**IS/IEC 60034-23: 2019**

***भारतीय मानक Indian Standards***

 घूर्णी विद्युत मशीनें

भाग 23 मरम्मत, ओवरहाल और पुनर्ग्रहण

Rotating Electrical Machines

Part 23 Repair, Overhaul and Reclamation

ICS 29.160.01

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भारतीय मानक ब्यूरो

BUREAU OF INDIAN STANDARDS

मानक भवन, 9 बहादुर शाह ज़फर मार्ग, नई दिल्ली - 110002

MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG

NEW DELHI - 110002

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Rotating MachinerySectional Committee, ETD 15

NATIONAL FOREWORD

This Indian Standard (Part 23) which is identical with IEC 60034-23: 2019 ‘Rotating electrical machines – Part 23: Repair, overhaul and reclamation)’ issued by the International Electrotechnical Commission (IEC) was adopted by the Bureau of Indian Standards on the recommendation of the Rotating MachinerySectional Committee and approval of the Electrotechnical Division Council.

This standard is published in various parts. Other parts in this series are:

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| Part 5 | Rotating electrical machines: Part 5 degrees of protection provided by the integral design of rotating electrical machines (IP Code) - Classification |
| Part 8 | Rotating Electrical Machines Part 8 Terminal Markings and Direction of Rotation  |
| Part 27/Sec 4 | Rotating Electrical Machines Part 27 Winding Insulation of Rotating Electrical Machines Section 4 Measurement of insulation resistance and polarization index |

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:

1. Wherever the words ‘International Standard’ appears referring to this standard, they should be read as ‘Indian Standard’.
2. 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:

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| *International Standard* | *Corresponding Indian Standard* | *Degree of Equivalence* |
| IEC 60034 (all parts), Rotating electrical machines | IS 15999 (Part 1) : 2021/ IEC 60034-1: 2017 Rotating electrical machines - Part 1 : Rating and performance (Under Revision with Identical IEC) | Identical |
| IS 15999 (Part 2/Sec 1) : 2023/ IEC 60034-2-1: 2014 Rotating electrical machines Part 2-1: Standard methods for determining losses and efficiency from tests excluding machines for traction vehicles | Identical |
| IS 15999 (Part 3) : 2023/ IEC 60034-3: 2020 Rotating electrical machines Part 3: Specific requirements for synchronous generators driven by steam turbines or combustion gas turbines and for synchronous compensators (*first revision*) | Identical |
| IS 15999 (Part 4/Sec 1) : 2023/ IEC 60034-4-1 Rotating electrical machines Part 4 Electrically excited synchronous machine quantities Section 1 Test methods (*first revision*) | Identical |
| IS/IEC 60034-5 : 2000 Rotating electrical machines: Part 5 degrees of protection provided by the integral design of rotating electrical machines (IP Code) - Classification | Identical |
| IS 6362 : 1995/ IEC 60034-6: 1991 Designation of methods of cooling of rotating electrical machines (*first revision*) | Identical |
| IS/IEC 60034-8 : 2014 Rotating electrical machines Part 8 Terminal Markings and Direction of Rotation ( *third revision* ) | Identical |
| IS 15999 (Part 15) : 2017/ IEC 60034-15 : 2009 Rotating electrical machines Part 15 Impulse voltage withstand levels of form-wound stator coils for rotating ac machines | Identical |
| IS 15880 : 2009/ IEC TS 60034-17: 2006 Three phase cage induction motors when fed from IGBT converters - Application guide | Identical |
| IS 15999 (Part 18/Sec 41) : 2018/ IEC 60034-18-41: 2014 Rotating electrical machines: Part 18 partial discharge free electrical insulation systems (Type I) used in rotating electrical machines fed from voltage converters Sec 41 qualification and quality control tests | Identical |
| IS 15999 (Part 18/Sec 42) : 2018/ IEC 60034-18-42 : 2008 Rotating electrical machines Part 18 Qualification and acceptance tests for partial dischargeresistant electrical insulation systems (Type II) Section 42 Used in rotating electrical machines fed from voltage converters | Identical |
| IS/IEC 60034-27-4 : 2018 Rotating electrical machines Part 27 Winding insulation of rotating electrical machines Section 4 Measurement of insulation resistance and polarization index | Identical |
| IS 12615 : 2018 Line operated three phase AC motors (IE Code) "Efficiency classes and performance specification" (*third revision*) | Technically Equivalent |
|  | IS 14122 : 1994 Built - In thermal protection for electric motors rated up to 660 V AC - Specification | Technically Equivalent |
| IEC 60050-411:1996, International Electrotechnical Vocabulary – Chapter 411: Rotating machines | IS 1885 (Part 35) : 2021 /IEC 60050: 411: 1996 Electrotechnical vocabulary: Part 35 Rotating machinery ( *second revision* ) | Identical |
| IEC 60060-1, High-voltage test techniques – Part 1: General definitions and test requirements | IS 2071 (Part 1) : 2016/ IEC 60060-1 : 2010 High - Voltage test techniques: Part 1 General definitions and test requirements *(third revision)* | Identical |
| IEC 60072-2, Dimensions and output series for rotating electrical machines – Part 2: Frame numbers 355 to 1000 and flange numbers 1180 to 2360 | IS 8223 : 1999/ IEC 60072 -2: 1990 Dimensions and output series for rotating electrical machines (*first revision*) | Identical |
| IEC 60079-19, Explosive atmospheres – Part 19: Equipment repair, overhaul, and reclamation | IS/IEC 60079-19 : 2019 Explosive atmospheres - Part 19: Equipment repair overhaul and reclamation (*second revision*) | Identical |
| IEC 60136:1986, Dimensions of brushes and brush-holders for electrical machinery | IS 13466 : 1992 Brushes for electrical machines - Specification | Technically Equivalent |
| ISO 21940-11, Mechanical vibration – Rotor balancing – Part 11:Procedures and tolerances for rotors with rigid behaviour | IS/ISO 21940-11 : 2016 Mechanical vibration - rotor balancing Part 11 Procedures and tolerances for rotors with rigid behaviour | Identical |

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.

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| *International Standard* | *Title* |
| IEC TS 60034-30-2 | Rotating electrical machines – Part 30-2: Efficiency classes of variablespeed AC motors (IE-code) |
| IEC 60034-19 | Rotating electrical machines – Part 19:Specific test methods for DC machines on conventional and rectifier-fed supplies |
| IEC 60034-29 | Rotating electrical machines – Part 29: Equivalent loading and superposition techniques – Indirect testing to determine temperature rise |

Only English language text has been retained while adopting it in this Indian Standard, and as such the page numbers given here are not the same as in the International Standard.

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.