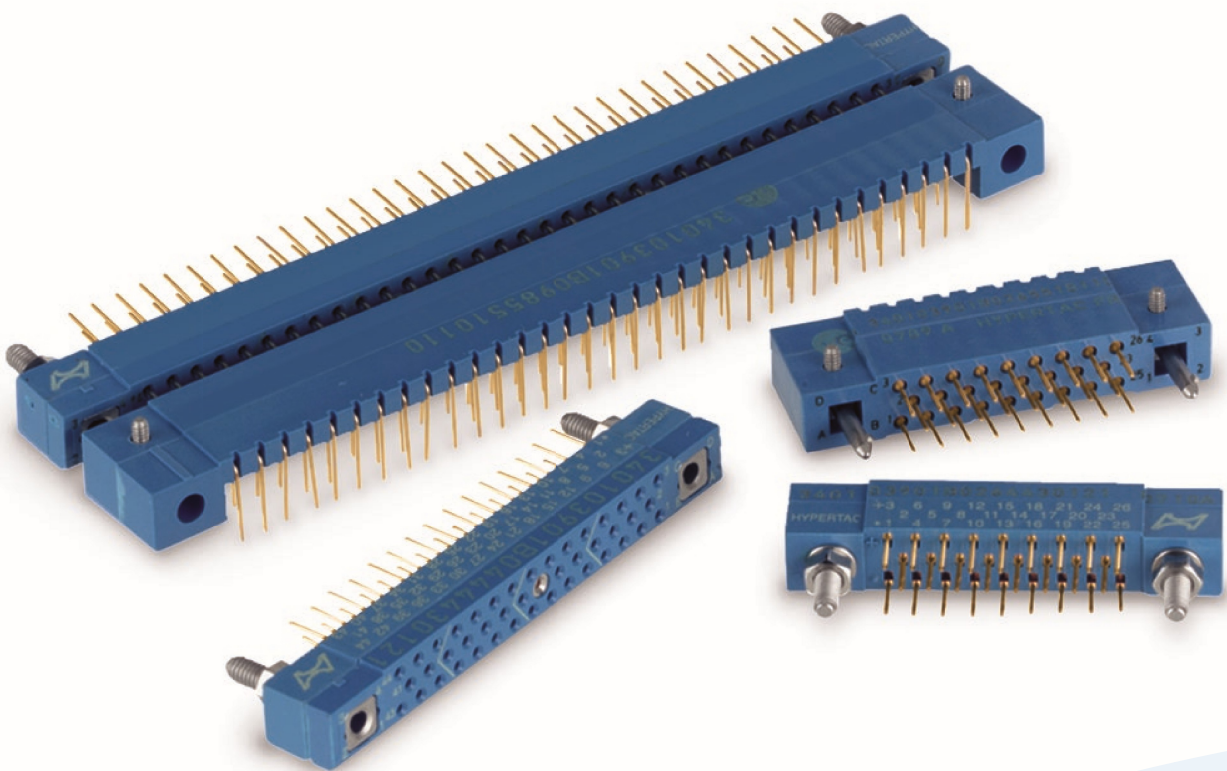


smiths connectors

# KMC SERIES

*High Density PCB Connectors*



# 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 <sup>4</sup> mΩ (500 Vcc)

## MECHANICAL

Mating & unmating cycle	5000
Guiding	By two outside guides (2 guiding styles) and one central guide (3 guidind 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



### 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

10	90° length 3 mm ("A" moulding)	30	Through board solder - straight - length 4.5 mm	51	Wire wrap (3 wrapping levels)
10	90° length 3 mm ("B" moulding)	31	Through board solder - straight - length 5.6 mm	90	Male - male
11	90° length 4 mm ("A" moulding)	40	Solder bucket	91	Female - male
13	90° length 5.5 mm ("B" moulding)	50	Wire wrap (2 wrapping levels)		

### 5 ▸ MOUNTING HARDWARE

**GUIDE STYLES** (consult us for special guides)

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

### LOCKING STYLES

FEMALE	MALE
202 Jackscrew, vertical mount <sup>(2)</sup>	201 Jackscrew, free connector <sup>(2)</sup>
203 Jackscrew, transverse mount <sup>(1)</sup>	205 Jackscrew, transverse mount <sup>(1)</sup>
204 Jackscrew, transverse mount <sup>(2)</sup>	206 Jackscrew, free connector <sup>(2)</sup>
207 Jackscrew, vertical mount <sup>(2)</sup>	

<sup>(1)</sup> Moulding A - <sup>(2)</sup> Moulding B

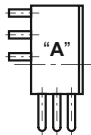
\* For 90° & straight terminations (splicing on PCB)  
 \*\* RoHS conform for 90° & straight terminations (splicing on PCB)

► MOULDING STYLES

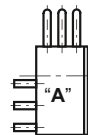
PLUG

RECEPTACLE

ONE PART (moulding A)

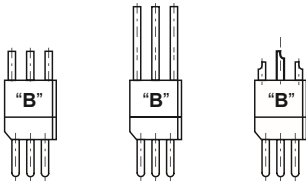


**Fitted with male contacts**  
 ▶ 90° through board solder

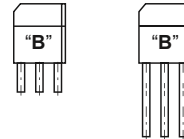


**Fitted with male contacts**  
 ▶ 90° through board solder  
 (same design as the "A" plug type but printed as receptacle)

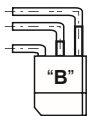
TWO PARTS (moulding B)



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



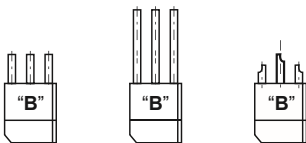
**Fitted with female contacts**  
 ▶ Straight through board solder  
 ▶ Wire wrap type  
 (2 and 3 wrapping levels)  
 ▶ Solder bucket  
 (same design as the "B" plug type but printed as receptacle)



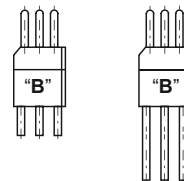
**Fitted with female contacts (sockets)**  
 ▶ 90° through board solder  
 Note: the spacing of the rows for board preparation is different to the spacing of the plug fitted with the 90° termination



