

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Connectors for electronic equipment – Product requirements –
Part 2-105: Circular connectors – Detail specification for M5 connectors with
screw-locking

Connecteurs pour équipements électroniques – Exigences de produit –
Partie 2-105: Connecteurs circulaires – Spécification particulière pour
connecteurs M5 à vis



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CONNECTORS FOR ELECTRONIC EQUIPMENT –
PRODUCT REQUIREMENTS –****Part 2-105: Circular connectors –
Detail specification for M5 connectors with screw-locking**

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International Standard IEC 61076-2-105 has been prepared by subcommittee 48B: Connectors, of technical committee 48: Electromechanical components and mechanical structures for electronic equipment.

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

FDIS	Report on voting
48B/1909/FDIS	48B/1928/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.

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.

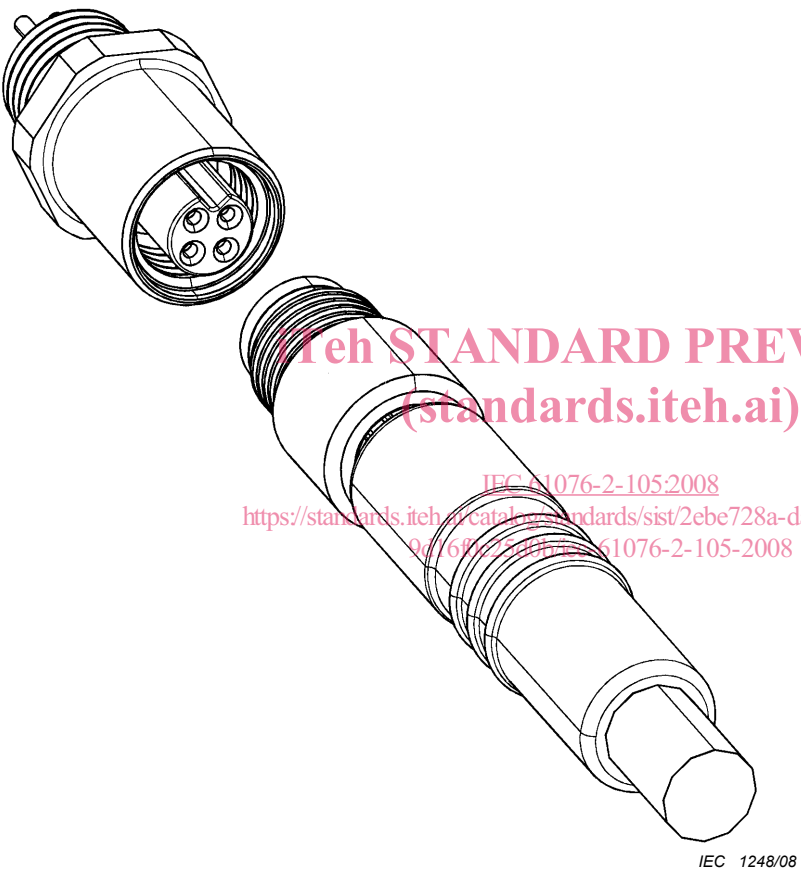
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INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC SC 48B – Connectors	IEC 61076-2-105
ELECTRONIC COMPONENTS DETAIL SPECIFICATION in accordance with IEC 61076-1:2006	
 IEC 1248/08	Circular connectors M5 3 to 4 way Male and female contacts Non-rewireable (fixed connector could also be rewirable)
	Free cable connectors Straight and right angle connectors Fixed connectors Single hole mounting

CONNECTORS FOR ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

Part 2-105: Circular connectors – Detail specification for M5 connectors with screw-locking

1 General information

Throughout this standard dimensions are in mm.

1.1 Scope

This part of IEC 61076 describes circular connectors with M5 screw-locking, typically used for industrial process measurement and control.

NOTE M5 is the dimension of the thread of the screw locking mechanism of these circular connectors.

These connectors consist of fixed non-rewirable or rewirable and free connectors non-rewirable.

Male connectors have round contacts $\varnothing 0,48$ mm.

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

3 and 4 contacts.

1.3 Ratings and characteristics

Rated voltage	3 contacts	60 V d.c. or a.c.
	4 contacts	60 V d.c. or a.c.

Current rating	3 contacts	1 A
	4 contacts	1 A

Insulation resistance : $10^8 \Omega$ min.

