



# PUBLICLY AVAILABLE SPECIFICATION

## PRE-STANDARD

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**Connectors for electronic equipment – Product requirements –  
Part 2-110: Circular connectors – Detail specification for circular connectors  
M 12 × 1 with screw-locking, for high speed Ethernet and high speed data  
communication with frequencies up to 500 MHz and 10 gigabits/s**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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### CONNECTORS FOR ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS

#### Part 2-110: Circular connectors – Detail specification for circular connectors

#### **M 12 × 1 with screw-locking, for high speed Ethernet and high speed data communication with frequencies up to 500 MHz and 10 gigabits/s**

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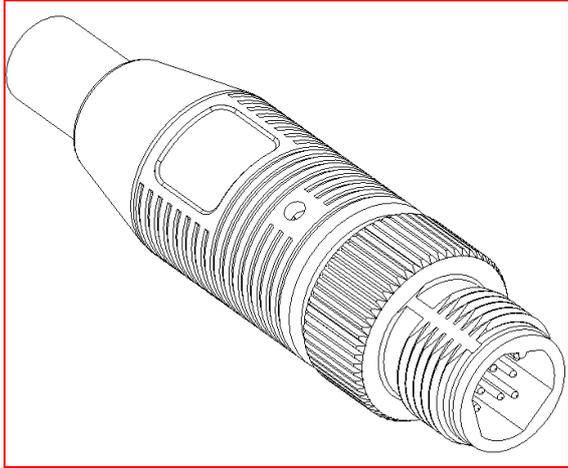
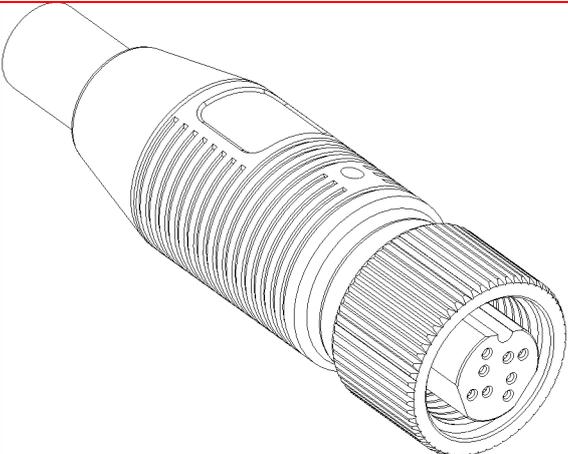
The text of this PAS is based on the following document:

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

<b>Draft PAS</b>	<b>Report on voting</b>
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INTERNATIONAL ELECTROTECHNICAL COMMISSION	IEC 61076-2-110
ELECTRONIC COMPONENTS in accordance with IEC 61076-1	
 	<p>Circular connectors M12 × 1 mm 8 poles, for data communication with frequencies up to 500 MHz</p> <p>Pin and socket connector Rewireable – Non- rewireable</p> <p>Free cable connectors Straight and right angle connectors</p> <p>Fixed connectors</p> <p>Flange mounting Rear mounting Single hole mounting</p>

## CONNECTORS FOR ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

### Part 2-110: Circular connectors – Detail specification for circular connectors M 12 × 1 with screw-locking, for high speed Ethernet and high speed data communication with frequencies up to 500 MHz and 10 gigabits/s

#### 1 General information

Throughout this detail specification dimensions are in mm.

##### 1.1 Scope

This Publicly Available Specification (PAS) describes M12 circular connectors for use in industrial environments for high speed Ethernet and high speed data transfer. Applications include, but are not limited to, vision systems and data acquisition. Screw locking M12 connectors consist of fixed and free connectors.

Male connectors have round contacts  $\varnothing$  0,6mm.

##### 1.2 Recommended method of termination

The contact terminations shall be of the following types: screw, crimp, insulation piercing, and insulation displacement.

##### 1.2.1 Number of contacts or contact cavities

Connector type H	M12	2 to 8 contacts
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##### 1.3 Ratings and characteristics

Rated voltage: 48 V, see 4.2.1, Table 3

Current rating: 0,5 A, see 4.2.3

Insulation resistance:  $10^8 \Omega$ , see 4.2.5

Climatic category:  $-25^\circ\text{C} / +85^\circ\text{C} / 21$  days see 4.1, Table 2

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 – 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, *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 61076-2-101:2008, *Connectors for electronic equipment – Product requirements – Part 2-101: Circular connectors – Detail specification for M12 connectors with screw-locking*

IEC 61984, *Connectors – Safety requirements and tests*

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