IEC 61076-2-104

Edition 1.0 2008-05

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Connectors for electronic equipment – Product requirements – Part 2-104: Circular connectors – Detail specification for circular connectors with M8 screw-locking or snap-locking

Connecteurs pour équipements électroniques – Exigences de produit – Partie 2-104: Connecteurs circulaires – Spécification particulière pour les connecteurs circulaires M8 à vis ou à encliquetage

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CONNECTORS FOR ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

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FOREWORD

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International Standard IEC 61076-2-104 has been prepared by subcommittee 48B: Connectors, of IEC technical committee 48: Electromechanical components and mechanical structures for electronic equipment.

This part of IEC 61076-2 cancels and replaces the following parts of IEC 61076-2-101:2003 (first edition of IEC 61076-2-101):

- subclauses 2.2.3, 2.2.4 and 3.2.2,
- Tables 6, 10 and 12,
- any reference to connector type E and M8.

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

CDV	Report on voting
48B/1753/CDV	48B/1815/RVC

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

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

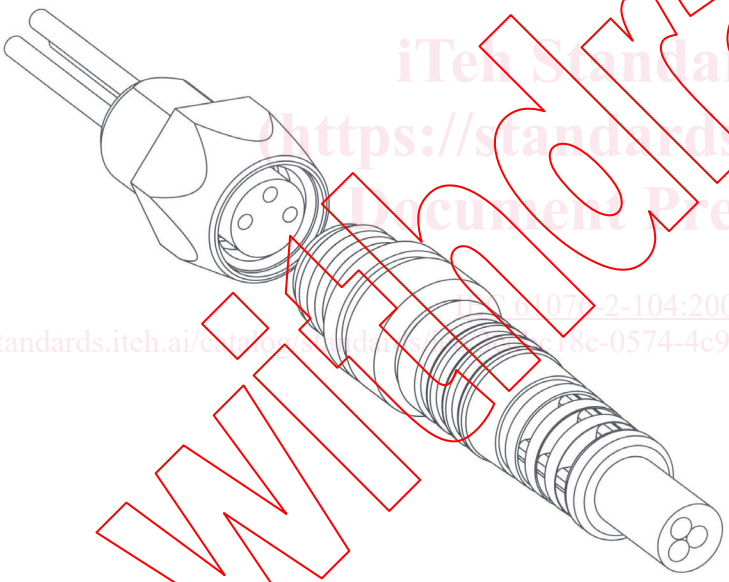
A list of all parts of the IEC 61076 series, under the general title *Connectors for electronic equipment – Product requirements*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result 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- withdrawn;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.

CONNECTORS FOR ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

Part 2-104: Circular connectors – Detail specification for circular connectors with M8 screw-locking or snap-locking

International Electrotechnical Commission IEC SC 48B – Connectors Specification available from: IEC General secretariat or from the addresses shown on the inside cover.	IEC 61076-2-104
ELECTRONIC COMPONENTS detail specification in accordance with IEC 61076-1	
	Circular connectors M8/ ∅ 8 mm 3 to 5 way Male and female contacts Male and female connectors Rewireable – Non-rewireable
	Free cable connectors Straight and right angle connectors Fixed connectors Flange mounting Single hole mounting

1 General information

Throughout this detail specification, dimensions are in mm.

1.1 Scope

This detail specification describes circular connectors M8 screw-locking or with nominal ∅ 8 mm snap-locking, typically used for industrial process measurement and control. These connectors consist of fixed and free connectors either rewireable or non-rewireable. Male connectors have round contacts ∅ 1,0 mm.

NOTE M8 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	3 and 4 contacts
B-coding	5 contacts

1.3 Ratings and characteristics

Rated voltage	A-coding	3 contacts	60 V d.c. or a.c.
		4 contacts	30 V d.c. or a.c.
	B-coding	5 contacts	30 V d.c. or a.c.
Current rating	A-coding	3 and 4 contacts	3 A
	B-coding	5 contacts	3 A

Insulation resistance : 10^8 Ω min.

