**IS 17123 (Part 9/Sec 2) : 2024**

***भारतीय मानक***

***Indian Standard***

**IEC 61800-9-2 : 2023**

***समायोज्य चाल विद्युतीय पावर ड्राइव प्रणाली***

***भाग 9 मोटर प्रणालियों के लिए इकोडिजाइन***

***अनुभाग 2 ऊर्जा दक्षता निर्धारण और वर्गीकरण***

**Adjustable Speed Electrical Power Drive Systems**

**Part 9 Ecodesign for Motor Systems**

**Section 2 Energy Efficiency Determination and Classification**

ICS 29.130.01; 29.160.30; 29.200

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**November 2024 Price Group X**

Power Electronics Sectional Committee, ETD 31

NATIONAL FOREWORD

This Indian Standard (Part 9/Sec 2) which is identical with IEC 61800-9-2: 2023 ‘Adjustable speed electrical power drive systems (PDS) – Part 9-2: Ecodesign for motor systems – Energy efficiency determination and classification’ issued by the International Electrotechnical Commission (IEC) was adopted by the Bureau of Indian Standards on the recommendation of the Power Electronics Sectional Committee and approval of the Electrotechnical Division Council.

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

|  |  |
| --- | --- |
| Part 1 | General requirements — Rating specifications for low voltage adjustable speed d.c. power drive systems |
| Part 6 | Guide for determination of types of load duty and corresponding current ratings |

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:

|  |  |  |
| --- | --- | --- |
| *International Standard* | *Corresponding Indian Standard* | *Degree of Equivalence* |
| IEC 60034-1:2022, Rotating electrical machines – Part 1: Rating and performance | IS 15999 (Part 1) : 2021/ IEC 60034-1:2017 Rotating electrical machines Part 1 Rating and performance | Identical |
| 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) | 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 |
| IEC 60034-30-1:2014, Rotating electrical machines – Part 30-1: Efficiency classes of line operated AC motors (IE code) | IS 12615 : 2018 Line operated three phase AC motors (IE Code) "Efficiency classes and performance specification" (*third revision*) | Technically Equivalent |
| IEC 60038:2009, IEC standard voltages | IS 12360 : 1988 Voltage bands for electrical installations including preferred voltages and frequency | Technically Equivalent |
| IEC 60050-161, International Electrotechnical Vocabulary (IEV) – Part 161: Electromagnetic compatibility | IS 1885 (Part 85) : 2003/ IEC 60050-161: 1990 Electrotechnical vocabulary Part 85 Electromagnetic compatibility | Identical |
| IEC 60947-4-1:2018, Low voltage switchgear and controlgear – Part 4-1: Contactors and motorstarters – Electromechanical contactors and motor-starters | IS/IEC 60947-4-1 : 2018/ IEC 60947-4-1: 2018 Low-Voltage switchgear and controlgear Part 4-1 Contactors and motor starters electromechanical contactors and motor-Starters | Identical |

The technical committee has reviewed the provision of the following International Standard referred in this adopted standard and has decided that it is acceptable for use in conjunction with this standard:

|  |  |
| --- | --- |
| *International Standard* | *Title* |
| IEC 60034-2-3:2020 | Rotating electrical machines – Part 2-3: Specific test methods for determining losses and efficiency of converter-fed AC induction motors |
| IEC TS 60034-30-2:2016 | Rotating electrical machines – Part 30-2: Efficiency classes of variable speed AC motors (IE-code) |
| IEC TS 60034-31:2021 | Rotating electrical machines – Part 31: Selection of energy-efficient motors including variable speed applications – Application guidelines |
| IEC 61000-3-12:2011 | Electromagnetic compatibility (EMC) – Part 3-12: Limits – Limits for harmonic currents produced by equipment connected to public low-voltage systems with input current > 16 A and ≤ 75 A per phase |
| IEC Guide 118:2017 | Inclusion of energy efficiency aspects in electrotechnical publications |

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.