

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

**Part 8: Two-part connectors for printed
boards for basic grid of 2,54 mm (0,1 in)
with square male contacts
of 0,63 mm × 0,63 mm**

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British Standard

ICS 31.220.10

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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:

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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 48, 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 May 1998

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Amendments issued since publication

Amd. No.	Date	Comments

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ICS 31.220.10

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

English version

Connectors for frequencies below 3 MHz for use with
printed boards
Part 8: Two-part connectors for printed boards, for basic
grid of 2,54 mm (0,1 in), with square male contacts
of 0,63 mm × 0,63 mm

(IEC 60603-8:1990)

Connecteurs pour fréquences inférieures
à 3 MHz pour utilisation avec cartes
imprimées
Partie 8: Connecteurs pour cartes
imprimées en deux parties, pour grille de
base de 2,54 mm (0,1 in) à contacts
mâles de section 0,63 mm × 0,63 mm
(CEI 60603-8:1990)

Steckverbinder für gedruckte
Schaltungen für Frequenzen
unter 3 MHz
Teil 8: Indirekte Steckverbinder für
gedruckte Schaltungen
Rastermaß 2,54 mm (0,1 in)
Querschnitt der männlichen
Kontakte 0,63 mm × 0,63 mm
(IEC 60603-8:1990)

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.

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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

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Foreword

The text of the International Standard IEC 60603-8:1990, 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 60603-8 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 60603-8:1990 was approved by CENELEC as a European Standard without any modification.

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Preface

This standard has been prepared by Sub-Committee 48 B: Connectors, of IEC Technical Committee No. 48: Electromechanical components for electronic equipment.

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

Six Months' Rule	Report on Voting
48 B(CO) 164	48 B(CO) 179

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

The following IEC publications are quoted in this standard:

- 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 (1981): Connectors for frequencies below 3 MHz for use with printed boards, Part 1: General rules and guide for the preparation of detail specifications.

Other publication quoted:

- ISO Standard 468 (1982): Surface roughness — Parameters, their values and general rules for specifying requirements.

1 Scope

This standard is applicable to a group of related two-part connectors for printed boards for board-to-board and board-to-wire connection, with tin or gold plated contact area according to the style.

The free or fixed board-mounted connectors 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 Publication 97.

The fixed connectors are provided with solder terminations.

