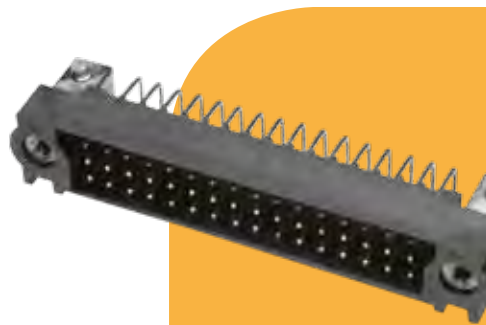


# Datamate



## CONTENTS

INTRODUCTION & SPECIFICATIONS	2
BRITISH STANDARD DATAMATE	14
SPARE CRIMP CONTACTS	16
L-TEK	18
J-TEK	26
MIX-TEK – 2 ROW	44
MIX-TEK SPECIAL CONTACTS	56
MIX-TEK – 3 ROW (M83)	63
TOOLING	77

# Performance without compromise

**Datamate is a 2mm pitch high reliability, high performance connector system which is approved to British Standard 9525-F0033 and has a proven track record under the most extreme conditions.**

This approval is made possible by Harwin's high reliability, low frequency four finger Beryllium Copper contact technology (3A max).

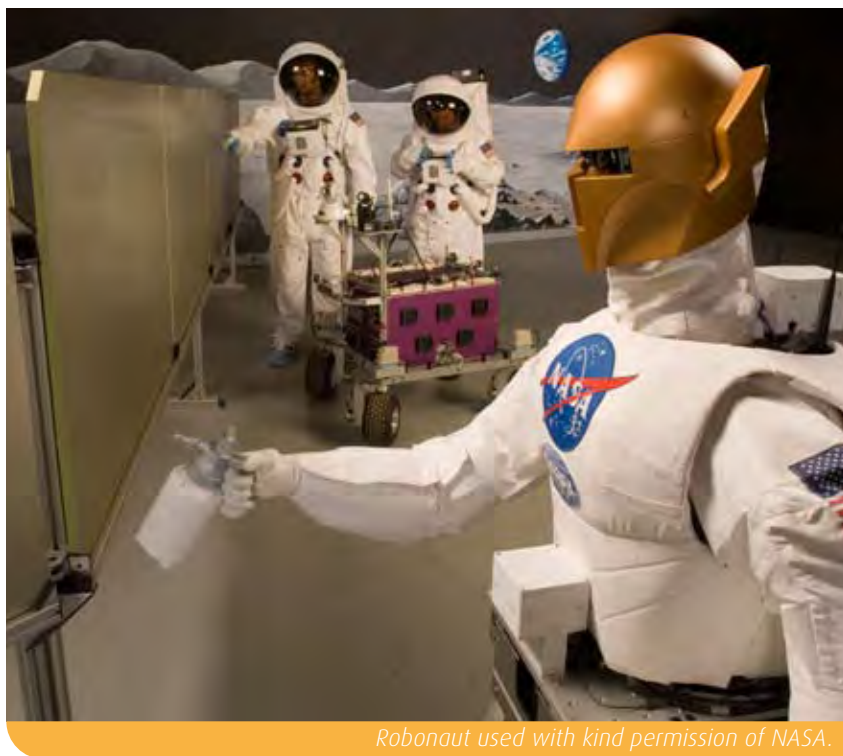
The contact features a four finger Beryllium Copper clip to ensure integrity of connection under the most severe conditions and makes Datamate ideally suited to applications that are subject to high loads of vibration and shock. Other contact options include high frequency (6GHz max) and high power (20A max).

The range benefits from mixed layout options (Mix-Tek) that afford the engineer complete flexibility of design, automated crimping versions (Trio-Tek) which reduces installed costs, and Datamate BS with 100% in-process testing for peace of mind in safety-critical applications.

Secure termination is achieved by latches (L-Tek), jackscrews (J-Tek) or the new 101Lok fast mate hardware, which speeds and simplifies the mating process.



High reliability  
four finger  
Beryllium  
Copper Contact



*Robonaut used with kind permission of NASA.*



[www.harwin.com](http://www.harwin.com)





Source: [www.eurofighter.com/medialibrary](http://www.eurofighter.com/medialibrary).



## Features & benefits

- ❖ Miniature connector system with high performance contacts reduces space and weight
- ❖ Four finger Beryllium Copper contact ensures integrity of signal connection
- ❖ Professional connector system at commercial prices
- ❖ Rugged connectors for use in harsh environments & safety critical applications when failure is not an option
- ❖ Proven history in: aerospace, industrial, military, oil & gas etc.
- ❖ Suited for use in harsh environments where high vibration, shock and extremes of temperature are a consideration
- ❖ Global distribution network – stocked in depth
- ❖ Approved to BS9525-F0033
- ❖ Complies with CECC 75101-008
- ❖ Live Help, 3D CAD models and free samples at [www.harwin.com/datamate](http://www.harwin.com/datamate)

Harwin operates an ongoing product development program, visit [www.harwin.com](http://www.harwin.com) for the latest additions to the Datamate range.

### Datamate Project Involvement:

NASA Robonaut  
Boeing 757, 737 & 747  
Eurofighter Typhoon  
Watchkeeper UAV  
Hydroid AUV



Picture courtesy of Hydroid.

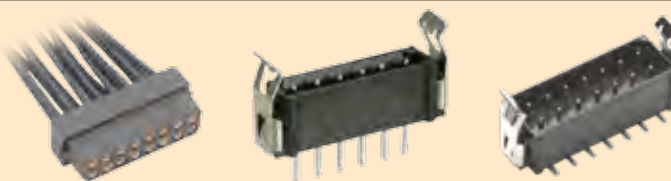
[www.harwin.com](http://www.harwin.com)



## Datamate Product Families

### Datamate L-Tek

Datamate low frequency connectors with 3 Flexible mating options: friction latch, locking latch and no latch.



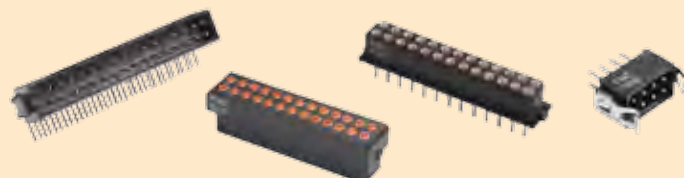
### Datamate J-Tek

Datamate low frequency connectors with optional jackscrews for increased security of connection. No special tooling required.



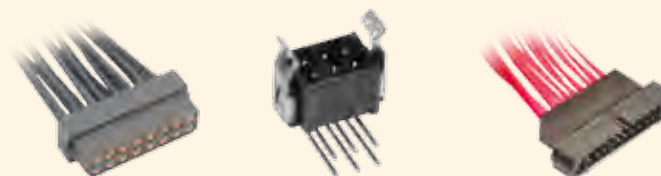
### Datamate BS

Manufactured to British Standard 9525-F0033 for safety critical applications. Datamate BS assures total security in the knowledge that the product is of the highest calibre.



### Datamate -Plus

Datamate with 100% in-process (A & B) testing. Similar to Datamate BS in nature but applicable to the whole range of Datamate product.



### Datamate Mix-Tek

3 connector styles in one. Includes low frequency signal, power (20 A) and coax (6Ghz) options. Modular manufacturing allows customer specified layouts in short lead times and at COTS prices.



### Datamate 101 Lok

101Lok hardware reduces assembly time by simplifying the mating process. The fast mate hardware requires 101-degree turn to securely mate and requires no special tooling.



### Datamate Trio-Tek

Performing to the same high-reliability standards as conventional Datamate, the Trio-Tek open barrel crimp contact automates the crimp process to significantly save on assembly time and reduce process costs.



[www.harwin.com](http://www.harwin.com)

# SPECIFICATION

# Datamate

## Materials

Mouldings:	Glass-filled thermoplastic UL94V-0
Female Contacts:	Brass shell, with beryllium copper inner contact
Male Contacts:	Phosphor bronze
Finish:	See individual pages

## Electrical

Current (individual contacts in isolation):	At 25°C 3.3A max At 85°C 2.6A max
All contacts simultaneously:	At 25°C 3.0A max At 85°C 2.2A max
Working Voltage (at sea level 1013 mbar):	240V d.c. or a.c. peak (at 3.3A) 120V d.c. or a.c. peak (at 2.0A)
Proof voltage (at sea level 1013 mbar):	360V d.c. or a.c. peak
Contact resistance (initial):	20 mΩ max
Contact resistance (after conditioning):	25 mΩ max
Insulation resistance (initial):	1000 MΩ min at 500V d.c.
Insulation resistance (after conditioning):	100 MΩ min at 500V d.c.

## Mechanical

Durability:	500 operations*
Mating forces (per contact pair):	
Insertion force (max):	2.8N max (M80-XXX) 1.0N max (M83-XXX)
Withdrawal force (min):	0.2N
Contact retention in moulding:	10N min
Contact holding force:	0.2N min
Signal crimp accommodation:	22 A.W.G. to 28 A.W.G. BS 3G 210 Type A

## Environmental

Environmental classification:	55/125/56 days at 95% RH
Operational temperature:	- 55°C to 125°C
Vibration sensitivity:	10Hz to 2000Hz, 0.75mm, 98mm/s <sup>2</sup> (10G), duration 6h
Bump severity:	390m/s <sup>2</sup> (40G), 4000± 10 bumps
Shock severity:	981m/s <sup>2</sup> (100G) for 6ms
Acceleration severity:	490m/s <sup>2</sup> (50G)

All preferred sizes of this range are held in stock.  
Check [www.harwin.com](http://www.harwin.com) for availability.

\* Datamate has been tested to 5,000 operations, and still performed within Electrical Specifications. Please contact [datamate@harwin.com](mailto:datamate@harwin.com) for more information.

## POLARISING FEATURES

<p><u>Datamate L-Tek</u> Single Row</p>	<p><u>Datamate L-Tek</u> Double Row</p>
<p><u>Datamate J-Tek</u> Double Row</p>	<p><u>Datamate J-Tek</u> 3 - Row (M83)</p>
<p><u>Datamate Mix-Tek</u> Double Row</p>	<p><u>Datamate Mix-Tek</u> 3 - Row (M83)</p>

Contact numbering is shown looking onto mating face of male connector.

[www.harwin.com](http://www.harwin.com)



# HARWIN



## Datamate Signal Contacts: Barrel Crimps

### Crimps and Tools

These instructions are applicable for the following crimp contacts:

- Female Crimp contacts **M80-01100XX, M80-01300XX, M83-01100XX, M83-01300XX** (Page 16)
- Male Crimp contacts **M80-04000XX, M80-04100XX, M80-19400XX, M80-19500XX** (Page 17)

The following tools are used (see pages 77 and 79):

- Hand Crimp Tool **M22520/2-01**
- Insertion/Removal Tool **Z80-280**
- Positioner **Z80-193** (for M80-19400XX or M80-19500XX) or **T5747** (for all others)

All tools are supplied with instruction sheets, which are available at [www.harwin.com/downloads/instructions](http://www.harwin.com/downloads/instructions). Before starting, assemble the positioner to the crimp tool (see the M22520/2-01 Instruction Sheet for details).

### Crimping

- Check that your selected cable size is correct to the following table – Harwin recommend PTFE insulated equipment wire to BS 3G 210 Type A:

Type	Wire gauge (AWG)	Typical Stranding	Crimp tool setting	Minimum pull-off force	Insulator diameter
Large Bore	22	19/0.15	6	50 Newtons	Ø1.10mm max.
Small Bore	24	7/0.2		44 Newtons	
	26	7/0.15		25 Newtons	
	28	7/0.125		12.5 Newtons	

- Cut the end of the cable to give a clean cut end. Strip the end of the cable by  $2.00 \pm 0.15$ mm using a PTFE wire stripper, ideally with an adjustable rotating cutter. This should result in a clean edge to the insulation, and all the strands laying together neatly. If the strands are disturbed, they can be re-aligned by putting a slight twist into the strand bundle.
- Assemble the contact onto the end of the cable – make sure all the strands are within the crimp body. Look through the inspection hole in the side of the barrel, to check the ends of the strands are fully inside the barrel. The cable insulation should also go inside the crimp barrel – see Figure 1.
- Position the contact fully into the positioner, by inserting it clip-end first through the crimp tool jaws. Keep a small amount of pressure on the cable, to ensure it stays inserted in the crimp.
- Squeeze the handles of the crimp tool fully together, until the ratchet releases. The handles will then return to the open position. Remove the crimped wire, and check the following:
  - The strands are still visible within the inspection hole
  - Evenness of crimp indentations, no fractures or rough edges around the crimp
  - No damage to the rest of the crimp or insulation
  - Regularly check a sample to ensure the minimum pull-off force is maintained



Fig. 1

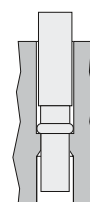


Fig. 2 – correct

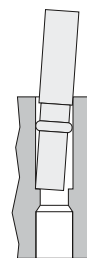


Fig. 3 – incorrect

### Crimp Insertion

- Attach the correct tool piece to the handle of Z80-280 for inserting your cable size (check the instruction sheet for further advice).
- Place the crimped contact partially in the moulding – this should leave 1.5-2mm of crimp protruding from the moulding. It is important that the correct position is found (Figure 2), otherwise the retention shoulder inside the moulding will get removed when force is applied, and the crimp will not stay in the moulding (Figure 3).
- Support the face of the moulding on a solid surface (do not rest the connector on any fitted latches). Place the insertion tool around the wire and onto the back of the crimp (Figure 4). Push firmly – there will be an audible click when the socket is correctly seated.

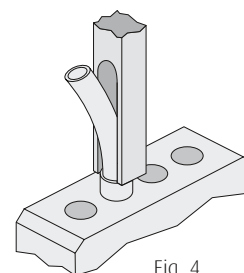


Fig. 4

[www.harwin.com](http://www.harwin.com)

## Datamate Signal Contacts: Datamate Trio-Tek

### Crimps and Tools

These instructions are applicable for the following crimp contacts:

- Female Crimp contacts **M80-25300XX, M80-25400XX, M80-28300XX, M80-28400XX** (Page 16)

The following tools are used (see page 78):

- Hand Crimp Tool **Z80-255**    Locator **Z80-259** (supplied with crimp tool)    Removal Tool **Z80-258**

All tools are supplied with instruction sheets, which are available at [www.harwin.com/downloads/instructions](http://www.harwin.com/downloads/instructions).

### Crimping

- Check that your selected cable size is correct to the following table – Harwin recommend PTFE insulated equipment wire to BS 3G 210 Type A:

Type	Wire gauge (AWG)	Typical Stranding	Minimum pull-off force	Insulator diameter
M80-25300XX or M80-28300XX	22	19/0.15	45 Newtons	Ø1.10mm max.
	24	7/0.2	29 Newtons	Ø0.95mm max.
M80-25400XX or M80-28400XX	26	7/0.15	18 Newtons	Ø0.80mm max.
	28	7/0.125	9.8 Newtons	Ø0.71mm max.

- Cut the end of the cable to give a clean cut end. Strip the end of the cable by  $2.75 \pm 0.25$ mm using a PTFE wire stripper, ideally with an adjustable rotating cutter. This should result in a clean edge to the insulation, and all the strands laying together neatly. If the strands are disturbed, they can be re-aligned by putting a slight twist into the strand bundle.
- Check the locator is assembled (see the Z80-255 Instruction Sheet for details). Ensure that the crimp tool is at the fully open position (Figure 1).
- Push the button on the back of the locator (Figure 2), which will move the locator forward between the crimp dies (Figure 3). Whilst holding the locator in the forward position, insert the crimp contact into the correct locator nest (Figure 4). The wire size is marked on the crimp die, above each location.

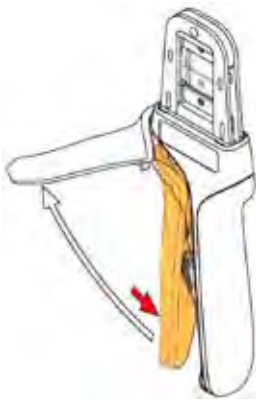


Fig. 1



Fig. 2



Fig. 3

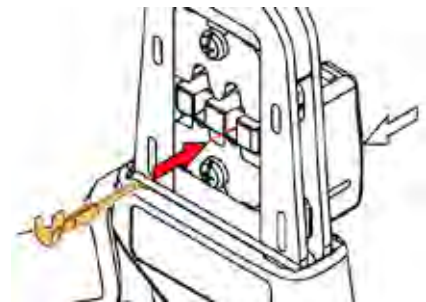
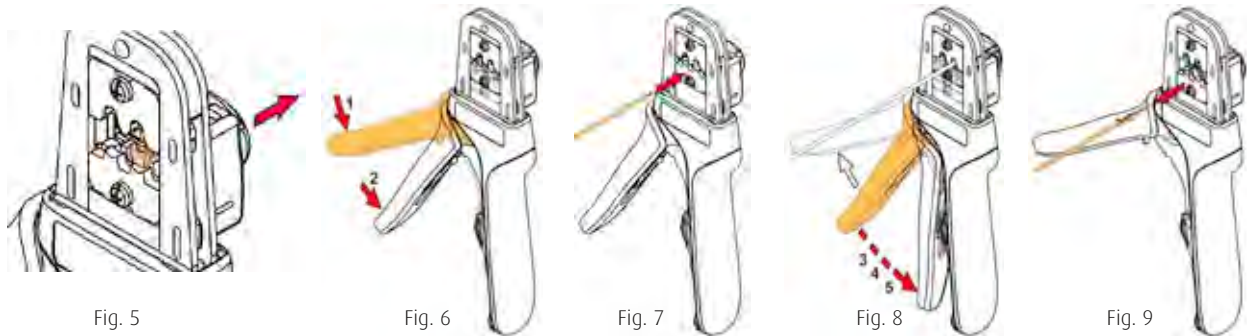


Fig. 4

[www.harwin.com](http://www.harwin.com)



- ❖ Release the locator button, allowing the crimp contact to move back between the crimping jaws (Figure 5). Partially close the handle, until the second ratchet position engages (Figure 6). Load the stripped wire through the terminal, and against the wire stop inside the tool (Figure 7).



- ❖ Whilst holding the wire against the wire stop, complete the crimp by squeezing the tool handles together through the rest of the ratchet clicks – another 3, to make 5 in total (Figure 8). The handles should then be free to open. Remove the crimped wire (Figure 9).

**Crimp Insertion**

- ❖ The completed crimp can now be inserted into the appropriate Trio-Tek crimp housing. Crimps are assembled into the mould with the retaining tang towards the outer edge of the housing. With thinner wires, it may be helpful to push onto the back of the crimp with the Extraction Tool Z80-258. If it is necessary to remove a crimp once assembled, please refer to the instruction sheet for the Removal Tool Z80-258.

**Datamate Coax Contacts:** Datamate Mix-Tek

**Crimps and Tools**

These instructions are applicable for the following crimp contacts:

- ❖ Female Crimp Coax contacts: straight **M80-305, M80-306, M80-307** and 90° **M80-308, M80-309** (Page 57)
- ❖ Male Crimp Coax contacts: straight **M80-315, M80-316, M80-317** and 90° **M80-318, M80-319** (Page 59)

The following tools are used (see pages 77 and 79):

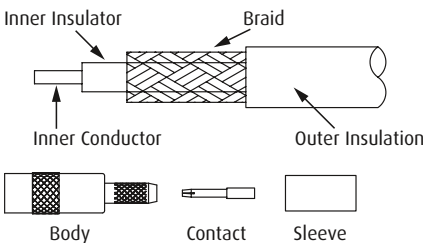
- ❖ Hand Crimp Tools **Z80-292, Z80-293**   ❖ Positioner **Z80-291**   ❖ Removal Tool **Z80-290**

**Crimping Straight Coax Contacts**

- ❖ Check that your selected cable size is correct to the following table:

Type	Cable size	Cable type	Correct Hex on tool Z80-293, for crimping sleeve
M80-305, M80-315	Ø2.00mm	RG 178	Small Hex
M80-306	Ø2.40mm	PTFE Cellular	Large Hex
M80-307, M80-317	Ø2.70mm	RG 174, 179, 316	Large Hex

- ❖ Strip the cable to the appropriate dimensions for the part being crimped (as specified on the drawing). If the strands are disturbed, they can be re-aligned by putting a slight twist into the strand bundle.

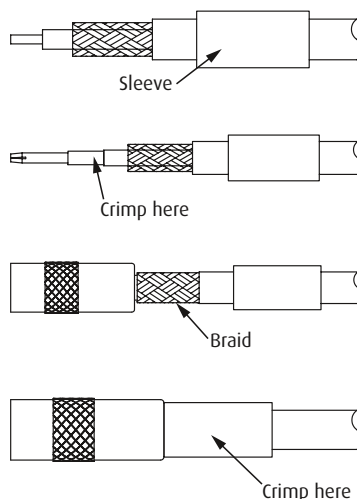


- ❖ Identify the pieces of the coax connector to be assembled:





- Slide the sleeve onto the cable, past the stripped area:
- Crimp the inner contact to the end of the cable inner conductor, using the Hand Crimp Tool **Z80-292**, with the Positioner **Z80-291** assembled.
- Insert the cable and crimped inner contact into the coax body from the rear. Make sure that the braid goes outside and over the rear section of the body.
- Slide the sleeve back to the body of the coax, so that it covers the exposed braid, and touches the shoulder of the coax body. Crimp into place using the Hand Crimp Tool **Z80-293**.

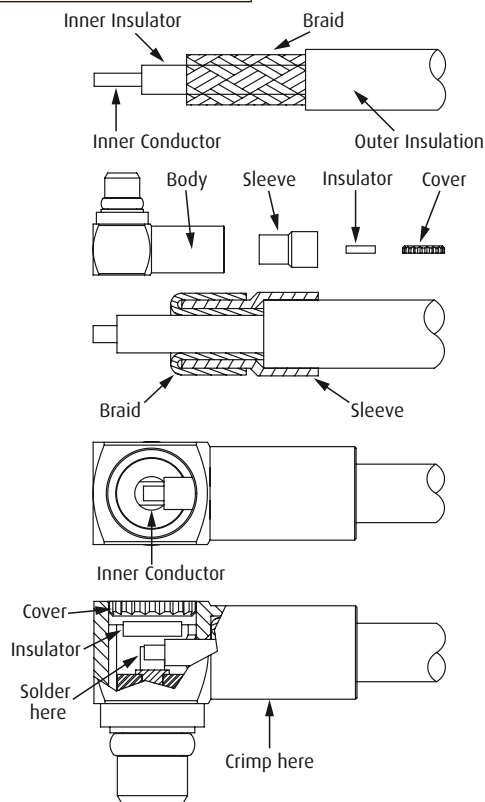


### Crimping 90° Coax Contacts

- Check that your selected cable size is correct to the following table:

Type	Cable size	Cable type	Correct Hex on tool Z80-293, for crimping sleeve
M80-308, M80-318	Ø2.00mm	RG 178	Small Hex
M80-316	Ø2.40mm	PTFE Cellular	Large Hex
M80-309, M80-319	Ø2.70mm	RG 174, 179, 316	Large Hex

- Strip the cable to the appropriate dimensions for the part being crimped (as specified on the drawing). If the strands are disturbed, they can be re-aligned by putting a slight twist into the strand bundle.
- Identify the pieces of the coax connector to be assembled:
- Slide the sleeve onto the cable until it stops against the outer insulation. Fold the braid over the sleeve:
- Push the cable and sleeve into the body, as far as it will go. The cable inner conductor will be visible through the hole in the top of the coax body, and should go into the slot in the inner contact of the body.
- Solder the cable inner conductor to the body inner contact. When cool, place the insulator inside the top, and press the cover into place. Crimp the back end of the coax onto the insulation of the cable using the Hand Crimp Tool **Z80-293**.



## Using Datamate Jackscrews: Datamate J-Tek

### Introduction

Jackscrews are available for all variations of Datamate J-Tek and Mix-Tek. They are often specified where the following needs may require more than the holding force of the contacts:

- ❖ To prevent disengaging of connectors under adverse conditions, where the withdrawal forces may be exceeded.
- ❖ To provide a locking feature which deters accidental disengaging by operators.
- ❖ To aid engaging, where the number of contacts is high enough to require additional force to complete the mating operation.
- ❖ To aid engaging where access to the connector is restricted.

### Using M2 threaded Jackscrews

- ❖ Engage the two halves of the connector, and lightly push together until the jackscrews touch.
- ❖ Maintaining pressure, turn one of the floating jackscrews clockwise, until it engages with the fixed jackscrews. Repeat with the other jackscrew.
- ❖ If high forces are encountered early on during engaging, then you may have cross-threaded the jackscrews. Unscrew anti-clockwise, and try again. Ensure the connectors are directly in line before attempting to engage.
- ❖ Once both jackscrews have begun to engage, ensure an even movement by applying a maximum of one turn to each jackscrew, in sequence. When the connectors have bottomed, the force required to turn the jackscrews will suddenly increase.
- ❖ The torque force on each jackscrew should not exceed 23 cmN.
- ❖ To disengage the connectors, repeat the instructions in reverse: unscrew with an anti-clockwise movement. Ensure even movement by applying a maximum of one turn to each jackscrew, in sequence. Once the jackscrews turn loose with no resistance, you can then easily pull apart the two connectors.

### Using 101 Lok Jackscrews

Please see Jackscrews FC and MC on pages 45 and 46.

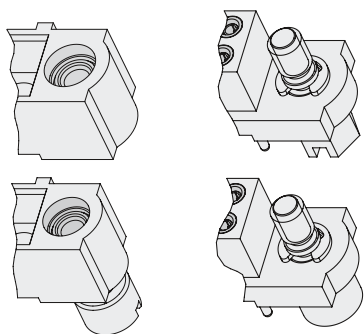
- ❖ Before engaging, the slot on the jackscrew should be at right angles to the length of the connector.
- ❖ Push the connectors together. Once the connectors are mated, use a screwdriver to push down onto each 101Lok jackscrew until the spring is compressed. Turn the jackscrew clockwise 101 degrees, and release. The jackscrew should remain partially compressed.
- ❖ To disengage, use a screwdriver to push down onto each 101Lok jackscrew until the spring is compressed. Turn the jackscrew anti-clockwise 101 degrees, and release. The jackscrew will spring back to its uncompressed position.

### Using Board Mount

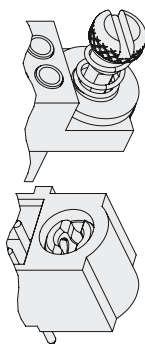
Two styles of Board Mount are used, either using a nut or a screw. Both are assembled by placing the connector in the correct position on the board, then screwing in the board fixing nut/screw on the underside of the board.

- ❖ Nuts and Screws should be tightened to a torque of  $21 \pm 2 \text{ cmN}$ .

