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Interested committees:

Title: Draft BS EN 63171-6 Connectors for electrical and electronic components - Product requirements. Part 6: Connectors - Detail specification for 2-way and 4-way (data/power), shielded, free and fixed connectors for transmission capability and power supply capability with frequencies up to 600 MHz.

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

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Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



48B/2600/CD

COMMITTEE DRAFT (CD)

PROJECT NUMBER:
IEC 61076-3-125 ED1

DATE OF CIRCULATION:
2017-10-06

CLOSING DATE FOR COMMENTS:
2018-01-26

SUPERSEDES DOCUMENTS:
48B/2530/NP,48B/2564/RVN

IEC SC 48B : ELECTRICAL CONNECTORS

SECRETARIAT:
United States of America

SECRETARY:
Mr Jeffrey Toran

OF INTEREST TO THE FOLLOWING COMMITTEES:

PROPOSED HORIZONTAL STANDARD:

☐

Other TC/SCs are requested to indicate their interest, if any, in this CD to the secretary.

FUNCTIONS CONCERNED:

☐ EMC

☐ ENVIRONMENT

☐ QUALITY ASSURANCE

☐ SAFETY

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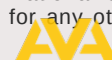
Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

TITLE:

Connectors for electronic equipment - Product requirements - Detail specification for 2-way, shielded and unshielded, free and fixed connectors for data transmission up to 600MHz with current carrying capacity

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

CONNECTORS FOR ELECTRICAL AND ELECTRONIC COMPONENTS – PRODUCT REQUIREMENTS –

Part 3-125: Connectors – Detail specification for 2-way and 4-way (data/power), shielded, free and fixed connectors for transmission capability and power supply capability with frequencies up to 600 MHz.

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International Standard IEC 61076-3-125 has been prepared by subcommittee 48

:Electrical connectors and mechanical structures for electrical and electronic equipment, of IEC technical committee 48B:Electrical connectors.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
XX/XX/FDIS	XX/XX/RVD

149 Full information on the voting for the approval of this International Standard can be found in the report
150 on voting indicated in the above table.

151 This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

152 The committee has decided that the contents of this document will remain unchanged until the stability
153 date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific
154 document. At this date, the document will be

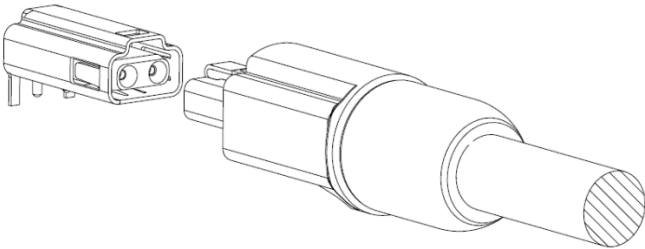
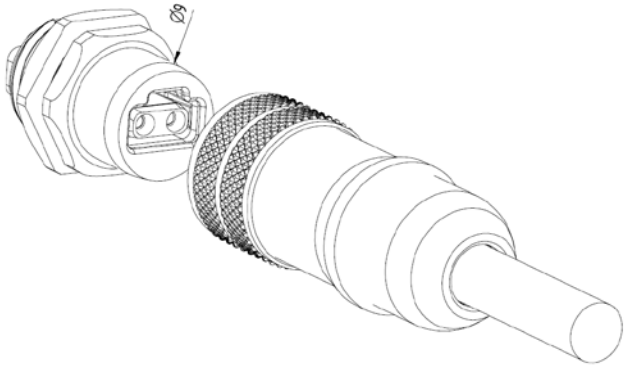
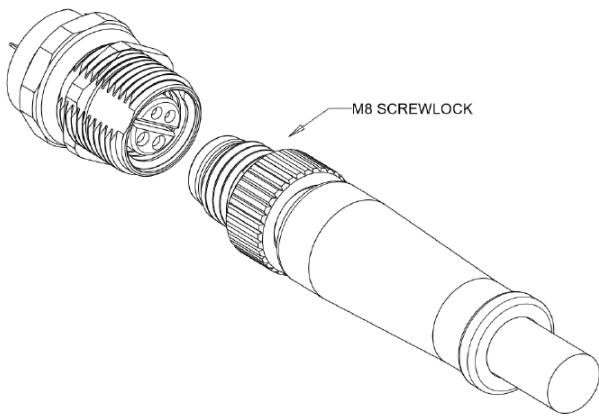
- 155 • reconfirmed,
- 156 • withdrawn,
- 157 • replaced by a revised edition, or
- 158 • amended.

159 The National Committees are requested to note that for this document the stability date is 2021.

160 THIS TEXT IS INCLUDED FOR THE INFORMATION OF THE NATIONAL COMMITTEES AND WILL BE DELETED AT THE
161 PUBLICATION STAGE.