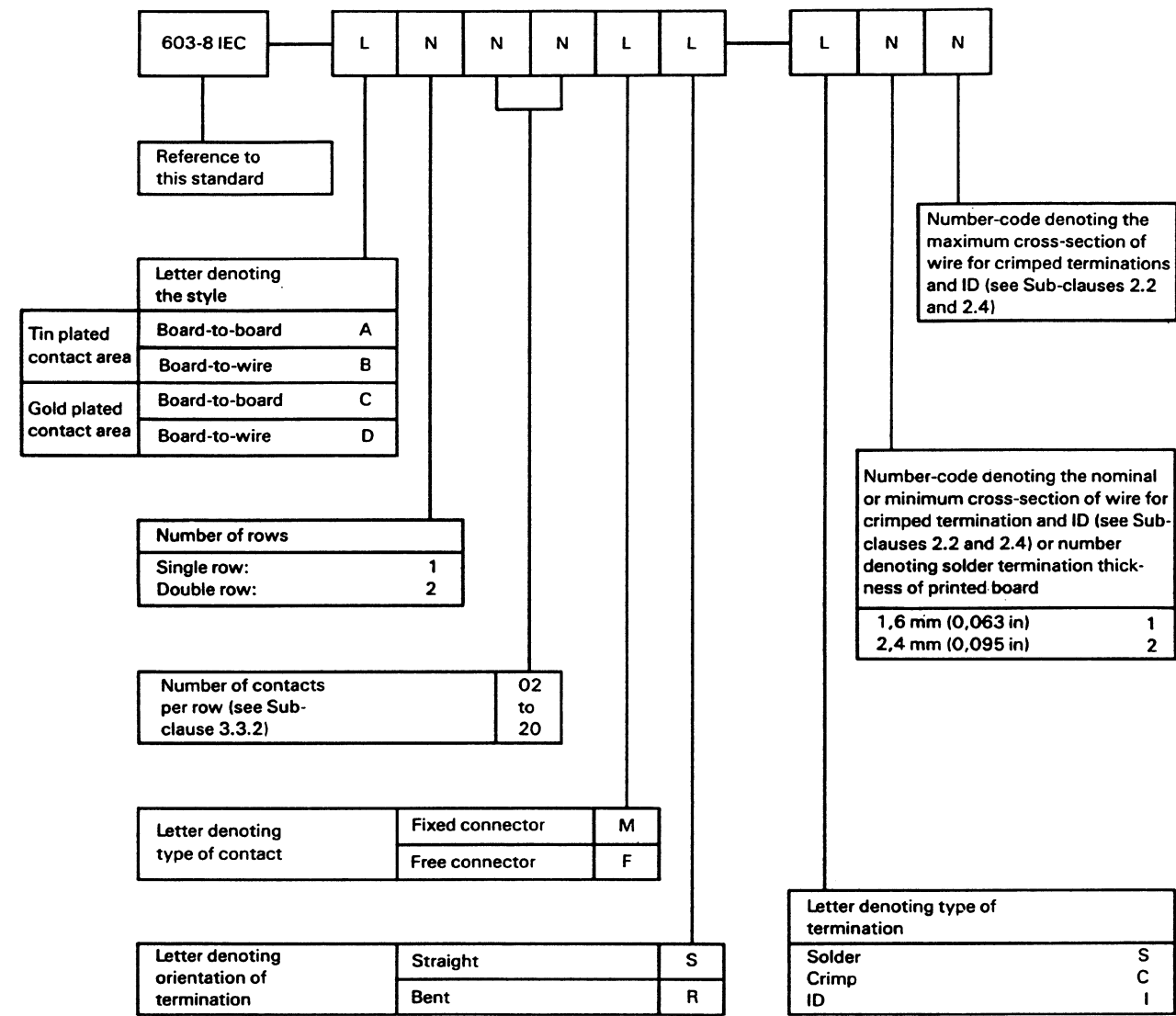
The free connectors are provided with solder terminations, crimp terminations or insulation displacement (ID) connections.

This standard shall be used in conjunction with IEC 50(581), 97, 194, 326, 512 and 603-1.

2 IEC type designation

2.1 General codification

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



Example. — Free connector board-to-wire style ID, tin-plated contact area, orientation of termination straight (parallel to the plug-in axis) for wire of minimum section 0,12 mm² (AWG 26) and maximum 0,22 mm² (AWG 24) of 28 contacts on double row: 603-8 IEC-B214FS-164

2.2 Specific designation of the ID free connectors

Table 1

ID for	1st number ^a	2nd number ^a
One wire	Nominal value	—
Range of nominal cross-sections	Minimum value	Maximum value

^a See code, Sub-clause 2.4.

2.3 Marking of cross-sections of usable wires

The cross-sections of usable wires are referenced according to Table 2.

The marking shall be indicated on the ID free connector i.e.:

- by the gauge;
- by one or two figures;
- by one or two colours.

In the event of colour similarity between the insulator and the marking, different shades of colour shall be used.

2.4 Designation and marking table

Table 2

Nominal cross-section 7 strands mm ²	Gauge	Code designation	Colour on housing
0,079	28	8	Grey
0,12	26	6	Blue
0,22	24	4	Yellow

3 Common features

3.1 Dimensions

3.1.1 Reference system

The basic grid of 2,54 mm (0,1 in) is used as datum system.

The dimensions are defined in Sub-clauses 3.1.2 and 3.1.3.

3.1.2 Fixed connector

Position of terminations.

The distances between the centres of the terminations shall be multiples of 2,54 mm (0,1 in).

