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PRE-STANDARD



**Connectors for electronic equipment – Product requirements –
Part 3-124: Detail specification for 10 way, shielded, free and fixed connectors
for I/O and Gigabit transmission capability for industrial applications**

Document Preview

IEC PAS 61076-3-124:2016

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

CONNECTORS FOR ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

Part 3-124: Detail specification for 10 way, shielded, free and fixed connectors for I/O and Gigabit transmission capability for industrial applications

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IEC PAS 61076-3-124 has been prepared 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/2508/PAS	48B/2528/RVC

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

A list of all parts of IEC 61076 series, under the general title *Connectors for electronic equipment – Product requirements*, can be found on the IEC website.

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to a maximum of 3 years, at the end of which it shall be published as another type of normative document, or shall be withdrawn.

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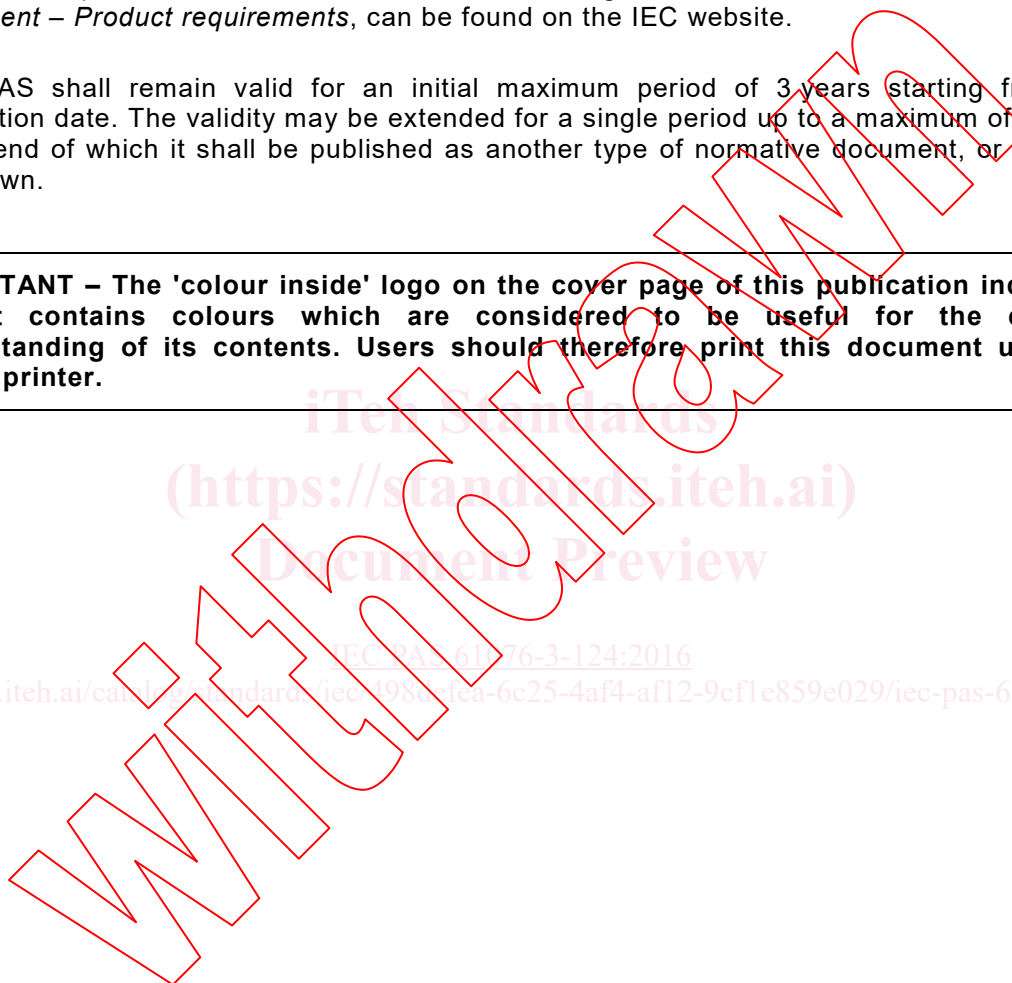
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CONNECTORS FOR ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

Part 3-124: Detail specification for 10 way, shielded, free and fixed connectors for I/O and Gigabit transmission capability for industrial applications

