

**SLOVENSKI STANDARD**  
**oSIST prEN IEC 61076-2-115:2022**  
**01-julij-2022**

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**Konektorji za električno in elektronsko opremo - Zahteve za izdelek - 2-115. del:  
Okrogli konektorji - Podrobna specifikacija za 12-polne konektorje z naznačenim  
tokom 2A in z zaskočnim zaklepanjem IP65/IP67 s kovinskim ohišjem**

Connectors for electrical and electronic equipment - Product requirements - Part 2-115:  
Circular connectors - Detail specification for 12-pole connectors with 2 A rated current  
and push-pull locking IP65/IP67 with metal housing

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Connecteurs pour équipements électriques et électroniques - Exigences de produit -  
Partie 2-115: Connecteurs circulaires - Spécification particulière relative aux connecteurs  
à 12 pôles avec un courant assigné de 2 A et un mécanisme de verrouillage de type  
pousser-tirer IP65/IP67, logés dans un boîtier métallique

**Ta slovenski standard je istoveten z: prEN IEC 61076-2-115:2022**

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**ICS:**

31.220.10	Vtiči in vtičnice, konektorji	Plug-and-socket devices. Connectors
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# 48B/2948/CDV

## COMMITTEE DRAFT FOR VOTE (CDV)

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**IEC 61076-2-115 ED1**

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IEC SC 48B : ELECTRICAL CONNECTORS	
SECRETARIAT: United States of America	SECRETARY: Mr Jeffrey Toran
OF INTEREST TO THE FOLLOWING COMMITTEES:	PROPOSED HORIZONTAL STANDARD: <input type="checkbox"/> Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
FUNCTIONS CONCERNED: <input type="checkbox"/> EMC <input type="checkbox"/> ENVIRONMENT <input type="checkbox"/> QUALITY ASSURANCE <input type="checkbox"/> SAFETY	
<input checked="" type="checkbox"/> SUBMITTED FOR CENELEC PARALLEL VOTING <b>Attention IEC-CENELEC parallel voting</b> 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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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:

**Connectors for electrical and electronic equipment – Product requirements – Part 2–115:  
Circular connectors – Detail specification for 12-pole connectors with 2 A rated current and  
push-pull locking IP65/IP67 with metal housing**

PROPOSED STABILITY DATE: 2025

NOTE FROM TC/SC OFFICERS:

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

CONNECTORS FOR ELECTRONIC EQUIPMENT –  
PRODUCT REQUIREMENTS –**Part 2–115: Circular connectors – Detail specification for 12-pole  
connectors with 2 A rated current and push-pull locking IP65/IP67  
with metal housing**

## FOREWORD

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International Standard IEC 61076-2-115 has been prepared by subcommittee 48B: Electrical connectors, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment.

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

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

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

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

152 This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in  
153 accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement,  
154 available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by  
155 IEC are described in greater detail at [www.iec.ch/standardsdev/publications](http://www.iec.ch/standardsdev/publications).

156 The committee has decided that the contents of this document will remain unchanged until the  
157 stability date indicated on the IEC website under [webstore.iec.ch](http://webstore.iec.ch) in the data related to the  
158 specific document. At this date, the document will be

- 159 • reconfirmed,
- 160 • withdrawn,
- 161 • replaced by a revised edition, or
- 162 • amended.

