

ELEKTROMAGNETILINE ÜHILDUVUS. OSA 6-2:
ERIALASED PÕHISTANDARDID. HÄIRINGUTALUVUS
TÖÖSTUSKESKKONDADES

Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments (IEC 61000-6-2:2016)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 61000-6-2:2019 sisaldab Euroopa standardi EN IEC 61000-6-2:2019 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 61000-6-2:2019 consists of the English text of the European standard EN IEC 61000-6-2:2019.
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 22.02.2019.	Date of Availability of the European standard is 22.02.2019.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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English Version

Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments (IEC 61000-6-2:2016)

Compatibilité électromagnétique (CEM) - Partie 6-2:
Normes génériques - Norme d'immunité pour les
environnements industriels
(IEC 61000-6-2:2016)

Elektromagnetische Verträglichkeit - Teil 6-2:
Fachgrundnormen - Störfestigkeit für Industriebereiche
(IEC 61000-6-2:2016)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
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European foreword

The text of document 77/521/FDIS, future edition 3 of IEC 61000-6-2, prepared by IEC/TC 77 "Electromagnetic compatibility" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61000-6-2:2019.

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) 2019-08-22
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-02-22

This document supersedes EN 61000-6-2:2005.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

Endorsement notice

The text of the International Standard IEC 61000-6-2:2016 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 61000-4-12	NOTE	Harmonized as EN 61000-4-12
IEC 61000-4-13	NOTE	Harmonized as EN 61000-4-13
IEC 61000-4-16	NOTE	Harmonized as EN 61000-4-16
IEC 61000-4-18	NOTE	Harmonized as EN 61000-4-18
IEC 61000-4-19	NOTE	Harmonized as EN 61000-4-19
IEC 61000-4-29	NOTE	Harmonized as EN 61000-4-29
IEC 61000-4-31	NOTE	Harmonized as EN 61000-4-31
CISPR 11:2009	NOTE	Harmonized as EN 55011:2009 (modified).

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTROMAGNETIC COMPATIBILITY (EMC) –**Part 6-2: Generic standards –
Immunity standard for industrial environments**

FOREWORD

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International Standard IEC 61000-6-2 has been prepared by IEC technical committee 77: Electromagnetic compatibility.

This third edition cancels and replaces the second edition published in 2005. This edition constitutes a technical revision.

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

- a) improvement of the environmental description;
- b) extension of the frequency range for the radio-frequency electromagnetic field test according to IEC 61000-4-3;
- c) amended test levels at particular frequencies for the radio-frequency electromagnetic field test according to IEC 61000-4-3;

- d) change of the repetition frequency for the fast transients immunity test according to IEC 61000-4-4;
- e) introduction of requirements according to IEC 61000-4-34;
- f) revision of the test levels;
- g) consideration of measurement uncertainty;
- h) addition of Annex A.

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

FDIS	Report on voting
77/521/FDIS	77/523/RVD

Full information on the voting for the approval of this 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.

A list of all parts in the IEC 61000 series, published under the general title *Electromagnetic compatibility (EMC)*, can be found on the IEC website.

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

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

INTRODUCTION

IEC 61000 is published in separate parts according to the following structure:

Part 1: General

General considerations (introduction, fundamental principles)
Definitions, terminology

Part 2: Environment

Description of the environment
Classification of the environment
Compatibility levels

Part 3: Limits

Emission limits
Immunity limits (insofar as these limits do not fall under the responsibility of the product committees)

Part 4: Testing and measurement techniques

Measurement techniques
Testing techniques

Part 5: Installation and mitigation guidelines

Installation guidelines
Mitigation methods and devices

Part 6: Generic standards

Part 9: Miscellaneous

Each part is further subdivided into several parts, published either as International Standards or as Technical Specifications or Technical Reports, some of which have already been published as sections. Others will be published with the part number followed by a dash and a second number identifying the subdivision (example: IEC 61000-6-1).

ELECTROMAGNETIC COMPATIBILITY (EMC) –

Part 6-2: Generic standards – Immunity standard for industrial environments

1 Scope

This part of IEC 61000 for EMC immunity requirements applies to electrical and electronic equipment intended for use in industrial locations, as described below. Immunity requirements in the frequency range 0 Hz to 400 GHz are covered. No tests need to be performed at frequencies where no requirements are specified.

This generic EMC immunity standard is applicable if no relevant dedicated product or product-family EMC immunity standard exists.

This standard applies to electrical and electronic equipment intended to be operated in industrial locations, as defined in 3.7, both indoor and outdoor.

This standard applies also to equipment intended to be directly connected to a DC distribution network or which is battery operated, and intended to be used in industrial locations.

This standard defines the immunity test requirements for equipment specified in the scope in relation to continuous and transient, conducted and radiated disturbances, including electrostatic discharges.

The immunity requirements have been selected to ensure an adequate level of immunity for equipment operating within industrial locations. The levels do not, however, cover extreme cases, which may occur at any location, but with an extremely low probability of occurrence. Not all disturbance phenomena have been included for testing purposes in this standard, but only those considered as relevant for the equipment covered by this standard. These test requirements represent essential electromagnetic compatibility immunity requirements. They are specified for each port considered.

NOTE 1 Information on other disturbance phenomena is given in IEC TR 61000-4-1.

NOTE 2 Safety considerations are not covered by this standard.

NOTE 3 In special cases, situations will arise where the level of disturbances may exceed the levels specified in this standard, for example where equipment is installed in proximity to industrial, scientific and medical equipment as defined in CISPR 11 or where a hand-held transmitter is used in close proximity to equipment. In these instances, special mitigation measures may have to be employed.

The industrial environment may be changed by special mitigation measures. Where such measures can be shown to produce an electromagnetic environment equivalent to the residential, commercial or light-industrial environment, then the generic standard for this environment, or the relevant product standard, may be applied.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050-161, *International Electrotechnical Vocabulary – Part 161: Electromagnetic compatibility* (available at: www.electropedia.org)

IEC 61000-4-2:2008, *Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test*

IEC 61000-4-3:2006, *Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test*
IEC 61000-4-3:2006/AMD1:2007
IEC 61000-4-3:2006/AMD2:2010

IEC 61000-4-4:2012, *Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test*

IEC 61000-4-5:2014, *Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test*

IEC 61000-4-6:2013, *Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields*

IEC 61000-4-8:2009, *Electromagnetic compatibility (EMC) – Part 4-8: Testing and measurement techniques – Power frequency magnetic field immunity test*

IEC 61000-4-11:2004, *Electromagnetic compatibility (EMC) – Part 4-11: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests*

IEC 61000-4-20:2010, *Electromagnetic compatibility (EMC) – Part 4-20: Testing and measurement techniques – Emission and immunity testing in transverse electromagnetic (TEM) waveguides*

IEC 61000-4-21:2011, *Electromagnetic compatibility (EMC) – Part 4-21: Testing and measurement techniques – Reverberation chamber test methods*

IEC 61000-4-22:2010, *Electromagnetic compatibility (EMC) – Part 4-22: Testing and measurement techniques – Radiated emissions and immunity measurements in fully anechoic rooms (FARs)*

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 mains current more than 16 A per phase*
IEC 61000-4-34:2005/AMD1:2009

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-161 as well as the following apply.

NOTE Additional definitions related to EMC and to relevant phenomena are given in other IEC and CISPR publications.

3.1 port

particular interface of the equipment which couples this equipment with or is influenced by the external electromagnetic environment