162

163

IEC SC 48B – Electrical connectors Specification available from: IEC General secretariat or from the addresses shown on the inside cover.	IEC 61076-3-125 Ed. 1
ELECTRONIC COMPONENTS DETAIL SPECIFICATION in accordance with IEC 61076-1	
	2-PIN IP20
	2-PIN High protection degree
	2 + 2 PIN (Hybrid, Power + Data) High protection degree

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CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT - PRODUCT REQUIREMENTS -

Part 3-125: Connectors – Detail specification for 2-way and 4-way (data/power), shielded, free and fixed connectors for transmission capability and power supply capability with frequencies up to 600 MHz.

1 Scope

This part of IEC 61076 covers 2-way and 4-way (data/power) shielded free and fixed connectors for data transmission with frequencies up to 600 MHz and specifies the common dimensions, mechanical, electrical and transmission characteristics and environmental requirements as well as test specifications respectively.

Note:

The connectors are intended to be used for Single Pair Ethernet (SPE) according to the following IEEE Standards: 10BaseT1 (IEEE 802.3cg), 100Base-T1 (IEEE 802.3bw), 1000Base-T1 (IEEE 802.3bp), and optionally with Power over Data line (PoDL) power supply according to IEEE 802.3bu.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited shall apply. For undated references, the latest edition of the referenced document (including any amendments) shall apply.

IEC 60050-581, *International Electrotechnical Vocabulary – Chapter 581: Electro- mechanical 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 60603-7, *Connectors for electronic equipment - Part 7: Detail specification for 8-way, unshielded, free and fixed connectors*

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

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

IEC 60512-1-2, *Connectors for electronic equipment – Tests and measurements – Part 1-2: General examination - Test 1b: Examination of dimension and mass*

IEC 60512-2-1, *Connectors for electronic equipment – Tests and measurements – Part 2-1: Electrical continuity and contact resistance tests - Test 2a: Contact resistance - Millivolt level method*

IEC 60512-3-1, *Connectors for electronic equipment – Tests and measurements – Part 3-1: Insulation tests - Test 3a: Insulation resistance*

IEC 60512-4-1, *Connectors for electronic equipment – Tests and measurements – Part 4-1: Voltage stress tests - Test 4a: Voltage proof*

IEC 60512-5-2, *Connectors for electronic equipment – Tests and measurements – Part 5-2: Current-carrying capacity tests - Test 5b: Current-temperature derating*

IEC 60512-6-3, *Connectors for electronic equipment – Tests and measurements – Part 6-3: Dynamic stress tests - Test 6c: Shock*

- 206 IEC 60512-6-4, *Connectors for electronic equipment – Tests and measurements – Part 6: Dynamic*
 207 *stress tests - Section 5: Test 6d: Vibration (sinusoidal)*
- 208 IEC 60512-9-1, *Connectors for electronic equipment – Tests and measurements – Part 9-1:*
 209 *Endurance tests - Test 9a: Mechanical operation*
- 210 IEC 60512-9-3, *Connectors for electronic equipment – Tests and measurements – Part 9-3:*
 211 *Endurance tests - Test 9c: Mechanical operation (engaging and separating) with electrical load*
- 212 IEC 60512-11-3, *Connectors for electronic equipment – Tests and measurements – Part 11-3:*
 213 *Climatic tests - Test 11c: Damp heat, steady state*
- 214 IEC 60512-11-4, *Connectors for electronic equipment – Tests and measurements – Part 11-4:*
 215 *Climatic tests - Test 11d: Rapid change of temperature*
- 216 IEC 60512-11-7, *Connectors for electronic equipment – Tests and measurements – Part 11-7:*
 217 *Climatic tests - Test 11g: Flowing mixed gas corrosion test*
- 218 IEC 60512-11-9, *Connectors for electronic equipment – Tests and measurements – Part 11-9:*
 219 *Climatic tests - Test 11i: Dry heat*
- 220 IEC 60512-11-10, *Connectors for electronic equipment – Tests and measurements – Part 11-9:*
 221 *Climatic tests - Test 11j: Cold*
- 222 IEC 60512-11-12, *Connectors for electronic equipment – Tests and measurements – Part 11-12:*
 223 *Climatic tests - Test 11m: Damp heat, cyclic*
- 224 IEC 60512-13-1, *Connectors for electronic equipment – Tests and measurements – Part 13-1:*
 225 *Mechanical operation tests - Test 13a: Engaging and separating forces*
- 226 IEC 60512-13-2, *Connectors for electronic equipment – Tests and measurements – Part 13-2:*
 227 *Mechanical operation tests - Test 13b: Insertion and withdrawal forces*
- 228 IEC 60512-15-6, *Connectors for electronic equipment - Tests and measurements - Part 15-6:*
 229 *Connector tests (mechanical) - Test 15f: Effectiveness of connector coupling devices*
- 230 IEC 60512-26-100, *Connectors for electronic equipment – Tests and measurements – Part 26-100:*
 231 *Measurement setup, test and reference arrangements and measurements for connectors according to*
 232 *IEC 60603-7 - Tests 26a to 26g*
- 233 IEC 60512-27-100, *Connectors for electronic equipment - Tests and measurements - Part 27-100:*
 234 *Signal integrity tests up to 500 MHz on 60603-7 series connectors - Tests 27a to 27g*
- 235 IEC 61076-1:2006, *Connectors for electronic equipment – Product requirements – Part 1: Generic*
 236 *specification*
- 237 IEC 61076-3:2008, *Connectors for electronic equipment – Product requirements – Part 3: Sectional*
 238 *specification for rectangular connectors*