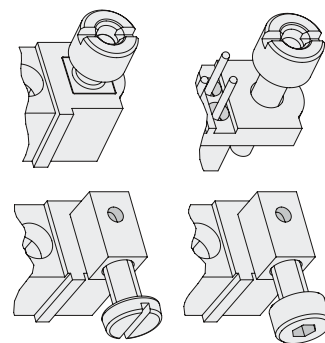
### Examples of Jackscrews:



M2 Jackscrews



101 Lok Jackscrews

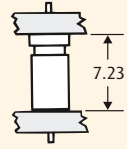
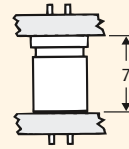
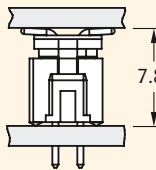
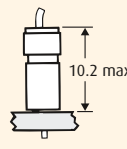
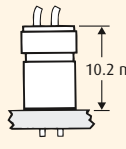
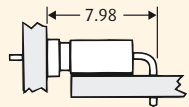
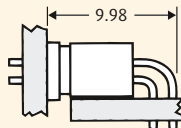
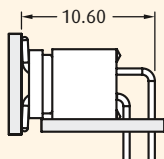
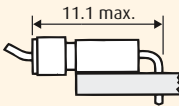
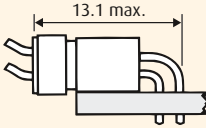
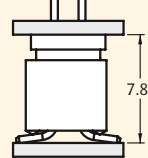
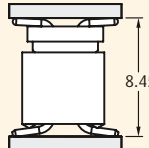
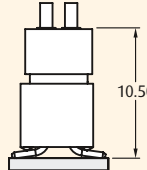
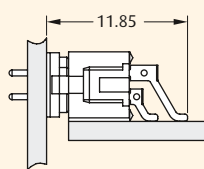
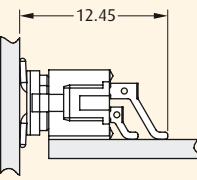
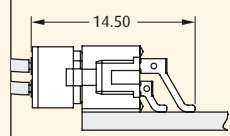
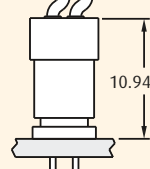
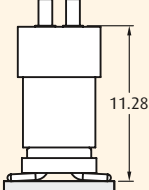
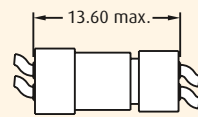


Board Mount Jackscrews

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)

## Datamate L-Tek

FEMALE		VERTICAL PC TAIL		VERTICAL SMT		CRIMP	
MALE	SIL	DIL	DIL	SIL	DIL		
VERTICAL PC TAIL	M80-840 M80-897  7.23	M80-850 M80-887  7.23	M80-681  7.85	M80-898 M80-899  10.2 max.	M80-888 M80-889  10.2 max.		
	M80-805 M80-852 M80-877	M80-879 M80-881 M80-882	M80-815 M80-853 M80-854	M80-863 M80-867 M80-869	M80-815 M80-853 M80-854	M80-863 M80-867 M80-869	
HORIZONTAL PC TAIL	M80-840 M80-897  7.98	M80-850 M80-887  9.98	M80-681  10.60	M80-898 M80-899  11.1 max.	M80-888 M80-889  13.1 max.		
	M80-804 M80-842 M80-843	M80-846 M80-879 M80-878	M80-814 M80-839 M80-841	M80-851 M80-866 M80-868	M80-814 M80-839 M80-841	M80-851 M80-866 M80-868	
VERTICAL SMT		M80-850 M80-887  7.85	M80-681  8.45		M80-888 M80-889  10.50		
		M80-826 M80-827 M80-828	M80-826 M80-827 M80-828		M80-826 M80-827 M80-828		
HORIZONTAL SMT		M80-850 M80-887  11.85	M80-681  12.45		M80-888 M80-889  14.50		
		M80-665 M80-666 M80-667	M80-665 M80-666 M80-667		M80-665 M80-666 M80-667		
CRIMP		M80-850 M80-887  10.94 max.	M80-681  11.28		M80-888 M80-889  13.60 max.		
		M80-812 M80-813	M80-816 M80-817	M80-812 M80-813	M80-816 M80-817		





## Datamate J-Tek

<div> <div>MALE</div> <div>FEMALE</div> </div>	VERTICAL PC TAIL	VERTICAL SMT	CRIMP	CRIMP EXTENDED
VERTICAL PC TAIL	<div> <div>M80-400 M80-401</div> <div>M80-410 M80-411</div> <div>7.40</div> <div>M80-500 M80-501 M80-510</div> <div>M80-511 M80-520 M80-521</div> </div>	<div> <div>M80-402 M80-412</div> <div>7.80</div> <div>M80-500 M80-501 M80-510</div> <div>M80-511 M80-520 M80-521</div> </div>	<div> <div>M80-460 M80-461</div> <div>M80-470 M80-471</div> <div>9.85</div> <div>M80-500 M80-501 M80-510</div> <div>M80-511 M80-520 M80-521</div> </div>	<div> <div>M80-465 M80-466</div> <div>M80-475 M80-476</div> <div>14.75</div> <div>M80-500 M80-501 M80-510</div> <div>M80-511 M80-520 M80-521</div> </div>
HORIZONTAL PC TAIL	<div> <div>M80-400 M80-401</div> <div>M80-410 M80-411</div> <div>10.05</div> <div>M80-530 M80-531 M80-540</div> <div>M80-541 M80-550 M80-551</div> </div>	<div> <div>M80-402 M80-412</div> <div>10.45</div> <div>M80-530 M80-531 M80-540</div> <div>M80-541 M80-550 M80-551</div> </div>	<div> <div>M80-460 M80-461</div> <div>M80-470 M80-471</div> <div>12.50</div> <div>M80-530 M80-531 M80-540</div> <div>M80-541 M80-550 M80-551</div> </div>	<div> <div>M80-465 M80-466</div> <div>M80-475 M80-476</div> <div>17.40</div> <div>M80-530 M80-531 M80-540</div> <div>M80-541 M80-550 M80-551</div> </div>
VERTICAL SMT	<div> <div>M80-400 M80-401</div> <div>M80-410 M80-411</div> <div>7.60</div> <div>M80-502 M80-512</div> <div>M80-513 M80-522</div> </div>	<div> <div>M80-402 M80-412</div> <div>8.00</div> <div>M80-502 M80-512</div> <div>M80-513 M80-522</div> </div>	<div> <div>M80-460 M80-461</div> <div>M80-470 M80-471</div> <div>10.05</div> <div>M80-502 M80-512</div> <div>M80-513 M80-522</div> </div>	<div> <div>M80-465 M80-466 M80-475 M80-476</div> <div>14.95</div> <div>M80-502 M80-512 M80-513 M80-522</div> </div>
HORIZONTAL SMT	<div> <div>M80-400 M80-401 M80-410 M80-411</div> <div>11.90</div> <div>M80-532 M80-542</div> <div>M80-543 M80-552</div> </div>	<div> <div>M80-402 M80-412</div> <div>12.30</div> <div>M80-532 M80-542</div> <div>M80-543 M80-552</div> </div>	<div> <div>M80-460 M80-461</div> <div>M80-470 M80-471</div> <div>14.35</div> <div>M80-532 M80-542</div> <div>M80-543 M80-552</div> </div>	<div> <div>M80-465 M80-466</div> <div>M80-475 M80-476</div> <div>19.25</div> <div>M80-532 M80-542</div> <div>M80-543 M80-552</div> </div>
CRIMP	<div> <div>M80-400 M80-401</div> <div>M80-410 M80-411</div> <div>10.15</div> <div>M80-560 M80-561</div> <div>M80-570 M80-571</div> </div>	<div> <div>M80-402 M80-412</div> <div>10.55</div> <div>M80-560 M80-561</div> <div>M80-570 M80-571</div> </div>	<div> <div>M80-460 M80-461</div> <div>M80-470 M80-471</div> <div>12.60</div> <div>M80-560 M80-561</div> <div>M80-570 M80-571</div> </div>	<div> <div>M80-465 M80-466</div> <div>M80-475 M80-476</div> <div>17.50</div> <div>M80-560 M80-561</div> <div>M80-570 M80-571</div> </div>
CRIMP EXTENDED	<div> <div>M80-400 M80-401</div> <div>M80-410 M80-411</div> <div>14.95</div> <div>M80-565 M80-566</div> <div>M80-575 M80-576</div> </div>	<div> <div>M80-402 M80-412</div> <div>15.35</div> <div>M80-565 M80-566</div> <div>M80-575 M80-576</div> </div>	<div> <div>M80-460 M80-461</div> <div>M80-470 M80-471</div> <div>17.40</div> <div>M80-565 M80-566</div> <div>M80-575 M80-576</div> </div>	<div> <div>M80-465 M80-466</div> <div>M80-475 M80-476</div> <div>22.30</div> <div>M80-565 M80-566</div> <div>M80-575 M80-576</div> </div>

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)



Datamate **Mix - Tek**

FEMALE MALE	MIX-TEK 2 ROW	
	VERTICAL PC TAIL	CRIMP
VERTICAL PC TAIL		
HORIZONTAL PC TAIL		
CRIMP		

FEMALE MALE	MIX-TEK 3 ROW	
	VERTICAL PC TAIL	CRIMP
VERTICAL PC TAIL		
HORIZONTAL PC TAIL		



Designed for performance critical applications where operation and safety are paramount, BS Datamate delivers the highest level of quality.

All BS Datamate parts are subject to in-process testing and individual inspection by qualified personnel. In addition, independent third-party test programmes are completed annually and all processes are audited by the British Standard Institute.

BS Datamate assures total security in the knowledge that the product is of the highest calibre.

PART NUMBERING SYSTEM

B5XXX - X XX - X - X - X

STYLE NUMBER	
B5740	Female Connector Types C and D (crimp)
B5741	Female Connector Types N and T (PC Tail)
B5743	Male Connector Types L and T (PC Tail)

NUMBER OF ROWS	
1	Single Row
2	Double Row

TOTAL NUMBER OF CONTACTS	
02 to 07, 17	Single Row
04, 06, 08, 10, 12, 14, 16, 18, 20, 26, 34	Double Row

GENDER	
F	Female (Socket)
M	Male (Plug)

VARIANT	
0	Unlatched connector, tin finish PC Tail (Male) or outer shell (Female)
1	Latched connector, tin finish PC Tail – Male only
2	Unlatched connector, gold finish PC Tail (Male) or outer shell (Female)
3	Latched connector, gold finish PC Tail – Male only
X	Variant






Note: all connectors are gold finish on the contact area.

TERMINATION STYLE	
C	Crimp 24-28 AWG (Small Bore) – Female only
D	Crimp 22 AWG (Large Bore) – Female only
L	Throughboard Solder 90° (PC Tail Horizontal) – Male only
N	Throughboard Solder Straight Short (PC Tail Vertical) – Female only
T	Throughboard Solder Straight (PC Tail Vertical)

EXAMPLE REFERENCE NO: B5740-216-F-C-2





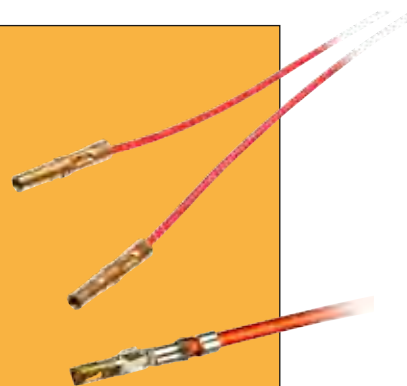
<u>Datamate BS</u> 	<u>Datamate BS</u> CONTAINS 	<u>Datamate -Plus</u> 	<u>Datamate</u> 	<u>Datamate</u> CONTAINS 
B5740-1XX-F-C-0	n/a	n/a	M80-898XX01	n/a
B5740-1XX-F-C-2	n/a	n/a	M80-898XX05	n/a
B5740-1XX-F-D-0	n/a	n/a	M80-899XX01	n/a
B5740-1XX-F-D-2	n/a	n/a	M80-899XX05	n/a
B5740-2XX-F-C-0	n/a	n/a	M80-888XX01	n/a
B5740-2XX-F-C-2	n/a	n/a	M80-888XX05	n/a
B5740-2XX-F-D-0	n/a	n/a	M80-889XX01	n/a
B5740-2XX-F-D-2	n/a	n/a	M80-889XX05	n/a
n/a	B5741-1XX-F-N-0	B5741-614XX42	M80-614XX42	M80-894XX01
n/a	B5741-1XX-F-N-2	B5741-614XX45	M80-614XX45	M80-894XX05
n/a	B5741-1XX-F-T-0	B5741-840XX42	M80-840XX42	M80-897XX01
n/a	B5741-1XX-F-T-2	B5741-840XX45	M80-840XX45	M80-897XX05
n/a	B5741-2XX-F-N-0	B5741-615XX42	M80-615XX42	M80-891XX01
n/a	B5741-2XX-F-N-2	B5741-615XX45	M80-615XX45	M80-891XX05
n/a	B5741-2XX-F-T-0	B5741-850XX42	M80-850XX42	M80-887XX01
n/a	B5741-2XX-F-T-2	B5741-850XX45	M80-850XX45	M80-887XX05
n/a	B5743-1XX-M-L-0	B5743-843XX42	M80-843XX42	M80-878XX22
n/a	B5743-1XX-M-L-1	B5743-842XX42	M80-842XX42	M80-876XX22
n/a	B5743-1XX-M-L-2	B5743-843XX45	M80-843XX45	M80-878XX05
n/a	B5743-1XX-M-L-3	B5743-842XX45	M80-842XX45	M80-876XX05
n/a	B5743-1XX-M-T-0	B5743-852XX42	M80-852XX42	M80-879XX22
n/a	B5743-1XX-M-T-1	B5743-882XX42	M80-882XX42	M80-877XX22
n/a	B5743-1XX-M-T-2	B5743-852XX45	M80-852XX45	M80-879XX05
n/a	B5743-1XX-M-T-3	B5743-882XX45	M80-882XX45	M80-877XX05
n/a	B5743-2XX-M-L-0	B5743-841XX42	M80-841XX42	M80-868XX22
n/a	B5743-2XX-M-L-1	B5743-851XX42	M80-851XX42	M80-866XX22
n/a	B5743-2XX-M-L-2	B5743-841XX45	M80-841XX45	M80-868XX05
n/a	B5743-2XX-M-L-3	B5743-851XX45	M80-851XX45	M80-866XX05
n/a	B5743-2XX-M-T-0	B5743-854XX42	M80-854XX42	M80-869XX22
n/a	B5743-2XX-M-T-1	B5743-853XX42	M80-853XX42	M80-867XX22
n/a	B5743-2XX-M-T-2	B5743-854XX45	M80-854XX45	M80-869XX05
n/a	B5743-2XX-M-T-3	B5743-853XX45	M80-853XX45	M80-867XX05



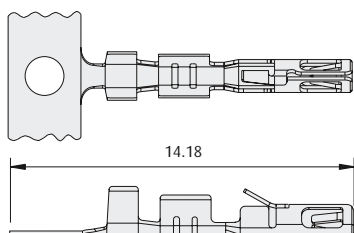
# Datamate Connectors

## Female Crimp Contacts

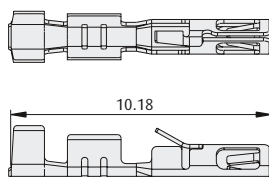
- ❖ Spare crimp contacts, for use with L-Tek, J-Tek and Mix-Tek female connectors.
- ❖ For crimp tools see pages 77 to 79.
- ❖ M83 crimp contacts have two additional ident grooves.



### TRIO-TEK

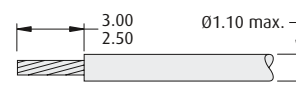


REELED



LOOSE

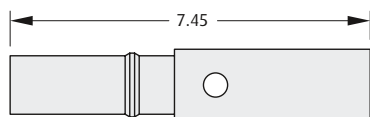
#### WIRE STRIPPING DETAILS



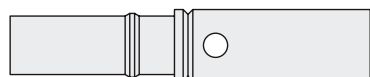
See page 30 for full connector information.

### L-TEK, J-TEK, MIX-TEK

Large Bore (22 AWG):

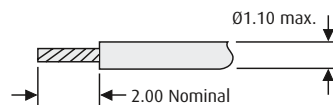


Small Bore (24-28 AWG):



SMALL BORE IDENT GROOVE

#### WIRE STRIPPING DETAILS



See pages 20, 29, 31 to 33, 52 for full connector information.

### HOW TO ORDER

**M8X - XXX 00 XX**

#### SERIES CODE

<b>M80</b>	Datamate (pages 20, 29 to 33, 52)
<b>M83</b>	M83 Datamate (pages 70, 71)

#### FINISH

<b>01</b>	Gold + Tin (M80-01x)	PG
<b>05</b>	Gold	PG
<b>42</b>	Gold + Tin (M80-2xx)	PG

#### TYPE

<b>011</b>	Large Bore for L-Tek, J-Tek, Mix-Tek	<b>254</b>	Reeled 26-28 AWG for Trio-Tek (M80 only)
<b>013</b>	Small Bore for L-Tek, J-Tek, Mix-Tek	<b>283</b>	Loose 22-24 AWG for Trio-Tek (M80 only)
<b>253</b>	Reeled 22-24 AWG for Trio-Tek (M80 only)	<b>284</b>	Loose 26-28 AWG for Trio-Tek (M80 only)

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)



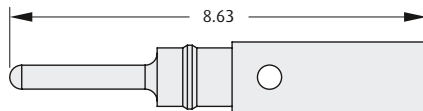
# Datamate Connectors

## Male Crimp Contacts

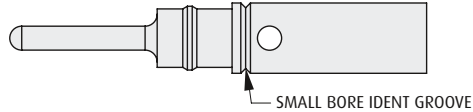
- ❖ Spare crimp contacts, for use with L-Tek and J-Tek male connectors.
- ❖ For crimp tools, see pages 77 to 79.

### L-TEK

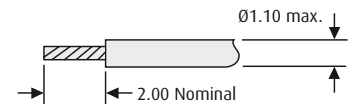
Large Bore (22 AWG):



Small Bore (24-28 AWG):



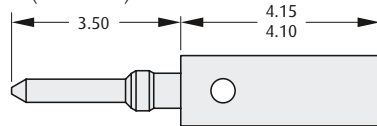
#### WIRE STRIPPING DETAILS



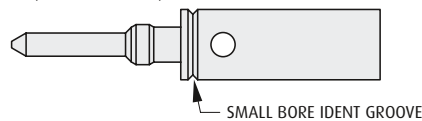
See page 25 for full connector information.

### J-TEK

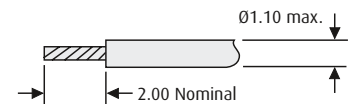
Large Bore (22 AWG):



Small Bore (24-28 AWG):



#### WIRE STRIPPING DETAILS



See pages 40 to 43 for full connector information.

### HOW TO ORDER

**M8X - XXX 00 XX**

#### SERIES CODE

**M80** Datamate

#### FINISH

**05** Gold



#### TYPE

<b>040</b>	Large Bore for L-Tek	<b>194</b>	Large Bore for J-Tek
<b>041</b>	Small Bore for L-Tek	<b>195</b>	Small Bore for J-Tek

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.

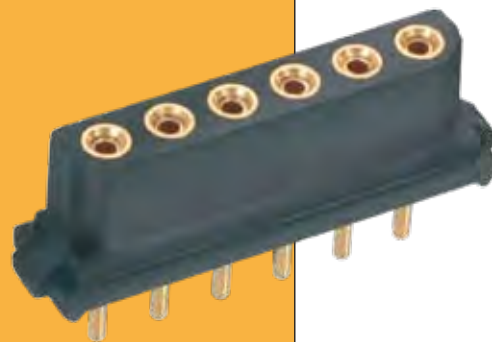


# HARWIN

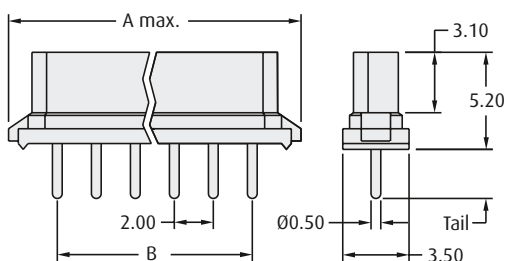
# Datamate Connectors

## Female Vertical PC Tail

- ❖ Polarised mouldings.
- ❖ For British Standard versions see pages 14 to 15.
- ❖ Dummy contacts for additional polarisation use **order code M80-023**.
- ❖ Mates with male connectors on pages 21 to 25.

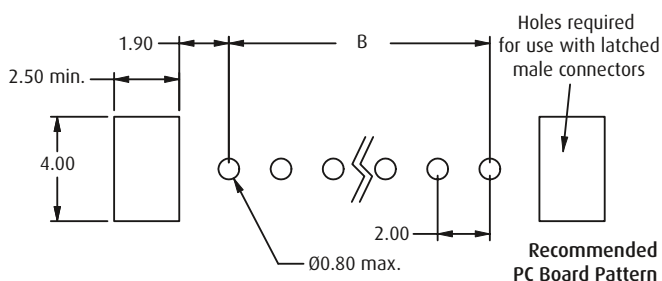


### SINGLE ROW

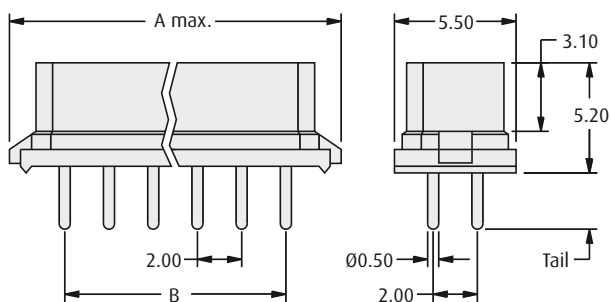


### CALCULATION

<b>A</b>	$B + 5.15$
<b>B</b>	$(\text{Total No. of contacts} - 1) \times 2$

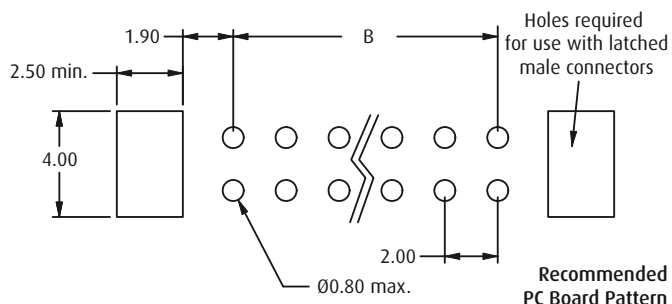


### DOUBLE ROW



### CALCULATION

<b>A</b>	$B + 5.15$
<b>B</b>	$\text{Total No. of contacts} - 2$



### HOW TO ORDER

**M80 - XXX XX XX**

#### SERIES CODE

RoHS	Pb	Non-RoHS	Pb	
840		897		Single row (3mm tail)
850		887		Double row (3mm tail)
790		790		Single row (4.5mm tail)
770		770		Double row (4.5mm tail)

#### FINISH

01	Gold + Tin/Lead	Pb
05	Gold	Pb
42	Gold + Tin	Pb
45	Gold	Pb

#### TOTAL NO. OF CONTACTS

Single Row	02 to 07, 17, 22
Double Row	04, 06, 08, 10, 12, 14, 16, 18, 20, 26, 34, 44

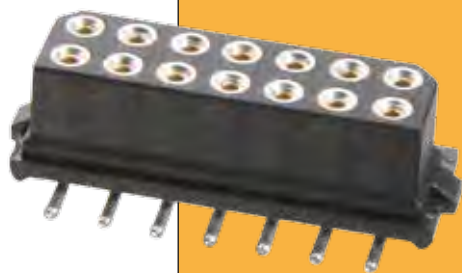
All dimensions in mm.

[www.harwin.com](http://www.harwin.com)



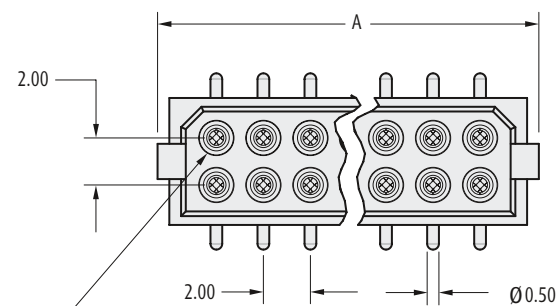
# Datamate Connectors

## Female Vertical Surface Mount

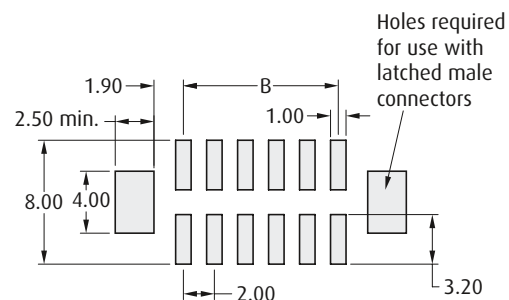
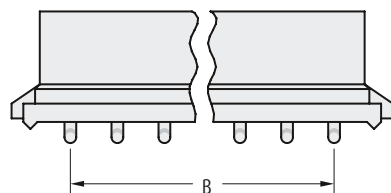


- ❖ Optional pick and place pad.
- ❖ Contact [datamate@harwin.com](mailto:datamate@harwin.com) for tape & reel options.
- ❖ Mates with male connectors on pages 21 to 25.
- ❖ Gull wing SMT tails simplify inspection process.

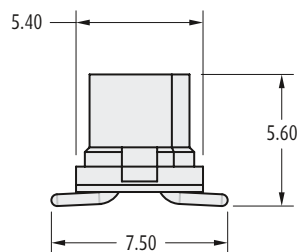
### DOUBLE ROW



No. 1 contact



Recommended PC Board Pattern



### CALCULATION

<b>A</b>	$B + 5.15$
<b>B</b>	Total No. of contacts - 2

### HOW TO ORDER

**M80 - 681 XX XX P**

**SERIES CODE**

**TOTAL NO. OF CONTACTS**

04, 06, 08, 10, 12, 14, 16, 18, 20, 26, 34, 44

### PICK AND PLACE CAP

<b>BLANK</b>	No cap
<b>P</b>	Pick and place cap

### FINISH

<b>01</b>	Gold + Tin/Lead	
<b>42</b>	Gold + Tin	
<b>45</b>	Gold	

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.



**HARWIN**

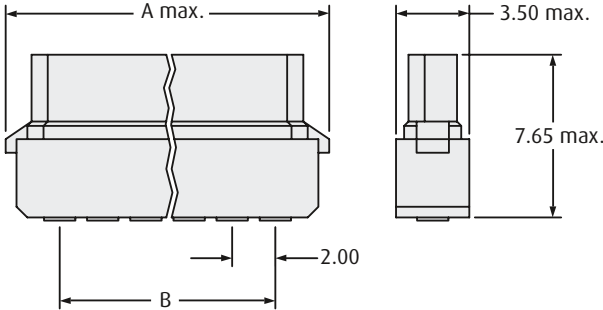
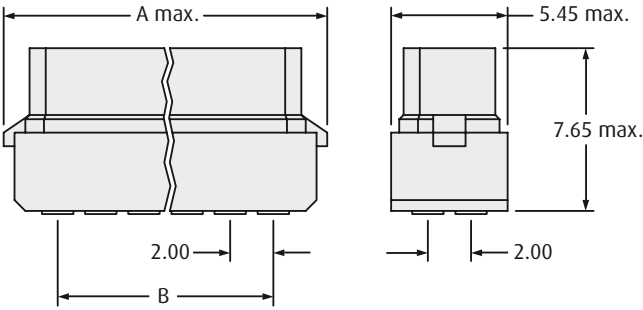
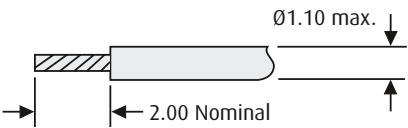




# Datamate Connectors

## Female Crimp

- ❖ Part numbers are for housings and the equivalent number of contacts.
- ❖ Contacts are rear insertable.
- ❖ For British Standard versions see pages 14 to 15.
- ❖ Hoods & cable assembly service available – contact [datamate@harwin.com](mailto:datamate@harwin.com).
- ❖ Spare contacts are available – see page 16.

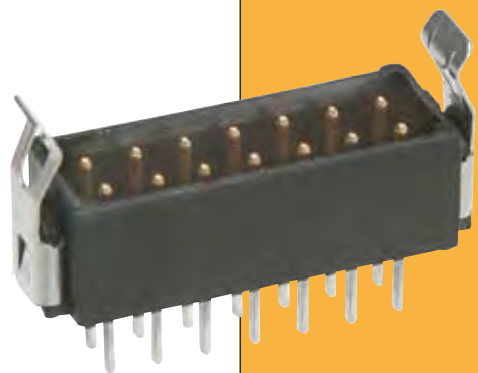


SINGLE ROW		CALCULATION		DOUBLE ROW		CALCULATION	
		A	B + 5.15			A	B + 5.15
		B	(Total No. of contacts – 1) x 2			B	Total No. of contacts – 2
							
TOOLS				WIRE STRIPPING DETAILS			
<p><b>Recommended Crimp Tool</b> – M22520/2-01</p> <p><b>Positioner</b> – T5747</p> <p><b>Contact Insertion/Removal Tool</b> – Z80-280</p> <p>See pages 77 to 79</p> <p>❖ Instruction sheets available at <a href="http://www.harwin.com/downloads/instructions">www.harwin.com/downloads/instructions</a></p>							
HOW TO ORDER							
		<b>M80 – XXX XX 05</b>					
<b>SERIES CODE</b>				<b>FINISH</b>			
<b>TYPE</b>							
888	Small Bore, Double Row					01	Gold + Tin 
889	Large Bore, Double Row					05	Gold 
898	Small Bore, Single Row						
899	Large Bore, Single Row						
				<b>TOTAL NO. OF CONTACTS</b>			
				Single Row	02 to 07, 17		
				Double Row	04, 06, 08, 10, 12, 14, 16, 18, 20, 26, 34		

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)





# Datamate Connectors

## Male Vertical PC Tail

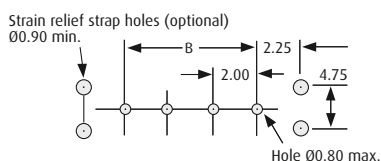
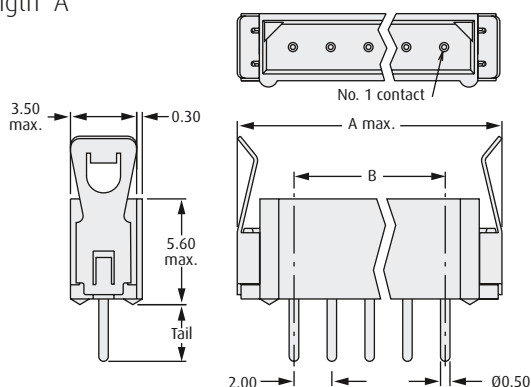
- ❖ Polarised mouldings.
- ❖ Fully shrouded contacts.
- ❖ Mates with female connectors shown on pages 18 to 20.
- ❖ For British Standard versions see pages 14 to 15.
- ❖ Can be used with Strain Relief straps: **order code M80-0030006**.

### SINGLE ROW

#### CALCULATION

<b>A</b>	$B + 5.60$
<b>B</b>	$(\text{Total No. of contacts} - 1) \times 2$

Friction lock or latch (when fitted) adds 0.5mm to overall length 'A'



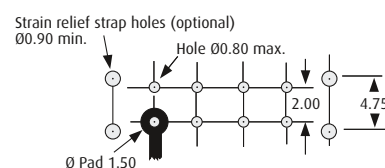
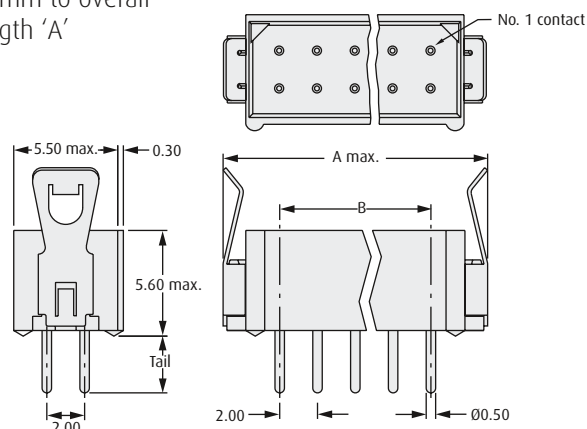
Recommended PC Board Pattern

### DOUBLE ROW

#### CALCULATION

<b>A</b>	$B + 5.60$
<b>B</b>	$\text{Total No. of contacts} - 2$

Friction lock or latch (when fitted) adds 0.5mm to overall length 'A'



Recommended PC Board Pattern

### HOW TO ORDER

**M80 - XXX XX XX**

#### SERIES CODE

RoHS		Non-RoHS		
Single	Double	Single	Double	
852	854	879	869	Unlatched (3mm tail)
882	853	877	867	Latched (3mm tail)
881	863	805	815	Friction latched (3mm tail)
752	754	752	754	Unlatched (4.5mm tail)
782	753	782	753	Latched (4.5mm tail)
781	763	781	763	Friction latch (4.5mm tail)

#### FINISH

05	Gold	Pb
22	Gold + Tin/Lead	Pb
42	Gold + Tin	Pb
45	Gold	Pb

#### TOTAL NO. OF CONTACTS

Single Row	02 to 07, 17, 22
Double Row	04, 06, 08, 10, 12, 14, 16, 18, 20, 26, 34, 44

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.

