SLOVENSKI STANDARD
oSIST prEN IEC 61076-2-116:2022

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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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COMMITTEE DRAFT FOR VOTE (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: ☐ Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
FUNCTIONS CONCERNED: ☐ EMC ☐ ENVIRONMENT ☐ QUALITY ASSURANCE ☐ SAFETY	
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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 –

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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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) 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. The main document types developed by IEC are described in
194 greater detail at 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 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

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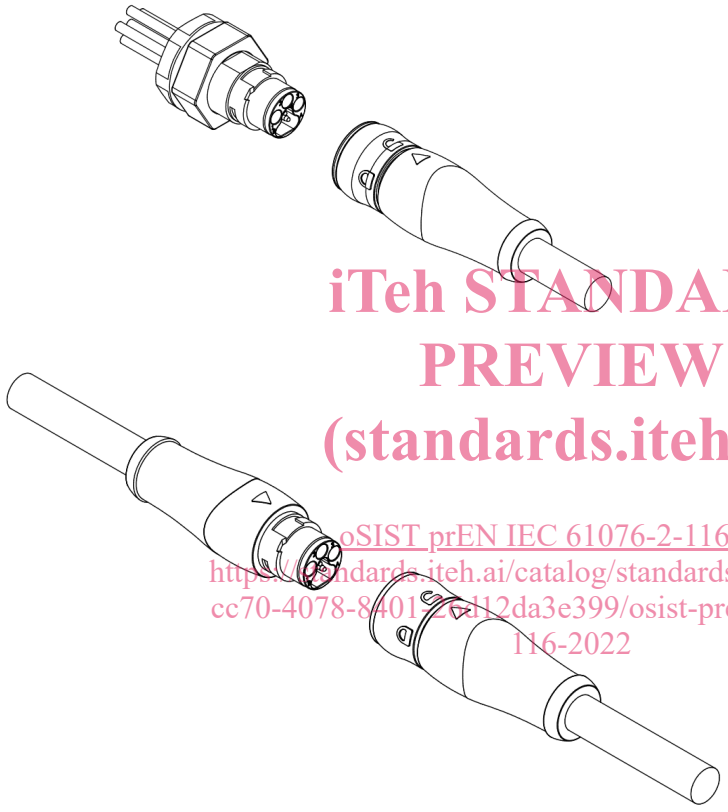
IEC SC 48B – Electrical connectors Specification available from: IEC General secretariat or from the addresses shown on the inside cover.	IEC 61076-2-116 Ed. 1
DETAIL SPECIFICATION in accordance with IEC 61076-1	
	Circular connectors for signal and power applications with bayonet-locking
	Free cable connectors – Male and female connectors – Straight and right-angle connectors – Rewireable and non-rewireable
	Fixed Connectors – Flange mounting – Single hole mounting – With circular mounting orientation

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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

Scope

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

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

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

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

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

IEC 60352 (all parts), *Solderless connections*

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

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

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

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

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

IEC 60999-1, *Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units – Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm² up to 35 mm² (included)*

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

IEC 61984, *Connectors – Safety requirements and tests*

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

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

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

Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-581, IEC 61076-1, IEC 60512-1 and IEC 61984 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
circular mounting orientation
circular mounting position of the connector in relation to the polarization of the mating interface

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

4 Technical information

4.1 Recommended method of termination

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

4.2 Electrical ratings and characteristics

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

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

Note 1: The rated currents for connectors type 1 and 2 provided in Table 1 is associated with a min. 2,5 mm² wire size for the power contacts and a min. 0,34 mm² wire size for the auxiliary contacts.

Note 2: The rated currents for connectors type 3 provided in Table 1 is associated with a min. 1,5 mm² wire size for the power contacts and a min. 1 mm² wire size for the auxiliary contacts.

4.3 Current-carrying capacity

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

It shall be applied to a wiring with conductor cross-sectional area of min. 1,5 mm² for 16 A or min. 2,5 mm² for 20 A on the power section and min. 0,34 mm² for 4 A or 1 mm² for 10 A on the signal section, and it shall fulfil the rated currents specified in Table 1.

4.4 Systems of levels

4.4.1 Compatibility levels, according to IEC 61076-1

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

4.5 Classification into climatic categories

Classification into climatic categories is specified in 6.3.

4.6 Marking

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

4.7 Safety aspects

For safety aspects IEC 61984 shall be considered.