

Connectors for electronic equipment - Product requirements -- Part 2-101: Circular connectors - Detail specification for M12 connectors with screw-locking

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 61076-2-101:2008 sisaldab Euroopa standardi EN 61076-2-101:2008 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 20.10.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 05.09.2008.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 61076-2-101:2008 consists of the English text of the European standard EN 61076-2-101:2008.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 20.10.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 05.09.2008.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
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English version

**Connectors for electronic equipment -
Product requirements -
Part 2-101: Circular connectors -
Detail specification for M12 connectors with screw-locking
(IEC 61076-2-101:2008)**

Connecteurs pour équipements
électroniques -
Exigences de produit -
Partie 2-101: Connecteurs circulaires -
Spécification particulière
pour les connecteurs M12 à vis
(CEI 61076-2-101:2008)

Steckverbinder für elektronische
Einrichtungen -
Produktanforderungen -
Teil 2-101: Rundsteckverbinder -
Bauartspezifikation für Steckverbinder
M12 mit Schraubverriegelung
(IEC 61076-2-101:2008)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 48B/1893/FDIS, future edition 2 of IEC 61076-2-101, prepared by SC 48B, Connectors, of IEC TC 48, Electromechanical components and mechanical structures for electronic equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61076-2-101 on 2008-08-01.

This European Standard, together with EN 61076-2-104:2008, supersedes EN 61076-2-101:2003 + A1:2006.

EN 61076-2-101:2008 includes the following significant technical changes with respect to EN 61076-2-101:2003:

- the connector type M8 has been removed from EN 61076-2-101 and has been published in a separate European Standard under reference EN 61076-2-104;
- the content of Amendment 1 is included in this European Standard;
- mounting thread changed from Pg to metric.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2009-05-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2011-08-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61076-2-101:2008 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60423	NOTE Harmonized as EN 60423:2007 (not modified).
IEC 61076-2-001	NOTE Harmonized as EN 61076-2-001:2001 (not modified).

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
-	-	Communication cables - Specifications for test methods - Part 1-14: Electrical test methods - Coupling attenuation or screening attenuation of connecting hardware	EN 50289-1-14	- ¹⁾
IEC 60050-581	- ¹⁾	International Electrotechnical Vocabulary (IEV) - Chapter 581: Electromechanical components for electronic equipment	-	-
IEC 60068-1	- ¹⁾	Environmental testing - Part 1: General and guidance	EN 60068-1	1994 ²⁾
IEC 60068-2-60	- ¹⁾	Environmental testing - Part 2: Tests - Test Ke: Flowing mixed gas corrosion test	EN 60068-2-60	1996 ²⁾
IEC 60352	Series	Solderless connections	EN 60352	Series
IEC 60512	Series	Connectors for electronic equipment - Tests and measurements	EN 60512	Series
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 1993
IEC 60664-1	- ¹⁾	Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests	EN 60664-1	2007 ²⁾
IEC 60998-2-1 (mod)	- 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	EN 60998-2-1	2004 ²⁾
IEC 60999	Series	Connecting devices - Electrical copper conductors - Safety requirements for screw-type and screwless-type clamping units	EN 60999	Series
IEC 61076-1	2006	Connectors for electronic equipment - Product requirements - Part 1: Generic specification	EN 61076-1	2006
IEC 61984	- ¹⁾	Connectors - Safety requirements and tests	EN 61984	2001 ²⁾
ISO 1302	- ¹⁾	Geometrical Product Specifications (GPS) - Indication of surface texture in technical product documentation	-	-

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
DIN 46320	- ¹⁾	Screwed glands for cables: general application, dimensions, mounting instructions	-	-

