



**SLOVENSKI STANDARD**  
**oSIST prEN IEC 61076-2-116:2022**  
**01-marec-2022**

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**Konektorji za električno in elektronsko opremo - Zahteve za izdelek - 2-116. del:  
Podrobna specifikacija za okrogle konektorje velikosti 15 z do 3+PE tokovnimi in  
pomožnimi kontakti z bajonetnim zaklepanjem**

Connectors for electrical and electronic equipment - Product requirements - Part 2-116:  
Detail specification for circular connectors size 15 with up to 3+PE power contacts and  
auxiliary contacts, with bayonet-locking

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**ICS:**

31.220.10	Vtiči in vtičnice, konektorji	Plug-and-socket devices. Connectors
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# 48B/2934/CDV

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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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TITLE:

**Connectors for electrical and electronic equipment - Product requirements – Part 2 -116: Detail specification for circular connectors size 15 with up to 3+PE power contacts and auxiliary contacts, with bayonet-locking.**

PROPOSED STABILITY DATE: 2025

NOTE FROM TC/SC OFFICERS:

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT –  
PRODUCT REQUIREMENTS –**

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**Part 2-116: Detail specification for circular connectors size 15 with up to 3+PE  
power contacts and auxiliary contacts, with bayonet-locking**

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## FOREWORD

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The International Electrotechnical Commission (IEC) draws attention to the fact that it is claimed that compliance with this document may involve the use of a patent concerning the connector type 3 given in 5.3.3.

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175 Information may be obtained from:

176 LQ Mechatronik-Systeme GmbH  
 177 Carl-Benz-Strasse 6  
 178 Besigheim, Germany 74354  
 179 Attn: Mr. Friedrich P. Link

180 ISO ([www.iso.org/patents](http://www.iso.org/patents)) and IEC (<http://patents.iec.ch>) maintain on-line data bases of patents  
 181 relevant to their standards. Users are encouraged to consult the data bases for the most up to date  
 182 information concerning patents.

183 International Standard IEC 61076-2-116 has been prepared by subcommittee 48B: Electrical  
 184 connectors, of IEC technical committee 48: Electrical connectors and mechanical structures for  
 185 electrical and electronic equipment.

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

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

187  
 188 Full information on the voting for its approval can be found in the report on voting indicated in the  
 189 above table.

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

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

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

- 198 • reconfirmed,
- 199 • withdrawn,
- 200 • replaced by a revised edition, or
- 201 • amended.

202

203 The National Committees are requested to note that for this document the stability date is 2025.

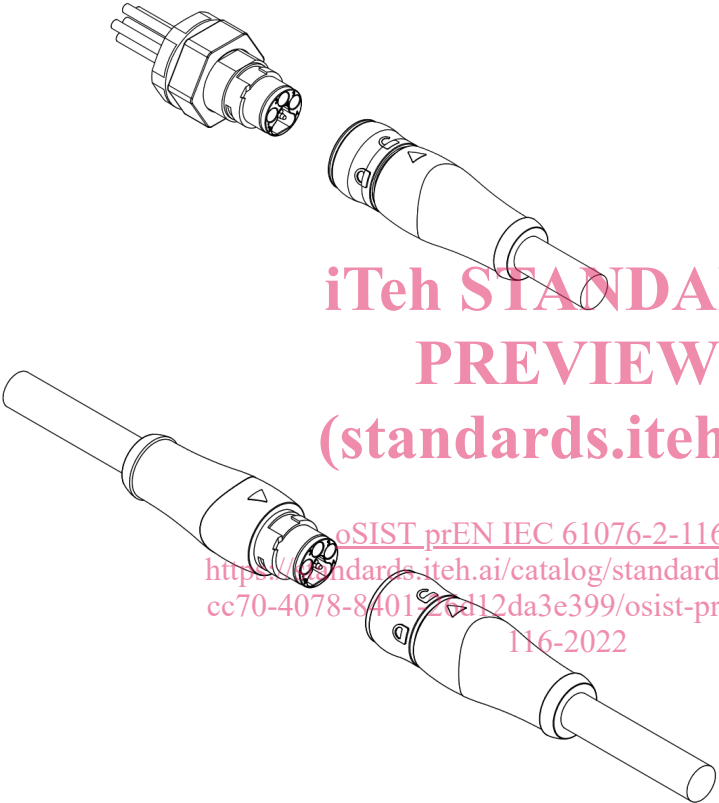
204 THIS TEXT IS INCLUDED FOR THE INFORMATION OF THE NATIONAL COMMITTEES AND WILL BE DELETED AT THE  
 205 PUBLICATION STAGE.

