

DETAIL SPECIFICATION

CECC 75 101-802

SPÉCIFICATION PARTICULIÈRE

BAUARTSPEZIFIKATION

February 1996

English version

Detail Specification:
Two-part connectors for printed boards
for high number of contacts
with basic grid of 2,54 mm on 3 or 4 rows

Spécification particulière:
 Connecteurs en 2 parties pour circuits
 imprimés avec grand nombre de
 contacts sur une grille de base
 de 2,54 mm, en 3 ou 4 rangées



This CECC Detail Specification was approved on 1994-09-21.

Up-to-date lists and bibliographical references of other detail specifications relating to EN 61076-4:1996 may be obtained on application to the Central Secretariat or to any CENELEC member.

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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

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Ref. No. CECC 75 101-802:1996 E

Foreword

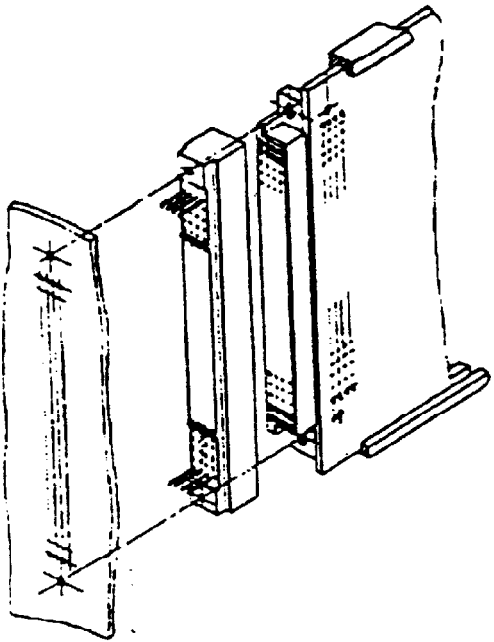
This Detail Specification was prepared by CLC/TC CECC/SC 48B (former WG 25), Low frequency connectors.

It is based, wherever possible, on the Publications of the International Electrotechnical Commission, and in particular on IEC 512, Electromechanical components for electronic equipment - Basic testing procedures and measuring methods.

The text of this Detail Specification was circulated to the members of CLC/TC CECC/SC 48B and was approved for publication under the accelerated procedure for the acceptance of detail specifications in accordance with Decisions 10, 11 and 12 of the minutes of the CECC CD meeting in document CECC (Secretariat)1838.

This Detail Specification is to be read in conjunction with EN 61076-4:1996, 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.

NOTE: EN 61076-4 has replaced EN 175100:1991 for all the relevant detail specifications.

LF CONNECTORS Specification available from CECC General Secretariat or from the addresses shown on the inside cover	CECC 75101-802 Page 3 of 59 pages
ELECTRONIC COMPONENTS OF ASSESSED QUALITY - DETAIL SPECIFICATION IN ACCORDANCE WITH PUBLICATION EN 61076-4:1996	1. SCOPE Detail specification for two part connectors for printed boards for high number of contacts with basic grid of 2,54 mm (0,1 in) on 3 or 4 rows Common mounting features: . 165 up to 459 contacts for the 3 rows type . 120 up to 684 contacts for the 4 rows type Fixed connector: with male contacts Free connector : with female contacts Terminations : solder wrap, press fit Accessories : Guides and polarization key
	Performances levels (PL) PL1 Assessment levels : G Combinations of performance and assessment level: 1G

Climatic categories : PL1 : 55/125/56

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Electrical characteristics : see 7.2