Climatic category : see 4.1 Table 4

Contact spacing : see Clause 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, *International Electrotechnical Vocabulary – Part 581: Electromechanical components for electronic equipment*

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

IEC 60068-2-60:1995, *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)*
Amendment 1 (1999)

IEC 60664-1:2007, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 60998-2-1:2002, *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*

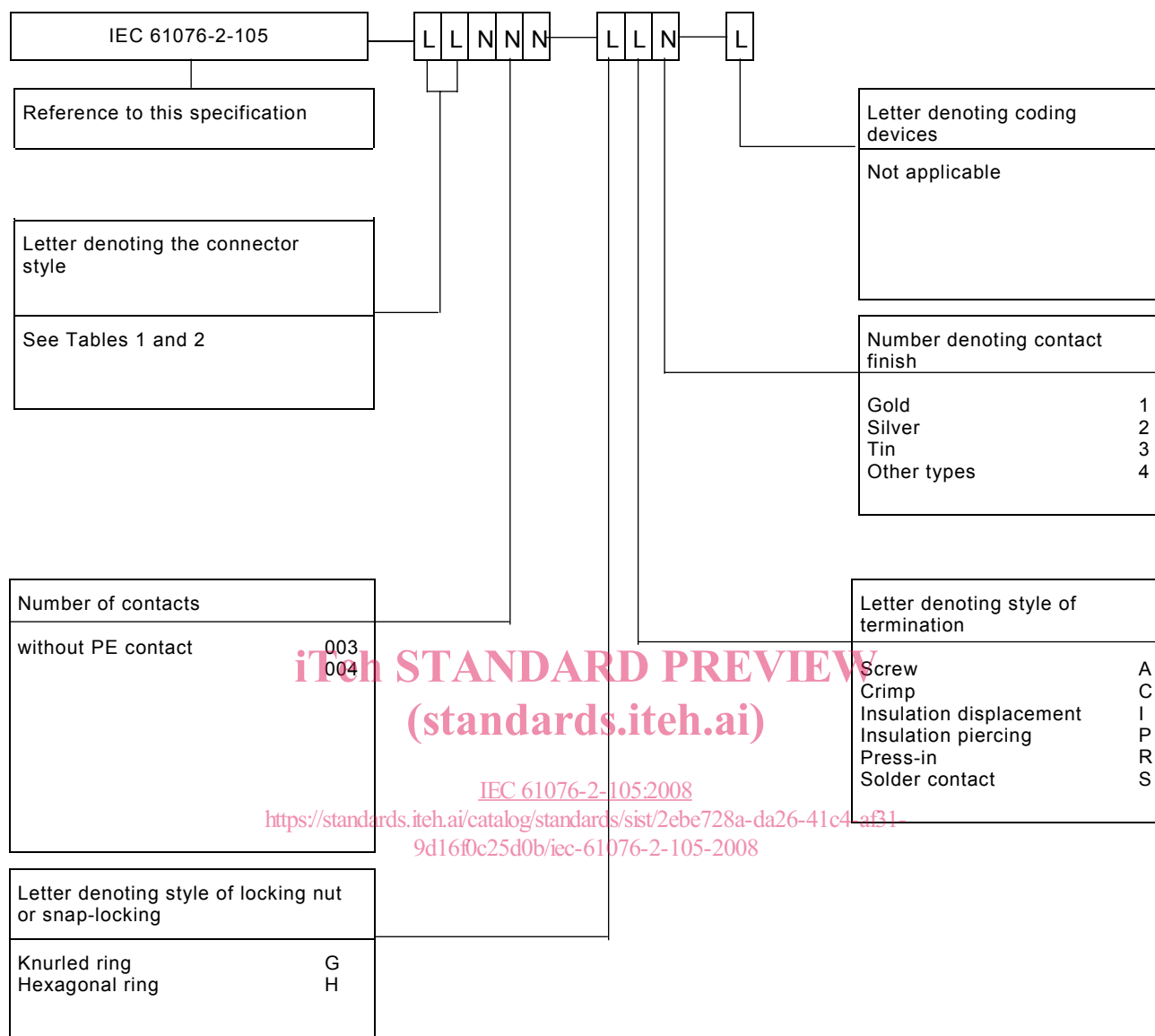
IEC 61984:2001, *Connectors – Safety requirements and tests*

ISO 1302:2002, *Geometrical Product Specifications (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.

1.6 IEC type designation



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

1.7 Ordering information

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

Example: MF 004 – GS1

Free connector, non-rewireable, right angled version, 4 ways, with knurled ring, female solder termination contacts, contact area gold finish.

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 part of IEC 61076, terms and definitions from IEC 60050-581, together with the following, apply.

2.1.1

mounting orientation

circular mounting position of the connector in relation to the polarization of the mating interface.

NOTE Where the free connector has an angled cable entry (as opposed to an in-line cable entry), the angle between the cable entry and the polarization keyway should be specified.

2.2 Survey of styles and variants

For all connector styles with cables, the length L of the cable shall be agreed 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.

