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PUBLICLY AVAILABLE SPECIFICATION

PRE-STANDARD

Connectors for electronic equipment – Product requirements – Part 2-110: Circular connectors – Detail specification for circular connectors M 12 \times 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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CONNECTORS FOR ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS

Part 2-110: Circular connectors – Detail specification for circular connectors M 12 \times 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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IEC/PAS 61076-2-110 has been prepared by subcommittee 48B: Connectors, of IEC technical committee 48: Electromechanical components and mechanical structures for electronic equipment.

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

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Following publication of this PAS, which is a pre-standard publication, the technical committee or subcommittee concerned may transform it into an International Standard.

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CONNECTORS FOR ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

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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 Ø 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

2 to 8 contacts

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 °C /+85 °C / 21 days see 4.1, Table 2

M12

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

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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