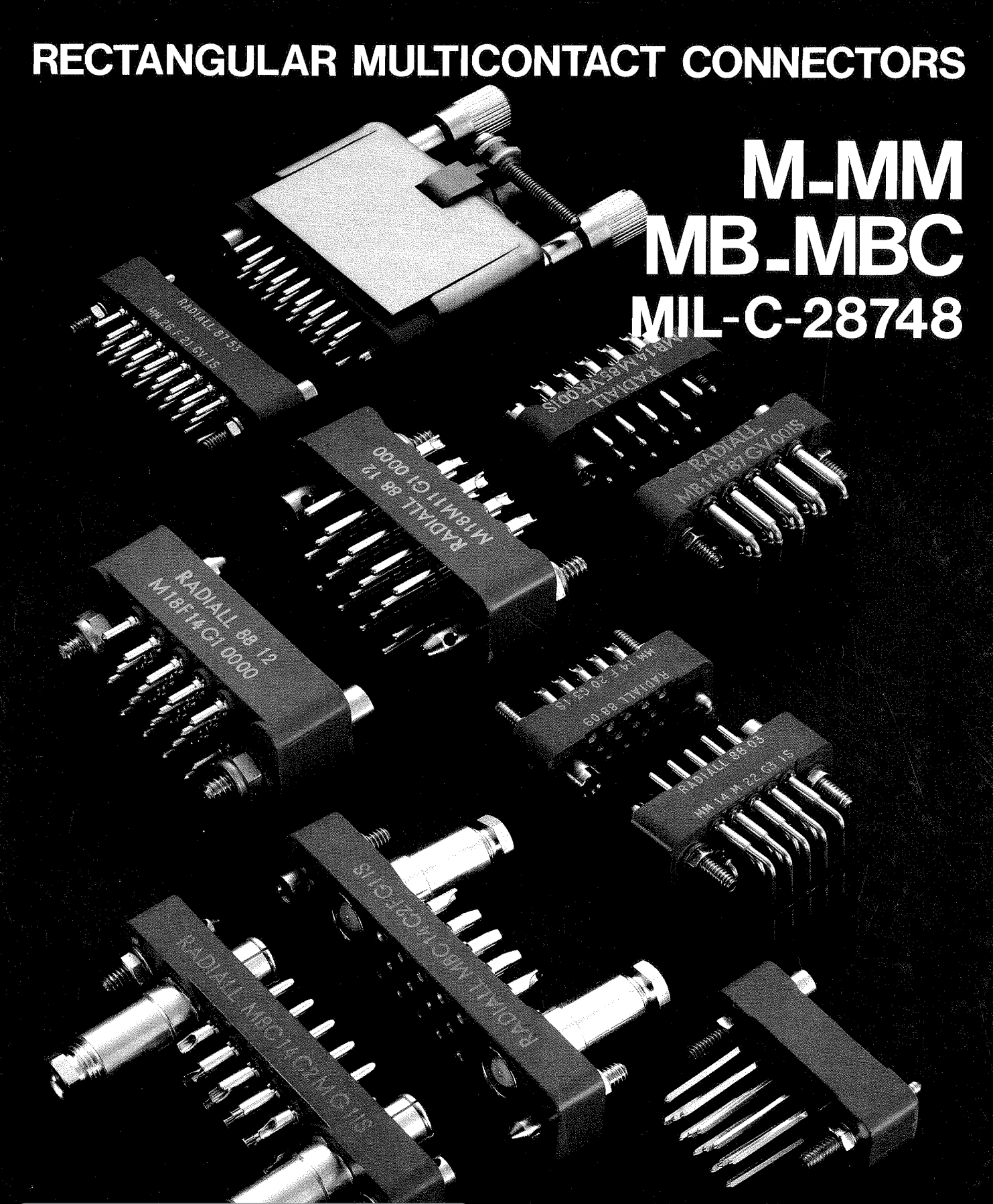
RECTANGULAR MULTICONTACT CONNECTORS

M-MM
MB-MBC
MIL-C-28748



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RADIALL®

Miniature rectangular multicontact connectors

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June 1994 edition

M MM MB MBC series

CONNECTORS

Miniature or subminiature rectangular multicontact connectors meet the requirements of the standard defined below. They are rugged connectors and offer high performance for high contact density.

Their mass and volume make them particularly suitable for the following applications : civil and military aircraft, in-flight equipments, instrumentation, missile, etc . . .

Primarily designed for rack and panel assemblies they can be adapted for cable to cable applications with cable clamp hoods.

The connectors in each series consist of an insulator with male and female contacts, which include several pin sizes.

Each connector features a male guide at one end and a female guide at the other. This arrangement ensures polarization of the connector when coupled. These guides can be smooth (rack guides) or screw closing (fixed or rotating jackscrews).

M – MM – MB series	conforms to	American standard MIL-C-28748 performance requirements
M series	conforms to	French standard UTE-C-93426 HE601
MM series	conforms to	French standard UTE-C-93426 HE611

CONTACTS

Male and female contacts are made of copper base alloy plated gold over nickel. The female contacts have 4 slots which ensures perfect mating, constant contact pressure and excellent mechanical and electrical performance. The contacts have a slight amount of float in order to allow self alignment during mating.
Each series includes a different terminations type ; solder pot, straight or right angle solder pin for PCB, wrapping.

M – MB – MBC series	contact size 20 (.039 (1) dia.)
MM series	contact size 22 (.030 (0,762) dia.)

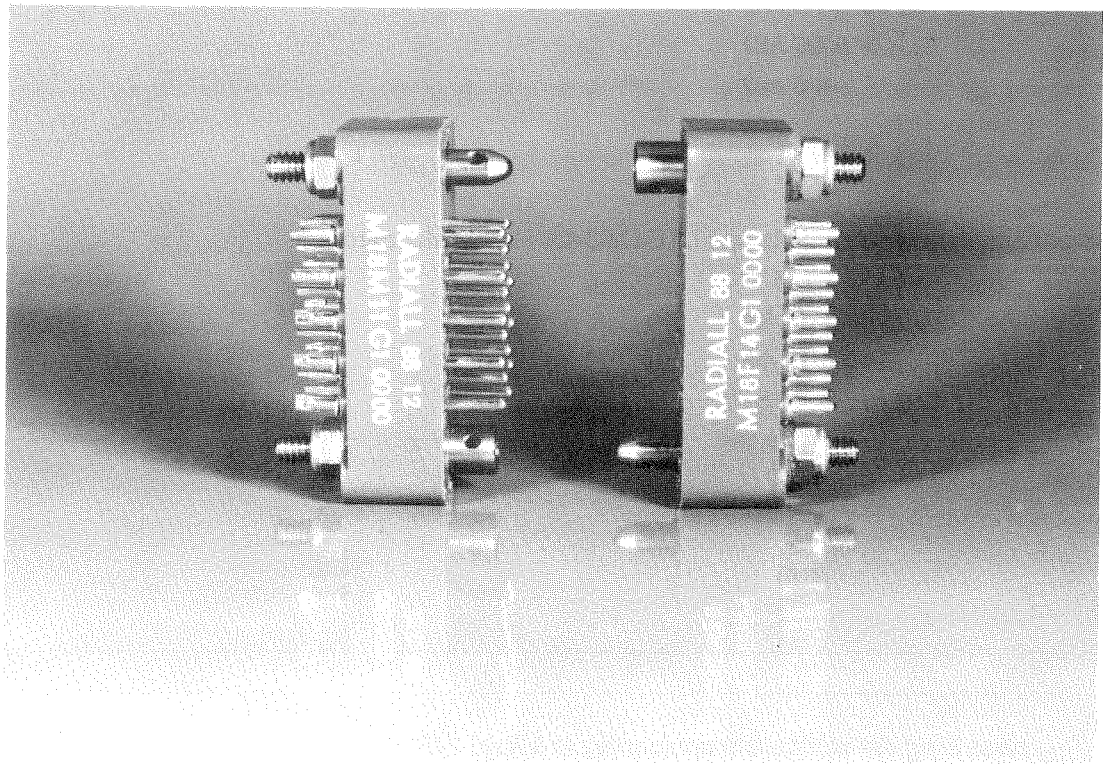
ACCESSORIES

A range of top or side entry hoods with cable clamps in yellow anodized aluminium alloy are available. They are designed to protect the soldered wire connections provide strain relief to the cable and facilitate the disengagement of the mated connectors.

Fitted with threaded posts they are suitable for connectors fitted with rack guides or fixed jackscrews. When fitted with rotating jackscrew guides they are fixed to the connectors without guides and jackscrews.

For the **MB series** there are also thermoplastic covers for "potting" ensuring that the terminated wires at the back of the insulator are protected.

Miniature rectangular multicontact connectors M series



This series consists of five sizes of connector with contact arrangements of 7, 14, 18, 26, and 34 size 20 contacts (.039 (1) dia.) with solder pot for wire and straight solder pin for printed circuits terminations.

These connectors can be fitted with rack guides at each end with or without ground continuity, or with fixed or rotating jackscrews.

Soldered termination protection and cable strain relief can be achieve using either top or side entry hoods.

CHARACTERISTICS

ELECTRICAL

Conforming to MIL-C-28748 performance requirements and UTE-C-93426 HE601 standard

- *Current rating :* *7.5 A*
- *Test voltage at sea level :* *1500 Vrms / 50 Hz*
- *Operating voltage (sea level) :* *500 Vrms / 50 Hz*
- *Operating voltage (70,000 feet) :* *100 Vrms / 50 Hz*
- *Insulation resistance :* *> 5000 MΩ*
- *Contact resistance :* *< 5 mΩ*

MECHANICAL

Conforming to MIL-C-28748 performance requirements and UTE-C-93426 HE601 standard

- *Temperature range :* *−55°C +125°C*
- *Durability :* *500 mating cycles*
- *Shock :* *50 g/11 ms*
- *Vibration :* *20 g / 10-2000 Hz*
- *Humidity :* *56 days*
- *Contact insertion force :* *2 N*

MATERIALS

Insulator :	*glass filled diallylphthalate conforming to MIL-M-14SDG-F*
Pin contact :	*copper alloy, plating : gold over nickel*
Socket contact :	*copper alloy, plating : gold over nickel*
Rack guides :	*stainless steel*
Fixed and rotating jackscrews :	*stainless steel*
Ground continuity guides :	*copper alloy, plating : gold over nickel*
Hoods :	*Yellow anodized aluminum alloy*

CONNECTOR MATED PAIR WEIGHT (g)

Contact arrangement	07	14	18	26	34
without guides	*9.7*	*13.4*	*18.2*	*24.8*	*35*
with rack guides	*15.2*	*18.9*	*23.7*	*30.3*	*40.5*
with guides and hoods with rotating jackscrews	*29.5*	*31.5*	*40.7*	*51.4*	*77.8*

M 26 F 11 GV 00 00

SERIES

Contact arrangement (see page 8)
07 – 14 – 18 – 26 – 34

Contact type
M : pin
F : socket

Termination style (see page 8)
11 : solder pot
14 : straight solder pin for PCB

Guides and jackscrews (see page 10)
00 : without guides and jackscrews (1)
G1 : with UNC rack guides (2)
G6 : with ISO rack guides (2)
G7 : with ISO ground continuity guides (2)
GV : with ISO fixed jackscrews (2)
VL : with ISO long rotating jackscrews

Without rotating jackscrews or threaded posts

Without hood

(1) connectors to be used with hoods HC and HV (see pages 12–13).

(2) these connectors can be fitted with hoods HA and HL (see pages 12–13).

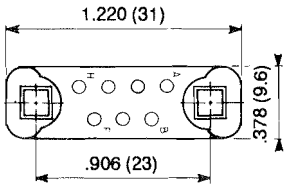
CONNECTOR IDENTIFICATION

The part number is printed on the insulator side.

Part number for hoods pages 12–13.

MALE CONNECTOR – WIRING SIDE

07



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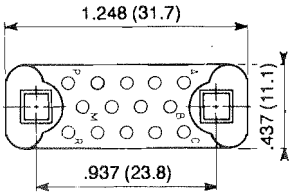

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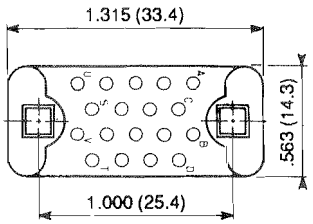

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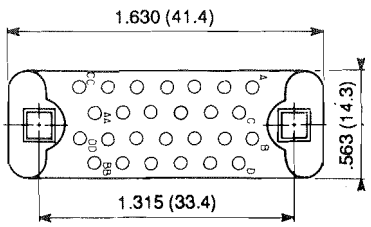

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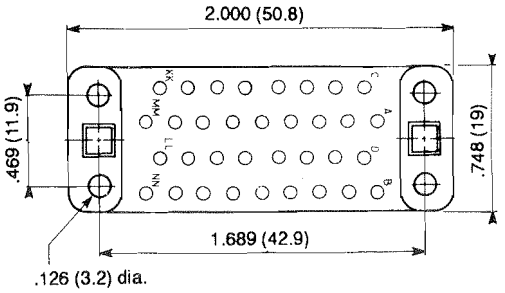
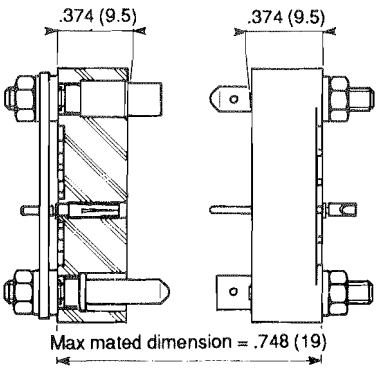
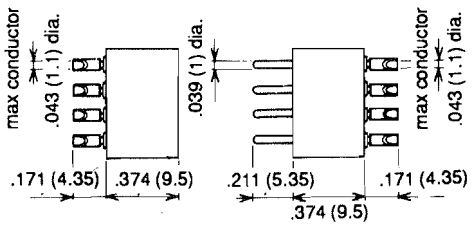


MATING DIMENSIONS



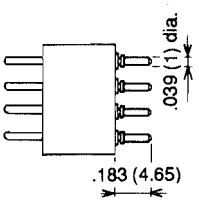
TYPE 11

Solder pot



TYPE 14

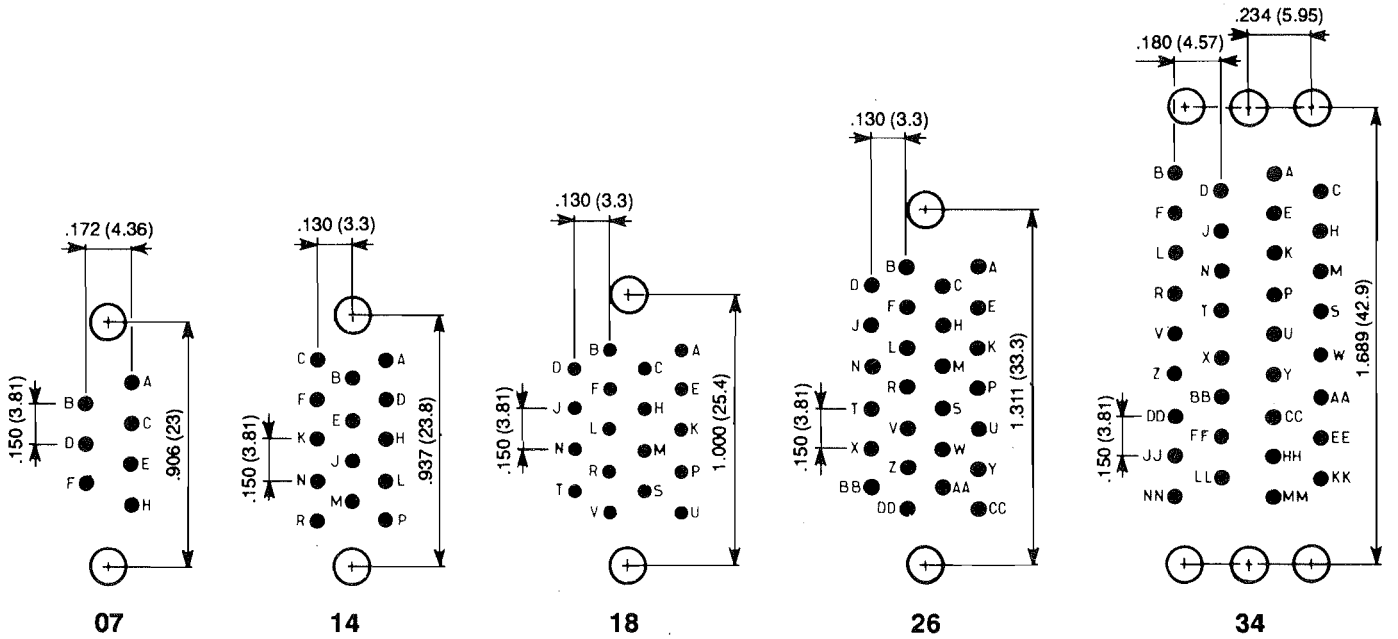
Straight solder pin for PCB



For termination style type 14, the connectors are supplied with insulating washers which act as spacers between the insulator and the PCB.

