SLOVENSKI STANDARD
oSIST prEN IEC 62208:2022

01-september-2022

Prazna ohišja za sestave nizkonapetostnih stikalnih in krmilnih naprav - Splošne zahteve

Empty enclosures for low-voltage switchgear and controlgear assemblies - General requirements

Leergehäuse für Niederspannungs-Schaltgerätekombinationen - Allgemeine Anforderungen

Enveloppes vides destinées aux ensembles d'appareillages à basse tension - Exigences générales

Ta slovenski standard je istoveten z: **prEN IEC 62208:2022**

ICS:

29.130.20	Nizkonapetostne stikalne in krmilne naprave	Low voltage switchgear and controlgear

oSIST prEN IEC 62208:2022 **en**

121B/157/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER: **IEC 62208 ED3**	
DATE OF CIRCULATION: **2022-07-01**	CLOSING DATE FOR VOTING: **2022-09-23**
SUPERSEDES DOCUMENTS: **121B/145/CD, 121B/156/CC**	

IEC SC 121B : LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR ASSEMBLIES	
SECRETARIAT: Germany	SECRETARY: Mr Jörg Hußmann
OF INTEREST TO THE FOLLOWING COMMITTEES: TC 18,SC 22G,SC 23B,TC 44,TC 64,SC 121A	PROPOSED HORIZONTAL STANDARD: ☐ Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
FUNCTIONS CONCERNED: ☐ EMC ☐ ENVIRONMENT ☐ QUALITY ASSURANCE ☒ SAFETY	
☒ SUBMITTED FOR CENELEC PARALLEL VOTING	☐ NOT SUBMITTED FOR CENELEC PARALLEL VOTING
Attention IEC-CENELEC parallel voting The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting. The CENELEC members are invited to vote through the CENELEC online voting system.	

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

TITLE:

Empty enclosures for low-voltage switchgear and controlgear assemblies - General requirements

PROPOSED STABILITY DATE: 2026

NOTE FROM TC/SC OFFICERS:

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

EMPTY ENCLOSURES FOR LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR ASSEMBLIES – GENERAL REQUIREMENTS

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.
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.
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.
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.
9) 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.

IEC 62208 has been prepared by subcommittee 121B: Low-voltage switchgear and controlgear assemblies, of IEC technical committee 121: Switchgear and controlgear and their assemblies for low voltage. It is an International Standard.

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) consideration of the modifications introduced in standard IEC 61439-1:2020 Ed.3;
b) alignment of test procedures with the newest relevant standards.

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

Draft	Report on voting
121B/XX/FDIS	121B/XX/RVD

142

143 Full information on the voting for its approval can be found in the report on voting indicated in
144 the above table.

145 The language used for the development of this International Standard is English.

146 This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in
147 accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available
148 at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are
149 described in greater detail at www.iec.ch/standardsdev/publications.

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

153 • reconfirmed,
154 • withdrawn,
155 • replaced by a revised edition, or
156 • amended.

157

158 # INTRODUCTION

159 The International Electrotechnical Commission (IEC) draws attention to the fact that it is claimed
160 that compliance with this document may involve the use of a patent. IEC takes no position
161 concerning the evidence, validity, and scope of this patent right.

162 The holder of this patent right has assured IEC that s/he is willing to negotiate licences under
163 reasonable and non-discriminatory terms and conditions with applicants throughout the world.
164 In this respect, the statement of the holder of this patent right is registered with IEC. Information
165 may be obtained from the patent database available at http://patents.iec.ch.

166 Attention is drawn to the possibility that some of the elements of this document may be the
167 subject of patent rights other than those in the patent database. IEC shall not be held
168 responsible for identifying any or all such patent rights.

169

EMPTY ENCLOSURES FOR LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR ASSEMBLIES – GENERAL REQUIREMENTS

1 Scope

This document applies to empty enclosures, as provided by the enclosure manufacturer, prior to the incorporation of switchgear and controlgear components by the assembly manufacturer.

This document specifies general definitions, classifications, characteristics and test requirements of enclosures to be used as part of switchgear and controlgear assemblies (e.g. in accordance with the product standard in the IEC 61439 series), the rated voltage of which does not exceed 1 000 V AC or 1 500 V DC, and suitable for general use for either indoor or outdoor applications.

NOTE 1 Additional requirements may apply for specific applications.

NOTE 2 Empty enclosures according to this document are suitable for mounting of electrical components.

This document does not apply to enclosures, which are covered by other specific products standards (e.g. IEC 60670-24).

Compliance with the safety requirements of the applicable product standard for the final product produced using an empty enclosure is the responsibility of the assembly manufacturer.

NOTE 3 This standard may serve as a basis for other technical committees.

2 Normative references

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.

IEC 60068-2-2:2007, *Environmental testing – Part 2-2: Tests – Test B: Dry heat*

IEC 60068-2-11:2021, *Basic environmental testing procedures – Part 2-11: Tests – Test Ka: Salt mist*

IEC 60068-2-30:2005, *Environmental testing – Part 2-30: Tests – Test Db: Damp heat, cyclic (12 h + 12 h cycle)*

IEC 60085:2007, Electrical insulation – Thermal evaluation and designation

IEC 60364 (series), *Low-voltage electrical installations*

IEC 60417-5172, *Graphical symbols for use on equipment*

IEC 60529:1989+AMD1:1999+AMD2:2013 CSV, *Degrees of protection provided by enclosures (IP Code)*

IEC 60695-2-10:2021, *Fire hazard testing – Part 2-10: Glowing/hot-wire based test methods – Glow-wire apparatus and common test procedure*