Mechanical characteristics : see 7.3

Ordering information : see 10

2 NORMATIVE REFERENCES

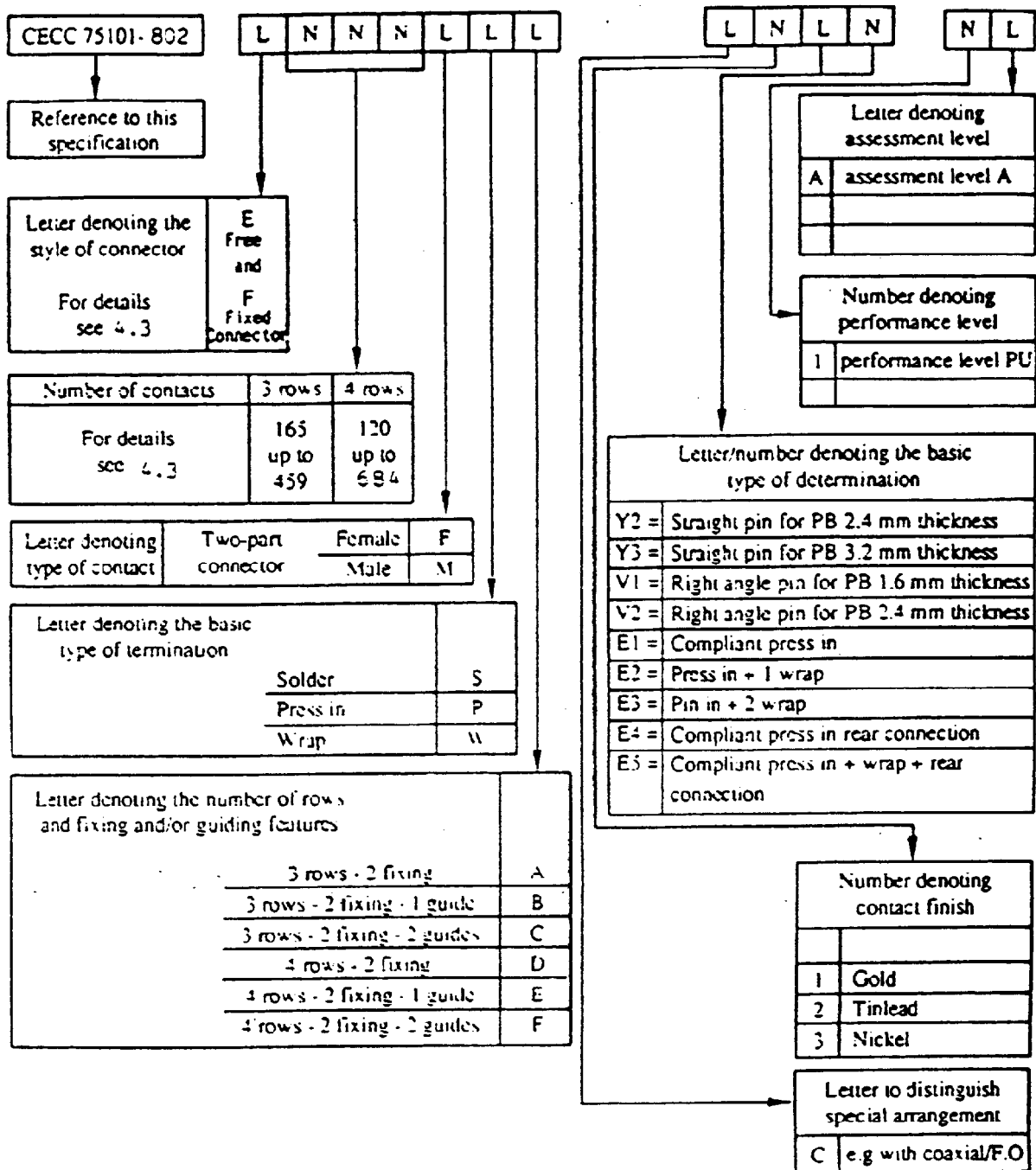
The following standards contain provisions which, through reference in this text, constitute provisions of this specification. At the time of publication, the editions were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate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

- IEC 97 (1991): Grid system for printed circuits
- IEC 194 (1988): Terms and definitions for printed circuits
- IEC 297-3 (1984): Dimensions of mechanical structures of the 482,6 mm (19 in) series -
part 3: subracks and associated plug-in units.
- 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 512-1 (1984): Electromechanical components for electronic equipment; basic testing
procedures and measuring methods
Part 1: General
Amendment No. 1 (1988)
- IEC 512-2 (1985): Part 2: General examination, electrical continuity and contact resistance
tests, insulation tests and voltage stress tests
- IEC 512-3 (1976): Part 3: Current-carrying capacity tests
- IEC 512-4 (1976): Part 4: Dynamic stress tests
- IEC 512-5 (1992): Part 5: Impact tests (free components), static load tests
(fixed components), endurance tests and overload tests
- IEC 512-6 (1984): Part 6: Climatic tests and soldering tests
- IEC 512-7 (1988): Part 7: Mechanical operating tests and sealing tests
- IEC 512-8 (1984): Part 8: Connector tests (mechanical) and mechanical tests on contacts and
terminations
Amendment No. 1 (1985)
- IEC 512-9 (1992): Part 9: Miscellaneous tests

- IEC 603-1 (1991) : Connectors for frequencies below 3 MHz for use with printed boards
Part 1 : General rules and guide for the preparation of detail specifications.
- IEC 760 (1989) : Flat-quick connect terminations
- IEC 947-1 (1988) : Low-voltage switchgear and controlgear.
Part 1 : General rules
- ISO 468 (1982) : Surface roughness. Parameters, their values and general rules for specifying requirements
- IEC QC001001 (1986) : Basic rules of the IEC quality assessment system for electronic components (IECQ)
- IEC QC001002 (1986) : Rules of procedure of the IEC quality assessment system for electronic components (IECQ)

3 TYPE DESIGNATION

Connectors, performance level and assessment level to this specification shall be designated by the following system:



Note : "L" indicates letter
"N" indicates number

4 COMMON FEATURES

4.1 Mounting dimensions (All original dimensions are in millimeters)

4.1.1 Reference system

A line in the mounting plane of the free connector or board mounted connector and passing through the nominal position of the centres of the mounting holes is used as datum line.

4.1.2 Fixed connector

4.1.2.1 Position of the mounting holes

As per figure 1, 2 and 3.

4.1.2.2 Position of the termination

The centre distances of the terminations shall be 2,54 mm (0,1 in) or multiple thereof.