3.1.3 Printed board assembly

3.1.3.1 Position of the board-mounted connector

3.1.3.2 Position of the printed board

3.1.3.3 Position of the grid of the printed board

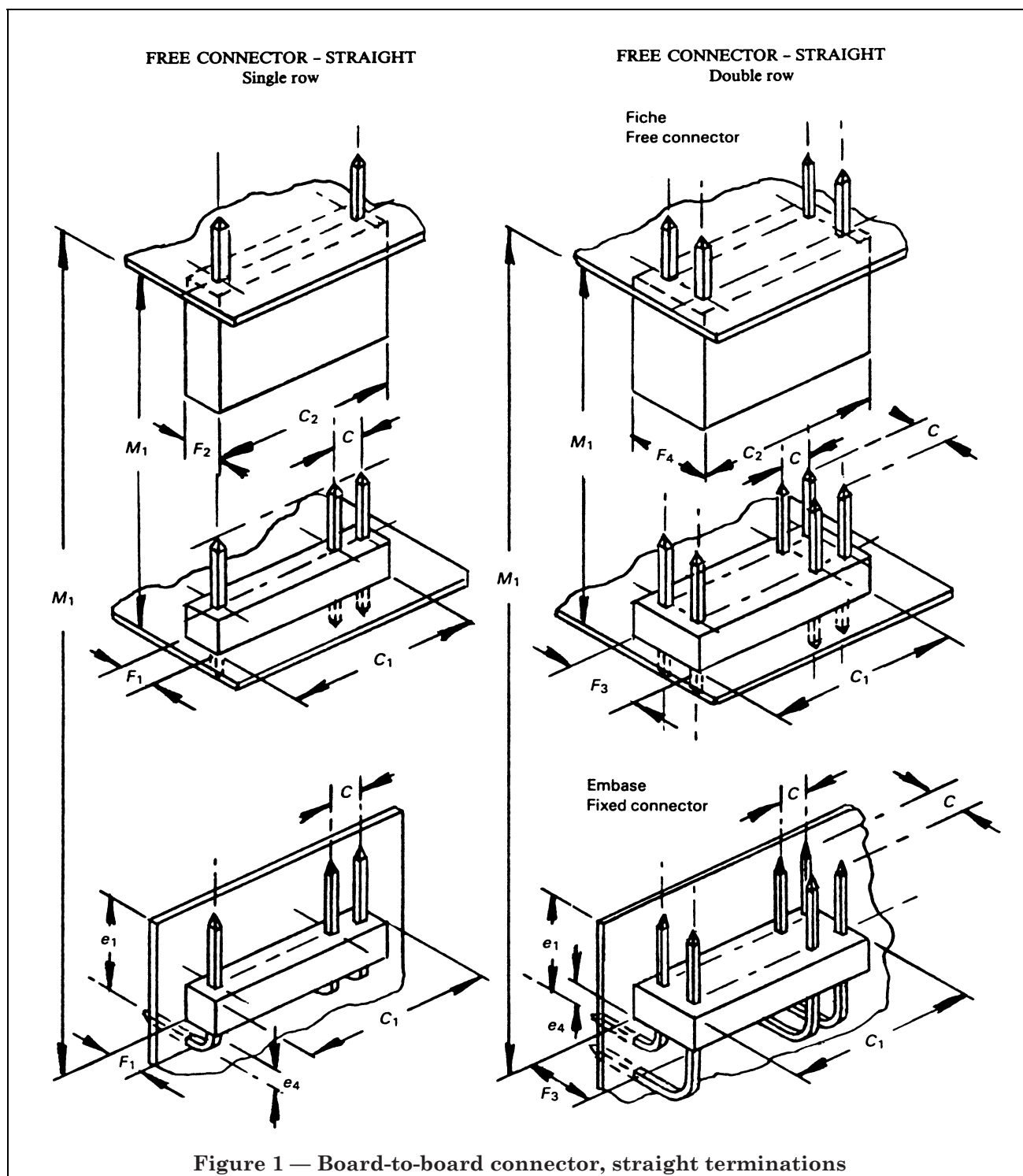
The solder terminations of the board-mounted connectors shall fit into holes in the printed board according to IEC 326, located on a grid of 2,54 mm (0,1 in) according to IEC 97.