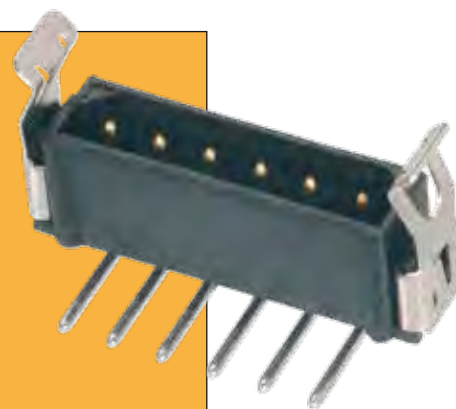


**HARWIN**

# Datamate Connectors

## Male Horizontal PC Tail

- ❖ Mates with female connectors on pages 18 to 20.
  - ❖ For British Standard versions see pages 14 to 15.
  - ❖ Supplied with strain relief straps:
- Order code M80-0030006.**



SINGLE ROW		CALCULATION		DOUBLE ROW		CALCULATION	
		<b>A</b>	$B + 5.60$			<b>A</b>	$B + 5.60$
		<b>B</b>	$(\text{Total No. of contacts} - 1) \times 2$			<b>B</b>	$\text{Total No. of contacts} - 2$

Friction lock or latch (when fitted) adds 0.5mm to overall length 'A'

No. 1 contact  
Tail  
3.50 max.  
Ø0.30  
5.90  
A max.  
2.00  
Ø0.50  
B  
Strain relief strap holes Ø0.90 min.  
B  
2.25  
0.50  
4.75  
Hole Ø0.80 max.  
Recommended PC Board Pattern

View of strap in place

Friction lock or latch (when fitted) adds 0.5mm to overall length 'A'

No. 1 contact  
Tail  
5.50 max.  
0.30  
5.90  
2.00  
A max.  
2.00  
Ø0.50  
B  
Strain relief strap holes Ø0.90 min.  
Hole Ø0.80 max.  
Ø Pad 1.50  
2.00  
0.50  
4.75  
Recommended PC Board Pattern

### HOW TO ORDER

**M80 - XXX XX XX**

#### SERIES CODE

RoHS		Non-RoHS		
Single	Double	Single	Double	
843	841	878	868	Unlatched (3mm tail)
842	851	876	866	Latched (3mm tail)
846	839	804	814	Friction latched (3mm tail)
793	791	793	791	Unlatched (4.5mm tail)
792	771	792	771	Latched (4.5mm tail)
796	789	796	789	Friction latch (4.5mm tail)

#### FINISH

05	Gold	Pb
22	Gold + Tin/Lead	Pb
42	Gold + Tin	Pb
45	Gold	Pb

#### TOTAL NO. OF CONTACTS

Single Row	02 to 07, 17, 22
Double Row	04, 06, 08, 10, 12, 14, 16, 18, 20, 26, 34, 44

Strain relief straps are supplied with all horizontal pc tail connectors. There is no need to order separately. Straps are located at the end of each connector.

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)



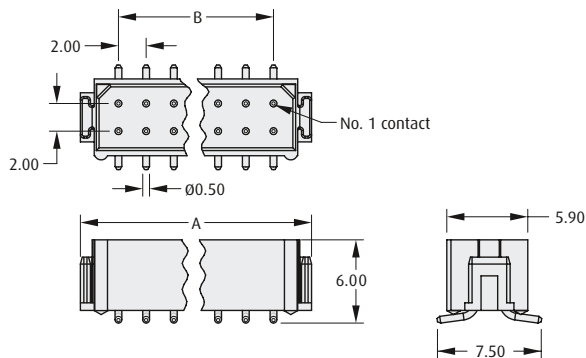


# Datamate Connectors

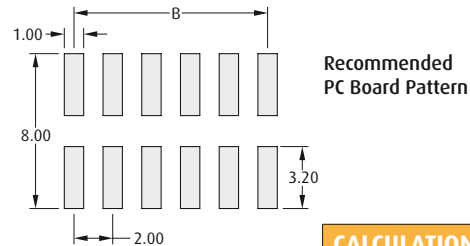
## Male Vertical Surface Mount

- ❖ Contact [datamate@harwin.com](mailto:datamate@harwin.com) for tape & reel options.
- ❖ Optional pick and place cap.
- ❖ Mates with female connectors on pages 18 to 20.
- ❖ Gull wing SMT tails simplify inspection process.

### UNLATCHED



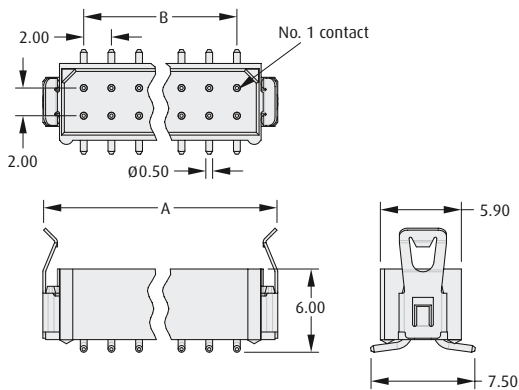
Friction lock or latch (when fitted)  
adds 0.5mm to overall length 'A'



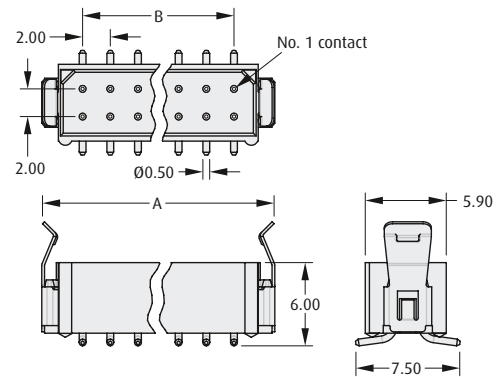
#### CALCULATION

<b>A</b>	$B + 5.60$
<b>B</b>	Total No. of contacts - 2

### LATCHED



### WITH FRICTION LOCK



### HOW TO ORDER

**M80 - 82 X XX XX P**

#### SERIES CODE

#### TYPE

<b>6</b>	Unlatched
<b>7</b>	Friction latched
<b>8</b>	Latched

#### TOTAL NO. OF CONTACTS

04, 06, 08, 10, 12, 14, 16, 18, 20, 26, 34, 44

#### PICK AND PLACE CAP

<b>BLANK</b>	No cap
<b>P</b>	Pick and place cap

#### FINISH

<b>22</b>	Gold + Tin/Lead	
<b>42</b>	Gold + Tin	
<b>45</b>	Gold	

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.

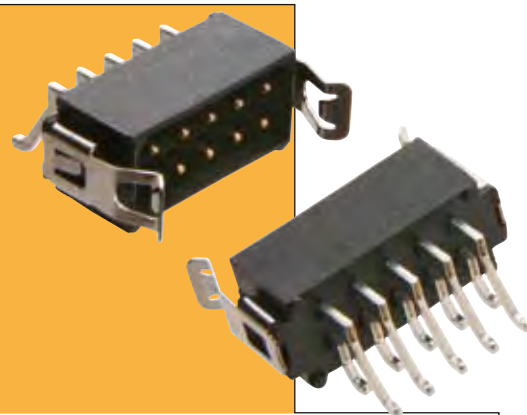


**HARWIN**

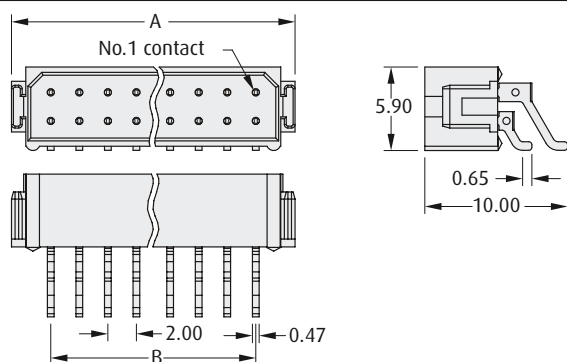
# Datamate Connectors

## Male Horizontal Surface Mount

- ❖ Contact [datamate@harwin.com](mailto:datamate@harwin.com) for tape & reel options.
- ❖ Strain relief straps M80-0030006 supplied with these connectors.
- ❖ Mates with female connectors shown on pages 18 to 20.
- ❖ Stamped contact ensures co-planarity.



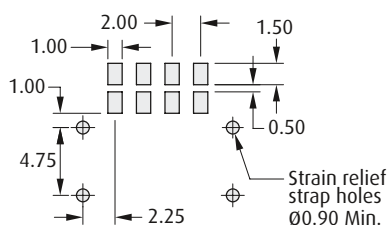
### UNLATCHED



Friction lock or latch (when fitted) adds 0.5mm to overall length 'A'

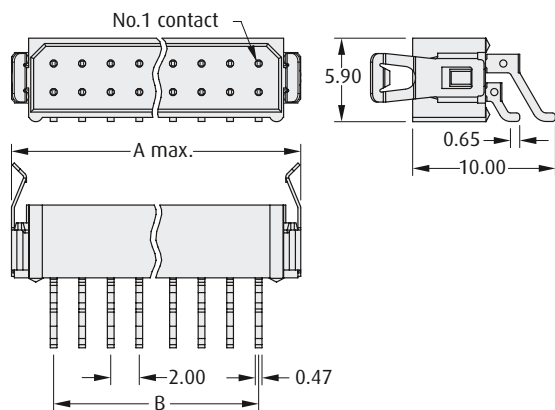
### CALCULATION

<b>A</b>	$B + 5.60$
<b>B</b>	Total No. of contacts - 2

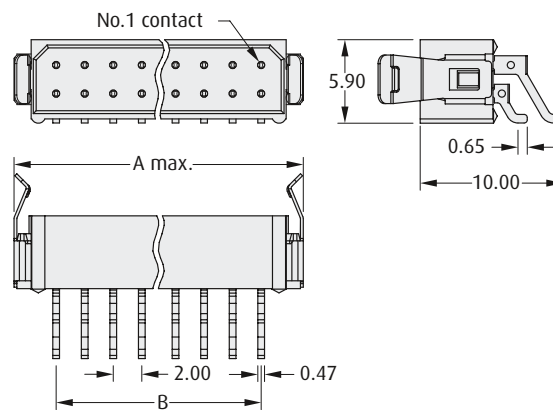


Recommended PC Board Pattern

### LATCHED



### WITH FRICTION LOCK



### HOW TO ORDER

**M80 - 66 X XX XX**

#### SERIES CODE

#### TYPE

<b>5</b>	Unlatched
<b>6</b>	Latched
<b>7</b>	Friction latched

#### TOTAL NO. OF CONTACTS

**04, 06, 08, 10, 12, 14, 16, 18, 20, 26, 34, 44**

#### FINISH

<b>22</b>	Gold + Tin/Lead	
<b>42</b>	Gold + Tin	

Strain relief straps are supplied with all horizontal connectors. There is no need to order separately. Straps are located at the end of each connector.

All dimensions in mm.

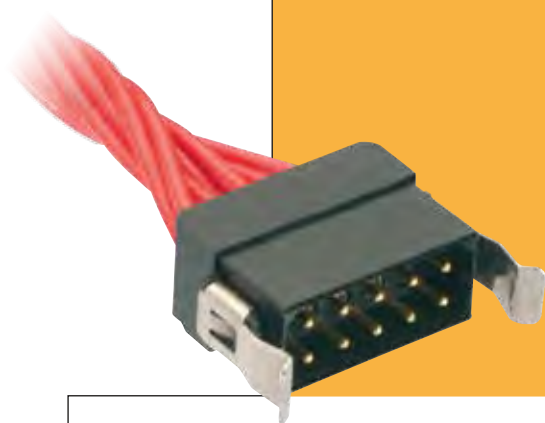
[www.harwin.com](http://www.harwin.com)

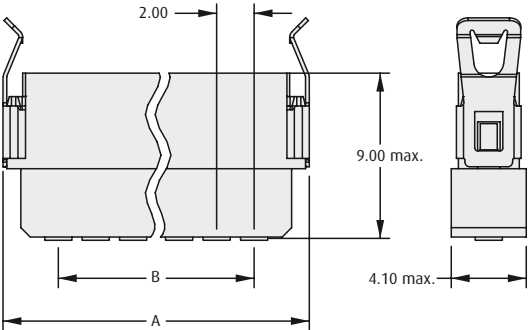
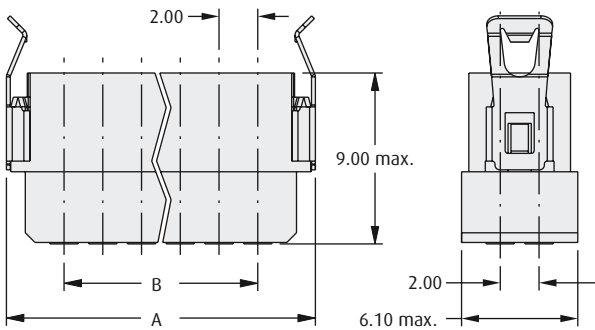
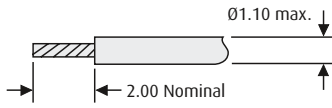


# Datamate Connectors

## Male Crimp

- ❖ Mates with female connectors shown on pages 18 to 20.
- ❖ Contacts are rear insertable.
- ❖ Part numbers are for housings and the equivalent number of contacts.
- ❖ Back potting & cable assembly service available, contact [datamate@harwin.com](mailto:datamate@harwin.com).
- ❖ Please contact [datamate@harwin.com](mailto:datamate@harwin.com) for other size availability.
- ❖ Spare contacts available, see page 17.



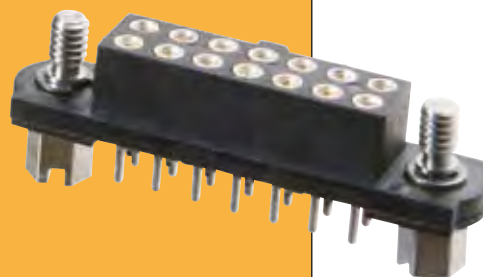
SINGLE ROW		CALCULATION		DOUBLE ROW		CALCULATION	
Friction lock or latch (when fitted) adds 0.5mm to overall length 'A'		A	B + 5.60	Friction lock or latch (when fitted) adds 0.5mm to overall length 'A'		A	B + 5.60
		B	(Total No. of contacts – 1) x 2			B	Total No. of contacts – 2
							
TOOLS		WIRE STRIPPING DETAILS					
<p><b>Recommended Crimp Tool</b> – M22520/2-01</p> <p><b>Positioner</b> – T5747</p> <p><b>Contact Insertion/Removal Tool</b> – Z80-Z80</p> <p>See pages 77 to 79</p> <p>❖ Instruction sheets available at <a href="http://www.harwin.com/downloads/instructions">www.harwin.com/downloads/instructions</a></p>							
HOW TO ORDER							
<b>SERIES CODE</b>		<b>M80 – XXX XX XX</b>					
<b>TYPE</b>							
Single	Double						
806	810	Small bore, Unlatched					
807	811	Large bore, Unlatched					
808	812	Small bore, Latched					
809	813	Large bore, Latched					
883	816	Small bore, Friction Latch					
884	817	Large Bore, Friction Latch					
		</					



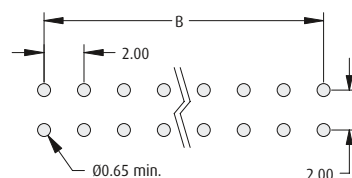
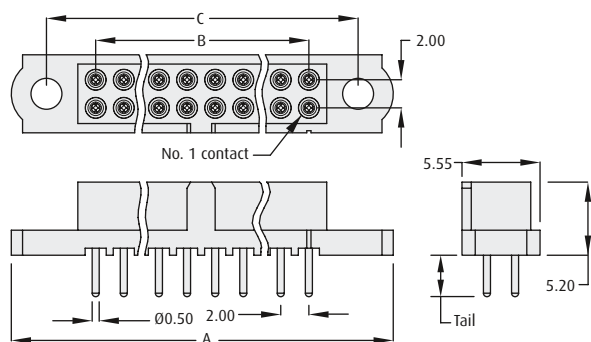
# Datamate Connectors

## Female Vertical PC Tail

- ❖ Fully shrouded contacts.
- ❖ Polarised mouldings.
- ❖ Mates with male connectors shown on pages 34-40 and 42-43.



### WITHOUT JACKSCREWS

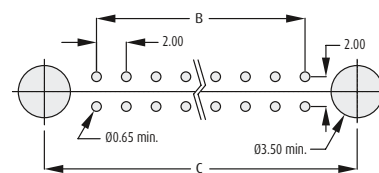
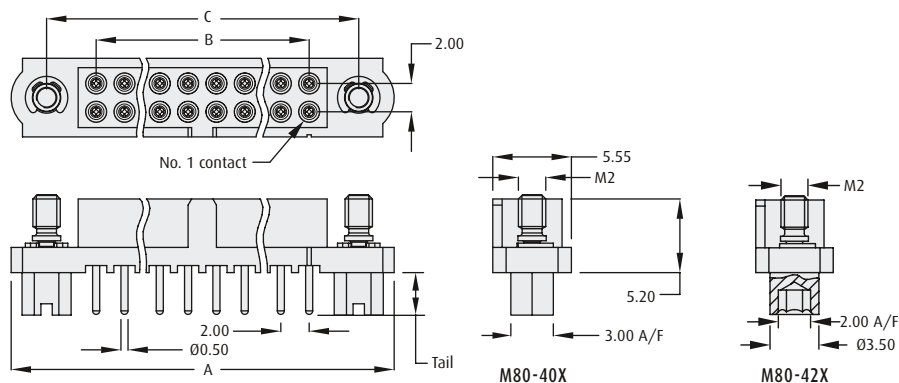


Recommended PC Board Pattern

### CALCULATION

<b>A</b>	$B + 12$
<b>B</b>	Total No. of contacts - 2
<b>C</b>	$B + 7$

### WITH JACKSCREWS



Recommended PC Board Pattern

### HOW TO ORDER

#### SERIES CODE

<b>0</b>	With Hex slotted jackscrews
<b>1</b>	Without jackscrews
<b>2</b>	With Hex Socket jackscrews

<b>0</b>	3mm Tails
<b>1</b>	4.5mm Tails

**M80 - 4 X X XX XX**

#### FINISH

<b>01</b>	Gold + Tin/Lead	
<b>05</b>	Gold	
<b>42</b>	Gold + Tin	

#### TOTAL NO. OF CONTACTS

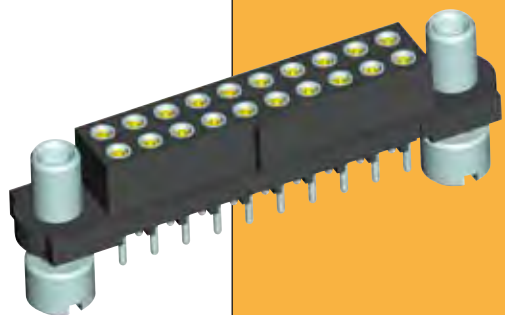
**04 to 50**

Even numbers only

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)





# Datamate Connectors

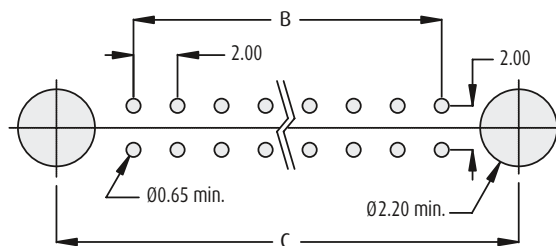
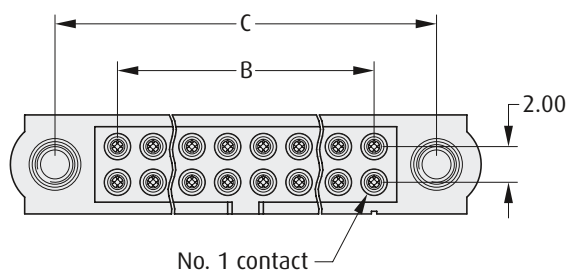
## Female Vertical PC Tail Reverse Fix

- ❖ Fully shrouded contacts.
- ❖ Polarised mouldings.
- ❖ Mates with male connectors shown on page 41.

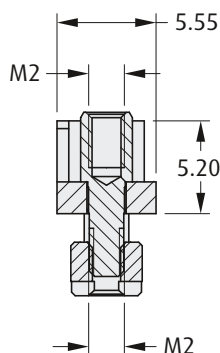
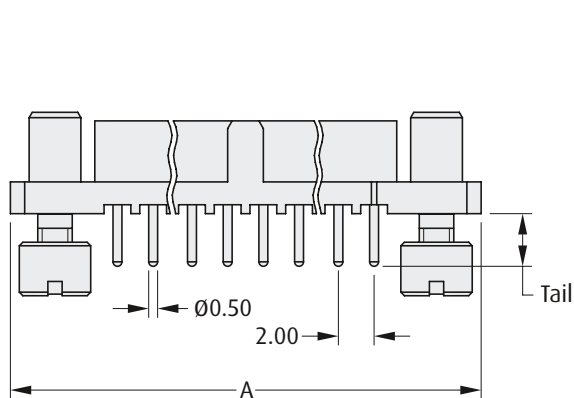
### WITH JACKSCREWS

### CALCULATION

<b>A</b>	$B + 12$
<b>B</b>	Total No. of contacts - 2
<b>C</b>	$B + 7$



Recommended PC Board Pattern



### HOW TO ORDER

**M80 - 40 X XX XX**

#### SERIES CODE

#### TYPE

<b>5</b>	3mm Tails
<b>6</b>	4.5mm Tails

#### FINISH

<b>01</b>	Gold + Tin/Lead	
<b>05</b>	Gold	
<b>42</b>	Gold + Tin	

#### TOTAL NO. OF CONTACTS

**04 to 50**

Even numbers only

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.

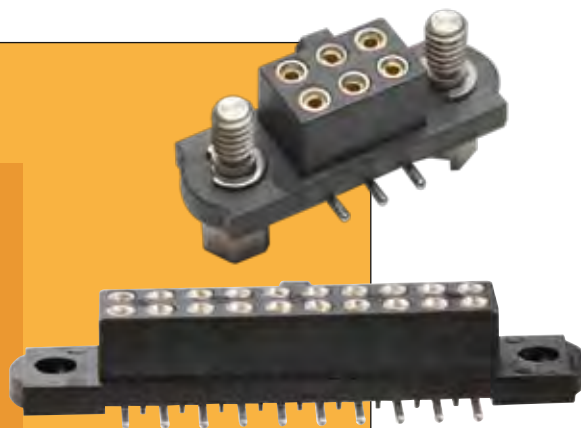


# HARWIN

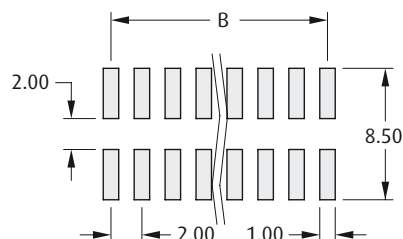
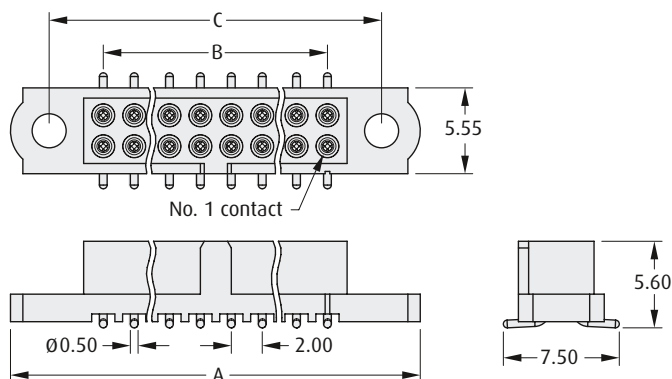
# Datamate Connectors

## Female Vertical Surface Mount

- ❖ Optional pick and place cap.
- ❖ Contact [datamate@harwin.com](mailto:datamate@harwin.com) for tape and reel options.
- ❖ Gull wing SMT tails simplify inspection process.
- ❖ Mates with male connectors shown on pages 34-40 and 42-43.



### WITHOUT JACKSCREWS

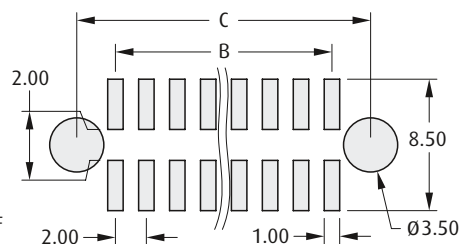
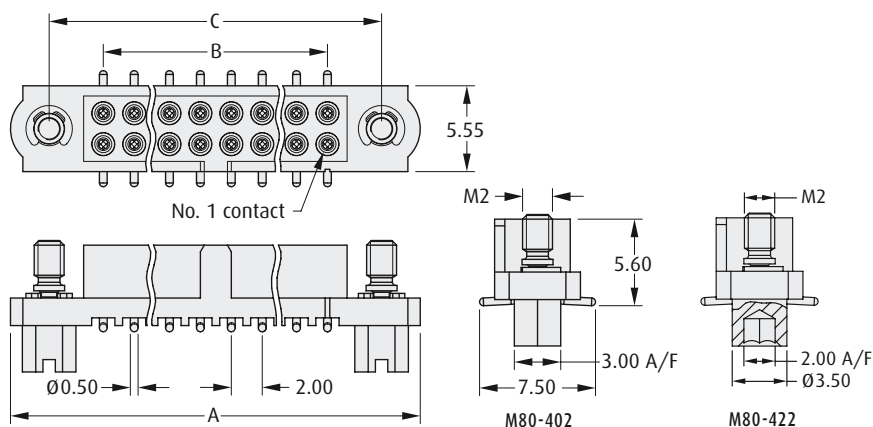


Recommended PC Board Pattern

#### CALCULATION

<b>A</b>	B + 12
<b>B</b>	Total No. of contacts - 2
<b>C</b>	B + 7

### WITH JACKSCREWS



Recommended PC Board Pattern

### HOW TO ORDER

**M80 - 4 X 2 XX XX P**

#### SERIES CODE

#### TYPE

<b>0</b>	With Hex slotted jackscrews
<b>1</b>	Without Jackscrews
<b>2</b>	With Hex Socket jackscrews

#### TOTAL NO. OF CONTACTS

**04 to 50**

Even numbers only

#### PICK AND PLACE CAP

<b>BLANK</b>	No cap
<b>P</b>	Pick and place cap

#### FINISH

<b>01</b>	Gold + Tin/Lead	
<b>05</b>	Gold	
<b>42</b>	Gold + Tin	

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)

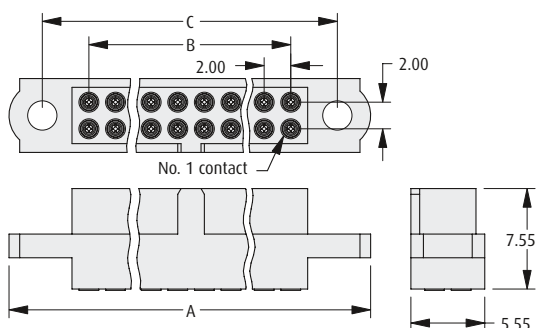


# Datamate Connectors

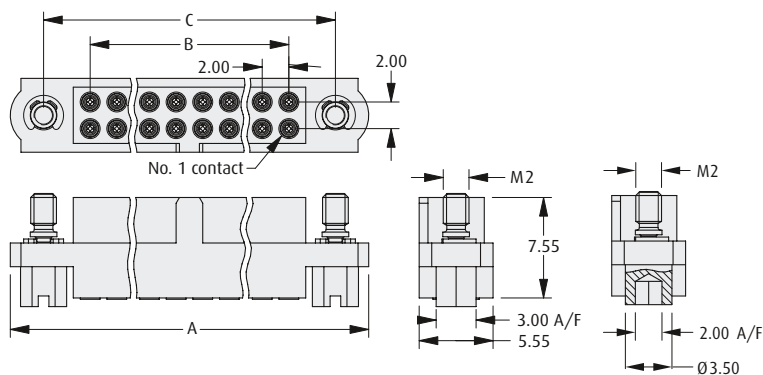
## Female Crimp

- ❖ Polarised mouldings.
- ❖ Fully shrouded contacts.
- ❖ Large bore 22 AWG, small bore 24-28 AWG.
- ❖ Jackscrews are assembled where specified.
- ❖ Crimp contacts are rear insertable.
- ❖ Mates with male connectors shown on pages 34-40 and 42-43.
- ❖ Part numbers are for housings and the equivalent no of contacts.
- ❖ Spare contacts available, see page 16.

### WITHOUT JACKSCREWS



### WITH JACKSCREWS



#### CALCULATION

<b>A</b>	$B + 12$
<b>B</b>	Total No. of contacts - 2
<b>C</b>	$B + 7$

M80-460  
M80-461

M80-480  
M80-481

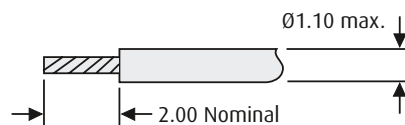
### TOOLS

**Recommended Crimp Tool** - M22520/2-01  
**Positioner** - T5747

**Contact Insertion/Removal Tool** - Z80-280  
See pages 77 to 79

❖ Instruction sheets available at [www.harwin.com/downloads/instructions](http://www.harwin.com/downloads/instructions)

### WIRE STRIPPING DETAILS



### HOW TO ORDER

**M80 - XXX XX XX**

#### SERIES CODE

#### TYPE

<b>460</b>	Large Bore, with Jackscrews*	<b>471</b>	Small Bore, without Jackscrews
<b>461</b>	Small Bore, with Jackscrews*	<b>480</b>	Large Bore, with Hex Jackscrews
<b>470</b>	Large Bore, without Jackscrews	<b>481</b>	Small Bore, with Hex Jackscrews

\* Slotted

#### FINISH

<b>05</b>	Gold	PG
<b>42</b>	Gold + Tin	PG

#### TOTAL NO. OF CONTACTS

**04 to 50**

Even numbers only

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.