4.1.3 Printed board assembly

4.1.3.1 Position of the free connector as per clause 5.3.3

4.1.3.2 Position of the mounting hole of the free connector as per clauses 5.6.2/5.6.4

4.1.3.3 Position of the printed board

4.1.3.4 Position of the grid of the printed board

The terminations of the fixed connector (male connector) shall fit into holes in the printed wiring board according to IEC 625 located on a grid of 2,54 mm (0,1 in) according to IEC 97

4.1.4 Isometric view and value

Reference letter	Number of rows	Dimensions		Legend
		mm	in	
e4	3	2,54	0,100	Distance between datum line and a line through the centre of the terminations
	4	3,81	0,150	
e2	3	3,91	0,153	Distance between datum line and component side of the printed board
	4	5,18	0,203	
e1	3	5,08 max	0,200 max	Distance between the printed board edge and the first row of component holes of the board mounted connector
	4	5,08 max	0,200 max	
h	3	4,57	0,179	Distance between the centre mounting hole and a datum line through the centre of the 1st row of contact
	4	5,84	0,229	
e5	3	20,11	0,791	Range in which reliable contact is ensured
	4	20,57	0,809	

TABLE 1

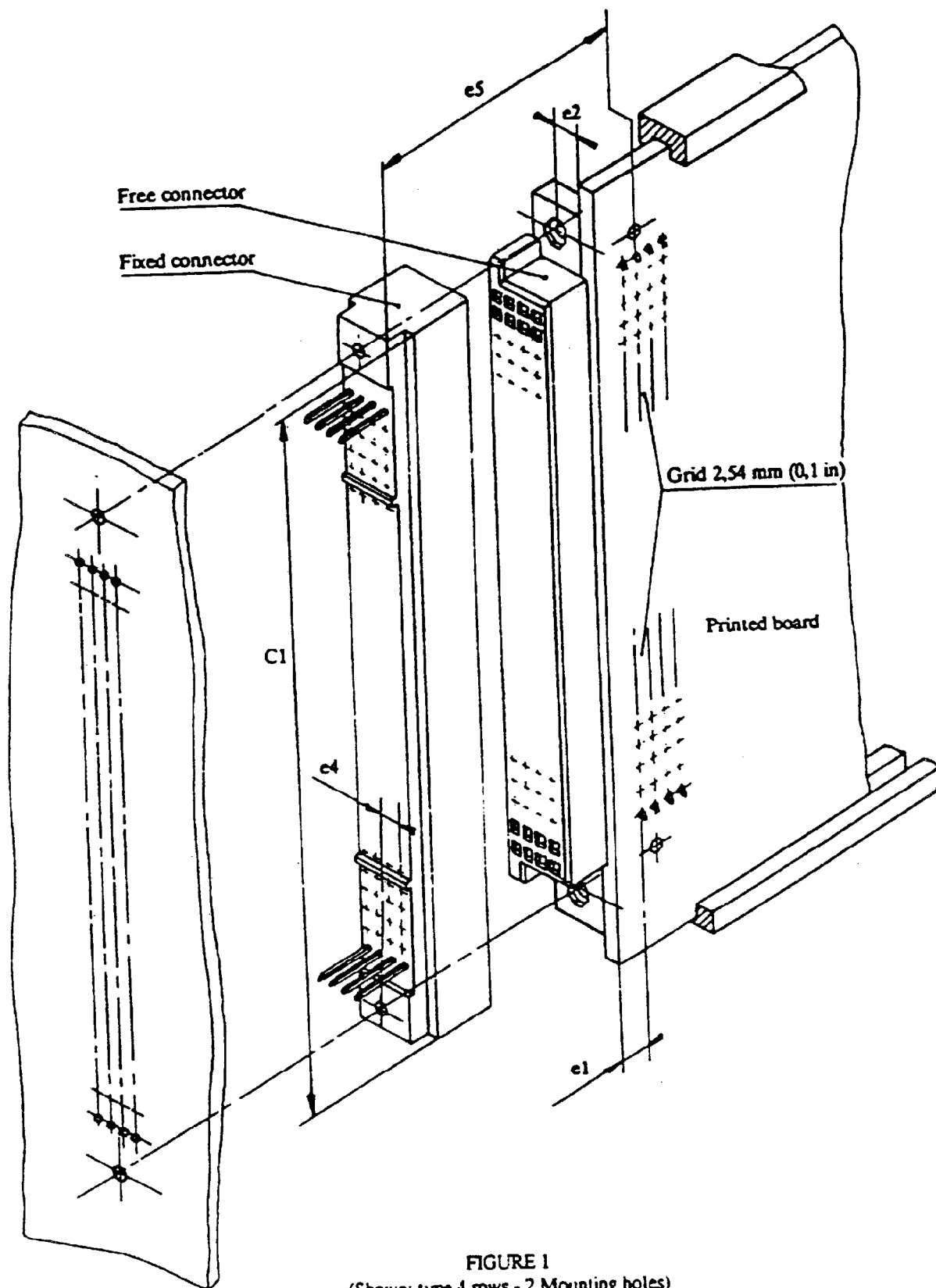
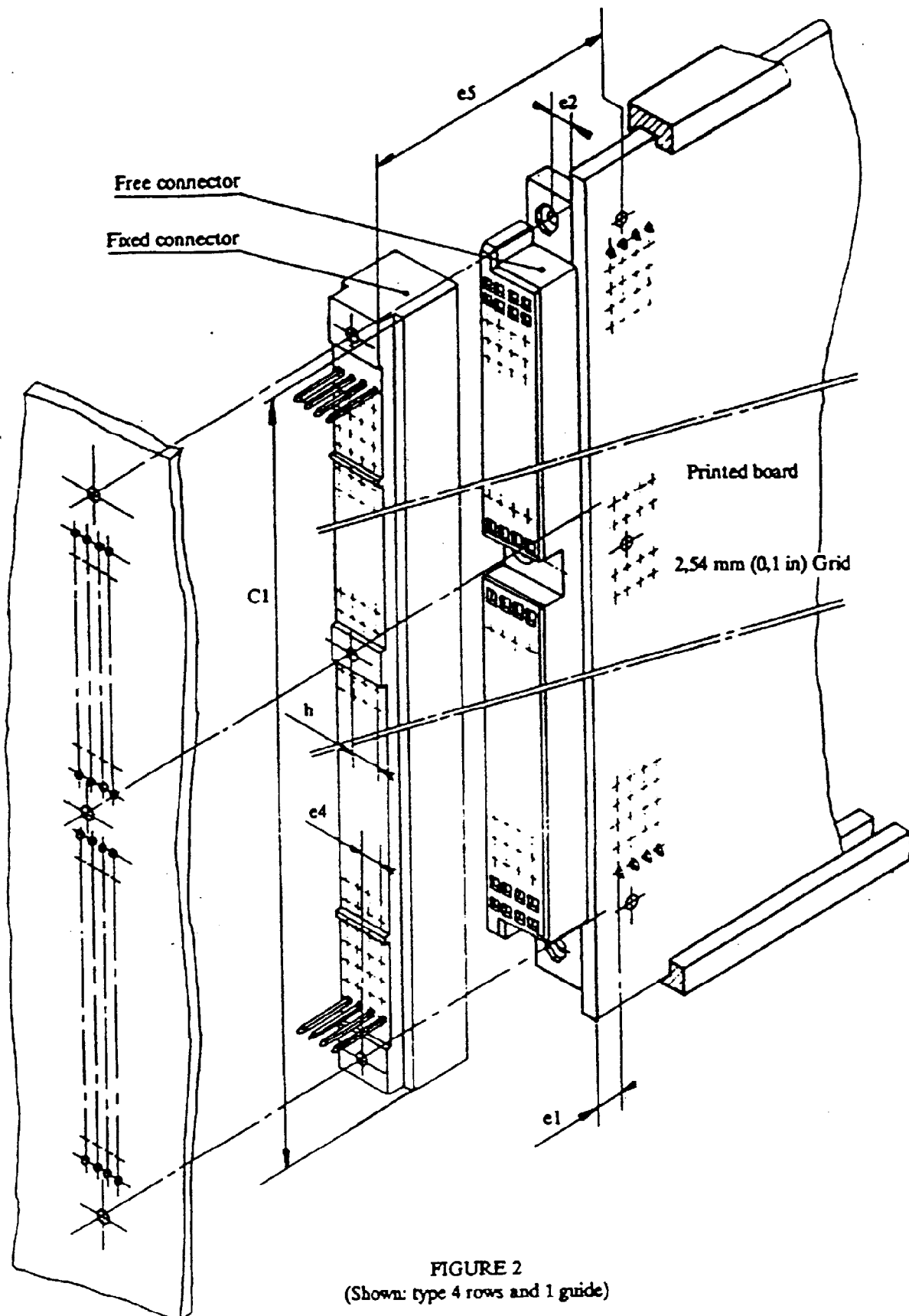
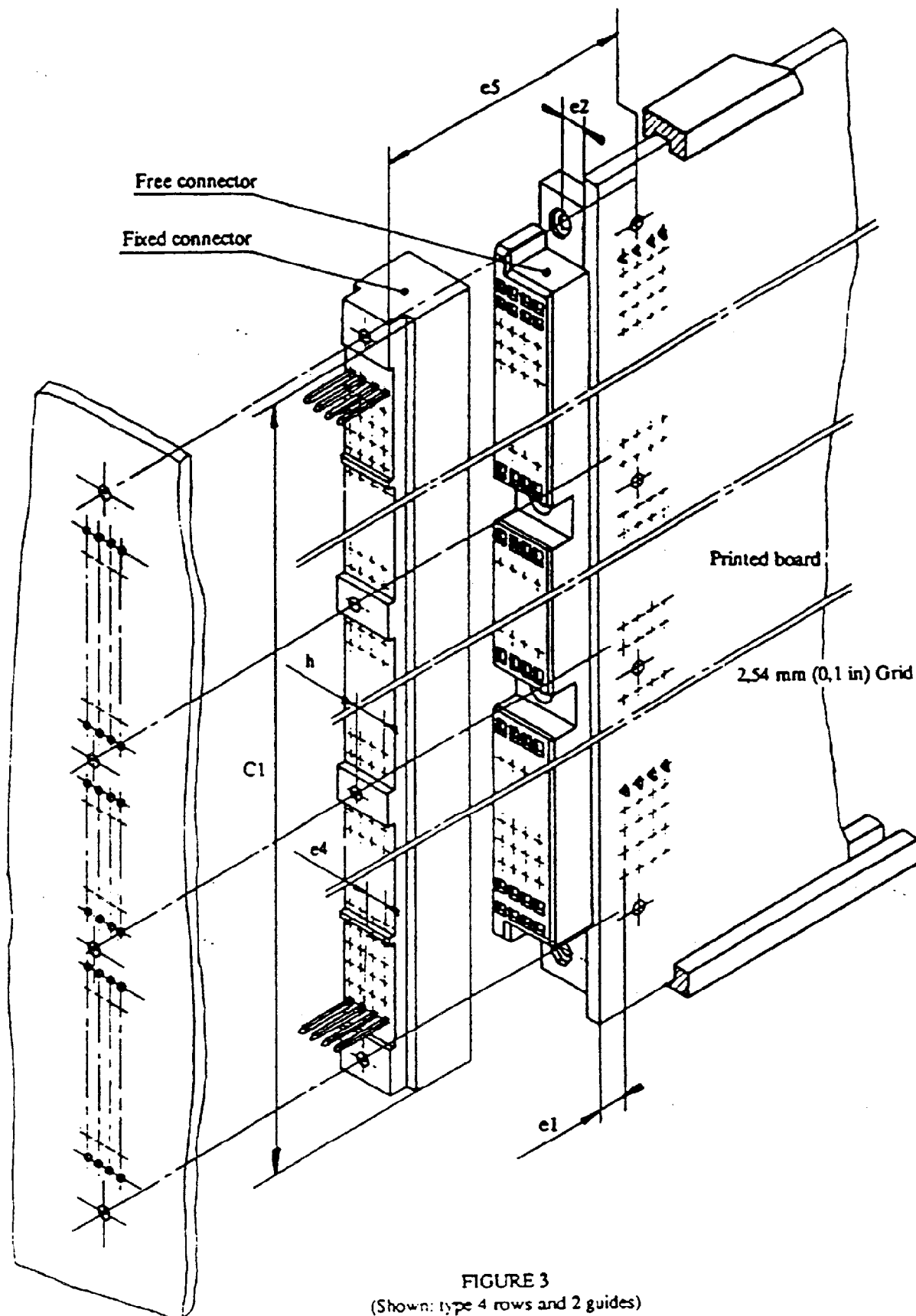


