

Connectors for frequencies below 3 MHz for use with printed boards —

Part 10: Two-part connectors for printed boards for basic grid of 2,54 mm (0,1 in), inverted type

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British Standard

ICS 31.220.10

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National foreword

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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.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 30 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 May 1998

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Amendments issued since publication

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ICS 31.220.10

Descriptors: Electronic components, electric connectors, printed-circuit cards, printed-circuit boards, designation, dimensions, assembling, couplings, tests, standard gauges, characteristics

English version

Connectors for frequencies below 3 MHz for use with
printed boards
Part 10: Two-part connectors for printed boards for basic
grid of 2,54 mm (0,1 in), inverted type

(IEC 60603-10:1991)

Connecteurs pour fréquences inférieures
à 3 MHz pour utilisation avec cartes imprimées
Partie 10: Connecteurs pour circuits
imprimés en deux parties pour grille de
base de 2,54 mm (0,1 in), de type inversé
(CEI 60603-10:1991)

Steckverbinder für gedruckte Schaltungen für
Frequenzen unter 3 MHz
Teil 10: Indirekte Steckverbinder für gedruckte
Schaltungen mit Raster 2,54 mm (0,1 in),
invertierte Bauform
(IEC 60603-10:1991)

This European Standard was approved by CENELEC on 1998-01-01. 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

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Foreword

The text of the International Standard IEC 60603-10:1991, prepared by SC 48B, Connectors, of IEC TC 48, Electromechanical components and mechanical structures for electronic equipment, was submitted to the formal vote and was approved by CENELEC as EN 60603-10 on 1998-01-01 without any modification.

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) 1998-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1998-12-01

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 60603-10:1991 was approved by CENELEC as a European Standard without any modification.

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1 Scope

This specification covers a group of related two-part connectors for printed boards. It describes connectors with 32, 48, 64 and 96 contacts for low-voltage applications.

The board-mounted connectors with female contacts are provided with terminations suitable for printed boards in accordance with IEC 326 and using a grid of 2,54 mm (0,1 in) as laid down in IEC 97.

The fixed connectors with male contacts are provided either with solder contacts or with wrap contacts. The terminations of the fixed connectors are located in such a way as to be suitable for use with mother boards using a grid of 2,54 mm (0,1 in) as laid down in IEC 97 as well as for automatic wiring techniques.

This standard shall be used in conjunction with the following IEC publications:

Publications Nos. 50(581) (1978): International Electrotechnical Vocabulary (IEV) —
Chapter 581: Electromechanical components for electronic equipment.

97 (1970): Grid system for printed circuits.

194 (1988): Terms and definitions for printed circuits.

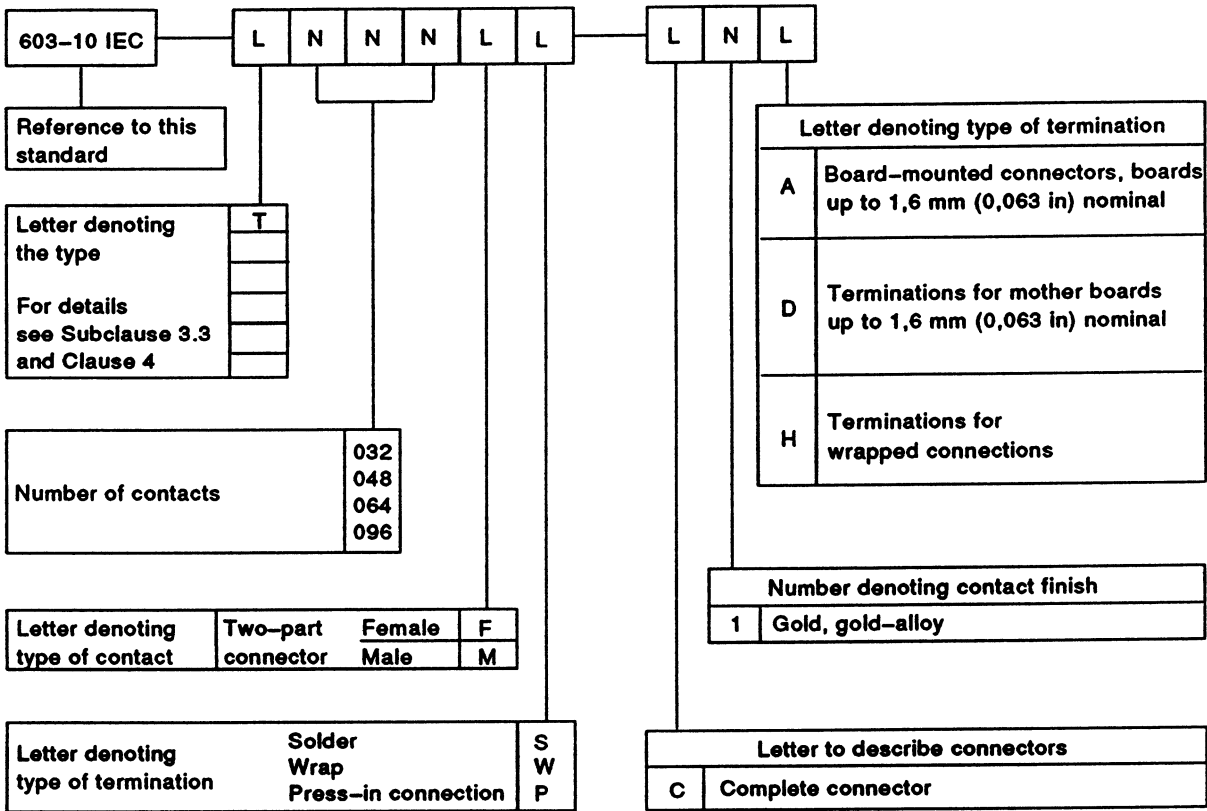
326: Printed boards.