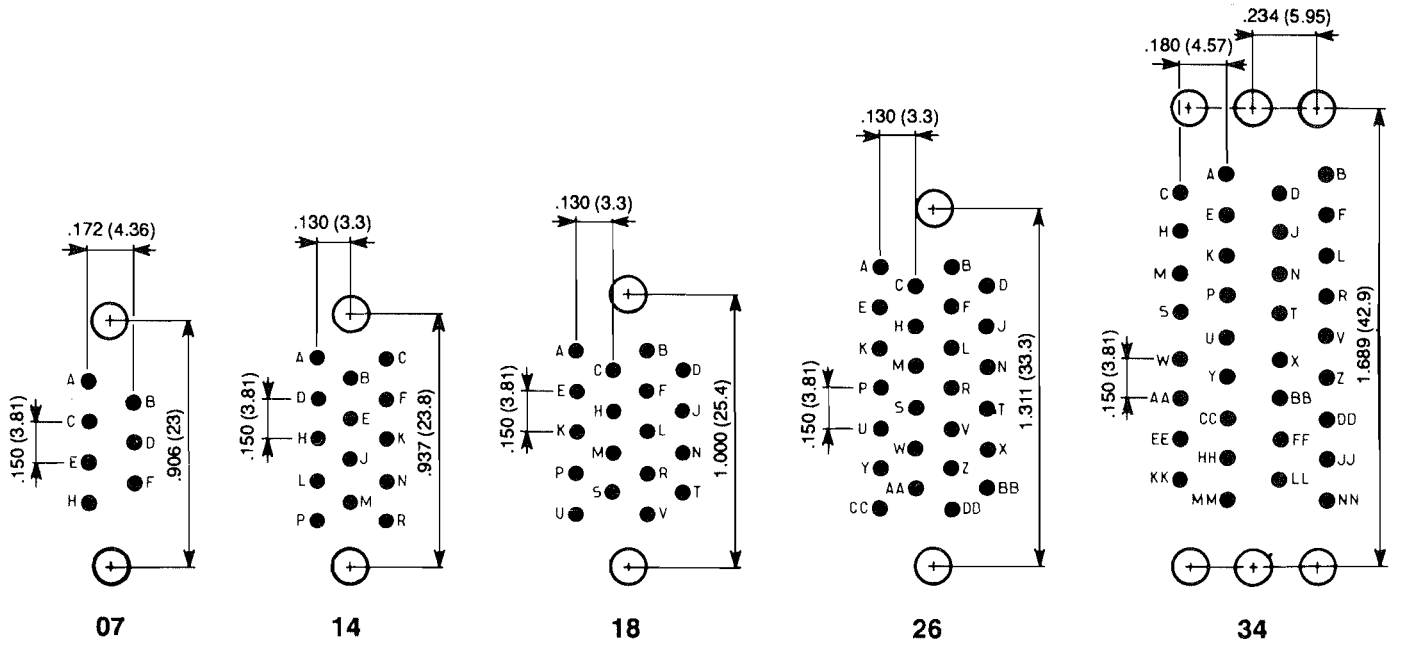
TYPE 14 TERMINATION STYLE – Connector with pin contacts

PCB component side view



TYPE 14 TERMINATION STYLE – Connector with socket contacts

PCB component side view



- Printed circuit drilling .043 $^{+.004}$ (1.1 $^{+0.1}$)

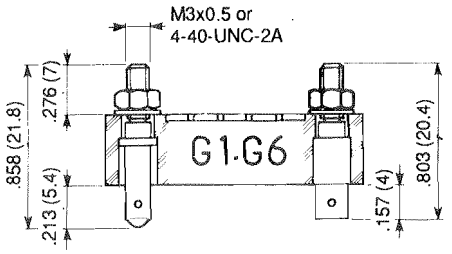
○ Drilling to fix the connector .126 (3,2) dia.. Required for guides G1 – G6 – G7 and GV fixing only.

Guides and jackscrews

Stainless steel guides and jackscrews (except G7) are supplied with either ISO (M3 x 0.5) or UNC (4-40 UNC) threads and jackscrews.
The guides type : G1 – G6 – G7 – GV and VL required are to be defined in the part number (see page 7).
The standard configuration of guides and jackscrews is :

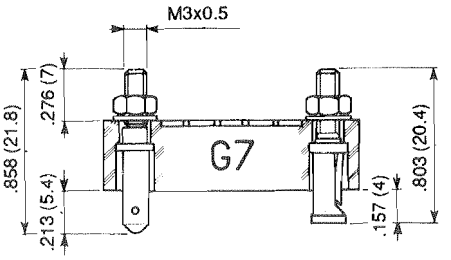
Male guide (or jackscrew) at the end nearest contact A of the female connector.
Female guide (or jackscrew) at the end nearest contact A of the male connector.

RACK GUIDES TYPE G1-G6



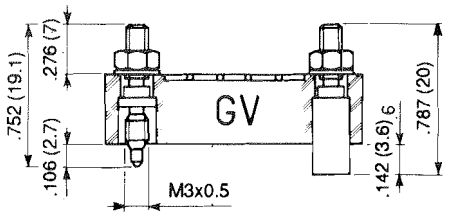
Type G1 : UNC (4-40 UNC)
Type G6 : ISO (M3 x 0.5)

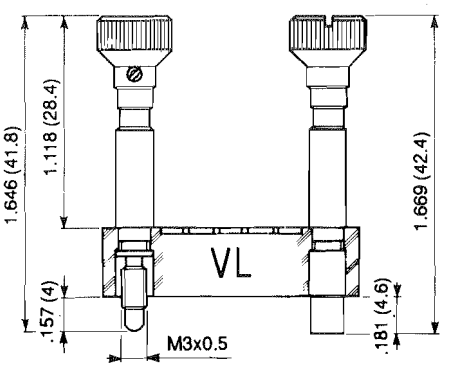
GROUND CONTINUITY GUIDES TYPE G7



Male guide : brass gold over nickel plated
Female guide : phosphor bronze gold over nickel plated

FIXED AND ROTATING JACKSCREWS TYPE GV-VL





G1 – G6 – G7 – GV guides and jackscrews can be used with hood HA and HL

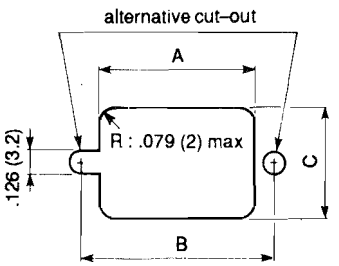
Mating force : 3cm/daN
Cannot be used with any hoods

Panel cut–out

DIMENSIONS

Contacts arrangements	A	B	C
07	.669 (17)	.905 (23)	.039 (10)
14	.807 (20.5)	.937 (23.8)	.453 (11.5)
18	.807 (20.5)	1.000 (25.4)	.579 (14.7)
26	1.102 (28)	1.311 (33.3)	.579 (14.7)

07 – 14 – 18 – 26



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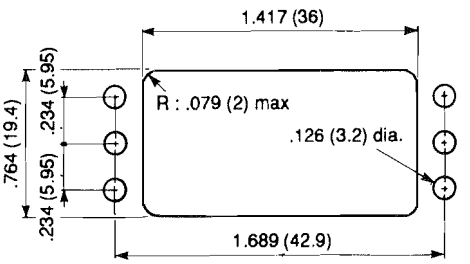
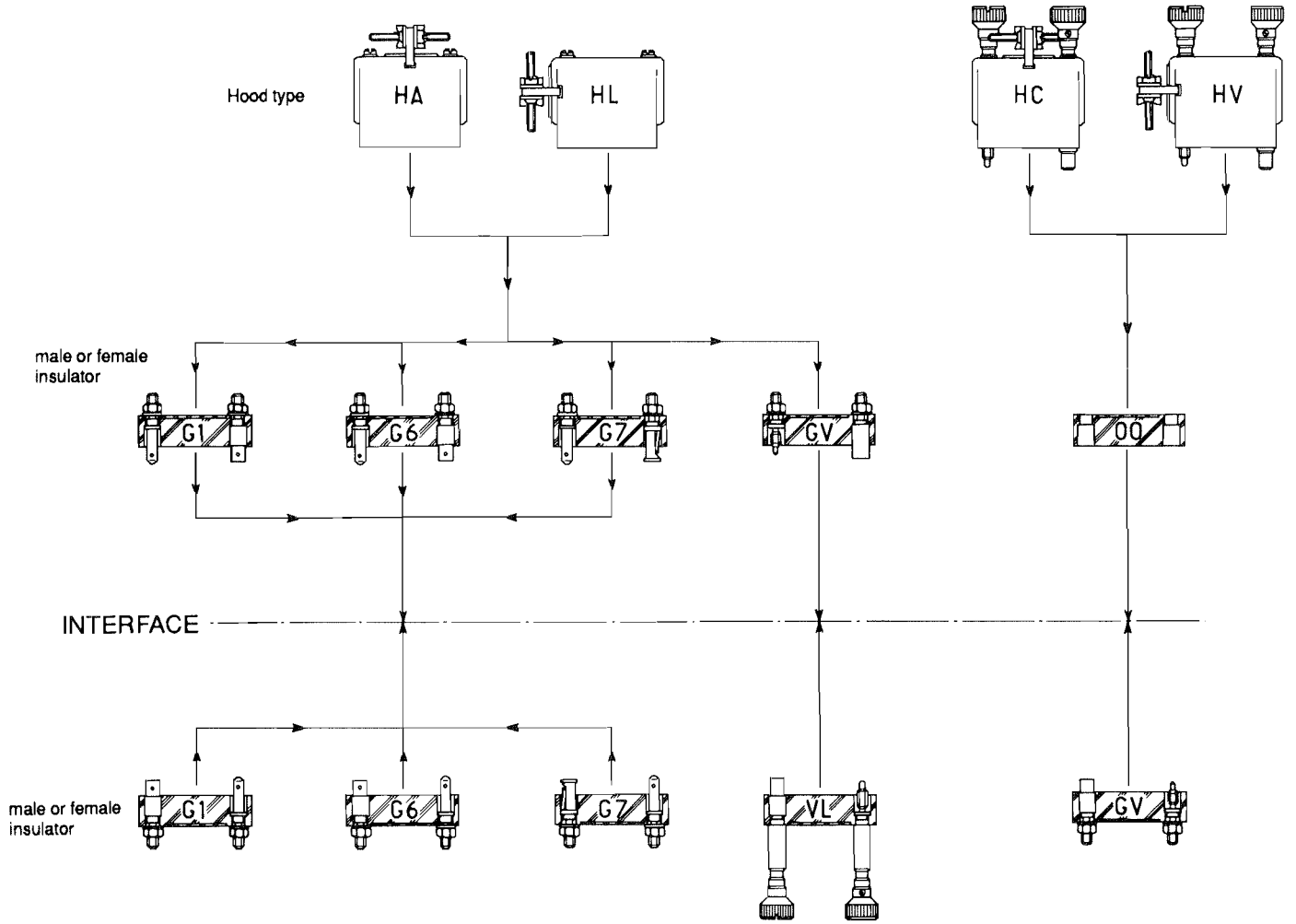
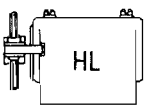
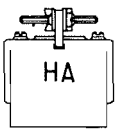
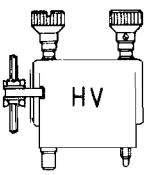
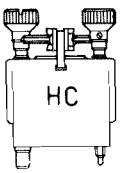


USE WITH HOOD (Termination style type 11 only)



USE WITHOUT HOOD (Termination style type 11 and 14)

M Hood type availability

THREAD		HOOD		THREAD	
NC (4-40 UNC)	ISO (M3 x 0.5)	Side entry	Top entry	ISO (M3 x 0.5)	NC (4-40 UNC)
07 14 18 26 34	07 14 18 26 34			07 14 18 26 34	07 14 18 26 34
Not available	14 18 26 34			07 14 18 26 34	Not available

Fixing of hoods only suitable for insulator with termination style type 11 (solder pot).

TYPE HA

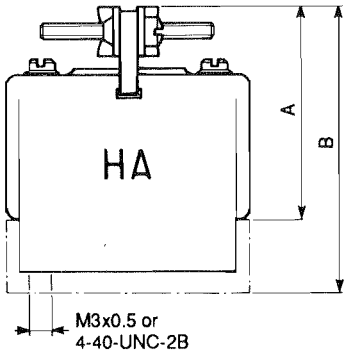
Hoods supplied with two internal threaded posts wich are screwed into the guides G1, G6, G7 type or GV jackscrews.

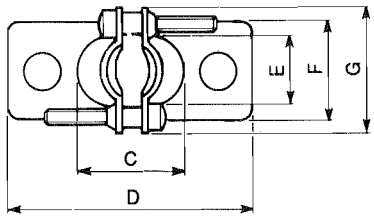
TYPE HC

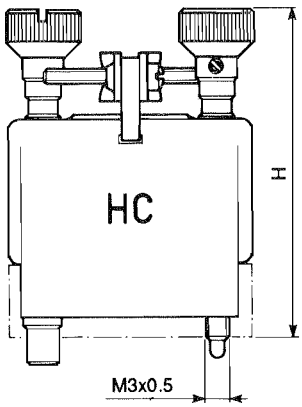
Hoods supplied with two long rotating jackscrews. These hoods are mounted on connectors without guides or jackscrews (code 00).

PART NUMBERS

Contacts arrangements	Type HA with threads M3 x 0.5	Type HA with threads 4-40 UNC	Type HC with screws M3 x 0.50
07	M 07 HA IS	M 07 HA NC	M 07 HC IS
14	M 14 HA IS	M 14 HA NC	M 14 HC IS
18	M 18 HA IS	M 18 HA NC	M 18 HC IS
26	M 26 HA IS	M 26 HA NC	M 26 HC IS
34	M 34 HA IS	M 34 HA NC	M 34 HC IS







Mating force : 1.5cm/daN

DIMENSIONS

Contacts arrangements	A	B	C	D	E	F	G	H
07	1.299 (33)	1.673 (42.5)	.590 (15)	1.220 (31)	.311 (7.9)	.440 (11.2)	.622 (15.8)	2.110 (53.6)
14	1.047 (26.6)	1.421 (36.1)	.590 (15)	1.252 (31.8)	.378 (9.6)	.500 (12.7)	.622 (15.8)	1.76 (44.7)
18	1.252 (31.8)	1.626 (41.3)	.610 (15.5)	1.311 (33.3)	.440 (11.2)	.642 (16.3)	1.063 (27)	2.110 (53.6)
26	1.780 (45.2)	2.153 (54.7)	.780 (19.8)	1.630 (41.4)	.440 (11.2)	.642 (16.3)	1.063 (27)	2.488 (63.2)
34	1.752 (44.5)	2.126 (54)	1.059 (26.9)	2.000 (50.8)	.563 (14.3)	.827 (21)	1.063 (27)	2.488 (63.2)

Fixing of hoods only suitable for insulator with termination style type 11 (solder pot).

TYPE HL

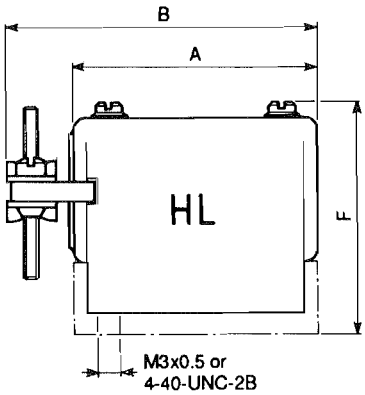
Hoods supplied with two internal threaded posts wich are screwed into the guides G1, G6, G7 types or GV jackscrews.

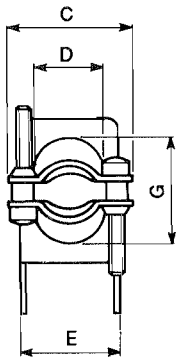
TYPE HV

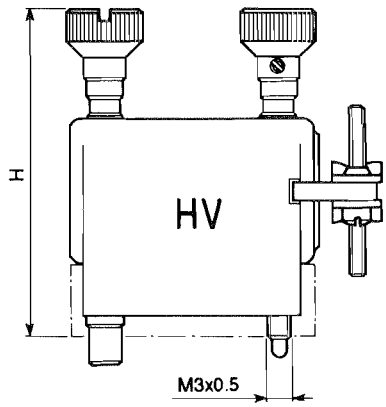
Hoods supplied with two long rotating jackscrews. These hoods are mounted on the connectors without guides or jackscrews.