FIGURE 1
(Shown: type 4 rows - 2 Mounting holes)





4.2 Mating information

4.2.1 Perpendicular to plug-in direction

Provision is made on these connectors for the use of optional guide (and polarization keys) in addition to the fixing holes (see clause 4.3).

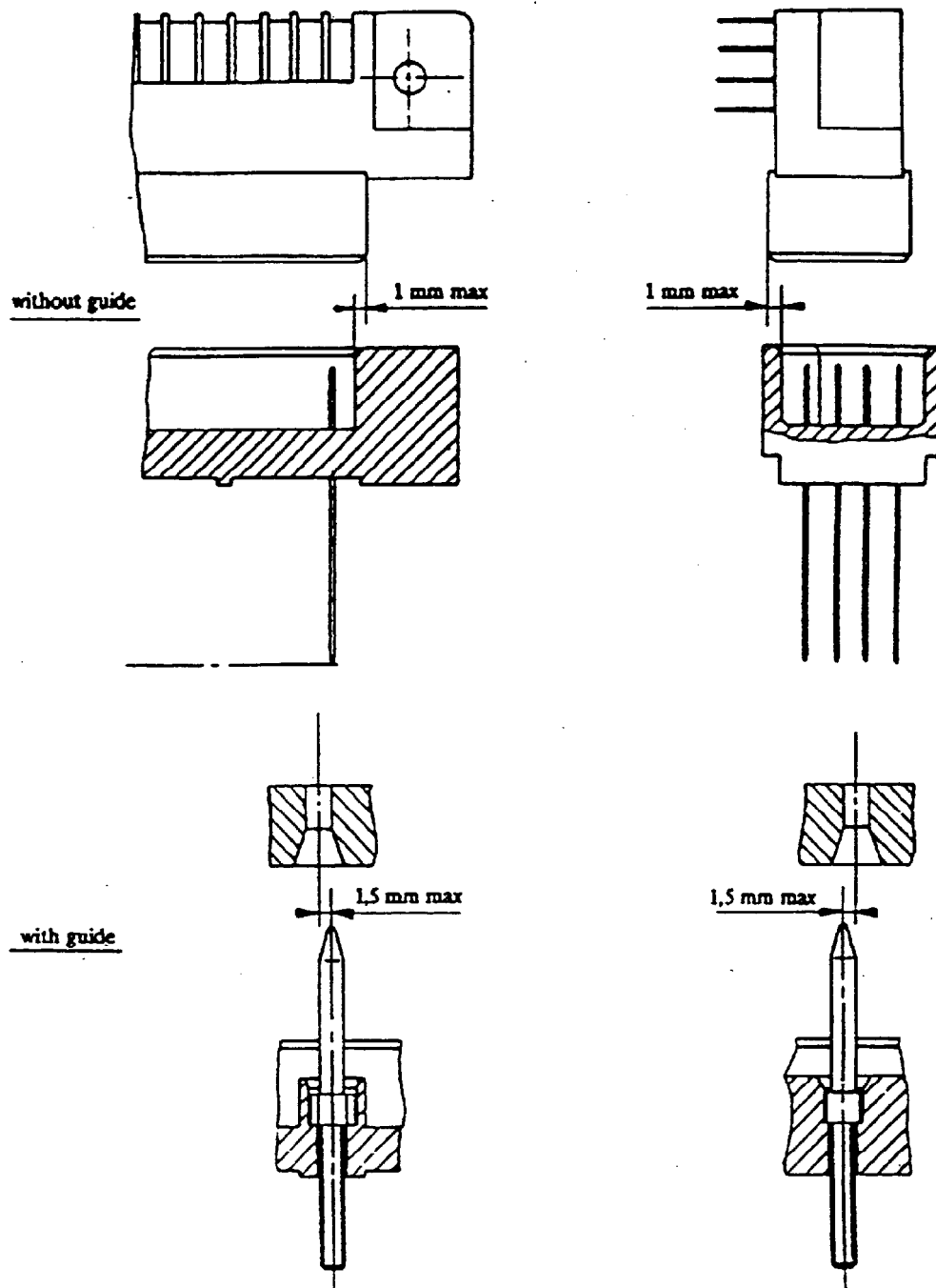


FIGURE 4

4.2.2 Inclination

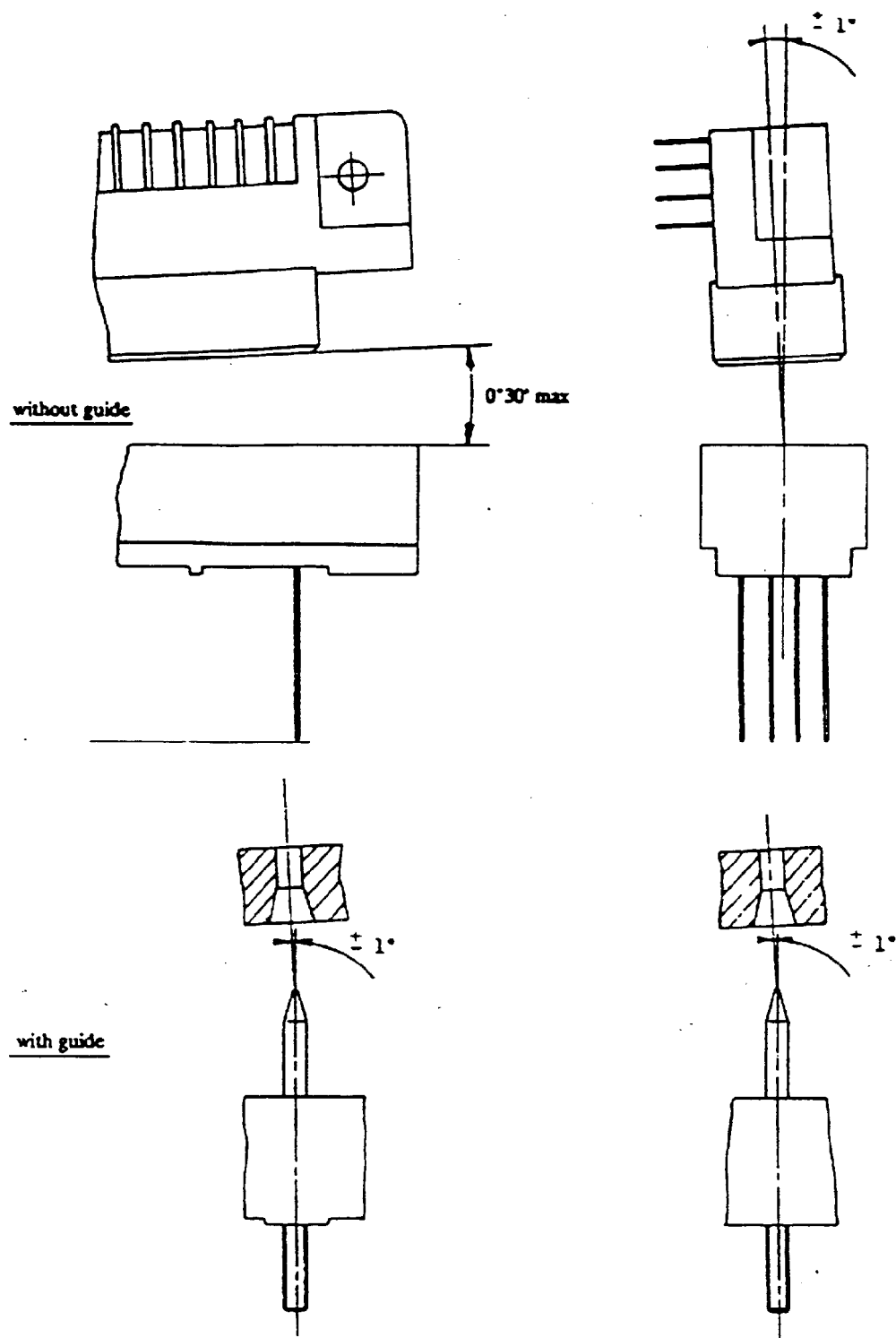


FIGURE 5

4.3 Survey of types



FIGURE 6: without guide

3 rows		4 rows	
Number of contact/row	Total number of contacts	Number of contact/row	Total number of contacts
55	165	30	120
60	180	40	160
65	195	45	180
70	210	50	200
75	225	55	220
80	240	60	240
		65	260
		70	280
		75	300
		80	320

TABLE 2

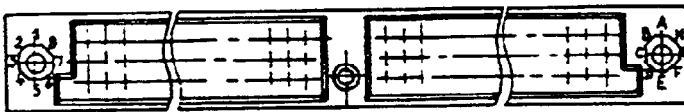


FIGURE 7: with a central guide (optional)

3 rows		4 rows	
Number of contact/row	Total number of contacts	Number of contact/row	Total number of contacts
86	258	80	320
92	276	86	344
98	294	92	368
104	312	98	392
110	330	104	416
116	348	110	440
		116	464
		122	488

TABLE 3

4.3 (Cont'd)

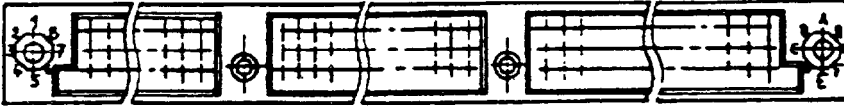


FIGURE 8: with 2 guides (optional)

