

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 102: Detail specification for
two-part single-pole connectors, for
multiple uses on plug-in units, with
pre-centring, coding and early mating
features, having a metric grid in
accordance with IEC 60917**

The European Standard EN 61076-4-102:1997 has the status of a
British Standard

ICS 31.220.10

National foreword

This British Standard is the English language version of EN 61076-4-102:1997. It is identical with IEC 61076-4-102:1997.

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

- aid enquirers to understand the text;
- present to the responsible international/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.

From 1 January 1997, all IEC publications have the number 60000 added to the old number. For instance, IEC 27-1 has been renumbered as IEC 60027-1. For a period of time during the change over from one numbering system to the other, publications may contain identifiers from both systems.

Cross-references

Attention is drawn to the fact that CEN and CENELEC Standards normally include an annex which lists normative references to international publications with their corresponding European publications. The British Standards which implement these international or European publications 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.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 38, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

This British Standard, having been prepared under the direction of the Electrotechnical Sector Board, was published under the authority of the Standards Board and comes into effect on 15 October 1997

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(IEC 61076-4-102:1997)

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Steckverbinder mit bewerteter Qualität für Gleichspannungs- und Niederfrequenzanwendungen sowie digitale Anwendungen mit hoher Übertragungsrate
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This European Standard was approved by CENELEC on 1997-03-11. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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/509/FDIS, future edition 1 of IEC 61076-4-102, 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 61076-4-102 on 1997-03-11.

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) 1998-01-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1998-01-01

Annexes designated “normative” are part of the body of the standard.

In this standard, Annex ZA is normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61076-4-102:1997 was approved by CENELEC as a European Standard without any modification.

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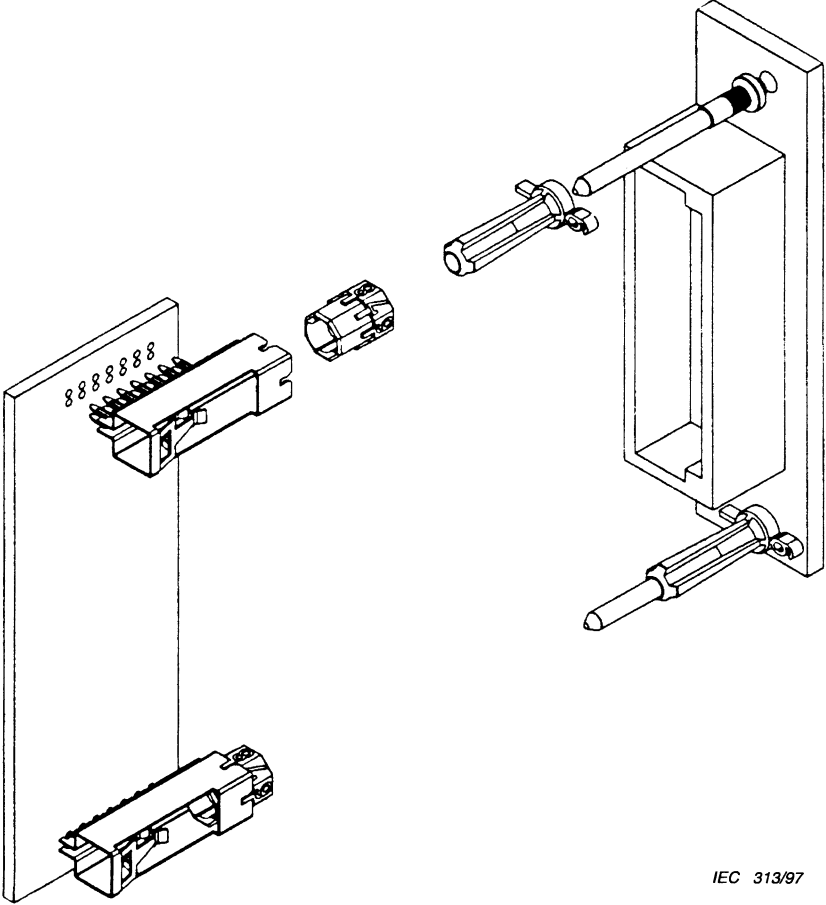
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IEC SC 48B — Connectors Specification available from: IEC Central Office ELECTRONIC COMPONENTS OF ASSESSED QUALITY DETAIL SPECIFICATION in accordance with IEC 61076-1	IEC 61076-4-102 QC 480301XX0003
 IEC 313/97	Two-part single-pole connectors for multiple uses on plug-in units, with pre-centring, coding and early mating features, having a metric grid in accordance with IEC 60917.
	Generally, two pairs of connectors are used, one at the top edge and one at the bottom edge of the plug-in unit. Performance levels (PL): 1, 2 Assessment level: A

Information on the availability of components qualified to this detail specification is given in the Qualified products list.

1.3 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this section of IEC 61076-4. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this section of IEC 61076-4, are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60068-1:1988, *Environmental testing — Part 1: General and guidance*.
Amendment 1 (1992)

IEC 60326-3:1991, *Printed boards — Part 3: Design and use of printed boards*.

IEC 60352-5:1995, *Solderless connections — Part 5: Solderless press-in connections — General requirements, test methods and practical guidance*.

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

IEC 60512, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods*.

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 60917:1988, *Modular order for the development of mechanical structures for electronic equipment practices*.
Amendment 1 (1993)

IEC 60917-2-2:1994, *Modular order for the development of mechanical structures for electronic equipment practices — Part 2: Sectional specification — Interface co-ordination dimensions for the 25 mm equipment practice — Section 2: Detail specification — Dimensions for subracks, chassis, backplanes, front panels and plug-in units*.

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: Sectional specification — Printed board connectors*.

