

**Harmonized system of quality
assessment for electronic components**

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

**Part 2: Detail specification for two-part
connectors with assessed quality, for
printed boards, for basic grid
of 2,54 mm (0,1 in) with common
mounting features**

The European Standard EN 60603-2:1998, with the incorporation of amendment A1:2005, has the status of a British Standard

ICS 31.220.10

National foreword

This British Standard is the official English language version of EN 60603-2:1998, including amendment A1:2005. It is identical with IEC 60603-2:1995, including amendment 1:2000.

The start and finish of text introduced or altered by IEC amendment is indicated in the text by tags **A1** **A1**. Tags indicating changes to IEC text carry the number of the IEC amendment. For example, text altered by IEC amendment 1 is indicated by **A1** **A1**.

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;
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Cross-references

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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 81 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.

Amendments issued since publication

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English version

Connectors for frequencies below 3 MHz for use with
printed boards
Part 2: Detail specification for two-part connectors with
assessed quality, for printed boards, for basic grid
of 2,54 mm (0,1 in) with common mounting features

(IEC 60603-2:1995 + A1:2000)

(includes amendment A1:2005)

Connecteurs pour fréquences inférieures
à 3 MHz pour utilisation avec cartes imprimées
Partie 2: Spécification particulière pour
connecteurs en deux parties pour cartes
imprimées, avec assurance de la qualité, pour
grilles de base de 2,54 mm (0,1 in) avec
caractéristiques de montage communes
(CEI 60603-2:1995 + A1:2000)
(inclut l'amendement A1:2005)

Steckverbinder für gedruckte Schaltungen für
Frequenzen unter 3 MHz
Teil 2: Bauartspezifikation für gütebestätigte
indirekte Steckverbinder für gedruckte
Schaltungen, Rastermaß 2,54 mm (0,1 in), mit
gemeinsamen Einbaumerkmale
(IEC 60603-2:1995 + A1:2000)
(enthält Änderung A1:2005)

This European Standard was approved by CENELEC on 1998-08-01. Amendment A1 was approved by CENELEC on 2005-04-01. 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.

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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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European Committee for Electrotechnical Standardization
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Foreword

The text of the International Standard IEC 60603-2:1995, 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 60603-2 on 1998-08-01 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) 1999-08-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1999-08-01

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

Annexes designated “informative” are given for information only.

In this standard, Annex A and Annex ZA are normative and Annex B is informative.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60603-2:1995 was approved by CENELEC as a European Standard without any modification.

Foreword to amendment A1

The text of amendment 1:2000 to the International Standard IEC 60603-2:1995, 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 amendment A1 to EN 60603-2:1998 on 2005-04-01 without any modification.

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Endorsement notice

The text of amendment 1:2000 the International Standard IEC 60603-2:1995, was approved by CENELEC as an amendment to the European Standard without any modification.

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1 Scope

This International Standard applies to groups of related connectors for use with printed boards. They range from connectors with high contact density for low-voltage applications (Styles B and C) to connectors for heavy currents and high voltages having fewer contacts (Styles D, E, F, G and H). ^[A1] It also applies to style W two-part connectors which have ground planes added to type C connectors to provide additional ground required for frequencies above 3 MHz. ^[A1]

It also applies to Style M two-part connectors supplied in alternative versions having 2, 4 or 6 holes for fitting special contacts, for example coaxial, for high voltages or heavy currents (see Annex B), as well as 78, 60 or 42 normal contacts identical with those of style C.

It applies further to two-part connectors of Styles Q, R, S, T, U and V whose male contacts are fitted to the fixed board connectors and the female contacts to the free board connectors.

All these connectors have the same fitting characteristics irrespective of their various utilization characteristics. The part of the connector fitted to the board is provided with terminations suitable for printed boards in accordance with IEC 326-3 using a grid of 2,54 mm (0,1 in), as defined in IEC 97.

The free board connectors are provided either with solder or flat quick-connect terminations. The fixed board connectors are provided either with solder, insulation displacement, wrapped connections or with screw terminals and flat quick-connect terminations. The terminations of the fixed board 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 defined in IEC 97 as well as for automating wiring techniques.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 603. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 603 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 68-1:1988, *Environmental testing — Part 1: General and guidance*.

IEC 68-2-60 TTD:1990, *Environmental testing — Part 2: Tests — Test Ke: Corrosion tests in artificial atmosphere at very low concentration of polluting gas(es)*.

IEC 97:1991, *Grid systems for printed circuits*.

IEC 194:1988, *Terms and definitions for printed circuits*.

IEC 326-3:1991, *Printed boards — Part 3: Design and use of printed boards*.

IEC 352-1:1983, *Solderless connections — Part 1: Solderless wrapped connections — General requirements, test methods and practical guidance*.

IEC 352-4:1994, *Solderless connections — Part 4: Solderless non-accessible insulation displacement connections — General requirements, test methods and practical guidance*.

IEC 410:1973, *Sampling plans and procedures for inspection by attributes*.

IEC 512-1:1994, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods — Part 1: General*.

IEC 512-2:1985, *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 512-3:1976, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods — Part 3: Current-carrying capacity tests*.

IEC 512-4:1976, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods — Part 4: Dynamic stress tests*.

IEC 512-5:1992, *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 512-6:1984, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods — Part 6: Climatic tests and soldering tests*.

IEC 512-7:1993, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods — Part 7: Mechanical operating tests and sealing tests.*

IEC 512-8:1993, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods — Part 8: Connector tests (mechanical) and mechanical tests on contacts and terminations.*

IEC 512-9:1992, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods — Part 9: Miscellaneous tests.*

IEC 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.*

Amendment 1 (1992)

IEC 760:1989, *Flat, quick-connect terminations.*

Amendment 1 (1993)

IEC 999:1990, *Connecting devices — Safety requirements for screw-type and screwless-type clamping units for electrical copper conductors.*

