

TECHNICAL CHARACTERISTICS

Contact diameter	HYPERTAC® type Ø 0.50 mm rear removable
Number of contact	Up to 162
Pitch	1.905mm between rows 1.27mm between quicuncial contacts
Rows	3

MATERIALS & PLATINGS

Contact	Brass or bronze
Moulding	Glass fiber filled diallyl - Phtalate
Guides	Stainless steel or nickel plated brass

	Standard	ESA
Pin body	0.25 µm Gold / 1.27 µm Ni	1.27 µm Gold / 1.27 µm Ni (min)
Socket body	0.25 µm Gold / 1.27 µm Ni on activ area 1.27 µm Ni on non activ area	0.25 µm Gold / 1.27 µm Ni (min)
Socket wires	1 µm Gold / 0.20 µm Ni	1.27 µm Gold / 0.20 µm Ni (min)

ELECTRICAL

Current rating (at 25°C)	3 A max
Dielectric withstanding voltage	800 Vrms
Contact resistance	≤ 8 mΩ
Insulation resistance	> 10 ⁴ mΩ (500 Vcc)

MECHANICAL

Mating & unmating cycle	5000
Guiding	By two outside guides (2 guiding styles) and one central guide (3 guiding styles)
Keying	By rotating of outside polarised guides (up to 16 keying)

ENVIRONMENTAL

Temperature range	-55° C + 125° C
Conformity	ESA/ESCC 3401/039, NF C-UTE C 93-424

Dimension are in mm

HOW TO ORDER

HYPERTAC & ESA CORRESPONDANCE TABLE

ESA	3401/039 01B
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1

2

3

4

5

1 ▸ SERIES

2 ▸ NUMBER OF CONTACTS

0 2 6 0 4 4 0 6 2 0 8 0 0 9 8 1 4 4 1 6 2

3 ▸ MOULDING POLARITY

NF C-UTE C 93-424

ESA/ESCC 3401/03901B

SPACE GRADE

12	-	54	Female plug	1A	-	-	Tinned female plug**	26	-	46	Tinned female receptacle*
13	55	55	Male plug	1B	-	-	Tinned male plug**	27	-	47	Tinned male receptacle*
16	-	56	Tinned female plug*	22	44	44	Female receptacle	2A	-	-	Tinned female receptacle**
17	-	57	Tinned male plug*	23	-	45	Male receptacle	2B	-	-	Tinned male receptacle**

4 ▸ TERMINATION STYLES

1 0	90° length 3 mm ("A" moulding)	3 0	Through board solder - straight - length 4.5 mm	5 1	Wire wrap (3 wrapping levels)
1 0	90° length 3 mm ("B" moulding)	3 1	Through board solder - straight - length 5.6 mm	9 0	Male - male
1 1	90° length 4 mm ("A" moulding)	4 0	Solder bucket	9 1	Female - male
1 3	90° length 5.5 mm ("B" moulding)	5 0	Wire wrap (2 wrapping levels)		

5 ▸ MOUNTING HARDWARE

GUIDE STYLES (consult us for special guides)

110	Male polarised, transverse mount ⁽¹⁾	127	Male unpolarised, vertical mount ⁽²⁾	156	Male unpolarised, transverse mount ⁽²⁾
111	Male polarised, vertical mount ⁽²⁾	128	Male unpolarised, float mount ⁽²⁾	173	Female unpolarised, transverse mount ⁽¹⁾
112	Male polarised, vertical mount ⁽²⁾	130	Female unpolarised, vertical mount ⁽²⁾	174	Female polarised, transverse mount ⁽¹⁾
113	Male polarised, float mount ⁽²⁾	133	Female unpolarised, transverse mount ⁽²⁾	190	Female power or mass contact, vertical mount ⁽²⁾
121	Female polarised, vertical mount ⁽²⁾	143	Female polarised, vertical mount ⁽²⁾	191	Male power or mass contact, transverse mount ⁽¹⁾
123	Female polarised, float mount ⁽²⁾	153	Female unpolarised, transverse mount ⁽²⁾	703	Female - male unpolarised guide ⁽²⁾
124	Female polarised, transverse mount ⁽²⁾	154	Female polarised, transverse mount ⁽²⁾		
125	Male unpolarised, transverse mount ⁽¹⁾	155	Male unpolarised, transverse mount ⁽²⁾		

LOCKING STYLES

FEMALE		MALE	
202	Jackscrow, vertical mount ⁽²⁾	201	Jackscrow, free connector ⁽²⁾
203	Jackscrow, transverse mount ⁽¹⁾	205	Jackscrow, transverse mount ⁽¹⁾
204	Jackscrow, transverse mount ⁽²⁾	206	Jackscrow, free connector ⁽²⁾
207	Jackscrow, vertical mount ⁽²⁾		

⁽¹⁾ Moulding A - ⁽²⁾ Moulding B

* For 90° & straight terminations (splicing on PCB)

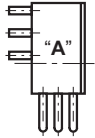
** RoHS conform for 90° & straight terminations (splicing on PCB)

► MOULDING STYLES

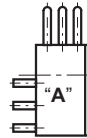
PLUG

RECEPTACLE

ONE PART (moulding A)

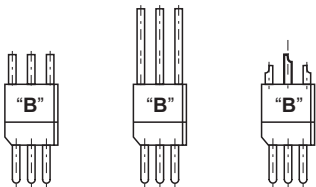


- Fitted with male contacts**
- 90° through board solder

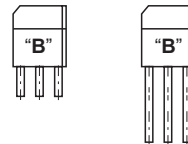


- Fitted with male contacts**
- 90° through board solder
(same design as the "A" plug type but printed as receptacle)

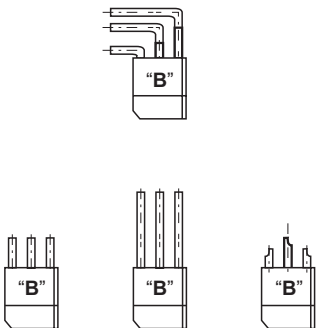
TWO PARTS (moulding B)



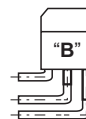
- Fitted with male contacts (pins)**
- Straight through board solder
 - Wire wrap type
(2 and 3 wrapping levels)
 - Solder bucket



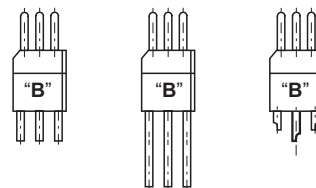
- Fitted with female contacts**
- Straight through board solder
 - Wire wrap type
(2 and 3 wrapping levels)
 - Solder bucket
(same design as the "B" plug type but printed as receptacle)



- Fitted with female contacts (sockets)**
- 90° through board solder
Note: the spacing of the rows for board preparation is different to the spacing of the plug fitted with the 90° termination
 - Straight through board solder
 - Wire wrap type
(2 and 3 wrapping levels)
 - Solder bucket



- Fitted with female contacts (sockets)**
- 90° through board solder
Note: the spacing of the rows for board preparation is different to the spacing of the plug fitted with the 90° termination

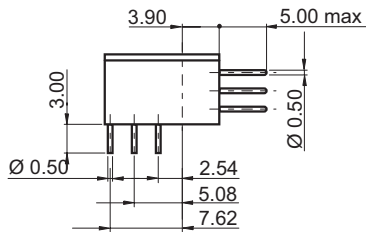


- Fitted with male contacts (pins)**
- Straight through board solder
 - Wire wrap type
(2 and 3 wrapping levels)
 - Solder bucket
(same design as the "B" plug type but printed as receptacle)