PART NUMBERS

Contacts arrangements	Type HL with threads M3 x 0.5	Type HL with threads 4-40 UNC	Type HV with screws M3 x 0.5
07	M 07 HL IS	M 07 HL NC	–
14	M 14 HL IS	M 14 HL NC	M 14 HV IS
18	M 18 HL IS	M 18 HL NC	M 18 HV IS
26	M 26 HL IS	M 26 HL NC	M 26 HV IS
34	M 34 HL IS	M 34 HL NC	M 34 HV IS







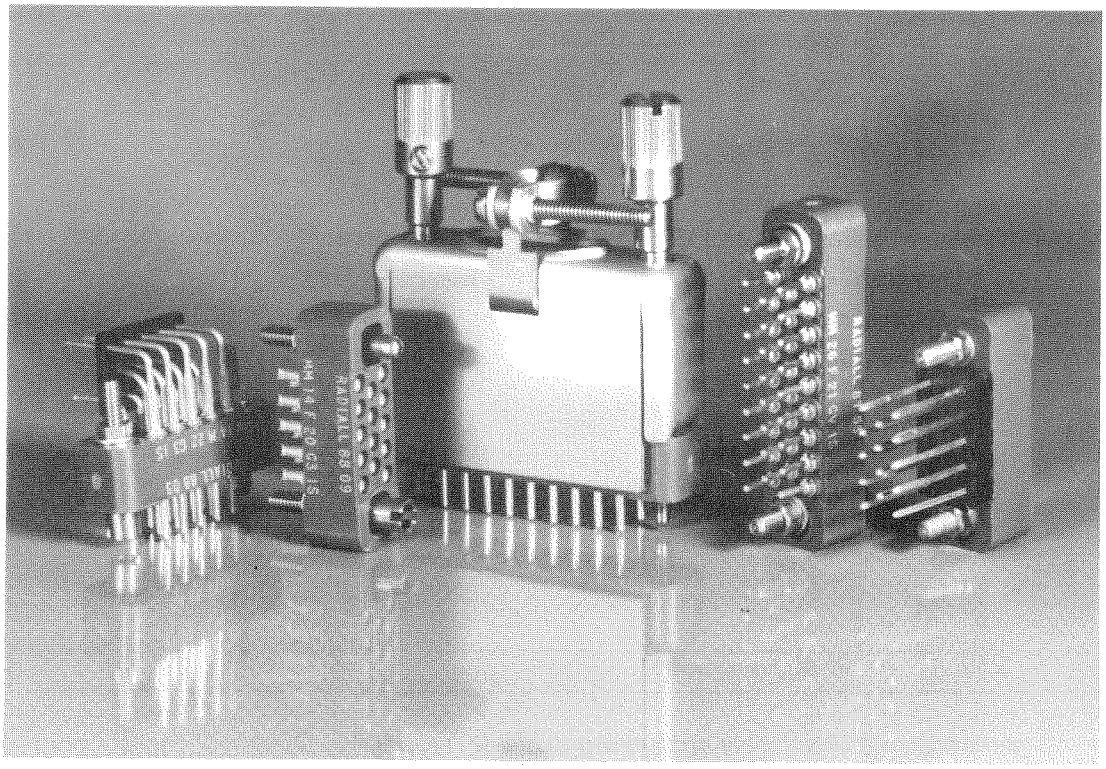
Mating force : 1.5cm/daN

DIMENSIONS

Contacts arrangements	A	B	C	D	E	F	G	H
07	1.220 (31)	1.535 (39)	-	.311 (7.9)	.440 (11.2)	1.457 (37)	.311 (7.9)	-
14	1.252 (31.8)	1.547 (39.3)	.622 (15.8)	.378 (9.6)	.500 (12.7)	1.736 (44.1)	.591 (15)	2.110 (53.6)
18	1.311 (33.3)	1.811 (46)	1.063 (27)	.440 (11.2)	.642 (16.3)	1.736 (44.1)	.689 (17.5)	2.110 (53.6)
26	1.630 (41.4)	2.126 (54)	1.063 (27)	.440 (11.2)	.642 (16.3)	1.736 (44.1)	.780 (19.8)	2.110 (53.6)
34	2.000 (50.8)	2.421 (61.5)	1.063 (27)	.563 (14.3)	.827 (21)	1.744 (44.3)	.811 (20.6)	2.110 (53.6)

Hood type HL for contact arrangement 07 is fitted with a longitudinal cable clamp and is not available in hood type HV.
Fixing of hoods only suitable for insulator with termination style type 11 (solder pot).

Subminiature rectangular multicontact connectors MM series



This series consists of six sizes of connector with contact arrangements of 7, 14, 20, 26, 34 and 50 size 22 contacts (.030 (0.762) dia.).

The **MM series** offers four types of termination :

- solder pot for wire (AWG 22 max)
- straight solder pin for PCB
- right angle solder pin for PCB
- wire wrap.

These connectors are fitted with rack guides or fixed or rotating jackscrews at each end. A protective covering for wire terminations can be installed on the connector.

CHARACTERISTICS

ELECTRICAL

Conforming to MIL-C-28748 performance requirements and UTE-C-93426 HE611 standard

- *Current rating :* *5 A*
- *Test voltage at sea level :* *1000 Vrms / 50 Hz*
- *Operating voltage (sea level) :* *350 Vrms / 50 Hz*
- *Operating voltage (70,000 feet) :* *90 Vrms / 50 Hz*
- *Insulation resistance :* *> 5000 MΩ*
- *Contact resistance :* *< 5 mΩ*

MECHANICAL

Conforming to MIL-C-28748 performance requirements and UTE-C-93426 HE611 standard

- *Temperature range :* *−55°C +125°C*
- *Durability :* *500 mating cycles*
- *Shock :* *100 g/6 ms*
- *Vibration :* *20 g / 10-2000 Hz*
- *Humidity :* *56 days*
- *Contact insertion force :* *3 N*

MARTERIALS

Insulator :	*glass filled diallylphthalate conforming to MIL-M-14SDG-F*
Pin contact :	*copper alloy, plating : gold over nickel*
Socket contact :	*copper alloy, plating : gold over nickel*
Guides and jackscrews:	*stainless steel*
Hoods :	*Yellow anodized aluminum alloy*

CONNECTOR MATED PAIR WEIGHT (g)

Contact arrangement	07	14	20	26	34	50
without guides	2.8	5	6.6	8.1	12.1	15
with rack guides	4.7	7	8.4	10	13	17.1
with hoods and guides or jackscrews	12	15.5	17	19.4	23.2	32.8

MM 34 M 20 VL IS

SERIES

Contact arrangement (see page 18)
07 – 14 – 20 – 26 – 34 – 50

Contact type
M : pin
F : socket

Termination style (see page 19)
20 : solder pot
21 : straight solder pin for PCB
22 : Right angle solder pin for PCB
23 : wrapping contact 1 wrap
24 : wrapping contact 2 wrap
25 : wrapping contact 3 wrap

Guides and jackscrews (see page 22)
00 : without guides and jackscrews (1)
G3 : rack guides (2)
GV : fixed jackscrews (2)
VR : short rotating jackscrews
VL : long rotating jackscrews (3)

Thread, guides or jackscrews
00 : without guides and jackscrews
IS : ISO (M2 x 0.4)
NC : 2-56 UNC

(1) connectors to be used with hood HC (see page 24) and rotating jackscrews.

(2) connectors to be used with hood HA (see page 24).

(3) VL jackscrew assembly is not available for termination style type 22.

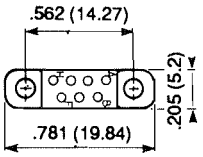
CONNECTOR IDENTIFICATION

The part number is printed on the insulator side.

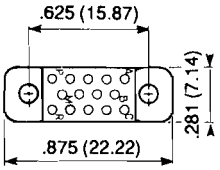
Part number for hoods page 24.

MALE CONNECTOR – WIRING SIDE

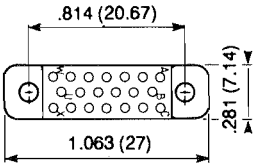
07



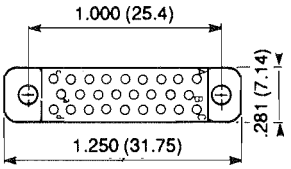
14



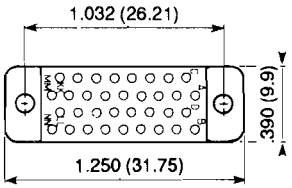
20



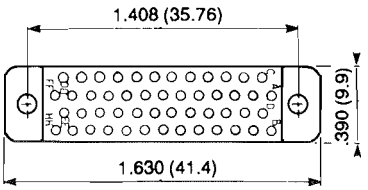
26



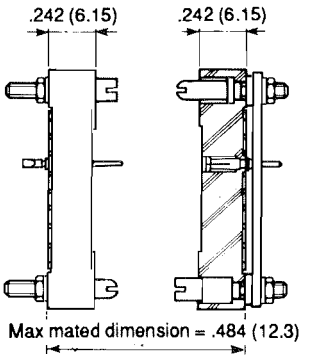
34



50

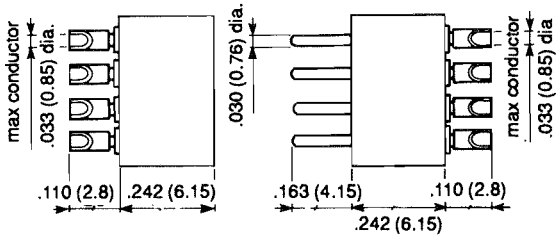


MATING DIMENSIONS



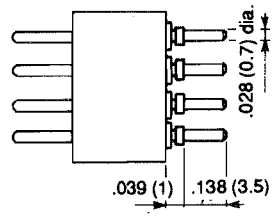
TYPE 20

Solder pot



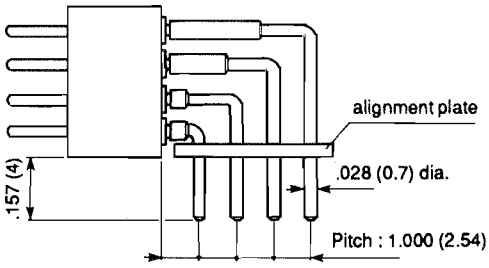
TYPE 21

Straight solder pin for PCB



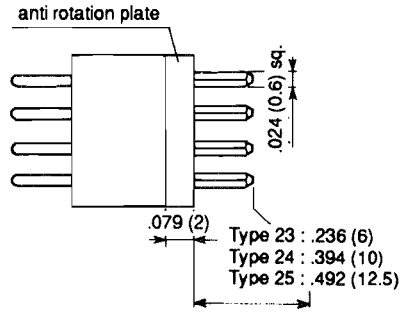
TYPE 22

Right angle solder pin for PCB



TYPE 23 – 24 – 25

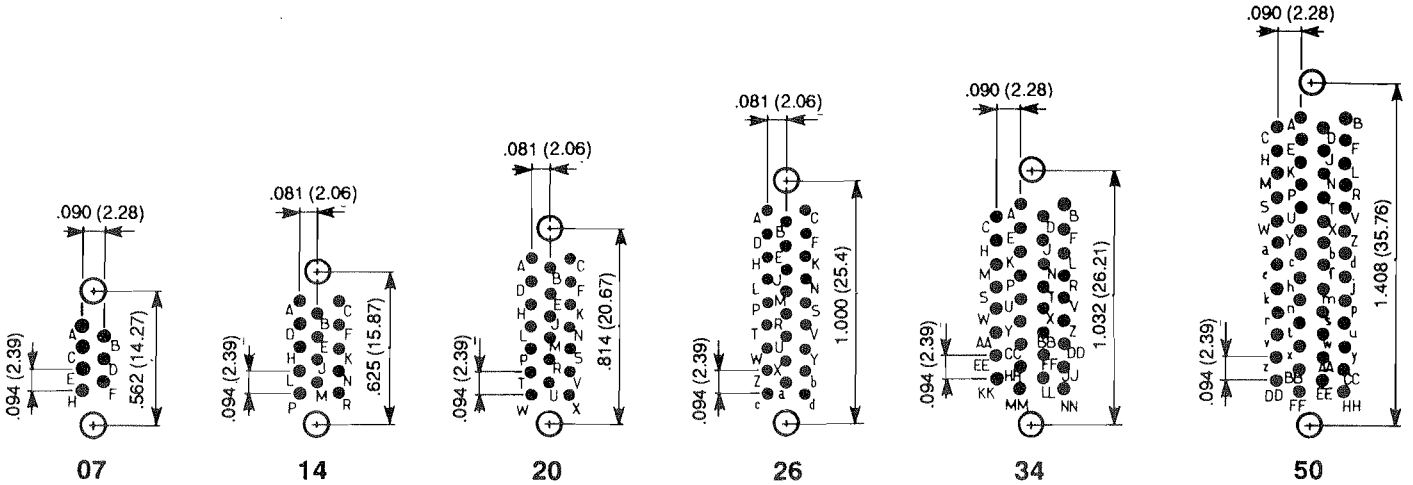
23 : wire wrap termination (1 level)
24 : wire wrap termination (2 level)
25 : wire wrap termination (3 level)



For termination style type 21, the connectors are supplied with insulating washers which act as spacers between the insulator and the PCB.

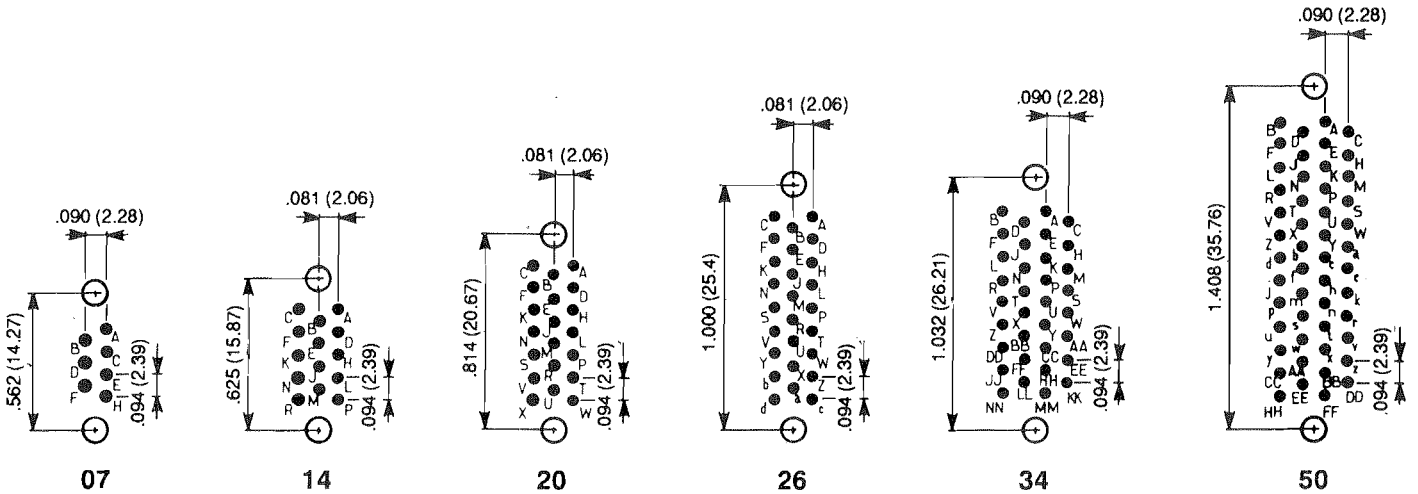
TYPE 21 TERMINATION STYLE – Connector with socket contacts

PCB component side view



TYPE 21 TERMINATION STYLE – Connector with pin contacts

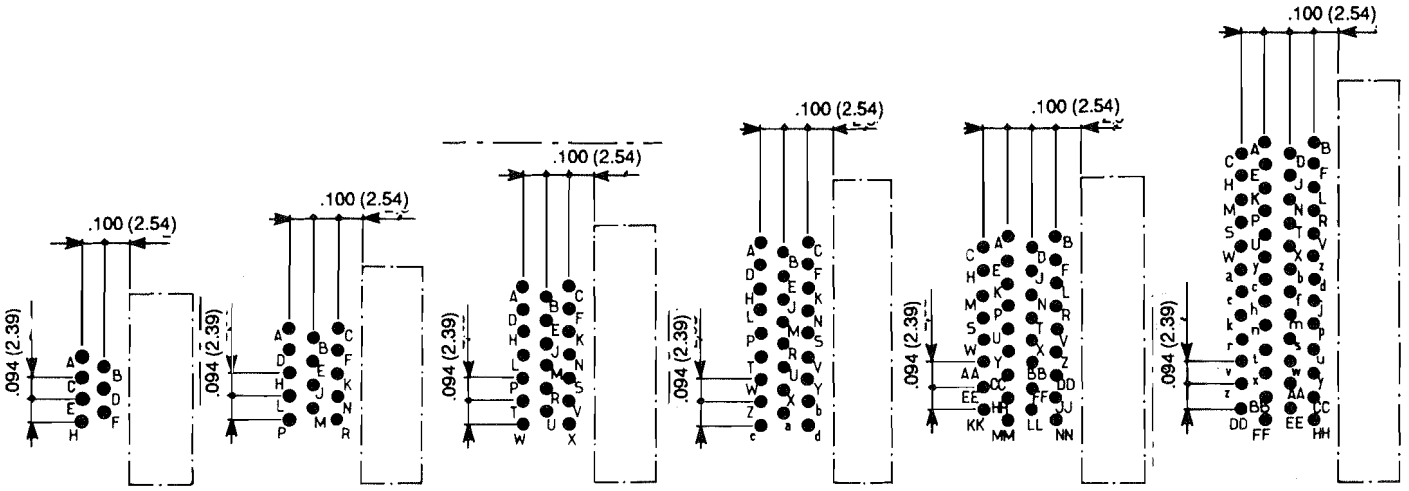
PCB component side view



- ● Printed circuit drilling .031 $^{\pm.002}$ (0.8 $^{\pm0.05}$)
- ○ Drilling to fix the connector. Required for guides G3 and GV fixing only :
  .087 (2.2) dia. for ISO guides
  .094 (2.4) dia. for UNC guides

