

Connectors for electronic equipment —

**Part 4-107: Printed board connectors
with assessed quality — Detail
specification for shielded two-part
connectors having a basic grid of
2,0 mm, fixed part with solder and
press-in terminations for printed
boards, free part with non-accessible
insulation displacement and crimp
terminations**

The European Standard EN 61076-4-107:2001 has the status of a
British Standard

ICS 31.220.10; 31.180

National foreword

This British Standard is the official English language version of EN 61076-4-107:2001. It is identical with IEC 61076-4-107:2001.

The UK participation in its preparation was entrusted by Technical Committee EPL/48, Connectors for electronic equipment, to Subcommittee EPL/48/2, Electromechanical components for electronic equipment, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

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Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

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This British Standard, having been prepared under the direction of the Electrotechnical Sector Policy and Strategy Committee, was published under the authority of the Standards Policy and Strategy Committee on 26 November 2001

Summary of pages

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Connectors for electronic equipment
Part 4-107: Printed board connectors with assessed quality -
Detail specification for shielded two-part connectors having
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non-accessible insulation displacement and crimp terminations
(IEC 61076-4-107:2001)

Connecteurs pour équipements
électroniques
Partie 4-107: Connecteurs pour cartes
imprimées sous assurance de la qualité –
Spécification particulière pour les
connecteurs blindés en deux parties, au
pas de base de 2,0 mm, partie fixe avec
sorties soudées et CIF pour cartes
imprimées, partie mobile avec sorties
autodénudantes et serties
(CEI 61076-4-107:2001)

Steckverbinder für elektronische
Einrichtungen
Teil 4-107: Steckverbinder für gedruckte
Schaltungen mit bewerteter Qualität -
Bauartspezifikation für geschirmte indirekte
Steckverbinder im Raster 2,0 mm, freie
Teile mit Löt- und Einpressanschlüssen für
Leiterplatten, feste Teile mit
nichtzugänglichen Schneidklemm- und
Crimpanschlüssen
(IEC 61076-4-107:2001)

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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.

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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/1066/FDIS, future edition 1 of IEC 61076-4-107, 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 61076-4-107 on 2001-10-01.

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) 2002-07-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2004-10-01

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annexes A and ZA are normative.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61076-4-107:2001 was approved by CENELEC as a European Standard without any modification.

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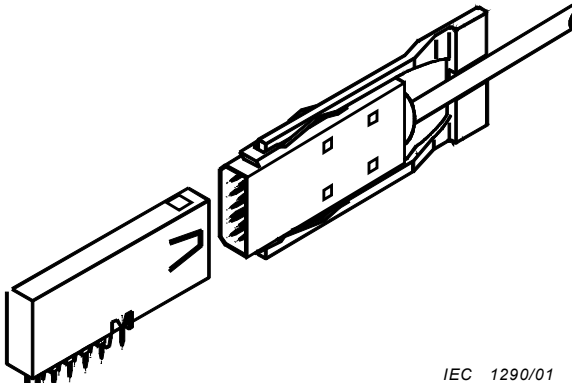
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CONNECTORS FOR ELECTRONIC EQUIPMENT –

Part 4-107: Printed board connectors with assessed quality – Detail specification for shielded two-part connectors having a basic grid of 2,0 mm, fixed part with solder and press-in terminations for printed boards, free part with non-accessible insulation displacement and crimp terminations

IEC SC 48B: CONNECTORS Specification available from: IEC Central Office or from the addresses shown on the inside cover [Electronic components of assessed quality] DETAIL SPECIFICATION in accordance with IEC 61076-1:1995	IEC 61076-4-107 QC 480301XX0008 Blank detail specification: IEC 61076-4-001:1996
 IEC 1290/01	Rectangular printed board connector for solder and press-in terminations; cable-to-board connector for insulation displacement and crimp terminations Two coaxial or 10 standard contacts Terminations: solder, press-in, insulation displacement, crimp Performance levels (PL): 1 Assessment levels: B and G* Combinations of performance and assessment levels: Climatic categories: see 4.1 Electrical characteristics: see 4.2 Mechanical characteristics: see 4.3 Ordering information: see 1.6
* See 6.2.	

1 General data

1.1 Recommended method of mounting

A connector pair consists of one fixed board connector and one free connector module. Both modules are completely shielded in order to fulfil future EMC requirements.

Fixed board connector modules are mounted on the edge of the printed board and have female contacts with solder or press-in terminations.

Free connector modules are mounted on cables and have male contacts with insulation displacement terminations for standard contacts and crimp terminations for coaxial contacts.