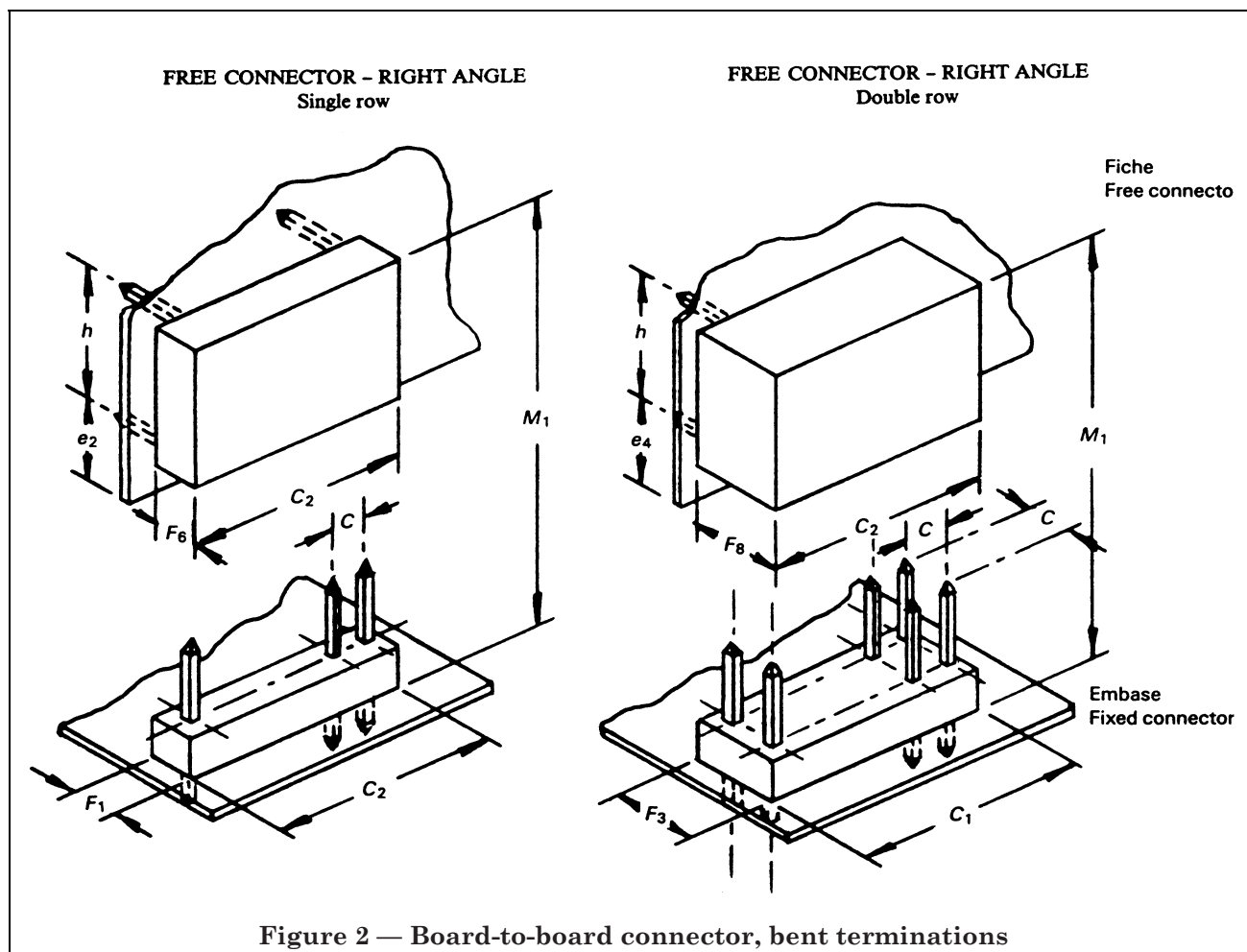
3.1.4 Isometric views and values

Table 3

Reference	Dimensions		Legend
	mm	in	
M_1	11,1	0,437	Required space for the mated connector
M_3	17,6	0,693	
M_4	20,6	0,811	
M_5	17,1	0,673	
C_1	$n \times 2,54$	$n \times 0,1$	Maximum overall length
C_2			
C_3			
C_4			
C_6			
C_8	$(n \times 2,54) + 0,35$	$(n \times 0,1) + 0,014$	
F_1	2,54	0,1	Maximum overall width
F_2	2,54	0,1	
F_3	5,08	0,2	
F_4	5,08	0,2	
F_5	7,62	0,3	
F_6	3,30	0,130	
F_8	5,84	0,230	
F_{10}	5,08	0,2	
F_{12}	5,10	0,201	
F_{14}	8,00	0,315	
F_{16}	7,62	0,3	
F_{18}	9,34	0,368	
e_1	12,00	0,472	Distance from the edge of the board to the first row of contacts
e_2	2,50	0,098	
e_3	12,00	0,472	
e_4	1,30	0,051	Distance between the base of the connector housing and the first row of contacts
h	7,62	0,3	Distance between two rows of right angle terminations of board-to-board free connectors
c	2,54	0,1	Pitch of the terminations

n = number of contacts per row.





