

PUBLICLY AVAILABLE SPECIFICATION

PRE-STANDARD

Connectors for electronic equipment – Product requirements –
Part 2-114: Circular connectors – Detail specification for data and power
connectors with M8 screw-locking

[IEC PAS 61076-2-114:2016](https://standards.iteh.ai/catalog/standards/sist/c818bf37-1e88-4bb9-9dbc-20c30e2d7078/iec-pas-61076-2-114-2016)

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CONNECTORS FOR ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

Part 2-114: Circular connectors – Detail specification for data and power connectors with M8 screw-locking

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IEC PAS 61076-2-114 has been processed by subcommittee 48B: Electrical connectors, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment.

The text of this PAS is based on the following document:

This PAS was approved for publication by the P-members of the committee concerned as indicated in the following document

Draft PAS	Report on voting
48B/2459/PAS	48B/2476/RVC

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This PAS shall remain valid for an initial maximum period of 3 years starting from the publication date. The validity may be extended for a single period up to a maximum of 3 years, at the end of which it shall be published as another type of normative document, or shall be withdrawn.

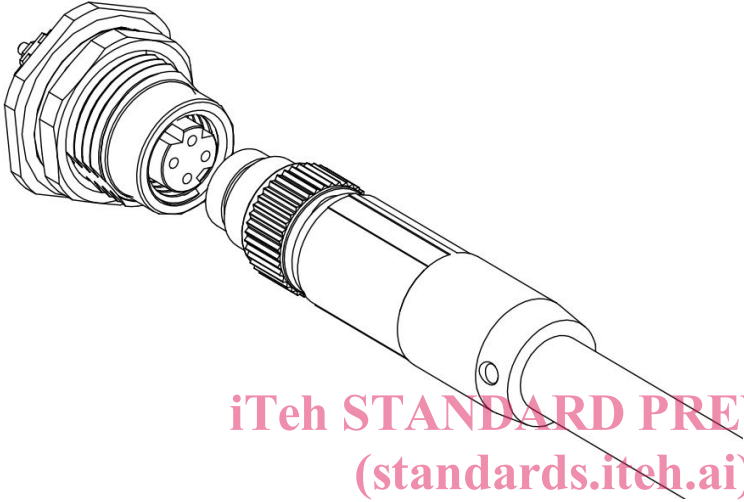
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INTRODUCTION

<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 61076-2-114</p>
<p>ELECTRONIC COMPONENTS</p> <p>DETAIL SPECIFICATION in accordance with IEC 61076-1</p>	
 <p style="text-align: center;">iTeh STANDARD PREVIEW (standards.iteh.ai)</p> <p style="text-align: center;">https://standards.iteh.ai/catalog/standards/sist/c818bf37-1e88-4bb9-9dbc-20e30e2d7078/iec-pas-61076-2-114-2016</p>	<p>Circular connectors M8 for data and power applications with screw-locking and 4 ways</p> <p>Male and female connectors Male and female contacts</p> <p>Rewireable – Non-rewireable</p> <p>Free cable connectors Straight and right angle connectors</p> <p>Fixed connectors Flange mounting Single hole mounting</p>

CONNECTORS FOR ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

Part 2-114: Circular connectors – Detail specification for data and power connectors with M8 screw-locking

1 Scope

This part of IEC 61076 describes circular connectors with M8 screw-locking typically used for data transmissions in industrial applications. These connectors consist of fixed and free connectors either rewirable or non-rewirable, with M8 screw-locking. Male connectors have round contacts $\varnothing 0,8$ mm.

The coding provided by this PAS prevents the mating of accordingly coded male or female connectors to any other similarly sized interfaces covered by other standards.

NOTE M8 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.

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IEC 60050-581, *International Electrotechnical Vocabulary – Part 581: Electromechanical components for electronic equipment*

IEC 60068-1, *Environmental testing – Part 1: General and guidance*

IEC 60068-2-60, *Environmental testing – Part 2-60: Tests – Test Ke: Flowing mixed gas corrosion test*

IEC 60352 (all parts), *Solderless connectors*

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 60512-29-100, *Connectors for electronic equipment – Tests and measurements – Part 29-100: Signal integrity tests up to 500 MHz on M12 style connectors – Tests 29a to 29g*

IEC 60529:1989, *Degrees of protection provided by enclosures (IP code)*

IEC 60603-7:2008, *Connectors for electronic equipment – Part 7: Detail specification for 8-way, unshielded, free and fixed connectors*

IEC 60603-7-1, *Connectors for electronic equipment – Part 7-1: Detail specification for 8-way, shielded, free and fixed connectors*

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 62197-1, *Connectors for electronic equipment – Quality assessment requirements – Part 1: Generic specification*

IEC 62430, *Environmentally conscious design for electrical and electronic products*

IEC GUIDE 109, *Environmental aspects – Inclusion in electrotechnical product standards*

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

3 Terms and definitions

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3.1 mounting orientation

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

Note 1 to entry: Where the free connector has an angled cable entry (as opposed to a straight cable entry), the angle between the cable entry direction and the polarization keyway should be specified.

