
**Konektorji za elektronsko opremo - 3-104. del: Pravokotni konektorji -
Podrobna specifikacija za 8-redne, zaslonjene proste in pritrjene konektorje
za prenos podatkov s frekvencami do vsaj 600 MHz (IEC 61076-3-104:2003)**

Connectors for electronic equipment - Part 3-104: Rectangular connectors - Detail
specification for 8-way, shielded free and fixed connectors for data transmissions
with frequencies up to 600 MHz minimum (IEC 61076-3-104:2003)

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English version

**Connectors for electronic equipment
Part 3-104: Rectangular connectors -
Detail specification for 8-way, shielded free and fixed connectors
for data transmissions with frequencies up to 600 MHz minimum
(IEC 61076-3-104:2003)**

Connecteurs pour équipements
électroniques

Partie 3-104 : Connecteurs rectangulaires -

Spécification particulière

pour connecteurs fixes, non blindés,
à 8 voies, pour transmission de données

à des fréquences inférieures

ou égales à 600 MHz

(CEI 61076-3-104:2003)

Steckverbinder für elektronische
Einrichtungen

Teil 3-104: Rechteckige Steckverbinder -

Bauartspezifikation für geschirmte freie

und feste Steckverbinder, 8polig,

für Datenübertragungen bis 600 MHz

(IEC 61076-3-104:2003)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 48B/1303/FDIS, future edition 1 of IEC 61076-3-104, prepared by SC 48B, Connectors, of IEC TC 48, Electromechanical components and mechanical structures for electronic equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61076-3-104 on 2003-07-01.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2004-04-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2006-07-01

The International Electrotechnical Commission (IEC) and CENELEC draw attention to the fact that it is claimed that compliance with this document may involve the use of a patent concerning 8-way shielded free and fixed connectors for data transmissions with frequencies up to 600 MHz minimum.

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

The holder of this patent right has assured the IEC that he/she is willing to negotiate licences under reasonable and non-discriminatory terms and conditions 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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Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights other than those identified above. IEC and CENELEC shall not be held responsible for identifying any or all such patent rights.

Annexes designated "normative" are part of the body of the standard.
In this standard, annexes A to M and ZA are normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61076-3-104:2003 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

**Normative references to international publications
with their corresponding European publications**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-1	- ¹⁾	Environmental testing Part 1: General and guidance	EN 60068-1	1994 ²⁾
IEC 60068-2-6	- ¹⁾	Part 2: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	1995 ²⁾
IEC 60169-16	- ¹⁾	Radio-frequency connectors - Part 16: R.F. coaxial connectors with inner diameter of outer conductor 7 mm (0,276 in) with screw coupling - Characteristic impedance 50 ohms (75 ohms) (Type N)	-	-
IEC 60512	Series	Connectors for electronic equipment - Tests and measurements	EN 60512	Series
IEC 60512-1-100	2001	Part 1-100: General - Applicable publications	EN 60512-1-100	2001
IEC 60603-7	- ¹⁾	Connectors for frequencies below 3 MHz for use with printed boards Part 7: Detail specification for connectors, 8-way, including fixed and free connectors with common mating features, with assessed quality	EN 60603-7	1997 ²⁾
IEC 60664-1	- ¹⁾	Insulation coordination for equipment within low-voltage systems Part 1: Principles, requirements and tests	EN 60664-1	2003 ²⁾

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61076-1	1995	Connectors with assessed quality, for use in d.c., low frequency analogue and in digital high-speed data applications Part 1: Generic specification - Capability approval	EN 61076-1	1995
IEC 61156	Series	Multicore and symmetrical pair/quad cables for digital communications	-	-
IEC 61196	Series	Radio-frequency cables	EN 61196	Series
ISO/IEC 11801	- ¹⁾	Information technology - Generic cabling for customer premises	-	-
ISO 1302	- ¹⁾	Geometrical Product Specifications (GPS) - Indication of surface texture in technical product documentation	EN ISO 1302	2002 ²⁾
ITU-T Recommendation G.117	- ¹⁾	Transmission aspects of unbalance about earth	-	-
ITU-T Recommendation K.20	- ¹⁾	Resistibility of telecommunication equipment installed in a telecommunications centre to overvoltages and overcurrents	-	-
ITU-T Recommendation O.9	- ¹⁾	Measuring arrangements to assess the degree of unbalance about earth	-	-
		Communication cables - Specifications for test methods Part 1-14: Electrical test methods - Coupling attenuation or screening attenuation of connecting hardware	EN 50289-1-14	- ³⁾

³⁾ At draft stage.