Climatic category : see 4.1 Table 5

Contact spacing : see Clause 3, dimensions

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 60068-1:1988, *Environmental testing – Part 1: General and guidance*
Amendment 1 (1992)

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 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)*
Amendment 1 (1999)

IEC 60664-1:2007, *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 61076-2-001:2001, *Connectors for electronic equipment – Part 2-001: Circular connectors – Blank detail specification*

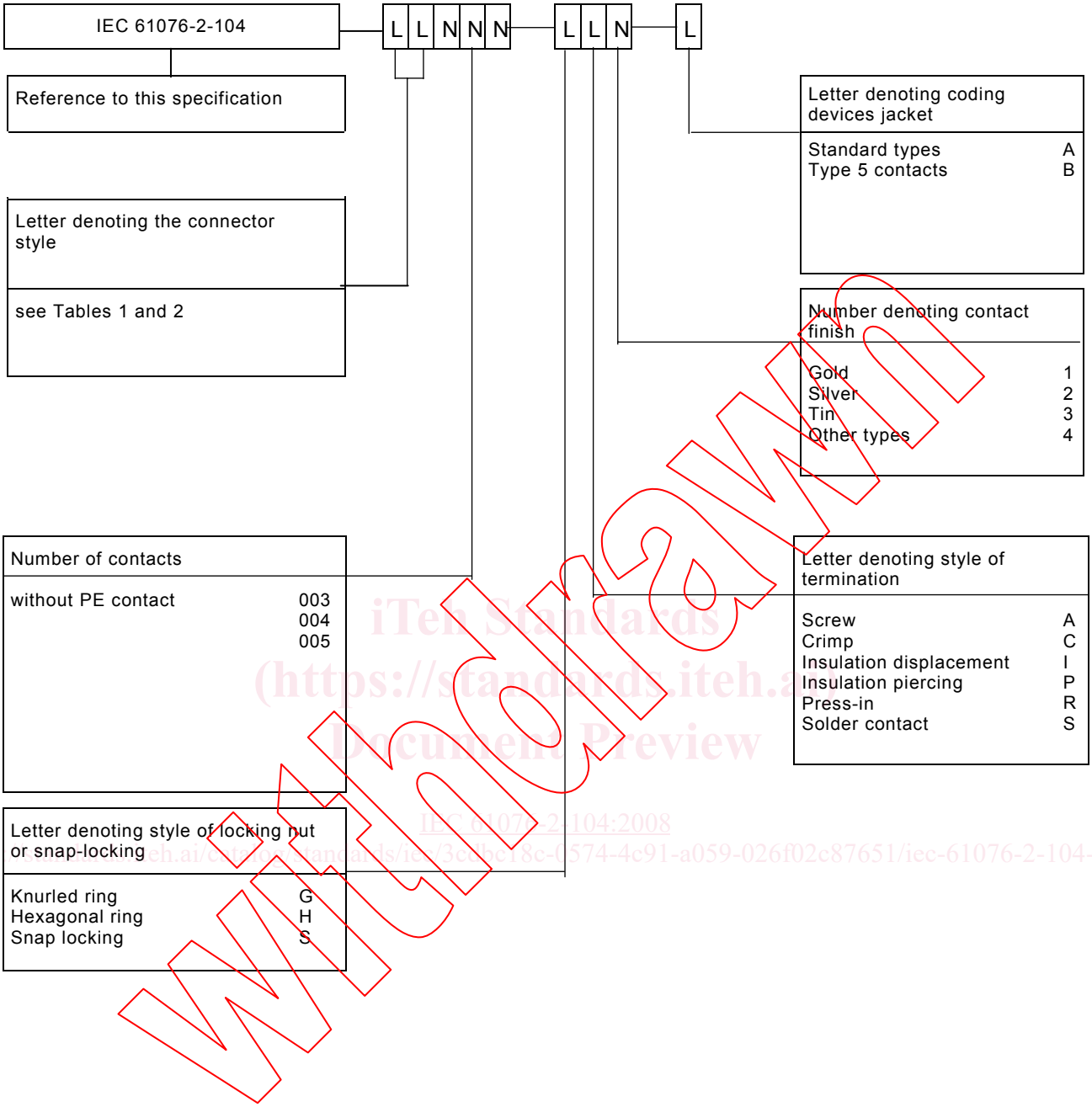
IEC 61984, *Connectors – Safety requirements and tests*

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

1.5 Marking

The marking of the connector and the package shall be in accordance with 2.7 of IEC 61076-1:2006.

1.6 IEC Type designation



NOTE "L" stands for letter, "N" stands for number

1.7 Ordering information

For ordering connectors to this detail specification, the type designation described in 1.6 shall be used.

Example 1: NM004-SS1-A
Free connector, non-rewireable, straight version with snap locking, 4 male contacts, solder contacts, contact area gold plated. A-coding.

