

BUREAU OF INDIAN STANDARDS
DRAFT FOR COMMENTS ONLY

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Draft Indian Standard

Adjustable speed electrical power drive systems – Part 3: EMC requirements and specific test methods for PDS and machine tools
(First Revision)

(ICS 29.200; 33.100.01)

Power Electronics Sectional
Committee, ETD 31

Last date for comments-07/09/2024

NATIONAL FOREWORD

This Draft Indian Standard (First Revision) which is identical with IEC 61800-3:2022 ‘Adjustable speed electrical power drive systems – Part 3: EMC requirements and specific test methods for PDS and machine tools’ 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.

This standard was originally published in 2017. The first revision of this standard has been undertaken to align it with the latest version of IEC 61800-3:2022.

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 61000-3-2:2018, Electromagnetic compatibility (EMC) – Part 3-2: Limits – Limits for harmonic current emissions (equipment input current ≤ 16 A per	IS 14700 (Part 3/Sec 2) : 2020/ IEC 61000-3-2 : 2018 Electromagnetic Compatibility (EMC) Part 3 Limits Section 2 Limits for harmonic current emissions (equipment input current ? 16 A per phase) (<i>Third</i>	Identical

phase)	<i>Revision)</i>	
IEC 61000-3-3:2013, Electromagnetic compatibility (EMC) – Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection	IS 14700 (Part 3/Sec 3) : 2018/ IEC 61000-3-3 : 2013 Electromagnetic compatibility (EMC): Part 3 limits section 3 limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply system, for equipment with rated current ? 16 a per phase and not subjected to conditional connection (<i>Second Revision</i>)	Identical
IEC 61000-4-2:2008, Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test	IS 14700 (Part 4/Sec 2) : 2018/ IEC 61000-4-2 : 2008 Electromagnetic compatibility (EMC): Part 4 testing and measurement techniques: Sec 2 electrostatic discharge immunity test (<i>Second Revision</i>)	Identical
IEC 61000-4-3:2020, Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test	IS 14700 (Part 4/Sec 3) : 2023/ IEC 61000-4-3: 2020 Electromagnetic compatibility EMC Part 4 Testing and Measurement Techniques Section 3 Radiated radio-frequency electromagnetic field immunity test (<i>Second Revision</i>)	Identical
IEC 61000-4-4:2012, Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test	IS 14700 (Part 4/Sec 4) : 2018/ IEC 61000-4-4 : 2012 Electromagnetic compatibility (EMC): Part 4 testing and measurement techniques: Sec 4 electrical fast transient / burst immunity test (<i>Second Revision</i>)	Identical
IEC 61000-4-5:2014, Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test	IS 14700 (Part 4/Sec 5) : 2019/ IEC 61000-4-5 : 2017 Electromagnetic compatibility (EMC): Part 4 testing and measurement techniques: Sec 5 surge immunity test (<i>First Revision</i>)	Identical
IEC 61000-4-6:2013, Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields	IS 14700 (Part 4/Sec 6) : 2016/ IEC 61000-4-6 : 2013 Electromagnetic compatibility (EMC): Part 4 testing and measurement techniques: Sec 6 immunity to conducted disturbances, induced by radio - Frequency fields	Identical
IEC 61000-4-11:2020, Electromagnetic compatibility (EMC) – Part 4-11: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests for equipment with input current up to 16 A per phase	IS 14700 (Part 4/Sec 11) : 2021/ IEC 61000-4-16: 2020 Electromagnetic compatibility EMC: Part 4 testing and measurement techniques: Sec 11 voltage dips short interruptions and voltage variations immunity tests for equipment with input current up to 16 A per phase	Identical
IEC 61000-4-13:2002, Electromagnetic compatibility	IS 14700 (Part 4/Sec 13) : 2016/ IEC 61000-4-13 : 2009 Electromagnetic	Identical

(EMC) – Part 4-13: Testing and measurement techniques – Harmonics and interharmonics including mains signalling at a.c. power port, low frequency immunity tests	compatibility (EMC): Part 4 testing and measurement techniques: Sec 13 harmonics and interharmonics including mains signaling at a.c. power port, low frequency immunity test	
IEC 61000-4-34:2005, Electromagnetic compatibility (EMC) – Part 4-34: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests for equipment with input current more than 16 A per phase	IS 14700 (Part 4/Sec 34) : 2017/ IEC 61000-4-34 : 2009 Electromagnetic compatibility (EMC): Part 4 testing and measurement techniques: Sec 34 voltage dips, short interruptions and voltage variations immunity tests for current more than 16 A per phase	Identical
CISPR 11:2015, Industrial, scientific and medical equipment – Radio-frequency disturbance characteristics – Limits and methods of measurement	IS 6873 (Part 4) : 2019/ CISPR 11: 2016 Limits and Methods of Measurement of Radio Disturbance Characteristics Part 4 Industrial Scientific and Medical Radio-Frequency Equipment (<i>Second Revision</i>)	Identical
CISPR 16-1-4:2019, Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-4: Radio disturbance and immunity measuring apparatus – Antennas and test sites for radiated disturbance measurements	IS 10052 (Part 1/Sec 4) : 2018/ CISPR 16-1-14 : 2017 Radio disturbance and immunity measuring apparatus and methods - Specificaiton: Part 1 radio disturbance and immunity measuring apparatus: Sec 4 antennas and test sites for radiated disturbance measurements	Identical
CISPR 32:2015, Electromagnetic compatibility of multimedia equipment – Emission requirements	IS/CISPR 32 : 2015 Electromagnetic Compatibility of Multimedia Equipment Emission Requirements	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:

<i>International Standard</i>	<i>Title</i>
IEC 61000-2-4:2002,	Electromagnetic compatibility (EMC) – Part 2-4: Environment – Compatibility levels in industrial plants for low-frequency conducted disturbances
IEC 61000-3-11:2017	Electromagnetic compatibility (EMC) – Part 3-11: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems – Equipment with rated current ≤ 75 A and subject to conditional connection
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 61000-4-28:1999	Electromagnetic compatibility (EMC) – Part 4-28: Testing and measurement techniques – Variation of power frequency, immunity test for equipment with input current not exceeding 16 A per phase

CISPR 16-1-2:2014	Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-2: Radio disturbance and immunity measuring apparatus – Coupling devices for conducted disturbance measurements
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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 61800-3:2022 or kindly contact:

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