



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Datamate

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Datamate Introduction

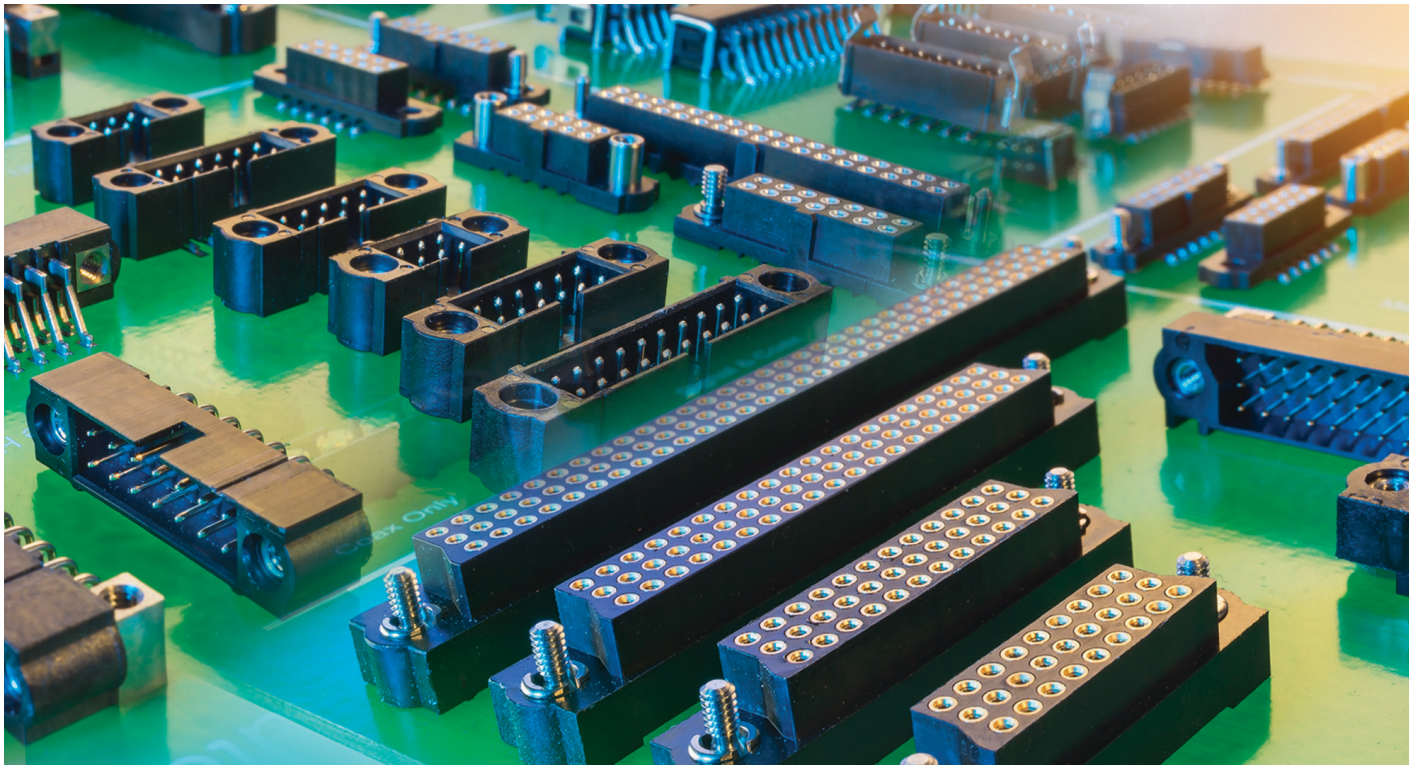
Performance without compromise

Datamate is a 2mm pitch High-Reliability, high performance connector range from Harwin. Approved to British Standard 9525-F0033, the range has a proven track record for performance under extreme conditions.