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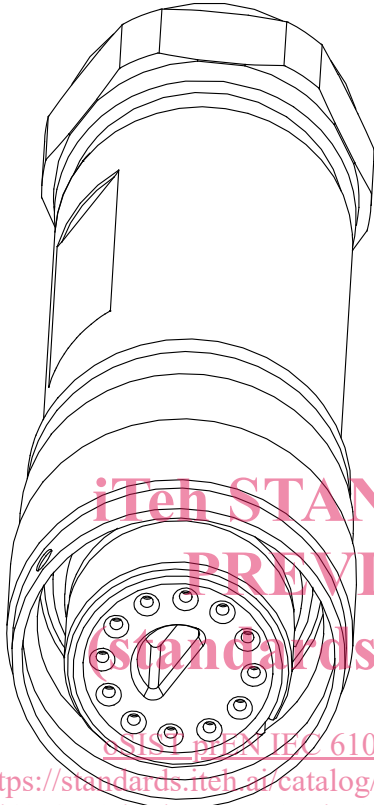
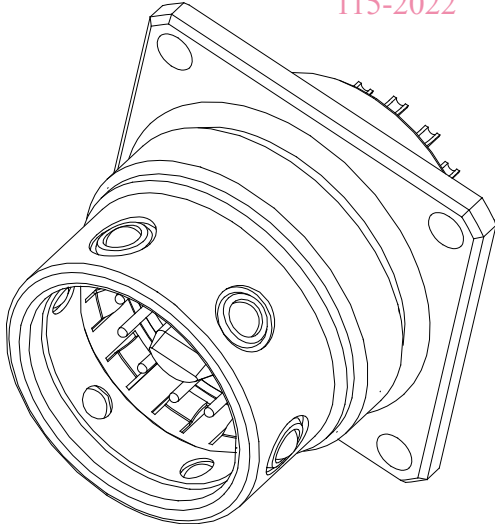
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The International Electrotechnical Commission IEC SC 48B—Electrical connectors		IEC 61076-2-115 Ed.1
Detail specification in accordance with IEC 61076-2		
Free connector	 <p style="text-align: center; color: red; font-weight: bold; font-size: 1.2em;">iTeh STANDARD PREVIEW (standards.iteh.ai)</p> <p style="text-align: center; color: red; font-size: 0.8em;">oSIST prEN IEC 61076-2-115:2022 <a href="https://standards.iteh.ai/catalog/standards/sist/da187586-8d43-4e71-b5d7-0a885137b51a/osist-pren-iec-61076-2-115-2022">https://standards.iteh.ai/catalog/standards/sist/da187586-8d43-4e71-b5d7-0a885137b51a/osist-pren-iec-61076-2-115-2022</a></p>	<p>For rated current of 2 A ; 12-pole; Female contacts; Push-pull locking; 360° shielding.</p>
Fixed connector		<p>For rated current of 2 A ; 12-pole; Male contacts; Push-pull locking; 360° shielding.</p>

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**CONNECTORS FOR ELECTRONIC EQUIPMENT –  
PRODUCT REQUIREMENTS –  
Part 2–115: Circular connectors – Detail specification for 12-pole  
connectors with 2 A rated current and push-pull locking IP65/IP67  
with metal housing**

180 **1 Scope**

181 This part of IEC 61076-2 describes free and fixed 12P circular connectors with 2 A rated  
182 current, rated voltage up to and including 50 V AC/DC, IP65/IP67 metal housing with push-  
183 pull locking (hereinafter referred to as a connectors) for use in electrical and electronic  
184 equipment. It includes overall dimensions, interface dimensions, technical characteristics,  
185 performance requirements and test methods.

186 **2 Normative references**

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

191 IEC 60050-581, *International Electrotechnical Vocabulary – Part 581: Electromechanical*  
192 *components for electronic equipment*

193 IEC 60068-1, *Environmental testing – Part 1: General and guidance*

194 IEC 60068-2-60, *Environmental testing – Part 2-60: Tests – Test Ke: Flowing mixed gas*  
195 *corrosion test*

196 IEC 60228, *Conductors of insulated cables*  
<https://standards.iteh.ai/catalog/standards/sist/da187586-8143-4e71-b5d7-0a885137b51a/osist-pr-en-iec-61076-2-115-2022>

197 IEC 60352-2, *Solderless connections – Part 2: Crimped connections - General requirements,*  
198 *test methods and practical guidance*