1.2 Ratings and characteristics

Rated voltage: contact/contact 50 V

Current rating: 1,5 A at 70 °C (all contacts)

Insulation resistance: 10⁴ MΩ

Climatic category: 25/125/04

Printed board hole diameter: for connector with standard contacts:
plated-through hole 0,6 mm min.
for connector with coaxial contacts:
plated-through hole 1,0 mm according to IEC 60352-5

Grid layout: contact spacing: 2 mm
row z of the front panel is in line with the datum
lane of the printed board
termination row a on the printed board lies 4 mm from
the edge and 6,5 mm from the front panel

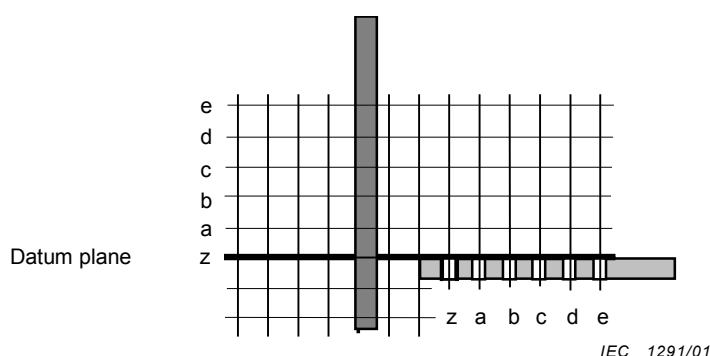


Figure 1 – Grid layout for 2 mm connector module

1.3 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 61076. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 61076 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60068-1:1988, *Environmental testing – Part 1: General and guidance*

IEC 60352-2:1990, *Solderless connections – Part 2: Solderless crimped connections – General requirements, test methods and practical guidance*
Amendment 1 (1996)

IEC 60352-3:1993, *Solderless connections – Part 3: Solderless accessible insulation displacement connections – General requirements, test methods and practical guidance*

IEC 60352-4:1994, *Solderless connections – Part 4: Solderless non-accessible insulation displacement connections – General requirements, test methods and practical guidance*

IEC 60352-5:2001, *Solderless connections – Part 5: Solderless press-in connections – General requirements, test methods and practical guidance*

IEC 60410:1973, *Sampling plans and procedures for inspections by attributes*

IEC 60512-2:1985, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods – Part 2: General examination, electrical continuity and contact resistance tests, insulation tests and voltage stress tests*
Amendment 1 (1994)

IEC 60512-3:1976, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods – Part 3: Current-carrying capacity tests*

IEC 60512-4:1976, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods – Part 4: Dynamic stress tests*

IEC 60512-5:1992, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods – Part 5: Impact tests (free components), static load tests (fixed components), endurance tests and overload tests*

IEC 60512-7:1993, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods – Part 7: Mechanical operating tests and sealing tests*

IEC 60512-8:1993, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods – Part 8: Connector tests (mechanical) and mechanical tests on contacts and terminations*

IEC 60512-9:1992, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods – Part 9: Miscellaneous tests*

IEC 60512-11-7:1996, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods – Part 11: Climatic tests – Section 7: Test 11g: Flowing mixed gas corrosion test*

IEC 60603-1:1991, *Connectors for frequencies below 3 MHz for use with printed boards – Part 1: Generic specification – General requirements and guide for the preparation of detail specifications, with assessed quality*

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*

IEC 61076-4:1995, *Connectors with assessed quality, for use in d.c., low-frequency analogue and in digital high speed data applications – Part 4: Printed board connectors*

IEC 61076-4-001:1996, *Connectors with assessed quality, for use in d.c., low-frequency analogue and in digital high speed data applications – Part 4: Printed board connectors – Section 001: Blank detail specification*

IEC QC 001002-3:1998, *IEC Quality Assessment System for Electronic Components (IECQ) – Rules of Procedure – Part 3: Approval procedures*

