

### SLOVENSKI STANDARD SIST EN IEC 61000-6-2:2019

01-julij-2019

Nadomešča: SIST EN 61000-6-2:2005

# Elektromagnetna združljivost (EMC) - 6-2. del: Osnovni standardi - Odpornost za industrijska okolja

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

Elektromagnetische Verträglichkeit (EMV) - Teil 6-2: Fachgrundnormen - Störfestigkeit für Industriebereiche (standards.iteh.ai)

Compatibilité électromagnétique (CEM), Partie 6-2: Normes génériques - Immunité pour les environnements industriels ich ai/catalog/standards/sist/9e6440db-1d7b-48a6-9d35b34a7084ae1e/sist-en-iec-61000-6-2-2019

Ta slovenski standard je istoveten z: EN IEC 61000-6-2:2019

<u>ICS:</u>

33.100.20 Imunost

Immunity

SIST EN IEC 61000-6-2:2019

en

## iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN IEC 61000-6-2:2019 https://standards.iteh.ai/catalog/standards/sist/9e6440db-1d7b-48a6-9d35b34a7084ae1e/sist-en-iec-61000-6-2-2019

# EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

### EN IEC 61000-6-2

February 2019

ICS 33.100.20

Supersedes EN 61000-6-2:2005

**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)

This European Standard was approved by CENELEC on 2016-09-14. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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.

This European Standard exists in three official versions (English, French German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

#### SIST EN IEC 61000-6-2:2019

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav, Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



European Committee for Electrotechnical Standardization Comité Européen de Normalisation Electrotechnique Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

#### EN IEC 61000-6-2:2019 (E)

#### **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 (dop) 2019-08-22 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2022-02-22 document have to be withdrawn

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). (standards.iteh.ai)

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document. <u>SIST EN IEC 61000-6-2:2019</u>

https://standards.iteh.ai/catalog/standards/sist/9e6440db-1d7b-48a6-9d35b34a7084ae1e/sist-en-iec-61000-6-2-2019

#### **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).

### 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: <a href="http://www.cenelec.eu">www.cenelec.eu</a>.

Publication	Year	<u>Title</u>	<u>EN/HD</u>	Year
IEC 60050-161	-	International Electrotechnical Vocabular Chapter 161: Electromagnetic compatibilit		-
IEC 61000-4-2	2008	Electromagnetic compatibility (EMC) - Pa 4-2: Testing and measurement technique - Electrostatic discharge immunity test		2009
IEC 61000-4-3	2006	Electromagnetic compatibility (EMC) - Pa 4-3 : Testing and measurement technique - Radiated, radio-frequenc	es v	2006
	https://sta	Delectromagnetic field immunity test <sup>1D-1d/b</sup> b34a7084ae1e/sist-en-iec-61000-6-2-2019	-48a6-9d35-	
+ A1	2007		+ A1	2008
+ A2	2010		+ A2	2010
IEC 61000-4-4	2012	Electromagnetic compatibility (EMC) - Pa 4-4: Testing and measurement technique - Electrical fast transient/burst immuni test	es	2012
IEC 61000-4-5	2014	Electromagnetic compatibility (EMC) - Pa 4-5: Testing and measurement technique - Surge immunity test		2014
IEC 61000-4-6	2013	Electromagnetic compatibility (EMC) - Pa 4-6: Testing and measurement technique - Immunity to conducted disturbance induced by radio-frequency fields	es	2014
IEC 61000-4-8	2009	Electromagnetic compatibility (EMC) - Pa 4-8: Testing and measurement technique - Power frequency magnetic field immuni test	es	2010
IEC 61000-4-11	2004	Electromagnetic compatibility (EMC) - Pa 4-11: Testing and measureme techniques - Voltage dips, sho interruptions and voltage variation immunity tests	nt ort	2004