ISO 272:1982, *Fasteners — Hexagon products — Widths across flats.*

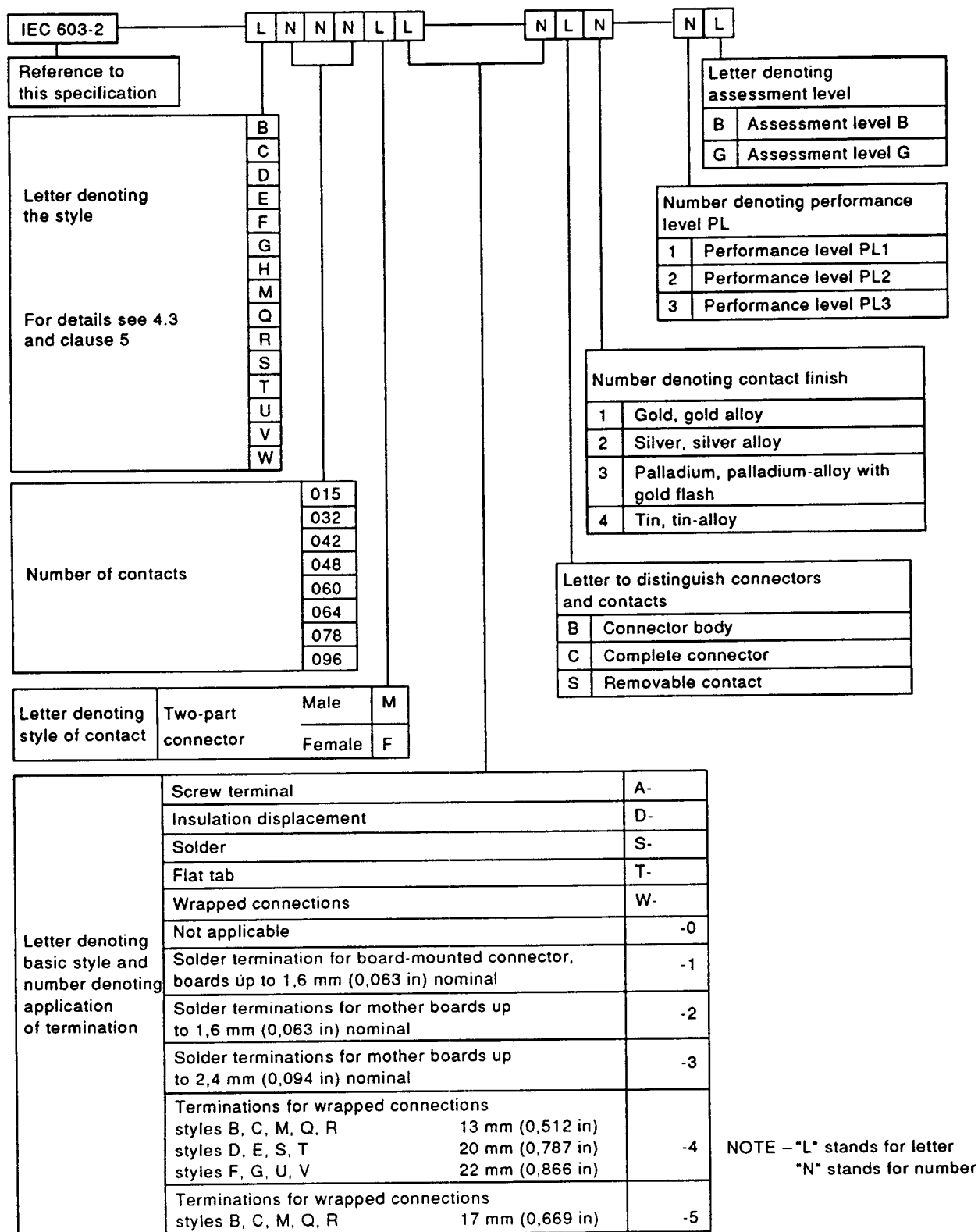
ISO 468:1982, *Surface roughness — Parameters, their values and general rules for specifying requirements.*

IEC QC 001002:1986, *Rules of Procedure of the IEC Quality Assessment System for Electronic Components (IECQ).*

Amendment 2 (1994)

3 IEC type designation

Connectors, connector bodies and removable crimp-contacts according to this standard shall be designated by the following system:



Example: Connector style C, having 96 male contacts, gold finished with solder terminations. Complete board-mounted connector for boards up to 1,6 mm (0,063 in), with performance level 2 and assessment level G: IEC 603-2-C096MS-1C1-2G.

4 Common features

4.1 Mounting dimensions

4.1.1 Reference system

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

With reference to this datum system, the dimensions in 4.1.2 and 4.1.3 are defined.

4.1.2 Fixed board connector

4.1.2.1 Position of the terminations

The centre distances of the terminations shall be 2,54 mm (0,1 in) or multiples thereof. The terminations shall be located so as to permit automatic wiring techniques.

4.1.3 Printed board assembly

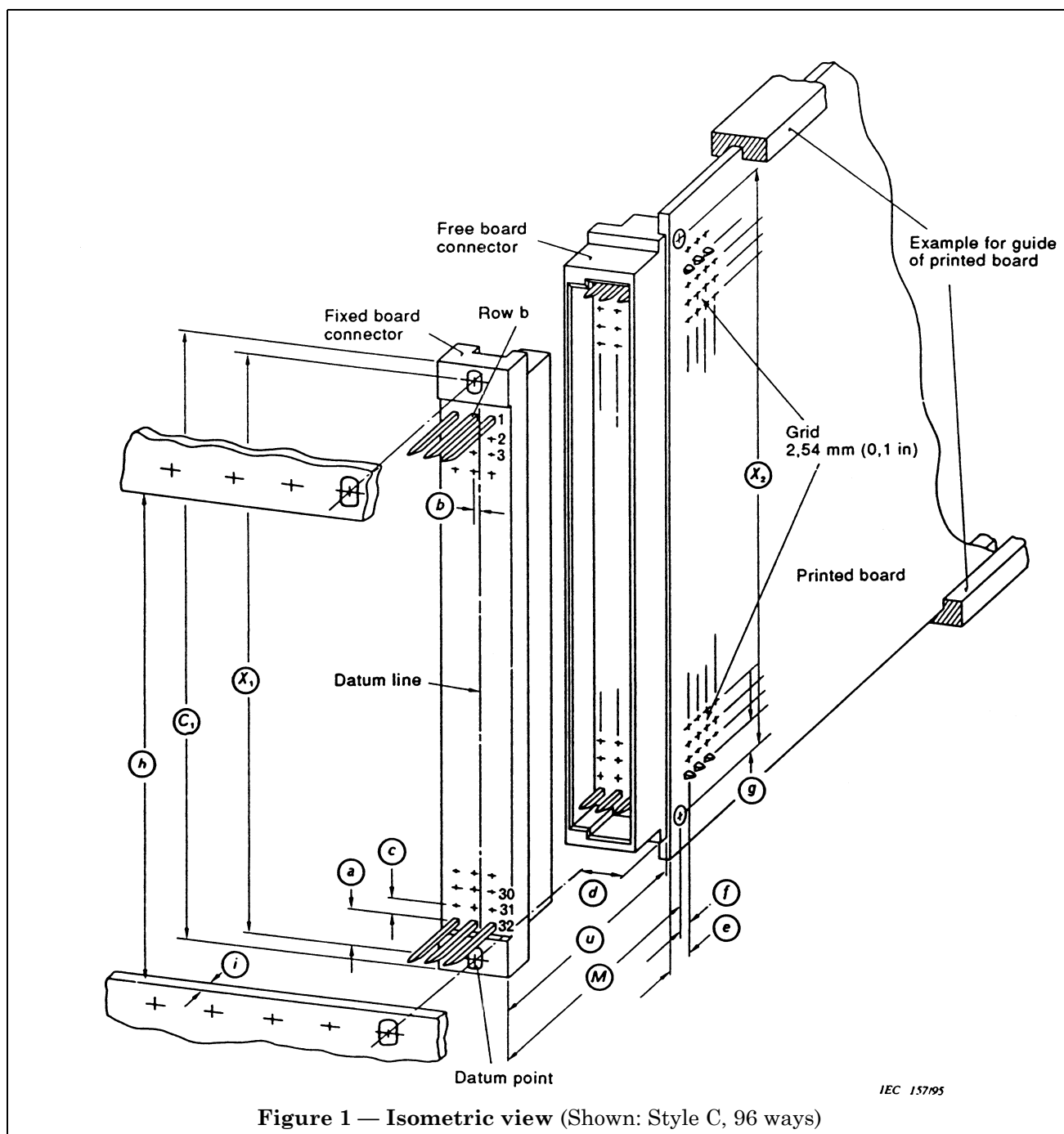
4.1.3.1 Position of the grid of the printed board

The termination of the free board connectors shall fit into holes in the printed board according to IEC 326-3, located on a grid of 2,54 mm (0,1 in) according to IEC 97.