**HARWIN**

# Datamate Connectors

## Female Crimp Trio-Tek

**Datamate Trio-Tek**

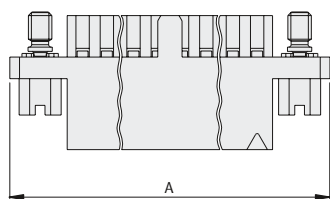
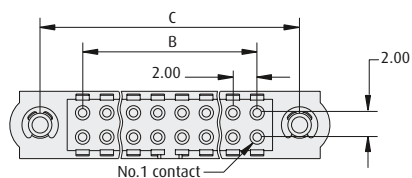
- ❖ Crimp inspection window in housing.
- ❖ Mates with Male connectors shown on pages 34 to 43.
- ❖ Contacts available separately, see page 16.
- ❖ Triangular contact design for automated assembly equipment.
- ❖ Ideal for volume applications.



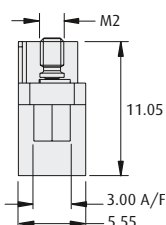
### WITH JACKSCREWS

### CALCULATION

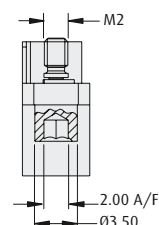
<b>A</b>	$B + 12$
<b>B</b>	Total No. of Contacts - 2
<b>C</b>	$B + 7$



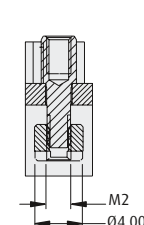
#### HEX SLOTTED



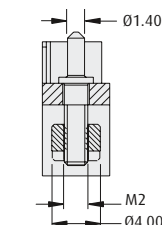
#### HEX SOCKET



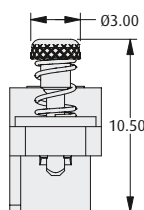
#### REVERSE FIX



#### GUIDE PIN WITH PANEL MOUNT



#### 101 Lok



### WITHOUT JACKSCREWS

### TOOLS

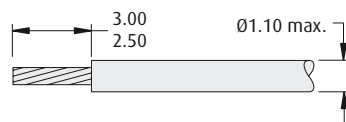
**Recommended Crimp Tool** - Z80-255

**Contact Removal Tool** - Z80-258

See page 78

❖ Instruction sheets available at [www.harwin.com/downloads/instructions](http://www.harwin.com/downloads/instructions)

### WIRE STRIPPING DETAILS



### HOW TO ORDER

**M80 - 45X XX XX**

#### SERIES CODE

#### HOUSINGS

<b>454</b>	Without Jackscrews	<b>457</b>	Reverse Fix Jackscrews
<b>455</b>	Hex Slotted Jackscrews	<b>458</b>	Guide pin with panel mount
<b>456</b>	Hex Socket Jackscrews	<b>459</b>	101Lok jackscrews

#### FINISH

**98** Housings



#### TOTAL NO. OF CONTACTS

06, 08, 10, 12, 14, 20, 26, 34, 42, 50

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)



# Datamate Connectors

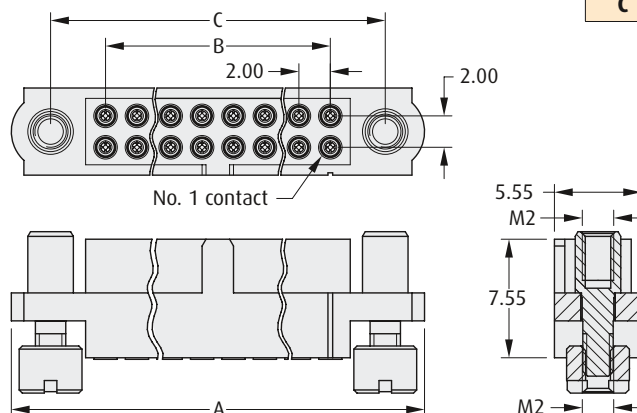
## Female Crimp Reverse Fix

- ❖ Mates with male connectors shown on page 41.
- ❖ Allows for further flexibility in system design.
- ❖ Crimp contacts supplied loose.
- ❖ Crimp contacts are rear insertable.
- ❖ Large bore 22 AWG, small bore 24-28 AWG.
- ❖ Part numbers are for housings and the equivalent number of contacts.
- ❖ Spare contacts are available – see page 16.

### WITH JACKSCREWS

### CALCULATION

<b>A</b>	$B + 12$
<b>B</b>	Total No. of contacts – 2
<b>C</b>	$B + 7$



### TOOLS

**Recommended Crimp Tool** – M22520/2-01

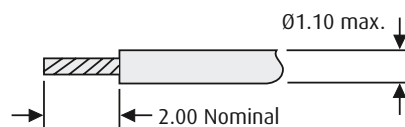
**Positioner** – T5747

**Contact Insertion/Removal Tool** – Z80-280

See pages 77 to 79

❖ Instruction sheets available at [www.harwin.com/downloads/instructions](http://www.harwin.com/downloads/instructions)

### WIRE STRIPPING DETAILS



### HOW TO ORDER

**M80 - XXX XX XX**

#### SERIES CODE

#### TYPE

<b>462</b>	Large Bore Connector
<b>463</b>	Small Bore Connector

#### FINISH

<b>05</b>	Gold	
<b>42</b>	Gold + Tin	

#### TOTAL NO. OF CONTACTS

**04 to 50**

Even numbers only

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.



# HARWIN



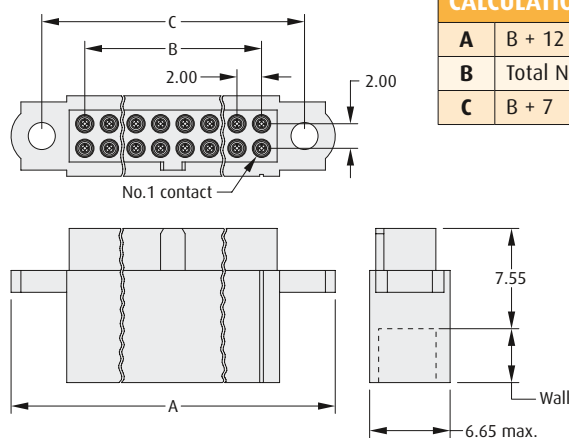
# Datamate Connectors

## Female Crimp Extended Wall

- ❖ Extended Wall Datamate allows back potting to be performed.
- ❖ Polarised mouldings.
- ❖ Crimp contacts are rear insertable.
- ❖ Large bore 22AWG, small bore 24-28 AWG.
- ❖ Part numbers are for housings and the equivalent no. of contacts.
- ❖ Mates with male connectors shown on pages 34-40 and 42-43.
- ❖ Spare contacts are available – see page 16.



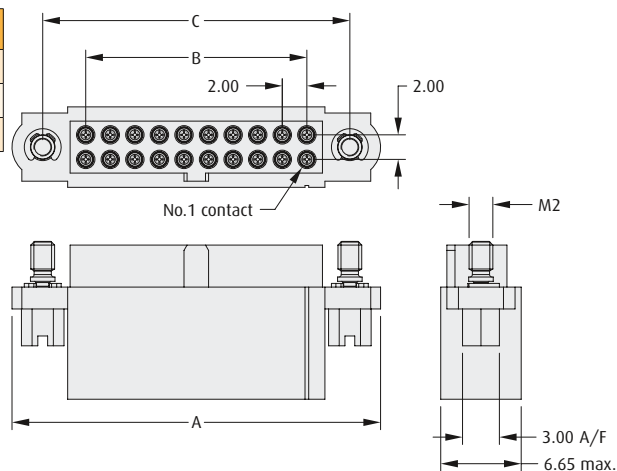
### WITHOUT JACKSCREWS



#### CALCULATION

<b>A</b>	$B + 12$
<b>B</b>	Total No. of contacts - 2
<b>C</b>	$B + 7$

### WITH JACKSCREWS



### TOOLS

**Recommended Crimp Tool** – M22520/2-01

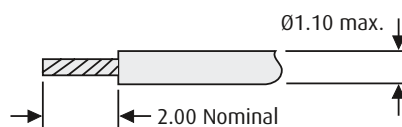
**Positioner** – T5747

**Contact Insertion/Removal Tool** – Z80-280

See pages 77 to 79

❖ Instruction sheets available at [www.harwin.com/downloads/instructions](http://www.harwin.com/downloads/instructions)

### WIRE STRIPPING DETAILS



### HOW TO ORDER

**M80 - XXX XX XX**

#### SERIES CODE

#### TYPE

<b>465</b>	Large Bore, with jackscrews*	<b>476</b>	Small Bore, without jackscrews
<b>466</b>	Small Bore, with jackscrews*	<b>485</b>	Large Bore, with hex jackscrews
<b>475</b>	Large Bore, without jackscrews	<b>486</b>	Small Bore, with hex jackscrews

\*Slotted

#### WALL SIZE

<b>BLANK</b>	Wall = 5mm
<b>A</b>	Wall = 1mm

#### FINISH

<b>05</b>	Gold	PG
<b>42</b>	Gold + Tin	PG

#### TOTAL NO. OF CONTACTS

**06,10,12,14,18,20,26,34,42,50**

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)



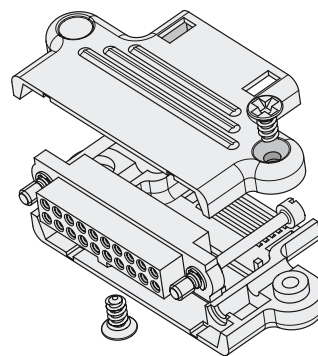
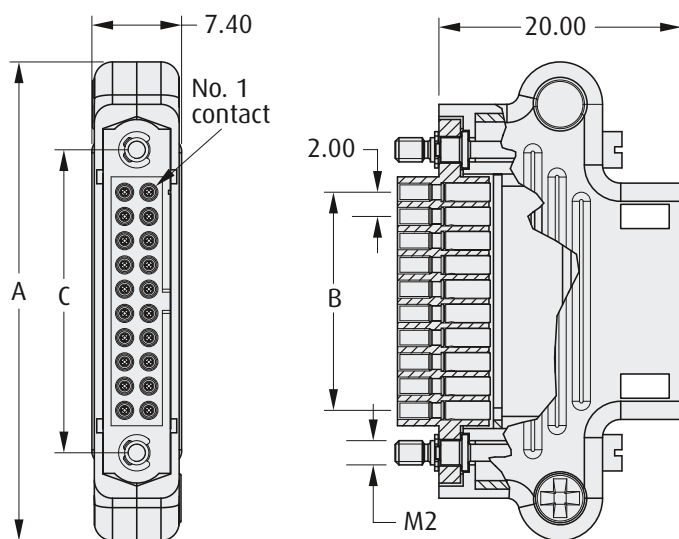
# Datamate Connectors

## Female Crimp with Hood



- ❖ Supplied as a complete kit, including hood, screws, connector, contacts and jackscrews.
- ❖ For spare crimp contacts, see page 16.
- ❖ Provides strain relief by preventing cable bending at the rear of the connector, and also has the option of inserting a cable tie to reduce pull strain.
- ❖ Mates with male connectors shown on pages 34-40 and 42-43.

### FEMALE



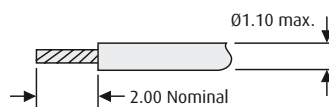
### TOOLS

**Recommended Crimp Tool** – M22520/2-01  
**Positioner** – T5747

**Contact Insertion/Removal Tool** – Z80-280  
 See pages 77 to 79

❖ Instruction sheets available at [www.harwin.com/downloads/instructions](http://www.harwin.com/downloads/instructions)

### WIRE STRIPPING DETAILS



### CALCULATION

<b>A</b>	$B + 21.5$
<b>B</b>	Total No. of contacts – 2
<b>C</b>	$B + 7$

### HOW TO ORDER

**M80 - 94 X XX XX**

#### SERIES CODE

#### TYPE

<b>0</b>	Small Bore
<b>1</b>	Large Bore

#### FINISH

<b>05</b>	Gold	
<b>42</b>	Gold + Tin	

#### TOTAL NO. OF CONTACTS

**06, 10, 12, 14, 20, 26, 34, 42, 50**

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.

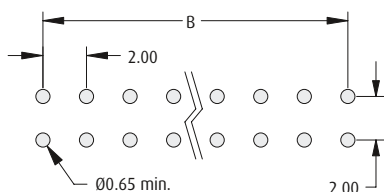
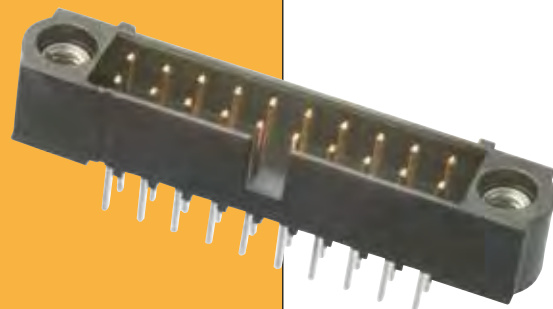


# HARWIN

# Datamate Connectors

## Male Vertical PC Tail

- ❖ Mates with female connectors shown on pages 26, 28-30 and 32-33.
- ❖ Polarised mouldings.
- ❖ Fully shrouded contacts.
- ❖ Jackscrews are assembled where specified.
- ❖ Choice of PC Tail length.

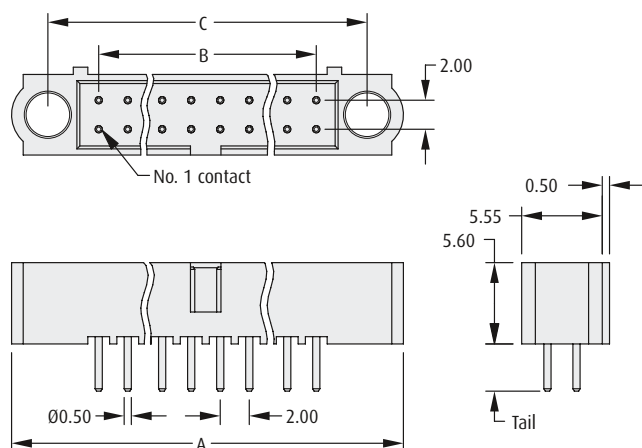


Recommended PC Board Pattern

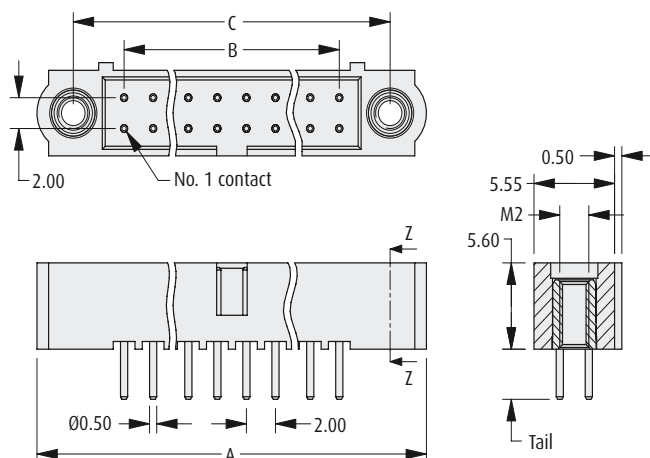
### CALCULATION

<b>A</b>	$B + 12$
<b>B</b>	Total No. of contacts - 2
<b>C</b>	$B + 7$

### WITHOUT JACKSCREWS



### WITH JACKSCREWS



### HOW TO ORDER

**M80 - 5 X X XX XX**

#### SERIES CODE

<b>0</b>	With Jackscrews
<b>2</b>	Without Jackscrews

<b>0</b>	3mm Tails
<b>1</b>	4.5mm Tails

#### FINISH

<b>05</b>	Gold	
<b>22</b>	Gold + Tin/Lead	
<b>42</b>	Gold + Tin	

#### TOTAL NO. OF CONTACTS

**04 to 50**

Even numbers only

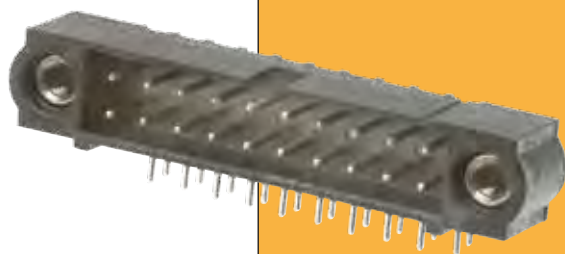
All dimensions in mm.

[www.harwin.com](http://www.harwin.com)

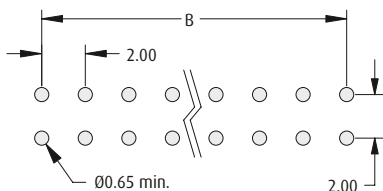


# Datamate Connectors

## Male Horizontal PC Tail



- ❖ Mates with female connectors shown on pages 26, 28-30 and 32-33.
- ❖ Jackscrews are assembled where specified.
- ❖ Choice of PC Tail length.

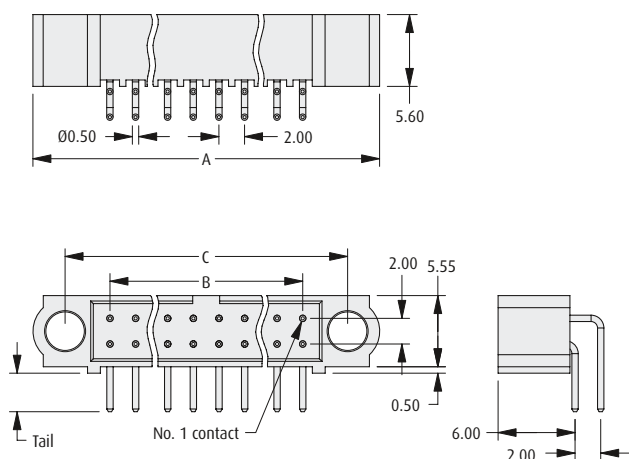


Recommended PC Board Pattern

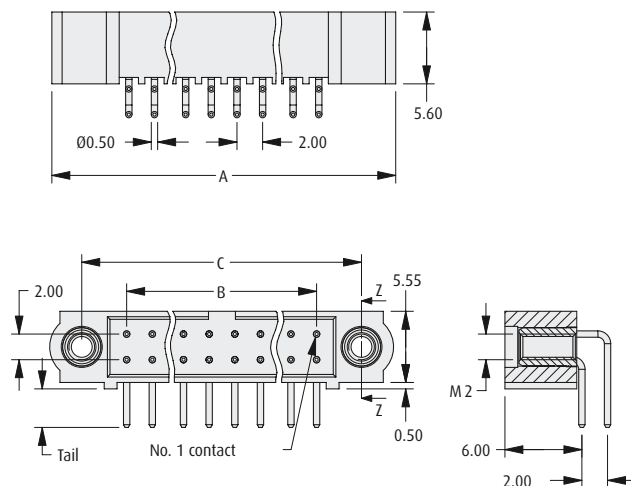
### CALCULATION

<b>A</b>	$B + 12$
<b>B</b>	Total No. of contacts - 2
<b>C</b>	$B + 7$

### WITHOUT JACKSCREWS



### WITH JACKSCREWS



### HOW TO ORDER

**M80 - 5 X X XX XX**

#### SERIES CODE

<b>3</b>	With Jackscrews
<b>5</b>	Without Jackscrews
<b>0</b>	3mm Tails
<b>1</b>	4.5mm Tails

#### FINISH

<b>05</b>	Gold	
<b>22</b>	Gold + Tin/Lead	
<b>42</b>	Gold + Tin	

#### TOTAL NO. OF CONTACTS

**04 to 50**

Even numbers only

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.

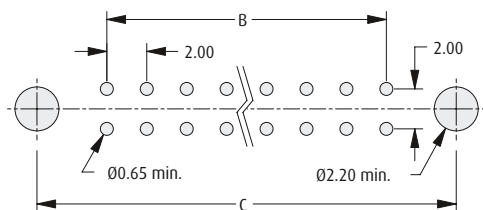
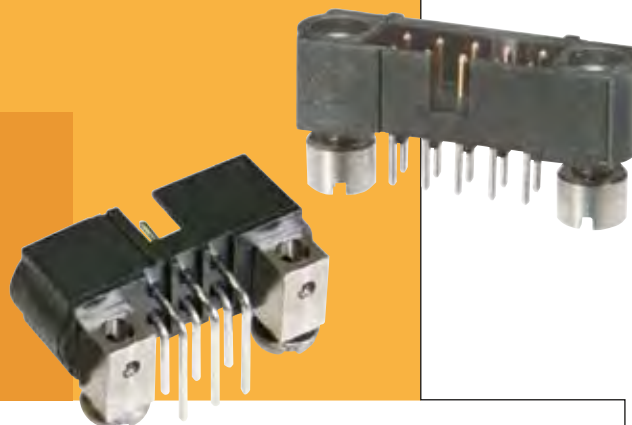


**HARWIN**

# Datamate Connectors

## Male PC Tail with Board Mount

- ❖ Mates with female connectors shown on pages 26, 28-30 and 32-33.
- ❖ Board mounts provide PCB strain relief.

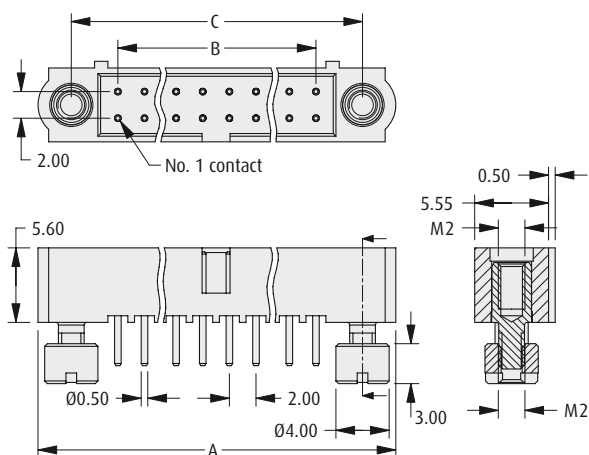


Recommended PC Board Pattern

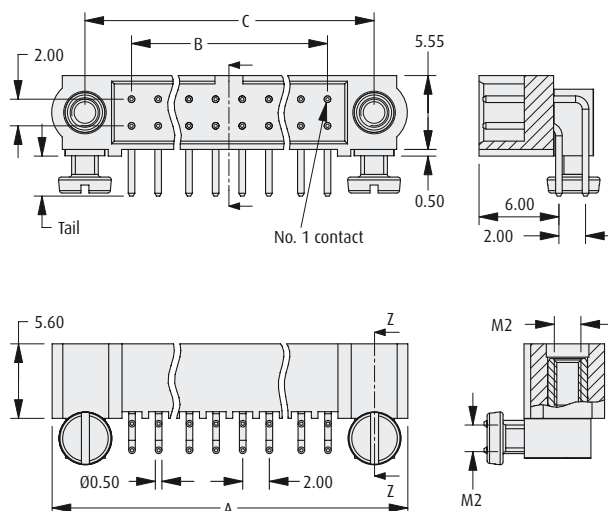
### CALCULATION

<b>A</b>	$B + 12$
<b>B</b>	Total No. of contacts - 2
<b>C</b>	$B + 7$

### VERTICAL



### HORIZONTAL



### HOW TO ORDER

**M80 - 5 X X XX XX**

#### SERIES CODE

<b>1</b>	Vertical
<b>4</b>	Horizontal
<b>0</b>	3mm Tails
<b>1</b>	4.5mm Tails

#### FINISH

<b>05</b>	Gold	
<b>22</b>	Gold + Tin/Lead	
<b>42</b>	Gold + Tin	

#### TOTAL NO. OF CONTACTS

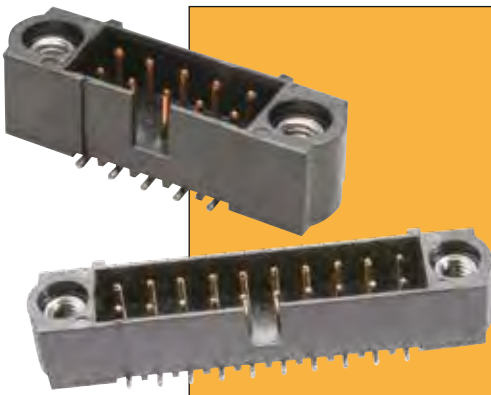
**04 to 50**

Even numbers only

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)

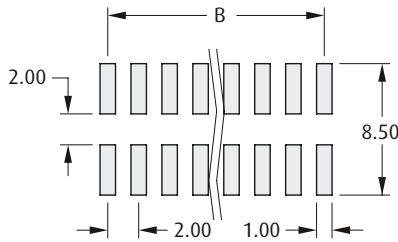




# Datamate Connectors

## Male Vertical Surface Mount

- ❖ Contact [datamate@harwin.com](mailto:datamate@harwin.com) for tape & reel options.
- ❖ Optional pick and place cap.
- ❖ Mates with female connectors shown on pages 26, 28-30 and 32-33.
- ❖ Gull wing SMT tails simplify inspection process.

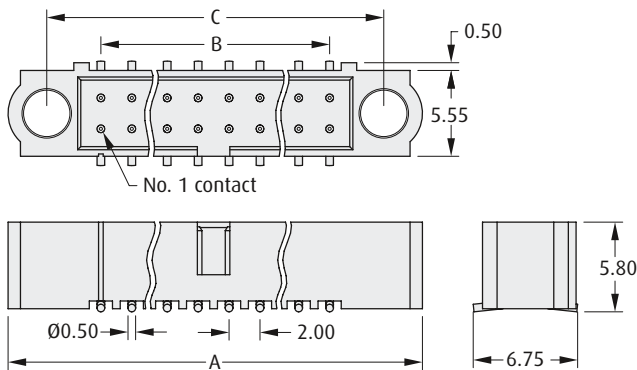


Recommended PC Board Pattern

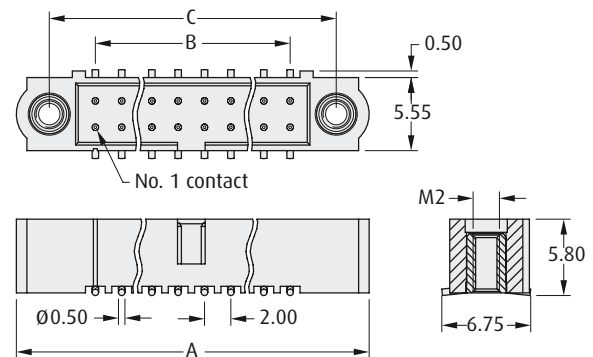
### CALCULATION

<b>A</b>	$B + 12$
<b>B</b>	Total No. of contacts - 2
<b>C</b>	$B + 7$

### WITHOUT JACKSCREWS



### WITH JACKSCREWS



### HOW TO ORDER

**M80 - 5 X 2 XX XX P**

#### SERIES CODE

#### TYPE

<b>0</b>	With Jackscrews
<b>2</b>	Without Jackscrews

#### TOTAL NO. OF CONTACTS

**04 to 50**

Even numbers only

#### PICK AND PLACE CAP

<b>BLANK</b>	No cap
<b>P</b>	Pick and place cap

#### FINISH

<b>05</b>	Gold	
<b>22</b>	Gold + Tin/Lead	
<b>42</b>	Gold + Tin	

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.



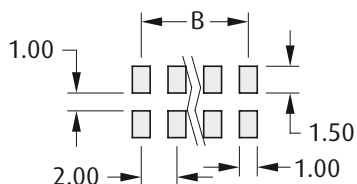
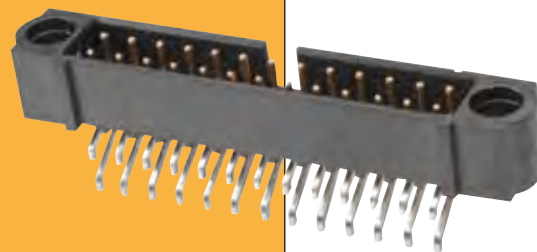
# HARWIN



# Datamate Connectors

## Male Horizontal Surface Mount

- ❖ Contact [datamate@harwin.com](mailto:datamate@harwin.com) for tape & reel options.
- ❖ Mates with female connectors shown on pages 26, 28-30 and 32-33.
- ❖ Stamped contact ensures co-planarity.