CONTACT TERMINATIONS

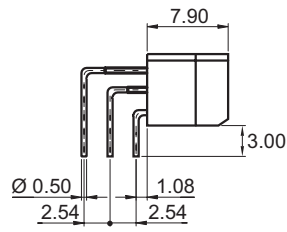
PLUG

MALE



Moulding "A"

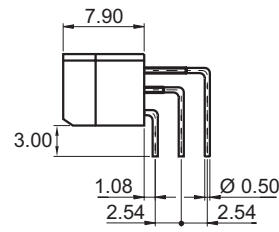
FEMALE



Moulding "B"

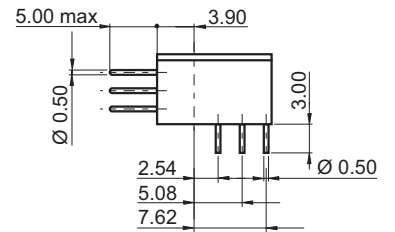
RECEPTACLE

FEMALE



Moulding "B"

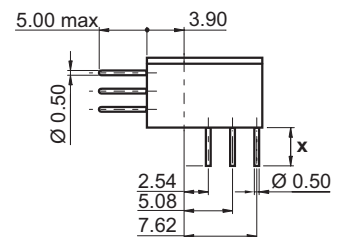
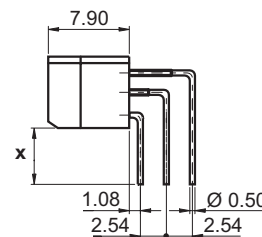
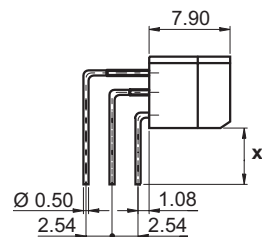
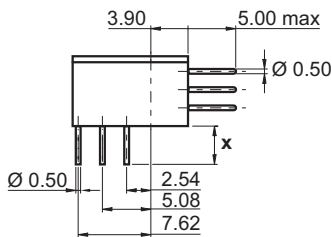
MALE



Moulding "A"

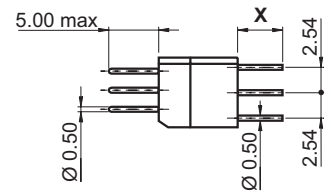
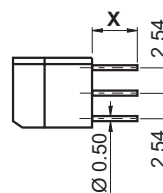
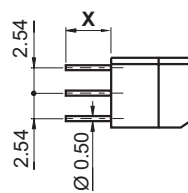
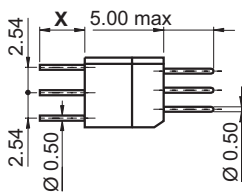
90° THROUGH BOARD SOLDER

Moulding A Ref: 11 (X=4.00) Moulding B Ref: 13 (X=5.50)



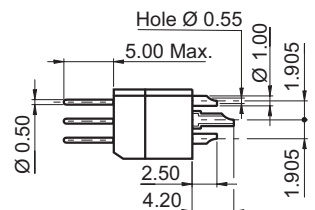
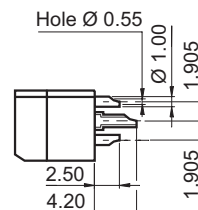
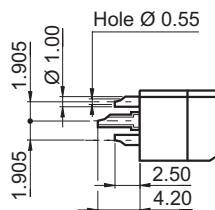
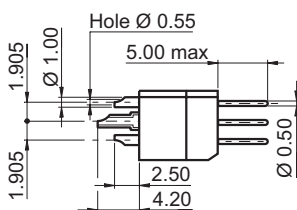
STRAIGHT THROUGH BOARD SOLDER

Ref: 30 (X=4.50) Ref: 30 (X=4.50) Ref: 31 (X=5.60) Ref: 31 (X=5.60)



SOLDER BUCKET (AWG 26 max)

Ref: 40 Ref: 40



Note: moulding A and B need different preparation board details for 90° tail termination.

CONTACT TERMINATIONS

PLUG

RECEPTACLE

MALE

FEMALE

FEMALE

MALE

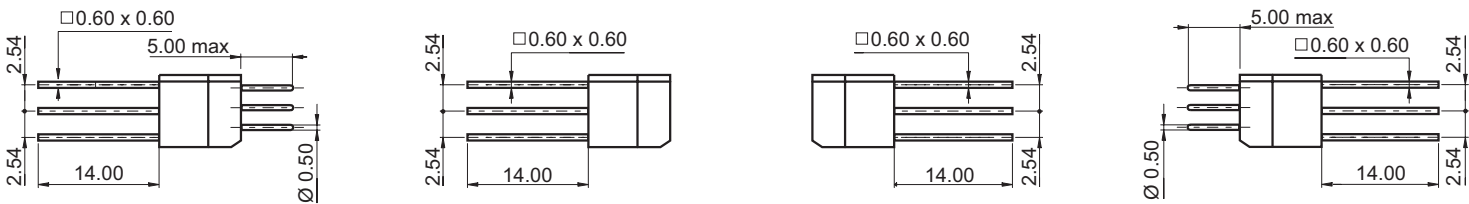
WIRE WRAP (2 wrapping levels)

Ref: 50 Ref : 50



WIRE WRAP (3 wrapping levels)

Ref: 51 Ref : 51



SAVER (Male-Male)

Ref: 90



SAVER (Female-Male)

Ref: 91 Ref : 91



Note: moulding A and B need different preparation board details for 90° tail termination.

DIMENSIONS

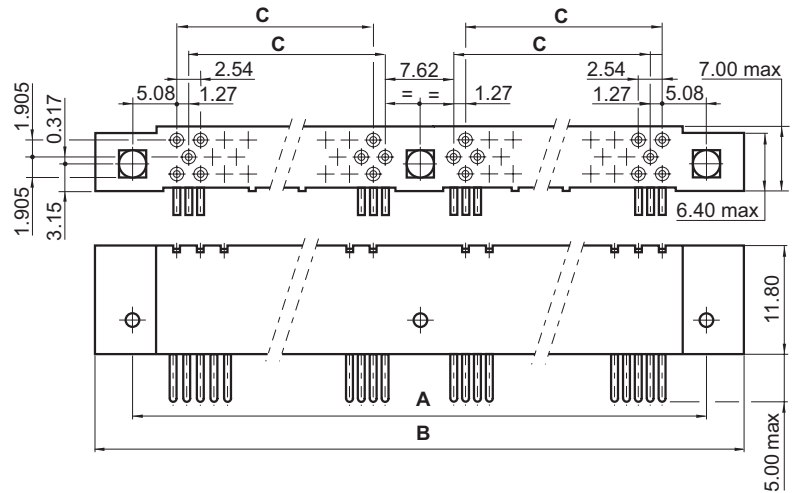
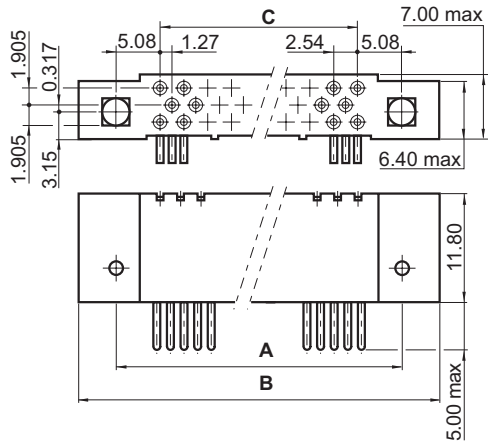
26 TO 98 CONTACTS

