



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.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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EUROPEAN STANDARD

EN IEC 61076-2-116

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January 2023

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English Version

**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
(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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European Committee for Electrotechnical Standardization
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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The text of the International Standard IEC 61076-2-116:2022 was approved by CENELEC as a European Standard without any modification.

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	-

EN IEC 61076-2-116:2023 (E)

<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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CONTENTS

FOREWORD.....	5
INTRODUCTION.....	7
1 Scope.....	8
2 Normative references	8
3 Terms and definitions	10
4 Technical information	10
4.1 Recommended method of termination	10
4.2 Electrical ratings and characteristics	11
4.3 Current-carrying capacity	11
4.4 Systems of levels – Compatibility levels, according to IEC 61076-1	11
4.5 Classification into climatic categories.....	11
4.6 Marking.....	11
4.7 Safety aspects	11
5 Dimensional information	12
5.1 General.....	12
5.2 Survey of styles and variants	12
5.2.1 General	12
5.2.2 Fixed connectors	12
5.2.3 Free connectors.....	15
5.2.4 Interface dimensions	21
5.3 Engagement (mating) information	28
5.4 Gauges – Sizing gauges and retention force gauges	29
6 Characteristics	30
6.1 General.....	30
6.2 Contact assignment and other definitions.....	30
6.3 Classification into climatic category	30
6.4 Electrical characteristics	31
6.4.1 Rated voltage – Rated impulse voltage – Pollution degree	31
6.4.2 Voltage proof.....	31
6.4.3 Creepage and clearance distances	31
6.4.4 Current-carrying capacity.....	32
6.4.5 Contact resistance.....	32
6.4.6 Insulation resistance.....	32
6.5 Mechanical characteristics	32
6.5.1 Mechanical operation.....	32
6.5.2 Insertion and withdrawal forces	33
6.5.3 Polarizing method.....	33
6.6 Other characteristics	33
6.6.1 Vibration (sinusoidal).....	33
6.6.2 Shock	34
6.6.3 Degree of protection provided by enclosures (IP code)	34
6.6.4 Screen and shielding properties.....	34
6.7 Environmental aspects – Marking of insulation material (plastics)	34
7 Test schedules	34
7.1 General.....	34
7.1.1 Overview	34

7.1.2	Climatic category	34
7.1.3	Creepage and clearance distances	34
7.1.4	Arrangement for contact resistance measurements	35
7.1.5	Arrangement for dynamic stress tests (vibration and shock)	35
7.2	Basic (minimum) test schedule.....	36
7.3	Full test schedule.....	36
7.3.1	General	36
7.3.2	Test group P – Preliminary	37
7.3.3	Test group AP – Dynamic/ Climatic	37
7.3.4	Test group BP – Mechanical endurance	40
7.3.5	Test group CP – Electrical load	41
7.3.6	Test group DP – Chemical resistivity	42
7.3.7	Test group EP – Connection method tests	42
Annex A (informative) Orientation of cable outlet in relation to coding.....		43
Figure 1	– Fixed connector, male contacts, with a square flange front mounting	13
Figure 2	– Fixed connector, male contacts, single hole mounting	13
Figure 3	– Fixed connector, male contacts, single hole mounting, circular mounting orientation	14
Figure 4	– Fixed connector, female contacts, with a square flange front mounting	14
Figure 5	– Fixed connector, female contacts, single hole mounting	15
Figure 6	– Fixed connector, female contacts, single hole mounting, circular mounting orientation	15
Figure 7	– Rewireable connector, male contacts, straight version	16
Figure 8	– Rewireable connector, male contacts, right angled version	17
Figure 9	– Non-rewirable connector, male contacts, straight version	17
Figure 10	– Non-rewirable connector, male contacts, right-angled version	18
Figure 11	– Rewireable connector, female contacts, straight version	19
Figure 12	– Rewireable connector, female contacts, right angled version.....	19
Figure 13	– Non-rewirable connector, female contacts, straight version	20
Figure 14	– Non-rewirable connector, female contacts, right-angled version	21
Figure 15	– Type 1 – Male side.....	22
Figure 16	– Type 2 – Male side.....	24
Figure 17	– Type 3 – Male side.....	26
Figure 18	– Engagement (mating) information.....	28
Figure 19	– Gauge dimensions	30
Figure 20	– Contact resistance arrangement.....	35
Figure 21	– Dynamic stress test arrangement	36
Figure A.1	– Orientation of cable outlet in relation to the coding – Free male connectors according to Table 9	43
Table 1	– Ratings of connectors.....	11
Table 2	– Styles of fixed connectors	12
Table 3	– Dimensions of style DM, Figure 1	13
Table 4	– Dimensions of style EM, Figure 2	13
Table 5	– Dimensions of style FM, Figure 3	14

