



INTERNATIONAL STANDARD

**Connectors for electrical and electronic equipment – Product requirements –
Part 3-119: Rectangular connectors – Detail specification for shielded and
unshielded, free and fixed 10-way connectors with push-pull coupling for
industrial environments for data transmission with frequencies
up to 100 MHz**

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CONTENTS

FOREWORD.....	5
INTRODUCTION.....	7
1 Scope.....	9
2 Normative references	9
3 Terms and definitions	11
4 Technical information	12
4.1 Ratings and characteristics	12
4.1.1 Rated current.....	12
4.1.2 Rated voltage	12
4.1.3 Insulation resistance.....	12
4.1.4 Voltage proof.....	12
4.2 Performance levels	12
4.3 Compatibility levels.....	12
4.4 Climatic categories	12
4.5 Clearance and creepage distances	12
4.6 Marking.....	13
5 Dimensional information	13
5.1 General.....	13
5.2 Isometric view and common features	13
5.3 Engagement (mating) information – Contact levels and sequencing	13
5.4 Fixed connectors	14
5.4.1 Dimensions.....	14
5.4.2 Terminations.....	15
5.5 Free connectors	15
5.5.1 Dimensions.....	15
5.5.2 Terminations.....	17
5.5.3 Accessories	17
5.6 Mounting information for connectors – Mounting on panels	17
5.7 Gauges – Sizing gauges and retention force gauges.....	18
6 Characteristics	19
6.1 General.....	19
6.2 Pin assignment and other definitions.....	19
6.3 Classification into climatic categories.....	19
6.4 Electrical characteristics	19
6.4.1 Creepage and clearance distances	19
6.4.2 Voltage proof.....	19
6.4.3 Current-carrying capacity.....	19
6.4.4 Contact resistance	19
6.4.5 Shield to shield resistance	19
6.4.6 Insulation resistance.....	20
6.5 Transmission characteristics	20
6.5.1 General	20
6.5.2 Insertion loss	20
6.5.3 Return loss	20
6.5.4 NEXT.....	20
6.5.5 FEXT	21

6.5.6	Transverse conversion loss	21
6.5.7	Transverse conversion transfer loss	21
6.5.8	Transfer Impedance.....	21
6.6	Mechanical characteristics	21
6.6.1	Mechanical operation.....	21
6.6.2	Effectiveness of connector coupling devices	21
6.6.3	Insertion and withdrawal forces	21
6.6.4	Contact retention in insert.....	22
6.6.5	Polarizing and coding method.....	22
6.7	Other characteristics	22
6.7.1	Vibration (sine).....	22
6.7.2	Shock	22
6.7.3	Degree of protection provided by enclosures (IP-code).....	22
6.7.4	Screen and shielding properties.....	22
6.8	Environmental aspects	22
6.8.1	Marking of insulation material (plastics).....	22
6.8.2	Design/use of material	22
7	Test schedule	22
7.1	General.....	22
7.1.1	Introductory remarks.....	22
7.1.2	Climatic category	23
7.1.3	Clearance and creepage distances	23
7.1.4	Arrangement for contact and shield resistance measurement	23
7.1.5	Arrangement for dynamic stress tests	23
7.1.6	Arrangement for testing static load; axial	24
7.1.7	Wiring of specimens	24
7.2	Test schedules.....	24
7.2.1	Basic (minimum) test schedule	24
7.2.2	Full test schedule	24
7.3	Test procedures and measuring methods.....	34
7.4	Pre-conditioning.....	34
7.5	Wiring and mounting of specimens.....	34
7.5.1	Wiring.....	34
7.5.2	Mounting	34
Figure 1 – Fixed (male) and free (female) connector		13
Figure 2 – Fixed connector		14
Figure 3 – Free connector.....		16
Figure 4 – Panel cut-out.....		18
Figure 5 – Gauge.....		18
Figure 6 – Contact / shield resistance arrangement		23
Figure 7 – Connector vibration and shock test arrangement.....		24
Table 1 – Climatic category.....		12
Table 2 – Dimensions of the fixed connector.....		15
Table 3 – Dimensions of the free connector		17
Table 4 – Panel cut-out.....		18