4.1.4 Isometric view and values

Table 1 — Isometric view and values

Reference letter	Dimension		Legend
	mm	in	
C_1	95	3,74	Maximum length of the fixed board connector
M	17,2 15,6	0,677 0,614	Range of electrical engagement (see Figure 1) NOTE For information only
X_1	90	3,543	Distance between the two mounting holes of the fixed board connector
X_2	88,9	3,5	Distance between the two mounting holes of the free board connector NOTE The mounting holes are also located on the grid of 2,54 mm (0,1 in) according to IEC 97
a	5,63	0,222	Distance between datum point and a line through the centres of the termination No. 32 of the fixed board connector
b	0,3	0,012	Distance between datum line and a line through the centres of the termination row "b" of the fixed board connector
c	$n \times 2,54$	$n \times 0,1$	Pitch of the termination of the fixed board connector NOTE Where a pitch of $2 \times 2,54 \text{ mm} = 5,08 \text{ mm}$ is used, the terminations shall be located on even-numbered positions 2, 4, 6 ... 30, 32 only
d	3,55	0,14	Distance between datum line and component side of the printed board
e	5,3	0,209	Distance between the edge of the printed board and the first row of component holes for the free board connector [A ₁] NOTE Does not apply to style W [A ₁]
f	2,54	0,1	Distance between the mounting holes and the first row of component holes for the free board connector [A ₁] NOTE Does not apply to style W [A ₁]
g	5,08	0,2	Distance between a mounting hole and the component hole for the termination No. 1 or No. 32 of the free board connector
h	85	3,346	Minimum length of mounting cut-out or minimum distance between mounting bars for the fixed board connector
i	2,5	0,098	Maximum thickness of mounting panel or bars for the fixed board connector
u	14,2 12,4	0,559 0,488	Range in which reliable contact is ensured NOTE See 4.2 for mating information