1 Scope

This part of IEC 61076 covers 10-way shielded free and fixed connectors and specifies the common dimensions, mechanical, electrical and transmission characteristics and environmental requirements as well as test specifications respectively.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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, *Environmental testing – Part 1: General and guidance*

IEC 60068-2-38, *Environmental testing – Part 2-38: Tests – Test Z/AD: Composite temperature/humidity cyclic test*

IEC 60512 (all parts), *Connectors for electronic equipment – Tests and measurements*

IEC 60512-1, *Connectors for electronic equipment – Tests and measurements – Part 1: General*

IEC 61076-1:2006, *Connectors for electronic equipment – Product requirements – Part 1: Generic specification*

IEC 61076-3:2008, *Connectors for electronic equipment – Product requirements – Part 3: Rectangular connectors – Sectional specification*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-581, IEC 61076-1, IEC 61076-3 and IEC 60512-1 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

4 Technical information

4.1 Systems of levels – Compatibility levels, according to IEC 61076-1

a) Intermateability

Intermateability (level 2 of IEC 61076-1:2006) standardizes only dimensions of electrical and mechanical interfaces. Intermateability ensured by application of the “Go” and “No-Go” gauge requirements in the standards that may be referenced, and adherence to the dimensional requirements within.

b) Interoperability

Interoperability of different connectors is ensured by compliance with the specified interface dimensions.

4.2 Classification into climatic categories

Table 1 shows the climatic categories.

Table 1 – Climatic category

Climatic category	Category temperature		Damp heat steady state		Days
	Lower °C	Upper °C	Temperature °C	Relative humidity %	
40/85/21	-55	+85	40	93	21

4.3 Current-carrying capacity

Conditions:

IEC 60512, test 5b

1,5 A (all pins)

Values at 20 °C

4.4 Marking

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

5 Common features and typical connector pair

5.1 View showing typical fixed and free connectors

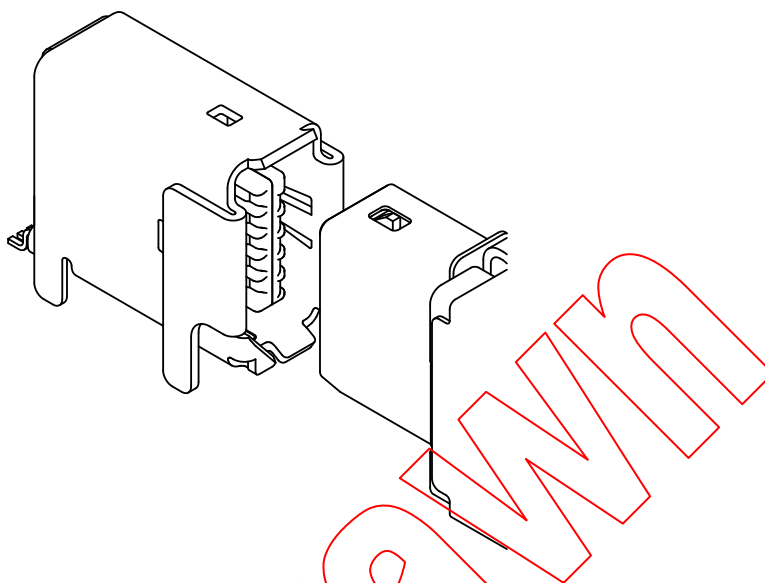


Figure 1 – View showing typical fixed and free connectors

5.2 Mating information

5.2.1 General

Coordination dimensions are dimensions without tolerances which indicate the boundary or centre-line references in order to allow for (modular) arrangement.

Dimensions are given in millimetres. Drawings are shown in third angle projection. The shape of connectors may deviate from those shapes given in the following figures as long as the specified dimensions are not influenced.