INTERNATIONAL STANDARD

IEC 61076-3-104

First edition
2003-04

Connectors for electronic equipment –

Part 3-104:

Rectangular connectors –

Detail specification for 8-way, shielded free

and fixed connectors for data transmissions with frequencies up to 600 MHz minimum (standards.iteh.ai)

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CONNECTORS FOR ELECTRONIC EQUIPMENT –

Part 3-104: Rectangular connectors – Detail specification for 8-way, shielded free and fixed connectors for data transmissions with frequencies up to 600 MHz minimum

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
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- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.

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 8-way shielded free and fixed connectors for data transmissions with frequencies up to 600 MHz minimum.

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 negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with IEC. Information may be obtained from

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

This standard cancels and replaces IEC/PAS 61076-3-104 published in 2002. This first edition constitutes a technical revision.

The text of this standard is based on the following documents:

FDIS	Report on voting
48B/1303/FDIS	48B/1335/RVD

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

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

The committee has decided that the contents of this publication will remain unchanged until 2004. At this date, the publication will be

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

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

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CONNECTORS FOR ELECTRONIC EQUIPMENT –

Part 3-104: Rectangular connectors – Detail specification for 8-way, shielded free and fixed connectors for data transmissions with frequencies up to 600 MHz minimum

1 General

1.1 Scope

This part of IEC 61076 establishes uniform specifications, type testing requirements and quality assessment procedures for 8-way connectors, with up to 4 pairs, for frequencies up to 600 MHz minimum, and intended to be used at different locations within cabling for information and communications technology, home entertainment and multimedia. It contains a choice of all test methods and sequences, severity and preferred values for dimensions and characteristics.

1.2 Normative references

The following referenced documents are indispensable for the application 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 60068-1, *Environmental testing – Part 1: General and guidance*

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IEC 60068-2-6, *Environmental testing – Part 2: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60169-16, *Radio-frequency connectors. Part 16: R.F. coaxial connectors with inner diameter of outer conductor 7 mm (0.276 in) with screw coupling – Characteristic impedance 50 ohms (75 ohms) (Type N)*

IEC 60512 (all parts), *Connectors for electronic equipment – Tests and measurements*

IEC 60512-1-100:2001, *Connectors for electronic equipment – Tests and measurements – Part 1-100: General – Applicable publications*

IEC 60603-7, *Connectors for frequencies below 3 MHz for use with printed boards – Part 7: Detail specification for connectors, 8-way, including fixed and free connectors with common mating features, with assessed quality*

IEC 60664-1, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 61076-1:1995, *Connectors with assessed quality, for use in d.c., low frequency analogue applications and in digital high speed data application – Part 1: Generic specification – Capability approval*

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

IEC 61196 (all parts), *Radio-frequency cables*

ISO/IEC 11801, *Information technology – Generic cabling for customer premises*

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

ITU-T G.117, *Transmission aspects of unbalance about earth*

ITU-T K.20, *Resistibility of telecommunication equipment installed in a telecommunications centre to overvoltages and overcurrents*

ITU-T O.9, *Measuring arrangements to assess the degree of unbalance about earth*

CENELEC EN 50289-1-14, *Basic reference standard for communication cables – Specification – Part 1-14 Electrical test methods – Coupling attenuation or screening attenuation of connecting hardware*

2 Marking Information

2.1 IEC type designation

Connectors, connector bodies and connectors with pre-inserted contacts according to this standard shall be designated by the following system.

Connectors conforming to this standard shall be identified by the following indications and in the order given:

- the letters “IEC”;
- the number denoting this detail specification;
- the number of the detail specification (without dashes), being nine characters (e.g. IEC 61076-3-104_B08_FS-G101-1 Shielded connector, fixed version B, having 8 female contacts, solder termination, board mount);
- a letter denoting the style of the connector (the system shall be specified in the detail specification).

2.2 Marking

Each connector and its associated package shall be marked in accordance with the requirements specified in 2.6 of IEC 61076-1.

2.3 Groups of related connectors

Groups of connectors within a subfamily having common features. Typical examples are of the same type and range but of a different style. A group of related connectors is covered by a single detail specification.

- **type**: connectors within a particular subfamily such as a multicontact connector with one, two or four pairs;
- **range**: the housing (shell) sizes and contacts arrangements within a type. For example a housing containing one, two or four pairs;
- **style**: a particular connector within a type, for example fixed panel, PCB or free connector;
- **variant**: variations within a type, style or range.