IEC 157/95

A1

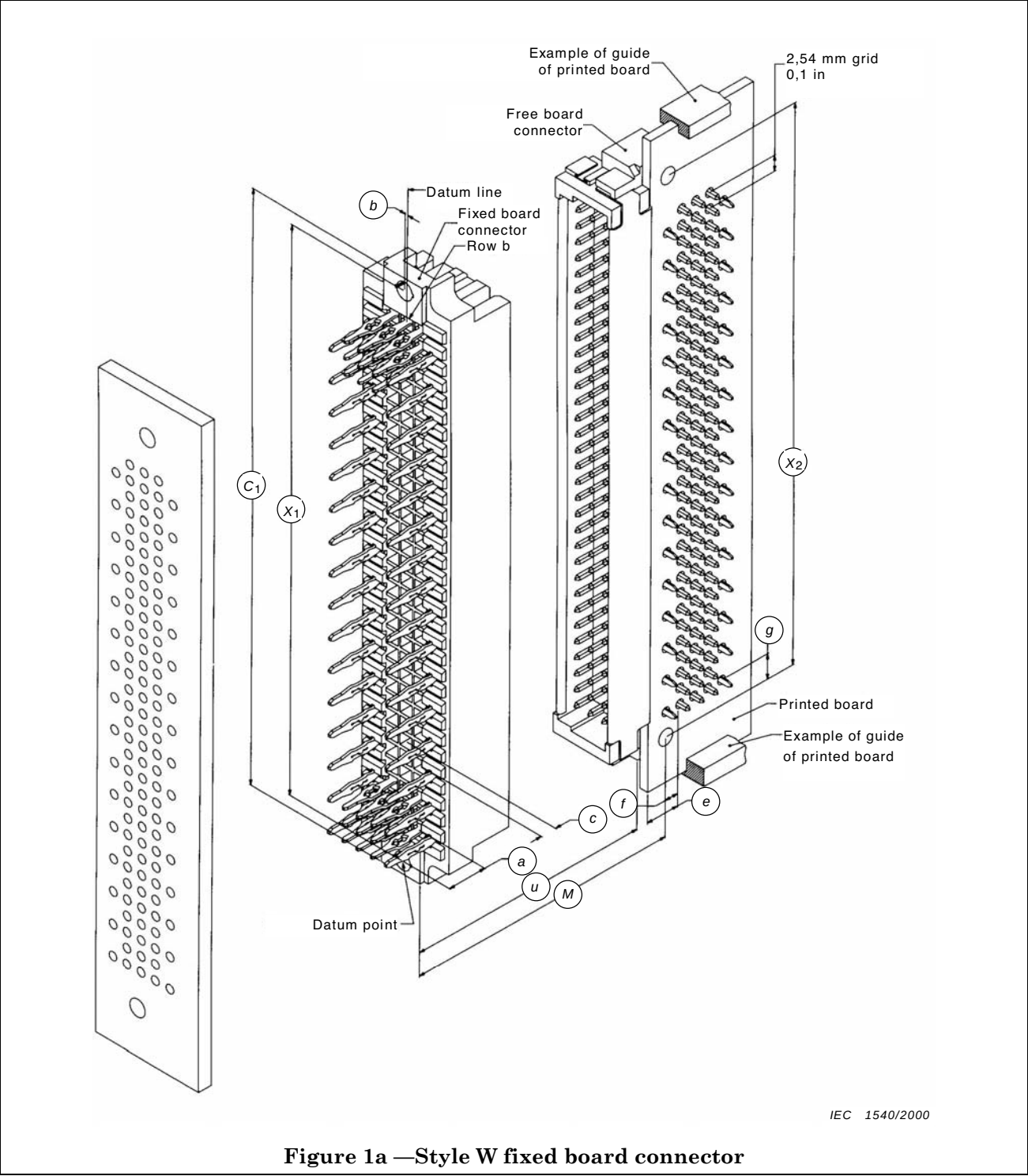


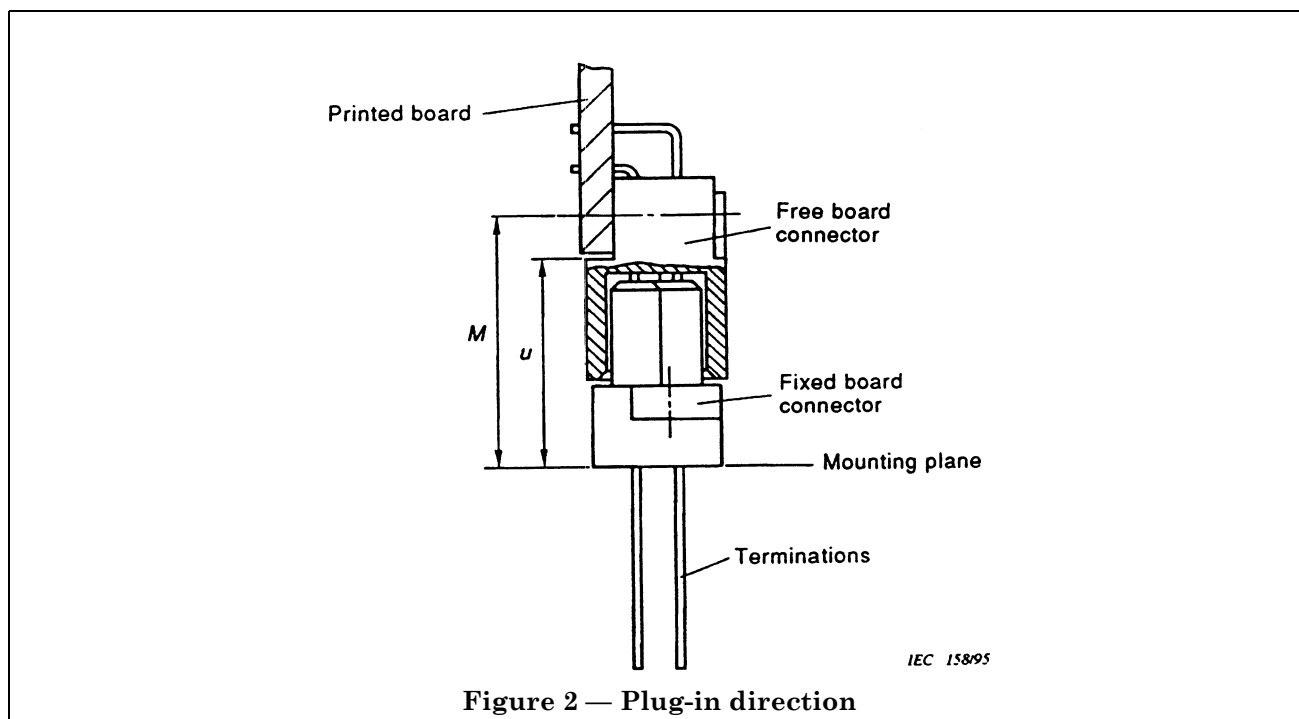
Figure 1a — Style W fixed board connector

A1

4.2 Mating information

4.2.1 Plug-in direction

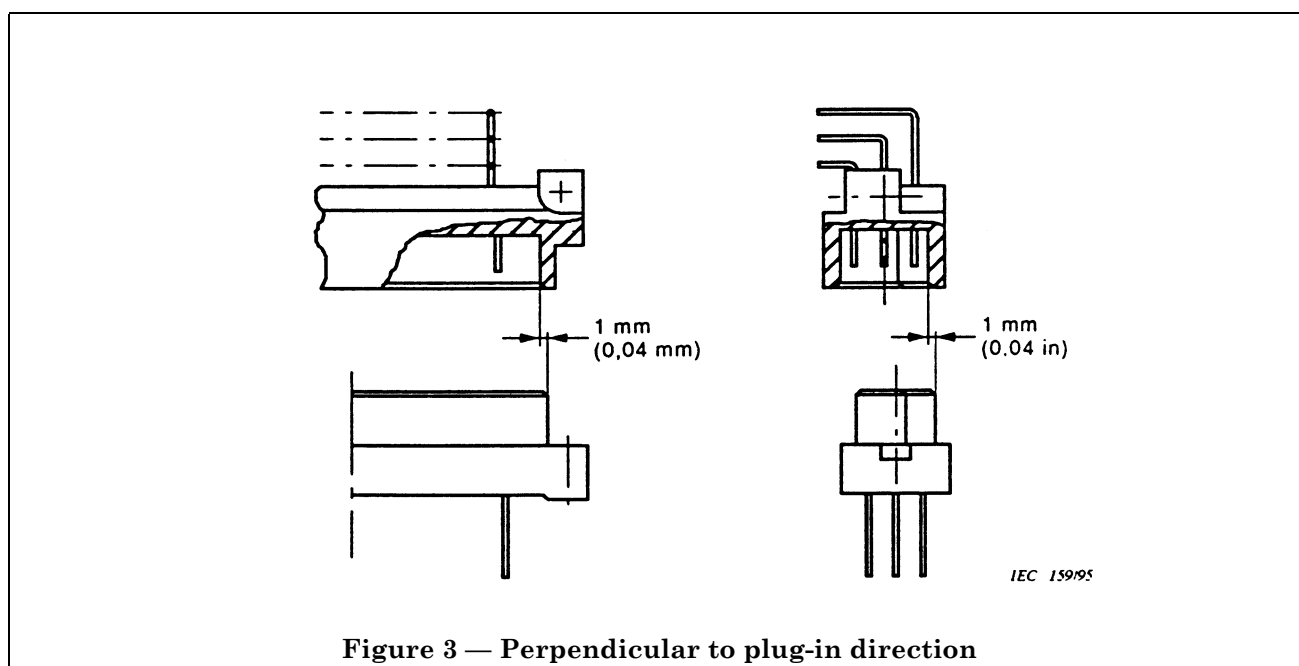
The specified contact resistance is ensured fully mated to $u = 14,2 \text{ mm}$ (0,559 in).



4.2.2 Perpendicular to plug-in direction

The design of the free and the fixed board connectors is such that a displacement of at least 1 mm (0,04 in) can be accommodated, provided that the printed board or the fixed board connector is float-mounted.

NOTE For rigid mounting of a fixed board connector, jig-mounting with appropriate tight tolerances is necessary.



4.2.3 Inclination

The design of the free and the fixed board connectors is such as to allow for a misalignment of $\pm 4^\circ$ in longitudinal axis and $\pm 2^\circ$ in transverse axis.