3 rows		4 rows	
Number of contact/row	Total number of contacts	Number of contact/row	Total number of contacts
129	387	129	516
135	405	135	540
141	423	141	564
117	441	147	588
153	459	153	612
		159	636
		165	660
		171	684

TABLE 4

5 DIMENSIONS

5.1 General

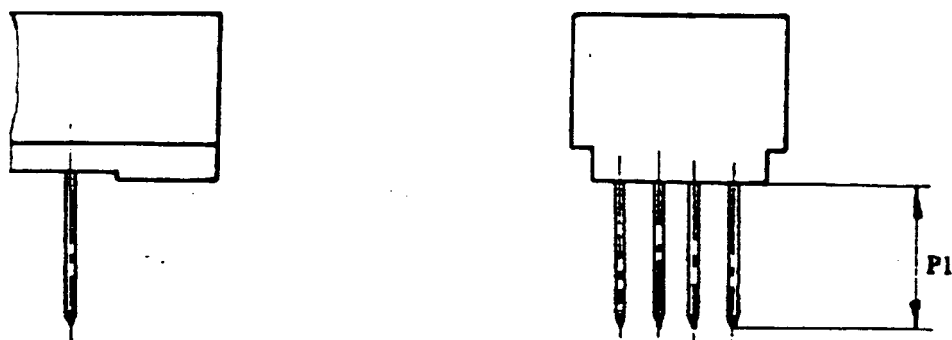


FIGURE 9

5.2 Fixed connector with male contacts

5.2.1 Termination dimension

Type	Application	Pl(mm)	Requirements
E1	Compliant press-in post	6.50 max	For plated through hole + 0.09 Ø 1 - 0.06
E2	Compliant press-in post + 1 wrapped connection	13,54 ± 0,50	
E3	Compliant press-in post + 2 wrapped connection	18,62 ± 0,50	
E4	Compliant press-in post + rear connection	13,54 ± 0,50	
E5	Compliant press fit post + Wrapping + rear connection	18,62 ± 0,50	
Y2	Straight through solder post for PB 2,4 mm thickness	3,7 ± 0,50	For plated through hole
Y3	Straight through solder post for PB 3.2 mm thickness	4,5 ± 0,35 0	