**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 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

RECEPTACLE

MALE

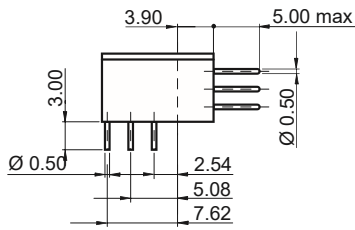
FEMALE

FEMALE

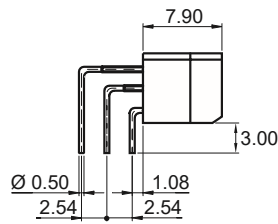
MALE

90° THROUGH BOARD SOLDER

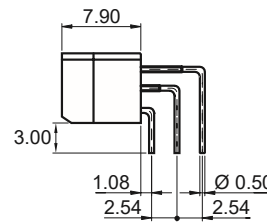
Ref: 10 Ref: 10 (only A Moulding)



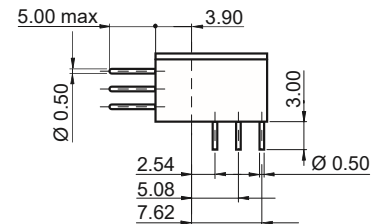
Moulding "A"



Moulding "B"



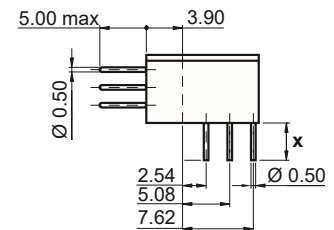
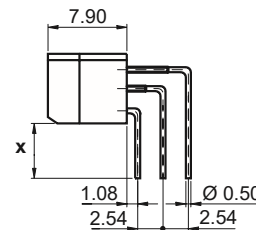
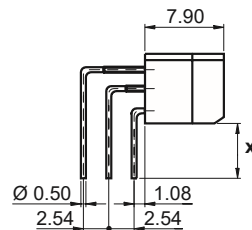
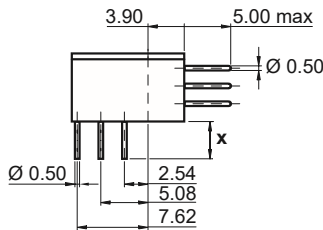
Moulding "B"



Moulding "A"

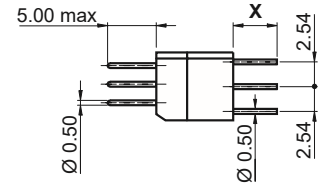
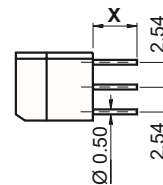
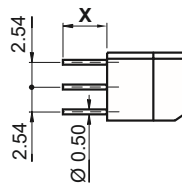
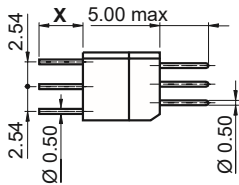
90° THROUGH BOARD SOLDER

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



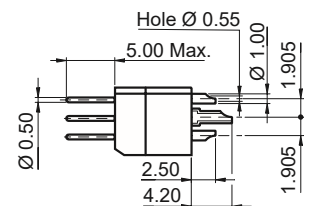
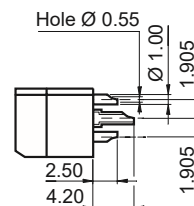
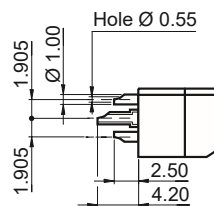
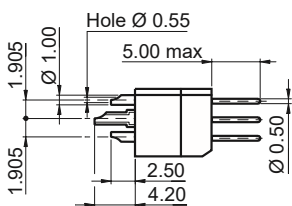
STRAIGHT THROUGH BOARD SOLDER

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



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

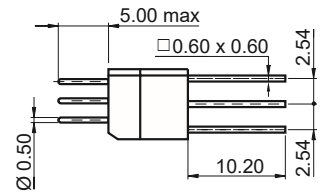
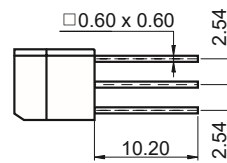
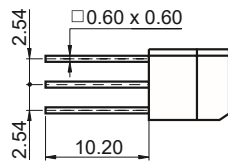
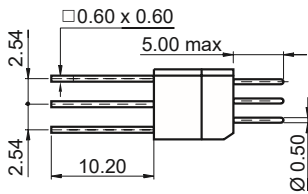
FEMALE

FEMALE

MALE

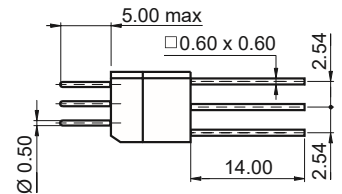
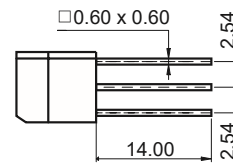
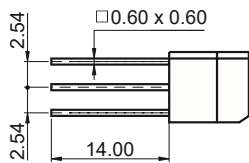
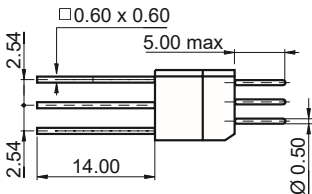
WIRE WRAP (2 wrapping levels)

Ref: 50 Ref: 50



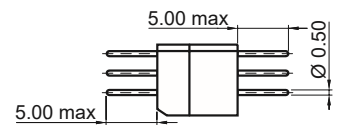
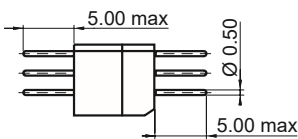
WIRE WRAP (3 wrapping levels)

Ref: 51 Ref: 51



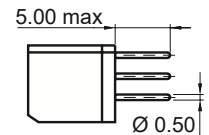
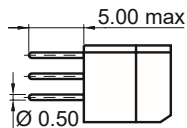
SAVER (Male-Male)

Ref: 90



SAVER (Female-Male)