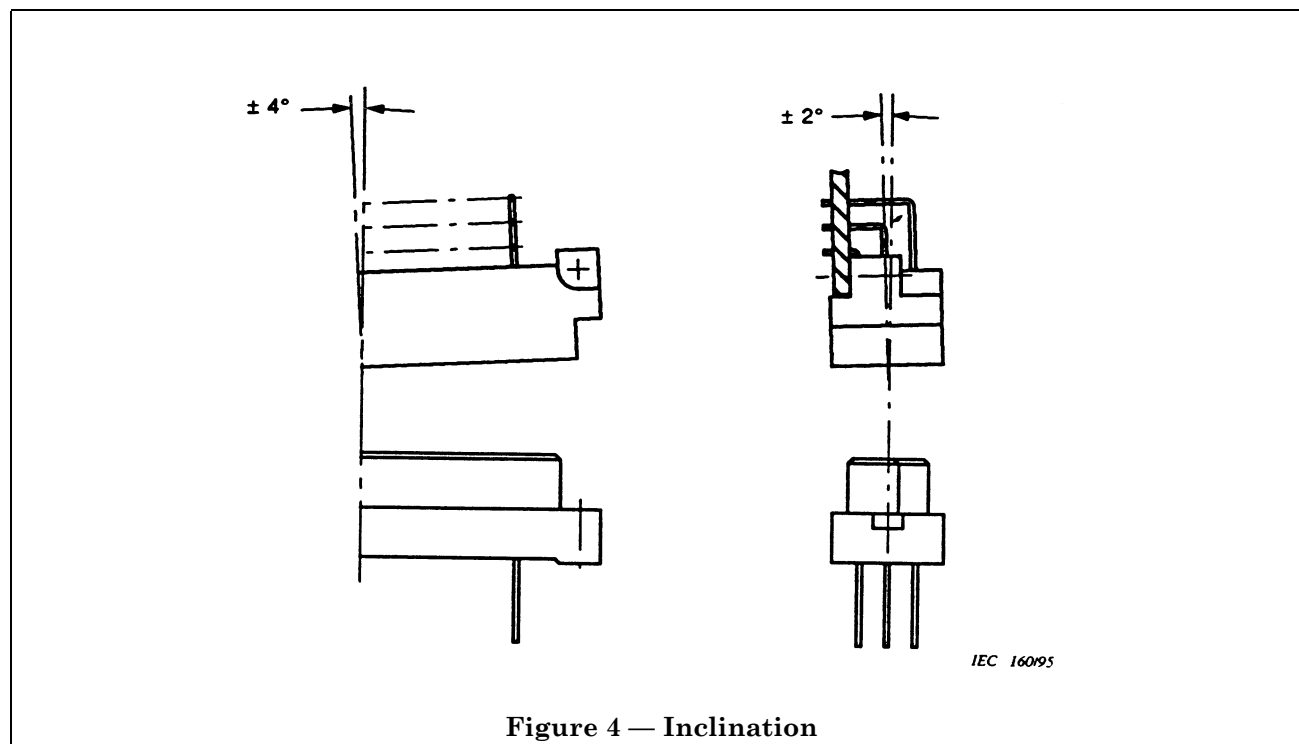


Figure 4 — Inclination

4.3 Survey of styles

Table 2 — Survey of styles

Style and number of contacts ^a	Standard styles	B064	C096	C064	C032	M078	M060	M042	W096	D032	E048	E032	F048	F032	G064	H015	W096		
	Reversed styles	Q064	R096	R064	R032	—	—	—	—	S032	T048	T032	U048	U032	V064	—	—		
Smallest pitch of adjacent connectors <i>n</i> × 2,54 mm (<i>n</i> × 0,1 in)		4	5						7					6		8	6	7	
Current-carrying capacity at 70 °C (see 7.2.3)		1A								1,5A	4A						12A	1,5A	
Performance level		1, 2, 3																	
Minimum creepage and clearance distances ^b																			
Between contacts and chassis		Creepage		1,8 mm (0,071 in)										6,0 mm (0,236 in)		8 mm (0,315 in)	1,8 mm (0,071 in)		
		Clearance		1,6 mm (0,063 in)										3,5 mm (0,138 in)		4,5 mm (0,177 in)	1,6 mm (0,063 in)		
Between adjacent contacts	Within a row	Creepage		1,2 mm (0,047 in)		3,0 mm (0,118 in)		1,2 mm (0,047 in)		3,0 mm (0,118 in)			3,0 mm (0,118 in)		8 mm (0,315 in)	1,2 mm (0,047 in)			
		Clearance		1,2 mm (0,047 in)		3,0 mm (0,118 in)		1,2 mm (0,047 in)		3,0 mm (0,118 in)			1,6 mm (0,063 in)		4,5 mm (0,177 in)	1,2 mm (0,047 in)			
	Between rows	Creepage		1,2 mm (0,047 in)		3,0 mm (0,118 in)		1,2 mm (0,047 in)		1,2 mm (0,047 in)	3,0 mm (0,118 in)		3,0 mm (0,118 in)		8 mm (0,315 in)	0,88 mm (0,035 in)			
		Clearance		1,2 mm (0,047 in)		3,0 mm (0,118 in)		1,2 mm (0,047 in)		0,88 mm (0,035 in)	3,0 mm (0,118 in)	1,6 mm (0,063 in)	3,0 mm (0,118 in)	1,6 mm (0,063 in)		4,5 mm (0,117 in)	1,2 mm (0,047 in)		
	Between row f and z	Creepage																1,9 mm (0,075 in)	
		Clearance																1,6 mm (0,063 in)	

^a Standard styles: Free board connectors (board-mounted) with male contacts
Reversed styles: Fixed board connectors (see clause 1) with male contacts

^b Permissible operating voltage depends on the application and the applicable or specified safety requirements. Reductions in creepage or clearance distances may occur due to the printed board or the wiring used and shall duly be taken into account.

5 Dimensions

5.1 General

Dimensions in millimetres are original. Drawings are shown in first angle projection. The shape of the connectors may deviate from those given in the following figures as long as the specified dimensions are not influenced.

The basic dimensions contained in clause 4 are mandatory but only repeated in the following subclauses when necessary.

Connectors Style B, C, D, E, F, G and H can be mated directly with the corresponding connectors Style Q, R, S, T, U and V. It should be noted, however, that while the rows are connected straight through, the contact numbers will be in the reverse order (i.e. contact No. 1, 2, ... 32 of connector Style C will connect with contact No. 32, 31, ... 1 of connector Style R).  Style W connectors can be mated with style C connectors. 