Table 6 – Dimensions of style DF, Figure 4.....	14
Table 7 – Dimensions of style EF, Figure 5.....	15
Table 8 – Dimensions of style FF, Figure 6	15
Table 9 – Styles of free connectors	16
Table 10 – Dimensions of style JM, Figure 7.....	16
Table 11 – Dimensions of style KM, Figure 8	17
Table 12 – Dimensions of style LM, Figure 9.....	18
Table 13 – Dimensions of style MM, Figure 10.....	18
Table 14 – Dimensions of style JF, Figure 11.....	19
Table 15 – Dimensions of style KF, Figure 12	20
Table 16 – Dimensions of style LF, Figure 13	20
Table 17 – Dimensions of style MF, Figure 14	21
Table 18 – Dimensions for Figure 15.....	23
Table 19 – Dimensions for Figure 16.....	25
Table 20 – Dimensions for Figure 17.....	27
Table 21 – Connectors dimensions in mated and locked position	29
Table 22 – Gauges	30
Table 23 – Climatic category.....	30
Table 24 – Rated insulation voltage – Rated impulse voltage – Voltage proof	31
Table 25 – Voltage proof.....	31
Table 26 – Creepage and clearance distances.....	32
Table 27 – Number of mechanical operations	33
Table 28 – Insertion and withdrawal forces	33
Table 29 – Polarizing insertion forces	33
Table 30 – Number of test specimens	37
Table 31 – Test group P	37
Table 32 – Test group AP	38
Table 33 – Test group BP	40
Table 34 – Test group CP	41
Table 35 – Test group DP	42
Table 36 – Test group EP	42

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**

FOREWORD

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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.

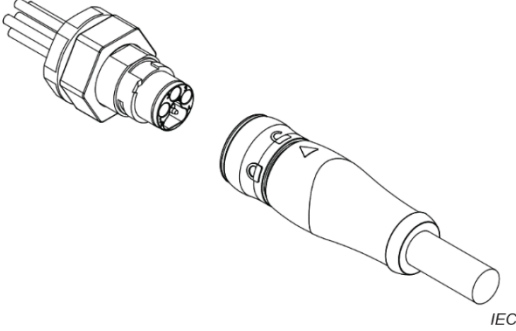
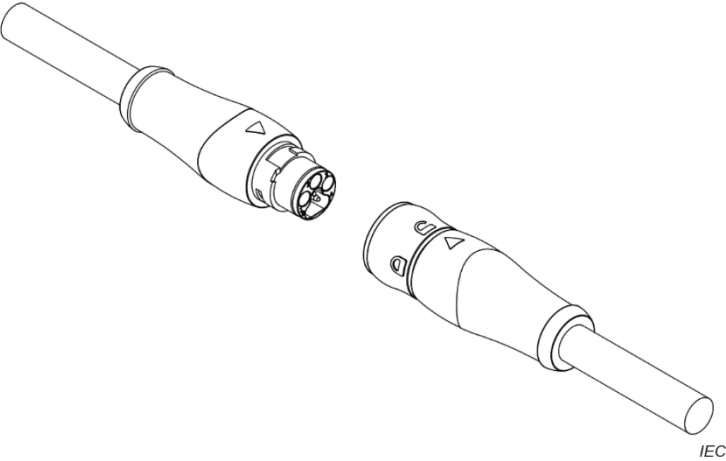
This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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: 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 style="text-align: right;">IEC</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 style="text-align: right;">IEC</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.

IEC takes no position concerning the evidence, validity and scope of this patent right. The holder of this patent right has assured the IEC that he/she is willing to negotiate licences either free of charge or under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with IEC.

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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*