Ref: 91 Ref: 91



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

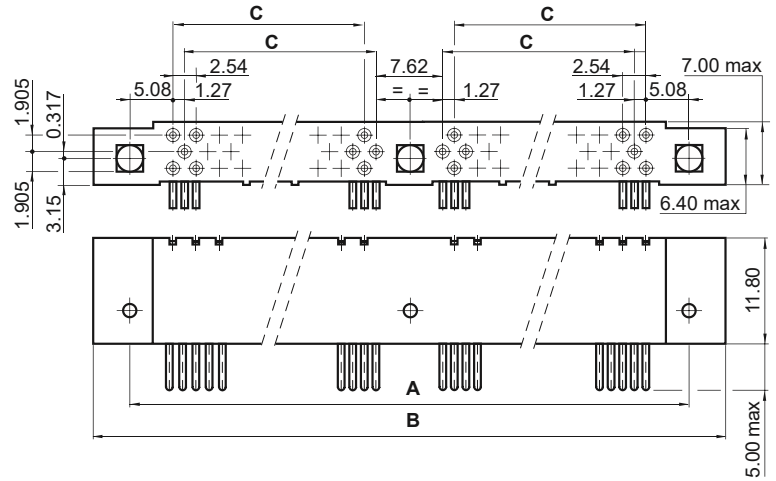
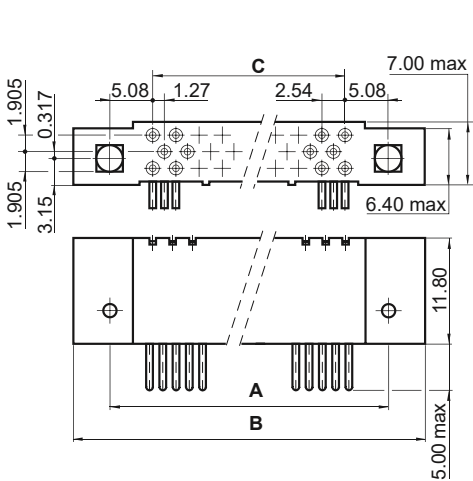
► DIMENSIONS

26 TO 98 CONTACTS

144 TO 162 CONTACTS

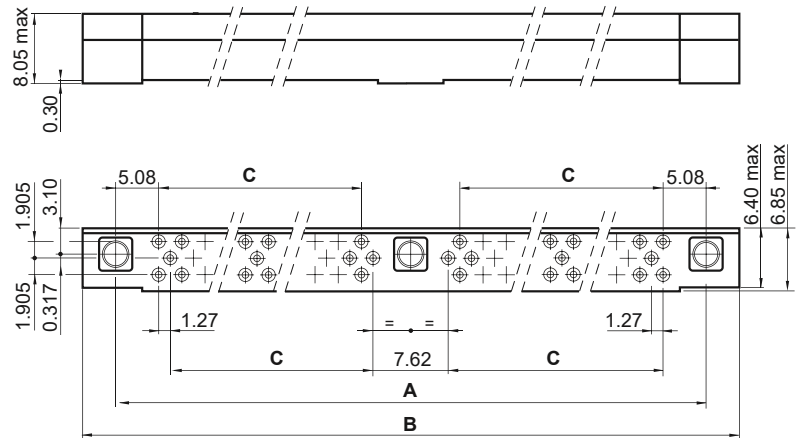
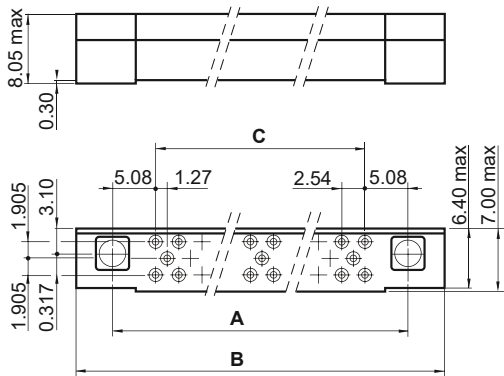
ONE PART (moulding A)

90° male plug                    KMC ... 13 10 ...  
 90° male receptacle            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





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					
																			All pinning	A	Moulding		
																			All pinning	B			
																			90°	13F	11M	10	Contact
																			Straight		31	30	
																			Solder bucket			40	
																			Wire wrap		51	50	
																			Female/male	Male/male	91	90	

																				703	Guide devices
																				191	
																				156	
																				155	
																				128	
																				127	
																				125	
																				113	
																				112 111	
																				110	

Male guides

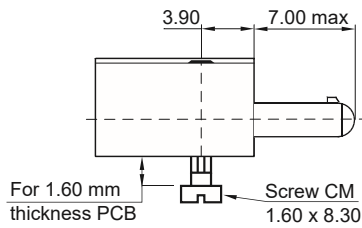
153	133	130	123	124	143/121
Guide devices					

Female guides

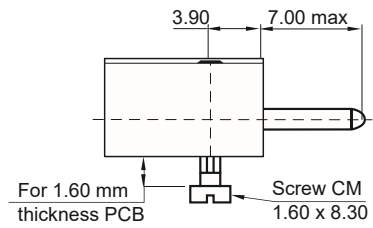
▶ MALE GUIDE STYLES

**POLARISED TRANSVERSE MOUNT (moulding A)**

Ref: 110 Ref: : 110

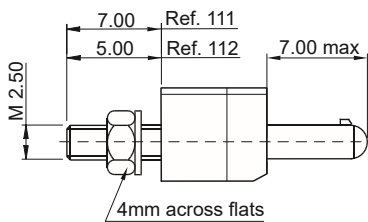


**UNPOLARISED TRANSVERSE MOUNT (moulding A) CENTRAL GUIDE (KMC 144-162)**

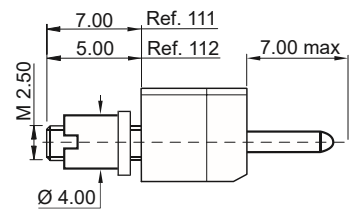


**POLARISED VERTICAL MOUNT (moulding B)**

Ref: 111 Ref: 112

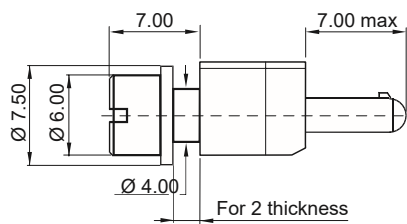


**UNPOLARISED VERTICAL MOUNT (moulding B) CENTRAL GUIDE (KMC 144-162)**

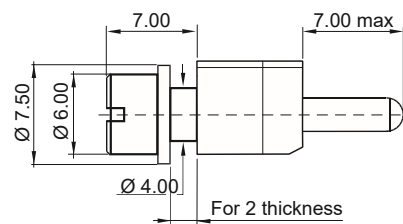


**POLARISED VERTICAL FLOAT MOUNT (moulding B)**

Ref: 113

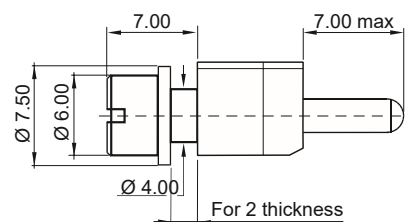


**UNPOLARISED VERTICAL FLOAT MOUNT (moulding B) CENTRAL GUIDE (KMC 144-162)**



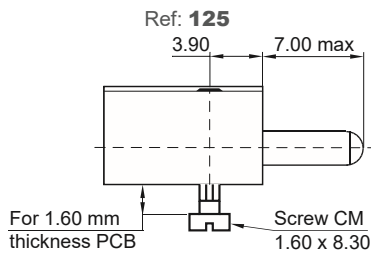
**POLARISED VERTICAL FLOAT MOUNT (moulding B)**