5.2.1 Styles B, C, D, E and W



A1

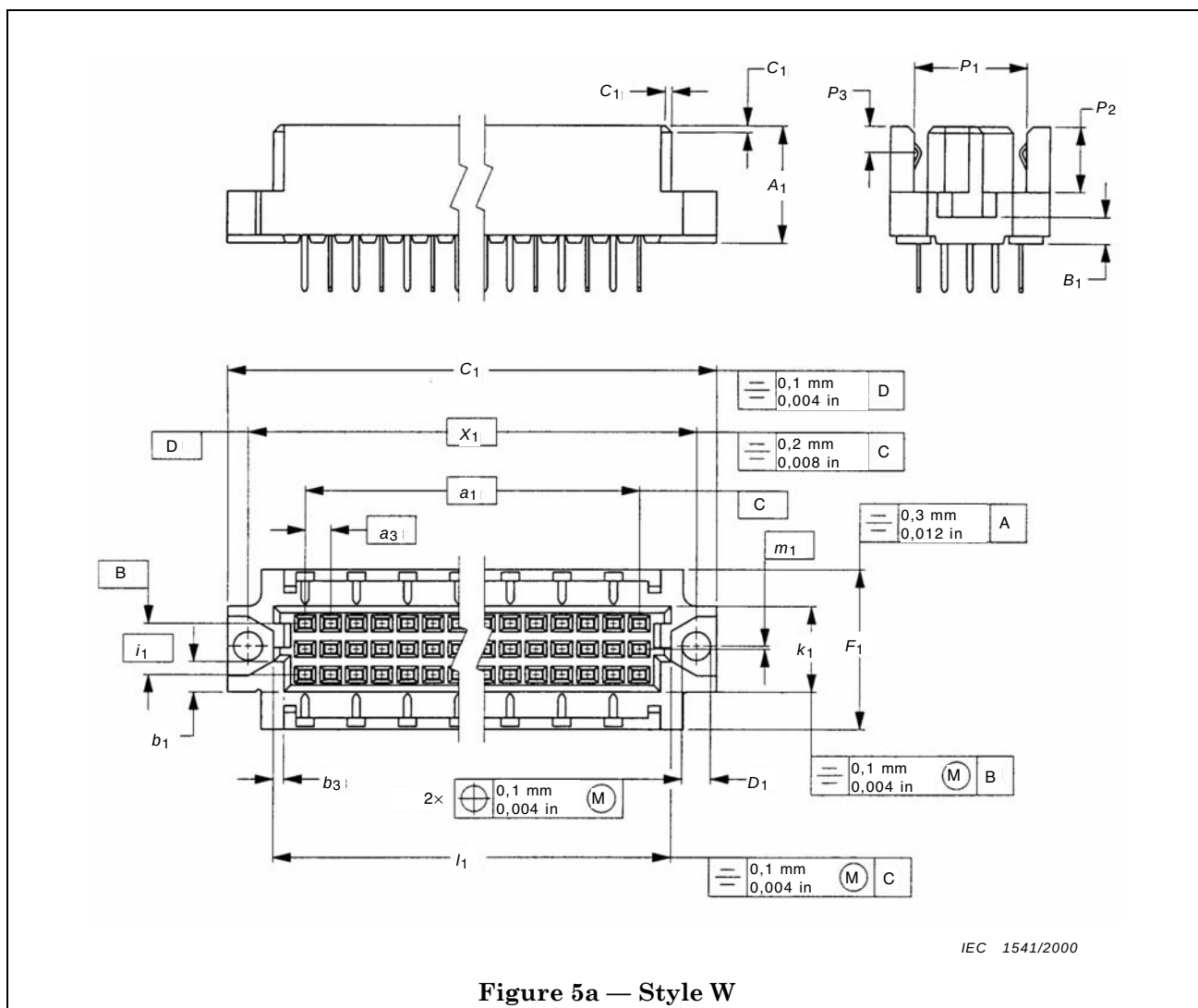


Figure 5a — Style W

A1

Table 3 — Dimensions common to Styles B, C, D and E

	A_1	B_1	C_1	D_1	X_1	a_1	b_1	b_3	c_1	l_1	m_1
mm	11,6 max.	2,9 max.	95 max.	2,8 min.	90	$31 \times 2,54$ = 78,74	3,2 3,0	1,1 1,0	0,7 0,6	85,0 84,8	0,3
in	0,457 max.	0,114 max.	3,740 max.	0,11 min.	3,543	$31 \times 0,1$ = 3,1	0,126 0,118	0,043 0,039	0,028 0,024	3,346 3,339	0,012

Table 4 — Dimensions peculiar to Styles B, C, D, E and W

Style and number of contacts	F_1		a_3		g_1		g_3		g_5		h_1		h_3		i_1		k_1		p_1		p_2		p_3	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in						
B 064	8,1 7,9	0,319 0,311													2,54	0,1	6,0 5,9	0,236 0,232						
C096			2,54	0,1	2,2 2,1	0,087 0,083	1,7 1,6	0,067 0,063			1,25 1,20	0,049 0,047	0,85 0,80	0,033 0,031										
C 064	10,6 10,4	0,417 0,409							0,5 min	0,02 min					2 × 2,54	2 × 0,1	8,5 8,4	0,335 0,331						
C 032																								
D 032															5,08	0,2								
E 048	15,7	0,618	5,08	0,2	2,8	0,110	1,8	0,071			1,9	0,075	0,9	0,035	2 × 5,08	2 × 0,2	13,6	0,535						
E 032	15,4	0,606			2,6	0,102	1,6	0,063			1,7	0,067	0,8	0,031			13,5	0,532						
W	15,9 15,7	0,626 0,618	2,54	0,1	2,2 2,1	0,087 0,083	1,7 1,6	0,067 0,063			1,25 1,20	0,049 0,047	0,85 0,80	0,033 0,031	2 × 2,54	2 × 0,1	8,5 8,4	0,335 0,331	11,1 min	0,437 min	6,4 min	0,252 min	2,8 2,4	0,110 0,094

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Table 5 — Contact arrangement of Styles B, C, D, E, Q, R, S and T

NOTE An “x” denotes a contact.

Contact No.	1	2	3	4	5	6	7	8	25	26	27	28	29	30	31	32	Remarks
B 064 and Q 064	Row a								x	x	x	x	x	x	x	x	
	b								x	x	x	x	x	x	x	x	
C 096 and R 096	Row a								x	x	x	x	x	x	x	x	
	b								x	x	x	x	x	x	x	x	
	c								x	x	x	x	x	x	x	x	
C 064 and R 064	Row a								x	x	x	x	x	x	x	x	There are no contacts in row “b” but connectors shall be provided with contact cavities and entries
	b																
	c								x	x	x	x	x	x	x	x	
C 032 and R 032	Row a																There are no contacts in row “b” and in odd-number positions but connectors shall be provided with contact cavities and entries
	b								x								
	c																
D 032 and S 032	Row a																Connectors do not provide for contacts in row “b”, and odd-number positions
	b								x								
	c																
E 048 and T 048	Row a								x								Connectors do not provide for contacts in rows “b”, “d” and odd-number positions
	b																
	c								x								
	d																
E 032 and T 032	Row a								x								Connectors do not provide for contacts in rows “b”, “c”, “d” and odd-number positions
	b																
	c																
	d																
	e								x								