TYPE 22 TERMINATION STYLE – Connector with socket contacts

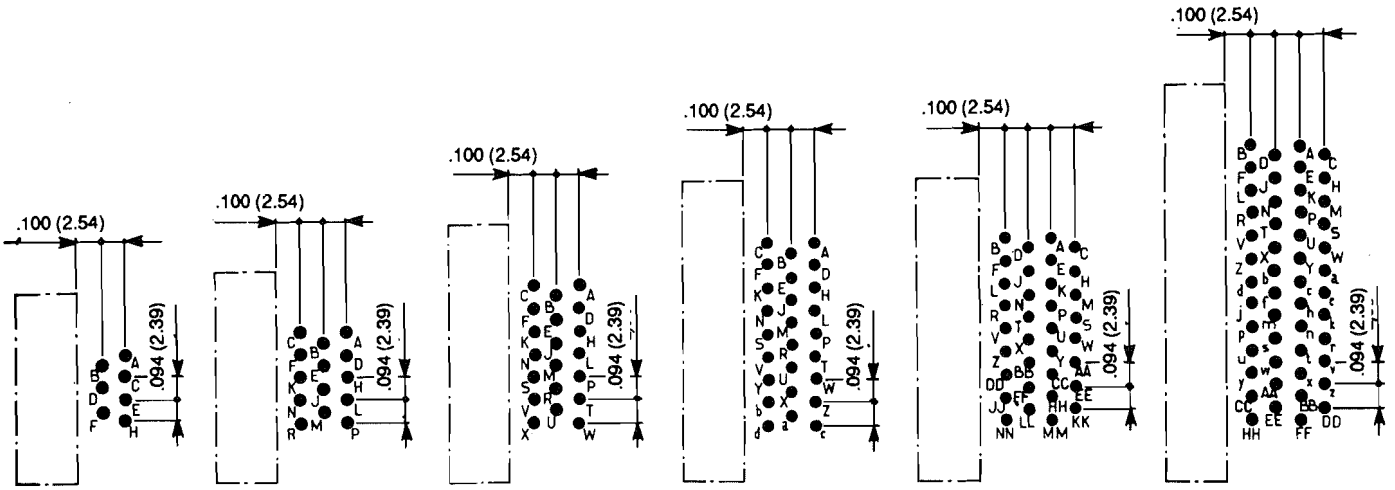
PCB component side view



07 14 20 26 34 50

TYPE 22 TERMINATION STYLE – Connector with pin contacts

PCB component side view



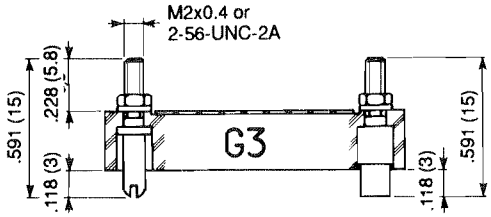
07 14 20 26 34 50

- Printed circuit drilling .031 $^{\pm.002}$ (0.8 $^{\pm0.05}$)

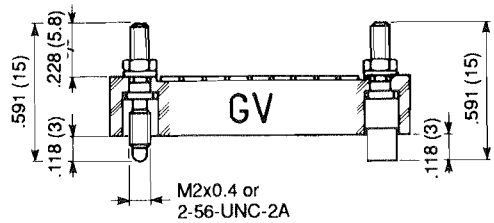
Stainless steel guides and jackscrews are supplied with either ISO (M2 x 0.4) or UNC (2-56 UNC) threads.
The guides type (G3 – GV – VL – VR) and the jackscrews (ISO or UNC) required are to be defined in the part number (see page 17).
The standard configuration of guides and jackscrews is :

Male guide (or jackscrew) at the end nearest contact A of the female connector.
Female guide (or jackscrew) at the end nearest contact A of the male connector.

RACK GUIDES TYPE G3

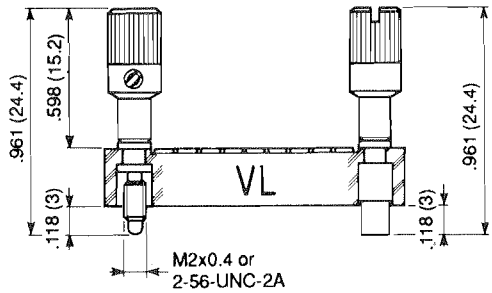


FIXED JACKSCREWS TYPE GV

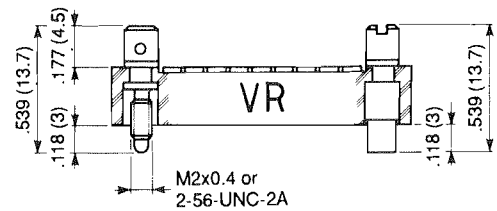


These guide and jackscrews can be used with hood HA

LONG AND SHORT ROTATING JACKSCREWS TYPE VL-VR



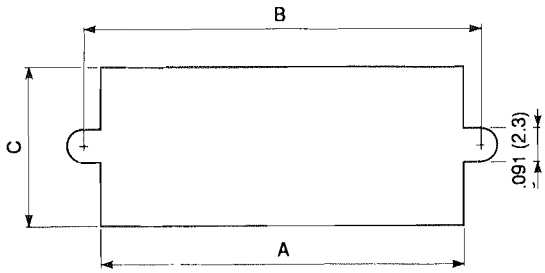
Mating force : 2cm/daN
Not available for termination style type 22
Cannot be use with any hoods



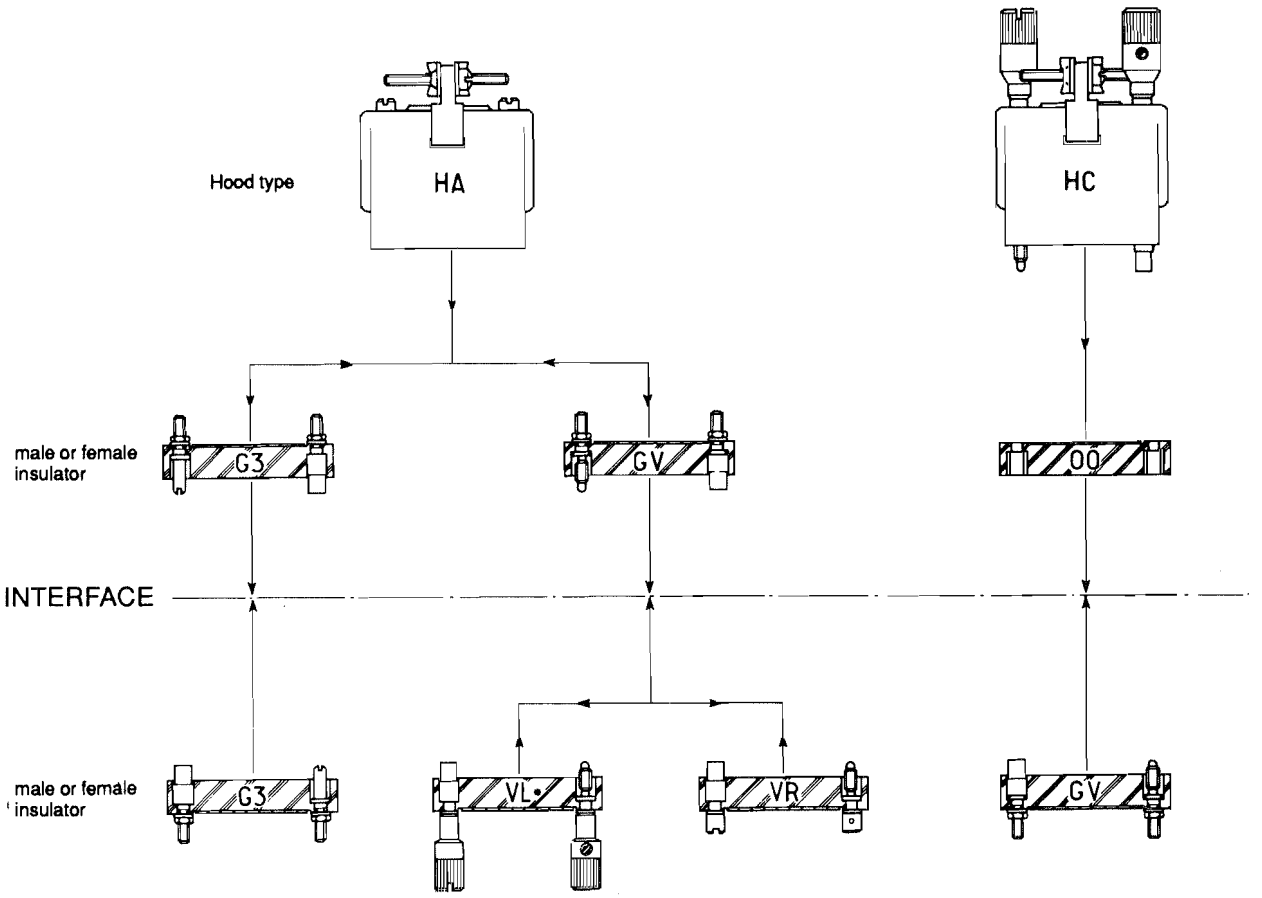
Mating force : 2cm/daN
Cannot be used with any hoods

DIMENSIONS

Contacts arrangements	A	B	C
07	.468 (11.9)	.562 (14.27)	.228 (5.8)
14	.531 (13.5)	.625 (15.87)	.299 (7.6)
20	.720 (18.3)	.814 (20.67)	.299 (7.6)
26	.905 (23)	1.000 (25.4)	.299 (7.6)
34	.940 (23.9)	1.031 (26.2)	.409 (10.4)
50	1.315 (33.4)	1.408 (35.76)	.409 (10.4)

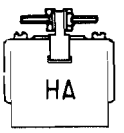
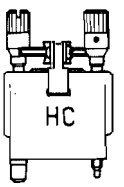


USE WITH HOOD (Termination style type 20 only)



USE WITHOUT HOOD (All termination style type)

M Hood type availability

THREAD		HOOD	THREAD	
NC (2-56 UNC)	ISO (M2 x 0.4)	Top entry	ISO (M2 x 0.4)	NC (2-56 UNC)
07	07	 	07	07
14	14		14	14
20	20		20	20
26	26		26	26
34	34		34	34
50	50		50	50

Fixing of hoods only suitable for insulator with termination style type 20 (solder pot).

TYPE HA

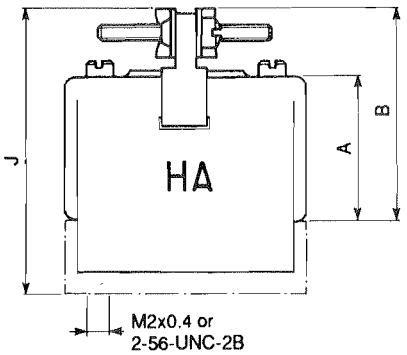
Hoods supplied with two internal threaded posts wich are screwed into the guides G3 or jackscrews GV.

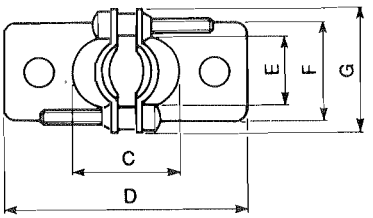
TYPE HC

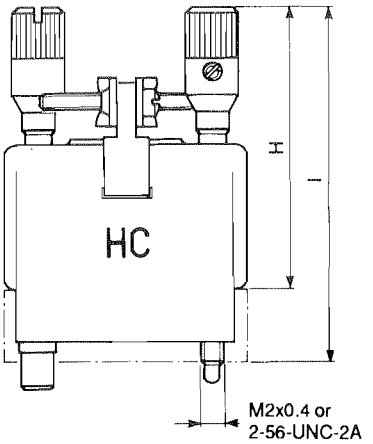
Hoods supplied with two long rotating jackscrews. These hoods are mounted on connectors without guides or jackscrews (code 00).

PART NUMBERS

Contacts arrangements	Type HA		Type HC	
	with threads M2 x 0.4	with threads 2-56 UNC	with screws M2 x 0.4	with screws 2-56 UNC
07	MM 07 HA IS	MM 07 HA NC	MM 07 HC IS	MM 07 HC NC
14	MM 14 HA IS	MM 14 HA NC	MM 14 HC IS	MM 14 HC NC
20	MM 20 HA IS	MM 20 HA NC	MM 20 HC IS	MM 20 HC NC
26	MM 26 HA IS	MM 26 HA NC	MM 26 HC IS	MM 26 HC NC
34	MM 34 HA IS	MM 34 HA NC	MM 34 HC IS	MM 34 HC NC
50	MM 50 HA IS	MM 50 HA NC	MM 50 HC IS	MM 50 HC NC







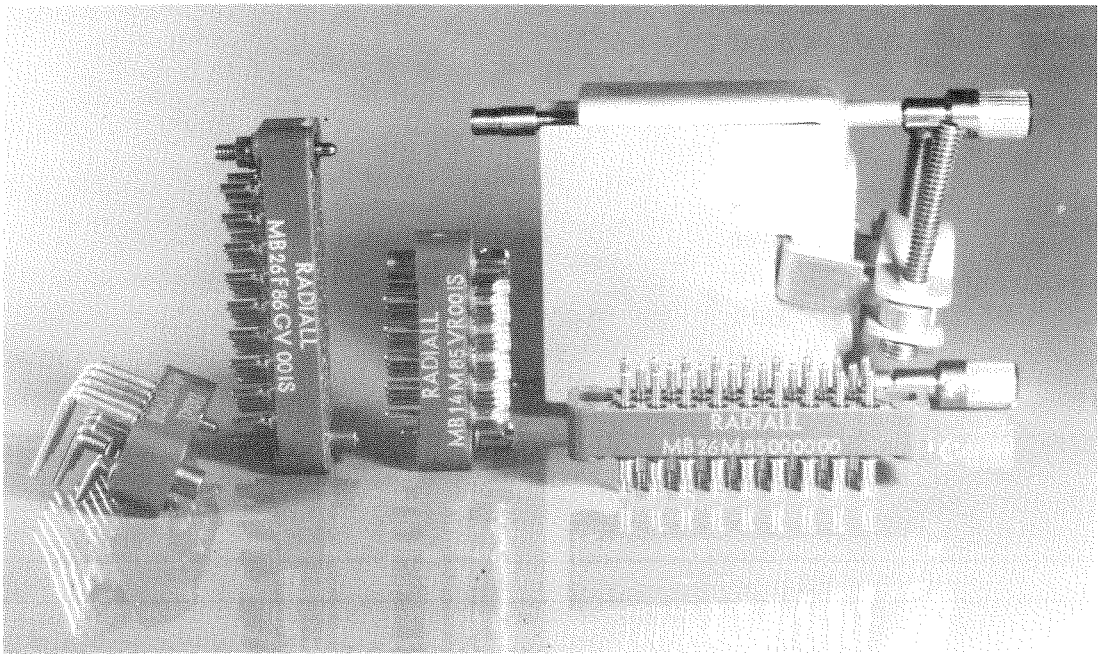
Mating force : 1.5cm/daN

DIMENSIONS

Contacts arrangements	A	B	C	D	E	F	G	H	I	J
07	.626 (15.9)	.911 (23.15)	.216 (5.5)	.779 (19.8)	.157 (4)	.268 (6.8)	.531 (13.5)	1.256 (31.9)	1.504 (38.2)	1.157 (29.4)
14	.626 (15.9)	.911 (23.15)	.394 (10)	.874 (22.2)	.236 (6)	.346 (8.8)	.531 (13.5)	1.256 (31.9)	1.504 (38.2)	1.157 (29.4)
20	.626 (15.9)	.911 (23.15)	.551 (14)	1.063 (27)	.236 (6)	.346 (8.8)	.531 (13.5)	1.256 (31.9)	1.504 (38.2)	1.157 (29.4)
26	.626 (15.9)	.911 (23.15)	.551 (14)	1.252 (31.8)	.236 (6)	.346 (8.8)	.531 (13.5)	1.256 (31.9)	1.504 (38.2)	1.157 (29.4)
34	.626 (15.9)	.911 (23.15)	.748 (19)	1.252 (31.8)	.374 (9.5)	.464 (11.8)	.618 (15.7)	1.256 (31.9)	1.504 (38.2)	1.197 (30.4)
50	1.201 (30.5)	1.516 (38.5)	1.169 (29.7)	1.630 (41.4)	.374 (9.5)	.464 (11.8)	.618 (15.7)	1.835 (46.6)	2.083 (52.9)	1.764 (44.8)

Fixing of hoods only suitable for insulator with termination style type 20 (solder pot).