Example 2: KF005-SP3-B
Free connector, rewireable, right angled version, 5 female piercing contacts, contact area tin plated. B-coding.

1.8 Safety aspects

For safety aspects IEC 61984 shall be considered unless otherwise specified.

2 Technical information

Dimensions in mm.

2.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050(581) apply.

2.2 Survey of styles and variants

2.2.1 General

For all connector styles with cables, the length L of the cable shall be agreed upon between manufacturer and user.

For interface dimensions, see 3.2.

The interface dimensions of the female styles shall be chosen according to the common characteristics of the male styles.

For reliable intermateability, the dimensions of the female connector body as detailed in Annex A have to be met.

2.2.2 Fixed connectors

2.2.2.1 General

Table 1 – Styles of fixed connectors

Style	Description
BM	Tube insert, male contacts dip solder mounting, long version
CM	Tube insert, male contacts dip solder mounting, short version
EM	Fixed connector with wire ends, male contacts, single hole mounting
EF	Fixed connector with wire ends, female contacts, single hole mounting

2.2.2.2 Style BM

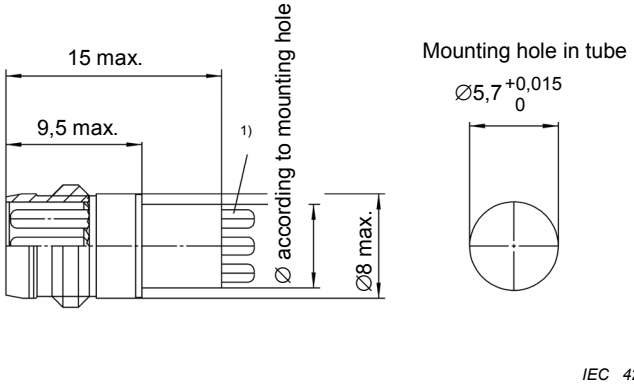
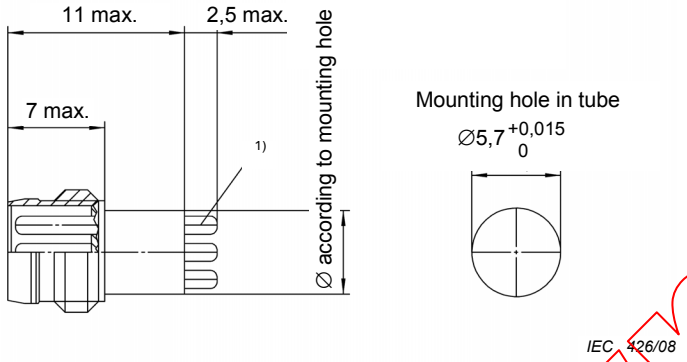


Figure 1 – Tube insert, male contacts dip solder mounting, long version

2.2.2.3 Style CM



Key

1) Length and diameter shall be agreed upon between the manufacturer and user.

Figure 2 – Tube insert, male contacts dip solder mounting, short version

2.2.2.4 Style EM

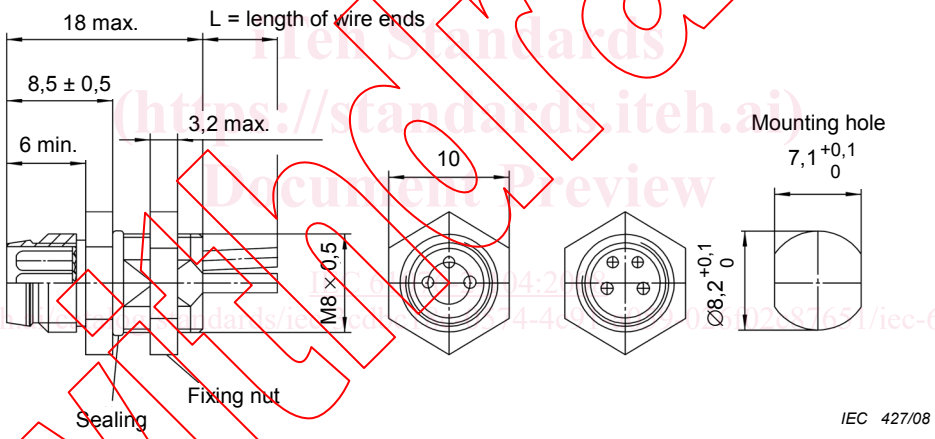


Figure 3 – Fixed connector with wire ends, male contacts, single hole mounting