

INTERNATIONAL STANDARD

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**Connectors for electronic equipment – Product requirements –
Part 2-106: Circular connectors – Detail specification for connectors
M 16 × 0,75 with screw-locking and degree of protection IP40 or IP65/67**

**Connecteurs pour équipements électroniques – Exigences de produit –
Partie 2-106: Connecteurs circulaires – Spécification particulière pour les
connecteurs M 16 × 0,75 à vis de degré de protection IP40 ou IP65/67**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CONNECTORS FOR ELECTRONIC EQUIPMENT –
PRODUCT REQUIREMENTS –**

**Part 2-106: Circular connectors –
Detail specification for connectors M 16 × 0,75
with screw-locking and degree of protection IP40 or IP65/67**

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International Standard IEC 61076-2-106 has been prepared by subcommittee 48B: Connectors, of IEC 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
48/2239/FDIS	48/2246/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, published 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 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


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<p>INTERNATIONAL ELECTROTECHNICAL COMMISSION</p> <p>IEC SC 48B – Connectors</p>	<p>IEC 61076-2-106</p>
<p>ELECTRONIC COMPONENTS IN ACCORDANCE WITH IEC 61076-1</p>	
 <p style="text-align: center;">IEC 1500/11</p>	<p>Circular connectors M16 × 0,75 mm 2 to 8 poles, 12,14,19 poles</p> <p>Connectors with round contact Rewireable</p>
	<p>Free cable connectors Straight and right angle connectors</p> <p>Fixed connectors</p> <p>Flange mounting Rear mounting</p>

CONNECTORS FOR ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

Part 2-106: Circular connectors – Detail specification for connectors M 16 × 0,75 with screw-locking and degree of protection IP40 or IP65/67

1 Scope

This International Standard describes circular connectors with IP40 or IP65/67 protection degree, typically used for industrial process measurement and control. These connectors consist of fixed and free connectors, either rewirable or non-rewirable, with M16 × 0,75 screw-locking. Male connectors have round contacts \varnothing 1,5 mm or \varnothing 1,0 mm.

NOTE IEC 60130-9, Edition 3.0 specified connectors with a similar mating interface for radio and associated sound equipment. User of this standard should be aware that some of the IEC 60130-9 style could be mated to some connector styles of this standard. However, IEC 60130-9:2011 (Edition 4.0) no longer includes these styles.

2 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 60352-2, *Solderless connections – Part 2: Crimped connections – General requirements, test methods and practical guidance*

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

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

IEC 61076-2, *Connectors for use in d.c., low-frequency analogue and digital high speed data applications – Part 2: Circular connectors with assessed quality – Sectional specification*

IEC 61984:2008, *Connectors – Safety requirements and tests*

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

3 General information

Throughout this detail specification dimensions are in mm.

3.1 Definitions

For the purposes of this International Standard, the terms and definitions given in IEC 60050-581 apply.

3.2 Number of contacts or contact cavities

2 to 8, 12, 14 and 19 contacts.

The contact terminations shall be of the following types: crimp or solder.

Other termination types upon agreement.

Table 1 – Contact termination

Dimensions in mm²

Number of contacts	Max. crimp termination	Max. solder termination
2 to 8	0,75 ^a	0,5 (0,75) ²⁾
12, 14 and 19		0,25
^a Termination size of the crimp barrel upon agreement. ^b Or upon agreement.		

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3.3 Ratings and characteristics

Rated voltage: see 5.2.1, Table 33

Current rating: see 5.2.3

Insulation resistance: see 5.2.5

Climatic category: see 5.1, Table 32

Contact spacing: see Clause 4

3.4 Marking

The marking of the connector and the package shall be in accordance with 2.6 of IEC 61076-2.

3.5 Safety aspects

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

4 Dimensional information

4.1 General

All dimensions in mm are original. Drawings are shown in the first angle projection. The shape of the connectors may deviate from those given in the following drawings as long as the specified dimensions are not influenced.

For connector dimensions, see 4.2, Survey of styles and variants.

Missing dimensions shall be chosen according to the common characteristics and intended use.

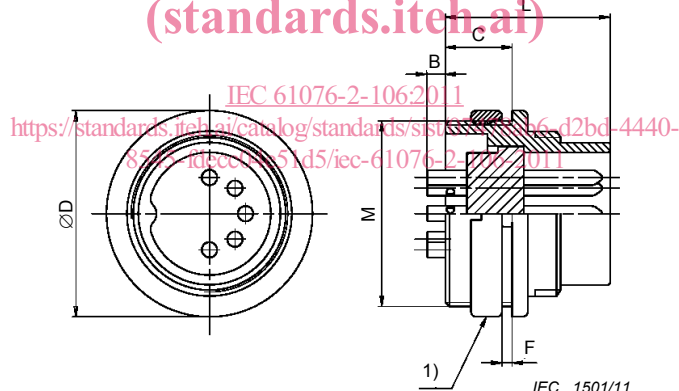
4.2 Survey of styles and variants

4.2.1 Fixed connectors

Table 2 – Styles of fixed connectors

Style	Description
AM	Fixed connector, front mounting, male contacts, IP40
BM	Fixed connector, rear mounting, male contacts, IP40
CM	Fixed connector, front mounting, male contacts, IP65/67
DM	Fixed connector, rear mounting, male contacts, IP65/67
AF	Fixed connector, front mounting, female contacts, IP40
BF	Fixed connector, rear mounting, female contacts, IP40
CF	Fixed connector, front mounting, female contacts, IP65/67
DF	Fixed connector, rear mounting, female contacts, IP65/67

4.2.1.1 Style AM **ITeh STANDARD PREVIEW** (standards.iteh.ai)



¹⁾ With ring or hexagonal nut ($\varnothing D$ 23,1 max.) width across flats 20 or upon agreement.

