numbering
9	IS/IEC/TS 61400-13 : 2015 IEC 61400 : Part 13 IEC 61400 : Part 13	WIND TURBINES PART 13: MEASUREMENT OF MECHANICAL LOADS		1	Identical under dual numbering
10	IS/IEC/TS 61400-14 : 2005 IEC 61400-14:2005 IEC 61400-14:2005	Wind Turbines Part 14: Declaration of Apparent Sound Power Level and Tonality values		-	Identical under single numbering
11	IS/IEC 61400-21-1) : 2019 IEC 61400-21-1:2019 IEC 61400-21-1:2019	Wind Energy Generation Systems Part 21 Measurement and Assessment of Electrical Characteristics Section 1 Wind Turbines		-	Identical under single numbering
12	IS/IEC/TR 61400-21-3) : 2019 IEC TR 61400-21-3:2019 IEC TR 61400-21-3:2019	Wind energy generation systems - Part 21: Measurement and assessment of electrical characteristics - Section 3: Wind turbine harmonic model and its application		-	Identical under single numbering
13	IS/IEC 61400-22 : 2010 IEC 61400-22 : 2010 Reviewed In : 2023 IEC 61400-22 : 2010	Wind Turbines Part 22 Conformity Testing and Certification	June, 2023	-	Identical under dual numbering
14	IS/IEC 61400-23 : 2014 IEC 61400-23 : 2014 61400-23:2014	Wind Turbines Part 23 Full-Scale Structural Testing of Rotor Blades		-	Identical under dual numbering
15	IS/IEC 61400-24 : 2019 IEC 61400-24:2019 IEC 61400-24:2019	Wind energy generation systems - Part 24: Lightning protection		-	Identical under single numbering
16	IS/IEC 61400-25-1) : 2017 IEC 61400-25-1 : 2017 IEC61400-25-1:201 7	Wind Turbines Part 25 Communications for Monitoring and Control of Wind Power Plants Section 1 Overall description of principles and models		-	Identical under single numbering
17	IS/IEC 61400-25-2) : 2015 IEC 61400-25-2 : 2015 IEC 61400-25-2:2015	Wind Turbines Part 25 Communications for Monitoring and Control of Wind Power Plants Section 2 Information model		-	Identical under single numbering

18	IS/IEC 61400-25-3) : 2015 IEC 61400-25-3 : 2015 IEC 61400-25-3:2015	Wind Turbines Part 25 Communications for Monitoring and Control of Wind Power Plants Section 3 Information exchange models		-	Identical under single numbering
19	IS/IEC 61400-25-4) : 2016 IEC61400-25-4:2016	Wind Turbines Part 25 Communications for Monitoring and Control of Wind Power Plants Section 4 Mapping to communication profile		-	Identical under single numbering
20	IS/IEC 61400-25-5) : 2017 IEC61400-25-5 : 2017 IEC 61400-25-5:2017	Wind Turbines Part 25 Communications for Monitoring and Control of Wind Power Plants Section 5 Compliance testing		-	Identical under single numbering
21	IS/IEC 61400-25-6) : 2016 IEC61400-25-6:2016	Wind Turbines Part 25 Communications for Monitoring and Control of Wind Power Plants Section 6 Logical node classes and data classes for condition monitoring		-	Identical under single numbering
22	IS 61400 (Part 25/Sec 71) : 2019 IECTS 61400-25-71: IECTS 61400-25-71:	Wind energy generation systems - Part 25-71: Communications for monitoring and control of wind power plants - Configuration description language		-	Identical under single numbering
23	IS/IEC 61400-27-1) : 2020 IEC 61400-27-1:2020 IEC 61400-27-1:2020	Wind energy generation systems - Part 27: Electrical simulation models - Section 1: Generic models		-	Identical under single numbering
24	IS/IEC 61400-27-2) : 2020 IEC 61400-27-2:2020 IEC 61400-27-2:2020	Wind energy generation systems - Part 27: Electrical simulation models - Section 2: Model validation		-	Identical under single numbering
25	IS/IEC 61400-50 : 2022 IEC 61400-50:2022 IEC 61400-50:2022	Wind energy generation systems - Part 50: Wind measurement - Overview		-	Identical under single numbering
26	IS/IEC 61400-50-3) : 2022 IEC 61400-50-3:2022 IEC 61400-50-3:2022	Wind energy generation systems - Part 50-3: Use of nacelle-mounted lidars for wind measurements		-	Identical under single numbering

Standards under Development

Projects Approved

SI. No.	Doc No.	Title
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No Records Found

Preliminary Draft Standards

Sl. No.	Doc No.	Title
No Records Found		

Drafts Standards in WC Stage

Sl. No.	Doc No.	Title
No Records Found		

Draft Standards Completed WC Stage

Sl. No.	Doc No.	Title
1	ETD 42 (23624)	Wind energy generation systems Part 12 Power performance measurements of electricity producing wind turbines Overview
2	ETD 42 (23625)	Wind energy generation systems Part 12-1 Power performance measurements of electricity producing wind turbines First Revision
3	ETD 42 (23627)	Wind energy generation systems Part 12-2 Power performance of electricity producing wind turbines based on nacelle anemometry
4	ETD 42 (23628)	Wind energy generation systems Part 21-2 Measurement and assessment of electrical characteristics Wind power plants
5	ETD 42 (23629)	Wind energy generation systems Part 50-1 Wind measurement Application of meteorological mast nacelle and spinner mounted instruments
6	ETD 42 (23630)	Wind energy generation systems Part 29 Marking and lighting of wind turbines

Finalized Draft Indian Standard

Sl. No.	Doc No.	Title
No Records Found		

Finalized Draft Indian Standards under Print

Sl. No.	Doc No.	Title
1	ETD 42 (20384)	Wind Energy Generation Systems Part 26 Wind Energy Generation Systems Section 1 Availability

Total Published Standards:21 Total Standards Under development:7

Aspect Wise Report

Product : 2
Code of Practices : 8
Methods of Test : 5
Terminology : 0
Dimensions : 0
System Standard : 0
Safety Standard : 0
Others : 11
Service Specification : 0
Process Specification : 0
Unclassified : 0

Annexure-I :List of Indian Standards Withdrawn/Superseded

Sl. No.	IS No. & Year	Title
1	IS/IEC 61400-21 : 2008 IEC 61400-21 : 2008	Wind turbines Part 21 measurement and assessment of power quality characteristics of grid connected wind turbines

Reviewed In : 2019 IEC
61400 : Part 21 : 2008

Annexure-II :List of Indian Product Standards

SI. No.	IS No. & Year	Title
1	IS 16589 (Part 4) : 2017 IEC 61400-4 : 2012 Reviewed In : 2022 IEC 61400 : Part 4 : 2012	Wind turbines Part 4 design requirements for wind turbine gearboxes
2	IS/IEC 61400-2 : 2013 IEC 61400-2:2013 ISO 10993-15: 2019	Wind Turbines Part 2 Small Wind Turbines