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207

INTRODUCTION

208

<p>IEC SC 48B – Electrical connectors                  Specification available from:                  IEC General secretariat                  or from the addresses shown on the inside cover.</p>	<p>IEC 61076-2-116 Ed. 1</p>
<p>DETAIL SPECIFICATION in accordance with IEC 61076-1</p>	
 <p>Technical drawings of three types of electrical connectors: a circular bayonet-locked connector, a free cable connector, and a fixed connector.</p>	<p>Circular connectors for signal and power applications with bayonet-locking</p> <p>Free cable connectors</p> <ul style="list-style-type: none"> <li>- Male and female connectors</li> <li>- Straight and right-angle connectors</li> <li>- Rewireable and non-rewireable</li> </ul>
<p>oSIST prEN IEC 61076-2-116:2022  <a href="https://standards.iteh.ai/catalog/standards/sist/7db09ead-cc70-4078-8401-7e112da3e399/osist-pr-en-iec-61076-2-116-2022">https://standards.iteh.ai/catalog/standards/sist/7db09ead-cc70-4078-8401-7e112da3e399/osist-pr-en-iec-61076-2-116-2022</a></p>	<p>Fixed Connectors</p> <ul style="list-style-type: none"> <li>- Flange mounting</li> <li>- Single hole mounting</li> <li>- With circular mounting orientation</li> </ul>

209

210 **CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT –**  
 211 **PRODUCT REQUIREMENTS –**

212  
 213 **Part 2-116: Detail specification for circular connectors size 15 with up to 3+PE**  
 214 **power contacts and auxiliary contacts, with bayonet-locking**  
 215

216 **Scope**

217 This part of IEC 61076-2 specifies circular connectors size 15 with bayonet-locking, with up to  
 218 3 power contacts with rated insulation voltage up to 630 V AC/DC and rated current up to 20 A plus  
 219 PE and up to 3 auxiliary contacts with rated insulation voltage up to 63 V AC/DC and rated current up  
 220 to 10 A, that are typically used for industrial power supply and power applications as asynchronous  
 221 motors. These connectors consist of both, fixed and free connectors either rewirable or non-  
 222 rewirable, with bayonet-locking. Male connectors have round contacts Ø1,6 mm.

223 NOTE: Size 15 is the dimension of the inner contact carrier of the male connector interface (dimension AG in Table 18).

224 **Normative references**

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

228 IEC 60050-581, *Advance edition of the International Electrotechnical Vocabulary – Chapter 581:*  
 229 *Electromechanical components for electronic equipment*

230 IEC 60068-1, *Environmental testing – Part 1: General and guidance*  
[https://standards.iteh.ai/catalog/standards/sist/7db09ead-](https://standards.iteh.ai/catalog/standards/sist/7db09ead-704078-8401-26112133399/osist-pr-en-iec-61076-2-116-2022)

231 IEC 60068-2-60, *Environmental testing – Part 2: Tests – Test Ke: Flowing mixed gas corrosion test*  
 116-2022

232 IEC 60352 (all parts), *Solderless connections*

233 IEC 60512 (all relevant parts), *Connectors for electronic equipment – Basic testing procedures and*  
 234 *measuring methods*

235 IEC 60512-1-100, *Connectors for electronic equipment – Tests and measurements – Part 1-100:*  
 236 *General – Applicable publications*

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

238 IEC 60664-1, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles,*  
 239 *requirements and tests*

240 IEC 60998-2-1, *Connecting devices for low-voltage circuits for household and similar purposes – Part*  
 241 *2-1: Particular requirements for connecting devices as separate entities with screw type clamping units*

