



BSI Standards Publication

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

National foreword

This British Standard is the UK implementation of EN IEC 61076-2-116:2023. It is identical to IEC 61076-2-116:2022.

The UK participation in its preparation was entrusted to Technical Committee EPL/48, Electromechanical components and mechanical structures for electronic equipment.

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(IEC 61076-2-116:2022)

Connecteurs pour équipements électriques et électroniques
- Exigences de produit - Partie 2-116: Spécification particulière pour les connecteurs circulaires de taille 15 avec jusqu'à 3+PE contacts de puissance et contacts auxiliaires, avec verrouillage à baïonnette
(IEC 61076-2-116:2022)

Steckverbinder für elektrische und elektronische Geräte - Produktanforderungen - Teil 2-116: Einzelspezifikation für Rundsteckverbinder der Größe 15 mit bis zu 3+PE-Leistungskontakten und Hilfskontakten, mit Bajonettverriegelung
(IEC 61076-2-116:2022)

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 48B/3000/FDIS, future edition 1 of IEC 61076-2-116, prepared by SC 48B "Electrical connectors" of IEC/TC 48 "Electrical connectors and mechanical structures for electrical and electronic equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61076-2-116:2023.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2023-10-19
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2026-01-19

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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-581	-	International Electrotechnical Vocabulary - Part 581: Electromechanical components for electronic equipment	-	-
IEC 60068-1	-	Environmental testing - Part 1: General and guidance	EN 60068-1	-
IEC 60068-2-60	-	Environmental testing - Part 2-60: Tests - Test Ke: Flowing mixed gas corrosion test	EN 60068-2-60	-
IEC 60352	series	Solderless connections	EN 60352	series
IEC 60512-1	-	Connectors for electrical and electronic equipment - Tests and measurements - Part 1: Generic specification	EN IEC 60512-1	-
IEC 60512-1-1	-	Connectors for electronic equipment - Tests and measurements - Part 1-1: General examination - Test 1a: Visual examination	EN 60512-1-1	-
IEC 60512-1-2	-	Connectors for electronic equipment - Tests and measurements - Part 1-2: General examination - Test 1b: Examination of dimension and mass	EN 60512-1-2	-
IEC 60512-2-1	-	Connectors for electronic equipment - Tests and measurements - Part 2-1: Electrical continuity and contact resistance tests - Test 2a: Contact resistance - Millivolt level method	EN 60512-2-1	-
IEC 60512-2-5	-	Connectors for electronic equipment - Tests and measurements - Part 2-5: Electrical continuity and contact resistance tests - Test 2e: Contact disturbance	EN 60512-2-5	-
IEC 60512-3-1	-	Connectors for electronic equipment - Tests and measurements - Part 3-1: Insulation tests - Test 3a: Insulation resistance	EN 60512-3-1	-
IEC 60512-4-1	-	Connectors for electronic equipment - Tests and measurements - Part 4-1: Voltage stress tests - Test 4a: Voltage proof	EN 60512-4-1	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60512-5-1	-	Connectors for electronic equipment - Tests and measurements - Part 5-1: Current-carrying capacity tests - Test 5a: Temperature rise	EN 60512-5-1	-
IEC 60512-5-2	-	Connectors for electronic equipment - Tests and measurements - Part 5-2: Current-carrying capacity tests - Test 5b: Current-temperature derating	EN 60512-5-2	-
IEC 60512-6-3	-	Connectors for electronic equipment - Tests and measurements - Part 6-3: Dynamic stress tests - Test 6c: Shock	EN 60512-6-3	-
IEC 60512-6-4	-	Connectors for electronic equipment - Tests and measurements - Part 6-4: Dynamic stress tests - Test 6d: Vibration (sinusoidal)	EN 60512-6-4	-
IEC 60512-9-1	-	Connectors for electronic equipment - Tests and measurements - Part 9-1: Endurance tests - Test 9a: Mechanical operation	EN 60512-9-1	-
IEC 60512-9-2	-	Connectors for electronic equipment - Tests and measurements - Part 9-2: Endurance tests - Test 9b: Electrical load and temperature	EN 60512-9-2	-
IEC 60512-11-1	-	Connectors for electrical and electronic equipment - Tests and measurements - Part 11-1: Climatic tests - Test 11a - Climatic sequence	EN IEC 60512-11-1	-
IEC 60512-11-4	-	Connectors for electronic equipment - Tests and measurements - Part 11-4: Climatic tests - Test 11d: Rapid change of temperature	EN 60512-11-4	-
IEC 60512-11-7	-	Connectors for electronic equipment - Tests and measurements - Part 11-7: Climatic tests - Test 11g: Flowing mixed gas corrosion test	EN 60512-11-7	-
IEC 60512-11-9	-	Connectors for electronic equipment - Tests and measurements - Part 11-9: Climatic tests - Test 11i: Dry heat	EN 60512-11-9	-
IEC 60512-11-10	-	Connectors for electronic equipment - Tests and measurements - Part 11-10: Climatic tests - Test 11j: Cold	EN 60512-11-10	-
IEC 60512-11-12	-	Connectors for electronic equipment - Tests and measurements - Part 11-12: Climatic tests - Test 11m: Damp heat, cyclic	EN 60512-11-12	-
IEC 60512-13-2	-	Connectors for electronic equipment - Tests and measurements - Part 13-2: Mechanical operation tests - Test 13b: Insertion and withdrawal forces	EN 60512-13-2	-
IEC 60512-13-5	-	Connectors for electronic equipment - Tests and measurements - Part 13-5: Mechanical operation tests - Test 13e: Polarizing and keying method	EN 60512-13-5	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60512-16-1	-	Connectors for electronic equipment - Tests and measurements - Part 16-1: Mechanical tests on contacts and terminations - Test 16a: Probe damage	EN 60512-16-1	-
IEC 60512-16-5	-	Connectors for electronic equipment - Tests and measurements - Part 16-5: Mechanical tests on contacts and terminations - Test 16e: Gauge retention force (resilient contacts)	EN 60512-16-5	-
IEC 60512-19-3	-	Electromechanical components for electronic equipment - Basic testing procedures and measuring methods - Part 19: Chemical resistance tests - Section 3: Test 19c - Fluid resistance	EN 60512-19-3	-
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529	1991
+ A1	1999		+ A1	2000
+ A2	2013		+ A2	2013
IEC 60664-1	-	Insulation coordination for equipment within low-voltage supply systems - Part 1: Principles, requirements and tests	EN IEC 60664-1	-
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 mm ² up to 35 mm ² (included)	EN 60999-1	-
IEC 61076-1	2006	Connectors for electronic equipment - Product requirements - Part 1: Generic specification	EN 61076-1	2006
+ A1	2019		+ A1	2019
IEC 61984	-	Connectors - Safety requirements and tests	EN 61984	-
IEC 62197-1	-	Connectors for electronic equipment - Quality assessment requirements - Part 1: Generic specification	EN 62197-1	-
ISO 11469	-	Plastics - Generic identification and marking of plastics products	EN ISO 11469	-
ISO 21920-1	2021	Geometrical product specifications (GPS) - Surface texture: Profile - Part 1: Indication of surface texture	EN ISO 21920-1	2022