ISO 1302:1992, *Technical drawings – Method of indicating surface texture*

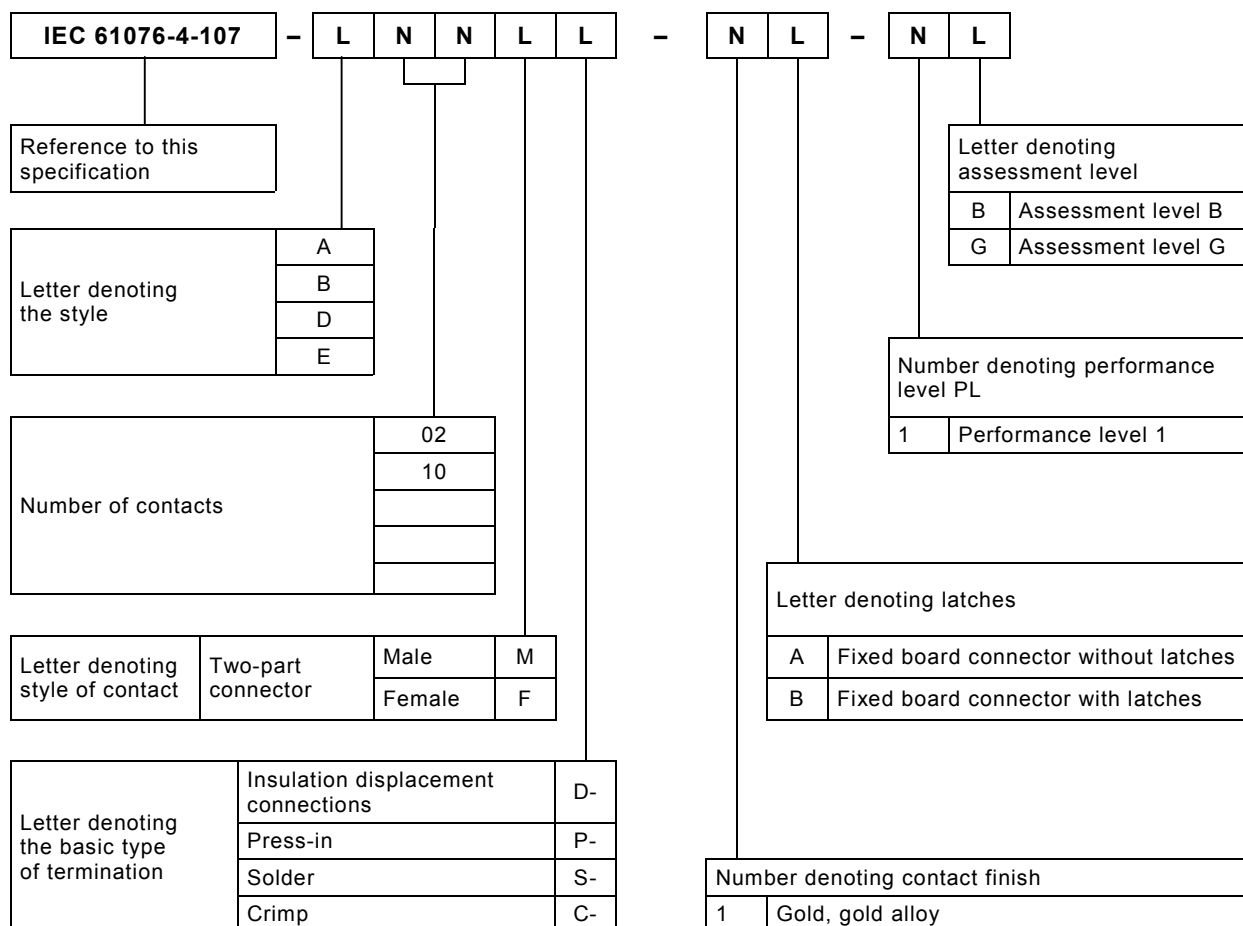
1.4 Marking

The marking of the connector and package shall be in accordance with 2.6 of IEC 61076-4.

1.5 IEC type designation

The designation shall be in accordance with 2.5 of IEC 61076-4.

Connectors, fixed (board-mounted) and free, with and without strain reliefs and latches according to this standard shall be designated by the following system.



NOTE L = Letter
N = Number

1.6 Ordering information

For ordering the connectors according to this detail specification, the type designation described in 1.5 shall be used.

Example – Connector style B; having 10 male contacts, gold-finished with press-in terminations. Fixed board connector without latches, with performance level 1 and assessment level G:

IEC 61076-4-107-B10MP-1A-1G

2 Technical information

2.1 Definitions

The terminology used in, and applicable to, this specification is stated in 2.1 of IEC 61076-1.

2.2 Survey of styles and variants

Table 1 – Styles and variants

	With standard contacts	With coaxial contacts
Fixed board connector	A	B
Free cable connector	D	E

2.3 Information on application

This specification features a modular system of several styles conforming to table 1. These styles contain modules for signal contacts and coaxial contacts. The modules have a basic length of maximum 6 mm. Every style of module has all the features of a complete connector and can be used on its own.