Miniature rectangular multicontact connectors MB series



This series consists of twelve sizes of connectors with contact arrangements for 2, 3, 5, 7, 11, 14, 20, 26, 34, 42, 50 and 75 size 20 contacts (.039 (1) dia.).

These connectors are characterized by a high density of size 20 contacts in a compact volume.

The **MB series** presents three types of terminations :

- solder pot for wire (AWG 20 max)
- straight solder pin for PCB
- right angle solder pin for PCB

These connectors can be fitted with rack guides or fixed or rotating jackscrews at each end.

Wires and soldered terminations for wire can be protected by either top or side entry hoods or by potting covers for 2 to 14 contacts connectors.

CHARACTERISTICS

ELECTRICAL

Conforming to MIL-C-28748 performance requirements

- *Current rating :* *7.5 A*
- *Test voltage at sea level :* *1500 Vrms / 50 Hz*
- *Operating voltage (sea level) :* *500 Vrms / 50 Hz*
- *Insulation resistance :* *> 5000 MΩ*
- *Contact resistance :* *< 5 mΩ*

MECHANICAL

- *Temperature range :* *−55°C +125°C*
- *Durability :* *500 mating cycles*
- *Shock :* *50 g/11 ms*
- *Vibration :* *20 g / 10-2000 Hz*
- *Humidity :* *21 days*
- *Contact insertion force :* *3 N*

MARTERIALS

Insulator :	*glass filled diallylphthalate conforming to MIL-M-14SDG-F*
Pin contact :	*brass copper alloy, plating : gold over nickel*
Socket contact :	*copper alloy, plating : gold over nickel*
Guides and jackscrews:	*stainless steel*
Hoods :	*Yellow anodized aluminum alloy*

CONNECTOR MATED PAIR WEIGHT (g)

Contact arrangement	2	3	5	7	11	14	20	26	34	42	50	75
without guides	2.2	2.3	4	3.7	5.6	6.4	8.6	11	15.2	17.6	20.5	32.7
with rack guides	3.9	4	4.7	5.4	7.3	8.1	10.3	12.7	16.9	19.3	22.2	36.2
with hoods and guides or jackscrews	-	-	-	12.4	17.5	20.4	28	31.5	37.2	-	45.2	62

MB 34 M 85 VR 00 IS

SERIES

Contact arrangement (see page 28)
02 – 03 – 05 – 07 – 11 – 14
20 – 26 – 34 – 42 – 50 – 75

Contact type
M : pin
F : socket

Termination style (see page 29)
85 : solder pot
86 : straight solder pin for PCB
87 : Right angle solder pin for PCB

Guides and jackscrews (see page 34)
00 : without guides and jackscrews (1)
G1 : rack guides (2)
GV : fixed jackscrews (2)
VR : short rotating jackscrews
VL : long rotating jackscrews (3)

Shipment without hoods and accessories

Thread, guides or jackscrews
00 : without guides and jackscrews
IS : ISO (M2 x 0.4)
NC : 2-56 UNC

(1) connectors to be used with hoods HC and HV (see pages 36–37) or rack guides G1.

(2) connectors to be used with hood HA and HL (see pages 36–37).
A spring clip locking system can be fitted (see page 38).

(3) VL jackscrews assembly is only available for termination style type 85.

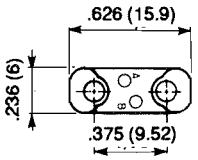
CONNECTOR IDENTIFICATION

The part number is printed on the insulator side (for MB 05, only the "5" is printed ; for MB 02 and MB 03, part number is printed on a label placed in the package).

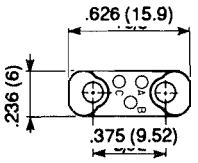
Part number for hoods pages 36–37.

MALE CONNECTOR – WIRING SIDE

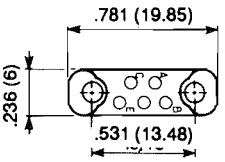
02



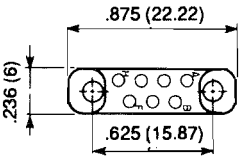
03



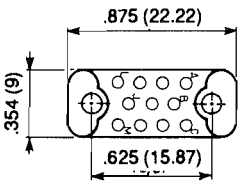
05



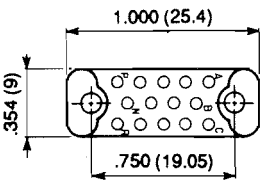
07



11



14



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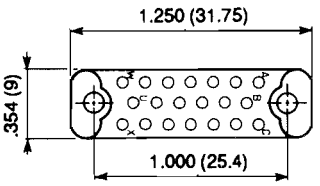
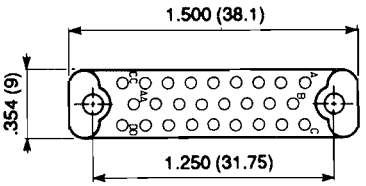
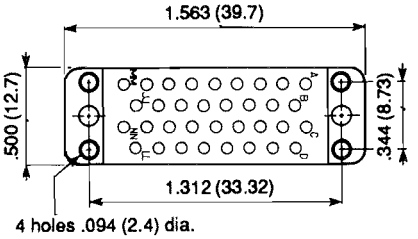


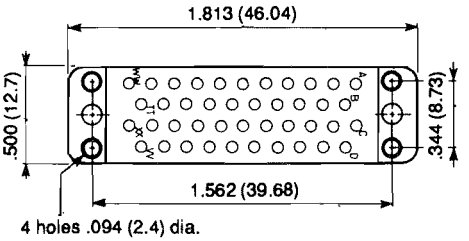
26



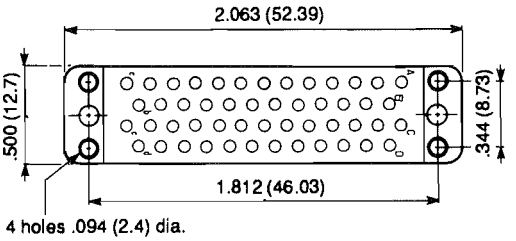
34



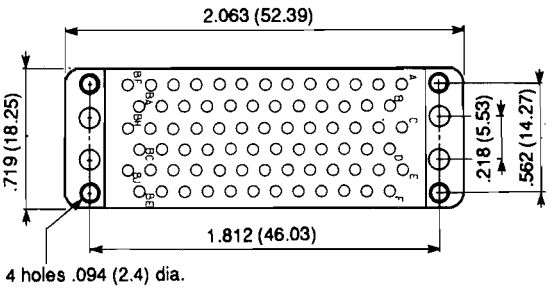
42



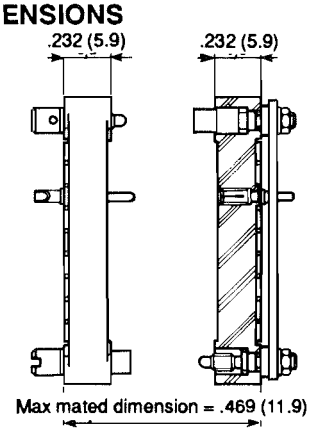
50



75

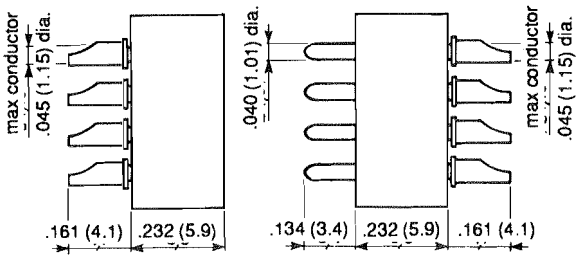


MATING DIMENSIONS



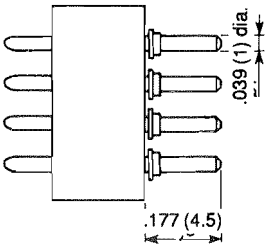
TYPE 85

Solder pot



TYPE 86

Straight solder pin for PCB

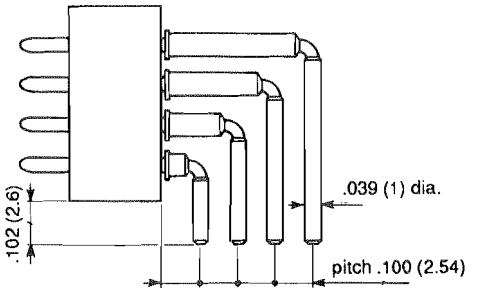


For termination style type 86, the connectors are supplied with insulating washers which act as spacers between the insulator and the PCB.

TYPE 87

Right angle solder pin for PCB

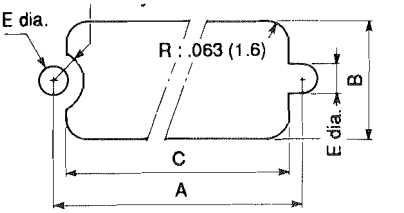
(contact arrangement 42 – 50 – 75, consult RADIALL)



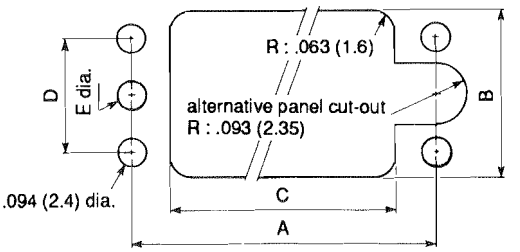
All contact arrangement and termination style have contacts stopped in rotation (except contact arrangement 42, 50 and 75).

02 – 03 – 05 – 07 – 11
14 – 20 – 26

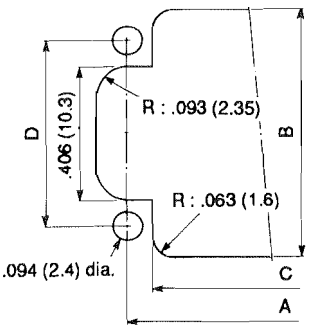
alternative panel cut-out for contact arrangements 11 to 26 : R = .091 (2,3)



34 – 42 – 50



75

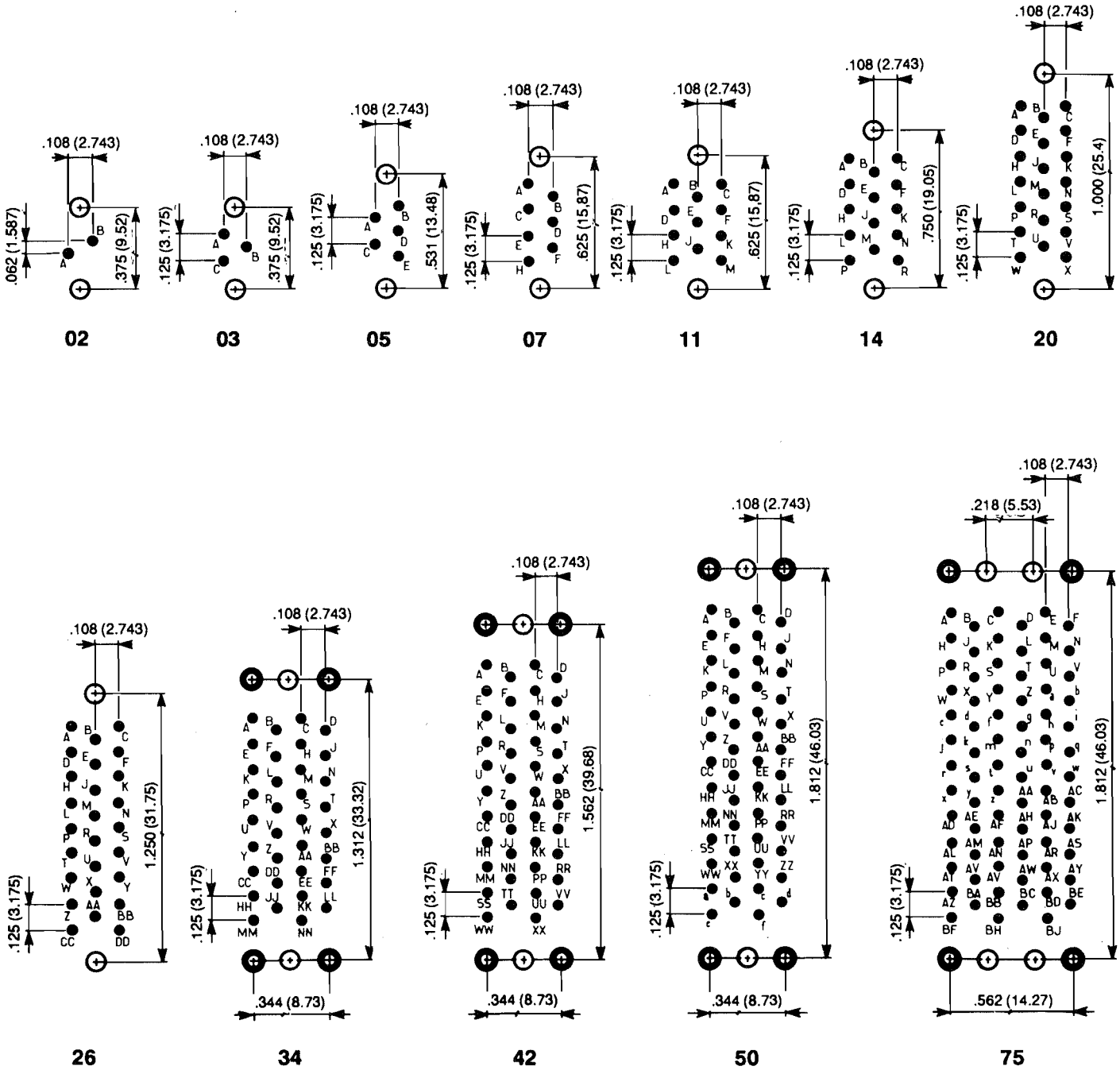


DIMENSIONS

	02	03	05	07	11	14	20	26	34	42	50	75
A	.375 (9.52)	.375 (9.52)	.531 (13.48)	.625 (15.87)	.625 (15.87)	.750 (19.05)	1.000 (25.4)	1.250 (31.75)	1.313 (33.34)	1.562 (39.68)	1.812 (46.03)	1.812 (46.03)
B	.236 (6)	.236 (6)	.236 (6)	.236 (6)	.354 (9)	.354 (9)	.354 (9)	.354 (9)	.500 (12.5)	.500 (12.5)	.500 (12.5)	.720 (18.28)
C	.283 (7.2)	.283 (7.2)	.433 (11)	.531 (13.5)	.531 (13.5)	.669 (17)	.925 (23.5)	1.161 (29.5)	1.160 (29.46)	1.410 (35.81)	1.660 (42.16)	1.660 (42.16)
D	–	–	–	–	–	–	–	–	.344 (8.73)	.344 (8.73)	.344 (8.73)	.562 (14.27)
ØE (ISO)	.087 (2.2)	.087 (2.2)	.087 (2.2)	.087 (2.2)	.087 (2.2)	.087 (2.2)	.087 (2.2)	.087 (2.2)	.087 (2.2)	.087 (2.2)	.087 (2.2)	.087 (2.2)
ØE (NC)	.094 (2.4)	.094 (2.4)	.094 (2.4)	.094 (2.4)	.094 (2.4)	.094 (2.4)	.094 (2.4)	.094 (2.4)	.094 (2.4)	.094 (2.4)	.094 (2.4)	.094 (2.4)