IEC 61076-4-100:1994, *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 100: Detail specification for two-part connector modules having a grid of 2,5 mm (0,098 in), for printed boards and backplanes*.

IEC 61076-4-101:1995, *Connectors with assessed quality, for use in d.c., low frequency analogue and in digital high speed data applications — Part 4: Printed board connectors — Section 101: Detail specification for two-part connector modules, having a basic grid of 2,0 mm, for printed boards and backplanes in accordance with IEC 60917*.

ISO 468:1982, *Surface roughness — Parameters, their values and general rules for specifying requirements*.

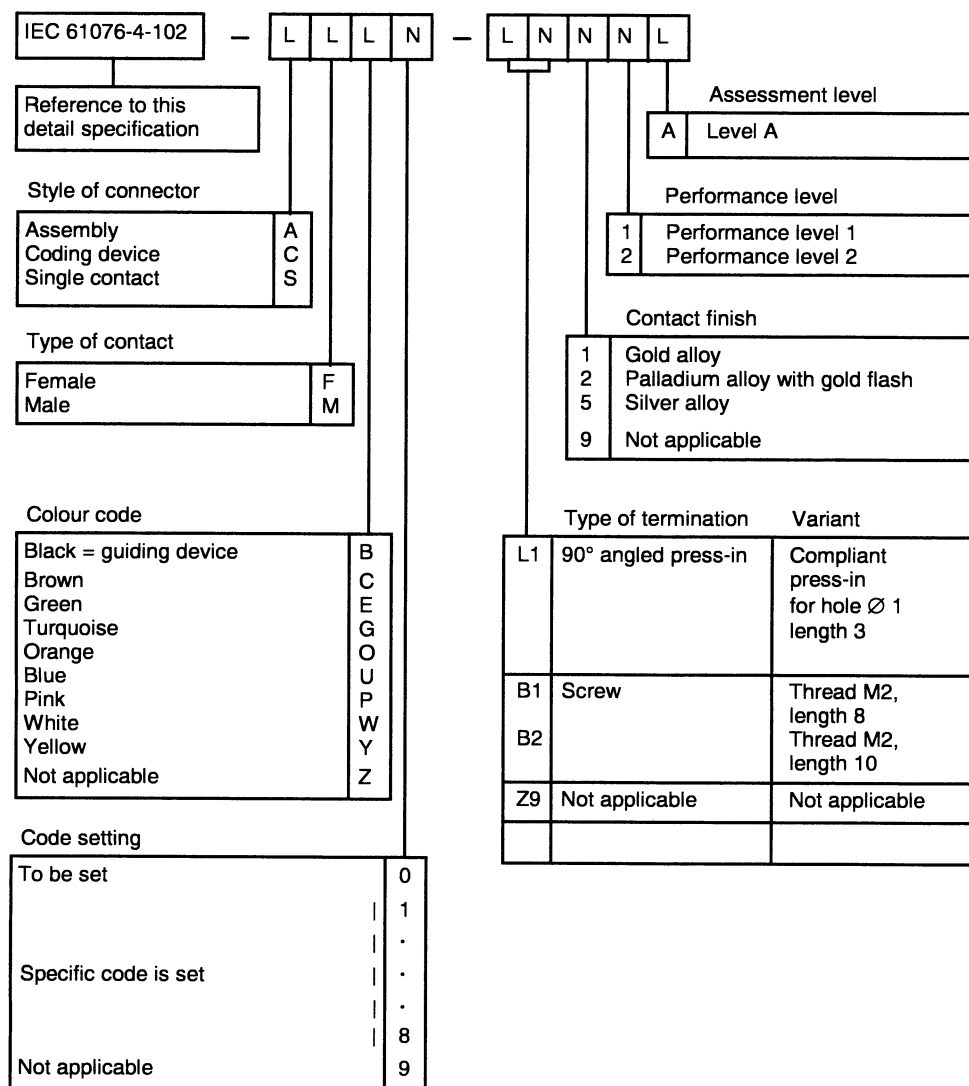
1.4 Marking

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

1.5 IEC type designation

See 2.1 for definitions and 2.2 for designation of styles and variants.

L stands for letter, N stands for digit.



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

Example for connector:

A female connector, with 90° angled press-in terminations, coded Y4, silver alloy plated, meeting performance level 2 and assessment level A, is designated as follows:

IEC 61076-4-102 - AFY4 - L152A

Example for coding device:

A coding device for male connector, G code to be set, meeting performance level 2 and assessment level A is designated as follows:

IEC 61076-4-102 - CMG0 - Z992A

1.6 Ordering information

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

2 Technical data

2.1 Definitions

For the purposes of this section of IEC 61076-4, the following definitions apply:

contact range

the minimum to maximum distance between the reference planes of the fixed and free board connectors, within which the specified contact resistance is met

contact level

group of contacts which engage/separate simultaneously, within the limits required by a secure engaging sequence

first reliable contact point

point on the female contact, from where the specified contact resistance with the incoming male contact is met

coding devices

accessories allowing the user to make specific pairs of connectors by providing them with matching coding devices

only connector pairs equipped with matching coding devices are intermateable; pairs with interfering coding devices are blocked-off during insertion, preventing any electrical contact

2.2 Survey of styles and variants

2.2.1 Survey of termination variants

Table 1 — Termination variants

	Basic type of termination	Variant	Board thickness	Length (see 3.4.2 and 3.5.2)
L	90° angled, solderless, compliant press-in connection for plated-through hole Ø 1,0 according to IEC 60352-5	L1	1,4 min.	3
B	Straight flange with M 2 screw for plated-through hole Ø 2,8	B1	1,4 to 6	8
		B2	3,4 to 8	10