



SLOVENSKI STANDARD
SIST EN 61969-1:2012

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Mehanske konstrukcije elektronske opreme - Ohišja na prostem - 1. del: Smernice za projektiranje

Mechanical structures for electronic equipment - Outdoor enclosures - Part 1: Design guidelines

Mechanische Bauweisen für elektronische Einrichtungen - Außengehäuse - Teil 1: Konstruktionsleitfaden

Structures mécaniques pour équipement électronique - Enveloppes de plein air - Partie 1: Guide de conception

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Mehanske konstrukcije za elektronsko opremo

Mechanical structures for electronic equipment

SIST EN 61969-1:2012

en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 61969-1

February 2012

ICS 31.240

Supersedes EN 61969-1:2000

English version

**Mechanical structures for electronic equipment -
Outdoor enclosures -
Part 1: Design guidelines
(IEC 61969-1:2011)**

Structures mécaniques pour équipement
électronique -
Enveloppes de plein air -
Partie 1: Lignes directrices pour la
conception
(CEI 61969-1:2011)

Mechanische Bauweisen für elektronische
Einrichtungen -
Außengehäuse -
Teil 1: Konstruktionsleitfaden
(IEC 61969-1:2011)

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This European Standard was approved by CENELEC on 2011-12-22. 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.

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CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 48D/488/FDIS, future edition 2 of IEC 61969-1, prepared by SC 48D, "Mechanical structures for electronic equipment", of IEC/TC 48, "Electromechanical components and mechanical structures for electronic equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61969-1:2012.

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) 2012-09-22
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2014-12-22

This document supersedes EN 61969-1:2000.

EN 61969-1:2012 includes the following significant technical changes with respect to EN 61969-1:2000:

a) Addition of design guidance for thermal management and noise suppression as thermal/noise management is often considered a basic requirement of an empty outdoor enclosure. If thermal management components are included in the product, the environmental impact may become the responsibility of the empty outdoor enclosure manufacturer. Therefore the acoustic limitations shall be observed.

Typically, the user of the empty outdoor enclosure follows the local regulatory acoustic requirements (sound power and/or sound pressure). Acoustic measurements may be performed on the empty outdoor enclosure fitted with thermal management components only or, if agreed between manufacturer and user at the final stage of the application specific installation.

b) Historically, EN 61969-1:2000 intended to create a market for standardized empty outdoor enclosures offered by multiple vendors. Detail standards such as EN 61969-2-1:2000 and EN 61969-2-2:2000 were issued to guide users to preferred and available solutions.

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

Endorsement notice

The text of the International Standard IEC 61969-1:2011 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-581	-	International Electrotechnical Vocabulary - Part 581: Electromechanical components for electronic equipment	-	-
IEC 60068	Series	Environmental testing	EN 60068-2-1	Series
IEC 60297-3-101	-	Mechanical structures for electronic equipment - Dimensions of mechanical structures of the 482,6 mm (19 in) series - Part 3-101: Subracks and associated plug-in units	EN 60297-3-101	-
IEC 60417	Data base	Graphical symbols for use on equipment	-	-
IEC 60529	-	Degrees of protection provided by enclosures - (IP Code)	-	-
IEC 60695-11-10	-	Fire hazard testing - Part 11-10: Test flames - 50 W horizontal and vertical flame test methods	EN 60695-11-10	-
IEC 60721	Series	Classification of environmental conditions	EN 60721-1	Series
IEC 60825-1	-	Safety of laser products - Part 1: Equipment classification and requirements	EN 60825-1	-
IEC 60917	Series	Modular order for the development of mechanical structures for electronic equipment practices - Part 1: Generic standard	EN 60917	Series
IEC 60950	Series	Information technology equipment - Safety	EN 60950	Series
IEC 61010-1	-	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 1: General requirements	EN 61010-1	-
IEC 61140	-	Protection against electric shock - Common aspects for installation and equipment	EN 61140	-
IEC 61439-5	-	Low-voltage switchgear and controlgear assemblies - Part 5: Assemblies for power distribution in public networks	EN 61439-5	-
IEC 61587-1	-	Mechanical structures for electronic equipment - Tests for IEC 60917 and IEC 60297 - Part 1: Climatic, mechanical tests and safety aspects for cabinets, racks, subracks and chassis	EN 61587-1	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61587-2	-	Mechanical structures for electronic equipment - Tests for IEC 60917 and IEC 60297 - Part 2: Seismic tests for cabinets and racks	EN 61587-2	-
IEC 61587-3	-	Mechanical structures for electronic equipment - Tests for IEC 60917 and IEC 60297 - Part 3: Electromagnetic shielding performance tests for cabinets, racks and subracks	EN 61587-3	-
IEC 61969	Series	Mechanical structures for electronic equipment - Outdoor enclosures	EN 61969-1	Series
IEC 62194	-	Method of evaluating the thermal performance of enclosures	EN 62194	-
IEC 62262	-	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)	EN 62262	-
IEC 62305-4	-	Protection against lightning - Part 4: Electrical and electronic systems within structures	EN 62305-4	-
ISO 3864	-	Safety colours and safety signs	-	-
ISO 7779	-	Acoustics - Measurement of airborne noise emitted by information technology and telecommunications equipment	EN ISO 7779	-
ISO 1518-1	-	Paints and varnishes - Determination of scratch resistance - Part 1: Constant-loading method	EN ISO 1518-1	-
ETS 300753	-	Equipment Engineering (EE) - Acoustic noise emitted by telecommunications equipment	-	-
ETS 300019-1-4	-	Equipment Engineering (EE) - Environmental conditions and environmental test for telecommunications equipment - Part 1-4: Classification of environmental conditions - Stationary use at non-weatherprotected locations	-	-
ETS 300194-2-4	-	Equipment Engineering (EE) - Environmental conditions and environmental tests for telecommunications equipment - Part 2-4: Specification of environmental tests - Stationary use at non-weatherprotected locations	-	-



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INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Mechanical structures for electronic equipment – Outdoor enclosures –
Part 1: Design guidelines** (standards.iteh.ai)

**Structures mécaniques pour équipement électronique – Enveloppes de plein
air –**
Partie 1: Lignes directrices pour la conception

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MECHANICAL STRUCTURES FOR ELECTRONIC EQUIPMENT –
OUTDOOR ENCLOSURES –****Part 1: Design guidelines**

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 61969-1 has been prepared by subcommittee 48D: Mechanical structures for electronic equipment, of IEC technical committee 48: Electromechanical components and mechanical structures for electronic equipment.

This second edition cancels and replaces the first edition issued in 1999. It constitutes a technical revision.

The main technical changes with regard to the previous edition are as follows:

- a) Addition of design guidance for thermal management and noise suppression as thermal/noise management is often considered a basic requirement of an empty outdoor enclosure. If thermal management components are included in the product, the environmental impact may become the responsibility of the empty outdoor enclosure manufacturer. Therefore the acoustic limitations shall be observed.