Table 5 – Gauge dimensions.....	19
Table 6 – Number of test specimens and contacts	25
Table 7 – Test group P	25
Table 8 – Test group AP	26
Table 9 – Test group BP	28
Table 10 – Test group CP	30
Table 11 – Test group DP	31
Table 12 – Test group EP	32
Table 13 – Test group HP	33

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CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

Part 3-119: Rectangular connectors – Detail specification for shielded and unshielded, free and fixed 10-way connectors with push-pull coupling for industrial environments for data transmission with frequencies up to 100 MHz

FOREWORD

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International Standard IEC 61076-3-119 has been prepared by subcommittee 48B: Electrical connectors, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment.

This first edition cancels and replaces IEC PAS 61076-3-119 published in 2013. This edition constitutes a technical revision.

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

FDIS	Report on voting
48B/2602/FDIS	48B/2617/RVD

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

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

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

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

INTRODUCTION

The International Electrotechnical Commission (IEC) draws attention to the fact that it is claimed that compliance with this document may involve the use of a patent concerning connectors given in this specification.

The IEC takes no position concerning the evidence, validity and scope of this patent right.

The holder of this patent right has assured the IEC that he is willing to give free licences with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with the IEC.

Information may be obtained from:

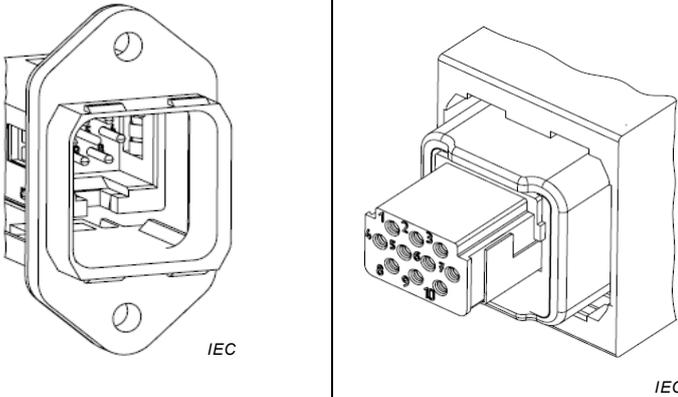
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IEC SC 48B – Connector specifications available from: IEC General secretariat or from the addresses shown on the inside cover.		IEC 61076-3-119 Ed. 1.0
ELECTRONIC COMPONENTS DETAIL SPECIFICATION in accordance with IEC 61076-1		
<p>Outline drawing</p> 	<p>10-way rectangular connector</p> <p>round contacts Ø 1 mm</p> <p>screw or crimp terminations, solder or printed board connections upon agreement between manufacturer and user</p> <p>shielded and unshielded, free and fixed</p> <p>for data transmission with frequencies up to 100 MHz</p> <p>with push-pull coupling</p>	
		Fixed and free connectors, for industrial environments

CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

Part 3-119: Rectangular connectors – Detail specification for shielded and unshielded, free and fixed 10-way connectors with push-pull coupling for industrial environments for data transmission with frequencies up to 100 MHz

1 Scope

This part of IEC 61076-3 establishes specifications and test requirements for 10-way shielded and unshielded rectangular, free and fixed connectors, with push-pull coupling, for data transmission with frequencies up to 100 MHz and for use in industrial environments.

This document specifies free and fixed connectors with round contacts, suitable for screw or crimp terminations. Other terminations techniques, such as solder or printed board connections are upon agreement between manufacturer and user. The free and fixed connectors have a push-pull locking mechanism for IP65 and IP67 protection according to IEC 60529.

Connectors according this document are without breaking capacity COC according to 3.9 of IEC 61984:2008, therefore they are not intended to be engaged or disengaged in normal use when live or under load, if not otherwise specified by the manufacturer.