512: Electromechanical components for electronic equipment; Basic testing procedures and measuring methods.

603-1 (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.

2 IEC type designation

Connectors according to this standard shall be designated by the following system:



NOTE «L» stands for letter.
«N» stands for number.

Example — Connector type T, having 96 male gold contacts with solder terminations. Complete board-mounted connector for boards up to 1,6 mm (0,063 in): 603-10 IEC-TO96 MS-C1A.

3 Common features

3.1 Mounting dimensions

3.3.1 Reference system

A line in the mounting plane of the fixed connector which passes through the nominal position of the centres of the mounting holes is used as the datum line. The nominal centre of the mounting hole near contact No. 32 is used as the datum point.

The dimensions in 3.1.2 and 3.1.3 are defined with reference to this datum system.

3.1.2 Fixed connector

3.1.2.1 Position of the mounting holes.

3.1.2.2 Position of the terminations.

The distance between termination centres shall be 2,54 mm (0,1 in) or multiples thereof. The terminations shall be located so as to permit automatic wiring techniques.

3.1.3 Printed board assembly

3.1.3.1 Position of the board-mounted connector.

3.1.3.2 Position of the mounting holes of the board-mounted connector.

3.1.3.3 Position of the printed board.

3.1.3.4 Position of the grid of the printed board.

The terminations of the board-mounted connectors shall fit into holes in the printed board in accordance with IEC 326 and located on a grid 2,54 mm (0,1 in) in accordance with IEC 97.

3.1.4 Isometric view and values

Table 1

Reference	Dimension		Legend
	mm	in	
$\textcircled{C_1}$	95	3,74	Maximum overall length of the fixed connector
$\textcircled{M}$	17,2	0,677	Contact range in plug-in direction (see Figure 1)
	15,6	0,614	NOTE For information only, see 3.2
$\textcircled{X_1}$	90	3,543	Distance between the two mounting holes of the fixed connector
$\textcircled{X_2}$	88,9	3,5	Distance between the two mounting holes of the board-mounted connector NOTE The mounting holes are also located on a 2.54 mm (0.1 in) grid in accordance with IEC 97
$\textcircled{a}$	5,63	0,222	Distance between datum point and a line through the centres of termination No. 32 of the fixed connector
$\textcircled{b}$	0,73	0,029	Distance between datum line and a line through the centres of the termination row "b" of the fixed connector
$\textcircled{c}$	$n \times 2,54$	$n \times 0,1$	Pitch of the fixed connector terminations NOTE Where a pitch of $2 \times 2,84 = 5,08$ is used the terminations shall be located on even-numbered positions 2, 4, 6 ... 30, 32
$\textcircled{d}$	3,55	0,14	Distance between datum line and component side of the printed board
$\textcircled{e}$	5,3	0,209	Distance between the edge of the printed board and the first row of component holes for the board-mounted connector
$\textcircled{f}$	2,54	0,1	Distance between the mounting holes and the first row of component holes for the board mounted connector
$\textcircled{g}$	5,08	0,2	Distance between a mounting hole and the component hole for the termination No. 1 or No. 32 of the board-mounted connector
$\textcircled{h}$	85	3,346	Minimum length of mounting cut-out or minimum distance between mounting bars for the fixed connector
$\textcircled{i}$	2,5	0,098	Maximum thickness of mounting panel or bars for the fixed connector
$\textcircled{u}$	14,2	0,559	Range in which reliable contact is ensured
	12,4	0,488	NOTE See 3.2 for mating information