

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



Connectors for electrical and electronic equipment – Product requirements –  
**Part 3-104: Detail specification for 8-way, shielded free and fixed connectors for  
data transmissions with frequencies up to 2 000 MHz**

Connecteurs pour équipements électriques et électroniques – Exigences de  
produit –

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Partie 3-104: Spécification particulière pour les fiches et les embases écranées  
à 8 voies pour la transmission de données à des fréquences jusqu'à 2 000 MHz





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IEC 61076-3-104

Edition 3.0 2017-05

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[IEC 61076-3-104:2017](#)

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ICS 33.120.10

ISBN 978-2-8322-8534-3

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT –  
PRODUCT REQUIREMENTS –****Part 3-104: Detail specification for 8-way, shielded free and fixed  
connectors for data transmissions with frequencies up to 2 000 MHz****FOREWORD**

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International Standard IEC 61076-3-104 has been prepared by subcommittee 48B: Electrical connectors, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment.

This third edition of IEC 61076-3-104 cancels and replaces the second edition, published in 2006, and constitutes a technical revision.

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

- a) the title has been changed to incorporate transmissions with frequencies up to 2 000 MHz;
- b) the drawings of some styles have been corrected for clarification;
- c) Figures 23 and 24 have been updated;

- d) Figure 3 has been updated to include reference dimensions and dimensional format changes;
- e) the dimensions of Figure 7 have been updated;
- f) the type designation and ordering information has been removed for consistency with the most updated sectional specification;
- g) the test schedule was updated to include appropriate IEC 60512 Test Nos;
- h) the electrical performance requirements have been revised for 2 GHz level;
- i) interchangeability information has been added for performance categories.

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

FDIS	Report on voting
48B/2560/FDIS	48B/2565/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.

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## CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

### Part 3-104: Detail specification for 8-way, shielded free and fixed connectors for data transmissions with frequencies up to 2 000 MHz

#### 1 Scope

This part of IEC 61076 establishes uniform specifications, type testing requirements for 8-way, shielded free and fixed connectors for data transmissions with frequencies up to 2 000 MHz, and used as category 7<sub>A</sub> connectors in class F<sub>A</sub> cabling systems specified in ISO/IEC 11801-1. It contains all test methods and sequences, severity and preferred values for dimensions and characteristics.

#### 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.

### This STANDARD PREVIEW

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

[IEC 61076-3-104:2017](#)

IEC 60068-1, *Environmental testing – Part 1: General and guidance* 968b2c4a44e7/iec-61076-3-104-2017

IEC 60169-15, *Radio-frequency connectors – Part 15: R.F. coaxial connectors with inner diameter of outer conductor 4.13 mm (0.163 in) with screw coupling – Character impedance 50 ohms (Type SMA)*

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

IEC 60352-3, *Solderless connections – Part 3: Solderless accessible insulation displacement connections – General requirements, test methods and practical guidance*

IEC 60352-4, *Solderless connections – Part 4: Solderless non-accessible insulation displacement 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 60352-6, *Solderless connections – Part 6: Insulation piercing connections – General requirements, test methods and practical guidance*

IEC 60352-7, *Solderless connections – Part 7: Spring clamp 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 60512-2-5, Connectors for electronic equipment – Tests and measurements – Part 2-5: Electrical continuity and contact resistance tests – Test 2e: Contact disturbance

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 60512-6-4, 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 60512-9-2, Connectors for electronic equipment – Tests and measurements – Part 9-2: Endurance tests – Test 9b: Electrical load and temperature

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

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

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

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 60512-26-100, 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 – Test 26a to 26g

IEC 60512-28-100, Connectors for electronic equipment – Tests and measurements – Part 28-100: Signal integrity tests up to 1 000 MHz on IEC 60603-7 and IEC 61076-3 series connectors – Test 28a to 28g

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

IEC 61156 (all parts), Multicore and symmetrical pair/quad cables for digital communications

IEC 61156-2, Multicore and symmetrical pair/quad cables for digital communications – Part 2: Symmetrical pair/quad cables with transmission characteristics up to 100 MHz – Horizontal floor wiring – Sectional specification

IEC 61156-3, *Multicore and symmetrical pair/quad cables for digital communications – Part 3: Work area cable – Sectional specification*

IEC 61156-4, *Multicore and symmetrical pair/quad cables for digital communications – Part 4: Riser cables – Sectional specification*

IEC 61156-5, *Multicore and symmetrical pair/quad cables for digital communications – Part 5: Symmetrical pair/quad cables with transmission characteristics up to 1 000 MHz – Horizontal floor wiring – Sectional specification*

IEC 61156-6, *Multicore and symmetrical pair/quad cables for digital communications – Part 6: Symmetrical pair/quad cables with transmission characteristics up to 1 000 MHz – Work area wiring – Sectional specification*

IEC 61156-7, *Multicore and symmetrical pair/quad cables for digital communications – Part 7: Symmetrical pair cables with transmission characteristics up to 1 200 MHz – Sectional specification for digital and analog communication cables*

IEC 61156-9, *Multicore and symmetrical pair/quad cables for digital communications – Part 9: Cables for channels with transmission characteristics up to 2 GHz – Sectional specification*

IEC 61156-10, *Multicore and symmetrical pair/quad cables for digital communications – Part 10: Cables for cords with transmission characteristics up to 2 GHz – Sectional specification*

## iTeh STANDARD PREVIEW

IEC 62153-4-12, *Metallic communication cable test methods – Part 4-12: Electromagnetic compatibility (EMC) – Coupling attenuation or screening attenuation of connecting hardware – Absorbing clamp method*

[IEC 61076-3-104:2017](#)

ISO/IEC 11801-11, *Information technology – Generic cabling for customer premises – Part 1: General requirements*

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

Recommendation ITU-T K.44:2012, *Resistibility test for telecommunication equipment exposed to overvoltages and overcurrents – Basic recommendation*

EN 50289-1-14, *Communication cables – Specifications for test methods – Part 1-14: Electrical test methods – Coupling attenuation or screening attenuation of connecting hardware*

## 3 Technical information

### 3.1 Terms and definitions

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

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

- IEC Electropedia: available at <http://www.electropedia.org/>

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<sup>1</sup> To be published.