

BUREAU OF INDIAN STANDARDS
DRAFT FOR COMMENTS ONLY

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Draft Indian Standard

Adjustable speed electrical power drive systems – Part 5-3: Safety requirements – Functional, electrical and environmental requirements for encoders

(ICS 13.110; 29.130.99; 29.200)

Power Electronics Sectional
Committee, ETD 31

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NATIONAL FOREWORD

This Draft Indian Standard 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) is proposed to be adopted by the Bureau of Indian Standards on the recommendation of the Power Electronics 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 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	IS 302 (Part 1) : 2008/ IEC 60335-1	Technically

electrical appliances – Safety – Part 1: General requirements	Safety of household and similar electrical appliances: Part 1 general requirements (Sixth Revision)	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 LLow-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: Sec 7 general guide on harmonic and interharmonics measurements and instrumentation, for power supply systems and equipment eonnected 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	IS 16810 (Part 1) : 2018/ ISO 13849-1 : 2015 Safety of machinery - Safety	Identical

control systems – Part 1: General principles for design	related parts of control systems: Part 1 general principles for design	
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.

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 61800-5-3:2021‘or kindly contact:

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