



BSI Standards Publication

Mechanical structures for electrical and electronic equipment — Outdoor enclosures

Part 1: Design guidelines

National foreword

This British Standard is the UK implementation of EN IEC 61969-1:2020. It is identical to IEC 61969-1:2020. It supersedes BS EN 61969-1:2012, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee EPL/48, Electromechanical components and mechanical structures for electronic equipment.

A list of organizations represented on this committee can be obtained on request to its committee manager.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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EUROPEAN STANDARD

EN IEC 61969-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2020

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Supersedes EN 61969-1:2012 and all of its amendments
and corrigenda (if any)

English Version

**Mechanical structures for electrical and electronic equipment -
Outdoor enclosures - Part 1: Design guidelines
(IEC 61969-1:2020)**

Structures mécaniques pour équipement électrique et
électronique - Enveloppes de plein air - Partie 1: Lignes
directrices pour la conception
(IEC 61969-1:2020)

Mechanische Bauweisen für elektrische und elektronische
Einrichtungen - Außengehäuse - Teil 1:
Konstruktionsleitfaden
(IEC 61969-1:2020)

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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

European foreword

The text of document 48D/720/FDIS, future edition 3 of IEC 61969-1, prepared by SC 48D "Mechanical structures for electrical and electronic equipment" of IEC/TC 48 "Electrical connectors and mechanical structures for electrical and electronic equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61969-1:2020.

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) 2021-03-16
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-06-16

This document supersedes EN 61969-1:2012 and all of its amendments and corrigenda (if any).

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.

Endorsement notice

The text of the International Standard IEC 61969-1:2020 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 60068-2-1	NOTE	Harmonized as EN 60068-2-1
IEC 60068-2-2	NOTE	Harmonized as EN 60068-2-2
IEC 60068-2-5	NOTE	Harmonized as EN IEC 60068-2-5
IEC 60068-2-6	NOTE	Harmonized as EN 60068-2-6
IEC 60068-2-10	NOTE	Harmonized as EN 60068-2-10
IEC 60068-2-11	NOTE	Harmonized as EN 60068-2-11
IEC 60068-2-14	NOTE	Harmonized as EN 60068-2-14
IEC 60068-2-27	NOTE	Harmonized as EN 60068-2-27
IEC 60068-2-30	NOTE	Harmonized as EN 60068-2-30
IEC 60068-2-31	NOTE	Harmonized as EN 60068-2-31
IEC 60068-2-60	NOTE	Harmonized as EN 60068-2-60
IEC 60068-2-78	NOTE	Harmonized as EN 60068-2-78
IEC 60297 (series)	NOTE	Harmonized as EN IEC 60297 (series)
IEC 60297-3-100	NOTE	Harmonized as EN 60297-3-100
IEC 60917 (series)	NOTE	Harmonized as EN 60917 (series)
IEC 60917-1	NOTE	Harmonized as EN IEC 60917-1
IEC 60917-2	NOTE	Harmonized as EN 60917-2
IEC 61587-2	NOTE	Harmonized as EN 61587-2
IEC 61587-3	NOTE	Harmonized as EN 61587-3
IEC 61969-2	NOTE	Harmonized as EN 61969-2
IEC 61969-3	NOTE	Harmonized as EN 61969-3

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

FOREWORD

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International Standard IEC 61969-1 has been prepared by subcommittee 48D: Mechanical structures for electrical and electronic equipment, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment.

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

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

- a) alignment with the content of ETSI EN 300 019 and IEC 60721 series latest editions, particularly with the actualization of climate conditions;
- b) new requirements added to reflect market requirements on environmental issues;
- c) improvement on terminology and overall editorial improvement.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
48D/720/FDIS	48D/723/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 document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 61969 series, published under the general title *Mechanical structures for electrical and electronic equipment – Outdoor enclosures*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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.

INTRODUCTION

This part of IEC 61969 is intended as a generic guide for the development of further parts within this series of standards, and it provides design guidelines for outdoor enclosures.