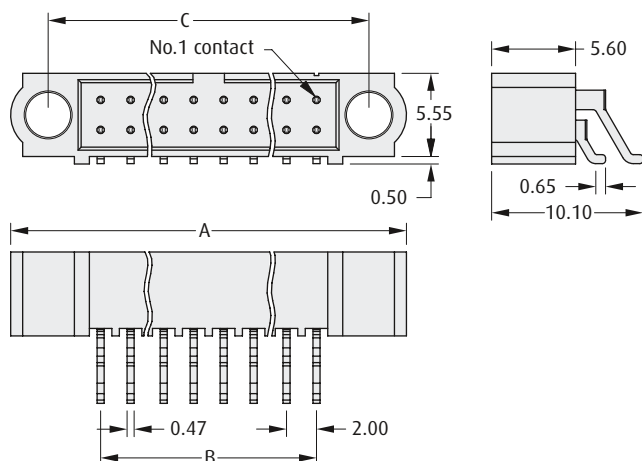


Recommended PC Board Pattern

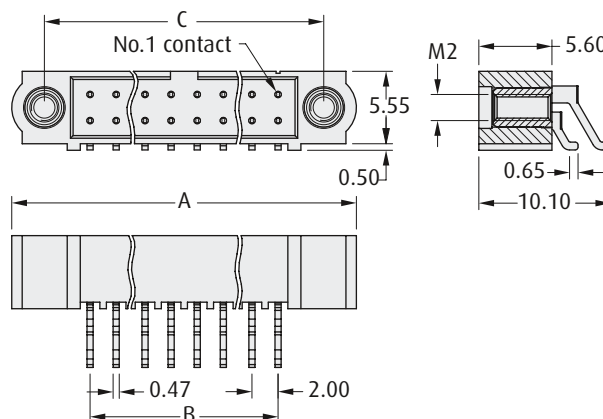
### CALCULATION

<b>A</b>	$B + 12$
<b>B</b>	Total No. of contacts - 2
<b>C</b>	$B + 7$

### WITHOUT JACKSCREWS



### WITH JACKSCREWS



### HOW TO ORDER

**M80 - 5 X 2 XX XX**

#### SERIES CODE

#### TYPE

<b>3</b>	With Jackscrews
<b>5</b>	Without Jackscrews

#### FINISH

<b>05</b>	Gold	
<b>22</b>	Gold + Tin/Lead	
<b>42</b>	Gold + Tin	

#### TOTAL NO. OF CONTACTS

**04 to 50**

Even numbers only

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)



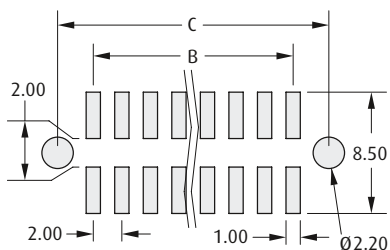
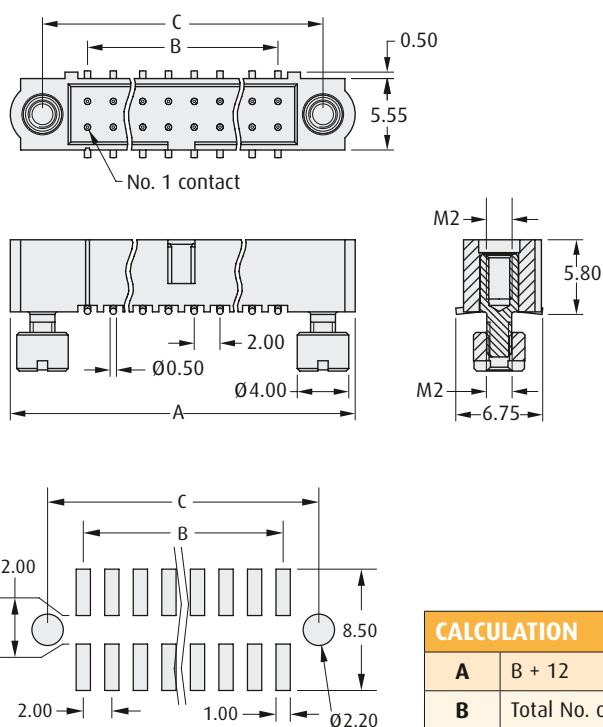
# Datamate Connectors

## Male Surface Mount with Board Mount

- 3.5mm jackscrew suitable for board thickness up to 1.6mm.
- 5mm jackscrew suitable for board thickness up to 3.2mm.
- Mates with female connectors shown on pages 26, 28-30 and 32-33.



### VERTICAL

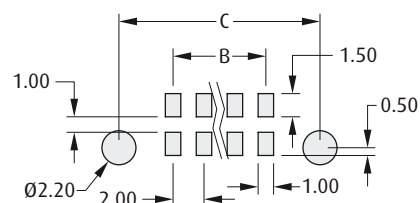
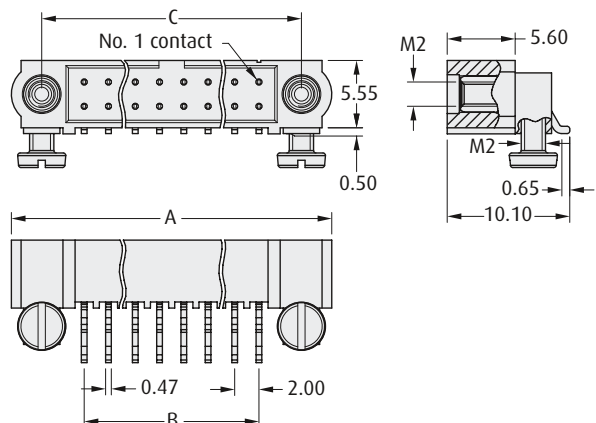


Recommended PC Board Pattern

### CALCULATION

<b>A</b>	$B + 12$
<b>B</b>	Total No. of contacts - 2
<b>C</b>	$B + 7$

### HORIZONTAL



Recommended PC Board Pattern

### HOW TO ORDER

**M80 - 5 X X XX XX P**

#### SERIES CODE

<b>1</b>	Vertical
<b>4</b>	Horizontal
<b>2</b>	3.5mm Jackscrew
<b>3</b>	5mm Jackscrew

#### TOTAL NO. OF CONTACTS

**04 to 50**

Even numbers only

#### PICK AND PLACE CAP

<b>BLANK</b>	No cap
<b>P</b>	Pick and place cap (M80-51X)

#### FINISH

<b>05</b>	Gold	PG
<b>22</b>	Gold + Tin/Lead	Pb
<b>42</b>	Gold + Tin	PG

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.

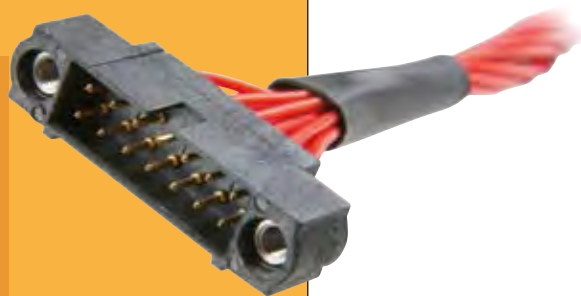


**HARWIN**

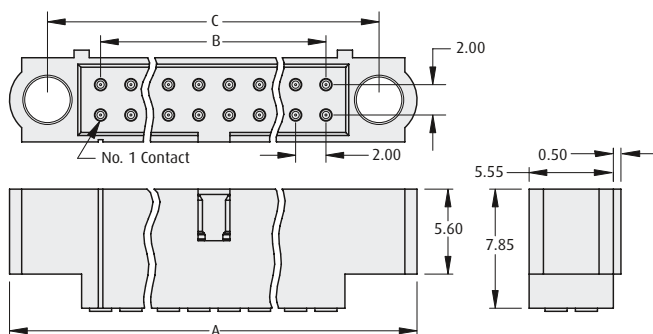
# Datamate Connectors

## Male Crimp

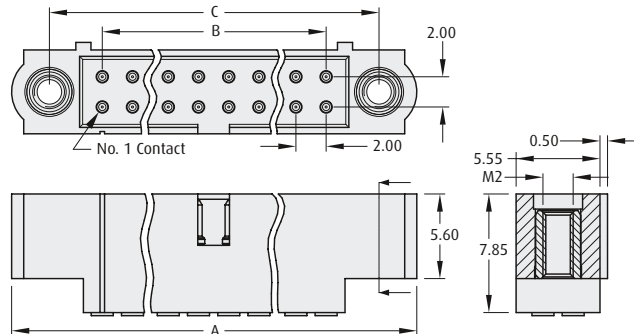
- ❖ Mates with female connectors shown on pages 26, 28-30 and 32-33.
- ❖ Jackscrews are assembled where specified.
- ❖ Crimp contacts supplied loose.
- ❖ Crimp contacts are rear insertable and replaceable.
- ❖ Large bore 22 AWG, small bore 24-28 AWG.
- ❖ Part numbers are for housings and the equivalent no. of contacts.
- ❖ Spare contacts are available – see page 17.



### WITHOUT JACKSCREWS



### WITH JACKSCREWS



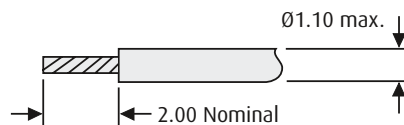
#### CALCULATION

<b>A</b>	$B + 12$
<b>B</b>	Total No. of contacts - 2
<b>C</b>	$B + 7$

### TOOLS

**Recommended Crimp Tool** – M22520/2-01  
**Positioner** – Z80-193  
**Contact Insertion/Removal Tool** – Z80-280  
 See pages 77 to 79  
 ➔ Instruction sheets available at [www.harwin.com/downloads/instructions](http://www.harwin.com/downloads/instructions)

### WIRE STRIPPING DETAILS



### HOW TO ORDER

**M80 - XXX XX 05**

#### SERIES CODE

#### TYPE

<b>560</b>	Large Bore, with Jackscrews	<b>570</b>	Large Bore, without Jackscrews
<b>561</b>	Small Bore, with Jackscrews	<b>571</b>	Small Bore, without Jackscrews

#### FINISH

<b>05</b>	Gold	
-----------	------	--

#### TOTAL NO. OF CONTACTS

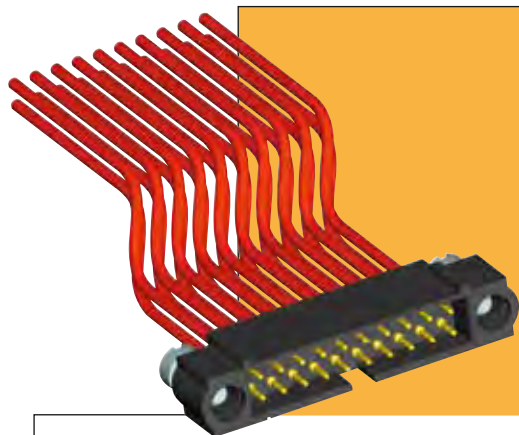
<b>04 to 50</b>
-----------------

Even numbers only

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)



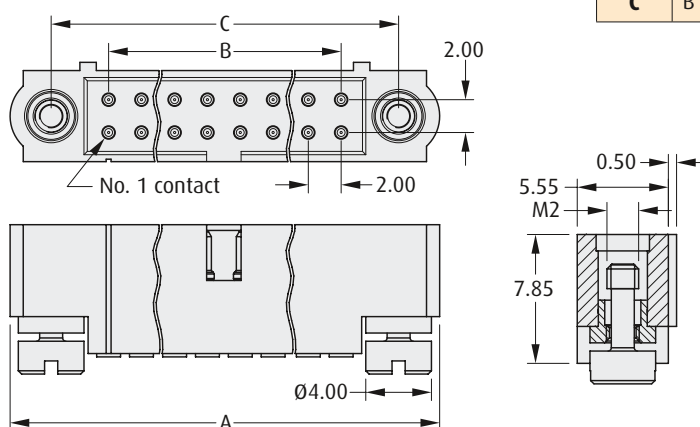


# Datamate Connectors

## Male Crimp Reverse Fix

- ✦ Mates with female connectors shown on pages 27, 30 and 31.
- ✦ Allows for further flexibility in system design.
- ✦ Crimp contacts supplied loose.
- ✦ Crimp contacts are rear insertable and replaceable.
- ✦ Large bore 22 AWG, small bore 24-28 AWG.
- ✦ Part numbers are for housings and the equivalent number of contacts.
- ✦ Spare contacts are available – see page 17.

### WITH JACKSCREWS



### CALCULATION

<b>A</b>	$B + 12$
<b>B</b>	Total No. of contacts – 2
<b>C</b>	$B + 7$

### TOOLS

**Recommended Crimp Tool** – M22520/2-01

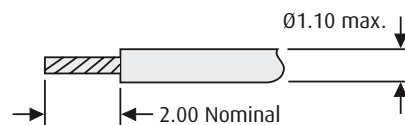
**Positioner** – Z80-193

**Contact Insertion/Removal Tool** – Z80-280

See pages 77 to 79

✦ Instruction sheets available at [www.harwin.com/downloads/instructions](http://www.harwin.com/downloads/instructions)

### WIRE STRIPPING DETAILS



### HOW TO ORDER

**M80 - XXX XX 05**

#### SERIES CODE

#### TYPE

<b>562</b>	Large Bore Connector
<b>563</b>	Small Bore Connector

#### FINISH

**05**

Gold



#### TOTAL NO. OF CONTACTS

**04 to 50**

Even numbers only

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.

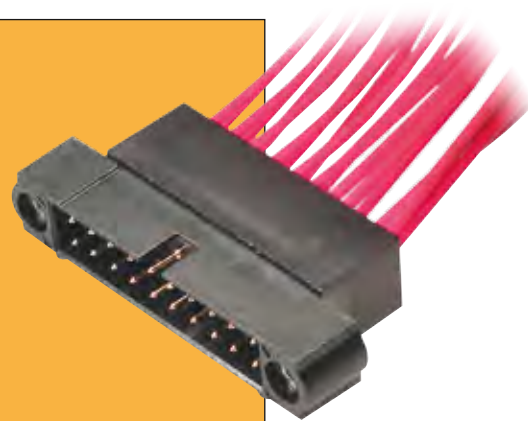


# HARWIN

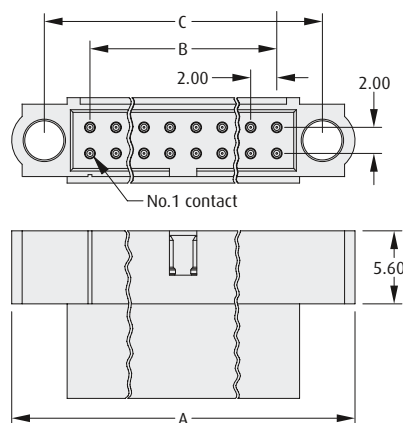
# Datamate Connectors

## Male Crimp Extended Wall

- ❖ Extended Wall Datamate allows back potting to be performed.
- ❖ Cost effective alternative to overmoulding.
- ❖ Fully shrouded contacts.
- ❖ Large bore 22 AWG, small bore 24-28 AWG.
- ❖ Part numbers are for housings and the equivalent no. of contacts.
- ❖ Mates with female connectors shown on pages 26, 28-30 and 32-33.
- ❖ Spare contacts are available – see page 17.

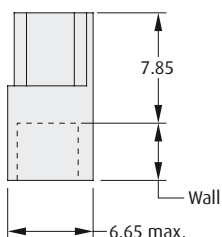


### WITHOUT JACKSCREWS

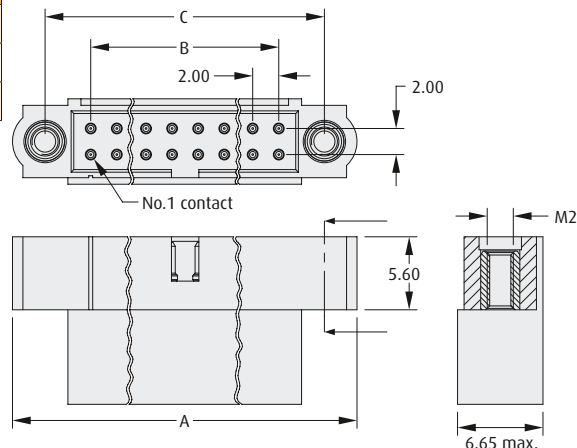


#### CALCULATION

<b>A</b>	$B + 12$
<b>B</b>	Total No. of contacts - 2
<b>C</b>	$B + 7$



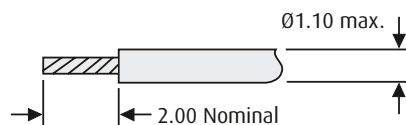
### WITH JACKSCREWS



### TOOLS

**Recommended Crimp Tool** – M22520/2-01  
**Positioner** – T5747  
**Contact Insertion/Removal Tool** – Z80-280  
 See pages 77 to 79  
 ❖ Instruction sheets available at [www.harwin.com/downloads/instructions](http://www.harwin.com/downloads/instructions)

### WIRE STRIPPING DETAILS



### HOW TO ORDER

**M80 - XXX XX 05**

#### SERIES CODE

#### TYPE

<b>565</b>	Large Bore, with Jackscrews	<b>575</b>	Large Bore, without Jackscrews
<b>566</b>	Small Bore, with Jackscrews	<b>576</b>	Small Bore, without Jackscrews

#### WALL SIZE

<b>BLANK</b>	Wall = 5mm
<b>A</b>	Wall = 1mm

#### FINISH

**05** Gold

#### TOTAL NO. OF CONTACTS

**06, 10, 14, 20, 26, 34**

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)

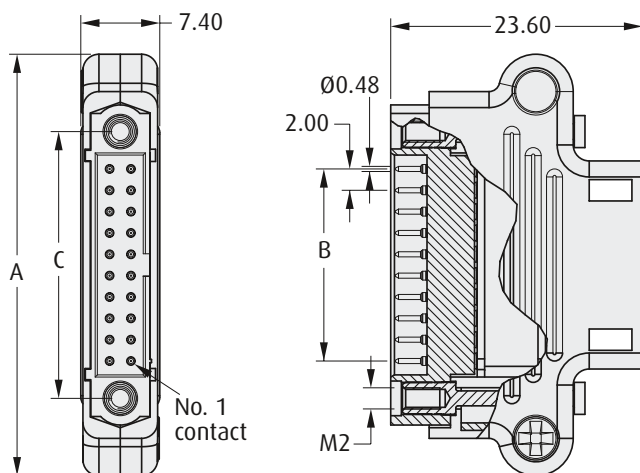


# Datamate Connectors

## Male Crimp with Hood

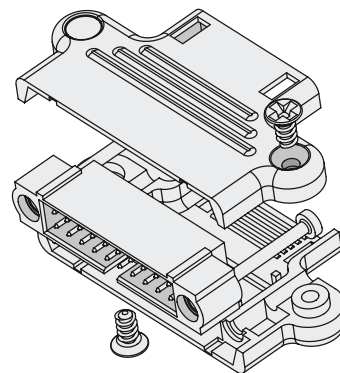
- ❖ Supplied as a complete kit, including hood, screws, connector, contacts and jackscrews.
- ❖ For spare crimp contacts, see page 17.
- ❖ Provides strain relief by preventing cable bending at the rear of the connector, and also the option of inserting a cable tie to reduce pull strain.
- ❖ Mates with female connectors shown on pages 26, 28-30 and 32-33.

### MALE



#### CALCULATION

<b>A</b>	$B + 21.5$
<b>B</b>	Total No. of contacts - 2
<b>C</b>	$B + 7$



### TOOLS

**Recommended Crimp Tool** - M22520/2-01

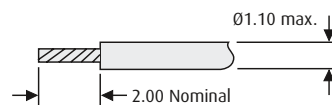
**Positioner** - Z80-193

**Contact Insertion/Removal Tool** - Z80-280

See pages 77 to 79

❖ Instruction sheets available at [www.harwin.com/downloads/instructions](http://www.harwin.com/downloads/instructions)

### WIRE STRIPPING DETAILS



### HOW TO ORDER

**M80 - 94 X XX XX**

#### SERIES CODE

#### TYPE

<b>2</b>	Small Bore
<b>3</b>	Large Bore

#### FINISH

**05**

Gold



#### TOTAL NO. OF CONTACTS

**06, 10, 12, 14, 20, 26, 34, 42, 50**

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.



# HARWIN

## Datamate Connectors

## Mixed Technology Series

## PART NUMBERING SYSTEM

**M80 - X #X XX XX #X - XX - XXX - XX - XXX**

## PRODUCT RANGE

## GENDER

4	Female (Socket)
5	Male (Plug)






## SIGNAL CONTACT STYLE

00	No Signal Contacts
T1	Vertical PC Tail, 3mm tail
T2	Vertical PC Tail, 4.5mm tail
L1	Horizontal PC Tail, 3mm tail (Male only)
L2	Horizontal PC Tail, 4.5mm tail (Male only)
C1	Crimp 24-28 AWG (Small Bore)
D1	Crimp 22 AWG (Large Bore)
S1	Vertical Surface Mount
S2	Horizontal Surface Mount (Male only)

## NO. OF SIGNAL CONTACTS

00, 02 to 50 (Must be even number)

## SIGNAL CONTACT FINISH

	00	No Signal Contacts	
	01	Gold + Tin/Lead	Female PC Tail only
	05	Gold	
	22	Gold + Tin/Lead	Male PC Tail only
	42	Gold + Tin	All PC Tail & Female Crimp

## PART NUMBER OF SPECIAL CONTACTS AFTER FINAL SIGNAL CONTACT

See page 47, or 000 if none loaded

## NUMBER OF SPECIAL CONTACTS AFTER FINAL SIGNAL CONTACT

00 to 12

## PART NUMBER OF SPECIAL CONTACTS BEFORE SIGNAL CONTACT NO. 1

See page 47, or 000 if none loaded

## NUMBER OF SPECIAL CONTACTS BEFORE SIGNAL CONTACT NO. 1

00 to 12

## JACKSCREW VARIANT

00	None assembled
Fx	Female jackscrews – see page 45
Mx	Male jackscrews – see page 46

Note: If special contacts are being ordered separately, and cavities in mould are to be left empty, then the Special Contact part numbers should be 000.

## EXAMPLES:

**M80-5T11422M1-02-311-02-311**

DIL Male Vertical with Jackscrew, no board mount, 3mm PC Tail – 2 Coax, 14 Signal, 2 Coax.

**M80-4C12005F1-04-326-00-000**

DIL Female Crimp with Slotted Hex Jackscrews, Small Bore – 4 Power (for 14 AWG), 20 Signal.

**M80-4D11042F2-04-305-02-308**

DIL Female Crimp with Hex Socket Jackscrews, Large Bore – 4 Special cavity, 10 Signal, 2 Special cavity.

Supplied with 4-off Female Straight Crimp Coax for Ø2mm cable, and 2-off Female 90° Crimp Coax for Ø2mm cable.

Max. number of contacts per connector: Special contacts only – 12 off, Signal contacts only – 50 off.

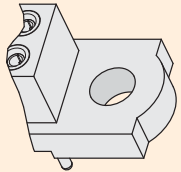
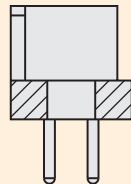
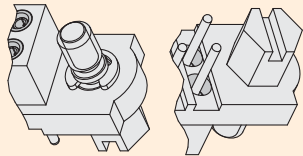
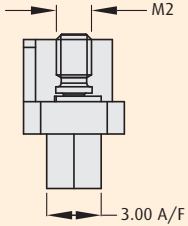
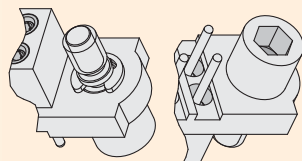
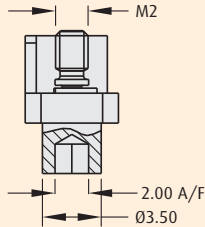
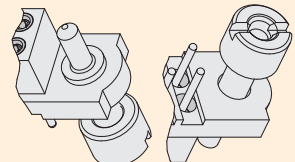
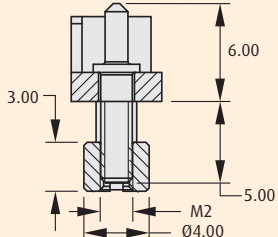
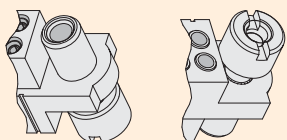
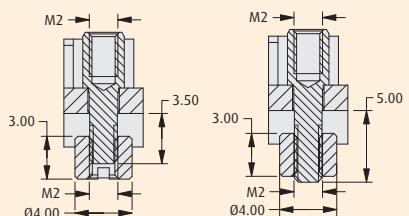
All dimensions in mm.

[www.harwin.com](http://www.harwin.com)





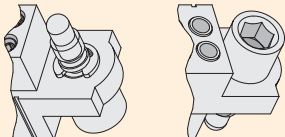
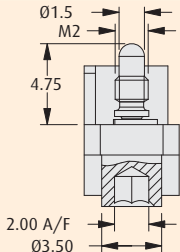
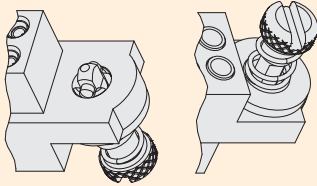
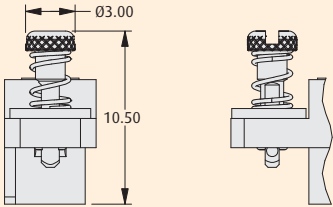

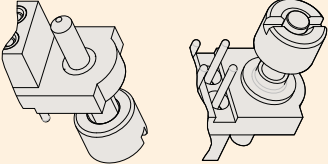
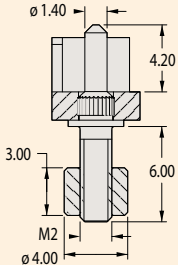
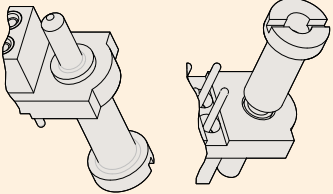
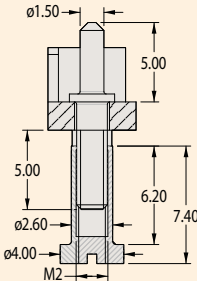
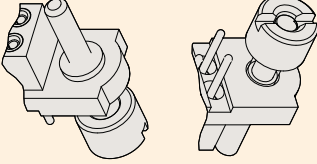
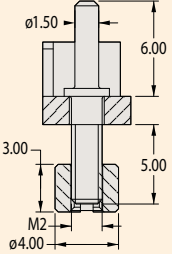
## FEMALE

00			None assembled
F1			Hexagonal Slotted Jackscrew (floating)
F2			Hexagonal Socket Jackscrew (floating)
F3			Ø1.4mm Guide Pin with 5mm Panel Mount (floating), slotted nut
F8 or F9			Reverse Fix Jackscrew with slotted nut F8 = 3.50mm stud length F9 = 5.00mm stud length

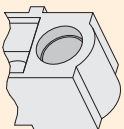
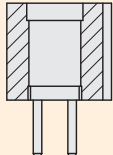
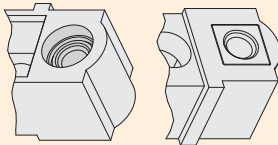
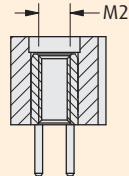
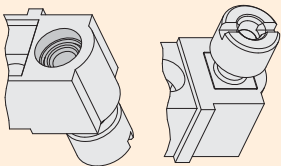
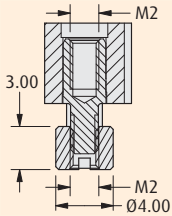
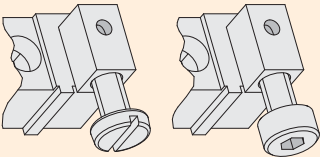
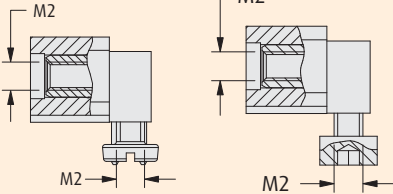
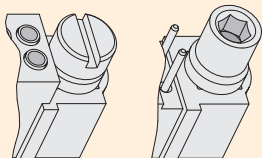
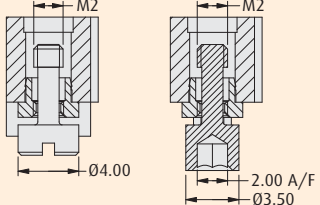
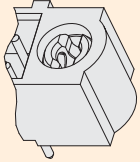
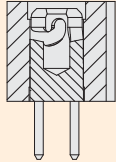

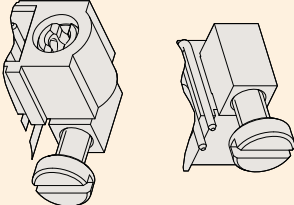
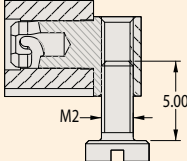

# JACKSCREWS

# Datamate

## FEMALE

FB			Hexagonal Socket Jackscrew (floating) with Guide Pin
FC			 <b>Lok</b> Jackscrew
FJ			Ø1.4mm Guide Pin with 6mm Panel Mount, slotted nut
FN			Ø1.5mm Guide Pin with 6.2mm Panel Mount (floating), sleeved nut
FP			Ø1.5mm Guide Pin with 5mm Panel Mount (floating), slotted nut

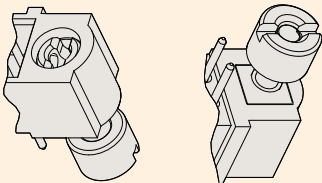
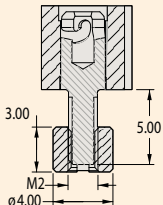
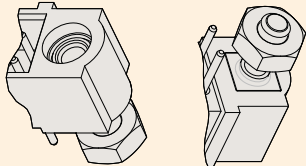
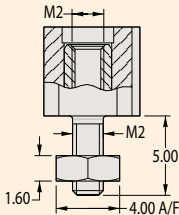
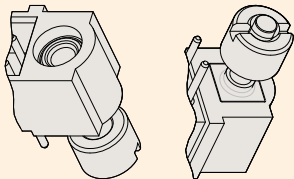
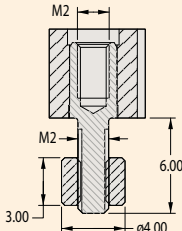
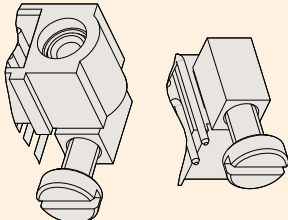
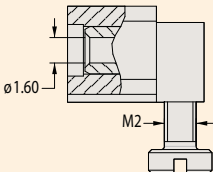
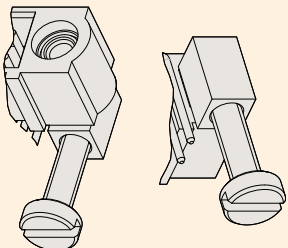
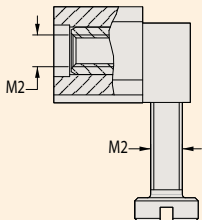
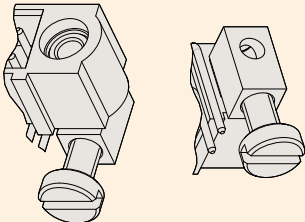
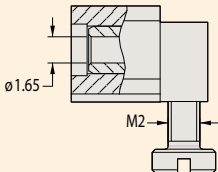
## MALE