2.4 Interchangeability level

These connectors shall be fully interchangeable and intermateable. The mechanical and electrical characteristics shall be met whatever is the source of the connector. Moreover, it is desirable that the mechanical and electrical compatibility with lower performance connecting hardware as defined in ISO/IEC 11801 and IEC 60603-7 is ensured when connected to this connector.

This can be achieved through the use of an adapter cord. Elements of connecting hardware, for example plugs, sockets that terminate more than one cable are permitted.

The plug/socket interface may be constructed so as to permit the use of multiple modules, for example 2 × 2 pairs or 4 × 1 pair plugs mated directly with a single 4 pairs socket.

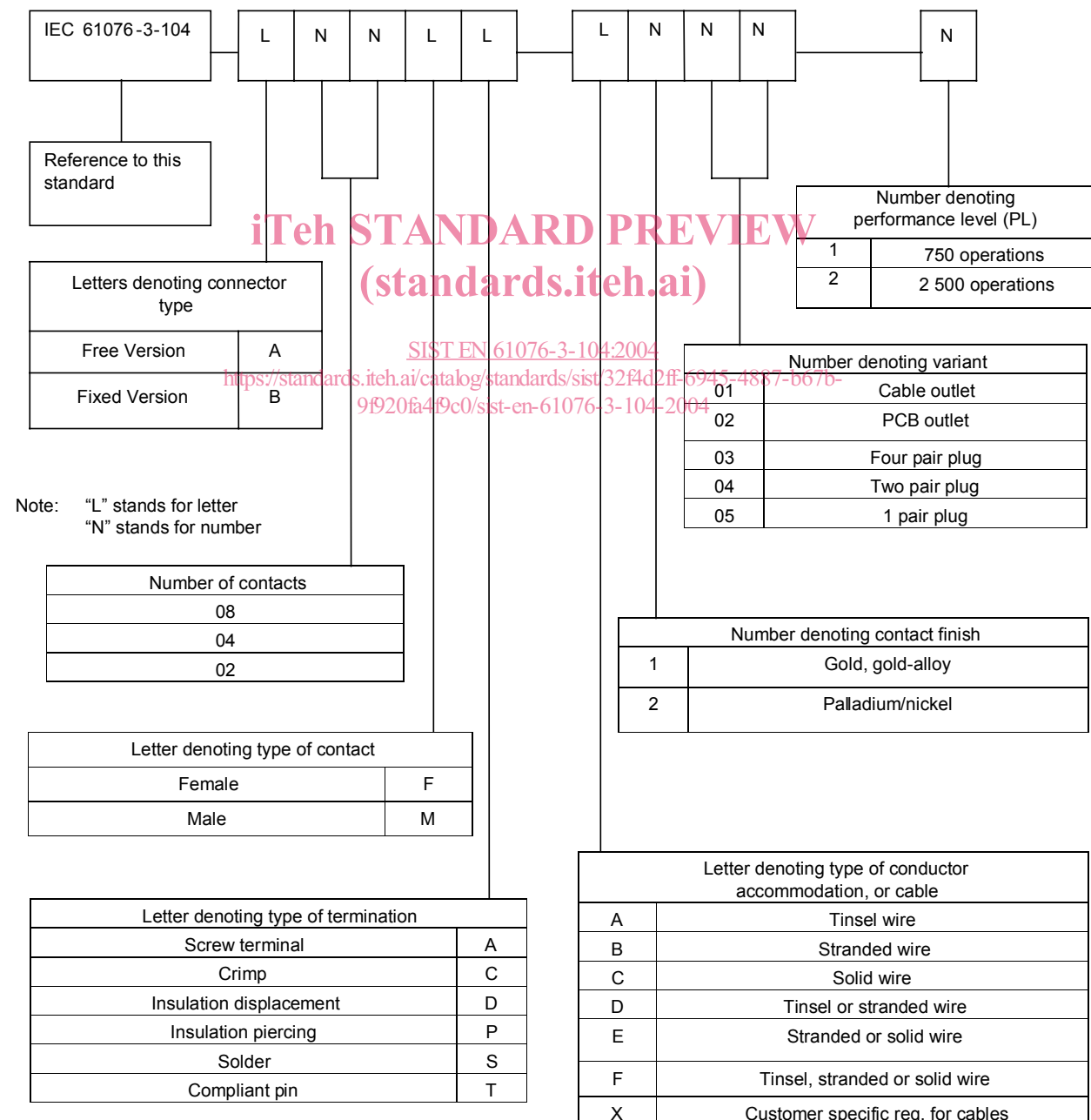


Figure 1 – IEC type designation