***भारतीय मानक***

***Indian Standard***

 **IS xxx**

 **IEC 61800-5-3 : 2021**

***समायोज्य चाल विद्युतीय पावर ड्राइव***

 ***प्रणाली***

 ***भाग 5 संरक्षा अपेक्षाएं***

***अनुभाग 3 एनकोडर के लिए कार्यात्मक विद्युत और पर्यावरण संबंधी अपेक्षाएं***

**Adjustable Speed Electrical Power Drive Systems**

**Part 5 Safety requirements**

**Section 3 Functional Electrical and Environmental Requirements for Encoders**

ICS 13.110; 29.130.99; 29.200

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भारतीय मानक ब्यूरो

BUREAU OF INDIAN STANDARDS

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Power Electronics Sectional Committee, ETD 31

NATIONAL FOREWORD

This Indian Standard (Part 5/Sec 3) which is identical with IEC 61800-5-3: 2021 ‘Adjustable speed electrical power drive systems – Part 5-3: Safety requirements – Functional, electrical and environmental requirements for encoders’ 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 60068-2-1, Environmental testing – Part 2-1: Tests – Test A: Cold | IS/IEC 60068-2-1) : 2007/ IEC 60068-2-1:2007 Environmental testing Part 2 Tests Section 1 Test A: Cold | Identical |
| IEC 60068-2-47, Environmental testing – Part 2-47: Tests – Mounting of specimens for vibration, impact and similar dynamic tests | IS/IEC 60068-2-47) : 2005/ IEC 60068-2-47:2005 Environmental testing Part 2 Tests Section 47 Mounting of specimens for vibration impact and similar dynamic tests | Identical |
| IEC 60335-1, Household and similar electrical appliances – Safety – Part 1: General requirements | IS 302 (Part 1) : 2008/ IEC 60335-1 Safety of household and similar electrical appliances: Part 1 general requirements (*sixth revision*) | Technically Equivalent |
| IEC 60947-5-2:2019, Low-voltage switchgear and controlgear – Part 5-2: Control circuit devices and switching elements – Proximity switches | IS/IEC 60947-5-2) : 2019/ IEC 60947-5-2: 2019 Low-Voltage switchgear and Controlgear Part 5 Control circuit devices and Switching elements Section 2 Proximity switches ( *first revision* ) | Identical |
| IEC 61000-6-7:2014, Electromagnetic compatibility (EMC) – Part 6-7: Generic standards – Immunity requirements for equipment intended to perform functions in a safety-related system (functional safety) in industrial locations | IS 14700 (Part 4/Sec 7) : 2017/ IEC 61000-4-7 : 2009 Electromagnetic compatibility (EMC) Part 4 testing and measurement techniques Section 7 general guide on harmonic and interharmonics measurements and instrumentation, for power supply systems and equipment connected thereto (*first revision*) | Identical |
| IEC 61508-2:2010, Functional safety of electrical/electronic/ programmable electronic safety related systems – Part 2: Requirements for electrical /electronic/programmable electronic safety-related systems | IS/IEC 61508-2 : 2010/ IEC 61508-2 : 2010 Functional safety of electrical/ electronic/programmable electronic safety - Related systems Part 2 requirements for electrical/electronic/ programmable electronic safety related systems *(first revision*) | Identical |
| IEC 61800-1:1997, Adjustable speed electrical power drive systems – Part 1: General requirements – Rating specifications for low voltage adjustable speed d.c. power drive systems | IS 17123 (Part 1) : 2019/ IEC 61800-1 : 1997 Adjustable speed electrical power drive systems Part 1 General requirements – Rating specifications for low voltage adjustable speed d.c. power drive systems | Identical |
| IEC 61800-5-1:2007, Adjustable speed electrical power drive systems – Part 5-1: Safety requirements – Electrical, thermal and energy | IS/IEC 61800-5-1) : 2016 Adjustable Speed Electrical Power Drive Systems Part 5 Safety Requirements Section 1 Electrical, thermal and energy | Identical |
| IEC 61800-5-2:2016, Adjustable speed electrical power drive systems – Part 5-2: Safety requirements – Functional | IS/IEC 61800-5-2) : 2020 Adjustable speed electrical power drive systems Part 5 Safety requirements Section 2 Functional | Identical |
| IEC 62368-1:2018, Audio/video, information and communication technology equipment – Part 1: Safety requirements | IS/IEC 62368-1 : 2018/ IEC 62368-1 : 2018 Audio / Video, Information and communication technology equipment Part 1 Safety requirements ( *first revision* ) | Identical |
| ISO 13849-1:2015, Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design | IS 16810 (Part 1) : 2018/ ISO 13849-1 : 2015 Safety of machinery - Safety related parts of control systems Part 1 general principles for design | Identical |
| ISO 13849-2:2012, Safety of machinery – Safety-related parts of control systems – Part 2: Validation | IS 16810 (Part 2) : 2018/ ISO 13849-2 : 2012 Safety of machinery - Safety related parts of control systems Part 2 validation | Identical |

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.