

STN	Konektory pre elektronické zariadenia Požiadavky na výrobok Časť 3-104: Podrobná špecifikácia pre 8-pólové tínené voľné i pevné konektory na prenos dát s frekvenciou do 2 000 MHz	STN EN 61076-3-104 35 4621
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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

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 01/18

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EUROPEAN STANDARD

EN 61076-3-104

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English Version

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
(IEC 61076-3-104:2017)

Connecteurs pour équipements électriques et électroniques -
Exigences de produit - Partie 3-104: Spécification particulière
pour les fiches et les embases écrantées à 8 voies
pour la transmission de données à des fréquences
jusqu'à 2 000 MHz
(IEC 61076-3-104:2017)

Steckverbinder für elektrische und elektronische
Einrichtungen - Produktanforderungen - Teil 3-104:
Bauartspezifikation für geschirmte freie und feste
Steckverbinder, 8-polig, für Datenübertragungen
bis 2 000 MHz
(IEC 61076-3-104:2017)

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Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

European foreword

The text of document 48B/2560/FDIS, future edition 3 of IEC 61076-3-104, prepared by SC 48B "Electrical connectors", of IEC/TC 48 "Electrical connectors and mechanical structures for electrical and electronic equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61076-3-104:2017.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2018-03-29
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2020-09-29

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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60068-2-38	NOTE	Harmonized as EN 60068-2-38.
IEC 60512-25-9	NOTE	Harmonized as EN 60512-25-9.
IEC 60603-7	NOTE	Harmonized as EN 60603-7.
IEC 61196	NOTE	Harmonized in EN 61196 series.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
-	-	Communication cables - Specifications for test methods - Part 1-14: Electrical test methods - Coupling attenuation or screening attenuation of connecting hardware	EN 50289-1-14	-
IEC 60050-581	-	International Electrotechnical Vocabulary - Part 581: Electromechanical components for electronic equipment	-	-
IEC 60068-1	-	Environmental testing - Part 1: General and guidance	EN 60068-1	-
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 - Characteristic impedance 50 ohms (Type SMA)	-	-
IEC 60352-2	-	Solderless connections - Part 2: Crimped connections - General requirements, test methods and practical guidance	EN 60352-2	-
IEC 60352-3	-	Solderless connections - Part 3: Solderless accessible insulation displacement connections - General requirements, test methods and practical guidance	EN 60352-3	-
IEC 60352-4	-	Solderless connections - Part 4: Solderless non-accessible insulation displacement connections - General requirements, test methods and practical guidance	EN 60352-4	-

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60352-5	-	Solderless connections - Part 5: Press-in connections - General requirements, test methods and practical guidance	EN 60352-5	-
IEC 60352-6	-	Solderless connections - Part 6: Insulation piercing connections - General requirements, test methods and practical guidance	EN 60352-6	-
IEC 60352-7	-	Solderless connections - Part 7: Spring clamp connections - General requirements, test methods and practical guidance	EN 60352-7	-
IEC 60512-1-1	-	Connectors for electronic equipment - Tests and measurements - Part 1-1: General examination - Test 1a: Visual examination	EN 60512-1-1	-
IEC 60512-1-2	-	Connectors for electronic equipment - Tests and measurements - Part 1-2: General examination - Test 1b: Examination of dimension and mass	EN 60512-1-2	-
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	EN 60512-2-1	-
IEC 60512-2-5	-	Connectors for electronic equipment - Tests and measurements - Part 2-5: Electrical continuity and contact resistance tests - Test 2e: Contact disturbance	EN 60512-2-5	-
IEC 60512-3-1	-	Connectors for electronic equipment - Tests and measurements - Part 3-1: Insulation tests - Test 3a: Insulation resistance	EN 60512-3-1	-
IEC 60512-4-1	-	Connectors for electronic equipment - Tests and measurements - Part 4-1: Voltage stress tests - Test 4a: Voltage proof	EN 60512-4-1	-
IEC 60512-6-4	-	Connectors for electronic equipment - Tests and measurements - Part 6-4: Dynamic stress tests - Test 6d: Vibration (sinusoidal)	EN 60512-6-4	-
IEC 60512-9-1	-	Connectors for electronic equipment - Tests and measurements - Part 9-1: Endurance tests - Test 9a: Mechanical operation	EN 60512-9-1	-
IEC 60512-9-2	-	Connectors for electronic equipment - Tests and measurements - Part 9-2: Endurance tests - Test 9b: Electrical load and temperature	EN 60512-9-2	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60512-11-4	-	Connectors for electronic equipment - Tests and measurements - Part 11-4: Climatic tests - Test 11d: Rapid change of temperature	EN 60512-11-4	-
IEC 60512-11-7	-	Connectors for electronic equipment - Tests and measurements - Part 11- 7: Climatic tests - Test 11g: Flowing mixed gas corrosion test	EN 60512-11-7	-
IEC 60512-13-2	-	Connectors for electronic equipment - Tests and measurements - Part 13-2: Mechanical operating tests - Test 13b: Insertion and withdrawal forces	EN 60512-13-2	-
IEC 60512-15-6	-	Connectors for electronic equipment - Tests and measurements - Part 15-6: Connector tests (mechanical) - Test 15f: Effectiveness of connector coupling devices	EN 60512-15-6	-
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	EN 60512-26-100	-
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 - Tests 28a to 28g	EN 60512-28-100	-
IEC 61076-1	2006	Connectors for electronic equipment - Product requirements - Part 1: Generic specification	EN 61076-1	2006
IEC 61076-3	2008	Connectors for electronic equipment - Product requirements - Part 3: Rectangular connectors - Sectional specification	EN 61076-3	2008
IEC 61156	series	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	-	-

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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 1000 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	-	-
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	-	-
ISO 1302	-	Geometrical Product Specifications (GPS) - Indication of surface texture in technical product documentation	EN ISO 1302	-
ISO/IEC 11801-1	-	Information technology - Generic cabling for customer premises - Part 1: General requirements	-	-
ITU-T Recommendation K.44	2012	Resistibility tests for telecommunication equipment exposed to overvoltages and overcurrents - Basic Recommendation	-	-



INTERNATIONAL STANDARD



**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**





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IEC Central Office
 3, rue de Varembe
 CH-1211 Geneva 20
 Switzerland

Tel.: +41 22 919 02 11
 Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch

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data transmissions with frequencies up to 2 000 MHz**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**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**

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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.

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

A list of all parts of 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.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

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 4.2.2 and 4.2.4.

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.

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Siemon Business Park
101 Siemon Company Drive
Watertown, CT 06795-0400
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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_A connectors in class F_A 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.

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

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

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*

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*

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*

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*

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