

INTERNATIONAL STANDARD

**Connectors for electrical and electronic equipment –
Part 6: Detail specification for 2-way and 4-way (data/power), shielded, free and
fixed connectors for power and data transmission with frequencies up to
600 MHz**





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INTERNATIONAL ELECTROTECHNICAL COMMISSION

CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT –**Part 6: Detail specification for 2-way and 4-way (data/power),
shielded, free and fixed connectors for power and data
transmission with frequencies up to 600 MHz**

FOREWORD

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This International Standard IEC 63171-6 has been prepared by subcommittee 48B: Electrical connectors, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment.

This second edition cancels and replaces the first edition published in 2020. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) Mating conditions changed, see Figure 2, Figure 4, Figure 13, Figure 15, Figure 19 and Figure 21.
- b) Voltage proof requirement added, 2 250 V DC, see 5.7.2.
- c) Mechanical shock requirement added, see 5.7.6 (the requirement itself already was specified indirectly by Ed1 due to the specification of the test EP3 of Table 14 which is still identical to Ed1).

d) Styles added, 6P-M8CI and 6J-M8CI, see Table 1.

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

FDIS	Report on voting
48B/2907/FDIS	48B/2917/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

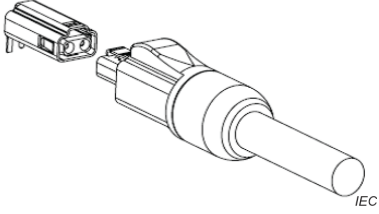
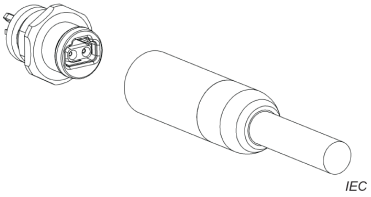
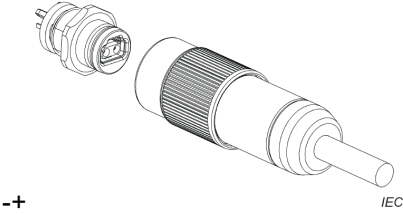
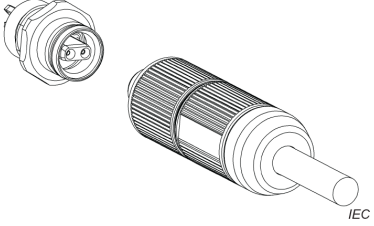
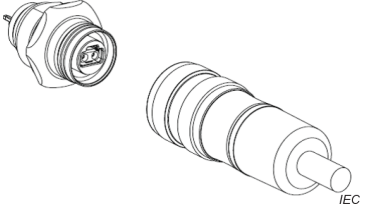
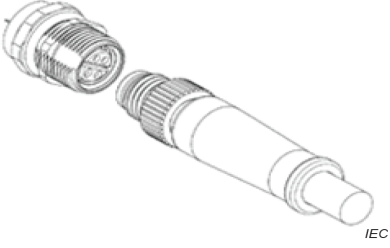
The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all parts in the IEC 63171 series, published under the general title *Connectors for electrical and electronic equipment*, 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 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.

IEC SC 48B – Electrical connectors Specification available from: IEC General secretariat or from the addresses shown on the inside cover.	IEC 63171-6 Ed. 2
DETAIL SPECIFICATION in accordance with IEC 61076-1	
	2-way data IP20, latch locking
	2-way data IP65/IP67, snap-in locking
	2-way data IP65/IP67, push-pull locking
	2-way data IP65/IP67, M8 screw locking
	2-way data IP65/IP67, M12 screw locking or push-pull locking (or both)
	4-way (2 power + 2 data) IP65/IP67, M8 screw locking

CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT –

Part 6: Detail specification for 2-way and 4-way (data/power), shielded, free and fixed connectors for power and data transmission with frequencies up to 600 MHz

1 Scope

This document 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.

NOTE 1 This 63171-6 document is not fully harmonized with the content and structure of IEC 63171. There are several specifications in both documents which are overlapping. In any case the provisions within this document prevail.

NOTE 2 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 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 (IEV) – Part 581: Electromechanical components for electronic equipment*

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

IEC 60068-2-14, *Environmental testing – Part 2-14: Tests – Test N: Change of temperature*

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

IEC 60352 (all parts), *Solderless connections*

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

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*