#### EN IEC 61000-6-2:2019 (E)

Publication	Year	<u>Title</u> <u>EN/HD</u>	Year
IEC 61000-4-20	2010	Electromagnetic compatibility (EMC) - PartEN 61000-4-20 4-20: Testing and measurement techniques - Emission and immunity testing in transverse electromagnetic (TEM) waveguides	2010
IEC 61000-4-21	2011	Electromagnetic compatibility (EMC) - PartEN 61000-4-21 4-21: Testing and measurement techniques - Reverberation chamber test methods	2011
IEC 61000-4-22	2010	Electromagnetic compatibility (EMC) - PartEN 61000-4-22 4-22: Testing and measurement techniques - Radiated emissions and immunity measurements in fully anechoic rooms (FARs)	2011
IEC 61000-4-34	2005	Electromagnetic compatibility (EMC) - PartEN 61000-4-34 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	
+ A1	2009	+ A1	2009
iTeh STANDARD PREVIEW			
(standards.iteh.ai)			

SIST EN IEC 61000-6-2:2019

https://standards.iteh.ai/catalog/standards/sist/9e6440db-1d7b-48a6-9d35b34a7084ae1e/sist-en-iec-61000-6-2-2019



# IEC 61000-6-2

Edition 3.0 2016-08

# INTERNATIONAL STANDARD

NORME INTERNATIONALE

Electromagnetic compatibility (EMC) ARD PREVIEW Part 6-2: Generic standards - Immunity standard for industrial environments

Compatibilité électromagnéti<u>gue (CEM)</u>1000-6-2:2019 Partie 6-2: Normes génériques an Norme d'immunité pour les environnements industriels b34a7084ae1e/sist-en-iec-61000-6-2-2019

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 33.100.20

ISBN 978-2-8322-3566-9

Warning! Make sure that you obtained this publication from an authorized distributor. Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.

 Registered trademark of the International Electrotechnical Commission Marque déposée de la Commission Electrotechnique Internationale

– 2 – IEC 61000-6-2:2016 © IEC 2016

#### CONTENTS

FOF	REWORD	3
INT	RODUCTION	5
1	Scope	6
2	Normative references	6
3	Terms and definitions	7
4	Performance criteria	9
5	Conditions during testing	9
6	Product documentation	10
7	Applicability	10
8	Measurement uncertainty	10
9	Immunity test requirements	10
Ann	ex A (informative) Guidance for product committees	16
Bibli	iography	18
Figu	ure 1 – Equipment ports	8
	le 1 – Immunity requirements – Enclosure ports	
Tab	le 2 – Immunity requirements Signal/control ports h.ai)	13
Tab	le 3 – Immunity requirements – Input and output DC power ports	14
Tab	le 4 – Immunity requirements – Input and output AC power ports	15
Tabl	le A.1 – Immunity tests and test levels to be considered in future or for particular duct families	

IEC 61000-6-2:2016 © IEC 2016

#### - 3 -

#### INTERNATIONAL ELECTROTECHNICAL COMMISSION

#### ELECTROMAGNETIC COMPATIBILITY (EMC) -

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

#### 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 nongovernmental 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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user. (Standards.iten.al)
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter. https://standards.iteh.ai/catalog/standards/sist/9e6440db-1d7b-48a6-9d35-
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

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;

– 4 –

- 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 (standards.iteh.ai)

- reconfirmed,
- withdrawn,
- SIST EN IEC 61000-6-2:2019
- replaced by a revised additionelon/catalog/standards/sist/9e6440db-1d7b-48a6-9d35-
- amended.

b34a7084ae1e/sist-en-iec-61000-6-2-2019

IEC 61000-6-2:2016 © IEC 2016

– 5 –

#### 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 STANDARD PREVIEW Testing techniques

# Part 5: Installation and mitigation guidelines

Installation guidelines SIST EN IEC 61000-6-2:2019 https://standards.iteh.ai/catalog/standards/sist/9e6440db-1d7b-48a6-9d35-Mitigation methods and devices b34a/084ae1e/sist-en-iec-61000-6-2-2019

#### 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).