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**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**

**Connecteurs pour équipements électriques et électroniques – Exigences de
produit –**

**Partie 2-116: Spécification particulière pour les connecteurs circulaires de taille
15 avec jusqu'à 3+PE contacts de puissance et contacts auxiliaires, avec
verrouillage à baïonnette**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

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

Draft	Report on voting
48B/3000/FDIS	48B/3010/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.

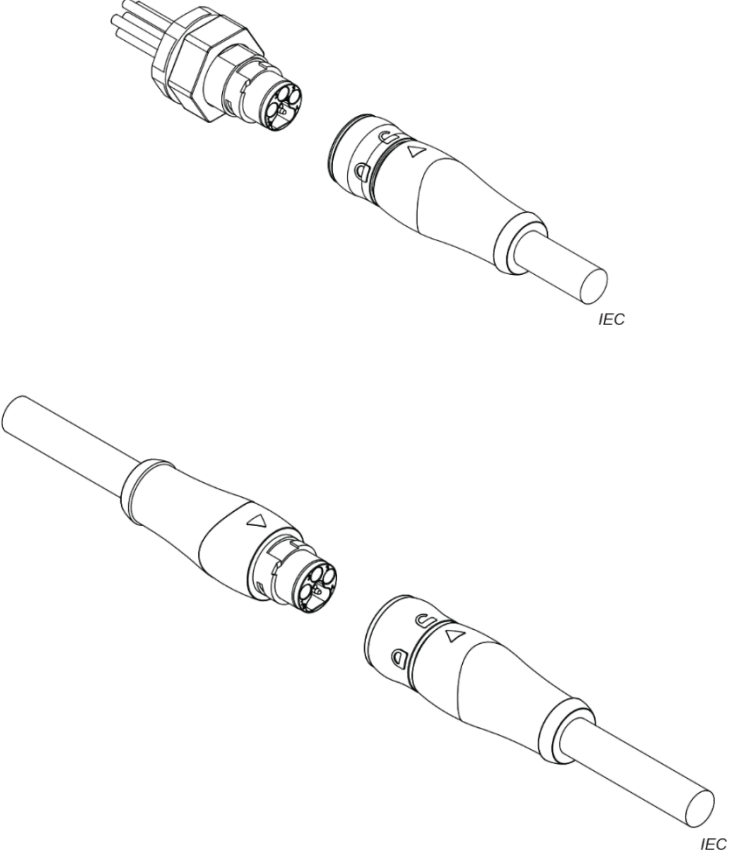
This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all parts in the IEC 61076 series, published under the general title *Connectors for electrical and electronic equipment – Product requirements*, can be found on the IEC website.

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

<p>IEC SC 48B – Electrical connectors</p> <p>Specification available from:</p> <p>IEC General secretariat</p> <p>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>Circular connectors for signal and power applications with bayonet-locking</p> <p>Male and female connectors</p> <p>Male and female contacts</p> <p>Rewireable and non-rewireable</p>
	<p>Free cable connectors</p> <p>Straight and right-angle connectors</p> <p>Fixed connectors</p> <p>Flange mounting</p> <p>Single hole mounting</p> <p>With circular mounting orientation</p>

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 5.2.4.3.

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 Besigheim, Germany 74354
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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

1 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, such as the feeding and control of 3-phase asynchronous motors. These connectors consist of both fixed and free connectors either rewirable or non-rewirable, with bayonet-locking. Male connectors have round contacts, either power or signal, Ø1,6 mm.

NOTE 1 Size 15 is the dimension of the inner contact carrier of the male connector interface (dimension AG in Table 18).

NOTE 2 Number of power and auxiliary contacts, voltage and current ratings vary according to the type of connector, see Table 1.

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 60050-581, *International Electrotechnical Vocabulary (IEV) – Part 581: Electromechanical components for electronic equipment*

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

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

IEC 60352 (all parts), *Solderless connections*

IEC 60512-1, *Connectors for electrical and electronic equipment – Tests and measurements – Part 1: Generic specification*

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

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

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