A polarization system is included in each module.

A range of printed board dimensions can be applied conforming to the termination types of table 2.

2.3.1 Complete connectors (pairs)

All styles of modules can be stacked in a 6 mm pitch due to uniform outside dimensions.

Information on the contact arrangement (see 3.4.1) and the contact sequencing (see 3.5.1.1) should be taken into account.

2.3.2 Fixed board connectors

Fixed board connector modules can only be mounted one way into the printed board.

Connectors with standard contacts (style A) have location pegs, which are a part of the plastic module housing. Corresponding holes in the printed board align the modules and provide mechanical attachment to the printed board during the soldering process. This design protects the contacts against stress during mating.

2.3.3 Free board connectors

Free cable connector modules are provided with a positive latch mechanism to prevent free cable connectors from unmating by vibration or being inadvertently unplugged.

For dimensional information, see 3.8.1.

2.3.4 Accessories

2.3.4.1 Special contacts

Connector modules of several styles may be fitted with special contacts (high current, high voltage).

2.3.4.2 Coding devices

Not applicable.

2.3.4.3 Contact arrangements

Not applicable.

2.3.5 Shielding/grounding

With regard to their possible use in high speed data applications, all connector modules are completely shielded.

In case of extremely high EMI requirements of a complete system, additional EMI accessories can be used.

2.3.6 Basic types of terminations

The basic types of terminations are listed in table 2. Dimensional information is given in 3.4.2 for fixed board connector modules.

Table 2 – Basic types of terminations

Denoting letter	Type of termination
D	Insulation displacement (free connector only)
P	Press-in (fixed board connector only)
S	Solder (fixed board connector only)
C	Crimp (free connector only)

3 Dimensional information

In order to facilitate comparison of various specifications, a uniform presentation of drawing information is used, as stated in clause 3 of IEC 61076-4-001.

3.1 General

Original dimensions are in millimetres. Drawings are shown in first-angle projection.

The shape of the connectors may deviate from those given in the following drawings as long as the specified dimensions are not influenced.

This clause contains all dimensional information.

3.2 Isometric view and common features

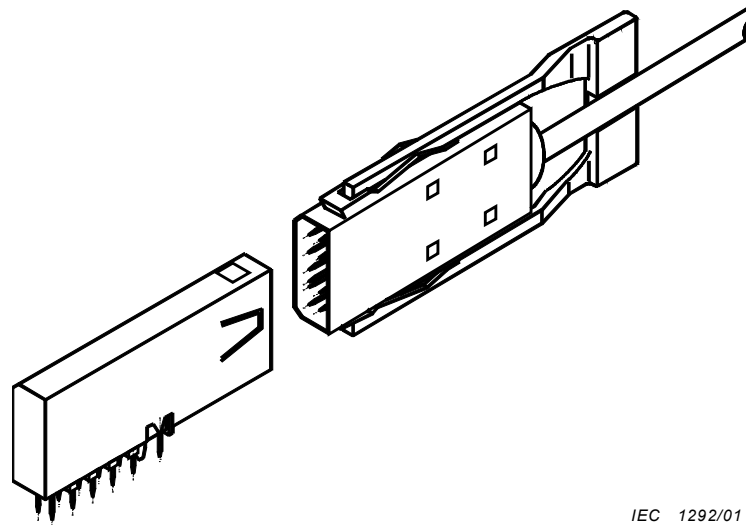
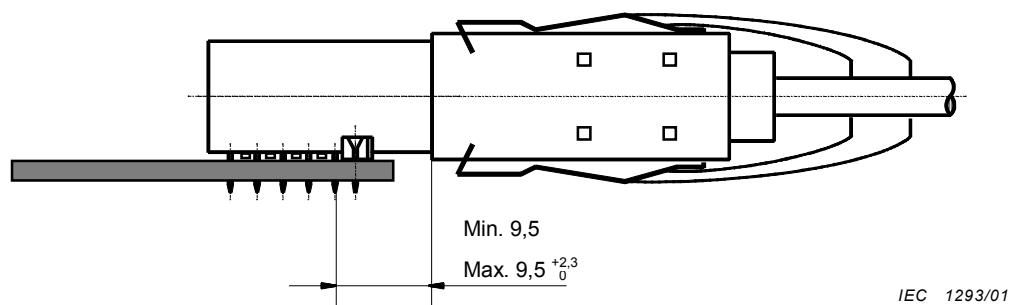


Figure 2 – Isometric view

3.3 Engagement (mating) information



Dimensions in millimetres

Figure 3 – Electrical engagement length