5.2.2 Contacts – mating conditions (see Figure 2 and Table 2)

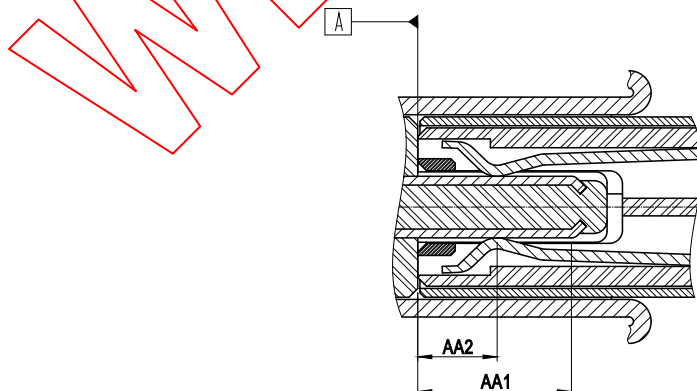


Figure 2 – Contact interface dimensions with terminated free connector

Table 2 – Dimensions for Figure 2

Dimensions in millimetres

Letter	Minimum	Nominal	Maximum
AA1	3,35	3,5	3,65
AA2	1,6	1,8	2

5.2.3 Fixed connector (see Figures 3 and 4 and Tables 3 and 4)

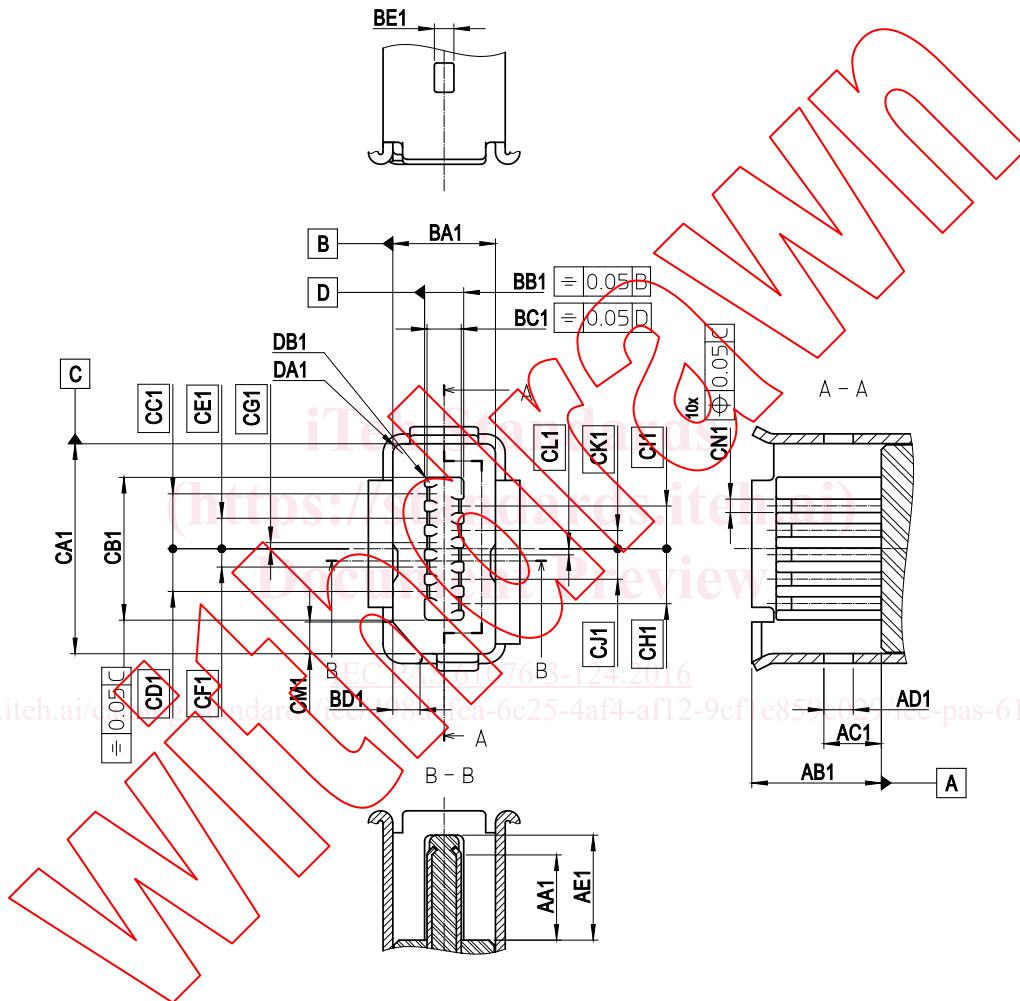


Figure 3 – Fixed connector Type A (Projection method 3)