Datamate provides a low-profile solution for all variations of cable-to-board, board-to-board and cable-to-cable interconnect requirements. The range has seen many developments to match customer and market demands, and now includes 1-, 2- and 3-row configurations, vertical and horizontal in both Throughboard and Surface Mount designs for PCB flexibility. To meet the demanding requirements of vibration, shock and acceleration, added security is available with the options of latches (for space-saving) or jackscrews (for maximum strain-relief).

With the addition of Datamate Mix-Tek, the 3A signal contacts can be supplied in the same connector as 20A power, 40A high power, or 6GHz coax connections, giving complete flexibility of design. Other range additions include the 101Lok fixing – designed for fast mating with a quarter-turn bayonet-style jackscrew.

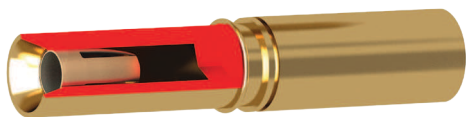
- ❖ 3A per contact (all electrically loaded; 3.3A per individual contact)
- ❖ 4-finger contact design to maintain electrical contact through high vibration and shock
- ❖ Beryllium Copper Contact for improved temperature range: -55°C to +125°C
- ❖ 500 Mating cycles durability
- ❖ Professional connector system at commercial prices
- ❖ Ongoing development program for High-Reliability connectors from Harwin
- ❖ Online videos and Cable assembly facility for assistance with cabling requirements



Datamate - Product Features

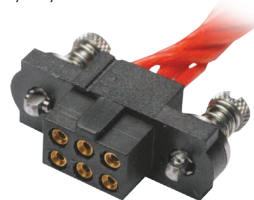
Four Finger Beryllium Copper Contact

Proven high-reliability contact design ensures signal integrity under extremes of bump, vibration and shock. Durable to over 500 mating cycles.



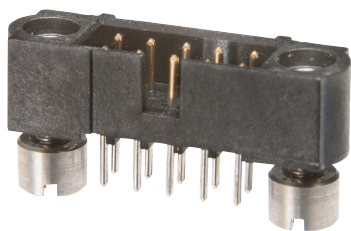
Polarisation

All Datamate designs feature polarisation to prevent mis-mating in everyday use.



Rugged construction

For use in harsh environments where high vibration, shock and temperature are a consideration.



British Standard Specification connections

Approved to BS9525-F0033, complies with CECC 75101-008.



Field proven across the globe

Proven history in aerospace, industrial, defense, oil & gas, etc. Stocked in depth across a global distribution network.

Quality Customer Support

Live Help, 3D CAD models and evaluation samples all available - click on www.harwin.com/datamate.



Datamate - Product Families

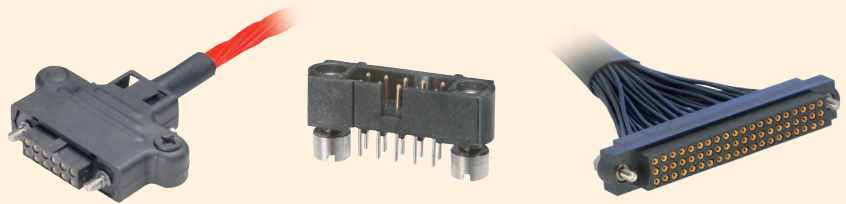
Datamate Mix-Tek

3 connector styles in one. Includes low frequency signal, power (20A), high power (40A) and coax (6GHz) options. A stocked range of coax-only, power-only, high power-only, or mixed power and signal connectors, ideal for COTS requirements.



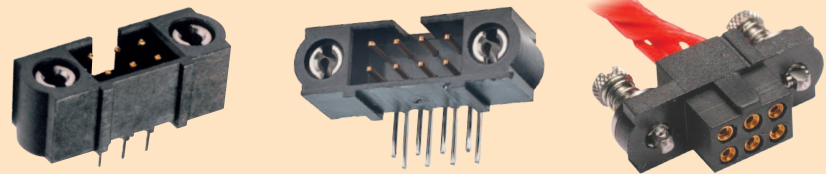
Datamate J-Tek

Datamate low frequency connectors with a variety of optional Jackscrews for increased security of connection. Includes 2-row and 3-row configurations.