00			None assembled
M1			Jackscrew fixing only
M2 or M3			Jackscrew with Vertical Board Mount stud, slotted nut  M2 = 3.5mm stud length M3 = 5mm stud length
M5 or M7			Jackscrew with Horizontal Board Mount, 5mm bolt length  M5 = slotted bolt M7 = Hex Socket Bolt
MA or MB			Reverse Fix Jackscrew  MA = slotted head MB = hexagonal socket
MC			 <b>Lok</b> Jackscrew Retainer
MD			 <b>Lok</b> Jackscrew Retainer with Horizontal Board Mount, 5mm slotted bolt

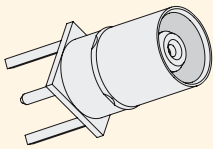
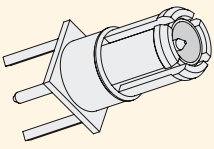
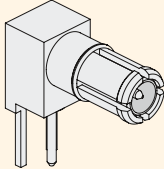
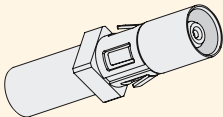
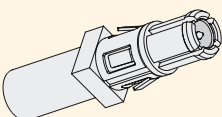
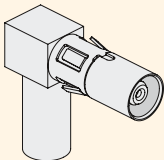
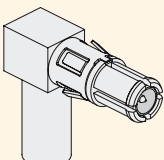
# JACKSCREWS

# Datamate

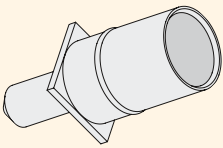
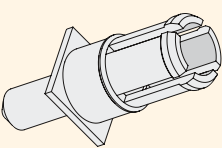
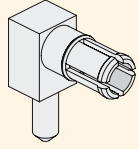
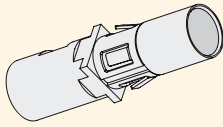
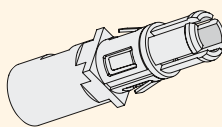
## MALE

ME			<b>101 Lok</b> Jackscrew Retainer with 5mm Vertical Board Mount stud, slotted nut
MF			Jackscrew with 5mm Vertical Board Mount stud, hexagonal nut
MH			Jackscrew with 6mm Vertical Board Mount stud, slotted nut
ML			ø1.6mm Guide Socket with Horizontal Board Mount, 5mm slotted bolt
MN			Jackscrew with Horizontal Board Mount, 10mm slotted bolt
MP			ø1.65mm Guide Socket (through-hole) with Horizontal Board Mount, 5mm slotted bolt

## COAX

FEMALE			MALE		
301 or 302		Vertical PC Tail 301 = 3.00mm tail 302 = 4.50mm tail	311 or 312		Vertical PC Tail 311 = 3.00mm tail 312 = 4.50mm tail
			313 or 314		Horizontal PC Tail 313 = 3.00mm tail 314 = 4.50mm tail
305 306 307		Straight Crimp 305 = Ø2.00mm cable 306 = Ø2.40mm cable 307 = Ø2.70mm cable	315 316 317		Straight Crimp 315 = Ø2.00mm cable 316 = Ø2.40mm cable 317 = Ø2.70mm cable
308 or 309		90° Crimp 308 = Ø2.00mm cable 309 = Ø2.70mm cable	318 or 319		90° Crimp 318 = Ø2.00mm cable 319 = Ø2.70mm cable

## POWER

FEMALE			MALE		
321 or 322		Vertical PC Tail 321 = 3.50mm tail 322 = 5.00mm tail	331 or 332		Vertical PC Tail 331 = 3.50mm tail 332 = 5.00mm tail
			333 or 334		Horizontal PC Tail 333 = 3mm tail 334 = 4.50mm tail
325 326 327		Straight Solder 325 = 12 AWG cable 326 = 14 AWG cable 327 = 16 AWG cable	335 336 337		Straight Solder 335 = 12 AWG cable 336 = 14 AWG cable 337 = 16 AWG cable

[www.harwin.com](http://www.harwin.com)


## Special Contacts

## SPECIFICATION

## ❖ Materials

Latching collar:	Beryllium copper, nickel plated
Other metallic parts:	Copper alloy, Gold plated
Insulator:	PTFE

## ❖ Electrical

Frequency range:	6 GHz (depending on cable)
Impedance:	50 Ohms
V.S.W.R.:	< 1.05 + 0.04 F (GHz)
Operating voltage (sea level):	180 V a.c. at 500 mA
Maximum voltage (sea level):	1000 V <sub>rms</sub>
Contact resistance:	6 Milliohms max
Insulation resistance:	106 Megohms at 250 V <sub>rms</sub>

## ❖ Mechanical

Endurance:	500 cycles
Insertion force:	5N max, 0.6N min
Withdrawal force:	2N max, 0.5N min
Contact replacement in connector:	5 times

## ❖ Environmental

Operating temperature:	-55°C to +125°C
Salt spray test:	96 hrs
Humidity test:	56 days

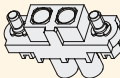
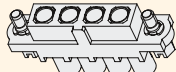
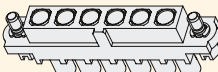
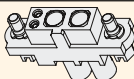
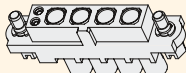
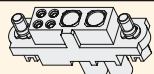
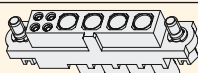
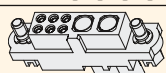
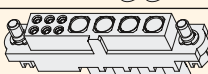


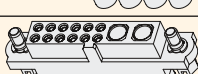
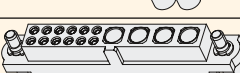

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)

# Datamate Connectors

## Female Cable, Standard Variations

- ❖ A selection of stocked Mix-Tek Datamate standard layouts.
- ❖ Jackscrew style is Hexagonal slotted.
- ❖ See page 52 for dimensions.
- ❖ Crimp tooling available, see pages 77 and 79.

ORDER CODE	SIGNAL CONTACTS	SPECIAL CONTACTS (POWER)	LAYOUT
M80-4000000F1-02-325-00-000	None	2 x 12 AWG solder	
M80-4000000F1-04-325-00-000	None	4 x 12 AWG solder	
M80-4000000F1-06-327-00-000	None	6 x 16 AWG solder	
M80-4C10205F1-02-325-00-000	2 x 24-28 AWG crimp	2 x 12 AWG solder	
M80-4C10205F1-04-325-00-000	2 x 24-28 AWG crimp	4 x 12 AWG solder	
M80-4C10405F1-02-325-00-000	4 x 24-28 AWG crimp	2 x 12 AWG solder	
M80-4C10405F1-04-325-00-000	4 x 24-28 AWG crimp	4 x 12 AWG solder	
M80-4C10605F1-02-325-00-000	6 x 24-28 AWG crimp	2 x 12 AWG solder	
M80-4C10605F1-04-325-00-000	6 x 24-28 AWG crimp	4 x 12 AWG solder	
M80-4C10805F1-02-325-00-000	8 x 24-28 AWG crimp	2 x 12 AWG solder	
M80-4C10805F1-04-325-00-000	8 x 24-28 AWG crimp	4 x 12 AWG solder	
M80-4C11205F1-02-325-00-000	12 x 24-28 AWG crimp	2 x 12 AWG solder	
M80-4C11205F1-04-325-00-000	12 x 24-28 AWG crimp	4 x 12 AWG solder	
M80-4D10642F1-00-000-04-327	6 x 22 AWG crimp	4 x 16 AWG solder	

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.



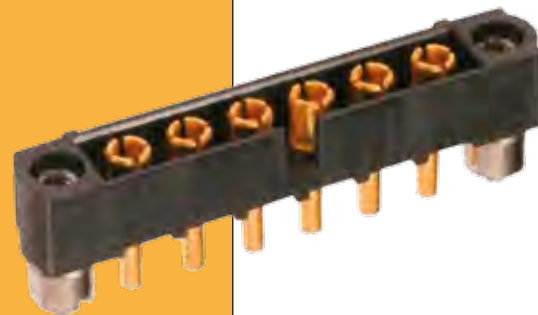
# HARWIN



# Datamate Connectors

## Male Vertical PC Tail, Standard Variations

- ❖ A selection of stocked Mix-Tek Datamate standard layouts.
- ❖ Jackscrew styles are detailed on page 46.
- ❖ See page 53 for connector dimensions.

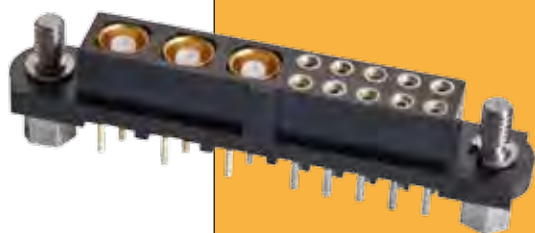


ORDER CODE	SIGNAL CONTACTS	SPECIAL CONTACTS (POWER)	LAYOUT
M80-5000000M1-02-331-00-000	None	2 x 3.5mm PC Tail	
M80-5000000M1-04-331-00-000	None	4 x 3.5mm PC Tail	
M80-5000000M3-06-332-00-000	None	6 x 5mm PC Tail	
M80-5T10205M1-02-331-00-000	2 x 3mm PC Tail	2 x 3.5mm PC Tail	
M80-5T10205M1-04-331-00-000	2 x 3mm PC Tail	4 x 3.5mm PC Tail	
M80-5T10405M1-02-331-00-000	4 x 3mm PC Tail	2 x 3.5mm PC Tail	
M80-5T10405M1-04-331-00-000	4 x 3mm PC Tail	4 x 3.5mm PC Tail	
M80-5T10605M1-02-331-00-000	6 x 3mm PC Tail	2 x 3.5mm PC Tail	
M80-5T10605M1-04-331-00-000	6 x 3mm PC Tail	4 x 3.5mm PC Tail	
M80-5T10805M1-02-331-00-000	8 x 3mm PC Tail	2 x 3.5mm PC Tail	
M80-5T10805M1-04-331-00-000	8 x 3mm PC Tail	4 x 3.5mm PC Tail	
M80-5T11205M1-02-331-00-000	12 x 3mm PC Tail	2 x 3.5mm PC Tail	
M80-5T11205M1-04-331-00-000	12 x 3mm PC Tail	4 x 3.5mm PC Tail	
M80-5T10642M2-00-000-04-331	6 x 3mm PC Tail	4 x 3.5mm PC Tail	

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)



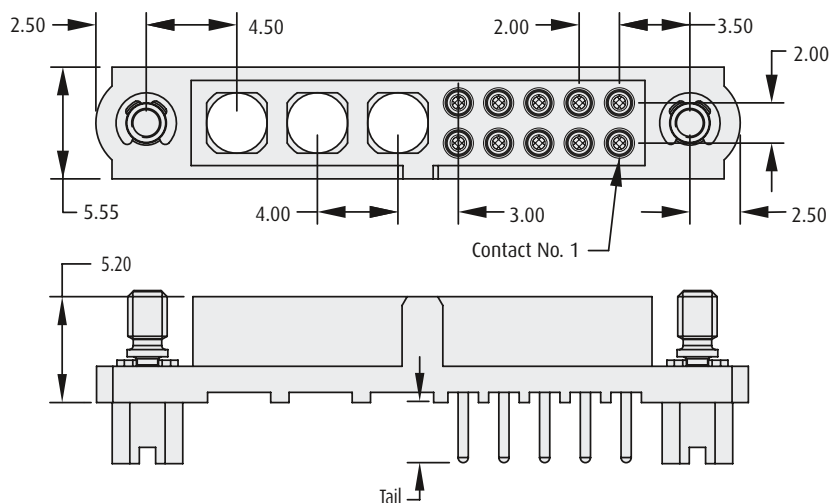


# Datamate Connectors

## Female Vertical PC Tail

- ❖ Customer defined contact configurations.
- ❖ Jackscrews assembled where specified.
- ❖ Fully shrouded contacts.
- ❖ Polarised mouldings.
- ❖ Mates with connectors shown on pages 53 to 55.
- ❖ Special contacts are assembled where specified.
- ❖ For loose special contacts see pages 56 and 60.

### NON-SYMMETRICAL CONTACT CONFIGURATION

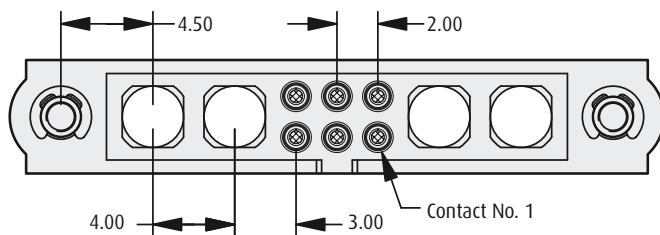


Shown with F1 jackscrews assembled.

#### EXAMPLE OF PART NUMBER

**M80-4TX10XXXX-00-000-03-XXX**

### SYMMETRICAL CONTACT CONFIGURATION

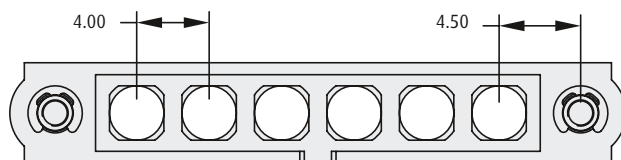


Shown with F1 jackscrews assembled.

#### EXAMPLE OF PART NUMBER

**M80-4TX06XXXX-02-XXX-02-XXX**

### SPECIAL CONTACTS ONLY



Shown with F1 jackscrews assembled.

#### EXAMPLE OF PART NUMBER

**M80-4000000XX-06-XXX-00-000**

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.

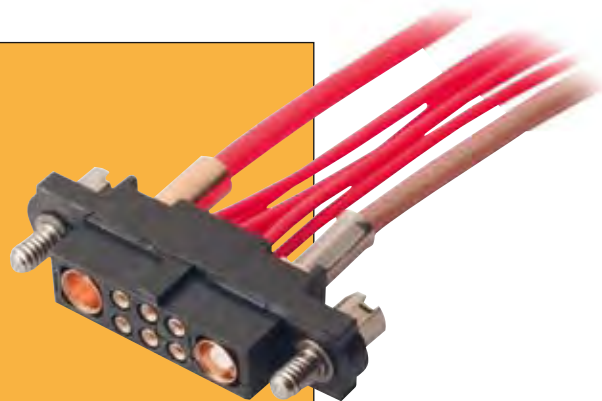


# HARWIN

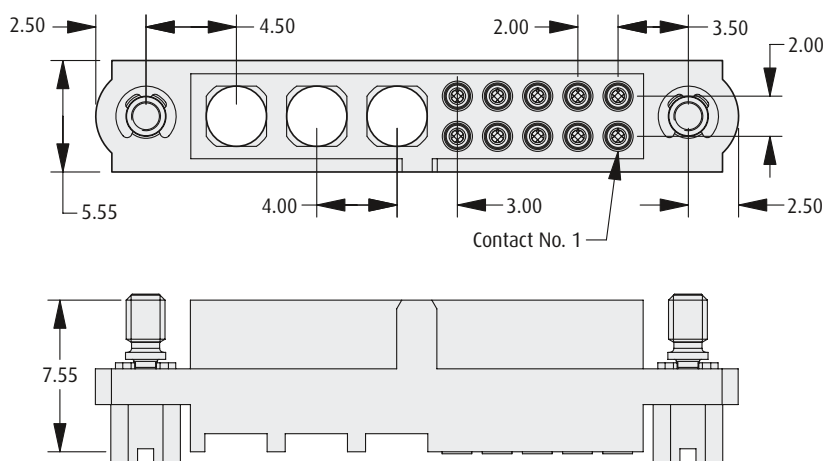
# Datamate Connectors

## Female Crimp

- ❖ Customer defined contact configurations.
- ❖ Large bore 22 AWG, small bore 24-28 AWG signal contacts – see page 16.
- ❖ Jackscrews are assembled where specified.
- ❖ Signal contacts are supplied loose and are rear insertable.
- ❖ Mates with connectors shown on pages 53 to 55.



### NON-SYMMETRICAL CONTACT CONFIGURATION

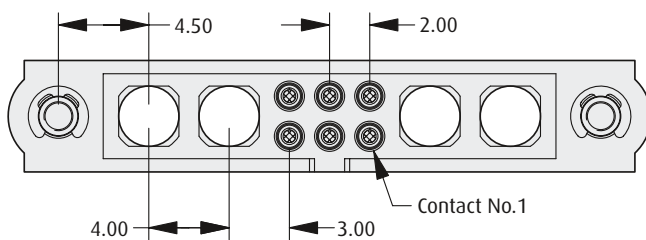


Shown with F1 jackscrews assembled.

#### EXAMPLE OF PART NUMBER

**M80-4X110XXXX-00-000-03-XXX**

### SYMMETRICAL CONTACT CONFIGURATION

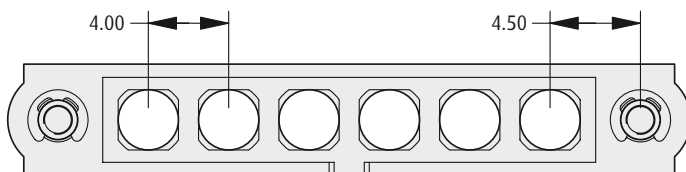


Shown with F1 jackscrews assembled.

#### EXAMPLE OF PART NUMBER

**M80-4X106XXXX-02-XXX-02-XXX**

### SPECIAL CONTACTS ONLY



Shown with F1 jackscrews assembled.

#### EXAMPLE OF PART NUMBER

**M80-4000000XX-06-XXX-00-000**

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)



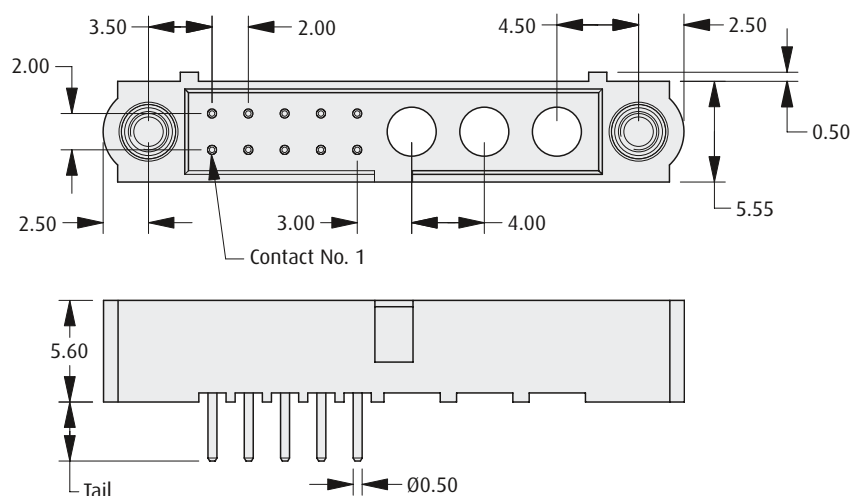
# Datamate Connectors

## Male Vertical PC Tail



- ❖ Customer defined contact configurations.
- ❖ Jackscrews are assembled where specified.
- ❖ Special contacts are assembled where specified.
- ❖ For loose special contacts see pages 58 and 61.
- ❖ Mates with connectors shown on pages 51 to 52.

### NON-SYMMETRICAL CONTACT CONFIGURATION

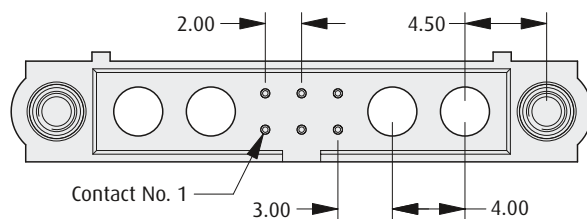


Shown with F1 jackscrews assembled.

#### EXAMPLE OF PART NUMBER

**M80-5TX10XXXX-00-000-03-XXX**

### SYMMETRICAL CONTACT CONFIGURATION

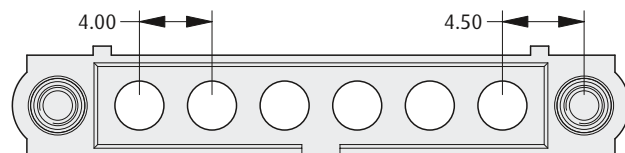


Shown with F1 jackscrews assembled.

#### EXAMPLE OF PART NUMBER

**M80-5TX06XXXX-02-XXX-02-XXX**

### SPECIAL CONTACTS ONLY



Shown with F1 jackscrews assembled.

#### EXAMPLE OF PART NUMBER

**M80-5000000XX-06-XXX-00-000**

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.

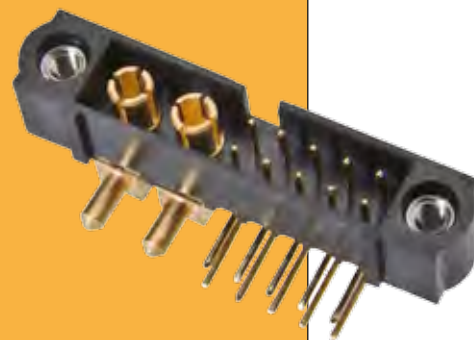


# HARWIN

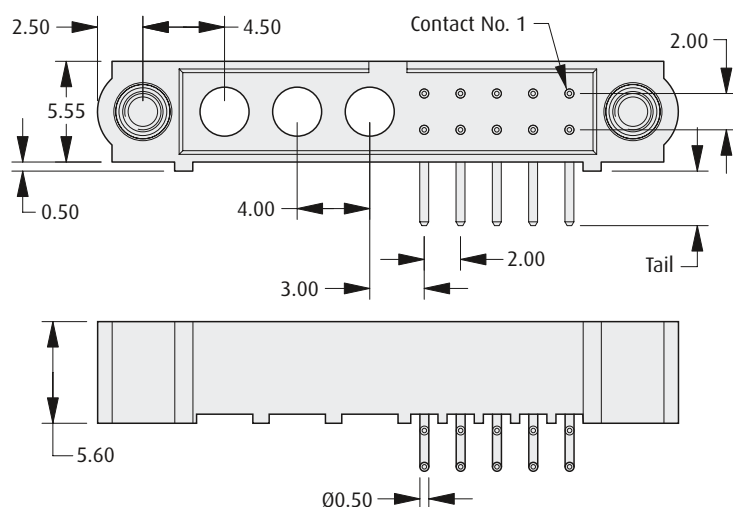
# Datamate Connectors

## Male Horizontal PC Tail

- ❖ Jackscrews are assembled where specified.
- ❖ For loose special contacts see pages 58 and 61.
- ❖ Mates with connectors shown on pages 51 to 52.



### NON-SYMMETRICAL CONTACT CONFIGURATION

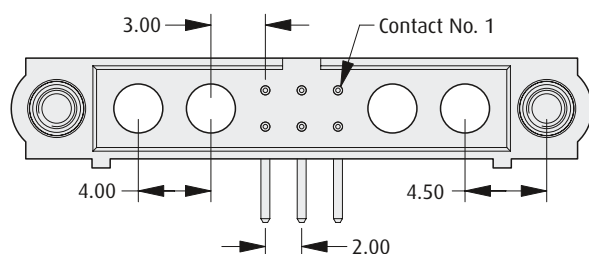


Shown with F1 jackscrews assembled.

#### EXAMPLE OF PART NUMBER

**M80-5LX10XXXX-00-000-03-XXX**

### SYMMETRICAL CONTACT CONFIGURATION

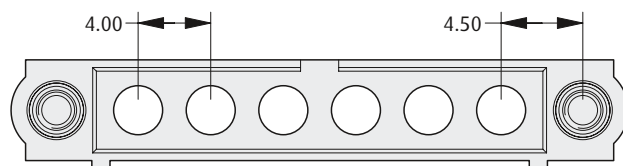


Shown with F1 jackscrews assembled.

#### EXAMPLE OF PART NUMBER

**M80-5LX06XXXX-02-XXX-02-XXX**

### SPECIAL CONTACTS ONLY



Shown with F1 jackscrews assembled.

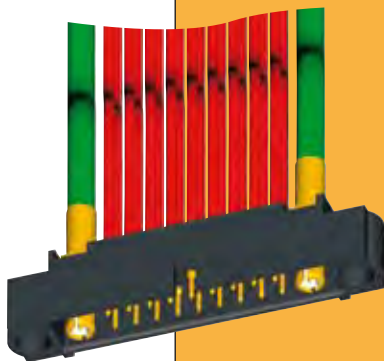
#### EXAMPLE OF PART NUMBER

**M80-5000000XX-06-XXX-00-000**

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)





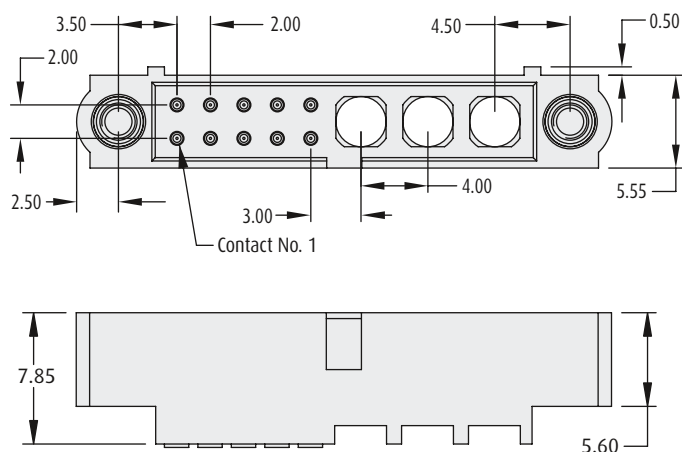
# Datamate Connectors

## Male Crimp

- ❖ Customer defined contact configurations.
- ❖ Large bore 22 AWG, small bore 24-28 AWG signal contacts – see page 17.
- ❖ Jackscrews are assembled where specified.
- ❖ Signal contacts are supplied loose and are rear insertable.
- ❖ Mates with connectors shown on pages 51 to 52.

### NON-SYMMETRICAL CONTACT CONFIGURATION

Shown with F1 jackscrews assembled.

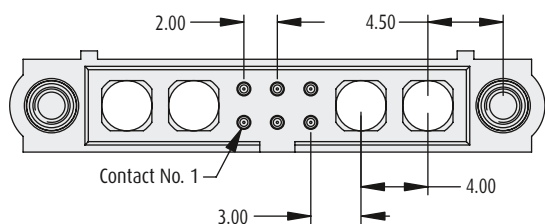


#### EXAMPLE OF PART NUMBER

**M80-5X110XXXX-00-000-03-XXX**

### SYMMETRICAL CONTACT CONFIGURATION

Shown with F1 jackscrews assembled.

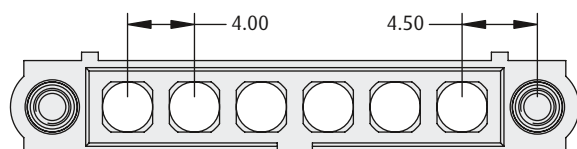


#### EXAMPLE OF PART NUMBER

**M80-5X106XXXX-02-XXX-02-XXX**

### SPECIAL CONTACTS ONLY

Shown with F1 jackscrews assembled.



#### EXAMPLE OF PART NUMBER

**M80-5000000XX-06-XXX-00-000**

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.



# HARWIN

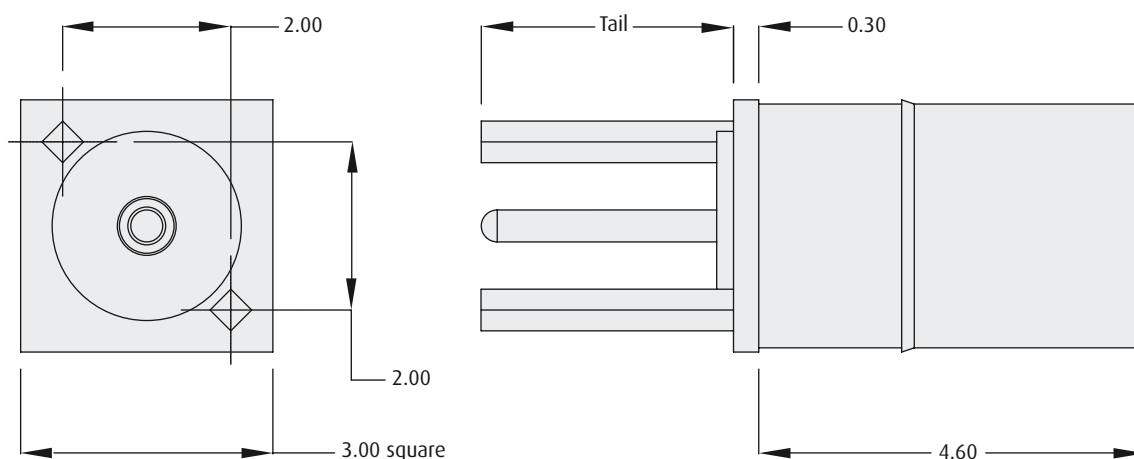
# Coax Contacts

## Female PC Tail

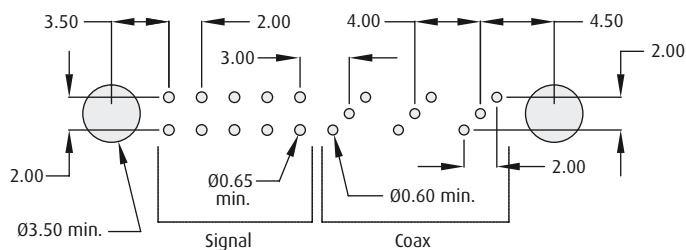
- ❖ 6 GHz coaxial performance.
- ❖ 50 Ohms impedance.