TABLE 5

5.2.2 Fixed connector dimensions for 3 rows and 2 mounting holes

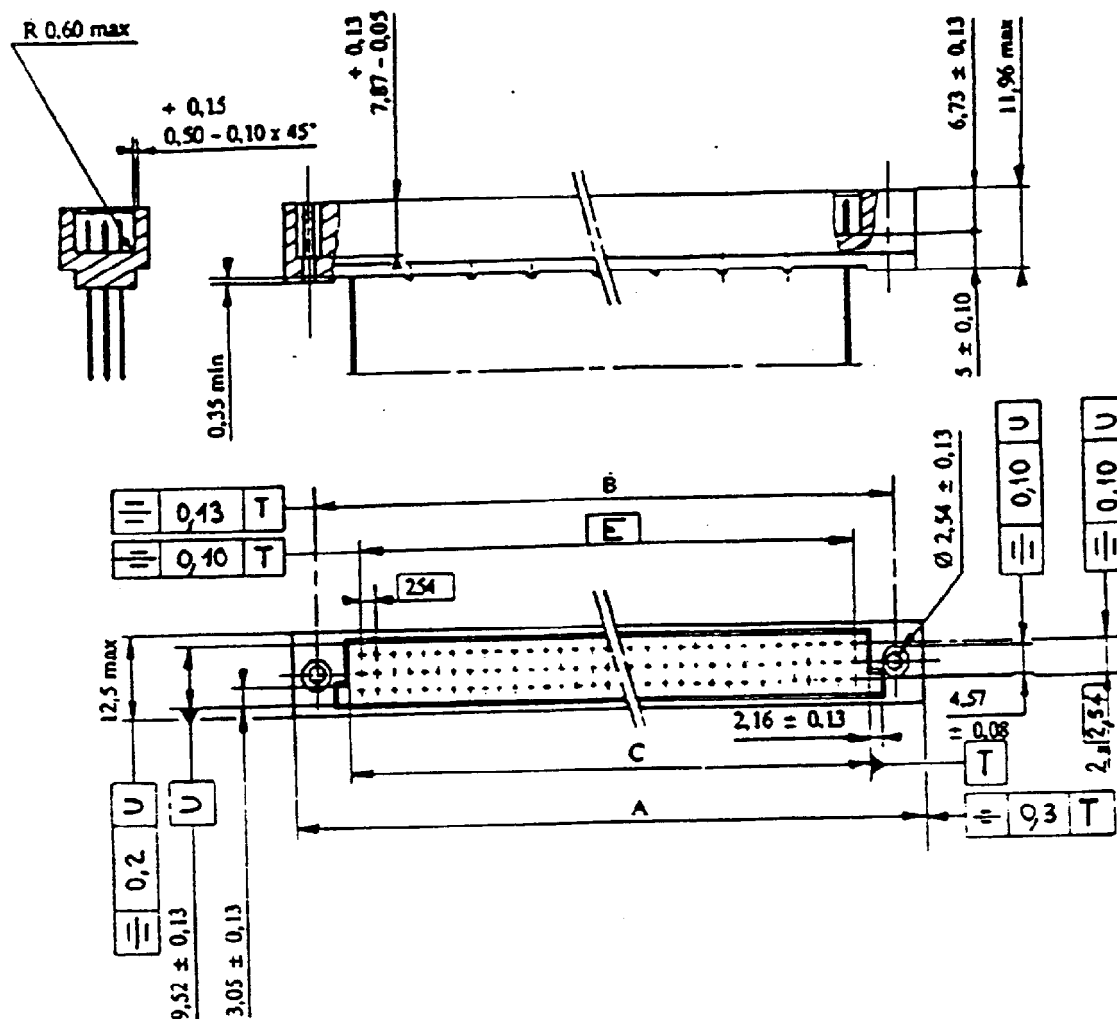


FIGURE 10

Total number of contacts - 3 rows -	A ± 0,4 (mm)	B ± 0,2 (mm)	C ± 0,2 (mm)	(mm) E
165	158,75	151,13	140,97	137,16
180	171,45	163,83	153,67	149,86
195	184,15	176,53	166,37	162,56
210	196,85	189,23	179,07	175,26
225	209,55	201,93	191,77	187,96
240	222,25	214,63	204,47	200,66

TABLE 6

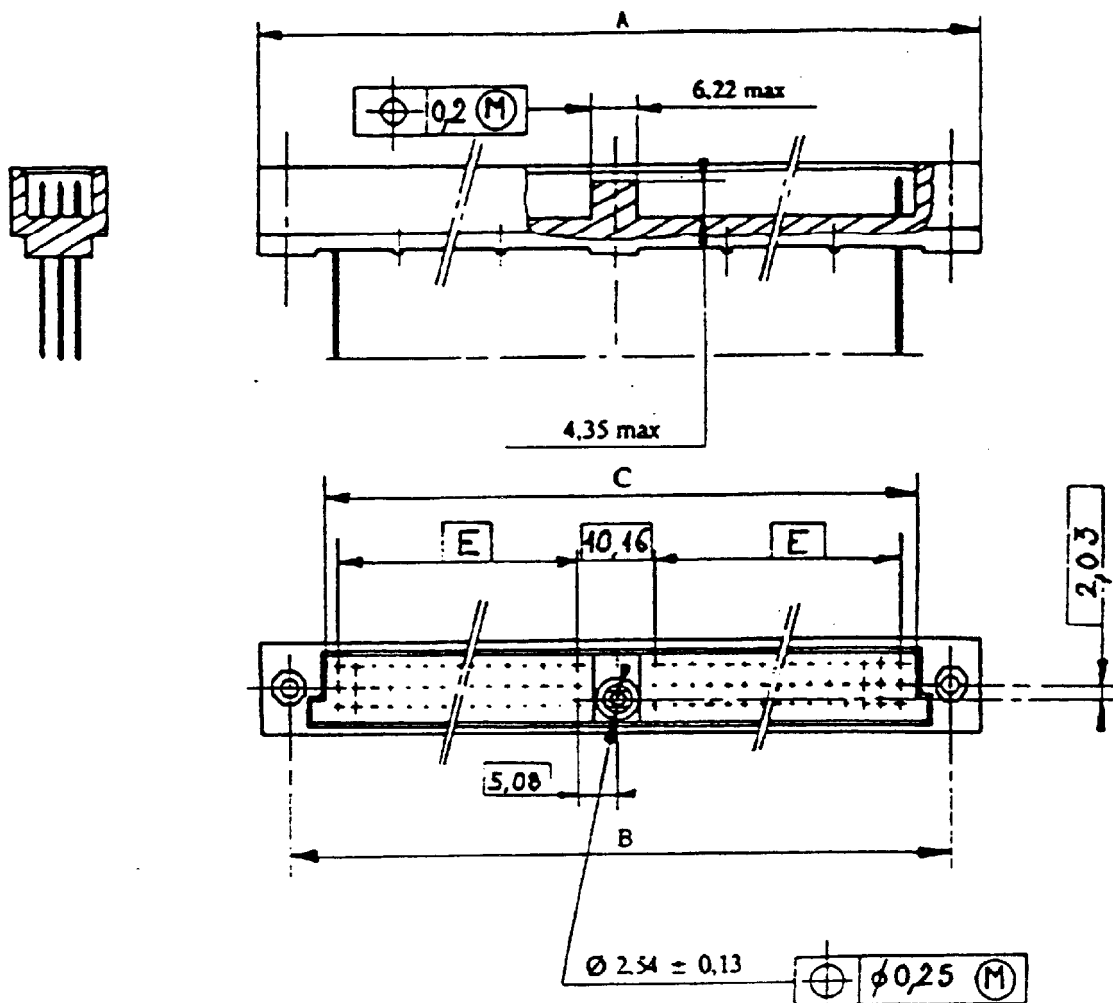


FIGURE 11

Total number of contacts - 3 rows -	$A \pm 0,4$ (mm)	$B \pm 0,2$ (mm)	$C \pm 0,2$ (mm)	E (mm)
258	245,11	237,48	227,33	106,68
276	260,35	252,72	242,57	114,30
294	275,59	267,96	257,81	121,92
312	293,83	283,20	273,05	129,54
330	306,07	298,44	288,29	137,16
348	321,31	313,68	303,53	144,78

TABLE 7