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2.2.1 Fixed connectors

[9d16f0c25d0b/iec-61076-2-105-2008](https://standards.iteh.ai/catalog/standards/sist/2ebe728a-da26-41c4-af31-9d16f0c25d0b/iec-61076-2-105-2008)

Table 1 – Styles of fixed connectors type A

Style	Description
AM	Tube insert, male contacts, mounting without thread
GM	Fixed connector, male contacts, mounting with thread M5 × 0,5, with wire ends, single hole mounting thread M5 × 0,5, mounting orientation
PM	Fixed connector, male contacts, mounting with thread M5 × 0,5, with wire ends, single hole rear mounting thread M5 × 0,5, mounting orientation
GF	Fixed connector, female contacts, mounting with thread M5 × 0,5, with wire ends, single hole mounting, thread M5 × 0,5, mounting orientation
PF	Fixed connector, female contacts, mounting with thread M5 × 0,5, with wire ends, single hole rear mounting, thread M5 × 0,5, mounting orientation

2.2.1.1 Style AM

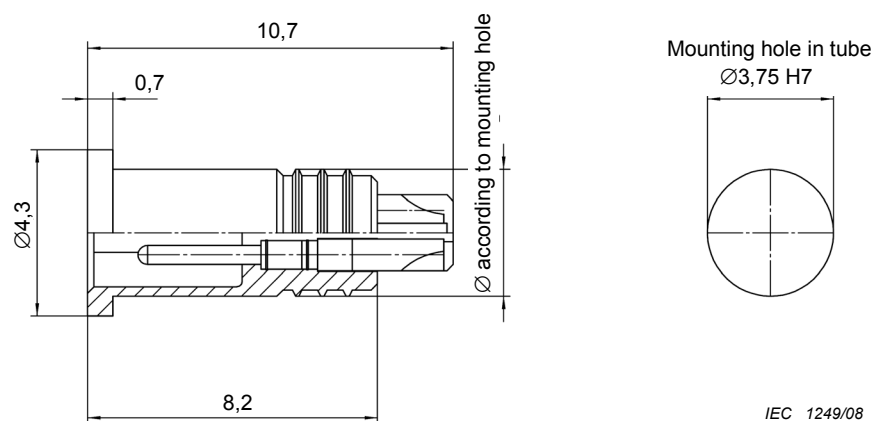


Figure 1 – Tube insert, male contacts, mounting without thread

2.2.1.2 Style GM

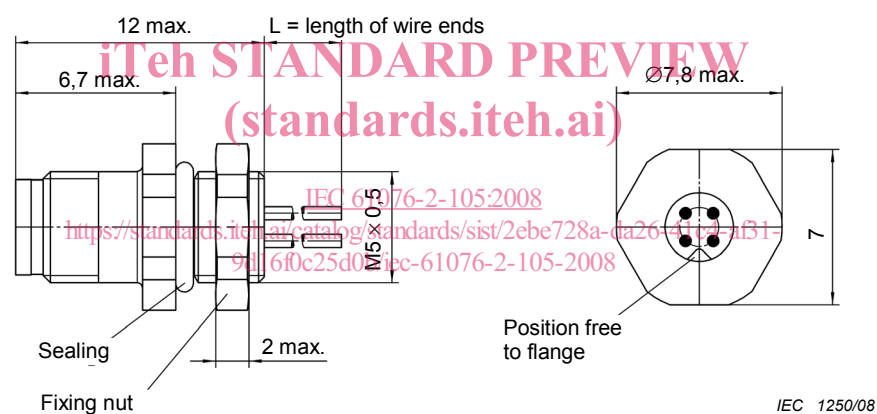


Figure 2 – Fixed connector, male contacts, mounting with thread M5 x 0,5, with wire ends, single hole mounting M5 x 0,5, mounting orientation

2.2.1.3 Style PM

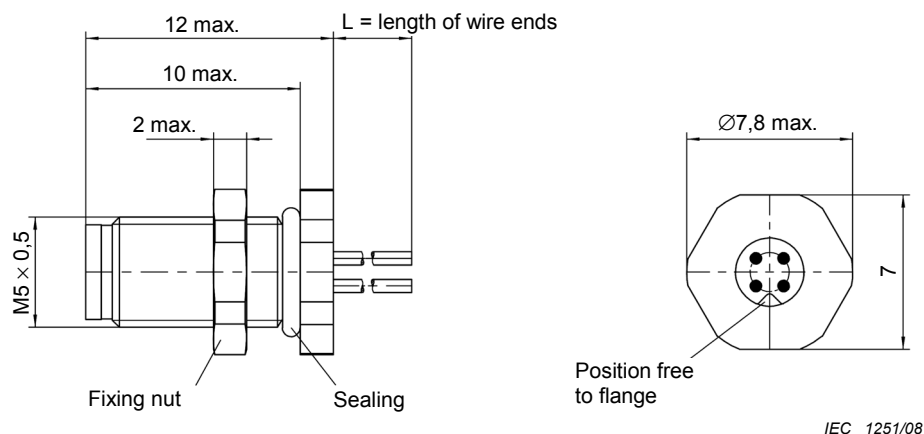


Figure 3 – Fixed connector, male contacts, mounting with thread M5 x 0,5, with wire ends, single hole rear mounting, thread M5 x 0,5, mounting orientation