### VERTICAL



TAIL LENGTH	ORDER CODE (LOOSE)	PART CODE (FITTED)
3.0mm	<b>M80-301</b>	<b>301</b>
4.5mm	<b>M80-302</b>	<b>302</b>



Pad Layout

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)





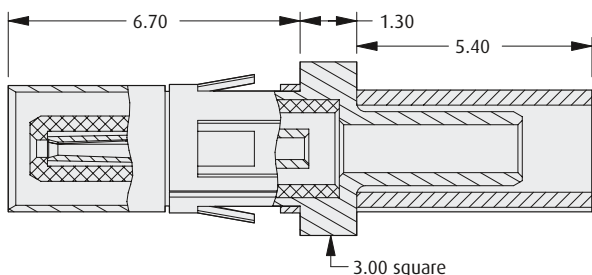


# Coax Contacts

## Female Crimp

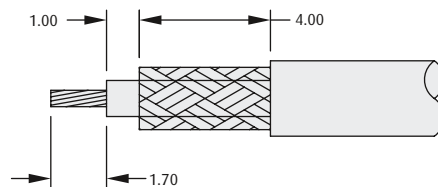
- ❖ 6 GHz co-axial performance.
- ❖ 50 Ohms impedance.
- ❖ Contacts are removable using extraction tool Z80-290 (see page 79).
- ❖ See page 8 for crimping instructions.

### CRIMP STRAIGHT

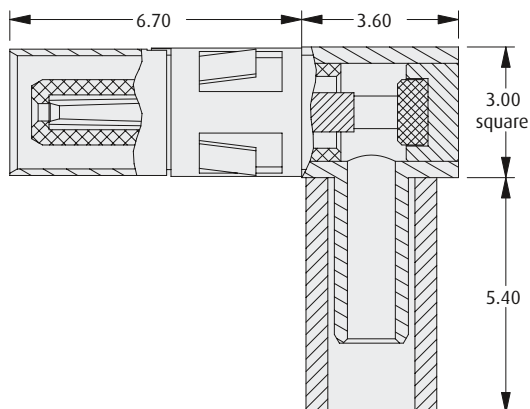


CABLE DIAMETER	ORDER CODE (LOOSE)	PART CODE (WITH ASSEMBLY)
2.0mm	<b>M80-305</b>	<b>305</b>
2.4mm	<b>M80-306</b>	<b>306</b>
2.7mm	<b>M80-307</b>	<b>307</b>

### WIRE STRIPPING DETAILS

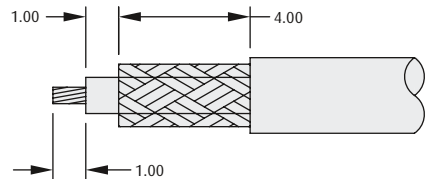


### CRIMP 90°



CABLE DIAMETER	ORDER CODE (LOOSE)	PART CODE (WITH ASSEMBLY)
2.0mm	<b>M80-308</b>	<b>308</b>
2.7mm	<b>M80-309</b>	<b>309</b>

### WIRE STRIPPING DETAILS



[www.harwin.com](http://www.harwin.com)

All dimensions in mm.

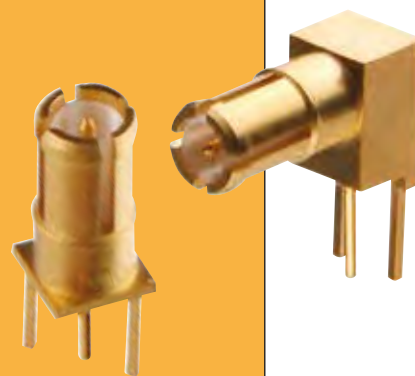


**HARWIN**

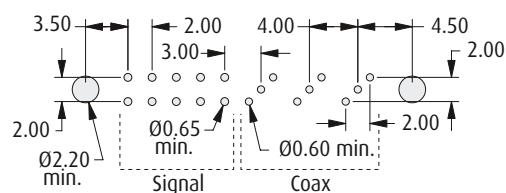
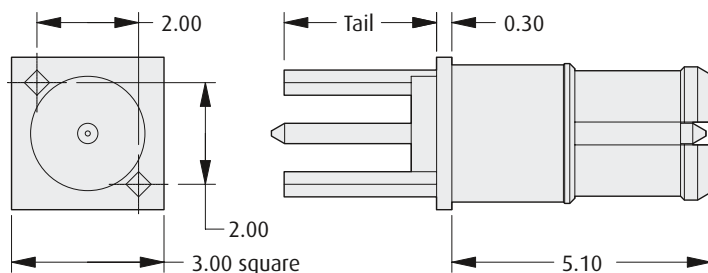
# Coax Contacts

## Male PC Tail

- ❖ 6 GHz coaxial performance.
- ❖ For specification see page 48.
- ❖ 50 Ohms impedance.

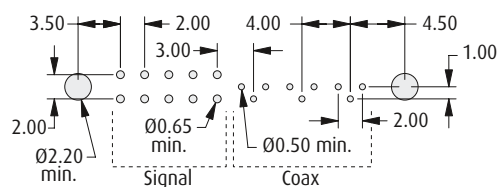
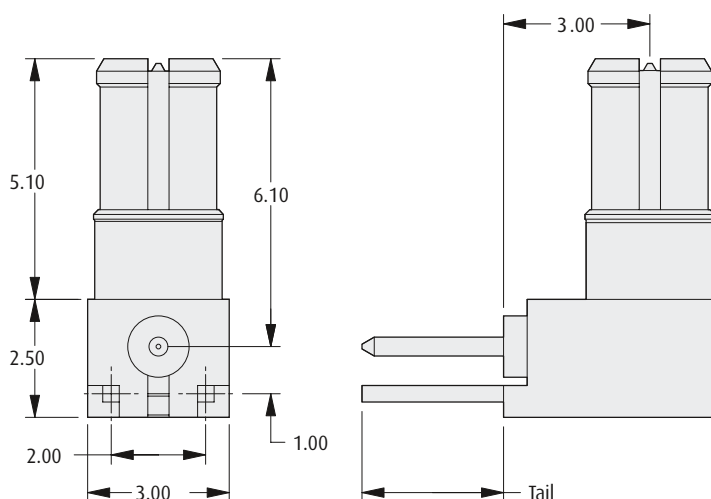


### VERTICAL



TAIL LENGTH	ORDER CODE (LOOSE)	PART CODE (FITTED)
3.0mm	<b>M80-311</b>	<b>311</b>
4.5mm	<b>M80-312</b>	<b>312</b>

### HORIZONTAL



TAIL LENGTH	ORDER CODE (LOOSE)	PART CODE (FITTED)
3.0mm	<b>M80-313</b>	<b>313</b>
4.5mm	<b>M80-314</b>	<b>314</b>

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)



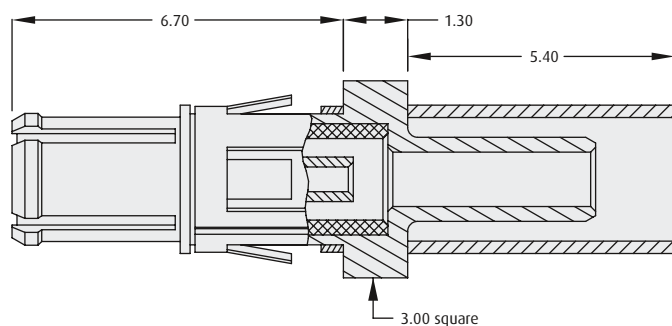


## Coax Contacts

### Male Crimp

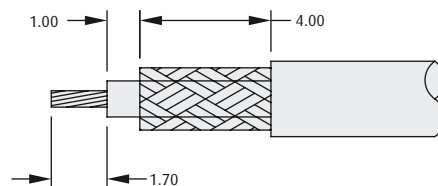
- ❖ 6 GHz co-axial performance.
- ❖ 50 Ohms impedance.
- ❖ Contacts are removable using extraction tool Z80-290 (see page 79).
- ❖ See page 8 for crimping instructions.

#### CRIMP STRAIGHT

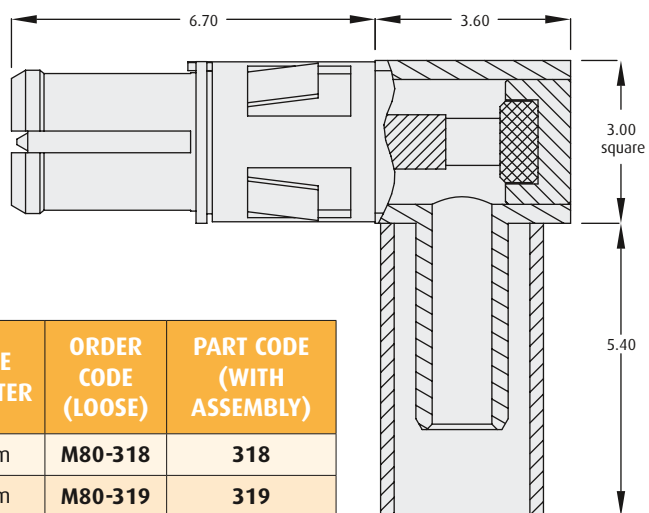


CABLE DIAMETER	ORDER CODE (LOOSE)	PART CODE (WITH ASSEMBLY)
2.0mm	<b>M80-315</b>	<b>315</b>
2.4mm	<b>M80-316</b>	<b>316</b>
2.7mm	<b>M80-317</b>	<b>317</b>

#### WIRE STRIPPING DETAILS

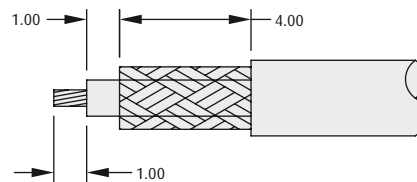


#### CRIMP 90°



CABLE DIAMETER	ORDER CODE (LOOSE)	PART CODE (WITH ASSEMBLY)
2.0mm	<b>M80-318</b>	<b>318</b>
2.7mm	<b>M80-319</b>	<b>319</b>

#### WIRE STRIPPING DETAILS



[www.harwin.com](http://www.harwin.com)

All dimensions in mm.



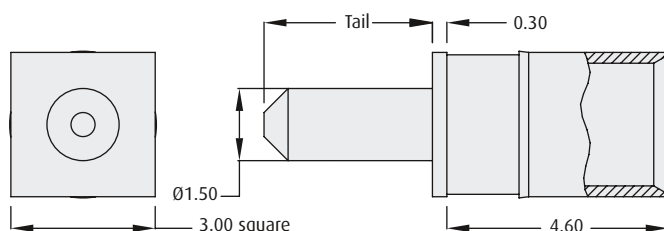
# Power Contacts

## Female

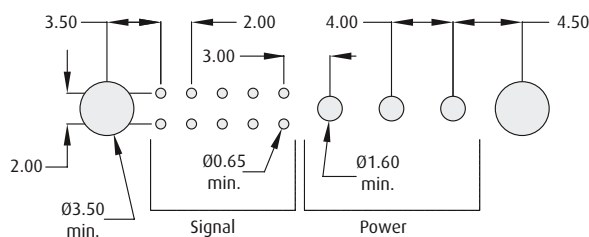
- ❖ 20A max current rating.
- ❖ Solder Contacts are removable using extraction tool Z80-290 (see page 79).



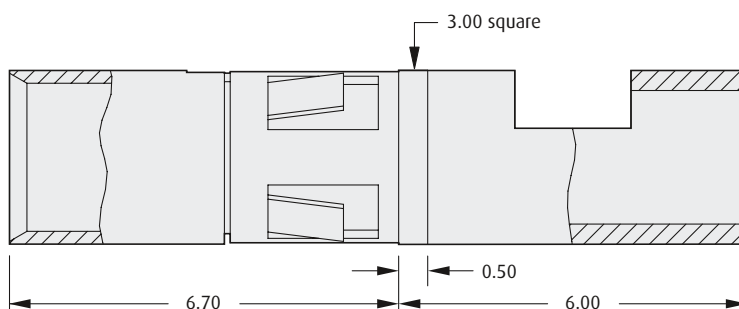
### VERTICAL PC TAIL



TAIL LENGTH	ORDER CODE (LOOSE)	PART CODE (FITTED)
3.5mm	<b>M80-321</b>	<b>321</b>
5.0mm	<b>M80-322</b>	<b>322</b>



### SOLDER STRAIGHT



CABLE DIAMETER (MAX)	AWG	CURRENT RATING	ORDER CODE (LOOSE)	PART CODE (WITH ASSEMBLY)
2.3mm	12	20A	<b>M80-325</b>	<b>325</b>
2.0mm	14	15A	<b>M80-326</b>	<b>326</b>
1.5mm	16	10A	<b>M80-327</b>	<b>327</b>

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)



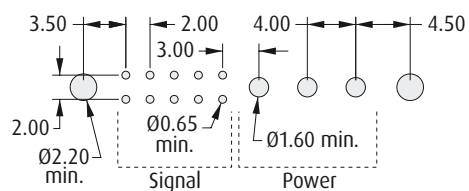
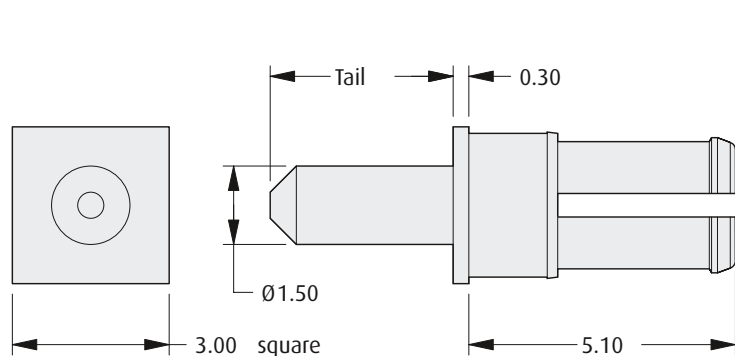


# Power Contacts

## Male PC Tail

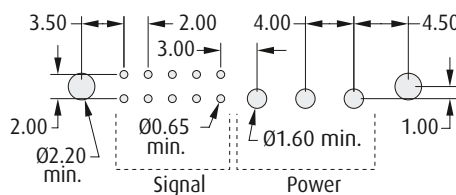
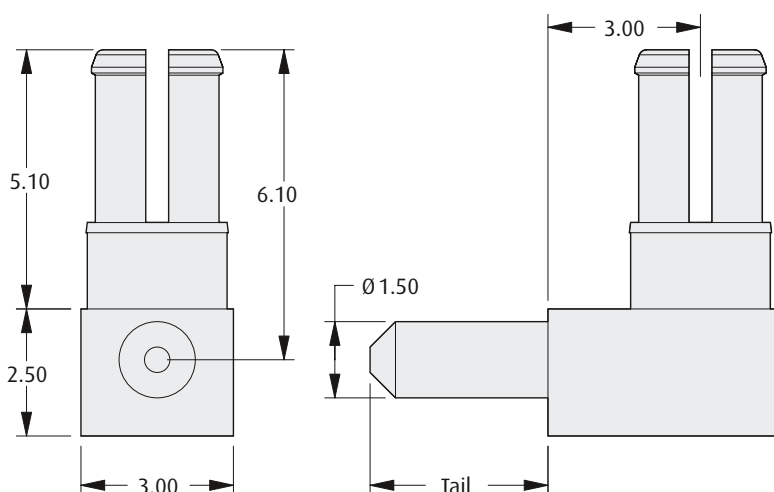
❖ 20A max current rating.

### VERTICAL



TAIL LENGTH	ORDER CODE (LOOSE)	PART CODE (FITTED)
3.5 mm	<b>M80-331</b>	<b>331</b>
5.0 mm	<b>M80-332</b>	<b>332</b>

### HORIZONTAL



TAIL LENGTH	ORDER CODE (LOOSE)	PART CODE (FITTED)
3.5 mm	<b>M80-333</b>	<b>333</b>
5.0 mm	<b>M80-334</b>	<b>334</b>

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.



**HARWIN**

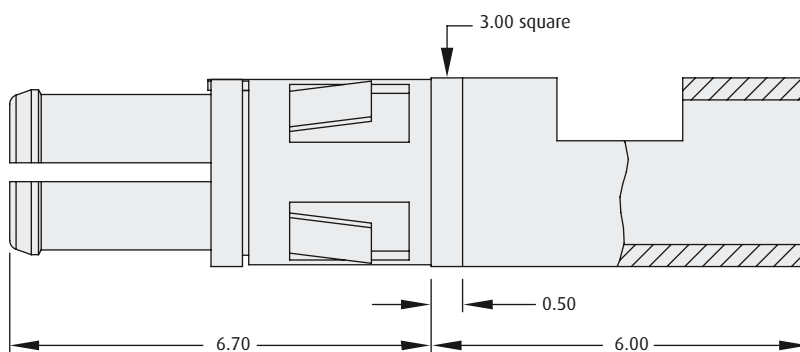
# Power Contacts

## Male Solder

- ❖ 20A max current rating.
- ❖ Contacts are removable using extraction tool Z80-290 (see page 79).

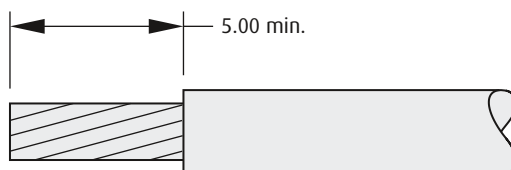


### MALE SOLDER STRAIGHT



CABLE DIAMETER (MAX)	AWG	CURRENT RATING	ORDER CODE (LOOSE)	PART CODE (WITH ASSEMBLY)
2.3mm	12	20A	<b>M80-335</b>	<b>335</b>
2.0mm	14	15A	<b>M80-336</b>	<b>336</b>
1.5mm	16	10A	<b>M80-337</b>	<b>337</b>

### WIRE STRIPPING DETAILS



All dimensions in mm.

[www.harwin.com](http://www.harwin.com)

## M83 Datamate Connectors

## Mixed Technology Series

## PART NUMBERING SYSTEM

**M83-L # #X #X N XX - AA BB - XXX**

## PRODUCT RANGE

## GENDER

<b>F</b>	Female (Socket)
<b>M</b>	Male (Plug)

## TERMINATION STYLE

<b>T1</b>	Vertical PC Tail, 3mm tail
<b>T2</b>	Vertical PC Tail, 4.5mm tail
<b>L3</b>	Horizontal PC Tail, 4mm tail (Male only)
<b>C1</b>	Crimp 24-28 AWG (Small Bore) (Female only)
<b>D1</b>	Crimp 22 AWG (Large Bore) (Female only)

## PART NUMBER OF SPECIAL CONTACT

See page 66, or 000 if none loaded

## NUMBER OF SPECIAL CONTACTS ON OPPOSITE SIDE

## NUMBER OF SPECIAL CONTACTS FROM SIGNAL CONTACT NO. 1 SIDE

## NO. OF SIGNAL CONTACTS

## JACKSCREW VARIANT (see following page)

<b>00</b>	None assembled
<b>Fx</b>	Female jackscrews – see page 64
<b>Mx</b>	Male jackscrews – see page 65

See pages 67 to 76 for configurations currently available.  
Contact [datamate@harwin.com](mailto:datamate@harwin.com) for other variants

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.



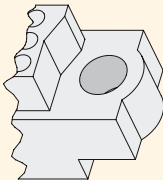
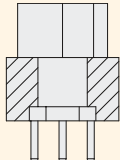
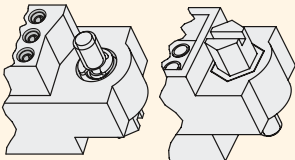
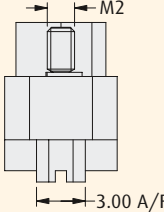
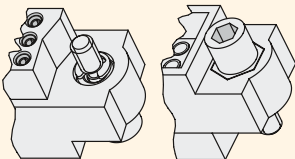
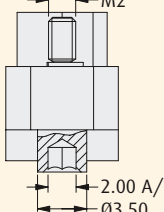
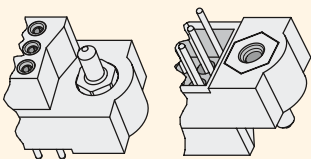
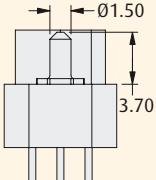
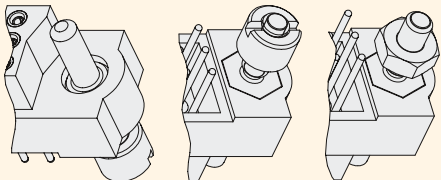
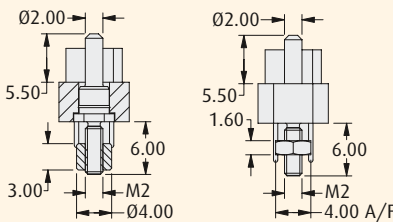
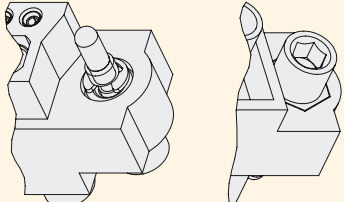
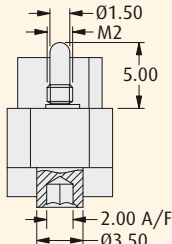
**HARWIN**



## M83 Datamate Connectors

## JACKSCREWS

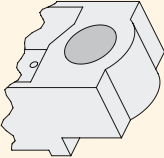
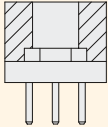
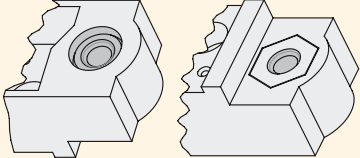
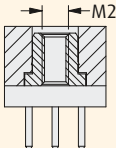
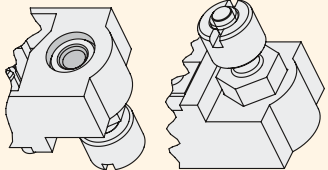
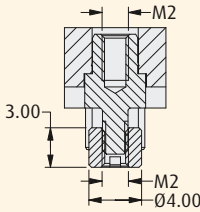
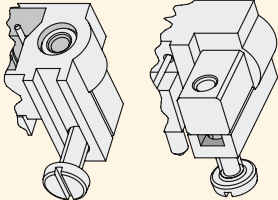
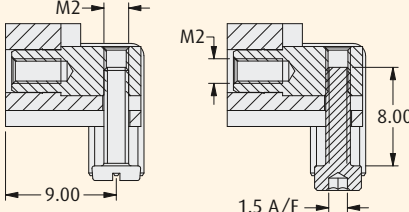
## FEMALE

00			None assembled
F1			Hexagonal Slotted Jack screw (floating)
F2			Hexagonal Socket Jack screw (floating)
F4			Guide Pin Jack screw
F6 or F7			Guide Pin Jack screw with Panel Mount F6 = slotted nut F7 = hexagonal nut
FB			Hexagonal Socket Jack screw (floating) with guide pin

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)

## MALE

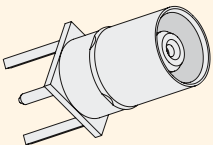
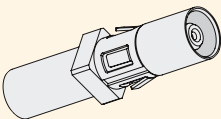
00			None assembled
M1			Jackscrew Nut only
M2 or M3			Jackscrew Nut with Vertical Board Mount stud M2 = 3.5mm stud length M3 = 5mm stud length
M5 or M7			Jackscrew Nut with Horizontal Board Mount stud M5 = slotted head M7 = hexagonal socket

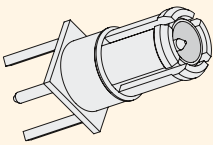
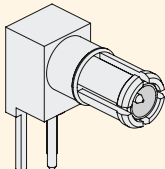


# M83 Datamate Connectors

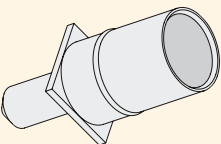
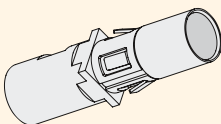
# SPECIAL CONTACTS

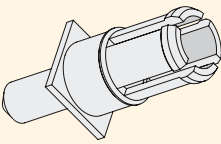
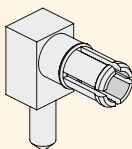
## COAX

	FEMALE	
301 or 302		Vertical PC Tail 301 = 3.00mm tail 302 = 4.50mm tail
305 306 307		Straight Crimp 305 = Ø2.00mm cable 306 = Ø2.40mm cable 307 = Ø2.70mm cable

	MALE	
311 or 312		Vertical PC Tail 311 = 3.00mm tail 312 = 4.50mm tail
313 or 314		Horizontal PC Tail 313 = 3.00mm tail 314 = 4.50mm tail

## POWER

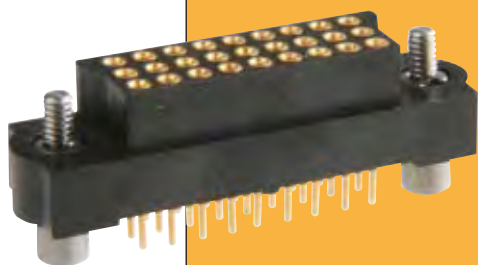
	FEMALE	
321 or 322		Vertical PC Tail 321 = 3.50mm tail 322 = 5.00mm tail
325 326 327		Straight Solder 325 = 12 AWG cable 326 = 14 AWG cable 327 = 16 AWG cable

	MALE	
331 or 332		Vertical PC Tail 331 = 3.50mm tail 332 = 5.00mm tail
333 or 334		Horizontal PC Tail 333 = 3.00mm tail 334 = 4.50mm tail

Tail dimensions given are for the special contacts once assembled into the connector.

[www.harwin.com](http://www.harwin.com)





# M83 Datamate Connectors

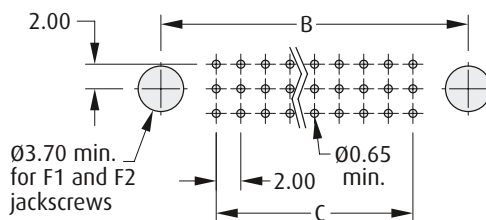
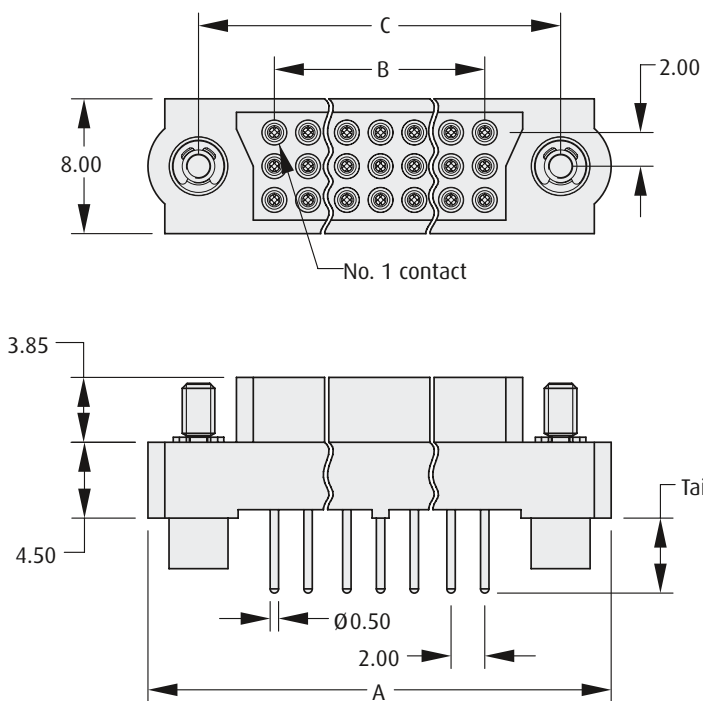
## Female Vertical PC Tail

- ❖ Choice of compatible jackscrews.
- ❖ All contacts are gold finish for full RoHS compliance.
- ❖ See pages 68 and 69 for configurations including special contacts.
- ❖ Contact [datamate@harwin.com](mailto:datamate@harwin.com) for alternative contact configurations.

### FEMALE VERTICAL

### CALCULATION

<b>A</b>	$B + 15$
<b>B</b>	$(\text{Total No. of contacts} - 3) \times 2/3$
<b>C</b>	$B + 9$



Recommended PC Board Pattern

Diagram shown with Jackscrew F2 assembled.

### HOW TO ORDER

**M83 - LF TX XX N XX - 0000 - 000**

#### SERIES CODE

#### TOTAL NO. OF CONTACTS

27, 36, 48, 51, 60, 78, 96

#### TAIL

<b>T1</b>	3mm Tail
<b>T2</b>	4.5mm Tail

#### JACKSCREW

<b>00</b>	No Jackscrew
<b>Fx</b>	Female Jackscrews - see page 64

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.



# HARWIN



# M83 Datamate Connectors

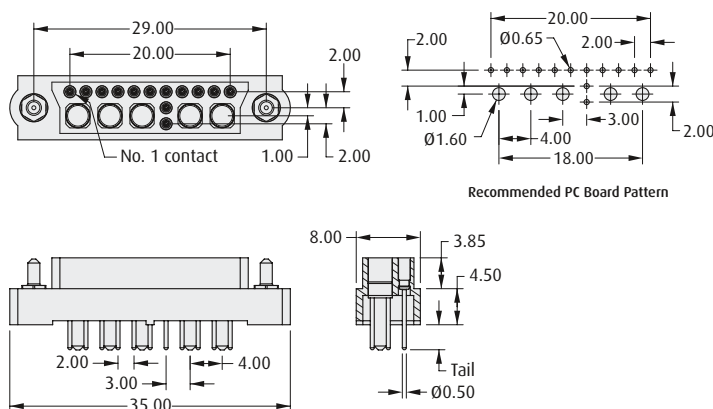
## Female Vertical PC Tail



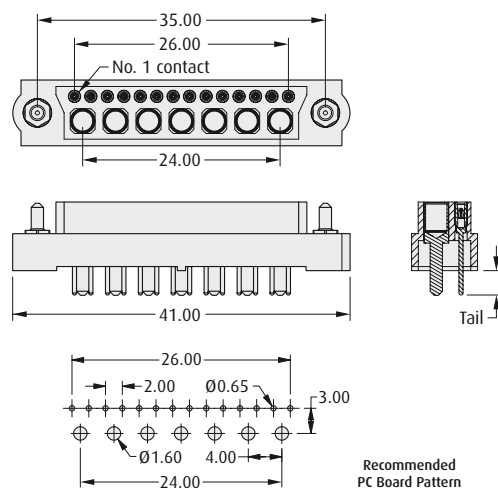
- ❖ Choice of compatible jackscrews and special contacts.
- ❖ All contacts are gold finish for full RoHS compliance.
- ❖ See page 67 for a signal-only configuration, and page 68 for an alternative mixed technology configuration.
- ❖ Contact [datamate@harwin.com](mailto:datamate@harwin.com) for alternative contact configurations.