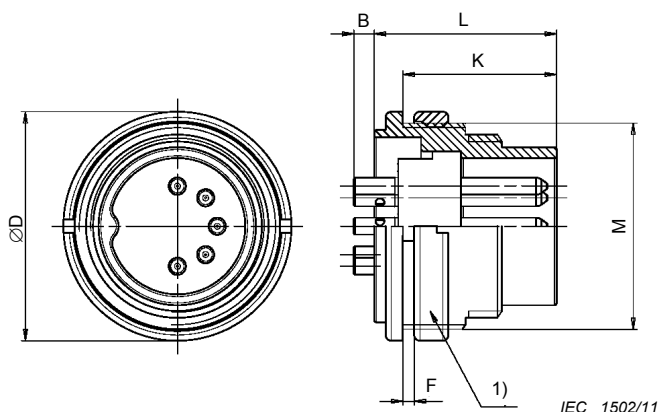
Figure 1 – Fixed connector, male contacts, IP40, front mounting

Table 3 – Dimension style AM

Dimensions in millimetres		
Reference	Max.	Min.
$\varnothing D$	20,1	19,9
B ^a	2,5	
C	6,6	6,2
F	1,0	
L	16,5	
M	M18 × 0,75	
^a B can be 5,0 mm max. for crimp termination.		

NOTE For alternative variants C_{max}, L_{max} upon agreement.

4.2.1.2 Style BM



1) With ring or hexagonal nut (Ø D 23,1 max.) width across flats 20 or upon agreement.

Figure 2 – Fixed connector, male contacts, IP40, rear mounting

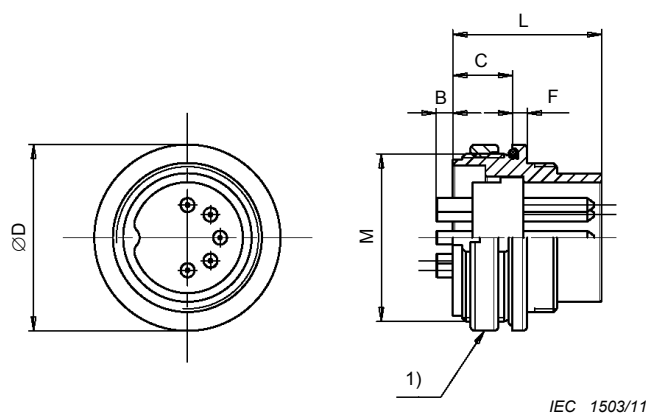
Table 4 – Dimension style BM

Dimensions in millimetres

Reference	Max.	Min.
Ø D	20,1	19,9
B	2,5	
F	1,0	
K	15,1	13,4
L	16,5	
M	M18 × 0,75	

NOTE For alternative variants Kmax, Lmax upon agreement.

4.2.1.3 Style CM



1) With ring or hexagonal nut (Ø D 23,1 max.) width across flats 20 or upon agreement.

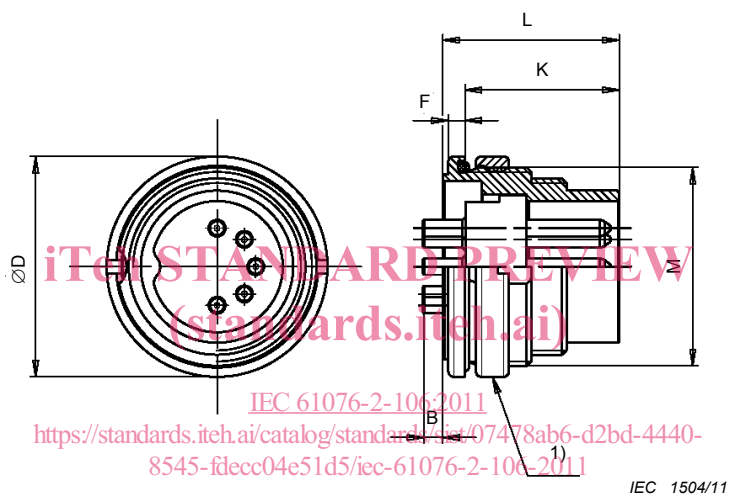
Figure 3 – Fixed connector, male contacts, IP65/67, front mounting

Table 5 – Dimension style CM

Dimensions in millimetres

Reference	Max.	Min.
Ø D	20,3	19,7
B	3,0	
C	8,0	6,2
F	1,6	1,4
L	18	15,5
M	M18 × 0,75	

NOTE For alternative variants Bmax, Cmax, Lmax upon agreement.

4.2.1.4 Style DM

¹⁾ With ring or hexagonal nut (Ø D 23,1 max.) width across flats 20 or upon agreement.

Figure 4 – Fixed connector, male contacts, IP65/67, rear mounting**Table 6 – Dimension style DM**

Dimensions in millimetres

Reference	Max.	Min.
Ø D	20,3	19,7
B	2,5	
F	1,6	1,4
K	15,7	13,4
L	17,2	
M	M18 × 0,75	

NOTE For alternative variants Bmax, Kmax, Lmax upon agreement.