144 TO 162 CONTACTS

ONE PART (moulding A)

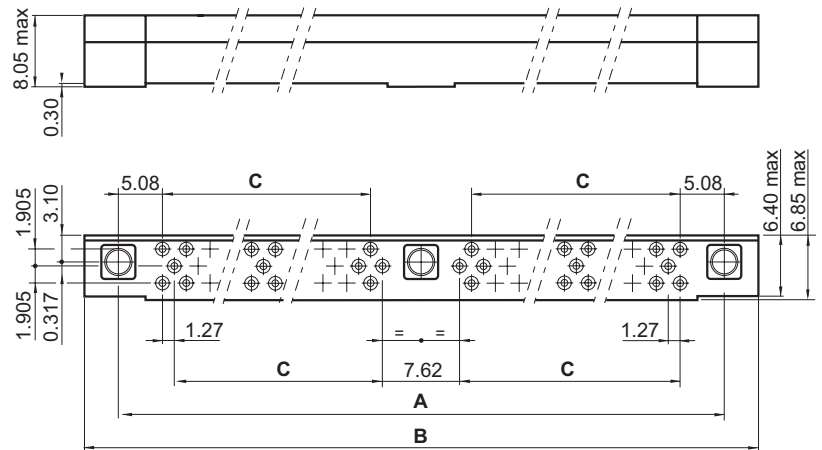
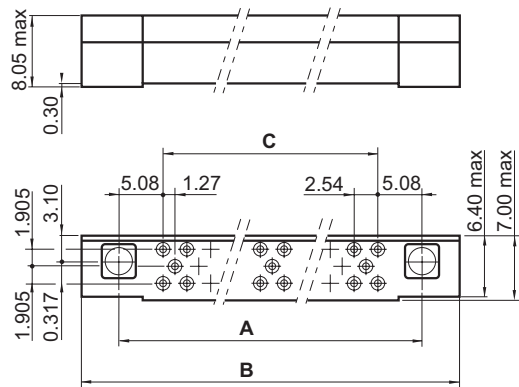
90° male plug
90° male receptacle

KMC ... 13 10 ...
KMC ... 23 10 ...



TWO PARTS (moulding B)

Female or male receptacle KMC ... 2 ...
Female or male plug KMC ... 1 ...



No. of contacts	26	44	62	80	98	144	162
A	30.48	45.72	60.96	76.20	91.44	137.16	152.40
B max	38.50	53.70	69.00	84.20	99.50	145.20	160.40
C	20.32	35.56	50.80	66.04	81.28	58.42	66.04

▶ GUIDE DEVICE & POLARITY TERMINATION COMPATIBILITY CHART

703	190	174	173	154

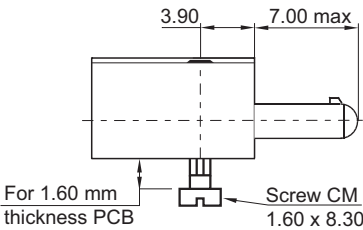
Guide devices

FR 22	FP 12	FR 22	FP 12	MR 23	FR 22	FP 12	MP 13	MR 23	FR 22	FP 12	MP 13	FR 22	FP 12	MR 23	FR 22	FP 12	MP 13	Polarity				Moulding	Contact				
																		All pinning	A								
																		All pinning	B								
																		90°	13F	11M	10	Male or female					
																		Straight		31	30						
																		Solder bucket			40						
																		Wire wrap		51	50						
																		Female/male	Male/male	91	90						
																						Guide devices					
																							703				
																							191				
																							156				
																							155				
																							128				
																							127				
																							125				
																							113				
																							112 111				
																							110				
																			Male guides								
																		Female guides									
153	133	130	123	124	143/121																						
Guide devices																											

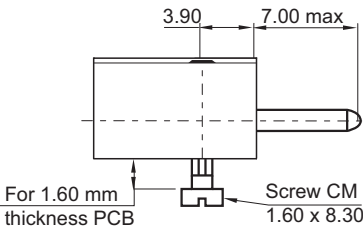
MALE GUIDE STYLES

POLARISED TRANSVERSE MOUNT (moulding A)

Ref: 110 Ref: 110

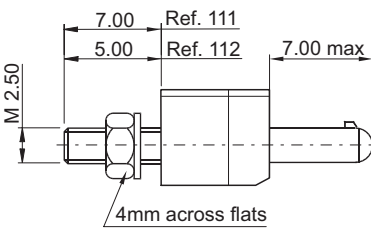


UNPOLARISED TRANSVERSE MOUNT (moulding A) CENTRAL GUIDE (KMC 144-162)

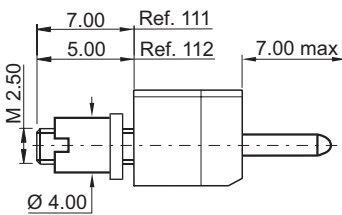


POLARISED VERTICAL MOUNT (moulding B)

Ref: 111 Ref: 112

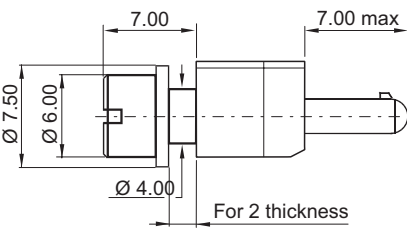


UNPOLARISED VERTICAL MOUNT (moulding B) CENTRAL GUIDE (KMC 144-162)

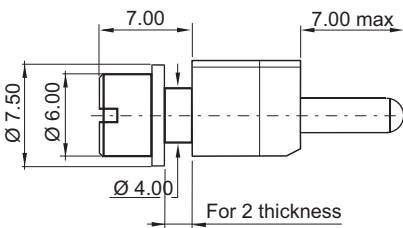


POLARISED VERTICAL FLOAT MOUNT (moulding B)

Ref: 113

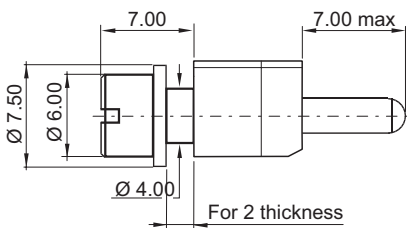


UNPOLARISED VERTICAL FLOAT MOUNT (moulding B) CENTRAL GUIDE (KMC 144-162)



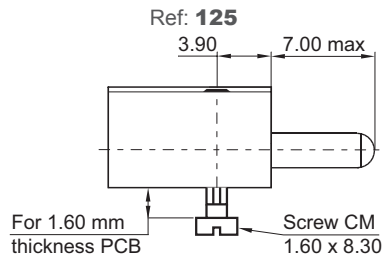
POLARISED VERTICAL FLOAT MOUNT (moulding B)