Diagrams shown with special contact 321 and Jackscrew F4 assembled.

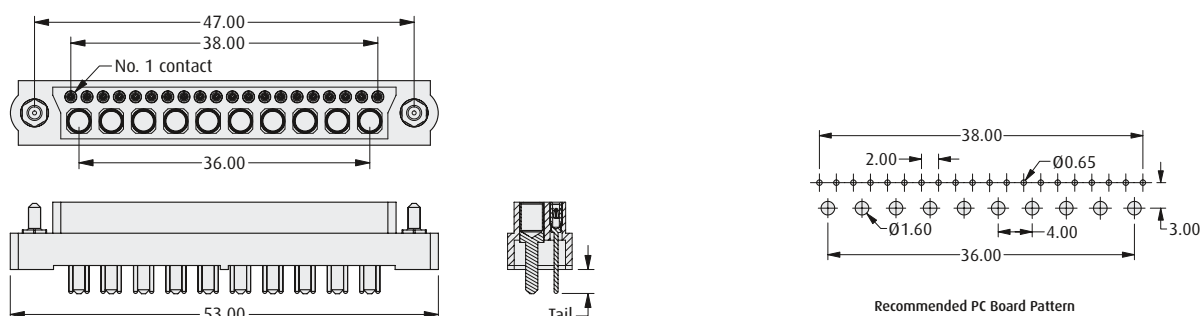
### 13 – 0302 CONFIGURATION



### 14 – 0700 CONFIGURATION



### 20 – 1000 CONFIGURATION



## HOW TO ORDER

**M83 – LF TX XX N XX – XXXX – XXX**

**SERIES CODE**

**SPECIAL CONTACTS**

301, 302, 321, 322

**TAIL**

<b>T1</b>	3mm Tail
<b>T2</b>	4.5mm Tail

**JACKSCREW**

<b>00</b>	No Jackscrew
<b>Fx</b>	Female Jackscrews – see page 64

**SIGNAL/SPECIAL CONFIGURATIONS**

<b>13 – 0302</b>
<b>14 – 0700</b>
<b>20 – 1000</b>

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.



**HARWIN**

# M83 Datamate Connectors

## Female Crimp

- ❖ Choice of compatible jackscrews.
- ❖ All contacts are gold finish for full RoHS compliance.
- ❖ See page 71 for configurations including special contacts.
- ❖ Contact [datamate@harwin.com](mailto:datamate@harwin.com) for alternative contact configurations.
- ❖ Spare contacts are available – see page 16.



### FEMALE CRIMP

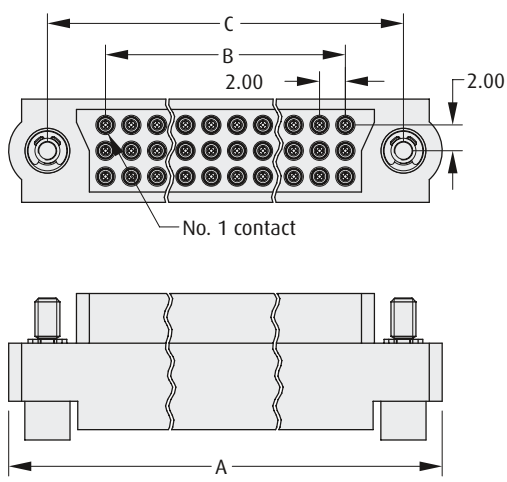


Diagram shown with Jackscrew F2 assembled.

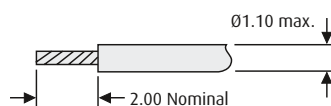
### CALCULATION

<b>A</b>	$B + 15$
<b>B</b>	$(\text{Total No. of contacts} - 3) \times 2/3$
<b>C</b>	$B + 9$

### TOOLS

**Recommended Crimp Tool** – M22520/2-01  
**Positioner** – T5747  
**Contact Insertion/Removal Tool** – Z80-280  
 See pages 77 to 79  
 ❖ Instruction sheets available at [www.harwin.com/downloads/instructions](http://www.harwin.com/downloads/instructions)

### WIRE STRIPPING DETAILS



### HOW TO ORDER

**M83 - LF XX XX N XX - 0000 - 000**

**SERIES CODE**

#### CRIMPS

<b>C1</b>	Small Bore
<b>D1</b>	Large Bore

**TOTAL NO. OF CONTACTS**

**18,27,36,51,54,60,72,96**

#### JACKSCREW

<b>00</b>	No Jackscrew
<b>Fx</b>	Female Jackscrews – see page 64

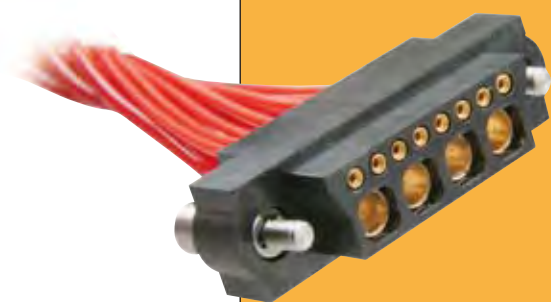
All dimensions in mm.

[www.harwin.com](http://www.harwin.com)



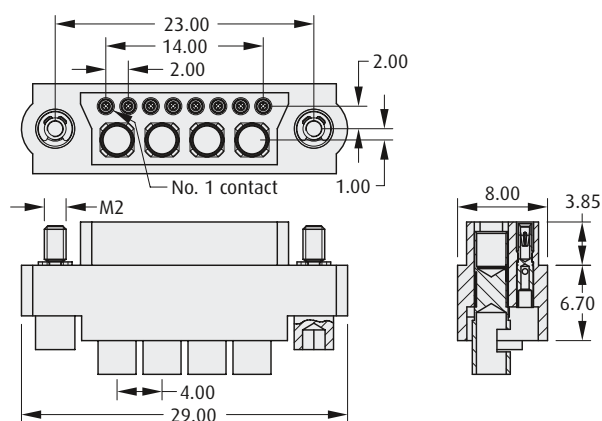
# M83 Datamate Connectors

## Female Crimp

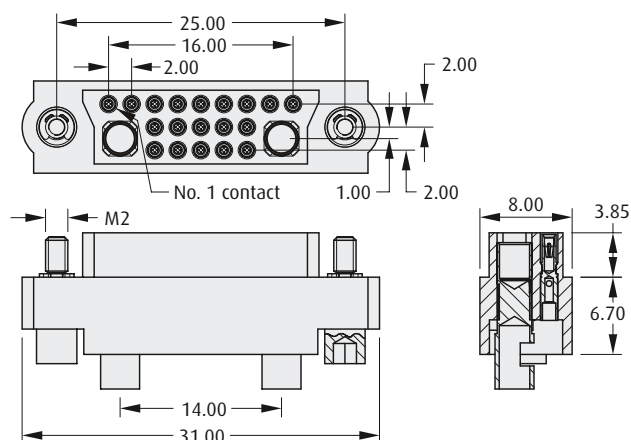


- ❖ Choice of compatible jackscrews and special contacts.
- ❖ All contacts are gold finish for full RoHS compliance.
- ❖ See page 71 for signal-only configurations.
- ❖ Contact [datamate@harwin.com](mailto:datamate@harwin.com) for alternative contact configurations.
- ❖ Spare contacts are available – see page 16.

### 08 – 0400 CONFIGURATION



### 19 – 0101 CONFIGURATION



Diagrams shown with special contact 327 and Jackscrew F2 assembled.

### TOOLS

**Recommended Crimp Tool** – M22520/2-01

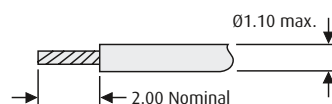
**Positioner** – T5747

**Contact Insertion/Removal Tool** – Z80-280

See pages 77 to 79

❖ Instruction sheets available at [www.harwin.com/downloads/instructions](http://www.harwin.com/downloads/instructions)

### WIRE STRIPPING DETAILS



### HOW TO ORDER

**M83 – LF XX XX N XX – XXXX – XXX**

#### SERIES CODE

#### CRIMPS

<b>C1</b>	Small Bore
<b>D1</b>	Large Bore

#### JACKSCREW

<b>00</b>	No Jackscrew
<b>Fx</b>	Female Jackscrews – see page 64

#### SPECIAL CONTACTS

**305, 306, 307, 325, 326, 327**

#### SIGNAL/SPECIAL CONFIGURATIONS

**08 – 0400**

**19 – 0101**

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.



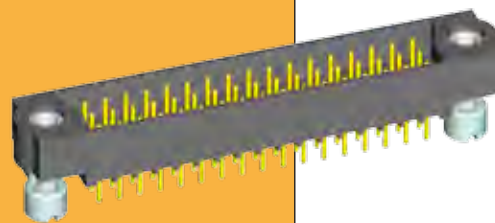
**HARWIN**



# M83 Datamate Connectors

## Male Vertical PC Tail

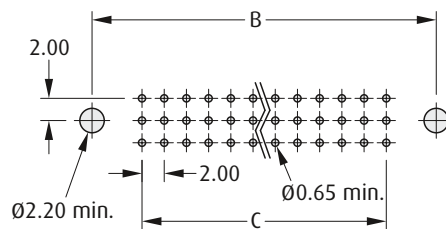
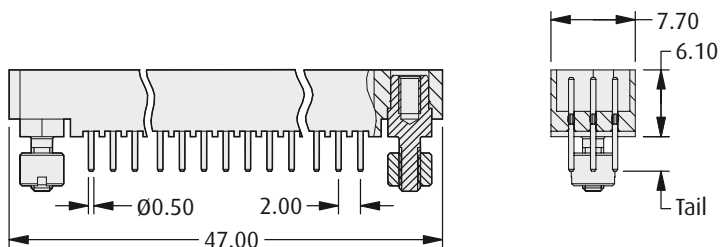
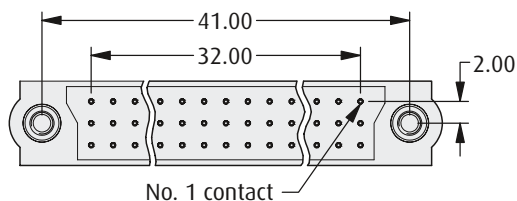
- ❖ Choice of compatible jackscrews.
- ❖ All contacts are gold finish for full RoHS compliance.
- ❖ See page 73 for configurations including special contacts.
- ❖ Contact [datamate@harwin.com](mailto:datamate@harwin.com) for alternative contact configurations.



### MALE VERTICAL

### CALCULATION

<b>A</b>	$B + 15$
<b>B</b>	$(\text{Total No. Of contacts} - 3) \times 2/3$
<b>C</b>	$B + 9$



Recommended PC Board Pattern

Diagram shown with Jackscrew M2 assembled.

### HOW TO ORDER

**M83 - LM TX XX N XX - 0000 - 000**

#### SERIES CODE

#### TAIL

<b>T1</b>	3mm Tail
<b>T2</b>	4.5mm Tail

#### JACKSCREW

<b>00</b>	No Jackscrew
<b>Mx</b>	Male Jackscrews - see page 65

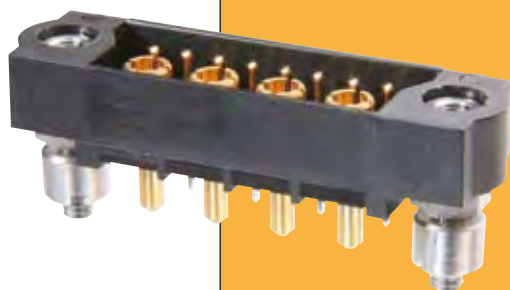
#### TOTAL NO. OF CONTACTS

18, 60, 72, 96

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)



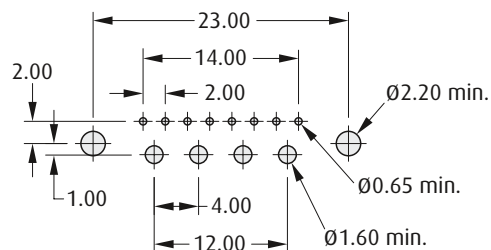
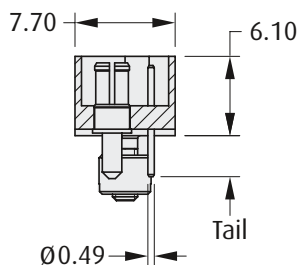
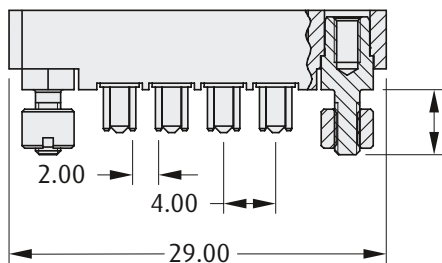
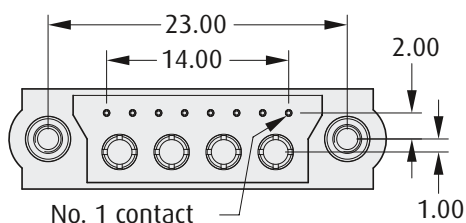


# M83 Datamate Connectors

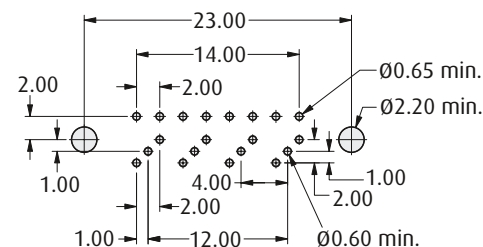
## Male Vertical PC Tail

- ❖ Choice of compatible jackscrews and special contacts.
- ❖ All contacts are gold finish for full RoHS compliance.
- ❖ Contact [datamate@harwin.com](mailto:datamate@harwin.com) for alternative contact configurations.
- ❖ See page 72 for signal-only configurations.

### MALE VERTICAL



Recommended PC Board Pattern  
with 331 or 332 Power contacts



Recommended PC Board Pattern  
with 311 or 312 Coax contacts

Diagram shown with special contact 331 and Jackscrew M2 assembled.

### HOW TO ORDER

**M83 - LM TX XX N 08 - 0400 - XXX**

#### SERIES CODE

#### TAIL

<b>T1</b>	3mm Tail
<b>T2</b>	4.5mm Tail

#### JACKSCREW

<b>00</b>	No Jackscrew
<b>Mx</b>	Male Jackscrews - see page 65

#### SPECIAL CONTACTS

**311, 312, 331, 332**

#### TOTAL NO. OF CONTACTS

**08**

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.

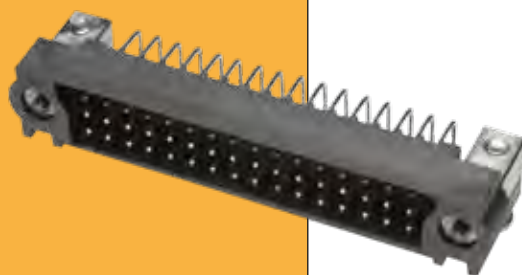


**HARWIN**

# M83 Datamate Connectors

## Male Horizontal PC Tail

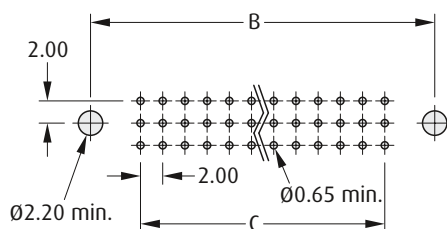
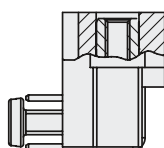
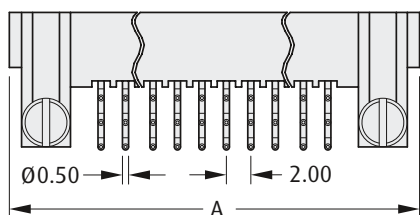
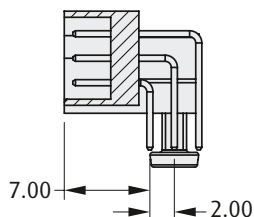
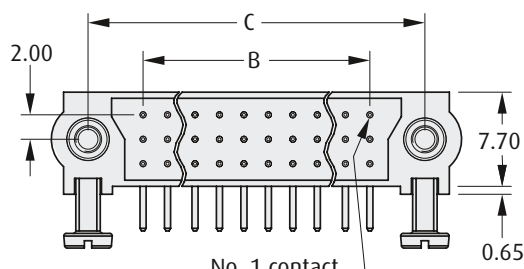
- ❖ Choice of compatible jackscrews.
- ❖ All contacts are gold finish for full RoHS compliance.
- ❖ See pages 75 and 76 for configurations including special contacts.
- ❖ Contact [datamate@harwin.com](mailto:datamate@harwin.com) for alternative contact configurations.



### MALE HORIZONTAL

### CALCULATION

<b>A</b>	$B + 15$
<b>B</b>	$(\text{Total No. of contacts} - 3) \times 2/3$
<b>C</b>	$B + 9$



Recommended PC Board Pattern

Diagram shown with Jackscrew M5 assembled.

### HOW TO ORDER

**M83 - LM L3 XX N XX - 0000 - 000**

**SERIES CODE**

**TAIL**

**L3** 4mm Tail

**TOTAL NO. OF CONTACTS**

**18, 27, 36, 48, 54, 60, 96**

**JACKSCREW**

<b>00</b>	No Jackscrew
<b>Mx</b>	Male Jackscrews - see page 65

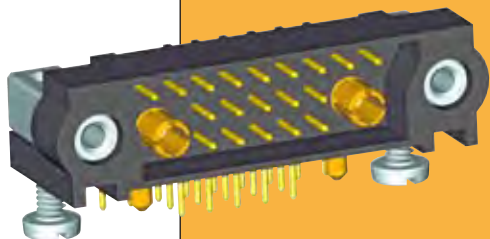
All dimensions in mm.

[www.harwin.com](http://www.harwin.com)



# M83 Datamate Connectors

## Male Horizontal PC Tail

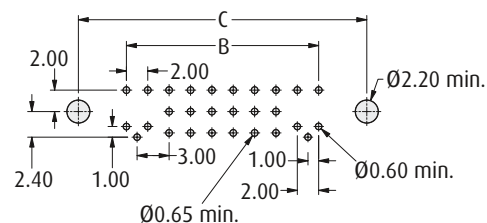
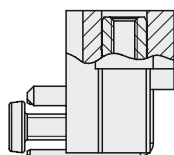
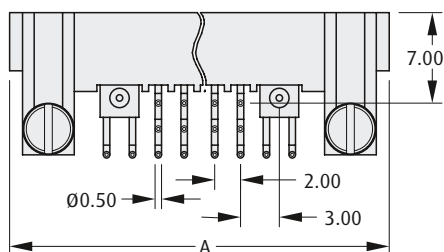
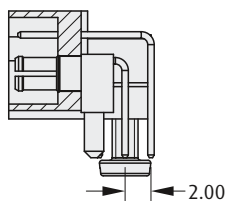
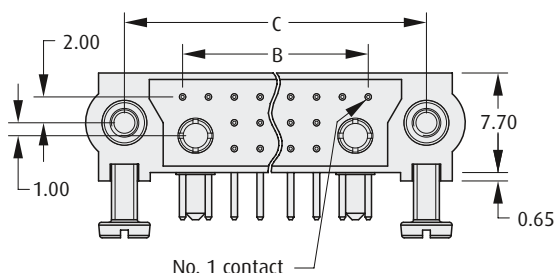


- ❖ Choice of compatible jackscrews and special contacts.
- ❖ All contacts are gold finish for full RoHS compliance.
- ❖ See page 74 for a signal-only configuration, and page 76 for an alternative mixed technology configuration.
- ❖ Contact [datamate@harwin.com](mailto:datamate@harwin.com) for alternative contact configurations.

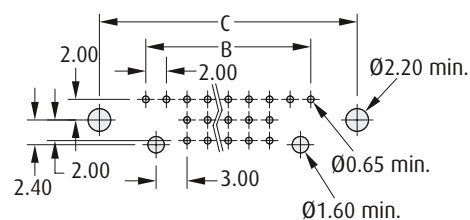
### MALE HORIZONTAL

### CALCULATION

<b>A</b>	B + 15
<b>B</b>	(Total No. of contacts + 5) x 2/3
<b>C</b>	B + 9



Recommended PC Board Pattern with 313 or 314 Coax contacts



Recommended PC Board Pattern with 333 or 334 Power contacts

Diagram shown with special contact 333 and Jackscrew M5 assembled.

### HOW TO ORDER

**M83 - LM L3 XX N XX - 0101 - XXX**

**SERIES CODE**

**TAIL**

**L3** 4mm Tail

**SPECIAL CONTACTS**

**313, 314, 333, 334**

**TOTAL NO. OF CONTACTS**

**19, 25**

**JACKSCREW**

<b>00</b>	No Jackscrew
<b>Mx</b>	Male Jackscrews - see page 65

[www.harwin.com](http://www.harwin.com)

All dimensions in mm.

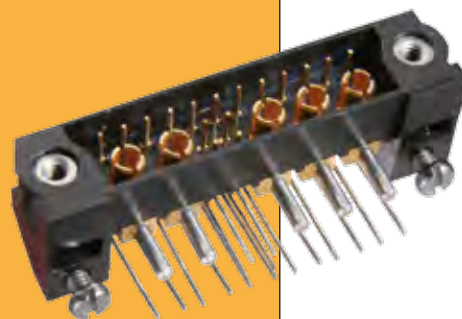


**HARWIN**

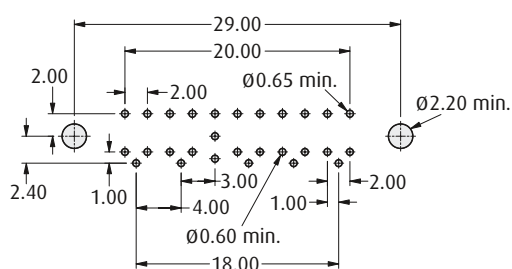
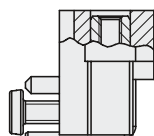
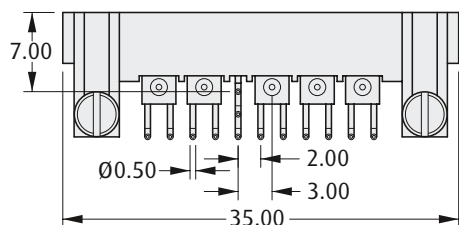
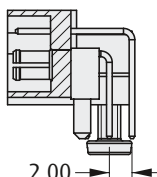
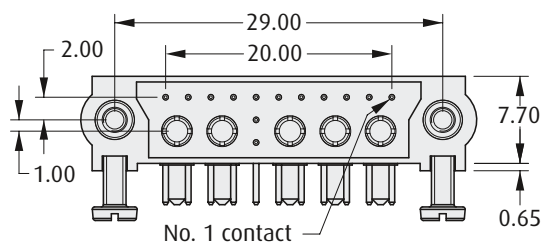
# M83 Datamate Connectors

## Male Horizontal PC Tail

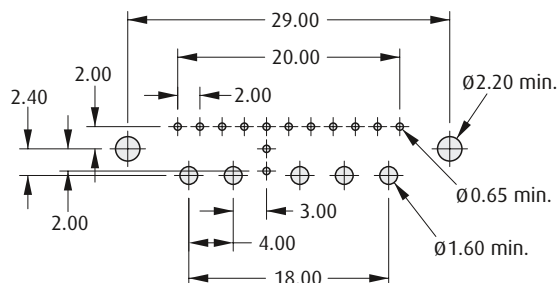
- ❖ Choice of compatible jackscrews and special contacts.
- ❖ All contacts are gold finish for full RoHS compliance.
- ❖ See page 74 for a signal-only configuration, and page 75 for an alternative mixed technology configuration.
- ❖ Contact [datamate@harwin.com](mailto:datamate@harwin.com) for alternative contact configurations.



### MALE HORIZONTAL



Recommended PC Board Pattern with 313 or 314 Coax contacts



Recommended PC Board Pattern with 333 or 334 Power contacts

Diagram shown with special contact 333 and Jackscrew M5 assembled.

### HOW TO ORDER

**M83 - LM L3 XX N 13 - 0302 - XXX**

**SERIES CODE**

**TAIL**

**L3** 4mm Tail

**JACKSCREW**

**00**

No Jackscrew

**Mx**

Male Jackscrews - see page 65

**SPECIAL CONTACTS**

**313, 314, 333, 334**

**TOTAL NO. OF CONTACTS**

**13**

All dimensions in mm.

[www.harwin.com](http://www.harwin.com)



# Datamate Tooling

❖ Instruction sheets (where available) can be accessed at [www.harwin.com/downloads/instructions](http://www.harwin.com/downloads/instructions)

## POSITIONER

- ❖ Used with hand crimp tool shown opposite.



### ORDER CODE

Female crimp, male L-Tek crimp	<b>T5747</b>
Male J-Tek crimp	<b>Z80-193</b>

## HAND CRIMP TOOL

- ❖ Standard circular crimp tool BS5210-3A-300 and MIL specification M22520/2-01.
- ❖ Precision tool with ratchet mechanism and 8-indent form.
- ❖ Must be used with positioner opposite.
- ❖ Instruction sheet available.



### ORDER CODE

Signal contacts, L-Tek, J-Tek & Mix-Tek	<b>M22520/2-01</b>
---	--------------------

## POSITIONER

- ❖ Used with hand crimp tool shown opposite.



### ORDER CODE

Inner contact of Mix-Tek coax contacts	<b>Z80-291</b>
--	----------------

## HAND CRIMP TOOL

- ❖ Standard circular crimp tool.
- ❖ Precision tool with ratchet mechanism and 8-indent form.
- ❖ Must be used with positioner opposite.
- ❖ Instruction sheet available.



### ORDER CODE

Inner contact of Mix-Tek coax contacts	<b>Z80-292</b>
--	----------------

[www.harwin.com](http://www.harwin.com)



# Datamate Tooling

❖ Instruction sheets (where available) can be accessed at [www.harwin.com/downloads/instructions](http://www.harwin.com/downloads/instructions)

HAND CRIMP TOOL	LOCATOR
<ul style="list-style-type: none"> <li>❖ 'Rigidus' crimp tool design.</li> <li>❖ Precision parallel action crimp tool with ratchet mechanism.</li> <li>❖ Must be used with locator shown opposite.</li> <li>❖ Instruction sheet available.</li> </ul>  <div> <b>ORDER CODE</b>  <b>Z80-255</b> </div>	<ul style="list-style-type: none"> <li>❖ Used with hand crimp tool shown opposite.</li> </ul>  <div> <b>ORDER CODE</b>  <b>Z80-259</b> </div>
DIE-SET	REMOVAL TOOL
<ul style="list-style-type: none"> <li>❖ Spare die-set for use with hand crimp tool shown above.</li> </ul>  <div> <b>ORDER CODE</b>  <b>Z80-244</b> </div>	<ul style="list-style-type: none"> <li>❖ For removal of crimped contacts from mouldings.</li> <li>❖ Instruction sheet available.</li> </ul>  <div> <b>ORDER CODE</b>  <b>Z80-258</b> </div>

[www.harwin.com](http://www.harwin.com)

# Datamate Tooling

❖ Instruction sheets (where available) can be accessed at [www.harwin.com/downloads/instructions](http://www.harwin.com/downloads/instructions)

## SEPARATOR TOOL

- ❖ Recommended for unplugging L-Tek latched connectors (tool releases the latches prior to disengagement).
- ❖ Can also be used with unlatched and friction lock connectors.
- ❖ Suitable for all sizes.



### ORDER CODE

L-Tek	<b>T5746</b>
-------	--------------

## INSERTION/REMOVAL TOOL

- ❖ For inserting crimped contacts into the rear of mouldings.
- ❖ Instruction sheet available.
- ❖ Suitable for all Datamate signal contacts.



### ORDER CODE

Signal crimps for L-Tek, J-Tek & Mix-Tek	<b>Z80-280</b>
--	----------------

## HAND CRIMP TOOL

- ❖ Standard coax crimp tool for crimping the outer sleeve of Mix-Tek coax contacts.
- ❖ Instruction sheet available.

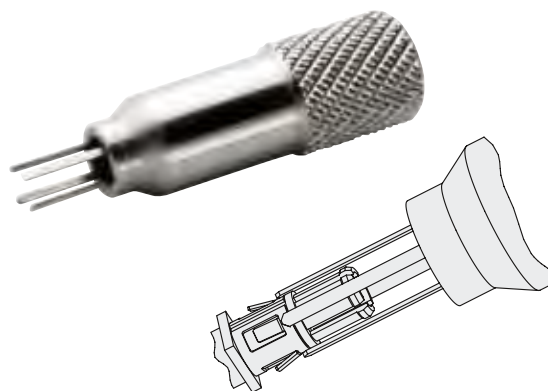


### ORDER CODE

Outer sleeve of Mix-Tek coax contacts	<b>Z80-293</b>
---------------------------------------	----------------

## REMOVAL TOOL

- ❖ To aid removal of special cable contacts from Mix-Tek connectors.



### ORDER CODE

Mix-Tek special cable connectors	<b>Z80-290</b>
----------------------------------	----------------

[www.harwin.com](http://www.harwin.com)





# HARWIN

INTERCONNECT DESIGN & MANUFACTURE

## Rapid product information

Harwin's constantly evolving website has been designed with ease of use and maximum functionality in mind. Featuring over 25k individual items, **harwin.com** has all the technical information you need in one location.

### Key performance benefits:

- 3D Cad models
- Live Help
- technical drawings
- rapid product search
- free samples



Visit [www.harwin.com](http://www.harwin.com)

# HARWIN