5.2.1.2 Terminations

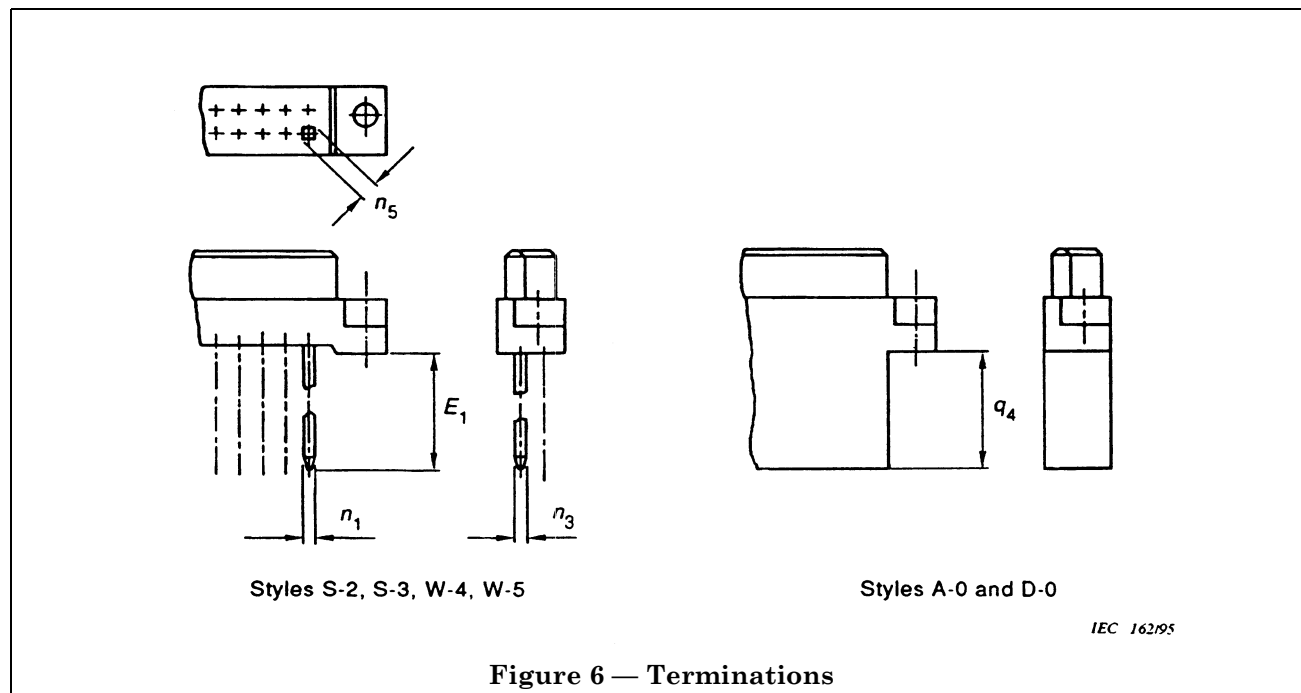


Figure 6 — Terminations

Table 6 — Dimensions of Styles B, C, D, E, H, M, Q, R, S, T and W

Style	Code-letter for style and number for application of termination	Application		E_1	n_1	n_3	n_5	q_4
B, C, M, Q, R, W	S-2 ^a	Mounting on printed boards with nominal thickness up to 1,6 mm (0,063 in)	mm	2,9 2,2	Suitable for holes 1 mm (0,039 in) nominal diameter in accordance with IEC 326-3			
			in	0,114 0,087				
	S-3 ^b	Mounting on printed boards with nominal thickness up to 2,4 mm (0,094 in)	mm	4,5 3,7				
			in	0,177 0,146				
	W-4	Wrapped connections according to IEC 352-1	mm	13,5 12,5			0,86 0,76	
			in	0,552 0,492			0,034 0,030	
	W-5	Wrapped connections according to IEC 352-1	mm	17,5 16,5			0,86 0,76	
			in	0,689 0,650			0,034 0,030	
B, C, D, E, S, T, H	S-3 ^b	Mounting on printed boards with nominal thickness up to 2,4 mm (0,094 in)	mm		Suitable for holes 1,6 mm (0,063 in) nominal diameter in accordance with IEC 326-3			
			in	0,169 0,146				
	W-4	Wrapped connections according to IEC 352-1	mm	20,5 19,5			1,78 1,35	
			in	0,807 0,768			0,70 0,053	
	D-0	Insulation displacement connections according to IEC 352-4	mm		Suitable for conductors of 0,22 mm ² and 0,34 mm ² 7 strands			
			in					
	A-0	Screw terminal connections	mm		Suitable for conductors of 0,22 mm ² to 1,5 mm ²			
			in					
In case of procurement of new tools, change the dimensions to:								
^a 3,2 mm to 2,6 mm (0,126 in to 0,102 in)								
^b 4,0 mm to 3,4 mm (0,157 in to 0,134 in), suitable for mounting on printed boards with nominal thickness up to 2,4 mm (0,094 in) or optional 4,8 mm to 4,2 mm (0,189 in to 0,165 in), suitable for mounting on printed boards with nominal thickness up to 3,2 mm (0,126 in).								

In case of procurement of new tools, change the dimensions to:

^a 3,2 mm to 2,6 mm (0,126 in to 0,102 in)

^b 4,0 mm to 3,4 mm (0,157 in to 0,134 in), suitable for mounting on printed boards with nominal thickness up to 2,4 mm (0,094 in) or optional 4,8 mm to 4,2 mm (0,189 in to 0,165 in), suitable for mounting on printed boards with nominal thickness up to 3,2 mm (0,126 in).

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5.2.1.3 Removable crimp contacts

Under consideration

5.2.2 Styles F and G

5.2.2.1 Dimensions

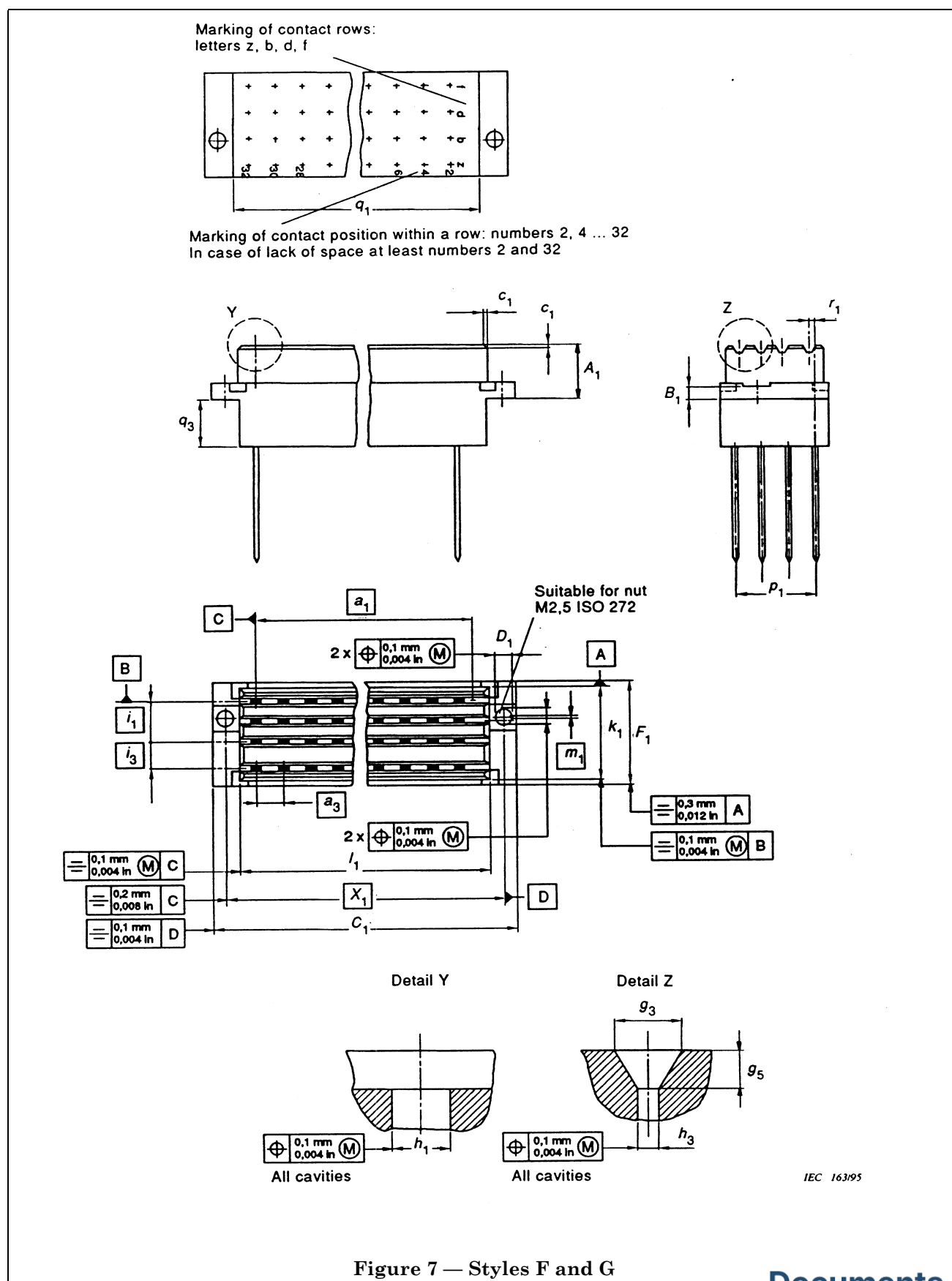


Figure 7 — Styles F and G

Table 7 — Dimensions common to Styles F and G

	A_1	B_1	C_1	D_1	X_1	a_1	a_3	c_1	g_3	g_5	h_1	h_3	l_1	m_1	q_1	q_3	r_1
mm	10,1 max.	2,9 2,6	95 max.	2,8 min.	90	$31 \times 2,54$ $= 78,74$	5,08	0,6 0,5	2,7 2,5	1,35 min.	2,5 2,3	0,9 0,8	84,9 84,7	0,3	84,5 max.	10,0 9,80	1,27
in	0,398 max.	0,114 0,102	3,740 max.	0,110 min.	3,543	$31 \times 0,1$ $= 3,1$	0,2	0,024 0,020	0,106 0,098	0,053 min.	0,098 0,091	0,035 0,031	3,342 3,335	0,012	3,327 max.	0,393 0,386	0,05