199 IEC 60352-3, *Solderless connections – Part 3: Solderless accessible insulation displacement*  
200 *connections - General requirements, test methods and practical guidance*

201 IEC 60352-4, *Solderless connections – Part 4: Solderless non-accessible insulation*  
202 *displacement connections - General requirements, test methods and practical guidance*

203 IEC 60352-5, *Solderless connections – Part 5: Press-in connections - General requirements,*  
204 *test methods and practical guidance*

205 IEC 60352-6, *Solderless connections – Part 6: Insulation piercing connections - General*  
206 *requirements, test methods and practical guidance*

207 IEC 60352-7, *Solderless connections – Part 7: Spring clamp connections - General*  
208 *requirements, test methods and practical guidance*

209 IEC 60512-1-1, *Connectors for electronic equipment-Tests and measurements – Part 1-1:*  
210 *General examination-Test 1a: Visual examination*

211 IEC 60512-1-2, *Connectors for electronic equipment-Tests and measurements – Part 1-2:*  
212 *General examination-Test 1b: Examination of dimension and mass*

213 IEC 60512-2-1, *Connectors for electronic equipment - Tests and measurements – Part 2-1:*  
214 *Electrical continuity and contact resistance tests - Test 2a: Contact resistance - Millivolt level*  
215 *method*

- 216 IEC 60512-2-6, *Connectors for electronic equipment - Tests and measurements – Part 2-6:*  
217 *Electrical continuity and contact resistance tests - Test 2f: Housing (shell) electrical continuity*
- 218 IEC 60512-3-1, *Connectors for electronic equipment - Tests and measurements – Part 3-1:*  
219 *Insulation tests - Test 3a: Insulation resistance*
- 220 IEC 60512-4-1, *Connectors for electronic equipment - Tests and measurements – Part 4-1:*  
221 *Voltage stress tests - Test 4a: Voltage proof*
- 222 IEC 60512-5-1, *Connectors for electronic equipment - Tests and measurements – Part 5-1:*  
223 *Current-carrying capacity tests - Test 5a: Temperature rise*
- 224 IEC 60512-5-2, *Connectors for electronic equipment - Tests and measurements – Part 5-2:*  
225 *Current-carrying capacity tests - Test 5b: Current-temperature derating*
- 226 IEC 60512-6-3, *Connectors for electronic equipment - Tests and measurements – Part 6-3:*  
227 *Dynamic stress tests - Test 6c: Shock*
- 228 IEC 60512-6-4, *Connectors for electronic equipment - Tests and measurements – Part 6-4:*  
229 *Dynamic stress tests - Test 6d: Vibration (sinusoidal)*
- 230 IEC 60512-7-1, *Connectors for electronic equipment - Tests and measurements – Part 7-1:*  
231 *Impact tests (free connectors) - Test 7a: Free fall (repeated)*
- 232 IEC 60512-9-1, *Connectors for electronic equipment - Tests and measurements – Part 9-1:*  
233 *Endurance tests - Test 9a: Mechanical operation*
- 234 IEC 60512-9-2, *Connectors for electronic equipment - Tests and measurements – Part 9-2:*  
235 *Endurance tests - Test 9b: Electrical load and temperature*
- 236 IEC 60512-11-3, *Connectors for electronic equipment - Tests and measurements – Part 11-3:*  
237 *Climatic tests - Test 11c: Damp heat, steady state*
- 238 IEC 60512-11-4, *Connectors for electronic equipment - Tests and measurements – Part 11-4:*  
239 *Climatic tests - Test 11d: Rapid change of temperature*
- 240 IEC 60512-11-6, *Connectors for electronic equipment - Tests and measurements – Part 11-6:*  
241 *Climatic tests - Test 11f: Corrosion, salt mist*
- 242 IEC 60512-11-9, *Connectors for electronic equipment - Tests and measurements – Part 11-9:*  
243 *Climatic tests - Test 11i: Dry heat*
- 244 IEC 60512-11-10, *Connectors for electronic equipment - Tests and measurements – Part 11-*  
245 *10: Climatic tests - Test 11j: Cold*
- 246 IEC 60512-11-11, *Connectors for electronic equipment - Tests and measurements – Part 11-*  
247 *11: Climatic tests - Test 11k: Low air pressure*
- 248 IEC 60512-13-1, *Connectors for electronic equipment - Tests and measurements – Part 13-1:*  
249 *Mechanical operation tests - Test 13a: Engaging and separating forces*
- 250 IEC 60512-13-5, *Connectors for electronic equipment - Tests and measurements – Part 13-5:*  
251 *Mechanical operation tests - Test 13e: Polarizing and keying method*
- 252 IEC 60512-15-1, *Connectors for electronic equipment - Tests and measurements – Part 15-1:*  
253 *Connector tests (mechanical) - Test 15a: Contact retention in insert*
- 254 IEC 60512-15-6, *Connectors for electronic equipment - Tests and measurements – Part 15-6:*  
255 *Connector tests (mechanical) - Test 15f: Effectiveness of connector coupling devices*