2.2.1.4 Style GF

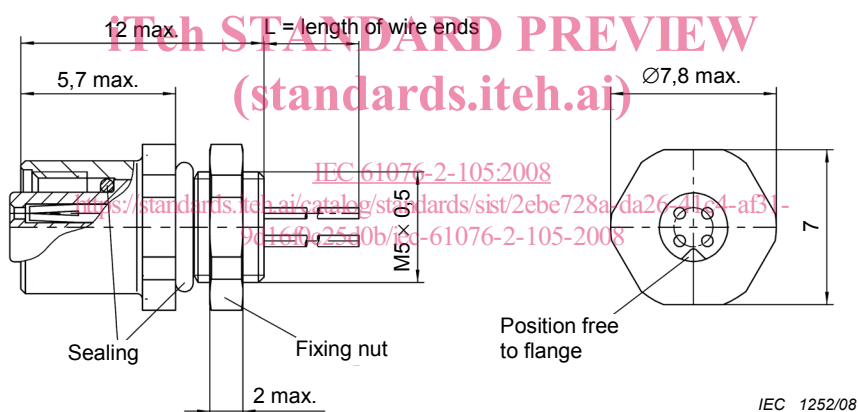


Figure 4 – Fixed connector, female contacts, mounting with thread M5 x 0,5, with wire ends, single mounting, thread M5 x 0,5, mounting orientation

2.2.1.5 Style PF

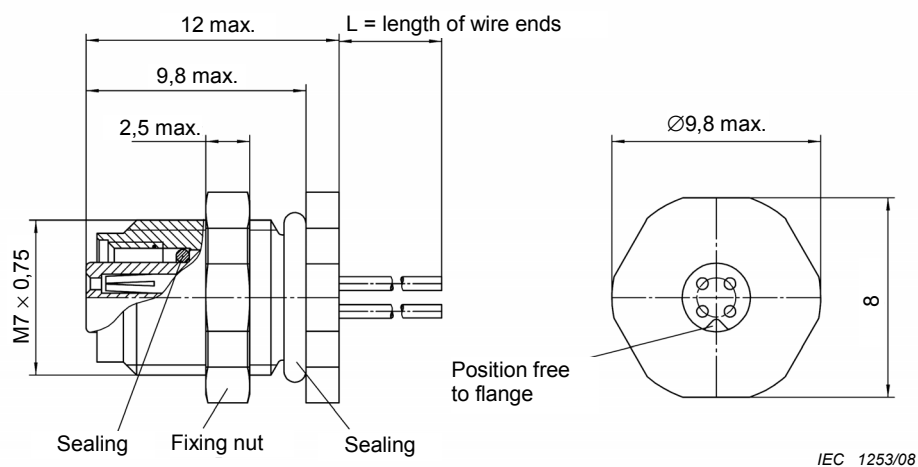


Figure 5 – Fixed connector, female contacts, mounting with thread M5 × 0,5, with wire ends, single hole rear mounting, thread M5 × 0,5, mounting orientation

2.2.2 Free connectors

Table 2 – Styles of free connectors

Style	Description
LM	Non-rewireable connector, male contacts, straight version, with locking nut ^a
MM	Non-rewireable connector, male contacts, right angled version, with locking nut ^a
LF	Non-rewireable connector, female contacts, straight version, with locking nut ^a
MF	Non-rewireable connector, female contacts, right angled version, with locking nut ^a

^a Knurled ring or hexagonal ring upon agreement.

2.2.2.1 Style LM

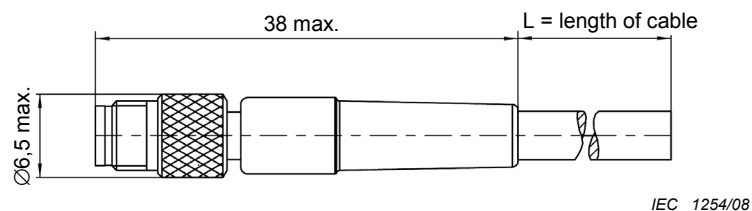


Figure 6 – Non-rewireable connector, male contacts, straight version, with locking nut