Ref: 128

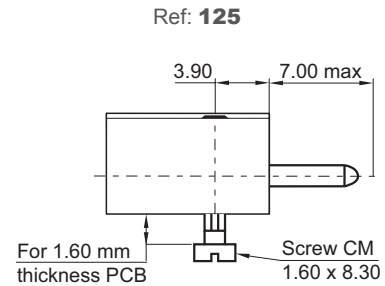


► MALE GUIDE STYLES

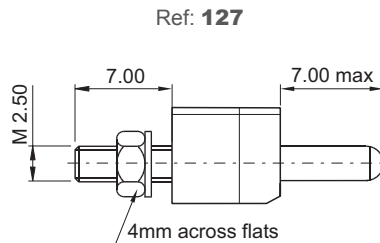
UNPOLARISED TRANSVERSE MOUNT (moulding A)



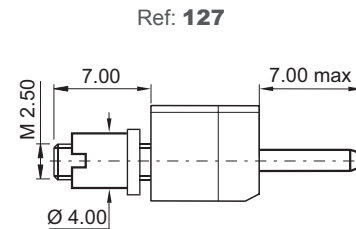
UNPOLARISED TRANSVERSE MOUNT (moulding A) CENTRAL GUIDE (KMC 144-162)



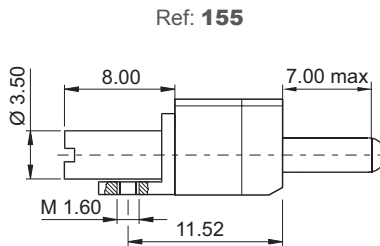
UNPOLARISED VERTICAL MOUNT (moulding B)



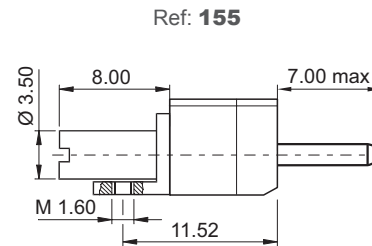
UNPOLARISED VERTICAL MOUNT (moulding B) CENTRAL GUIDE (KMC 144-162)



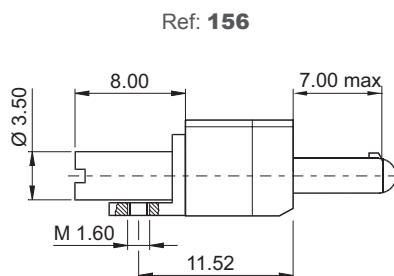
UNPOLARISED TRANSVERSE MOUNT (moulding B)



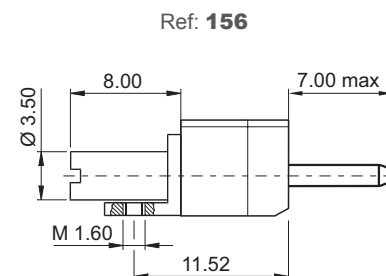
UNPOLARISED TRANSVERSE MOUNT (moulding B) CENTRAL GUIDE (KMC 144-162)



POLARISED TRANSVERSE MOUNT (moulding B)



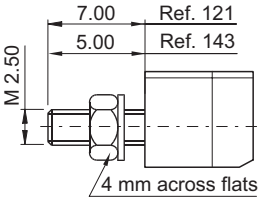
UNPOLARISED TRANSVERSE MOUNT (Moulding B) CENTRAL GUIDE (KMC 144-162)



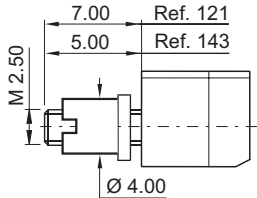
FEMALE GUIDE STYLES

POLARISED VERTICAL MOUNT (moulding B)

Ref: 121 Ref: 143 Ref: 143

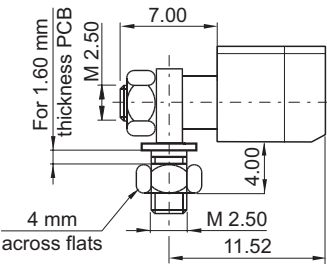


UNPOLARISED VERTICAL MOUNT (moulding B) CENTRAL GUIDE (KMC 144-162)

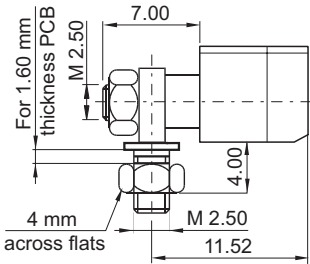


POLARISED TRANSVERSE MOUNT (moulding B)

Ref: 124

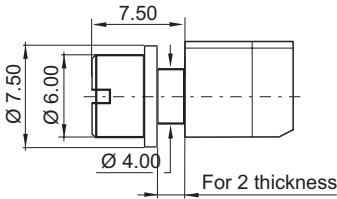


UNPOLARISED TRANSVERSE MOUNT (moulding B) CENTRAL GUIDE (KMC 144-162)



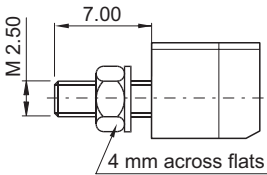
POLARISED VERTICAL FLOAT MOUNT (moulding B)

Ref: 123

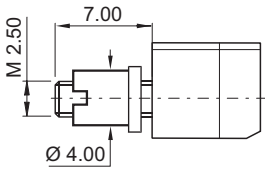


ALL KEYING TYPES (moulding B)

Ref: 130



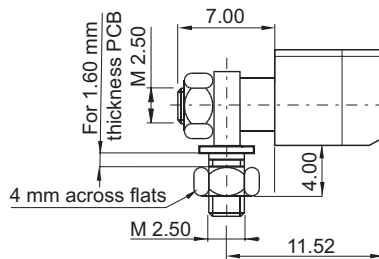
ALL KEYING TYPES (moulding B) CENTRAL GUIDE (KMC 144-162)



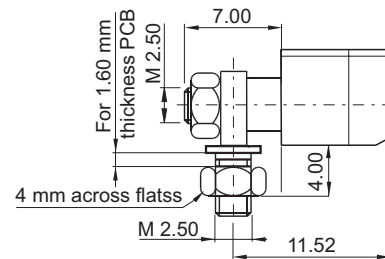
► FEMALE GUIDE STYLES

ALL KEYING TYPES (moulding B)

Ref: **133**

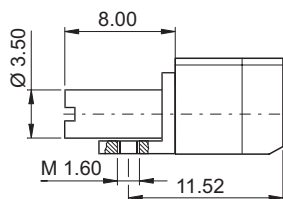


ALL KEYING TYPES (moulding B) CENTRAL GUIDE (KMC 144-162)

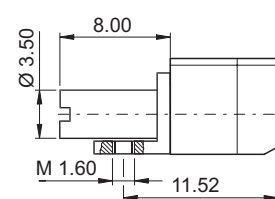


ALL KEYING TYPES (moulding B)

Ref: **153**

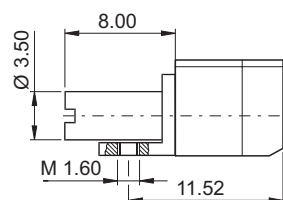


ALL KEYING TYPES (moulding B) CENTRAL GUIDE (KMC 144-162)

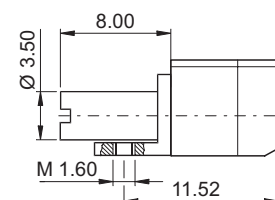


POLARISED TRANSVERSE MOUNT (moulding B)