4 Technical information

4.1 Systems of levels

4.1.1 Performance levels

Not applicable.

4.1.2 Compatibility levels, according to IEC 61076-1:2006

D-coding 4 contacts

4.2 Classification into climatic categories (Table 1)

Table 1 – Climatic category

Climatic category	Category temperature		Damp heat steady state		Days
	Lower °C	Upper °C	Temperature °C	Rel. humidity %	
25/85/21	-25	+85	40	93	21

4.3 Creepage and clearance distances

See 7.3.

4.4 Current-carrying capacity

Conditions: IEC 60512, test 5b
All contacts
Values at 40 °C
D-coding = 2 A

4.5 Marking

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

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5 Dimensional information (standards.iteh.ai)

5.1 General

IEC PAS 61076-2-114:2016

Throughout this PAS, dimensions are in mm. 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.

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

5.2 Isometric view and common features

5.2.1 General

For all connector styles with cables, the length L of the cable shall be agreed between manufacturer and user. For interface dimensions see 5.3.

5.2.2 Common features

Not applicable.

5.2.3 Reference system

Not applicable.

5.3 Engagement (mating) information

5.3.1 Engaging (mating) direction

Arrows in Figure 1 indicates the mating direction.

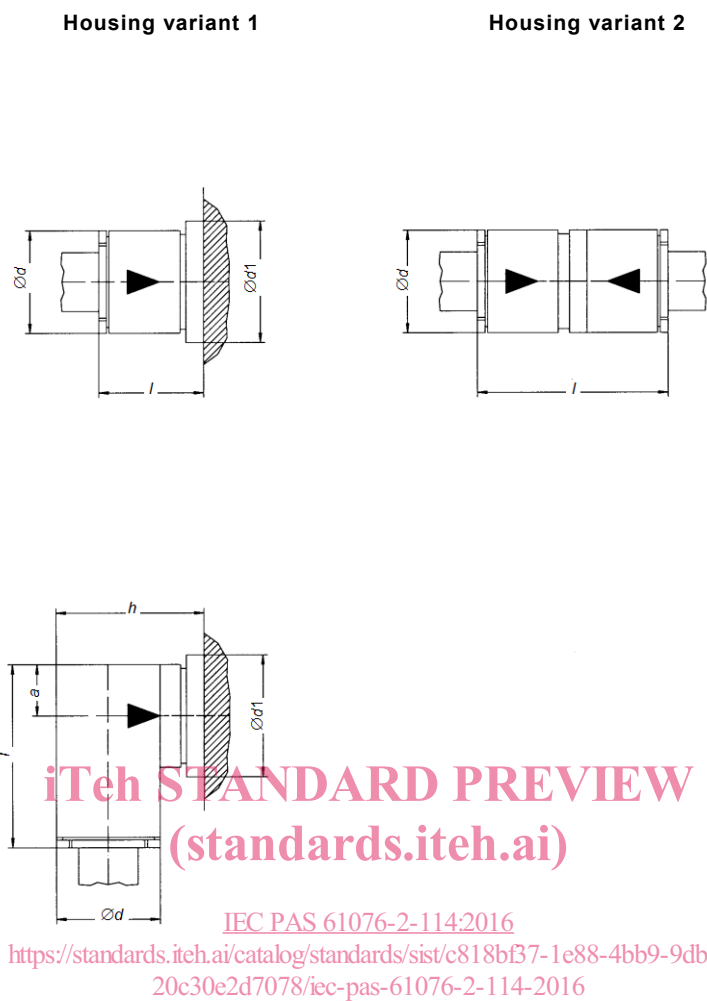


Figure 1 – Engagement (mating) information

5.3.2 Contact levels and sequencing

The contact and disconnection sequence during the connection process is not defined.

5.3.3 Perpendicular to the engaging (mating) direction

The maximum allowable displacement in each perpendicular direction is 0,1 mm.

5.3.4 Inclination

The maximum allowable inclination in the longitudinal and transverse axes is 5° in the positive and negative direction.

5.4 Fixed connectors

5.4.1 Dimensions

5.4.1.1 General

Table 2 shows styles of fixed connectors.