- 256 IEC 60512-16-5, *Connectors for electronic equipment - Tests and measurements – Part 16-5:*  
 257 *Mechanical tests on contacts and terminations - Test 16e: Gauge retention force (resilient*  
 258 *contacts)*
- 259 IEC 60512-20-3, *Connectors for electronic equipment - Tests and measurements – Part 20-3:*  
 260 *Mechanical tests on contacts and terminations - Test 20c: Flammability, glow-wire*
- 261 IEC 60529:1989+AMD1:1999+AMD2:2013, *Degrees of protection provided by enclosures (IP*  
 262 *code)*
- 263 IEC 60664-1:2020, *Insulation coordination for equipment within low-voltage supply systems -*  
 264 *Part 1: Principles, requirements and tests*
- 265 IEC 60695-2-11:2014, *Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods*  
 266 *– Glow-wire flammability test method for end-products (GWEPT)*
- 267 IEC 60999-1, *Connecting devices – Electrical copper conductors – Safety requirements for*  
 268 *screw-type and screwless-type clamping units – Part 1: General requirements and particular*  
 269 *requirements for clamping units for conductors from 0,2 mm<sup>2</sup> up to 35 mm<sup>2</sup> (included)*
- 270 IEC 61076-1:2006, *Connectors for electronic equipment – Part 1: Generic specification*
- 271 IEC 61984, *Connectors - Safety requirements and tests*
- 272 IEC Guide 109, *Environmental aspects – Inclusion in electrotechnical product standards*
- 273 IEC 62430:2009, *Environmentally conscious design for electrical and electronic products*
- 274 ISO 1302, *Geometrical Product Specifications (GPS) – Indication of surface texture in*  
 275 *technical product documentation*
- 276 ISO 6508-1, *Metallic materials – Rockwell hardness test – Part 1: Test method (scales A, B,*  
 277 *C, D, E, F, G, H, K, N, T)*
- 278 ISO 11469, *Plastics – Generic identification and marking of plastic products*

### 279 **3 Terms and definitions**

280 For the purposes of this document, the terms and definitions given in IEC 60050-581 apply.  
 281 ISO and IEC maintain terminological databases for use in standardization at the following  
 282 addresses:

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

### 285 **4 Technical information**

#### 286 **4.1 Recommended method of termination**

##### 287 **4.1.1 General**

288 According to IEC 60352 series or IEC 60999-1.

##### 289 **4.1.2 Number of contacts and contact cavities**

290 Number of contacts: 12

291 Number of contact cavities (for removable contacts): 12

292 Suitable wire: cross-sectional area for power contacts: 0,12 mm<sup>2</sup> to 0,20 mm<sup>2</sup>. The core of  
 293 each wire is deemed to be individually shielded, each shielding requiring a dedicated  
 294 termination.