



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

<https://standards.iteh.ai/catalog/standards/sist/e26f3f29-d85a-4144-ba86-1bd450a9fc79/osist-pren-iec-62208-2022>

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<input checked="" type="checkbox"/> 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.	<input type="checkbox"/> NOT SUBMITTED FOR CENELEC PARALLEL VOTING

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TITLE:

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

PROPOSED STABILITY DATE: 2026

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

FOREWORD

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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.

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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.
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165 may be obtained from the patent database available at <http://patents.iec.ch>.

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

175

1 Scope

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

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

183 NOTE 1 Additional requirements may apply for specific applications.

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

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

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

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

190

2 Normative references

191 The following documents are referred to in the text in such a way that some or all of their content
192 constitutes requirements of this document. For dated references, only the edition cited applies.
193 For undated references, the latest edition of the referenced document (including any
194 amendments) applies.

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

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

198 IEC 60068-2-30:2005, *Environmental testing – Part 2-30: Tests – Test Db: Damp heat, cyclic*
199 *(12 h + 12 h cycle)*

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

225 **3 Terms and definitions**

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

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

- 229 • IEC Electropedia: available at <http://www.electropedia.org/>
- 230 • ISO Online browsing platform: available at <http://www.iso.org/obp>

231 [https://standards.iteh.ai/catalog/standards/sist/e26f3f29-d85a-4144-ba86-](https://standards.iteh.ai/catalog/standards/sist/e26f3f29-d85a-4144-ba86-1bd450a9fc79/osist-pren-iec-62208-2022)
 232 [1bd450a9fc79/osist-pren-iec-62208-2022](https://standards.iteh.ai/catalog/standards/sist/e26f3f29-d85a-4144-ba86-1bd450a9fc79/osist-pren-iec-62208-2022)

232 **3.1** 233 **empty enclosure**

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

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

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

240 **3.2** 241 **protected space**

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

245 **3.3** 246 **cover**

247 external part of the enclosure

248 **3.4** 249 **door**

250 hinged or sliding cover

251 **3.5** 252 **mounting plate**

253 separate internal accessory of the enclosure intended for the mounting of electrical components

254 **3.6**
255 **cable gland plate**
256 removable accessory of the enclosure, intended for securing and sealing of cables, conductors
257 and conduits at their point of entry

258 **3.7**
259 **removable cover**
260 cover which is designed for closing an opening in the external enclosure and which can be
261 removed for carrying out certain operations and maintenance work

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

263 **3.8**
264 **inspection**
265 action comprising careful scrutiny, including visual scrutiny where conditions are obvious, of an
266 item carried out either without dismantling, or with the addition of partial dismantling as required,
267 supplemented by means such as measurement, in order to arrive at a reliable conclusion as to
268 the condition of an item

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

271 **3.9**
272 **rated insulation voltage U_i**
273 value of the RMS withstand voltage assigned by the enclosure manufacturer to the enclosure
274 or to a part of it, characterizing the specified (long-term) withstand capability of its insulation

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

278 **3.10**
279 **class I enclosure**
280 enclosure with at least one provision for a basic protection and a connection to a protective
281 conductor as provision for fault protection

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

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

285 **3.11**
286 **class II enclosure**
287 enclosure which is provided with the following;

- 288 • basic insulation as provision for basic protection, and
- 289 • supplementary insulation as provision for fault protection,

290 or in which

- 291 • basic protection and fault protection are provided by reinforced insulation

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

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

294 **3.12**
295 **Conditions of installation of empty enclosures**

296 **3.12.1**
297 **empty enclosure for indoor installation**

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

300 3.12.2**301 empty enclosure for outdoor installation**

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

304 4 Classification

305 Enclosures are classified according to:

306 a) the type of material:

- 307 • insulating;
- 308 • metallic;
- 309 • combination of insulating and metallic.

310 b) method of mounting:

- 311 • floor standing;
- 312 • wall mounting;
- 313 • flush mounting;
- 314 • pole mounting.

315 c) the intended location:

- 316 • outdoor;
- 317 • indoor.

318 d) the degree of protection:

- 319 • IP code, according to IEC 60529:1989+AMD1:1999+AMD2:2013;
- 320 • IK code, according to IEC 62262:2002 + IEC 62262:2002/A1:2021.

321 5 EMC <https://standards.iteh.ai/catalog/standards/sist/e26f3f29-d85a-4144-ba86-1bd450a9fc79/osist-pren-iec-62208-2022>

322 EMC requirements are not applicable for enclosures to this standard.

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

326 6 Information to be given regarding the enclosure**327 6.1 General**

328 The following information shall be given by the enclosure manufacturer.

329 6.2 Marking


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

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

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

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

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

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