Ref: 128

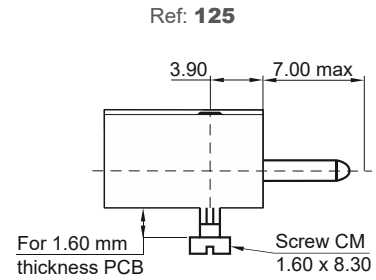


▶ MALE GUIDE STYLES

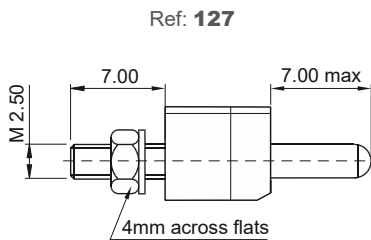
**UNPOLARISED TRANSVERSE MOUNT (moulding A)**



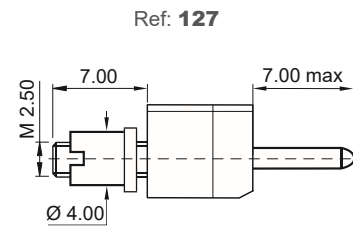
**UNPOLARISED TRANSVERSE MOUNT (moulding A) CENTRAL GUIDE (KMC 144-162)**



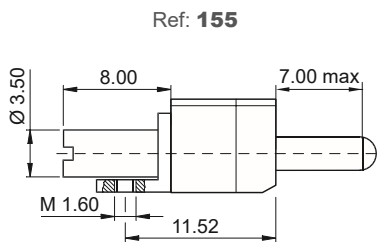
**UNPOLARISED VERTICAL MOUNT (moulding B)**



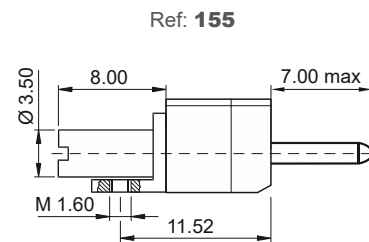
**UNPOLARISED VERTICAL MOUNT (moulding B) CENTRAL GUIDE (KMC 144-162)**



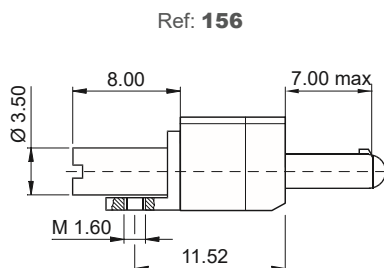
**UNPOLARISED TRANSVERSE MOUNT (moulding B)**



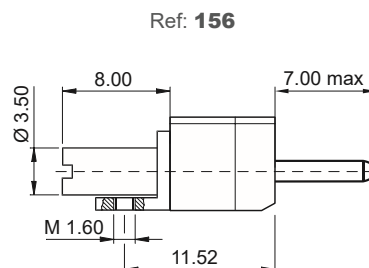
**UNPOLARISED TRANSVERSE MOUNT (moulding B) CENTRAL GUIDE (KMC 144-162)**



**POLARISED TRANSVERSE MOUNT (moulding B)**



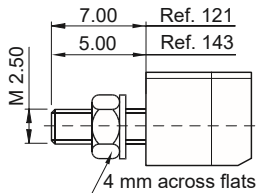
**UNPOLARISED TRANSVERSE MOUNT (Moulding B) CENTRAL GUIDE (KMC 144-162)**



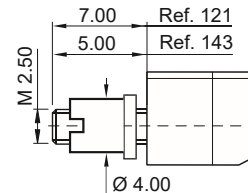
▶ FEMALE GUIDE STYLES

**POLARISED VERTICAL MOUNT (moulding B)**

Ref. : 121 Ref: 143 Ref. : 143

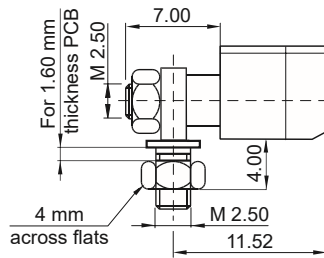


**UNPOLARISED VERTICAL MOUNT (moulding B) CENTRAL GUIDE (KMC 144-162)**

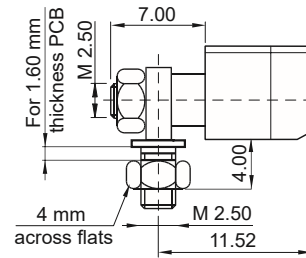


**POLARISED TRANSVERSE MOUNT (moulding B)**

Ref: 124

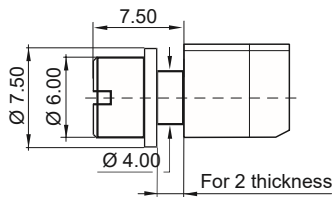


**UNPOLARISED TRANSVERSE MOUNT (moulding B) CENTRAL GUIDE (KMC 144-162)**



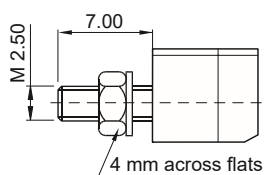
**POLARISED VERTICAL FLOAT MOUNT (moulding B)**

Ref: 123

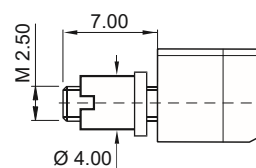


**ALL KEYING TYPES (moulding B)**

Ref: 130



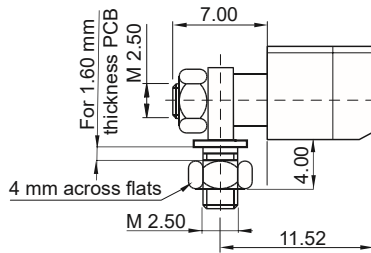
**ALL KEYING TYPES (moulding B) CENTRAL GUIDE (KMC 144-162)**



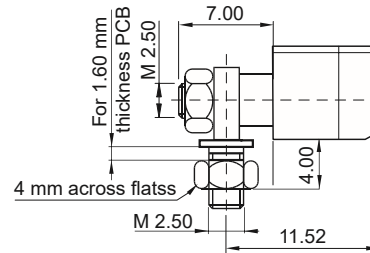
► FEMALE GUIDE STYLES

**ALL KEYING TYPES  
(moulding B)**

Ref: **133**

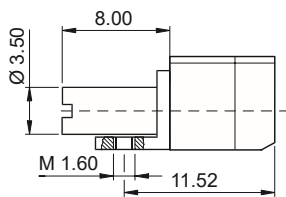


**ALL KEYING TYPES (moulding B)  
CENTRAL GUIDE (KMC 144-162)**

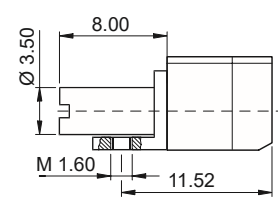


**ALL KEYING TYPES  
(moulding B)**

Ref: **153**

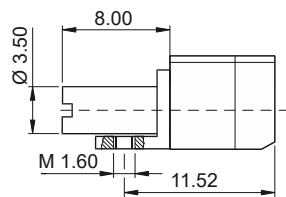


**ALL KEYING TYPES (moulding B)  
CENTRAL GUIDE (KMC 144-162)**

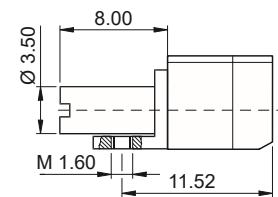


**POLARISED TRANSVERSE MOUNT  
(moulding B)**

Ref: **154**



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

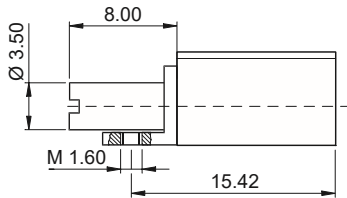


GUIDE STYLES

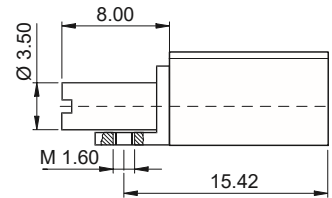
FEMALE

UNPOLARISED TRANSVERSE MOUNT (moulding A)

Ref: 173

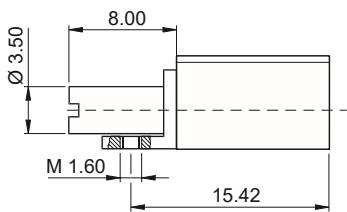


UNPOLARISED TRANSVERSE MOUNT (moulding A) CENTRAL GUIDE (KMC 144-162)

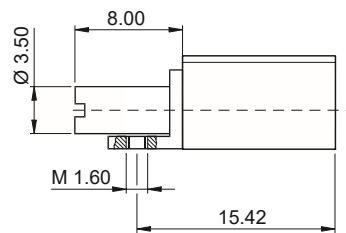


POLARISED TRANSVERSE MOUNT (moulding A)

Ref: 174



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

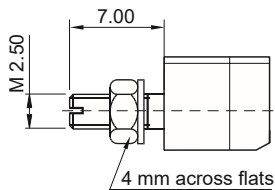


FEMALE

MALE

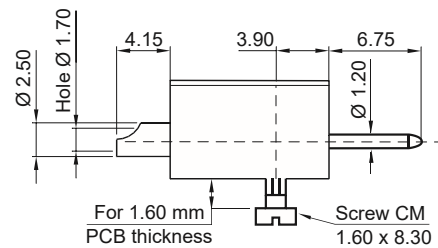
MASS AND POWER CONTACT (moulding B)

Ref: 190



MASS AND POWER CONTACT (moulding A)

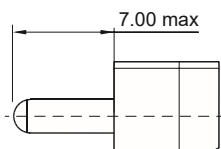
Ref: 191



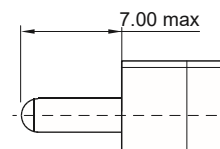
FEMALE - MALE

UNPOLARISED TRANSVERSE MOUNT (moulding B)



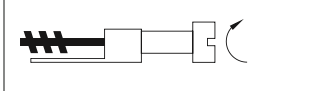
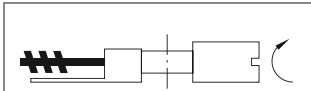

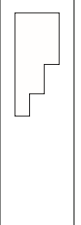
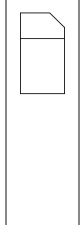
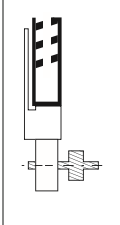
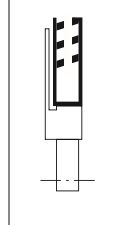
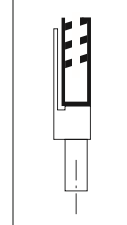
Ref: 703 Ref: 703




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	204	203	202/207	Female locking devices		
Moulding							

 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)

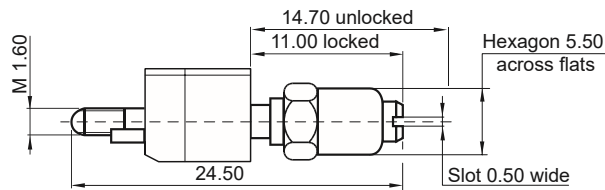
▶ LOCKING STYLES

MALE

**JACKSCREW, FREE CONNECTOR (moulding B)**

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

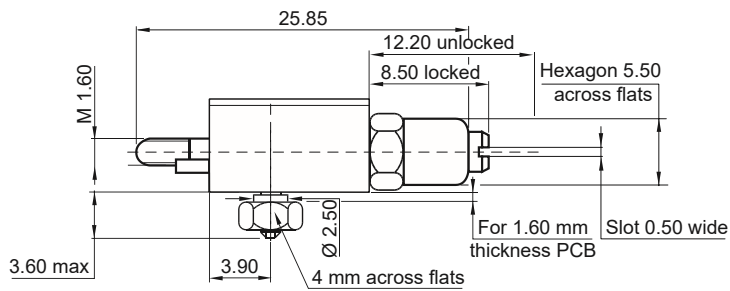
For **KMC 144-162** the supplied central guide is Ref: **111**



**JACKSCREW, TRANSVERSE MOUNT (moulding A)**

Ref: **205**

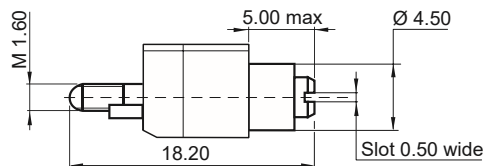
For **KMC 144-162** the supplied central guide is Ref: **110**