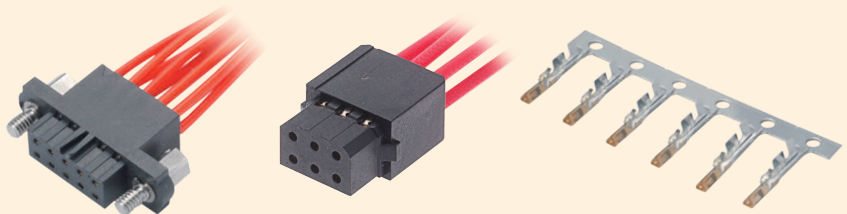
Datamate 101 Lok

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.



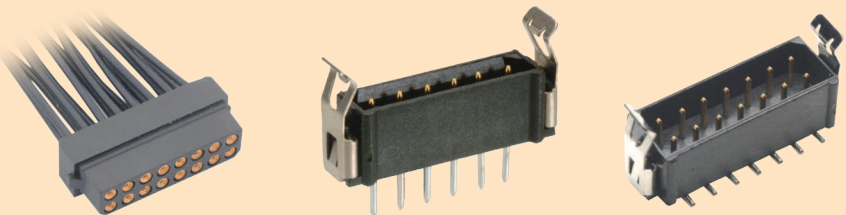
Datamate Trio-Tek

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.



Datamate L-Tek

Datamate low frequency connectors with 3 flexible mating options: friction latch, locking latch and no latch. Includes 1-row and 2-row configurations.



Datamate Mix-Tek Specification

Materials

Mouldings:	Glass-filled thermoplastic UL94V-0
Female contacts:	Brass shell, with Beryllium Copper inner contact
Male contacts:	Copper alloy
Finish:	See individual pages

Electrical

Current	
Individual contacts in isolation:	3.3A max (at 25°C) 2.6A max (at 85°C)
All contacts simultaneously:	3.0A max (at 25°C) 2.2A max (at 85°C)
Working voltage	
At sea level 1013 mbar:	800V DC or AC _{rms}
Voltage proof	
At sea level 1013 mbar:	1,200V DC or AC _{rms}
Contact resistance	
Initial:	20mΩ max
After conditioning:	25mΩ max
Insulation resistance	
Initial:	1,000MΩ min
After conditioning:	100MΩ min

Mechanical

Durability:	500 operations
Insertion force (max):	2.8N
Withdrawal force (min):	0.2N
Signal crimp accommodation:	22 AWG to 28 AWG 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, 98m/s ² (10G), duration 6h
*Bump severity:	390m/s ² (40G), 4000 ±10 bumps
*Shock severity:	981m/s ² (100G) for 6ms
*Acceleration severity:	490m/s ² (50G)

* Tested with connectors with Jackscrews.

Power Contacts

Materials

Latching collar:	Beryllium Copper, Nickel plated
Other metallic parts:	Copper alloy, Gold plated

Electrical

Current (in isolation)	
32x, 33x:	20A max
PFx, PMx:	40A nominal, up to 80A max
Contact resistance:	6mΩ max

Mechanical

Insertion force (max)	
32x, 33x:	8N
PFx, PMx:	15N
Withdrawal force (min):	0.5N
Contact replacement in connector:	
	5 times
Power contact accommodation	
32x, 33x:	12 to 20 AWG
PFx, PMx:	10 AWG

Coax Contacts

Materials

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

Electrical

Frequency range:	6GHz (depending on cable)
Impedance:	50Ω
VSWR:	1.05 + (0.04 x Frequency) GHz max
Operating voltage (sea level):	180V AC at 500mA
Maximum voltage (sea level):	1000V AC _{rms}
Contact resistance:	6mΩ max
Insulation resistance:	10 ⁶ MΩ at 250V AC _{rms}

Mechanical

Insertion force (max):	8N
Withdrawal force (min):	0.5N
Contact replacement in connector:	5 times