Ref: **154**



UNPOLARISED TRANSVERSE MOUNT (moulding B) CENTRAL GUIDE (KMC 144-162)

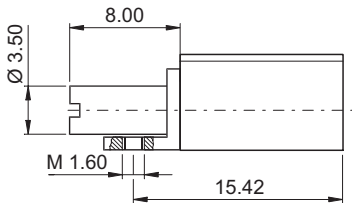


GUIDE STYLES

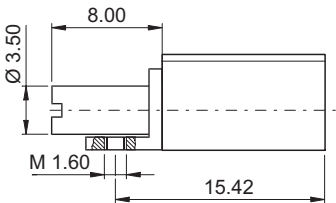
FEMALE

UNPOLARISED TRANSVERSE MOUNT (moulding A)

Ref: 173

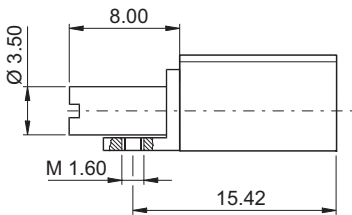


UNPOLARISED TRANSVERSE MOUNT (moulding A) CENTRAL GUIDE (KMC 144-162)

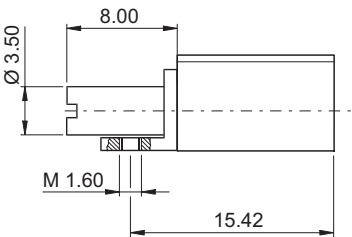


POLARISED TRANSVERSE MOUNT (moulding A)

Ref: 174



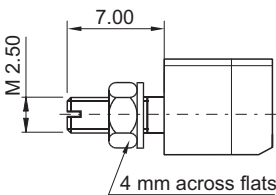
UNPOLARISED TRANSVERSE MOUNT (moulding A) CENTRAL GUIDE (KMC 144-162)



FEMALE

MASS AND POWER CONTACT (moulding B)

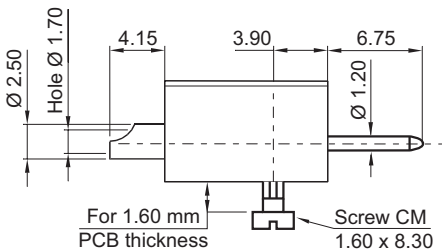
Ref: 190



MALE

MASS AND POWER CONTACT (moulding A)

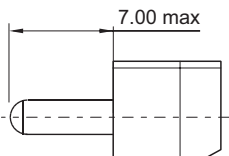
Ref: 191



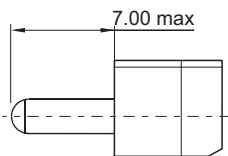
FEMALE - MALE

UNPOLARISED TRANSVERSE MOUNT (moulding B)

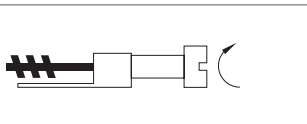
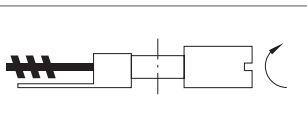
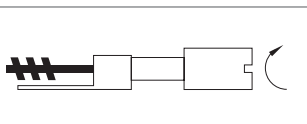
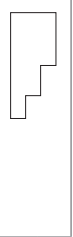
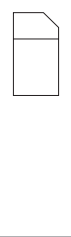
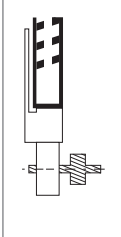
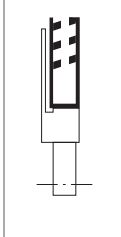
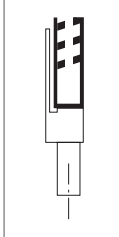
Ref: 703 Ref: 703



UNPOLARISED TRANSVERSE MOUNT (moulding B) CENTRAL GUIDE (KMC 144-162)



▶ LOCKING DEVICE COMPATIBILITY CHART

						A	Moulding
						B	
							206
							205
							201
					Male locking devices		
A	B				Female locking devices		
Moulding		204	203	202/207			

 Compatible

NOTE: the connector must be fitted with its locking devices before soldering on the PCB (straight through board solder):

- ▶ Connector on PCB: impossibility to change the keying.
- ▶ If you need to change the keying:
 - pierce PCB through Ø 3.70, fixing devices
 - use 054826.000R shouldered washer

(for 202 and 207)

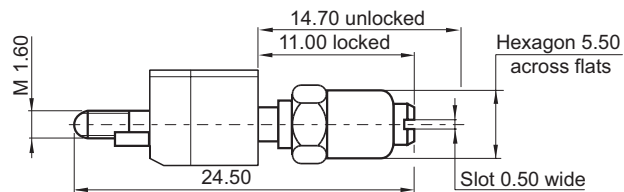
► LOCKING STYLES

MALE

JACKSCREW, FREE CONNECTOR (moulding B)

Ref: **201** Ref:  **201**

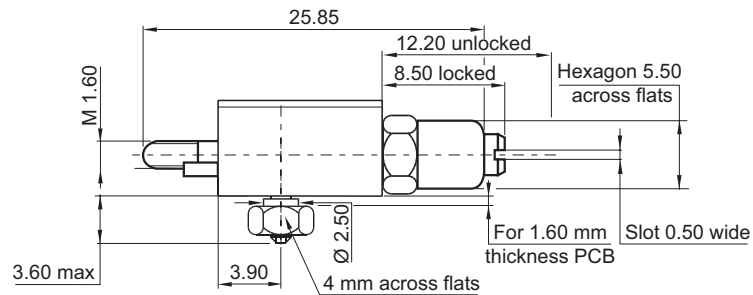
For **KMC 144-162** the supplied central guide is Ref: **111**



JACKSCREW, TRANSVERSE MOUNT (moulding A)

Ref: **205**

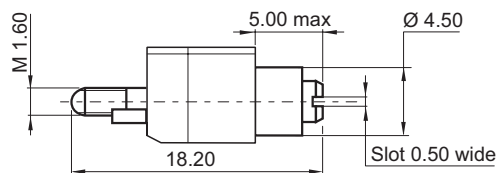
For **KMC 144-162** the supplied central guide is Ref: **110**



JACKSCREW, FREE CONNECTOR (moulding B)

Ref: **206** Ref:  **206**

For **KMC 144-162** the supplied central guide is Ref: **112**



LOCKING STYLES

FEMALE

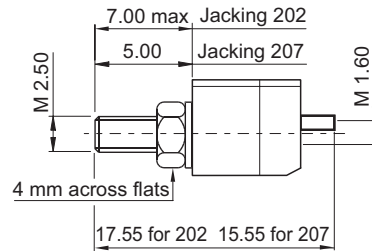
NON ROTATING JACKSCREW, VERTICAL MOUNT (moulding B)

Ref: **202** Ref:  **202**

For **KMC 144-162** jackscrew 202 the supplied central guide is Ref: **121**

Ref: **207**

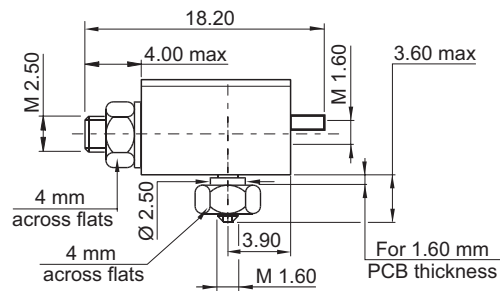
jackscrew 207 the supplied central guide is Ref: **143**