**JACKSCREW, FREE CONNECTOR (moulding B)**

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

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





▶ LOCKING STYLES

FEMALE

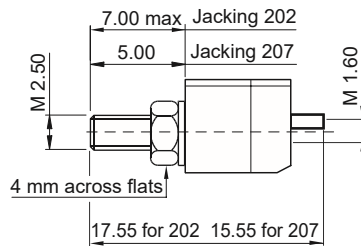
NON ROTATING JACKSCREW, VERTICAL MOUNT (moulding B)

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

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

Ref: **207**

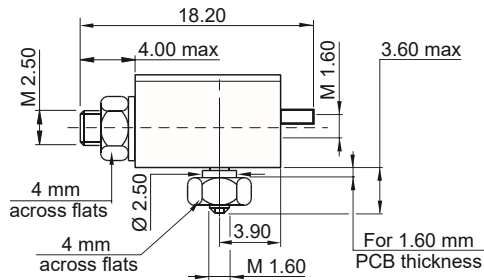
jackscrew 207 the supplied central guide is Ref: **143**



NON ROTATING JACKSCREW, TRANSVERSE MOUNT (moulding A)

Ref: **203**

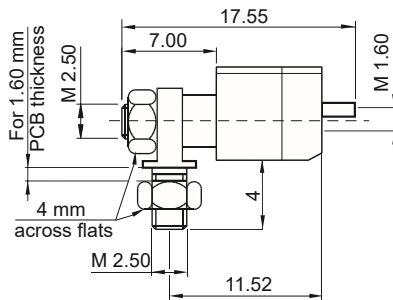
For **KMC 144-162** jackscrew 202 the supplied central guide is Ref: **173**



NON ROTATING JACKSCREW, TRANSVERSE MOUNT (moulding B)

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

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

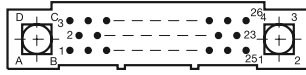


► MATING SIDE LAYOUT VIEW

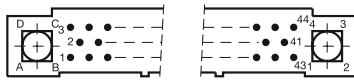
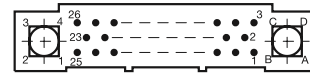
MOULDING A

PLUG

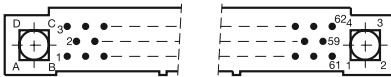
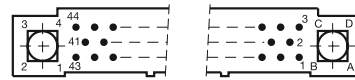
RECEPTACLE



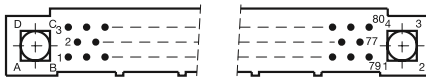
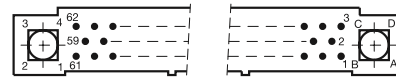
026



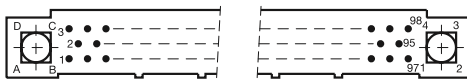
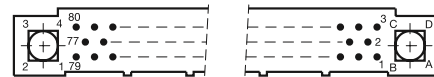
044



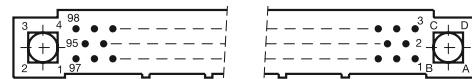
062



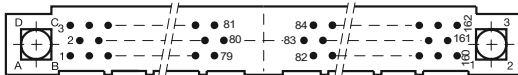
080



098



144



162

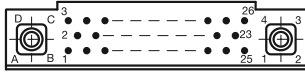


▶ MATING SIDE LAYOUT VIEW

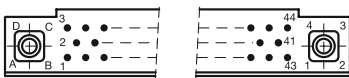
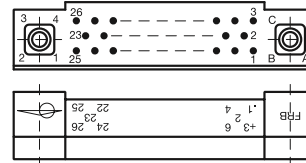
MOULDING B

PLUG

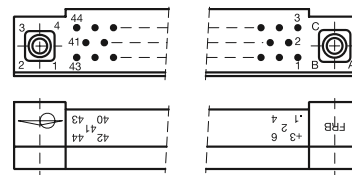
RECEPTACLE



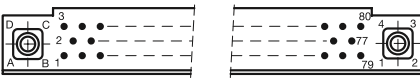
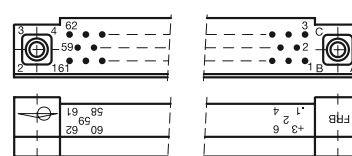
026



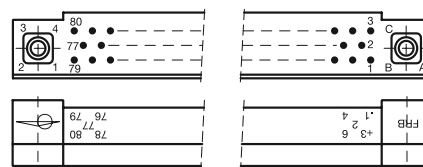
044



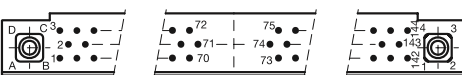
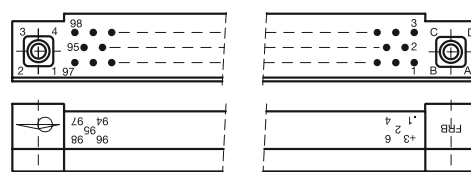
062



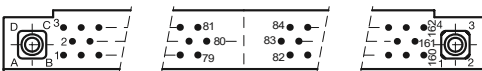
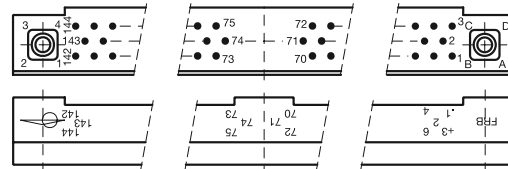
080



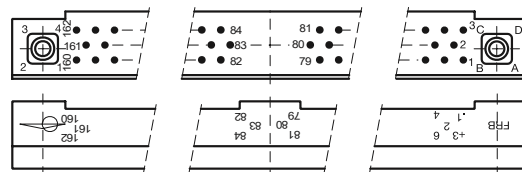
098



144



162



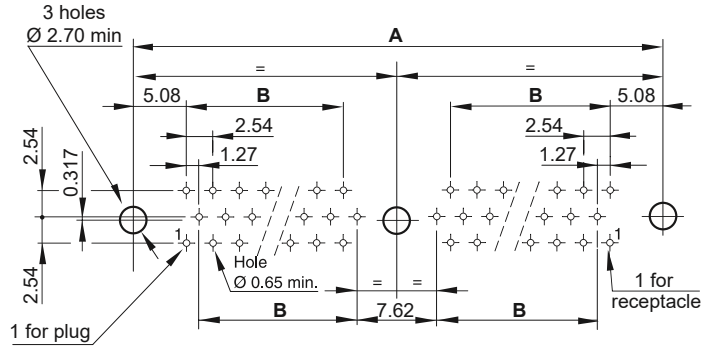
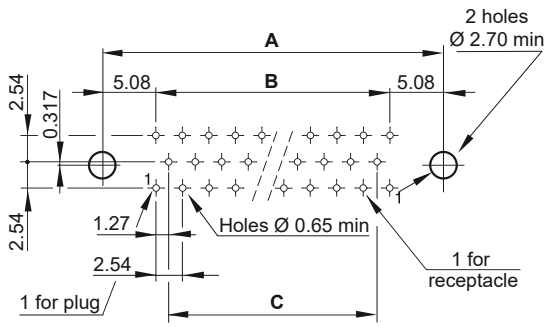
▶ BOARD PREPARATION DETAILS