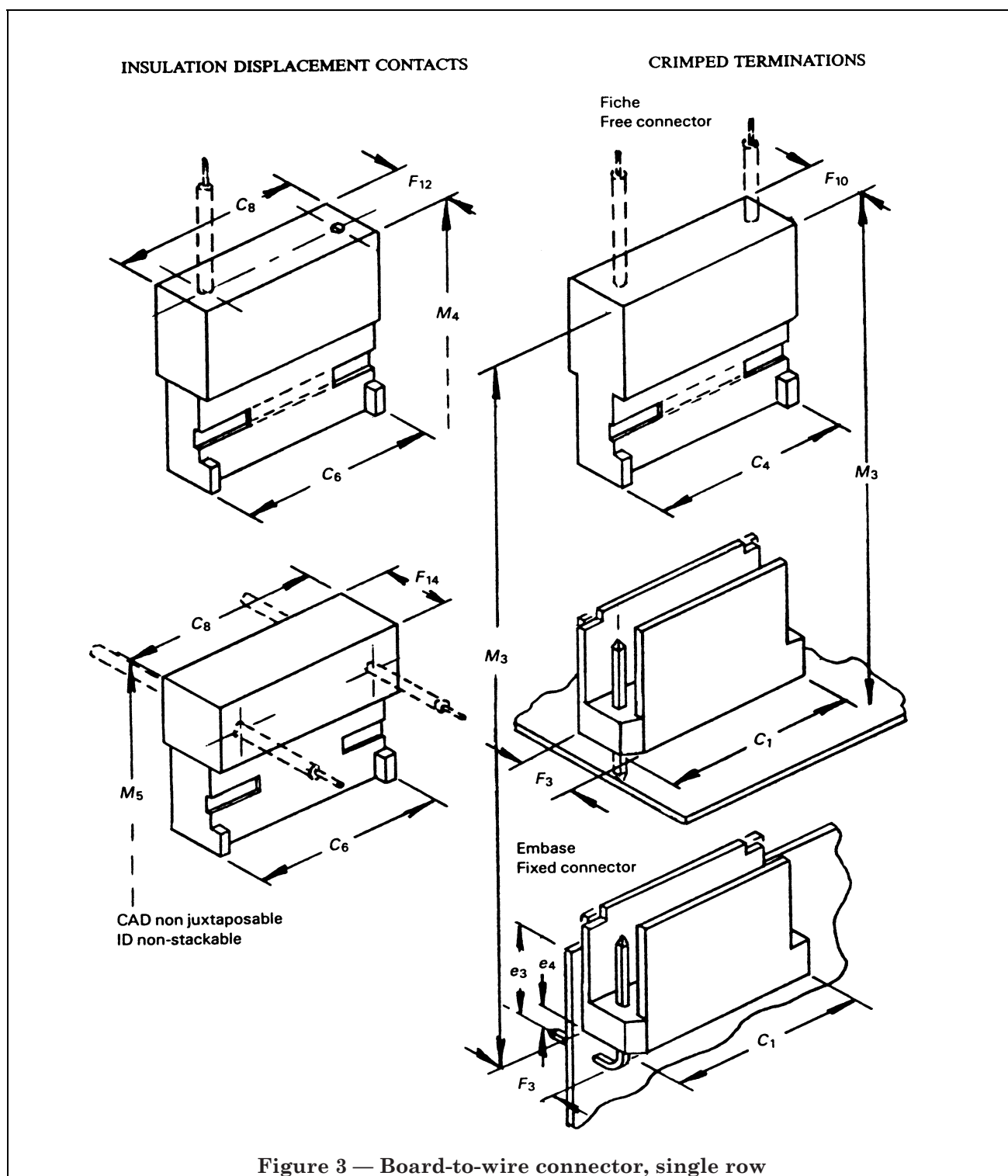


Figure 3 — Board-to-wire connector, single row

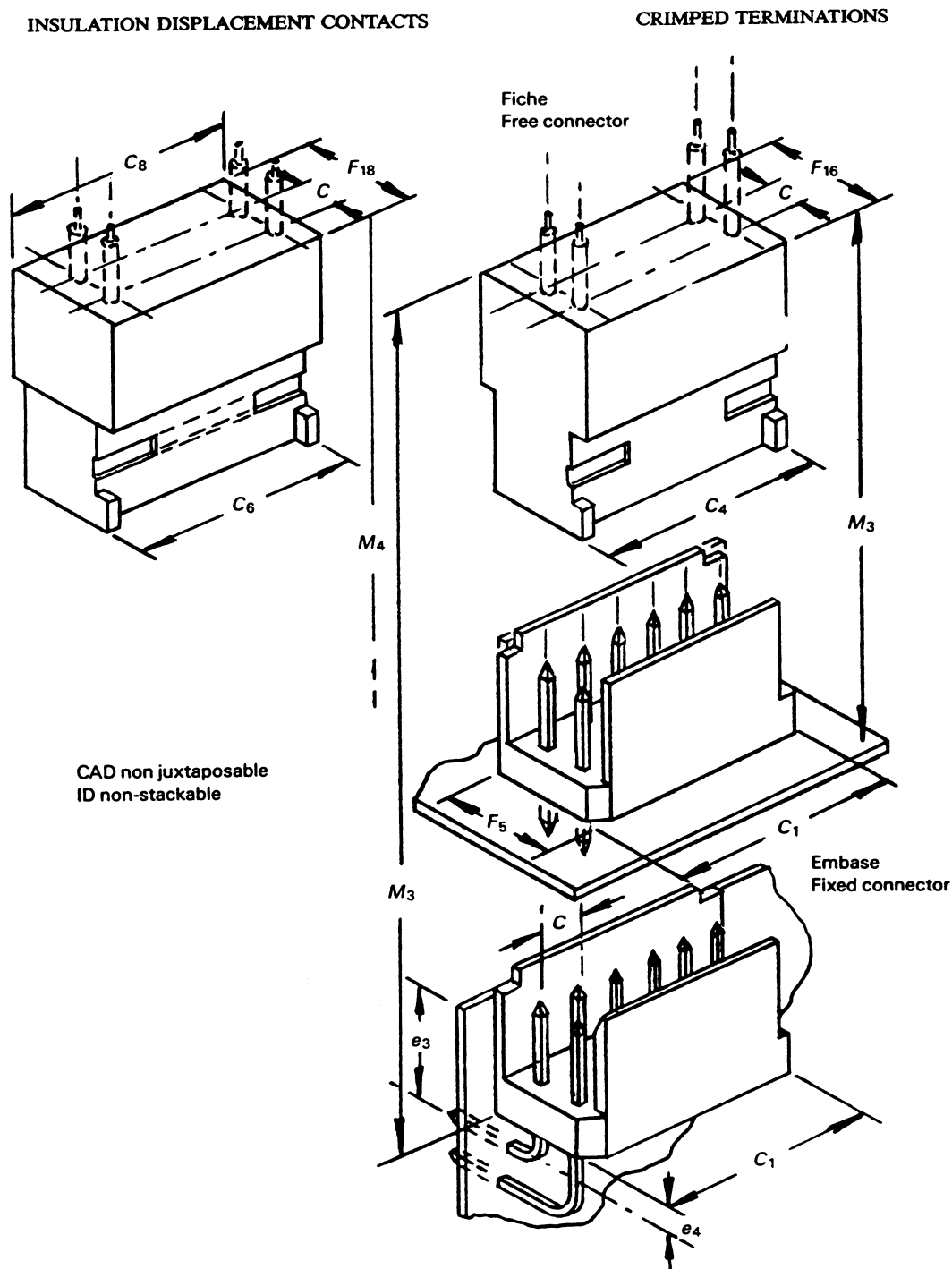


Figure 4 — Board-to-wire connector, double row

3.2 Mating information

3.2.1 Definition of the mating area of the fixed connector contact

For the four edges:

