

BUREAU OF INDIAN STANDARDS

DRAFT FOR COMMENTS ONLY

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Draft Indian Standard

Wind energy generation systems – Part 21-2: Measurement and assessment of electrical characteristics – Wind power plants
(ICS 27.180)

Wind Turbines
Sectional Committee, ETD 42

Last date for Comments -21/11/2023

FOREWORD

(Formal clauses will be added later)

This Draft Standard which is identical with IEC 61400-21-2-2023 ‘Wind energy generation systems – Part 21-2: Measurement and assessment of electrical characteristics – Wind power plants issued by the International Electrotechnical Commission (IEC) is proposed to be adopted by the Bureau of Indian Standards on the recommendation of the Wind Turbines Sectional Committee and approval of the Electrotechnical Division Council.

The text of the IEC Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words ‘International Standard’ appears referring to this standard, they should be read as ‘Indian Standard’.
- b) Comma (,) has been used as a decimal marker, while in Indian Standards the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to International Standards for which Indian Standards also exists. The corresponding Indian Standards, which are to be substituted, are listed below along with their degree of equivalence for the editions indicated:

| <i>International Standard</i> | <i>Corresponding Indian Standard</i> | <i>Degree of Equivalence</i> |
|---|---|--------------------------------------|
| IEC 60038, IEC standard voltages | IS 12360 : 1988 Voltage bands for electrical installations including preferred voltages and frequency | Identical with IEC 60038-1983 |
| IEC 60255-121:2014, Measuring relays and protection equipment – Part 121: Functional requirements for distance protection | IS/IEC 60255-121 : 2014 Measuring Relays and Protection Equipment Part 121 Functional Requirements for Distance Protection | Identical with IEC 60255-121 : 2014 |
| IEC 60255-127:2010, Measuring relays and protection equipment – Part 127: Functional requirements for over/under voltage protection | IS/IEC 60255-127 : 2010 Measuring Relays and Protection Equipment Part 127 Functional Requirements for Over/Under Voltage Protection | Identical with IEC 60255-127 : 2010 |
| IEC 60255-151:2009, Measuring relays and protection equipment – Part 151: Functional requirements for over/under current protection | IS/IEC 60255-151 : 2009 Measuring Relays and Protection Equipment Part 151 Functional Requirements for Over/Under Current Protection | Identical with IEC 60255-151 : 2007 |
| IEC 60255-181:2019, Measuring relays and protection equipment – Part 181: Functional requirements for frequency protection | IS/IEC 60255-181 : 2019 Measuring Relays and Protection Equipment Part 181 Functional Requirements for Frequency Protection | Identical with IEC 60255-181 : 2019 |
| IEC 61000-4-15, Electromagnetic compatibility (EMC) – Part 4-15: Testing and measurement techniques – Flickermeter – Functional and design specifications | IS 14700 (Part 4/Sec 15) : 2018 Electromagnetic Compatibility (EMC) Part 4 Testing and Measurement Techniques Section 15 Flickermeter — functional and design specifications (<i>Second Revision</i>) | Identical with IEC 61000-4-15 : 2010 |
| IEC 61869-2, Instrument transformers – Part 2: Additional requirements for current transformers | IS 16227 (Part 2) : 2016 Instrument Transformers Part 2 Additional Requirements for Current Transformers | Identical with IEC 61869-2 : 2012 |

The technical committee has reviewed the provisions of the following international standards referred in this adopted standard and decided that they are acceptable for use in conjunction with this standard.

| <i>International Standard</i> | <i>Title</i> |
|-------------------------------|---|
| IEC TR 61000-3-6 | Electromagnetic compatibility (EMC) – Part 3-6: Limits – Assessment of emission limits for the connection of distorting installations to MV, HV and EHV power systems |
| IEC 61000-4-30 | Electromagnetic compatibility (EMC) – Part 4-30: Testing and measurement techniques – Power quality measurement methods |

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| IEC 61400-21-1:2019 | Wind energy generation systems – Part 21-1: Measurement and assessment of electrical characteristics – Wind turbines |
| IEC 61400-27-1 | Wind energy generation systems – Part 27-1: Electrical simulation models – Generic models |
| IEC 61400-27-2 | Wind energy generation systems – Part 27-2: Electrical simulation models – Model validation |
| IEC 61869-3 | Instrument transformers – Part 3: Additional requirements for inductive voltage transformers |
| IEC/IEEE 61850-9-3 | Communication networks and systems for power utility automation – Part 9-3: Precision time protocol profile for power utility automation |

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test, shall be rounded off in accordance with IS 2: 2022 ‘Rules for rounding off numerical values (*Second Revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Note: The technical content of their document has not been enclosed as there are identical with the corresponding IEC standards for details, please refer the corresponding IEC 61400-21-2-2023 or kindly contact:

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