239 **3 Terms and definitions**

- 240 No terms and definitions are listed in this document. For the purposes of this document, the terms and
 241 definitions given in IEC 60050-581, IEC 61076-1, IEC 61076-3 and IEC 60512-1 shall apply.
- 242 ISO and IEC maintain terminological databases for use in standardization at the following addresses:
- 243 • IEC Electropedia: available at <http://www.electropedia.org/>
- 244 • ISO Online browsing platform: available at <http://www.iso.org/obp>

4 Technical information

4.1 Systems of levels

4.1.1 Compatibility levels, according to IEC 61076-1

a) Intermateability

Intermateability (level 2 of IEC 61076-1) standardizes only dimensions of electrical and mechanical interfaces. Intermateability shall be 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 shall be assured by compliance with the specified interface dimensions and by compliance with the relevant signal integrity test group FP.

4.2 Marking

The marking of the connector and the packaging shall be in accordance with chapter 2.7 of IEC 61076-1.

4.3 Connector Styles, Dimensions and mating information

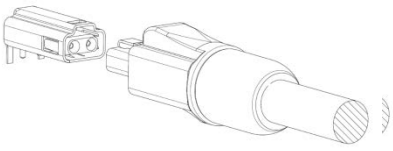
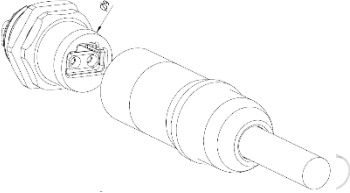
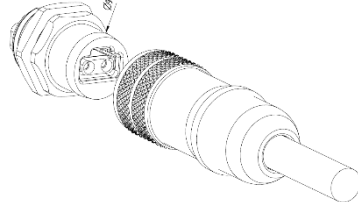
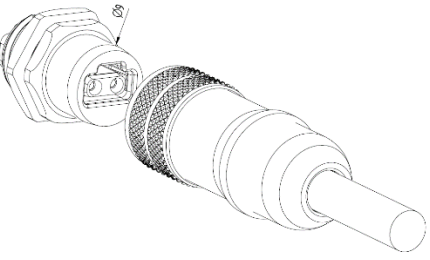
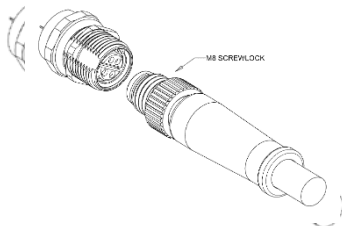
4.3.1 General

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.

4.3.2 Connector Styles

Table 1 – Connector styles

Style	Description	Picture
I2P	Free 2-way IP20 connector with wire ends, male contacts	
I2J	Fixed 2-way IP20 connector with wire ends, female contacts	
I6SP	Free 2-way IP65/67 connector with wire ends, male contacts, Snap-In locking	
I6SJ	Fixed 2-way IP65/67 connector with wire ends, male contacts, Snap-In locking	
I6PP8	Free 2-way IP65/67 connector with wire ends, male contacts, PushPull locking small size (PP8)	
I6PJ8	Fixed 2-way IP65/67 connector with wire ends, female contacts, single hole mounting small size (PP8)	
I6PP12	Free 2-way IP65/67 connector with wire ends, male contacts, PushPull locking bigger size (PP12)	
I6PJ12	Fixed 2-way IP65/67 connector with wire ends, female contacts, single hole mounting bigger size (PP12)	
I6SCP	Free 4-way M8 connector with wire ends, male contacts	
I6SCJ	Fixed 4-way M8 connector with wire ends, female contacts, single hole mounting	

4.3.3 Dimensions and mating conditions for the 2-way data connectors

4.3.3.1 Overall dimensions Style I2P and I2J

4.3.3.1.1 Fixed connector

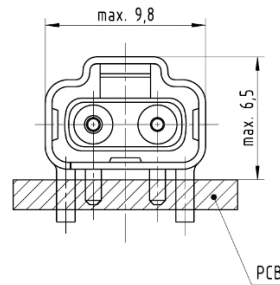


Figure 1 – Style I2J, fixed 2-way data connector

4.3.3.1.2 Free connector

Free IP20 connector with wire ends, male contacts

Figure 2 – Style I2P, free 2-way data connector