IEC 60695-2-11:2021, *Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test methods for end-products*

IEC 60695-11-5:2016; *Fire hazard testing - Part 11-5: Test flames - Needle-flame test method - Apparatus, confirmatory test arrangement and guidance*

IEC 62262:2002 + IEC 62262:2002/A1:2021, *Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)*

ISO 178:2019, *Plastics – Determination of flexural properties*

ISO 179-1:2010, *Plastics – Determination of Charpy impact properties – Part 1; Non-instrumented impact test*

ISO 179-2:2020, *Plastics – Determination of Charpy impact properties – Part 2; Instrumented impact test*

ISO 2409:2020, *Paints and varnishes – Cross-cut test*

ISO 4628-3:2016, *Paints and varnishes – Evaluation of degradation of coatings – Designation of quantity and size of defects, and of intensity of uniform changes in appearance – Part 3: Assessment of degree of rusting*

ISO 4892-2:2013, *Plastics – Methods of exposure to laboratory light sources – Part 2: Xenon-arc sources*

ISO 11469:2016, *Plastics – Generic identification and marking of plastic products*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
empty enclosure
enclosure intended for support and installation of electrical equipment, whose internal space provides suitable protection against external influences as well as a specified degree of protection against approach to or contact with live parts and against contact with moving parts

Note 1 to entry: Throughout this document, the word enclosure is used for empty enclosure.

Note 2 to entry: For the purposes of this document, the terms boxes, cubicles, desks or cabinets are alternative terms for enclosures.

3.2
protected space
internal space or portion of an enclosure as specified by the enclosure manufacturer intended to enclose electrical components, and which provides defined protection against external influences and contact with live parts

3.3
cover
external part of the enclosure

3.4
door
hinged or sliding cover

3.5
mounting plate
separate internal accessory of the enclosure intended for the mounting of electrical components

3.6
cable gland plate
removable accessory of the enclosure, intended for securing and sealing of cables, conductors and conduits at their point of entry

3.7
removable cover
cover which is designed for closing an opening in the external enclosure and which can be removed for carrying out certain operations and maintenance work

Note 1 to entry: A lid is considered as a removable cover

3.8
inspection
action comprising careful scrutiny, including visual scrutiny where conditions are obvious, of an item carried out either without dismantling, or with the addition of partial dismantling as required, supplemented by means such as measurement, in order to arrive at a reliable conclusion as to the condition of an item

[SOURCE: IEC 60050-426:2020, 426-14-02, modified – "including visual scrutiny where conditions are obvious" has been added.]"

3.9
rated insulation voltage U_i
value of the RMS withstand voltage assigned by the enclosure manufacturer to the enclosure or to a part of it, characterizing the specified (long-term) withstand capability of its insulation

[SOURCE: IEC 60050-312:2014, 312-06-02, modified – Symbol U_i has been added, in the definition "rated value" has been replaced by "value", "equipment" has been replaced by "enclosure" and the Note has been deleted.]

3.10
class I enclosure
enclosure with at least one provision for a basic protection and a connection to a protective conductor as provision for fault protection

Note 1 to entry: See IEC 61140:2016, 7.3 for further details.

[SOURCE: IEC 61439-1:2020, 3.7.24, modified – "assembly" has been replaced by "enclosure" and Note 2 to entry has been deleted.]

3.11
class II enclosure
enclosure which is provided with the following;

- basic insulation as provision for basic protection, and
- supplementary insulation as provision for fault protection,

or in which

- basic protection and fault protection are provided by reinforced insulation

NOTE to entry: See IEC 61140:2016, 7.4 for further details.

[SOURCE: IEC 61439-1:2020, 3.7.25, modified – "assembly" has been replaced by "enclosure"]

3.12
Conditions of installation of empty enclosures

3.12.1
empty enclosure for indoor installation
empty enclosure that is designed for use in locations where the normal service conditions for indoor use as specified in clause 7 apply

3.12.2
empty enclosure for outdoor installation
empty enclosure that is designed for use in locations where the normal service conditions for outdoor use as specified in clause 7 apply

4 Classification

Enclosures are classified according to:

a) the type of material:
- insulating;
- metallic;
- combination of insulating and metallic.

b) method of mounting:
- floor standing;
- wall mounting;
- flush mounting;
- pole mounting.

c) the intended location:
- outdoor;
- indoor.

d) the degree of protection:
- IP code, according to IEC 60529:1989+AMD1:1999+AMD2:2013;
- IK code, according to IEC 62262:2002 + IEC 62262:2002/A1:2021.

5 EMC

EMC requirements are not applicable for enclosures to this standard.

NOTE EMC is not a basic requirement for empty enclosures to this standard. However, when enclosure manufacturers want to assign a degree of protection against electromagnetic disturbances (EM code) it is referred to IEC 61000-5-7:2001.

6 Information to be given regarding the enclosure

6.1 General

The following information shall be given by the enclosure manufacturer.

6.2 Marking

The enclosure shall be identifiable, making it possible for the assembly manufacturer to obtain relevant information from the enclosure manufacturer. Such identification shall comprise:

- either the name, trade mark or identification mark of the enclosure manufacturer;
- type designation or identification number of the enclosure.

The marking shall be durable and easily legible and may be inside the enclosure.

Compliance is checked according to the test of 9.3 and by inspection.

Marking for the recycling of plastic parts shall be as stated in ISO 11469.

Marking of enclosures used for class II assemblies with the symbol IEC 60417-5172 □ is the responsibility of the assembly manufacturer.