Datamate Mix-Tek Pin Numbering

	FEMALE	MALE
POWER OR COAX ONLY		
SIGNAL AND POWER		

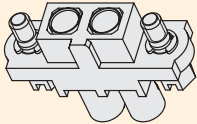
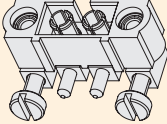
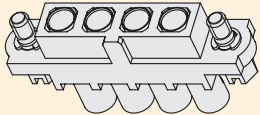
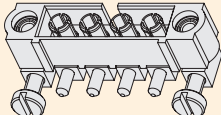
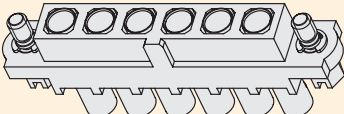
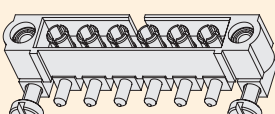
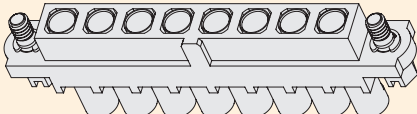
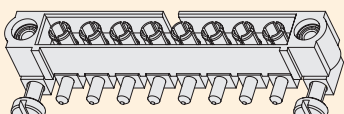
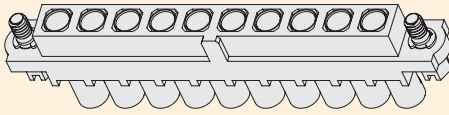
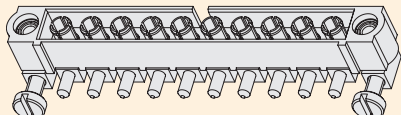
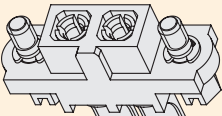
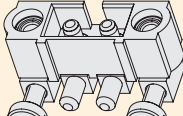
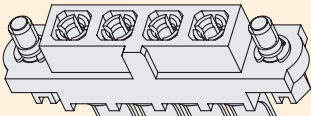
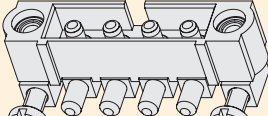
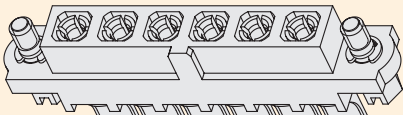
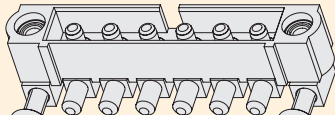
Mating Profiles

		FEMALE	
		VERTICAL PC TAIL	CRIMP
MALE	VERTICAL PC TAIL		
	HORIZONTAL PC TAIL		
	CRIMP		

All dimensions in mm.

Datamate Power Connectors

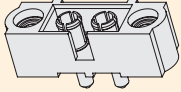
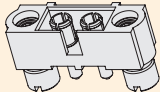
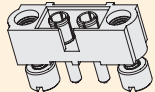
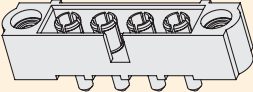
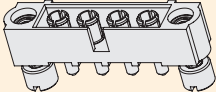
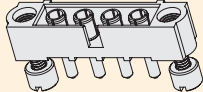
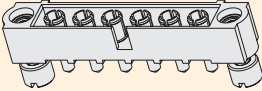
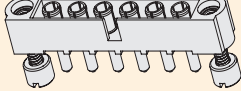
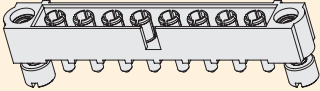
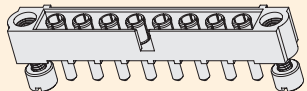
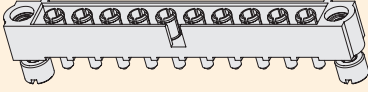
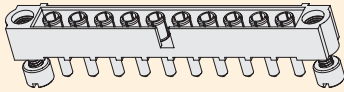
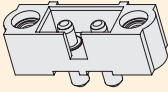
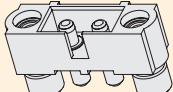
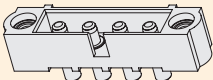
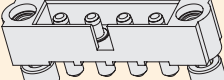
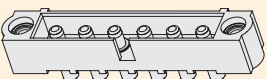
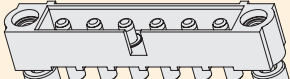
- Standard high-reliability connectors fitted with power contacts on 4mm pitch.