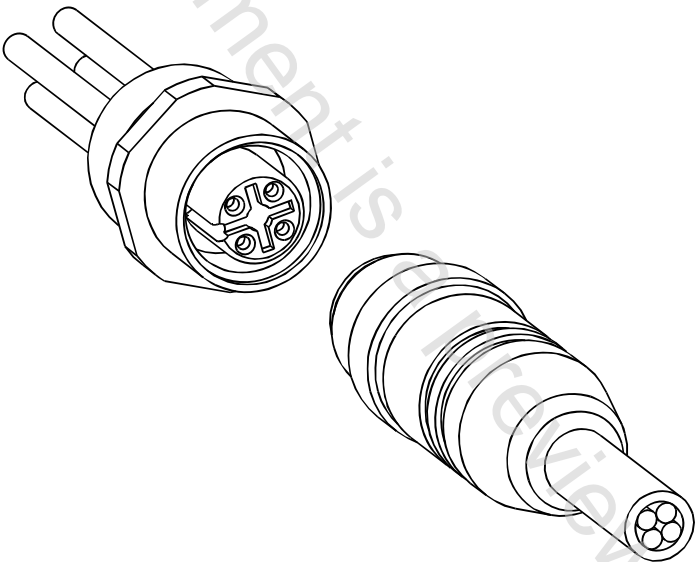
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<p>IEC SC 48B – Connectors</p> <p>Specification available from: IEC General secretariat or from the addresses shown on the inside cover.</p>	<p>IEC 61076-2-101/Ed. 2.0</p>
<p>ELECTRONIC COMPONENTS</p> <p>DETAIL SPECIFICATION in accordance with IEC 61076-1</p>	
 <p>IEC 2336/03</p>	<p>Circular connectors M12 2 to 12 way Male and female contacts Male and female connectors Rewireable – Non-rewireable</p>
	<p>Free cable connectors Straight and right angle connectors</p> <p>Fixed connectors</p> <p>Flange mounting Single hole mounting</p> <p>Pin sockets</p>

CONNECTORS FOR ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

Part 2-101: Circular connectors – Detail specification for M12 connectors with screw-locking

1 General information

Throughout this standard dimensions are in mm.

1.1 Scope

This International Standard describes circular connectors M12 typically used for industrial process measurement and control. These connectors consist of fixed and free connectors either rewirable or non-rewirable, with screw-locking. Male connectors have round contacts \varnothing 0,6 mm, \varnothing 0,76 mm, \varnothing 0,8 mm and \varnothing 1,0 mm.

The different codings prevent the mating of these coded male or female connectors to any other interfaces and cross mating between the different codings.

NOTE M12 is the dimension of the thread of the screw locking mechanism of these circular connectors.

1.2 Recommended method of termination

The contact terminations shall be of the following types: screw, crimp, insulation piercing, insulation displacement, press-in or solder.

1.2.1 Number of contacts or contact cavities

A-coding	2 to 12 contacts
B-coding	5 contacts
C-coding	3 to 6 contacts
D-coding	4 contacts
P-coding	5 contacts (4+PE)

1.3 Ratings and characteristics

Rated Voltage	A-coding	2 to 4 contacts	250 V d.c. or a.c.
		5 contacts	60 V d.c. or a.c.
		6 to 12 contacts	30 V d.c. or a.c.
	B-coding	5 contacts	60 V d.c. or a.c.
	C-coding	3 and 4 contacts	250 V d.c. or a.c.
		5 and 6 contacts	250 V d.c. or a.c.
	D-coding	4 contacts	250 V d.c. or a.c.
	P-coding (4+PE)	5 contacts (4+PE)	60 V d.c. or a.c.
Rated Current	A-coding	2 to 5 contacts	4 A
		6 to 8 contacts	2 A
		9 to 12 contacts	1,5 A
	B-coding	5 contacts	4 A
	C-coding	3 contacts (2+PE)	4 A
		4 contacts (3+PE)	4 A
		5 contacts (4+PE)	2 A
		6 contacts (5+PE)	2 A
	D-coding	4 contacts	4 A
	P-coding	5 contacts (4+PE)	4 A

Insulation Resistance : $10^8 \Omega \text{ min.}$

Climatic category : see 4.1 Table 5

Contact spacing : see 3

1.4 Normative references

The following referenced documents are indispensable for the application 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 parts), *Connectors for electronic equipment – Tests and measurements*

IEC 60529:1989, *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 (all parts), *Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units*

IEC 61076-1:2006, *Connectors for electronic equipment – Product requirements – Part 1: Generic specification*

IEC 61984, *Connectors – Safety requirements and tests*

ISO 1302, *Technical drawings – Methods of indicating surface texture*

EN 50289-1-14, *Communication cables – Specifications for test methods – Part 1-14: Electrical test methods – Coupling attenuation or screening attenuation of connecting hardware (only available in English)*

DIN 46320, *Screwed glands for cables: general application, dimensions, mounting instructions*

1.5 Marking

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