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 60050-581:2008, *International Electrotechnical Vocabulary – Part 581: Electromechanical components for electronic equipment*

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

IEC 60068-2-20:2008, *Environmental testing – Part 2-20: Tests – Test T: Test methods for solderability and resistance to soldering heat of devices with leads*

IEC 60352-2, *Solderless connections – Part 2: Crimped connections – General requirements, test methods and practical guidance*

IEC 60352-5, *Solderless connections – Part 5: Press-in connections – General requirements, test methods and practical guidance*

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 60512-5-1, *Connectors for electronic equipment – Tests and measurements – Part 5-1: Current-carrying capacity tests – Test 5a: Temperature rise*

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

IEC 60512-6-4, *Connectors for electronic equipment – Tests and measurements – Part 6-4: Dynamic stress tests – Test 6d: Vibration (sinusoidal)*

IEC 60512-9-1, *Connectors for electronic equipment – Tests and measurements – Part 9-1: Endurance tests – Test 9a: Mechanical operation*

IEC 60512-11-1, *Electromechanical components for electronic equipment – Basic testing procedures and measuring methods – Part 11: Climatic tests – Section 1: Test 11a – Climatic sequence*

IEC 60512-11-3, *Connectors for electronic equipment – Tests and measurements – Part 11-3: Climatic tests – Test 11c: Damp heat, steady state*

IEC 60512-11-4, *Connectors for electronic equipment – Tests and measurements – Part 11-4: Climatic tests – Test 11d: Rapid change of temperature*

IEC 60512-11-7, *Connectors for electronic equipment – Tests and measurements – Part 11-7: Climatic tests – Test 11g: Flowing mixed gas corrosion test*

IEC 60512-11-9, *Connectors for electronic equipment – Tests and measurements – Part 11-9: Climatic tests – Test 11i: Dry heat*

IEC 60512-11-10, *Connectors for electronic equipment – Tests and measurements – Part 11-10: Climatic tests – Test 11j: Cold*

IEC 60512-11-12, *Connectors for electronic equipment – Tests and measurements – Part 11-12: Climatic tests – Test 11m: Damp heat, cyclic*

IEC 60512-13-2, *Connectors for electronic equipment – Tests and measurements – Part 13-2: Mechanical operation tests – Test 13b: Insertion and withdrawal forces*

IEC 60512-13-5, *Connectors for electronic equipment – Tests and measurements – Part 13-5: Mechanical operation tests – Test 13e: Polarizing and keying method*

IEC 60512-15-1, *Connectors for electronic equipment – Tests and measurements – Part 15-1: Connector tests (mechanical) – Test 15a: Contact retention in insert*

IEC 60512-15-6, *Connectors for electronic equipment – Tests and measurements – Part 15-6: Connector tests (mechanical) – Test 15f: Effectiveness of connector coupling devices*

IEC 60512-15-7, *Connectors for electronic equipment – Tests and measurements – Part 15-7: Connector tests (mechanical) – Test 15g: Robustness of protective cover attachment*

IEC 60512-16-5, *Connectors for electronic equipment – Tests and measurements – Part 16-5: Mechanical tests on contacts and terminations – Test 16e: Gauge retention force (resilient contacts)*

IEC 60512-26-100, *Connectors for electronic equipment – Tests and measurements – Part 26-100: Measurement setup, test and reference arrangements and measurements for connectors according to IEC 60603-7 – Tests 26a to 26g*

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

IEC 60529:1989/AMD1:1999

IEC 60529:1989/AMD2:2013

IEC 60999-1:1999, *Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units – Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm² up to 35 mm² (included)*

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

IEC 61984:2008, *Connectors – Safety requirements and tests*

IEC 62197-1:2006, *Connectors for electronic equipment – Quality assessment requirements – Part 1: Generic specification*

IEC 62430:2009, *Environmentally conscious design for electrical and electronic products*

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

ISO 128 (all parts), *Technical drawings – General principles of presentation*

ISO 1101:2017, *Geometrical product specifications (GPS) – Geometrical tolerancing – Tolerances of form, orientation, location and run-out*

ISO 1302:2002, *Geometrical Product Specifications (GPS) – Indication of surface texture in technical product documentation*

ISO 11469:2016, *Plastics – Generic identification and marking of plastic products*