TWO PARTS (moulding B)

26 TO 98 CONTACTS

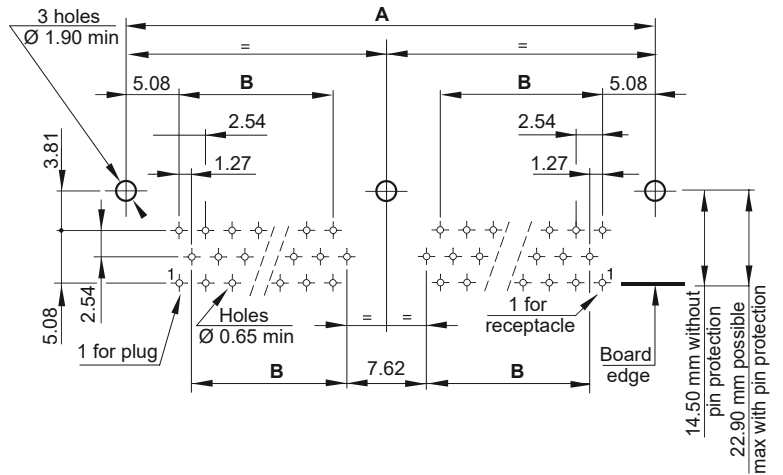
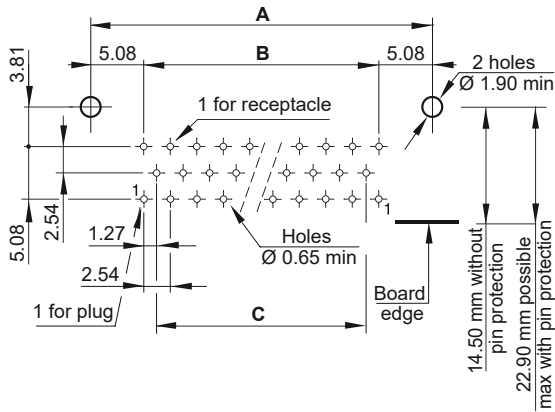
144 TO 162 CONTACTS

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	-	-

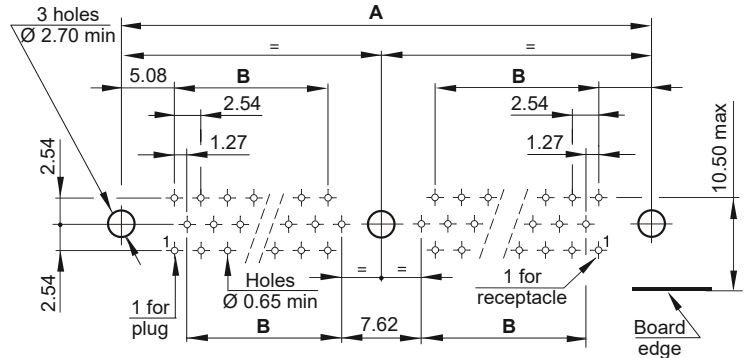
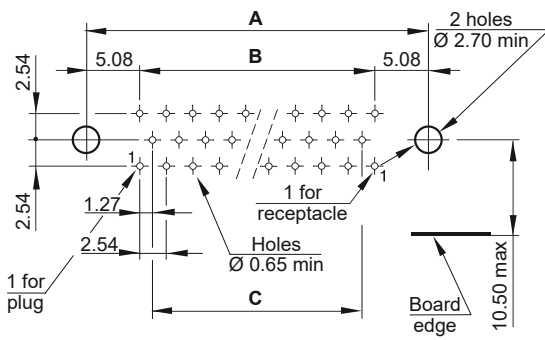
▶ BOARD PREPARATION DETAILS

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

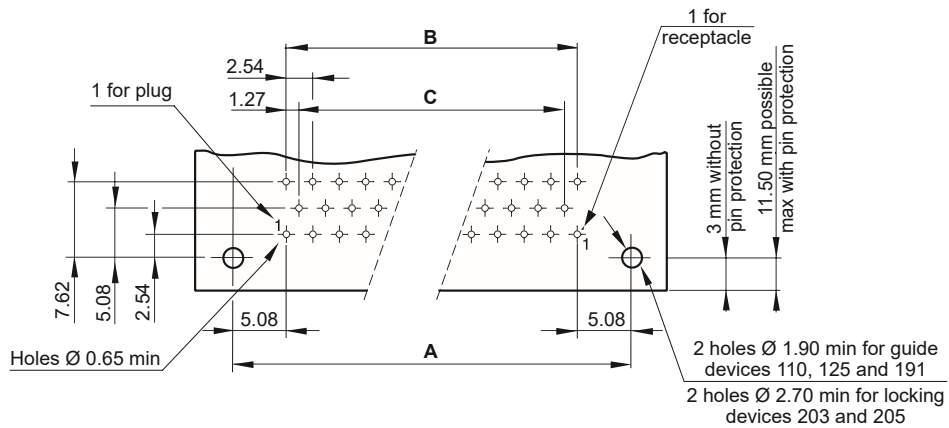
No. of contacts	26	44	62	80	98	144	162
A	30.48	45.72	60.96	76.20	91.44	137.16	152.40
B	20.32	35.56	50.80	66.04	81.28	58.42	66.04
C	17.78	33.02	48.26	63.50	78.74	-	-

▶ BOARD PREPARATION DETAILS

ONE PART (moulding A)