The products covered by IEC 61969 (all parts) are empty enclosures for outdoor locations, to be equipped with application-specific combinations of electrical and electronic equipment, and to be used at non-weather protected locations above ground.

IEC 61969 (all parts) consists of:

- a design guidelines general part (IEC 61969-1);
- a coordination dimension standard (IEC 61969-2);
- an environmental requirements and tests, safety aspects standard (IEC 61969-3).

IEC 61969-2 and IEC 61969-3 should be read in conjunction with this document.

MECHANICAL STRUCTURES FOR ELECTRICAL AND ELECTRONIC EQUIPMENT – OUTDOOR ENCLOSURES –

Part 1: Design guidelines

1 Scope

This part of IEC 61969 contains design guidelines for outdoor enclosures and is applicable over a wide field of mechanical, electromechanical and electronic equipment and its installation where a modular design is used.

The objectives of this document are:

- to provide an overview of specifications for enclosures focused on requirements for outdoor applications for stationary use at non-weather protected locations, and
- to achieve product integrity under outdoor conditions and to ease product selection for the sourcing of outdoor enclosures from different vendors.

These enclosures are considered to contain any equipment and provide protection for the outdoor installed facilities against unwanted environmental impacts. The installed equipment can be, but is not limited to, subracks or chassis according to IEC 60917 (all parts) or IEC 60297 (all parts). A typical outdoor enclosure is shown in Figure 1.

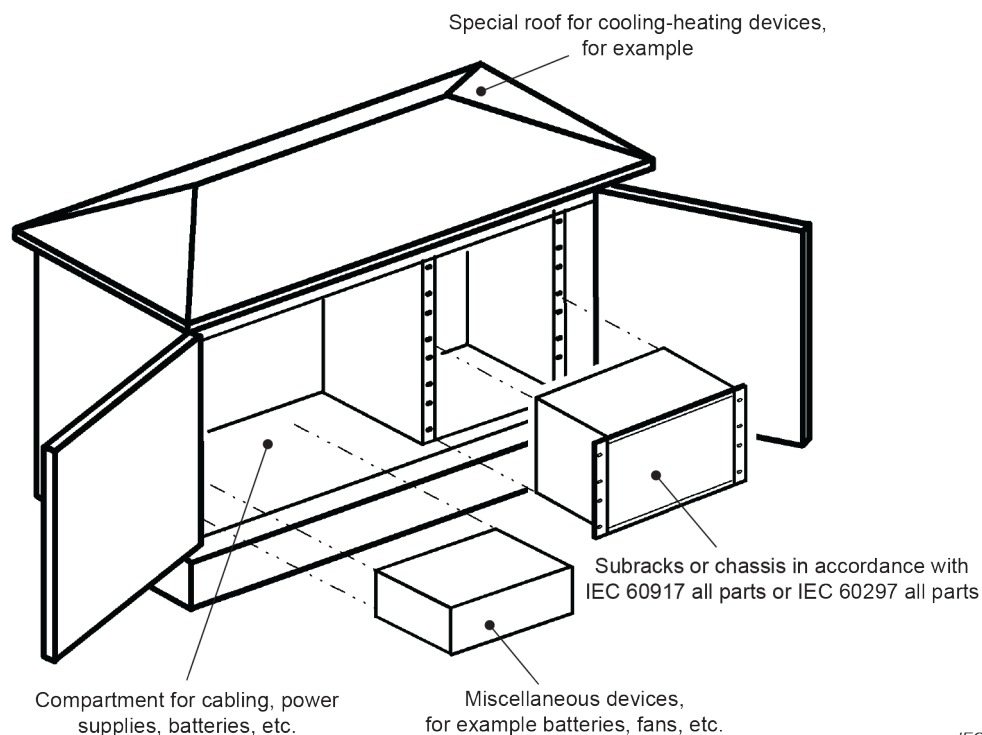


Figure 1 – Typical outdoor enclosure