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ELEKTROMAGNETILISE ÜHILDUVUSE NÕUDED JA  
ERIKATSETUSMEETODID

Adjustable speed electrical power drive systems - Part  
3: EMC requirements and specific test methods

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 61800-3:2018 sisaldab Euroopa standardi EN IEC 61800-3:2018 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 61800-3:2018 consists of the English text of the European standard EN IEC 61800-3:2018.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 07.09.2018.	Date of Availability of the European standard is 07.09.2018.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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English Version

Adjustable speed electrical power drive systems - Part 3: EMC  
requirements and specific test methods  
(IEC 61800-3:2017)

Entraînements électriques de puissance à vitesse variable -  
Partie 3: Exigences de CEM et méthodes d'essais  
spécifiques  
(IEC 61800-3:2017)

Drehzahlveränderbare elektrische Antriebssysteme - Teil 3:  
EMV-Anforderungen einschließlich spezieller Prüfverfahren  
(IEC 61800-3:2017)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

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## European foreword

The text of document 22G/347/FDIS, future edition 3 of IEC 61800-3, prepared by SC 22G "Adjustable speed electric drive systems incorporating semiconductor power converters" of IEC/TC 22 "Power electronic systems and equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61800-3:2018.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2019-04-09
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-07-09

This document supersedes EN 61800-3:2004 and EN 61800-3:2004/A1:2012.

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## Endorsement notice

The text of the International Standard IEC 61800-3:2017 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60038:2009	NOTE	Harmonized as EN 60038:2011 (modified).
IEC 60065	NOTE	Harmonized as EN 60065.
IEC 60146-1-3:1991	NOTE	Harmonized as EN 60146-1-3:1993 (not modified).
IEC 60146-2:1999	NOTE	Harmonized as EN 60146-2:2000 (not modified).
IEC 60364-1:2005	NOTE	Harmonized as HD 60364-1:2008 (modified).
IEC 60664-1:2007	NOTE	Harmonized as HD 60664-1:2007 (not modified).
IEC 61000-2-12:2003	NOTE	Harmonized as EN 61000-2-12:2003 (not modified).
IEC 61000-4 (series)	NOTE	Harmonized as EN 61000-4 (series).
IEC 61000-4-7:2002	NOTE	Harmonized as EN 61000-4-7:2002 (not modified).
IEC 61000-4-9:2016	NOTE	Harmonized as EN 61000-4-9:2016 (not modified).
IEC 61000-4-10:2016	NOTE	Harmonized as EN 61000-4-10:2017 (not modified).
IEC 61000-6-1:2016	NOTE	Harmonized as EN 61000-6-1:2018 (not modified).
IEC 61000-6-2:2016	NOTE	Harmonized as EN 61000-6-2:2017 (not modified).
IEC 61000-6-4:2006	NOTE	Harmonized as EN 61000-6-4:2007 (not modified).

IEC 61000-6-5:2015	NOTE	Harmonized as EN 61000-6-5:2015 (not modified).
IEC 61400-21:2008	NOTE	Harmonized as EN 61400-21:2008 (not modified).
IEC 61557-8:2014	NOTE	Harmonized as EN 61557-8:2015 (not modified).
IEC 61557-9	NOTE	Harmonized as EN 61557-9.
IEC 61800-1:1997	NOTE	Harmonized as EN 61800-1:1998 (not modified).
IEC 61800-2:2015	NOTE	Harmonized as EN 61800-2:2015 (not modified).
IEC 61800-4:2002	NOTE	Harmonized as EN 61800-4:2003 (not modified).
IEC 61800-5-1:2007	NOTE	Harmonized as EN 61800-5-1:2007 (not modified).
CISPR 14-1:2016	NOTE	Harmonized as EN 55014-1:2017 (not modified).
CISPR 16-2-1:2014	NOTE	Harmonized as EN 55016-2-1:2014 (not modified).
CISPR 16-2-3:2016	NOTE	Harmonized as EN 55016-2-3:2017 (not modified).

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60146-1-1	2009	Semiconductor converters - General requirements and line commutated converters -- Part 1-1: Specification of basic requirements	EN 60146-1-1	2010
IEC 61000-2-2	2002	Electromagnetic compatibility (EMC) -- Part 2-2: Environment - Compatibility levels for low-frequency conducted disturbances and signalling in public low-voltage power supply systems	EN 61000-2-2	2002
IEC 61000-2-4	2002	Electromagnetic compatibility (EMC) -- Part 2-4: Environment - Compatibility levels in industrial plants for low-frequency conducted disturbances	EN 61000-2-4	2002
IEC 61000-3-2	2014	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current - 16 A per phase)	EN 61000-3-2	2014
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	EN 61000-3-3	2013
IEC 61000-3-11	2000	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 $\leq 75$ A and subject to conditional connection	EN 61000-3-11	2000

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	EN 61000-3-12	2011
IEC 61000-4-2	2008	Electromagnetic compatibility (EMC) -- Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	2009
IEC 61000-4-3	2006	Electromagnetic compatibility (EMC) -- Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3	2006
IEC 61000-4-4	2012	Electromagnetic compatibility (EMC) -- Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4	2012
IEC 61000-4-5	2014	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	2014
IEC 61000-4-6	2013	Electromagnetic compatibility (EMC) -- Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	2014
IEC 61000-4-8	2009	Electromagnetic compatibility (EMC) -- Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test	EN 61000-4-8	2010
IEC 61000-4-11	2004	Electromagnetic compatibility (EMC) -- Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests	EN 61000-4-11	2004
IEC 61000-4-13	2002	Electromagnetic compatibility (EMC) -- Part 4-13: Testing and measurement techniques - Harmonics and interharmonics including mains signaling at a.c. power port, low frequency immunity tests	EN 61000-4-13	2002
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	EN 61000-4-34	2007
CISPR 11 (mod)	2015	Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement	EN 55011	2016
+ A1	2016		+ A1	2017

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	EN 55016-1-2	2014
CISPR 16-1-4	2010	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	EN 55016-1-4	2010
CISPR 22	-	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement	-	-
CISPR 32	2015	Electromagnetic compatibility of multimedia equipment - Emission requirements	EN 55032	2015



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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ADJUSTABLE SPEED ELECTRICAL POWER  
DRIVE SYSTEMS –****Part 3: EMC requirements and specific test methods**

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61800-3 has been prepared by subcommittee 22G: Adjustable speed electric drive systems incorporating semiconductor power converters, of IEC technical committee 22: Power electronic systems and equipment.

This third edition cancels and replaces the second edition published in 2004 and Amendment 1:2011. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) clarification of requirements for the test report, particularly when a number of alternative test methods exist;
- b) introduction of a more detailed test setup for radiated emission measurements, along with the introduction of a 3 m measurement distance for small size equipment;
- c) general updates in the informative annexes.

The text of this standard is based on the following documents:

FDIS	Report on voting
22G/347/FDIS	22G/350/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2, and with IEC Guide 107.

A list of all parts in the IEC 61800 series, published under the general title *Adjustable speed electrical power drive systems*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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