NON ROTATING JACKSCREW, TRANSVERSE MOUNT (moulding A)

Ref: **203**

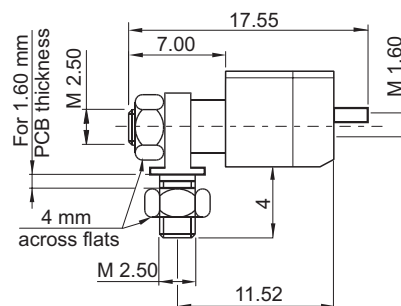
For **KMC 144-162** jackscrew 202 the supplied central guide is Ref: **173**



NON ROTATING JACKSCREW, TRANSVERSE MOUNT (moulding B)

Ref: **204** Ref:  **204**

For **KMC 144-162** the supplied central guide is Ref: **111**

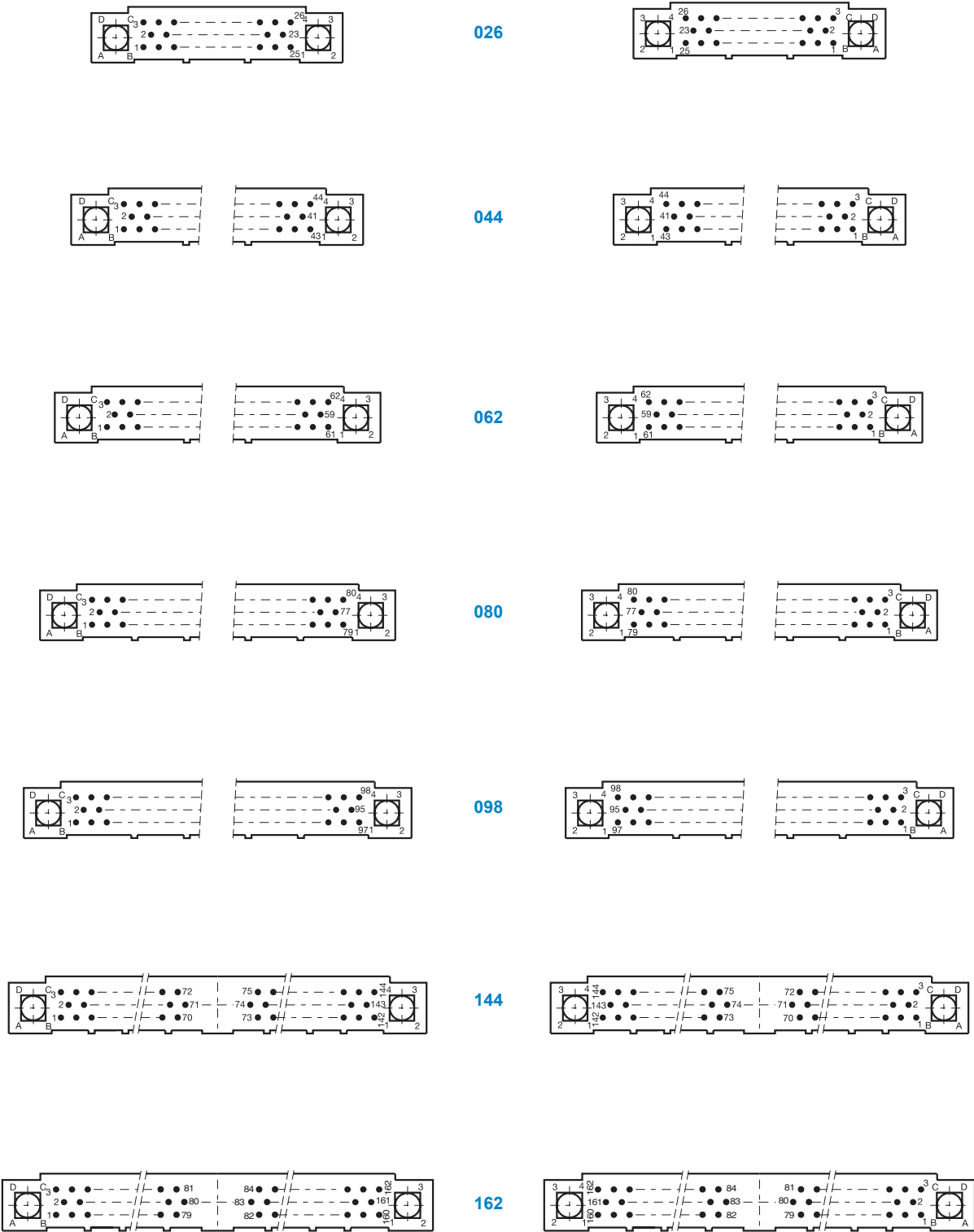


► MATING SIDE LAYOUT VIEW

MOULDING A

PLUG

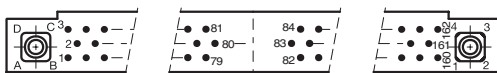
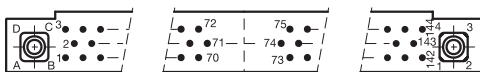
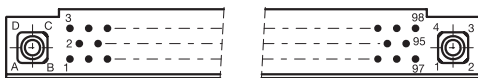
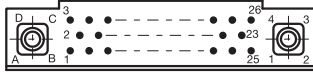
RECEPTACLE



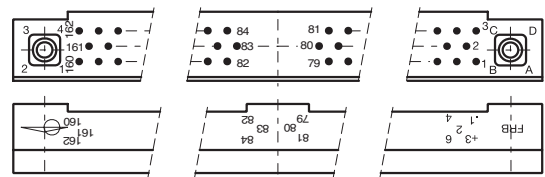
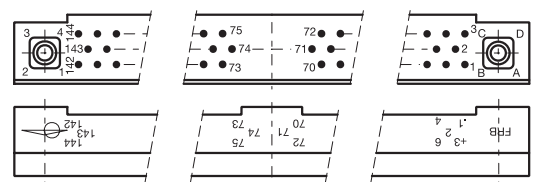
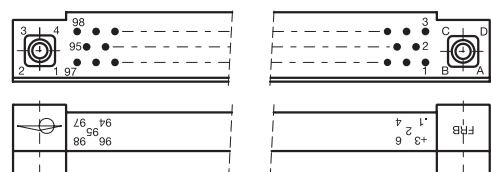
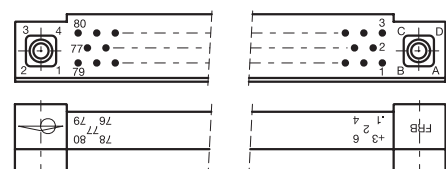
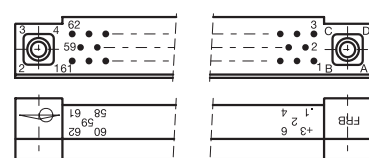
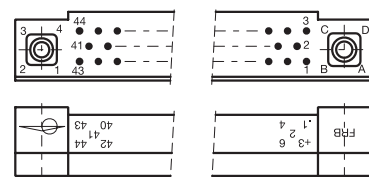
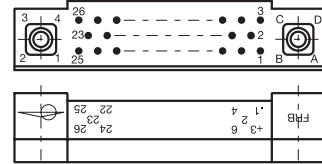
► MATING SIDE LAYOUT VIEW