TYPE 86 TERMINATION STYLE – Connector with socket contacts

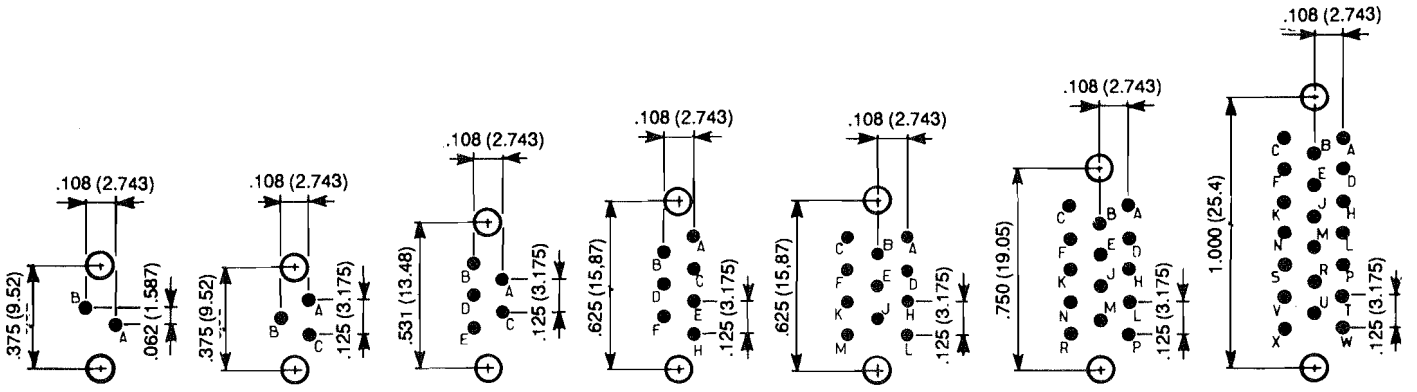
PCB component side view



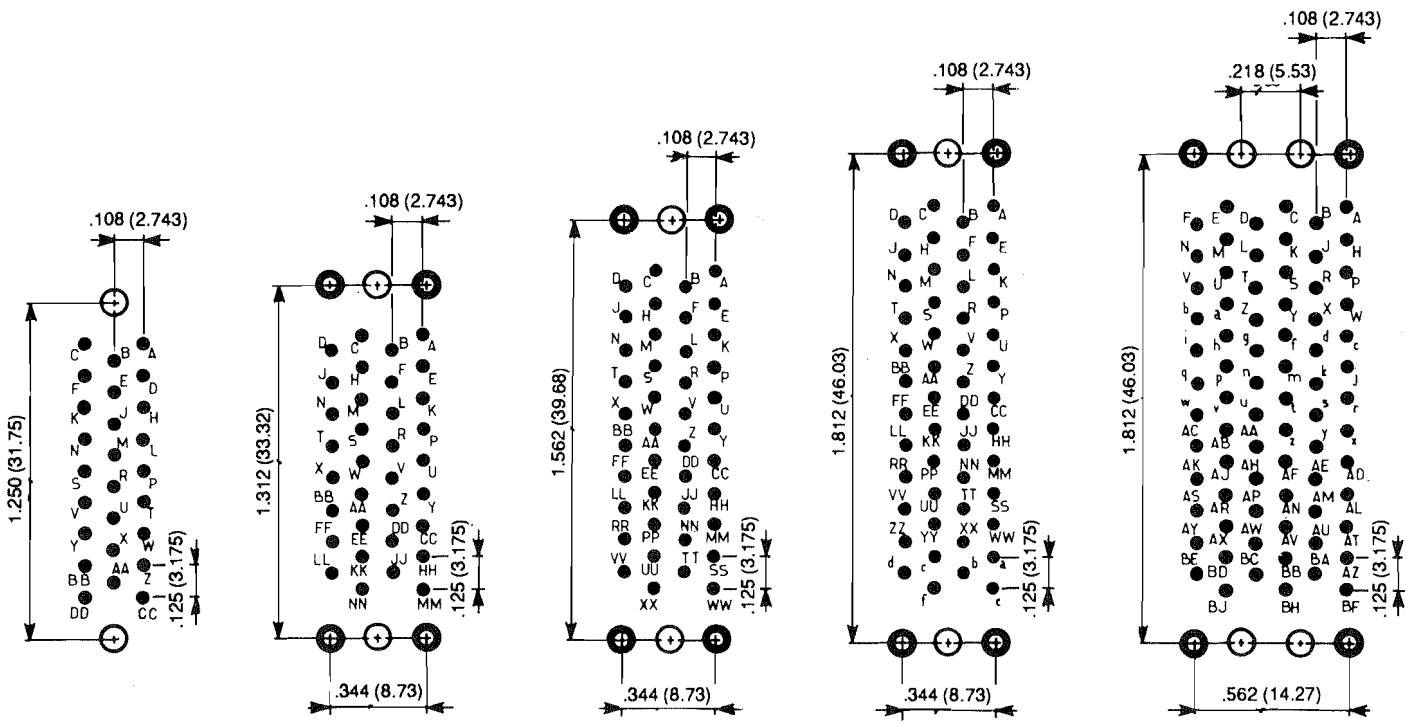
- ● Printed circuit drilling .043 $^{+.003}$ (1.1 $^{+0.1}$)
- **O** Drilling to fix the connector .094 (2.4) dia
- ○ Drilling to fix the connector. Required for guides G1 and GV fixing only :
  .087 (2.2) dia for ISO guides
  .094 (2.4) dia for UNC guides

TYPE 86 TERMINATION STYLE – Connector with pin contacts

PCB component side view



02 03 05 07 11 14 20

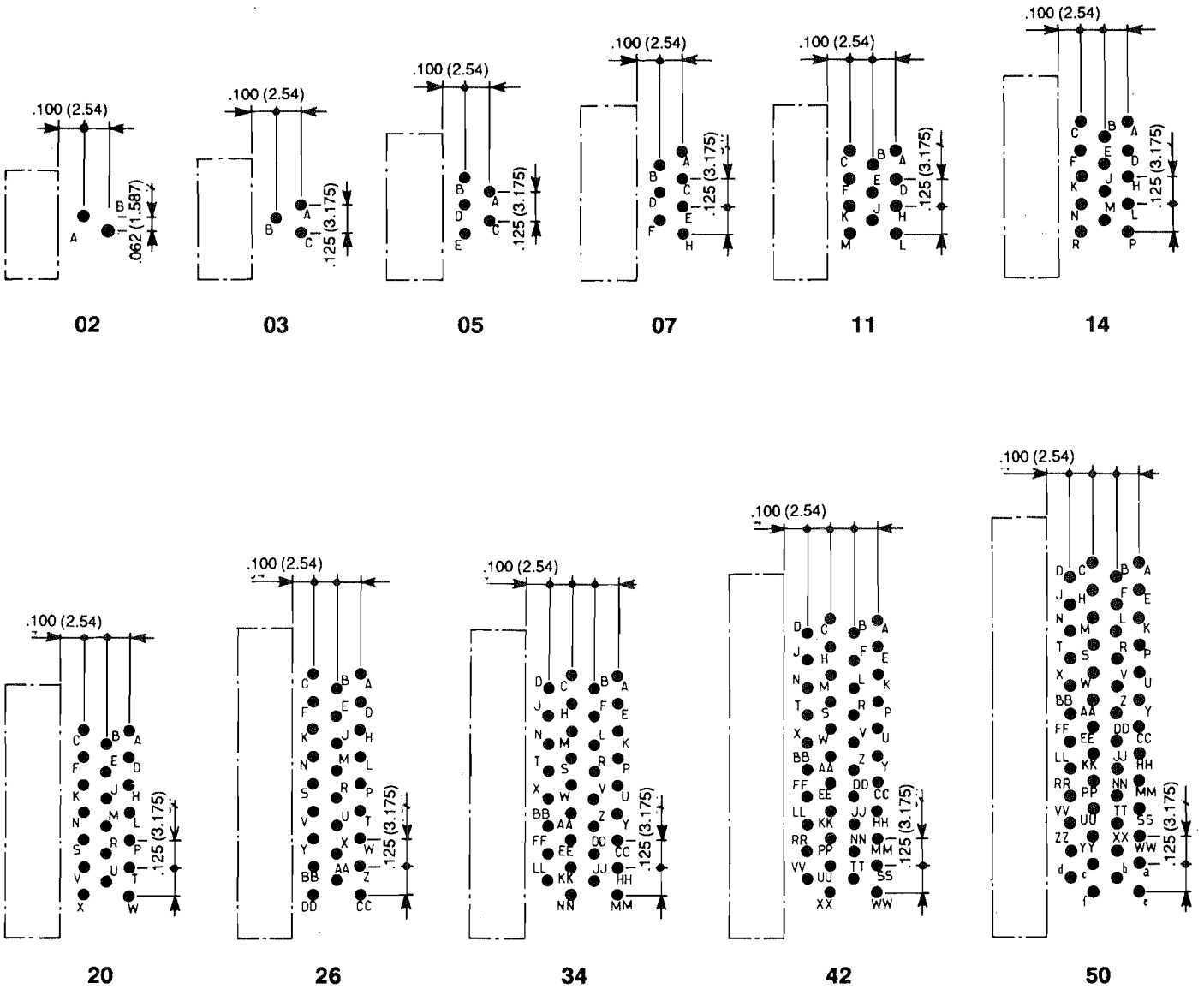


26 34 42 50 75

- ● Printed circuit drilling .043 $^{+.003}$ (1.1 $^{+0.1}$)
- **O** Drilling to fix the connector .094 (2.4) dia
- ○ Drilling to fix the connector. Required for guides G1 and GV fixing only :
  .087 (2.2) dia for ISO guides
  .094 (2.4) dia for UNC guides

TYPE 87 TERMINATION STYLE – Connector with pin contacts

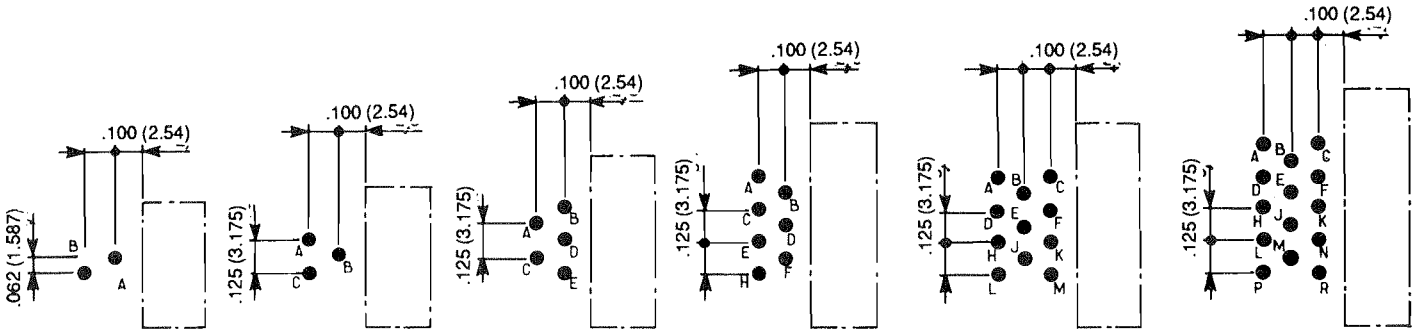
PCB component side view



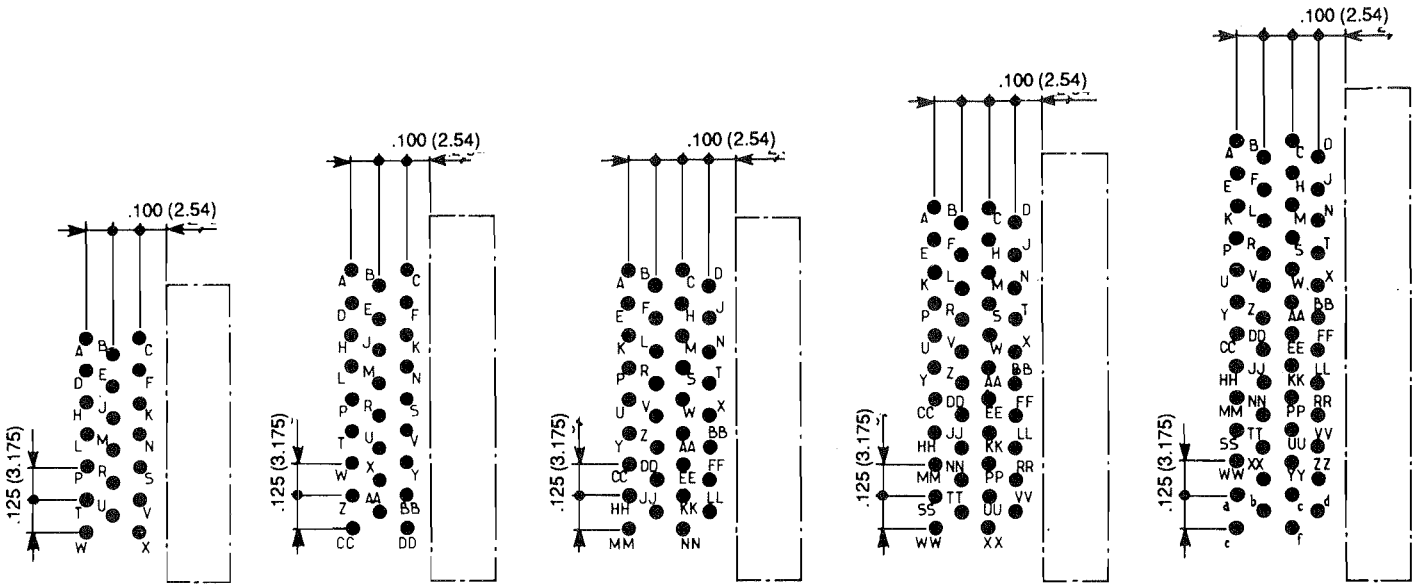
- Printed circuit drilling .043 $^{+.003}$ (1.1 $^{+0.1}$)

TYPE 87 TERMINATION STYLE – Connector with socket contacts

PCB component side view



02 03 05 07 11 14



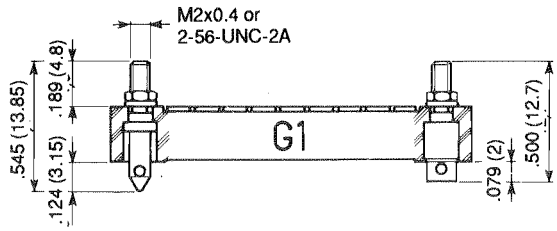
20 26 34 42 50

- Printed circuit drilling .043 $^{+.003}$ (1.1 $^{+0.1}$)

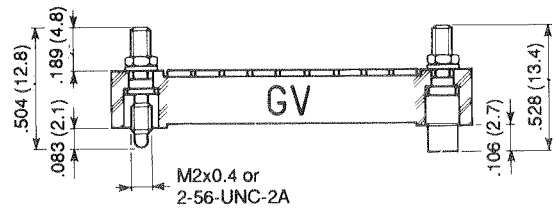
Guides and jackscrews are made of stainless steel. The jackscrews can be supplied with either ISO (M2 x 0.4) or UNC (2-56 UNC) thread.
The guides or jackscrews G1 – GV – VL and VR and the type of thread UNC or ISO required are to be defined in the part number (see page 27)
The standard configuration of guides and jackscrews is :

Male guide (or jackscrew) at the end nearest contact A of the female connector.
Female guide (or jackscrew) at the end nearest contact A of the male connector.

RACK GUIDES TYPE G1



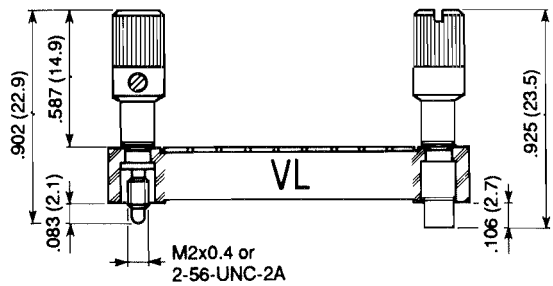
FIXED JACKSCREWS TYPE GV



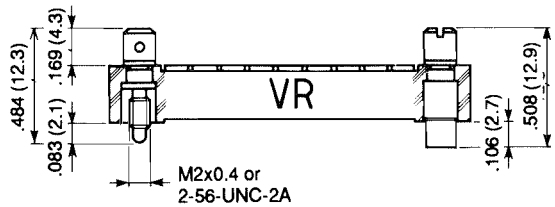
The 2, 3, 5 and 7 way GV jackscrews are held securely in place by two flats on the jackscrews whereas the jackscrews for the other contact arrangements have a square section to avoid rotation.

