



Irish Standard
I.S. EN 61076-2-101:2012

Connectors for electronic equipment -
Product requirements -- Part 2-101:
Circular connectors - Detail
specification for M12 connectors with
screw-locking (IEC 61076-2-101:2012
(EQV))

I.S. EN 61076-2-101:2012

Incorporating amendments/corrigenda issued since publication:

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EUROPEAN STANDARD
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EN 61076-2-101

August 2012

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Supersedes EN 61076-2-101:2008

English version

**Connectors for electronic equipment -
Product requirements -
Part 2-101: Circular connectors -
Detail specification for M12 connectors with screw-locking
(IEC 61076-2-101:2012)**

Connecteurs pour équipements
électroniques - Exigences de produit -
Partie 2-101: Connecteurs circulaires -
Spécification particulière pour les
connecteurs M12 à vis
(CEI 61076-2-101:2012)

Steckverbinder für elektronische
Einrichtungen - Produktanforderungen -
Teil 2-101: Rundsteckverbinder -
Bauartspezifikation für Steckverbinder
M12 mit Schraubverriegelung
(IEC 61076-2-101:2012)

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 48B/2279/FDIS, future edition 3 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 approved by CENELEC as EN 61076-2-101:2012.

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) 2013-02-25
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-05-25

This document supersedes EN 61076-2-101:2008.

EN 61076-2-101:2012 includes the following significant technical changes with respect to EN 61076-2-101:2008:

- the drawings of some styles have been corrected;
- a new style with maximum 17 poles, with A-coding, has been added, as new applications for the industrial process measurement and control require a high number of poles in M12 circular connectors. The existing styles and dimensions which were specified in EN 61076-2-101:2008 are further applicable for the added interface dimension of the 17 poles versions;
- removal of the type designation and ordering information, former Tables 6 and 7 have been updated accordingly;
- inclusion of the technical content of IEC/PAS 61076-2-108, which will be withdrawn after the publication of this European Standard. The drawings have been updated and correction to the title of Figure 9 was made.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 61076-2-101:2012 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, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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> |
|--------------------|-------------|--|-------------------------|--------------|
| IEC 60050-581 | 2008 | International Electrotechnical Vocabulary (IEV) - 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: Tests - Test Ke: Flowing mixed gas corrosion test | EN 60068-2-60 | - |
| IEC 60352 | Series | Solderless connections | EN 60352 | Series |
| IEC 60423 | 2007 | Conduit systems for cable management - Outside diameters of conduits for electrical installations and threads for conduits and fittings | EN 60423 | 2007 |
| IEC 60512 | Series | Connectors for electronic equipment - Tests and measurements | EN 60512 | Series |
| IEC 60512-1-100 | - | Connectors for electronic equipment - Tests and measurements - Part 1-100: General - Applicable publications | EN 60512-1-100 | - |
| IEC 60529 | 1989 | Degrees of protection provided by enclosures (IP Code) | EN 60529 + corr. May | 1991 1993 |
| IEC 60664-1 | - | Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests | EN 60664-1 | - |
| 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 | EN 60998-2-1 | - |
| 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 | - | Connectors - Safety requirements and tests | EN 61984 | - |
| ISO 1302 | - | Geometrical Product Specifications (GPS) - Indication of surface texture in technical product documentation | EN ISO 1302 | - |

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

CONNECTORS FOR ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

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

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61076-2-101 has been prepared by sub-committee 48B: Connectors, of Technical Committee 48: Electromechanical components and mechanical structures for electronic equipment.

This third edition cancels and replaces the second edition published in 2008 and its corrigendum published in 2010. It constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- The drawings of some styles have been corrected.
- A new style with maximum 17 poles, with A-coding, has been added, as new applications for the industrial process measurement and control require a high number of poles in M12 circular connectors. The existing styles and dimensions which were

specified in IEC 61076-2-101 Ed. 2 are further applicable for the added interface dimension of the 17 poles versions.

- Removal of the type designation and ordering information, former Tables 6 and 7 have been updated accordingly.
- Inclusion of the technical content of IEC PAS 61076-2-108, which will be withdrawn after publication of this International Standard. The drawings have been updated and correction to the title of Figure 9 was made.

The text of this standard is based on the following documents:

| FDIS | Report on voting |
|---------------|------------------|
| 48B/2279/FDIS | 48B/2288/RVD |

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

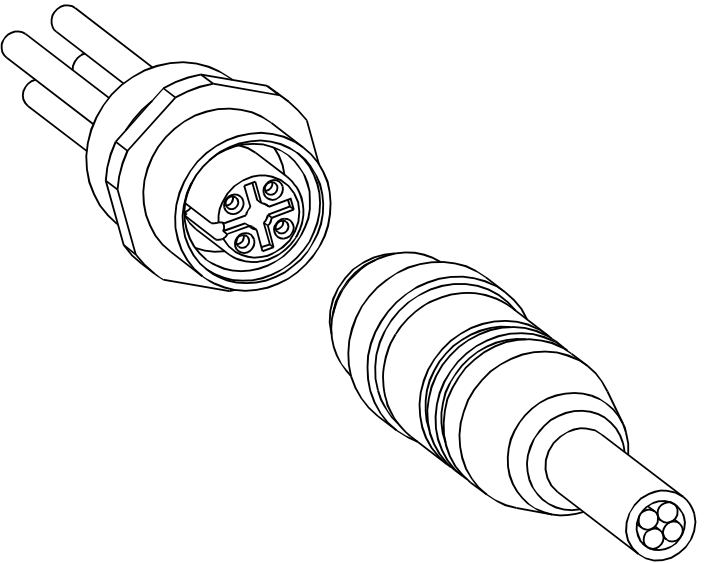
The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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

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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. 3.0</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 17 way Male and female contacts Male and female connectors Rewireable – Non-rewireable</p> |
| | <p>Free cable connectors Straight and right angle connectors Fixed connectors Fixed connectors with glass to metal seals (pin contacts only)</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 Scope

This part of IEC 61076 describes M12 circular connectors typically used for industrial process measurement and control. These connectors consist of fixed and free connectors either rewirable or non-rewirable, with screw-locking. The connectors with glass to metal seal are fixed connectors only which consist of fixed glass to metal sealed styles with rewirable male contacts and are intermateable with corresponding free connectors according to this International Standard. 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.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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: 2008, *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: Tests – Test Ke: Flowing mixed gas corrosion test*

IEC 60352 (all parts), *Solderless connections*

IEC 60423:2007, *Conduit systems for cable management – Outside diameters of conduits for electrical installations and threads for conduits and fittings*

IEC 60512 (all parts), *Connectors for electronic equipment – Tests and measurements*

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

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*

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