MOULDING B

PLUG



RECEPTACLE



026

044

062

080

098

144

162

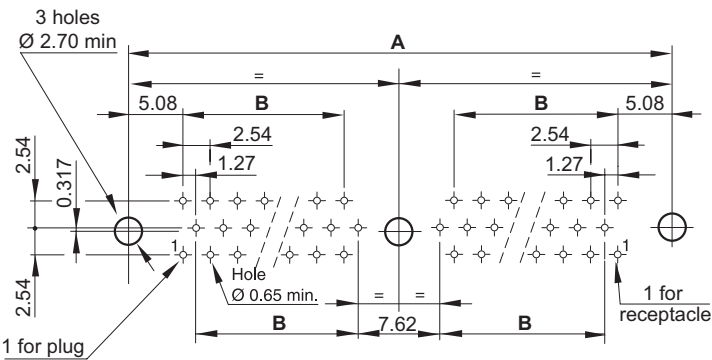
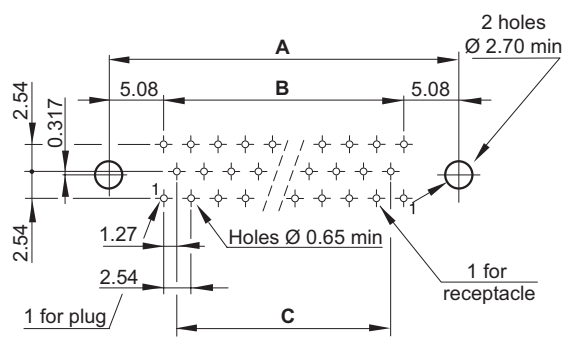
BOARD PREPARATION DETAILS

TWO PARTS (moulding B)

26 TO 98 CONTACTS

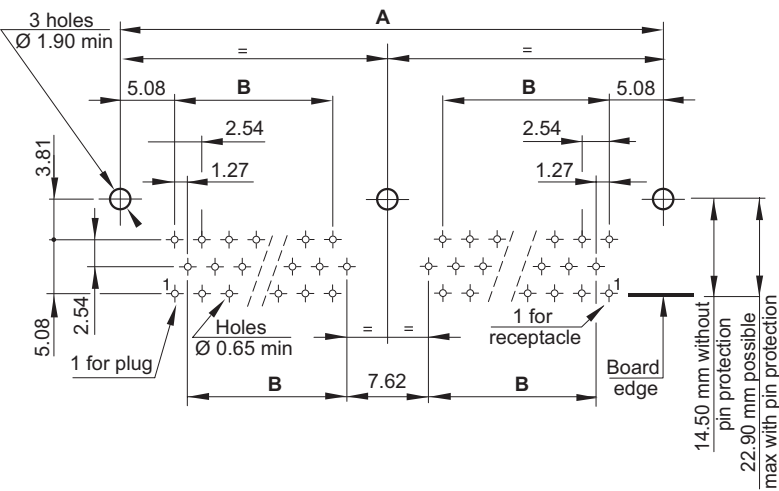
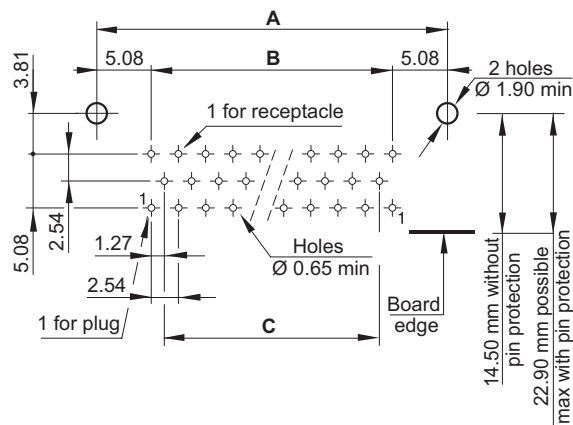
144 TO 162 CONTACTS

MOTHER BOARD



Female or male, plug or receptacle, straight solder terminations 30 or 31
Guide styles: 111 - 112 - 121 - 127 - 130 - 143 - 190

DAUGHTER BOARD



Female or male, plug or receptacle, 90° termination
Guide styles: 153 - 154 - 155 - 156

No. of contacts	26	44	62	80	98	144	162
A	30.48	45.72	60.96	76.20	91.44	137.16	152.40
B	20.32	35.56	50.80	66.04	81.28	58.42	66.04
C	17.78	33.02	48.26	63.50	78.74	—	—

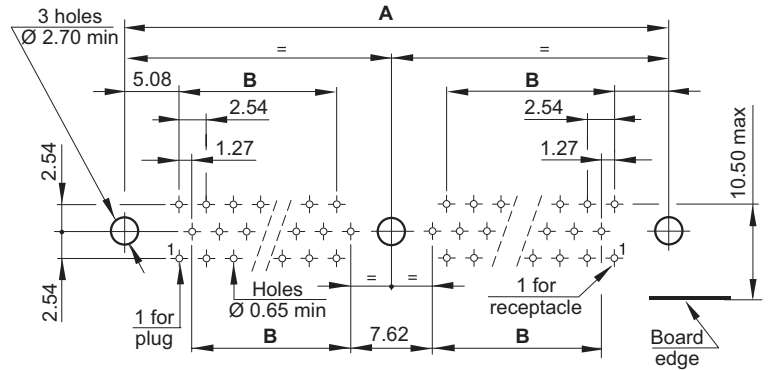
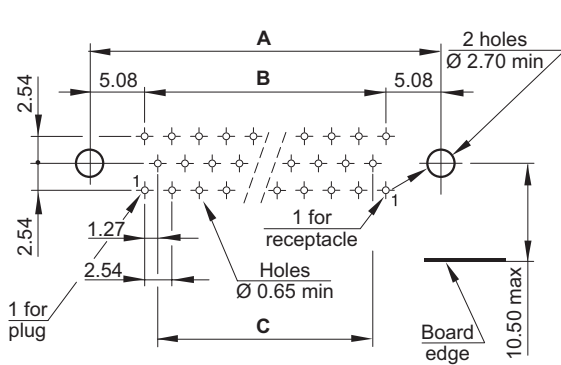
► BOARD PREPARATION DETAILS

TWO PARTS (moulding B)

26 TO 98 CONTACTS

144 TO 162 CONTACTS

DAUGHTER BOARD

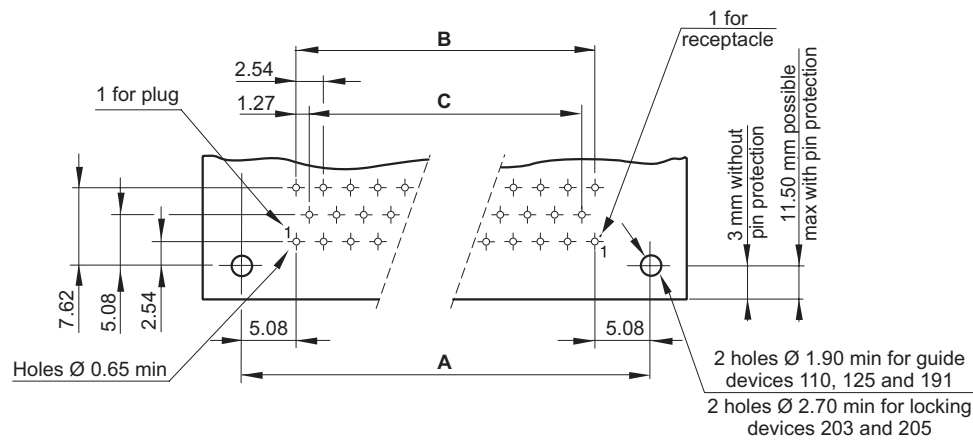


Female or male, plug or receptacle, 90° termination
Guide styles: 124 - 133

No. of contacts	26	44	62	80	98	144	162
A	30.48	45.72	60.96	76.20	91.44	137.16	152.40
B	20.32	35.56	50.80	66.04	81.28	58.42	66.04
C	17.78	33.02	48.26	63.50	78.74	—	—