Table 8 — Dimensions peculiar to Styles F and G

Style and number of contacts	F_1		i_1		i_3		k_1		p_5	
	mm	in	mm	in	mm	in	mm	in	mm	in
F 032	14,8	0,583	$1 \times 3,81$	$1 \times 0,15$	n.a. ^a	n.a. ^a	12,4	0,488	$1 \times 5,08$	$1 \times 0,2$
F 048	14,6	0,575	$2 \times 3,81$	$2 \times 0,15$			12,3	0,484	$2 \times 5,08$	$2 \times 0,2$
G 064	19,8 19,6	0,779 0,772	$2 \times 3,81$	$2 \times 0,15$	5,08	0,2	17,5 17,4	0,689 0,685	$3 \times 5,08$	$3 \times 0,2$

^a Not applicable.**Table 9 — Contact arrangement of Styles F, G, U, V and W**

Contact No.	1	2	3	4	5	6	7	8	25	26	27	28	29	30	31	32	Remarks
F 032 and U 032	Row z	x ^a		x		x		x	x		x		x		x		There are no contacts in row "d" but connectors shall be provided with contact cavities and entries
	b	x		x		x		x									
	d								x		x		x		x		
F 048 and U 048	Row z	x		x		x		x	x		x		x		x		
	b	x		x		x		x	x		x		x		x		
	d	x		x		x		x	x		x		x		x		
G 064 and V 064	Row z	x		x		x		x	x		x		x		x		
	b	x		x		x		x	x		x		x		x		
	d	x		x		x		x	x		x		x		x		
	f	x		x		x		x	x		x		x		x		
W 096	Row z	x		x		x		x	x		x		x		x		Connectors do not provide for contacts in rows z and d in odd-numbered positions
	a	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	b	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	c		x		x		x				x				x		

^a An "x" denotes a contact. These connectors are not provided for contacts in odd-number positions.

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5.2.2.2 Terminations

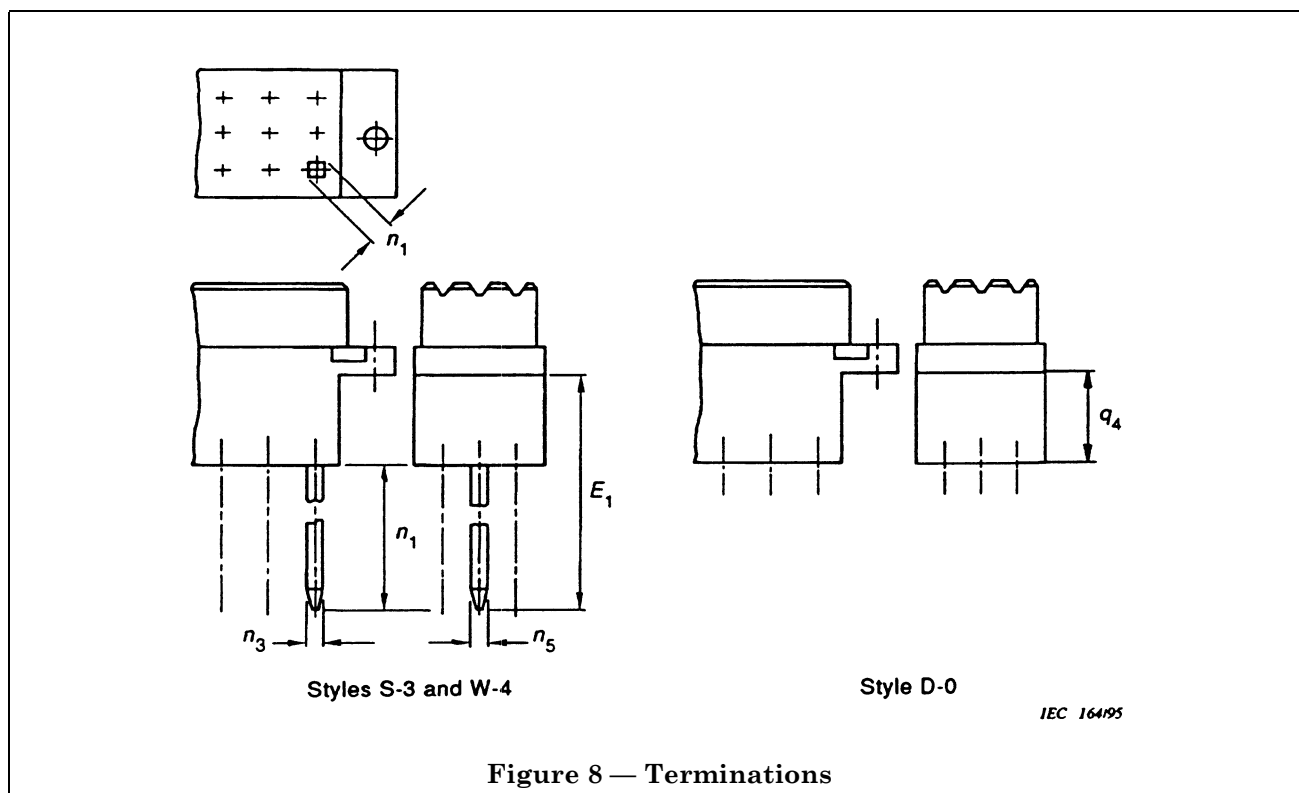


Table 10 — Dimensions of Styles F, G, U and V terminations

Style	Code-letter for style and number for application of termination	Application	E_1	n_1	n_3	n_5	n_7	q_4
F, G, U, V	S-3 ^a	Mounting on printed boards with nominal thickness up to 2,4 mm (0,094 in)	mm 14,8 max.	4,5 3,7	Suitable for holes 1,6 mm (0,063 in) nominal diameter in accordance with IEC 326-3			
			in 0,583 max.	0,177 0,146				
	W-4	Wrapped connections according to IEC 352-1	mm 32,5 max.	22,5 21,5			1,78 1,35	
			in 1,28 max.	0,886 0,847			0,070 0,053	
F, U	D-0	Insulation displacement connections according to IEC 352-4	mm	Suitable for conductors of 0,22 mm ² and 0,34 mm ²				13 max.
			in					0,512 max.

In case of procurement of new tools, change the dimensions to:

^a 4,0 mm to 3,4 mm (0,157 in to 0,134 in) suitable for mounting on printed boards with nominal thickness up to 2,4 mm (0,094 in) or optional 4,8 mm to 4,2 mm (0,189 in to 0,165 in), suitable for mounting on printed boards with nominal thickness up to 3,2 mm (0,126 in).

5.2.2.3 Removable crimp contacts

Under consideration

5.2.3.1 Dimensions

Figure 9 — Style M