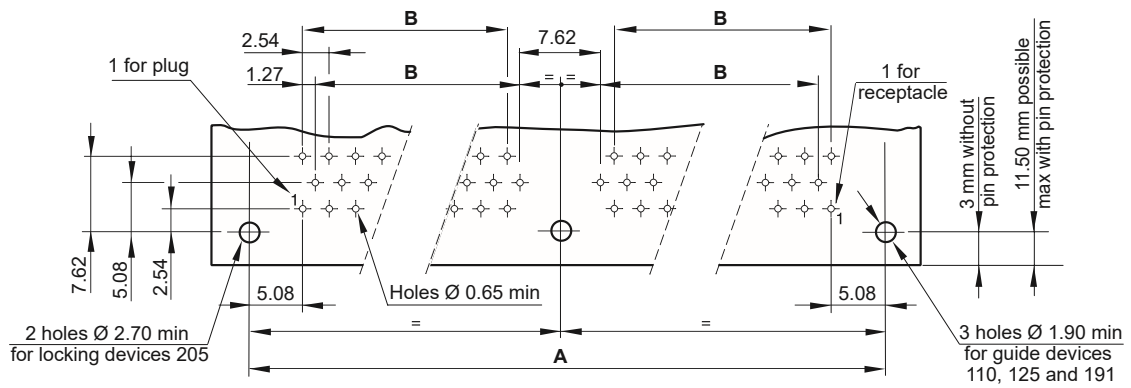
DAUGHTER BOARD

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

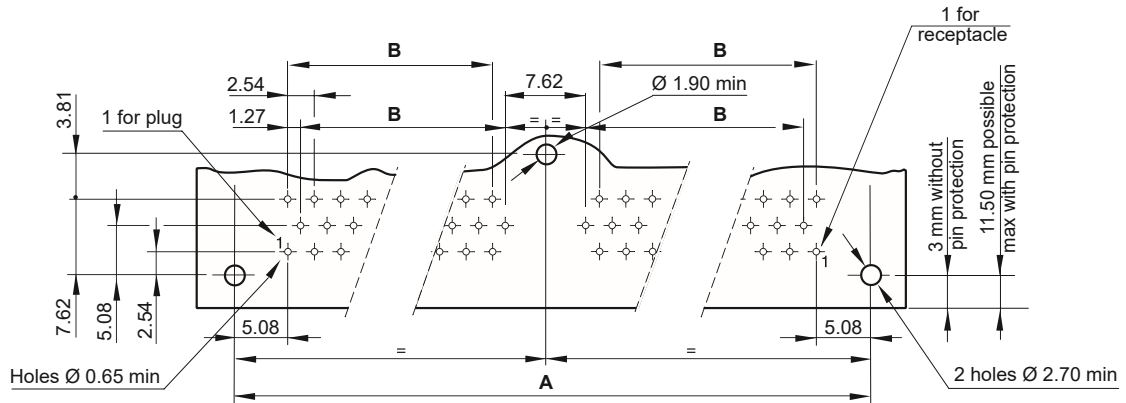
No. of contacts	26	44	62	80	98	144	162
A	30.48	45.72	60.96	76.20	91.44	137.16	152.40
B	20.32	35.56	50.80	66.04	81.28	58.42	66.04
C	17.78	33.02	48.26	63.50	78.74	-	-

▶ BOARD PREPARATION DETAILS

ONE PART (moulding A)

DAUGHTER BOARD

144 TO 162 CONTACTS



Male, plug or receptacle, 90° termination  
Locking styles: 203

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	–	–

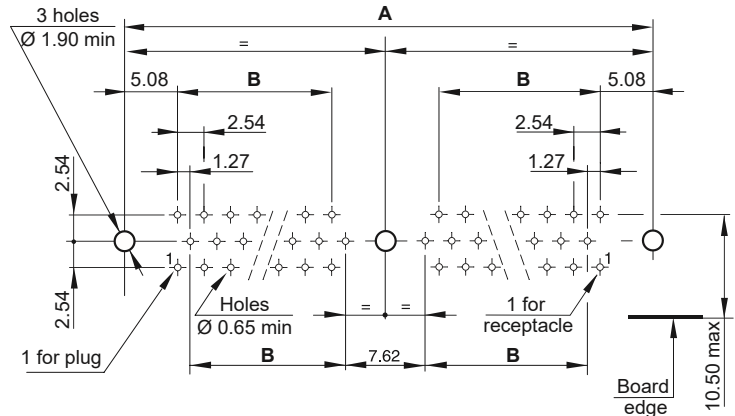
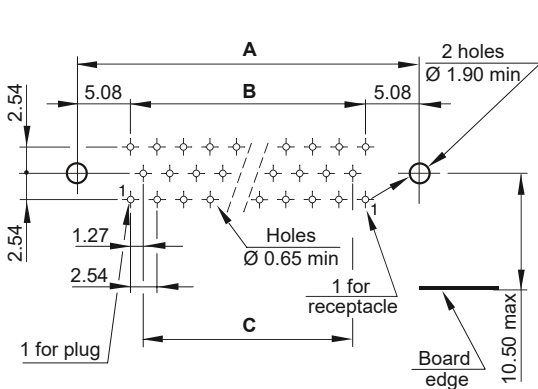
▶ PANEL PREPARATION DETAILS

TWO PARTS (moulding B)

26 TO 98 CONTACTS

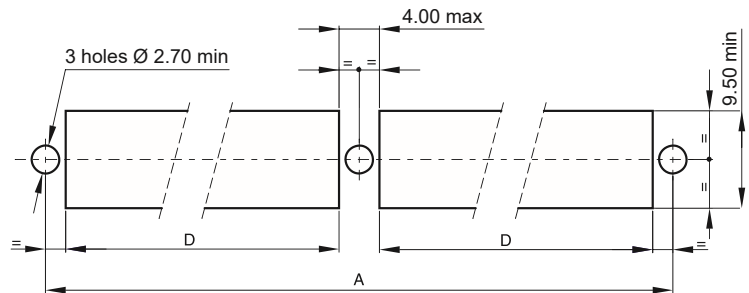
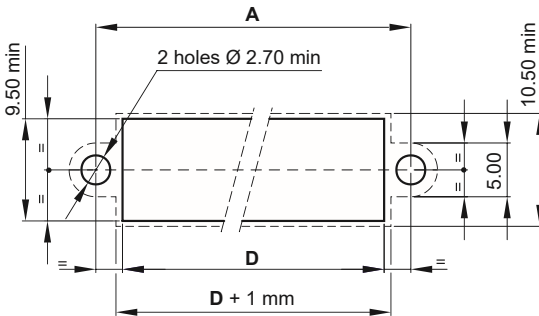
144 TO 162 CONTACTS

MOTHER BOARD



Plug or receptacle, 90° termination  
Guide styles: 153 - 154 - 155 - 156

DAUGHTER BOARD



Female or male, plug or receptacle, 90° termination 40 - 50 - 51  
Guide styles: 111 - 112 - 121 - 127 - 130 - 143 - 190 - (Fixed Mount)  
Guide styles: 113 - 123 - 128 - (Float Mount)  
Locking Styles: 202 - 207

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	-	-
D	25.90	41.20	56.40	71.60	86.90	63.60	71.60





# SMITHS CONNECTORS

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