These guides and jackscrews can be used with hood HA and HL

LONG AND SHORT ROTATING JACKSCREWS TYPE VL-VR

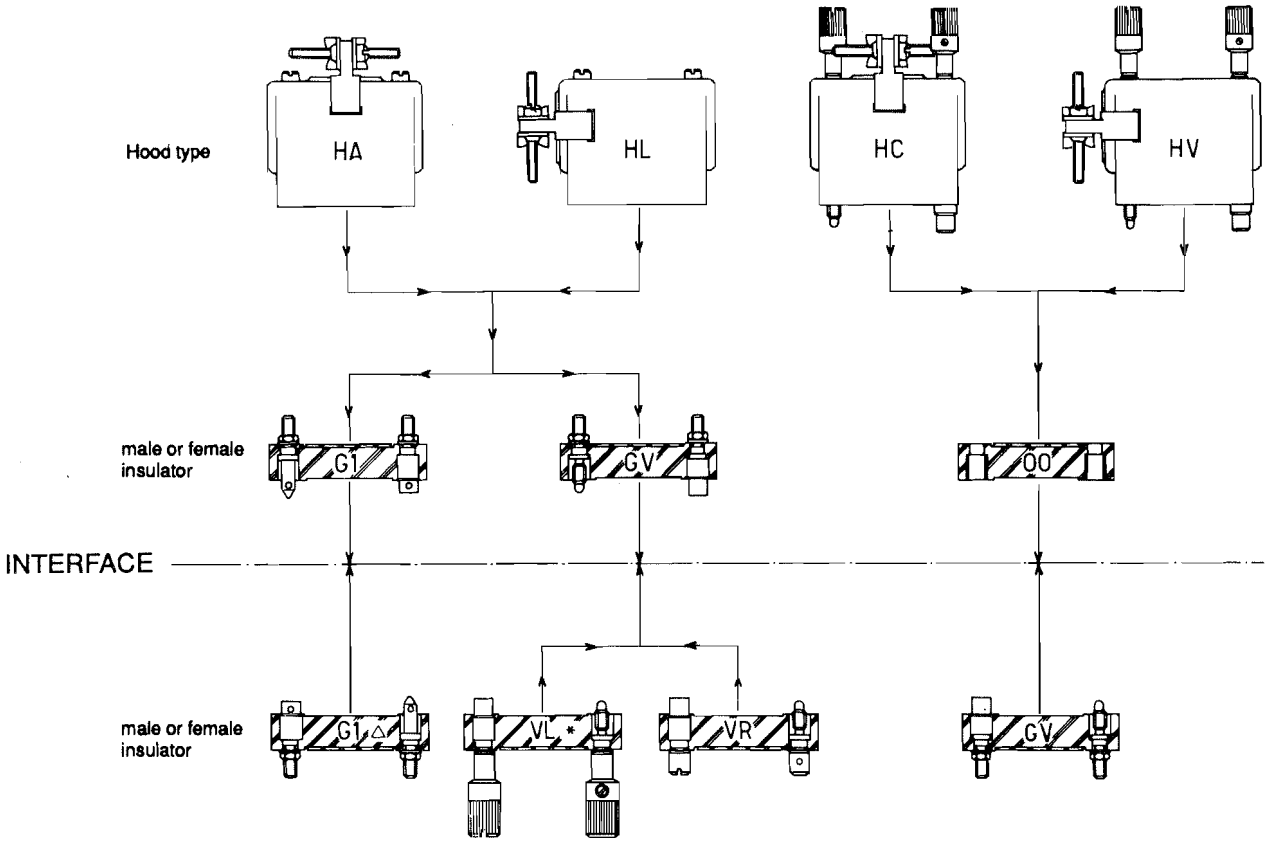


Mating force : 2cm/daN
Not available for termination style type 87
Cannot be used with any hoods



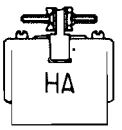
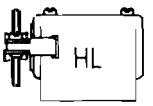
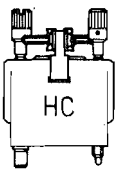
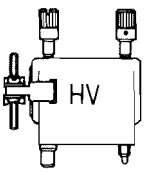
Mating force : 2cm/daN
Cannot be used with any hoods

USE WITH HOOD (Termination style type 85 only)



USE WITHOUT HOOD (All termination style type)

MB Hoods type availability

THREAD		HOOD		THREAD	
NC (2-56 UNC)	ISO (M2 x 0.4)	Top entry	Side entry	ISO (M2 x 0.4)	NC (2-56 UNC)
07 11 14 20 26 34 50 75	07 11 14 20 26 34 50 75			11 14 26 34 50	11 14 26 34 50 75 (1)
07 11 14 20 26 34 50 75	07 11 14 20 26 34 50 75			11 14 26 34 50	11 14 26 34 50 75 (1)

(1) Available for male contact arrangement only.

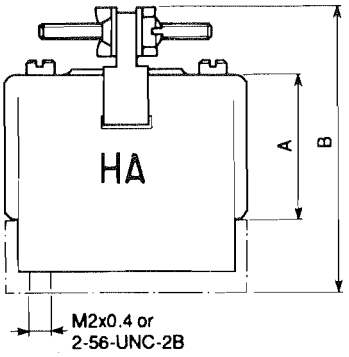
Fitting of hoods only suitable for insulator with termination style type 85 (solder pot).

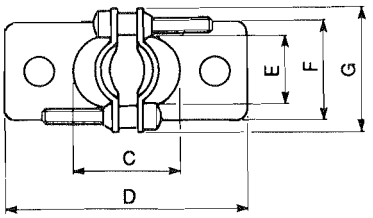
TYPE HA
Hoods supplied with two internal threaded posts wich are screwed into the guides G1 or jackscrews GV.

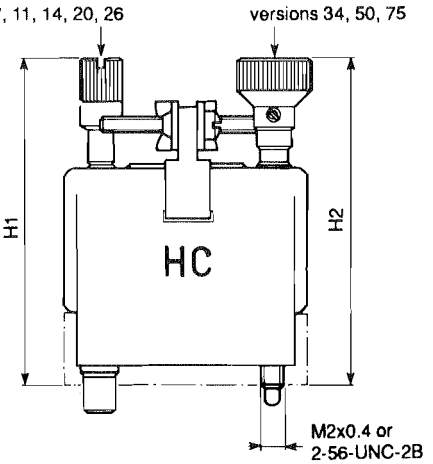
TYPE HC
Hoods supplied with two long rotating jackscrews. These hoods are mounted on the connectors without guides or jackscrews.

PART NUMBERS

Contacts arrangements	Type HA		Type HC	
	with threads M2 x 0.4	with threads 2-56 UNC	with screws M2 x 0.4	with threads 2-56 UNC
07	MB 07 HA IS2	MB 07 HA NC	MB 07 HC IS	MB 07 HC NC
11	MB 11 HA IS2	MB 11 HA NC	MB 11 HC IS	MB 11 HC NC
14	MB 14 HA IS2	MB 14 HA NC	MB 14 HC IS	MB 14 HC NC
20	MB 20 HA IS2	MB 20 HA NC	MB 20 HC IS	MB 20 HC NC
26	MB 26 HA IS2	MB 26 HA NC	MB 26 HC IS	MB 26 HC NC
34	MB 34 HA IS2	MB 34 HA NC	MB 34 HC IS	MB 34 HC NC
50	MB 50 HA IS2	MB 50 HA NC	MB 50 HC IS	MB 50 HC NC
75	MB 75 HA IS2	MB 75 HA NC	MB 75 HC IS	MB 75 HC NC







Mating force : 1.5cm/daN

DIMENSIONS

Contacts arrangements	A	B	C	D	E	F	G	H1	H2
07	.375 (9.52)	.902 (22.9)	.359 (9.13)	.874 (22.2)	.234 (5.95)	.295 (7.5)	.531 (13.5)	1.205 (30.62)	–
11	.937 (23.8)	1.465 (37.2)	.468 (11.9)	.874 (22.2)	.342 (8.7)	.405 (10.3)	.625 (15.87)	1.921 (48.8)	–
14	.937 (23.8)	1.465 (37.2)	.500 (12.7)	1.000 (25.4)	.342 (8.7)	.405 (10.3)	.625 (15.87)	1.921 (48.8)	–
20	1.187 (30.16)	1.905 (48.4)	.719 (18.26)	1.248 (31.7)	.342 (8.7)	.405 (10.3)	.937 (23.8)	2.173 (55.2)	–
26	1.187 (30.16)	1.905 (48.4)	.905 (23)	1.500 (38.1)	.342 (8.7)	.405 (10.3)	.937 (23.8)	2.173 (55.2)	–
34	1.187 (30.16)	1.905 (48.4)	.811 (20.6)	1.563 (39.7)	.500 (12.7)	.563 (14.3)	1.062 (26.98)	–	2.189 (55.6)
50	1.187 (30.16)	1.904 (48.4)	.874 (22.2)	2.063 (52.4)	.500 (12.7)	.563 (14.3)	1.062 (26.98)	–	2.189 (55.6)
75	1.187 (30.16)	1.904 (48.4)	.905 (23)	2.063 (52.4)	.716 (18.2)	.779 (19.8)	1.359 (34.52)	–	2.189 (55.6)

Fitting of hoods only suitable for insulator with termination style type 85 (solder pot).

Hoods 34,50 and 75 are fitted with 4 screws to be fixed to the connector block.

TYPE HL

Hoods supplied with two internal threaded posts wich are screwed into the guides G1 or jackscrews GV.

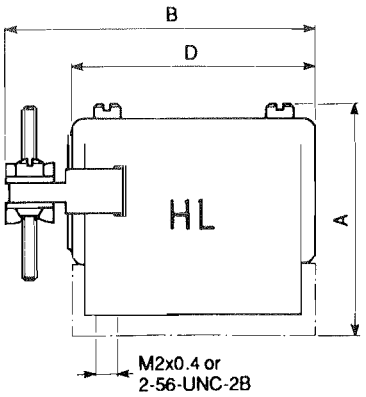
TYPE HV

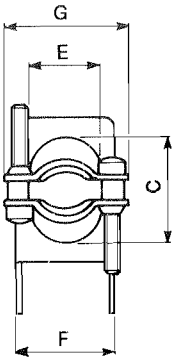
Hoods supplied with two long rotating jackscrews. These hoods are mounted on connectors without guides or jackscrews.

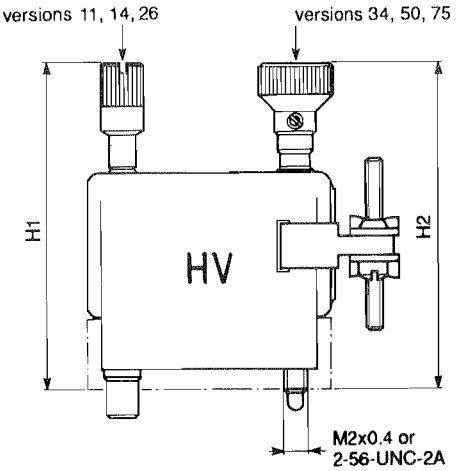
PART NUMBERS

Contacts arrangements	Type HL		Type HV	
	with threads M2 x 0.4	with threads 2-56 UNC	with screws M2 x 0.4	with screws 2-56 UNC
11	MB 14 HL IS2	MB 14 HL NC	MB 14 HV IS	MB 14 HV NC
14	MB 18 HL IS2	MB 18 HL NC	MB 18 HV IS	MB 18 HV NC
26	MB 26 HL IS2	MB 26 HL NC	MB 26 HV IS	MB 26 HV NC
34	MB 34 HL IS2	MB 34 HL NC	MB 34 HV IS	MB 34 HV NC
50	MB 50 HL IS2	MB 50 HL NC	MB 50 HV IS	MB 50 HV NC
75	–	MB 75 HL NC (1)	–	MB 75 HV NC (1)

(1) Available for male contact arrangement only.







Mating force : 1.5cm/daN

DIMENSIONS

Contacts arrangements	A	B	C	D	E	F	G	H1	H2
11	1.248 (31.7)	1.173 (29.8)	.469 (11.9)	.874 (22.2)	.343 (8.7)	.406 (10.3)	.625 (15.87)	1.921 (48.8)	-
14	1.248 (31.7)	1.295 (32.9)	.500 (12.7)	1.000 (25.4)	.343 (8.7)	.406 (10.3)	.625 (15.87)	1.921 (48.8)	-
26	1.484 (37.7)	1.937 (49.2)	.906 (23)	1.500 (38.1)	.343 (8.72)	.406 (10.3)	.937 (23.8)	1.921 (48.8)	-
34	1.484 (37.7)	2.031 (51.6)	.811 (20.6)	1.563 (39.7)	.500 (12.7)	.563 (14.3)	1.062 (26.98)	–	1.937 (49.2)
50	1.484 (37.7)	2.531 (64.3)	.874 (22.2)	2.063 (52.4)	.500 (12.7)	.563 (14.3)	1.062 (26.98)	–	1.937 (49.2)
75	1.484 (37.7)	2.579 (65.5)	.906 (23)	2.063 (52.4)	.717 (18.2)	.780 (19.8)	1.359 (34.52)	–	1.937 (49.2)

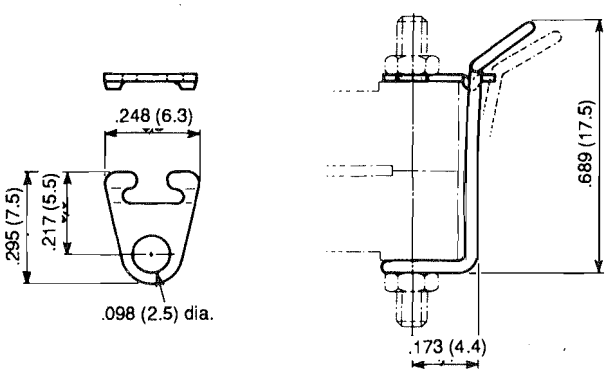
Fitting of hoods only suitable for insulator with termination style type 85 (solder pot).

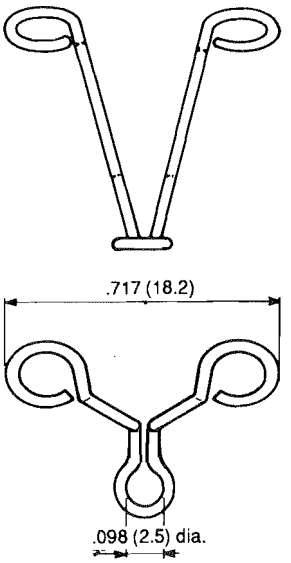
Hoods 34,50 and 75 are fitted with 4 screws to be fixed to the connector block.

SPRING LEVER CLAMPS

This simple locking system avoids accidental disconnection of connectors fitted to equipment which may be subjected to severe vibration. This system can be used where connector fitted with G1 guides are used with or without hoods.
Material : stainless steel.

PART NUMBER FOR A PAIR : 624 895

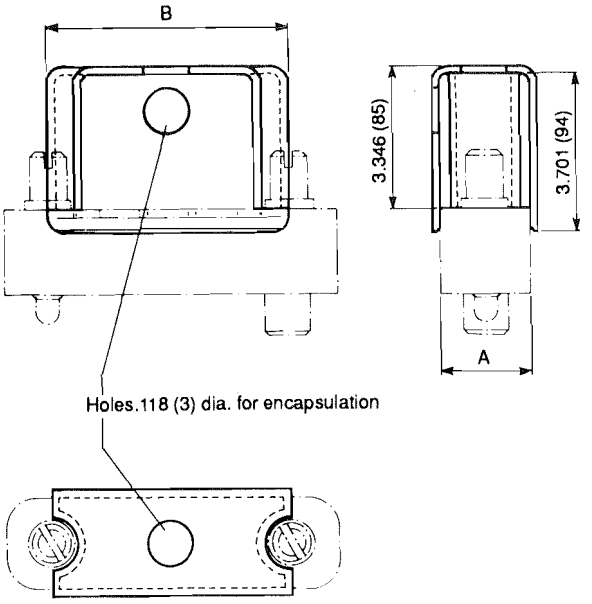




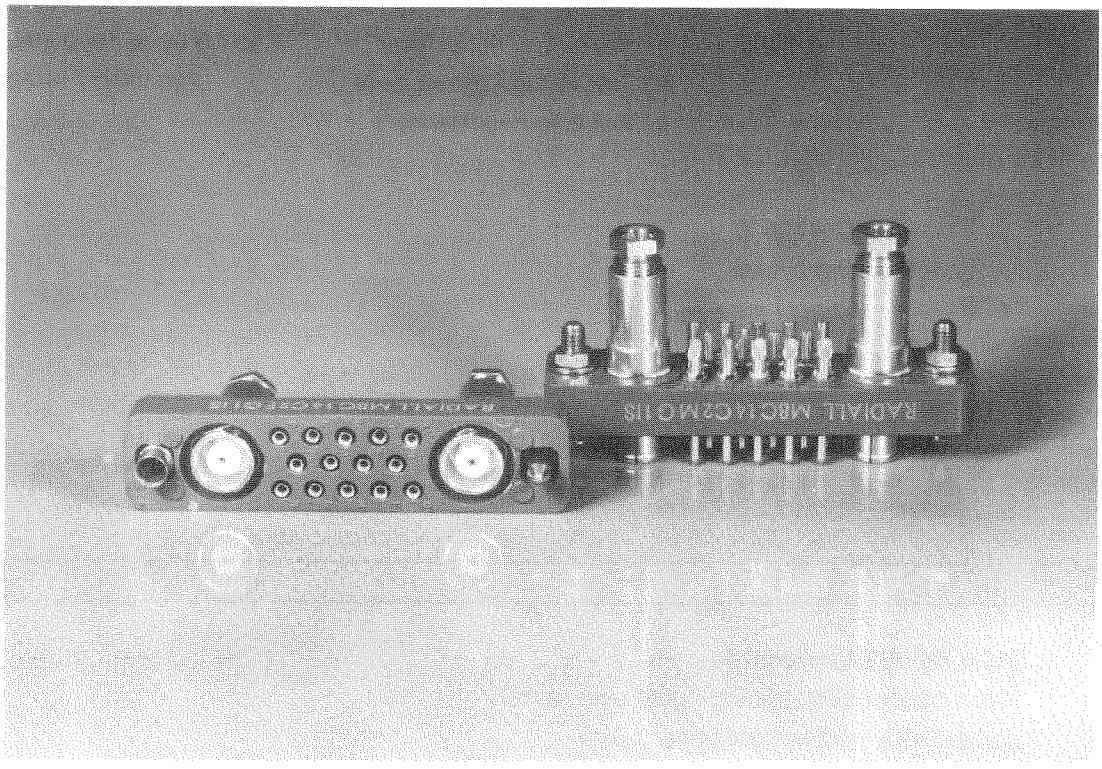
POTTING MOULDS

The plastic potting moulds are designed to fit onto the wiring side of the connectors in order that the wiring and back end can be encapsulated. They can be used with connectors fitted with G1 guides and GV and VR jack-screws.
Material : nylon

Contact arrangements	PART NUMBERS	DIMENSIONS A	DIMENSIONS B
02 - 03	624 994	.232 (5.9)	.374 (9.5)
05	624 992	.232 (5.9)	.531 (13.5)
07	624 991	.232 (5.9)	.626 (15.9)
11	624 993	.354 (9)	.626 (15.9)
14	624 995	.354 (9)	.748 (19)



Miniature rectangular multicontact connectors MBC series



The **MBC series** rectangular multicontact connectors are similar to those of the MB series but comprise connectors with 2, 3 or 4 coaxial contacts.