242 IEC 60999-1, *Connecting devices – Electrical copper conductors – Safety requirements for screw-type*  
 243 *and screwless-type clamping units – Part 1: General requirements and particular requirements for*  
 244 *clamping units for conductors from 0,2 mm<sup>2</sup> up to 35 mm<sup>2</sup> (included)*

245 IEC 61076-1: *Connectors for electronic equipment – Product requirements – Part 1: Generic*  
246 *specification*

247 IEC 61984, *Connectors – Safety requirements and tests*

248 IEC 62197-1, *Connectors for electronic equipment – Quality assessment requirements – Part 1:*  
249 *Generic specification*

250 ISO 1302, *Geometrical Product Specifications (GPS) – Indication of surface texture in technical product*  
251 *documentation*

252 ISO 11469, *Plastics – Generic identification and marking of plastics products*

## 253 **Terms and definitions**

254 For the purposes of this document, the terms and definitions given in IEC 60050-581,  
255 IEC 61076-1, IEC 60512-1 and IEC 61984 apply.

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

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

### 259 **3.1**

260 **circular mounting orientation** (standards.iteh.ai)  
261 circular mounting position of the connector in relation to the polarization of the mating interface

262 Note to entry: Where the free connector has an angled cable entry (as opposed to a straight cable entry), the angle between  
263 the cable entry direction and the polarization keyway should be specified.

264 <https://standards.iteh.ai/catalog/standards/sist/7db09ead-cc70-4078-8401-26d12da3e399/osist-pren-iec-61076-2-116-2022>

## 265 **4 Technical information**

### 266 **4.1 Recommended method of termination**

267 According to IEC 60352 series (solderless connections) and IEC 60999-1 (screw-type and screwless-  
268 type connections).

### 269 **4.2 Electrical ratings and characteristics**

270 The electrical ratings and characteristics as specified in Table 1 and Table 22 to 25.

271

272

**Table 1 – Ratings of connectors**

Type	Style	No. of contacts	Function	pin Ø mm	Rated insulation voltage	Rated current
1	6-way (2 +PE +3)	3	2 + PE	1,6	24 V DC	20 A
		3	A + B + C		24 V DC	4 A
2	6-way (2 +PE +3)	3	2 + PE	1,6	48 V DC	20 A
		3	A + B + C		48 V DC	4 A
3	6-way (3 +PE +2)	4	3 + PE	1,6	630 V AC/DC	16 A
		2	A + B		63 V AC/DC	10 A

273 Note 1: The rated currents for connectors type 1 and 2 provided in Table 1 is associated with a min. 2,5 mm<sup>2</sup> wire size for the  
274 power contacts and a min. 0,34 mm<sup>2</sup> wire size for the auxiliary contacts.

275 Note 2: The rated currents for connectors type 3 provided in Table 1 is associated with a min. 1,5 mm<sup>2</sup> wire size for the power  
276 contacts and a min. 1 mm<sup>2</sup> wire size for the auxiliary contacts.

### 277 4.3 Current-carrying capacity

278 The current-carrying capacity shall be measured according to IEC 60512, Test 5b and stated by the  
279 manufacturer.

280 It shall be applied to a wiring with conductor cross-sectional area of min. 1,5 mm<sup>2</sup> for 16 A or min. 2,5  
281 mm<sup>2</sup> for 20 A on the power section and min. 0,34 mm<sup>2</sup> for 4 A or 1 mm<sup>2</sup> for 10 A on the signal section,  
282 and it shall fulfil the rated currents specified in Table 1.

283

### 284 4.4 Systems of levels

#### 285 4.4.1 Compatibility levels, according to IEC 61076-1

286 Connectors according to this standard are intermateable according to IEC 61076-1.

### 287 4.5 Classification into climatic categories

288 Classification into climatic categories is specified in 6.3.

### 289 4.6 Marking

290 The marking of the connector and the package shall be in accordance with clause 2.7 of  
291 IEC 61076-1.

### 292 4.7 Safety aspects

293 For safety aspects IEC 61984 shall be considered.