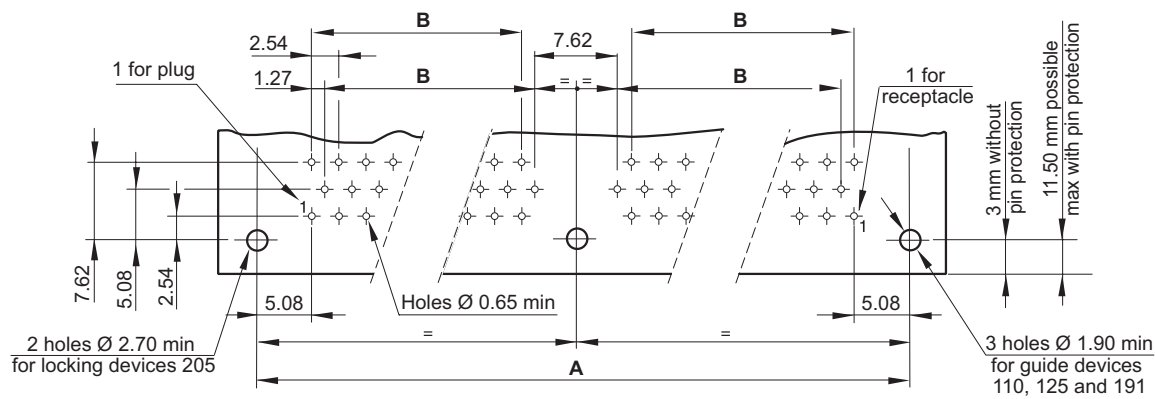
► BOARD PREPARATION DETAILS

ONE PART (moulding A)
DAUGHTER BOARD
26 TO 98 CONTACTS



Male, plug or receptacle, 90° termination
Guide styles: 110 - 125 - 191 - 203 - 205

144 TO 162 CONTACTS



Male, plug or receptacle, 90° termination
Guide styles: 110 - 125 - 191 - 205

No. of contacts	26	44	62	80	98	144	162
A	30.48	45.72	60.96	76.20	91.44	137.16	152.40
B	20.32	35.56	50.80	66.04	81.28	58.42	66.04
C	17.78	33.02	48.26	63.50	78.74	—	—

144 TO 162 CONTACTS

63

Disclaimer 2014

All of the information included in this catalogue is believed to be accurate at the time of printing. It is recommended, however, that users should independently evaluate the suitability of each product for their intended application and be sure that each product is properly installed, used and maintained to achieve desired results.

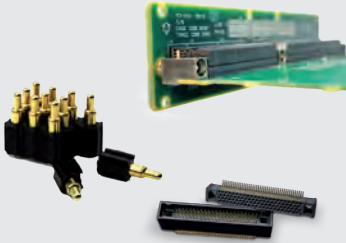
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SMITHS CONNECTORS PRODUCT LINES

PCB



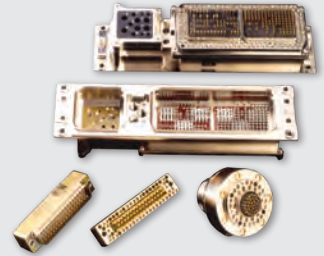
- ▶ Low, medium and high density board-to-board, cable to board and stacking
- ▶ Rugged standard
- ▶ Low profile
- ▶ Signal, power, coaxial & high speed configurations
- ▶ Spring probe connectors
- ▶ Mixed signal, power and coaxial contact connectors

POWER



- ▶ Circular
- ▶ Configurable rectangular
- ▶ Ruggedized
- ▶ Single and Multi-Way Connectors
- ▶ Power contact up to 1,200 Amps
- ▶ Excellent performance in harsh environment conditions
- ▶ Cable assembling

EMI/EMP FILTER



- ▶ EMI/RFI filtering and transient protection
- ▶ RoHS compliant solderless filter connectors available
- ▶ Circular, ARINC, D-Subminiature
- ▶ Filtered adapters for "bolt on" EMI solutions

MODULAR/RECTANGULAR



- ▶ Configurable with modules for signal, power, coax, fiber optics and/or pneumatics
- ▶ Easy configuration in a single frame
- ▶ For rack & panel, and cable applications
- ▶ Guided hardware for blind
- ▶ D-sub connectors
- ▶ Micro-D style
- ▶ Signal connectors for hand held and docking stations

CIRCULAR



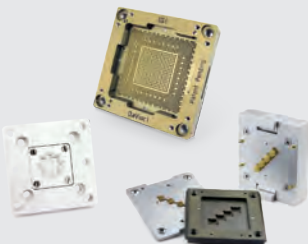
- ▶ Crimp and solder terminations
 - ▶ Various types of cable clamps
 - ▶ Stamped hyperboloid contact
- MEDICAL**
- ▶ Plastic & Metal
 - ▶ Push Pull/Push-button latch mechanism

HEAVY DUTY



- ▶ Ultra reliable hyperboloid contact
- ▶ Modular solution: signal, power, data contacts, and fiber optics
- ▶ Up to o 250A, coax 50 ohms
- ▶ Rugged aluminum shell
- ▶ High resistance in harsh environment
- ▶ EMC shielding
- ▶ Easy cable mounting

SPRING PROBES



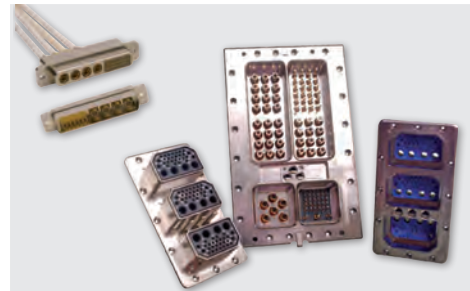
- ▶ Z-axis compliant
- ▶ Blind mate engagement
- ▶ Long cycle life
- ▶ High density
- ▶ Extreme miniaturization
- ▶ Printed circuit board test
- ▶ Bare board test
- ▶ Coaxial contacts

MIL/AERO STANDARD



- ▶ MIL and ARINC standards
- ▶ Rectangular, Circular, D-Sub and Rack and Panel Connectors
- ▶ Filter, Fiber optic, high speed, RF, and spring probe connectors

HIGH SPEED COPPER/FIBER



- ▶ Quadrx and Twinax Connectors
- ▶ Rugged D-Sub Connectors
- ▶ ARINC and MIL-STD Contacts
- ▶ Micro Twinax/Quadrx
- ▶ Butt-Joint and Expanded Beam Contacts
- ▶ ARINC 801 Termini
- ▶ Floating Fiber Termini

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