The **MBC series** presents 4 contact arrangements :

- 2 coaxial contacts
- 2 coaxial contacts and 14 wire contacts with solder pot
- 3 coaxial contacts and 6 wire contacts with solder pot
- 4 coaxial contacts for coax wire 2.6mm/50Ω

These connectors can be supplied with :

- rack guides
- fixed jackscrews
- short rotating jackscrews
- long rotating jackscrews

CHARACTERISTICS

ELECTRICAL

Single contacts

- *Current rating :* *7.5 A*
- *Test voltage at sea level :* *1500 Vrms / 50 Hz*
- *Operating voltage (sea level) :* *500 Vrms / 50 Hz*
- *Insulation resistance :* *> 5000 MΩ*
- *Contact resistance :* *< 5 mΩ*

Coaxial contacts

- *Center contact type :* *solder*
- *Cable retention :* *braid clamp*
- *Impedance :* *50Ω*
- *Operating frequency range :* *DC - 1000 MHz*
- *V.S.W.R. of mated pair :* *< 1.6 up to 1200 MHz*
- *Test voltage at sea level :* *1200 Vrms / 50 Hz*
- *Insulation resistance :* *> 5000 MΩ*

MECHANICAL

- *Temperature range :* *−55°C +125°C*
- *Durability :* *500 mating cycles*
- *Shock :* *50 g/11 ms*
- *Vibration :* *20 g / 10-2000 Hz*
- *Humidity :* *21 days*

MARTERIALS

Insulator :	*glass filled diallylphthalate*
Pin contact :	*brass copper alloy, plating : gold over nickel*
Socket contact :	*copper alloy plating : gold over nickel*
Guides and jackscrews:	*stainless steel*

CONNECTOR MATED PAIR WEIGHT (g)

Contact arrangement	00C2	00C4	14C2	06C3
without guides	13.9	28.6	21.2	25.2
with rack guides	16	30.7	23.3	27.3
with jackscrews	18.7	33.4	26	30

MBC 00C4 F G1 IS

SERIES

Contact arrangement (see page 42)
00C2 - 00C4 - 06C3 - 14C2

Contact type
M : pin
F : socket

Guides and jackscrews (see page 43)
00 : without guides and jackscrews
G1 : rack guides
GV : fixed jackscrews
VR : short rotating jackscrews
VL : long rotating jackscrews

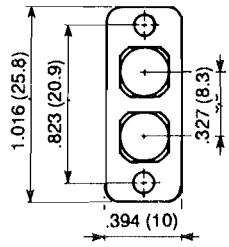
Thread, guides or jackscrews
00 : without guides and jackscrews
IS : ISO (M2 x 0.4)
NC : 2-56 UNC

CONNECTOR IDENTIFICATION

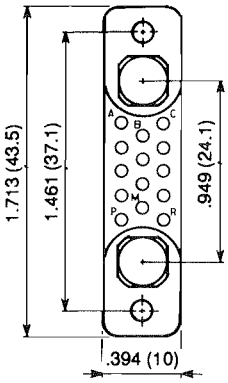
The part number is printed on the insulator side.

MALE CONNECTOR – WIRING SIDE

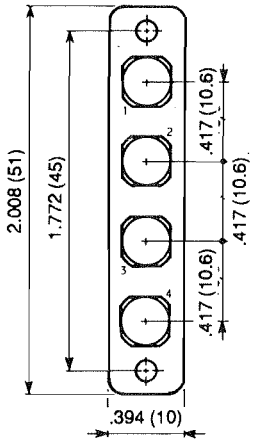
00C2



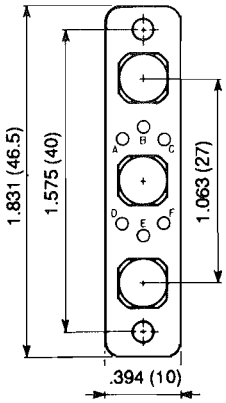
14C2



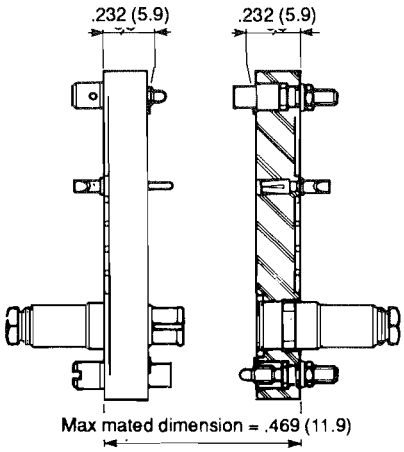
00C4



06C3

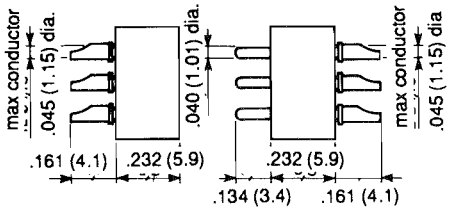


MATING DIMENSIONS

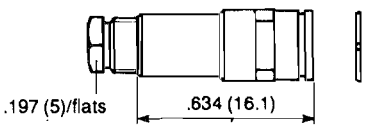


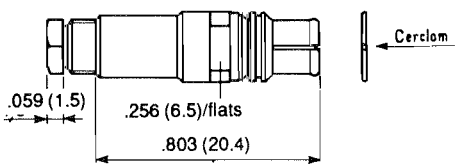
SINGLE CONTACT

solder pot



COAXIAL CONTACT

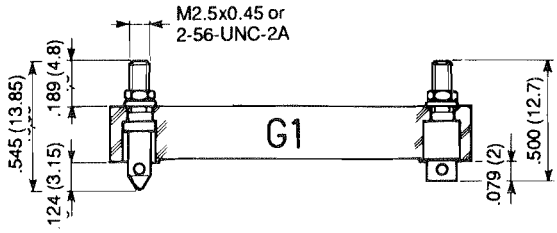




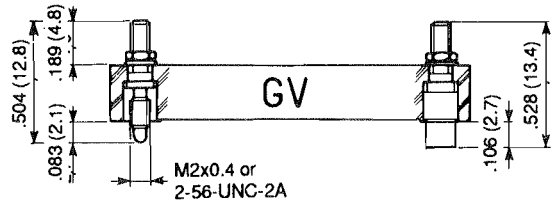
Guides and jackscrews are made of stainless steel. The jackscrews can be supplied with either ISO (M2 x 0.4) or UNC (2-56 UNC) thread.
The guides or jackscrews G1 – GV – VL and VR and the type of thread NC or ISO required are to be defined in the part number (see page 41).
The standard configuration of guides and jackscrews is :

Male guide (or jackscrew) at the end nearest contact A of the female connector.
Female guide (or jackscrew) at the end nearest contact A of the male connector.

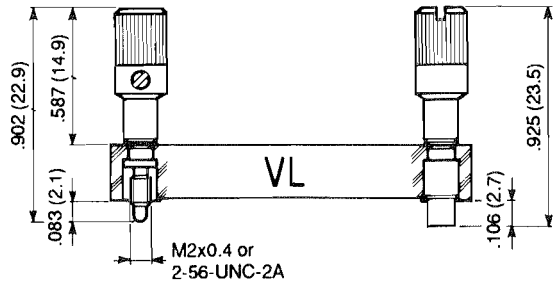
RACK GUIDES TYPE G1



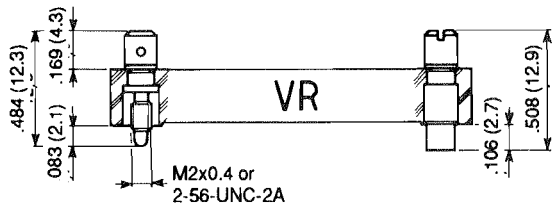
FIXED JACKSCREWS TYPE GV



LONG AND SHORT ROTATING JACKSCREWS TYPE VL-VR



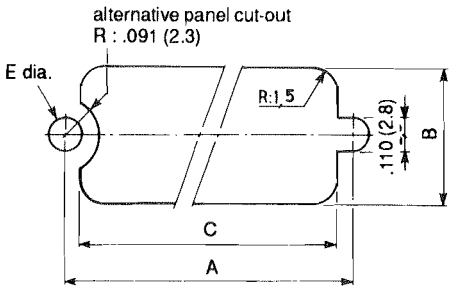
Mating force : 2cm/daN



Mating force : 2cm/daN

DIMENSIONS

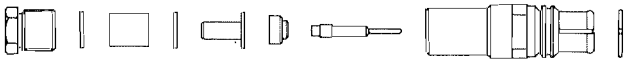
Contacts arrangements	A	B	C	E dia. ISO M2	E dia. UNC	E dia. ISO M2.5
00C2	.823 (20.9)	.394 (10)	.661 (16.8)	.087 (2.2)	.094 (2.4)	.106 (2.7)
00C4	1.772 (45)	.394 (10)	1.594 (40.5)	.087 (2.2)	.094 (2.4)	.106 (2.7)
06C3	1.575 (40)	.394 (10)	1.398 (35.5)	.087 (2.2)	.094 (2.4)	.106 (2.7)
14C2	1.461 (37.1)	.394 (10)	1.280 (32.5)	.087 (2.2)	.094 (2.4)	.106 (2.7)



COAXIAL CONTACTS ASSEMBLY

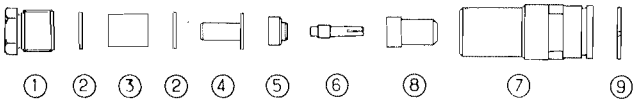
Male contact

625 030	for .102 (2.6) dia/50Ω
625 031	for .071 (1.8) dia/50Ω



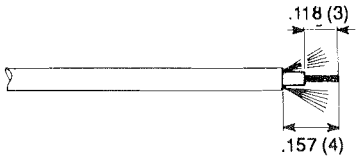
Female contact

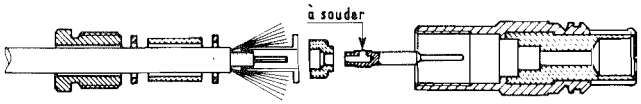
625 130	for .102 (2.6) dia/50Ω
625 131	for .071 (1.8) dia/50Ω



1 Backnut
2 Metal washers
3 Gasket
4 Braid clamp
5 Rear insulator
6 Centre contact
7 Body
8 Front insulator (female connectors)
9 Clip

CABLE ASSEMBLY

①


②


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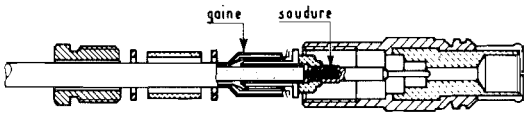

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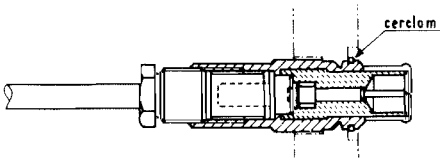


1 Slide the backnut, washer, gasket over the cable. Strip the cable as shown in diagram.

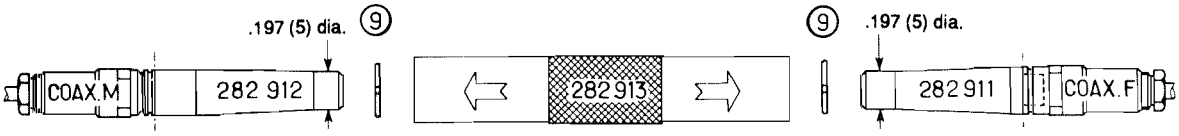
2 Slide the braid clamp between the dielectric and the braid trapping the braid clamp. If it is found to be difficult to push home the braid clamp, make a slit of 3 or 4 mm in the outer sheath.

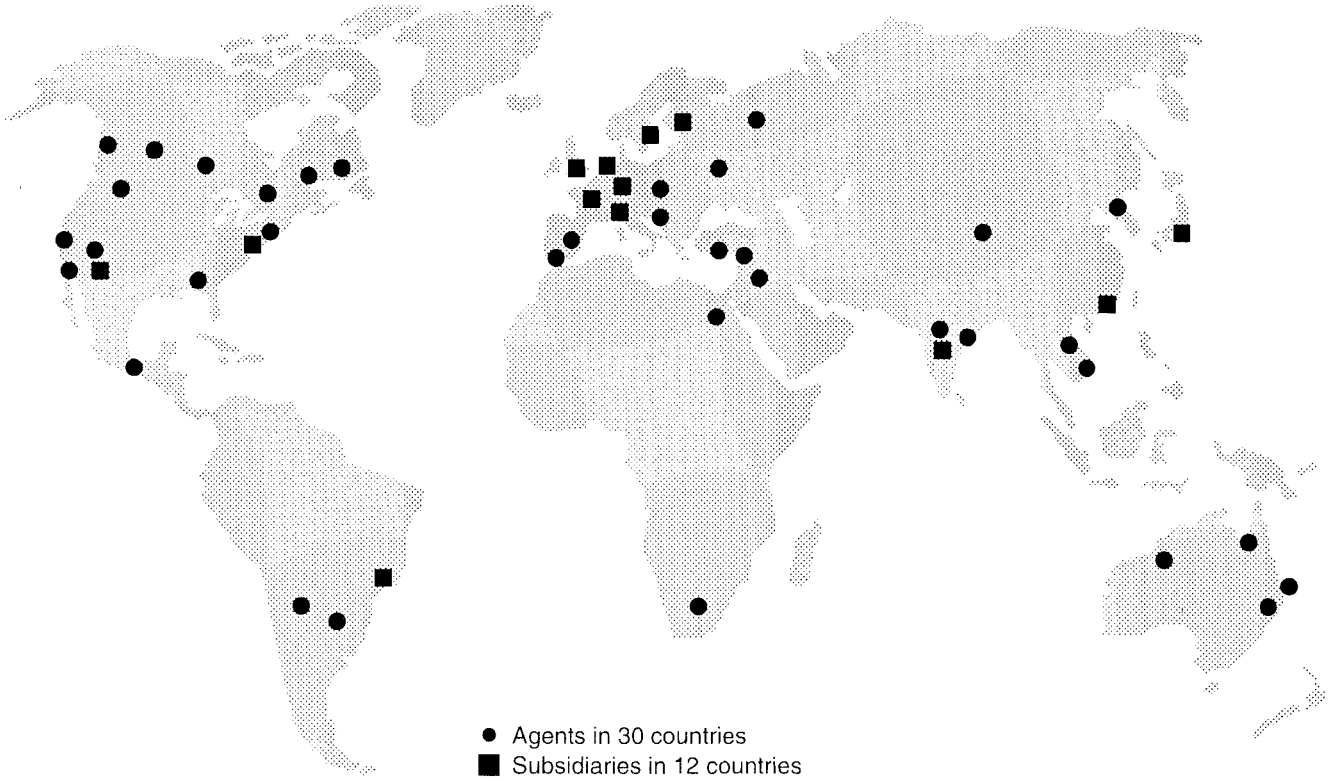
3 Place the rear insulator over the dielectric and solder the center contact.

4 In the case of the female connector, place the front insulator over the center contact. Screw the backnut into the body. The clip then has to be positionned into the groove on the interface shown in diagram. To effect this operation see diagram 1 and 2 shown below.

TOOLS

The clip positioner for male contact (282 912) and for female contacts (282 911) is used to fit the clip over the interface in order that it can be used to captivate the coaxial contact in the connector block. Slide the clip 9 onto the 5 mm dia. of the positioner and push the clip over the interface with the help of the plunger (282 913) until it snaps home.





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