		TYPE	
		Female Cable - Hex Slotted Jackscrews	Male Horizontal 3.5mm PC Tail - 5mm Board Mount Jackcrew
TOTAL NO. OF CONTACTS	2 Power	 M80-4000000F1-02-325-00-000	 M80-5000000M5-02-333-00-000
	4 Power	 M80-4000000F1-04-325-00-000	 M80-5000000M5-04-333-00-000
	6 Power	 M80-4000000F1-06-325-00-000	 M80-5000000M5-06-333-00-000
	8 Power	 M80-4000000F1-08-325-00-000	 M80-5000000M5-08-333-00-000
	10 Power	 M80-4000000F1-10-325-00-000	 M80-5000000M5-10-333-00-000
	2 High Power	 M80-4000000F1-02-PF5-00-000	 M80-5000000M5-02-PM3-00-000
	4 High Power	 M80-4000000F1-04-PF5-00-000	 M80-5000000M5-04-PM3-00-000
	6 High Power	 M80-4000000F1-06-PF5-00-000	 M80-5000000M5-06-PM3-00-000

All dimensions in mm.

Datamate Power Connectors

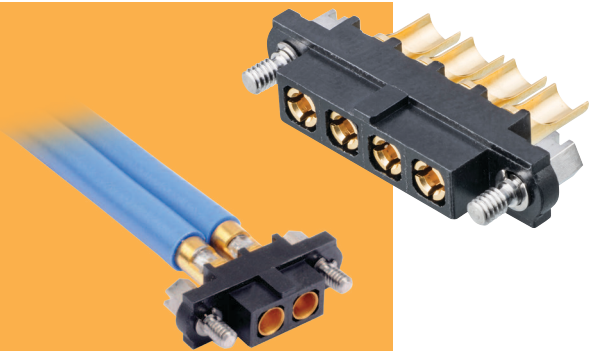
❖ Standard high-reliability connectors fitted with power contacts on 4mm pitch.

		TYPE		
		Male Vertical 3.5mm PC Tail - Jackscrew Fixing	Male Vertical 3.5mm PC Tail - 3.5mm Board Mount Jackcrew	Male Vertical 5mm PC Tail - 5mm Board Mount Jackcrew
TOTAL NO. OF CONTACTS	2 Power	 M80-5000000M1-02-331-00-000	 M80-5000000M2-02-331-00-000	 M80-5000000M3-02-332-00-000
	4 Power	 M80-5000000M1-04-331-00-000	 M80-5000000M2-04-331-00-000	 M80-5000000M3-04-332-00-000
	6 Power		 M80-5000000M2-06-331-00-000	 M80-5000000M3-06-332-00-000
	8 Power		 M80-5000000M2-08-331-00-000	 M80-5000000M3-08-332-00-000
	10 Power		 M80-5000000M2-10-331-00-000	 M80-5000000M3-10-332-00-000
	2 High Power	 M80-5000000M1-02-PM1-00-000	 M80-5000000M2-02-PM1-00-000	
	4 High Power	 M80-5000000M1-04-PM1-00-000	 M80-5000000M2-04-PM1-00-000	
	6 High Power	 M80-5000000M1-06-PM1-00-000	 M80-5000000M2-06-PM1-00-000	

Datamate Power Connectors

Female Power Cable Connector Kit

- Part numbers are for a complete kit of a housing and the applicable number of contacts.
- Hexagonal slotted jackscrews are assembled where specified.
- Polarised mouldings.
- Standard Power contacts rated to 20A, High Power to 40A.



DATAMATE POWER

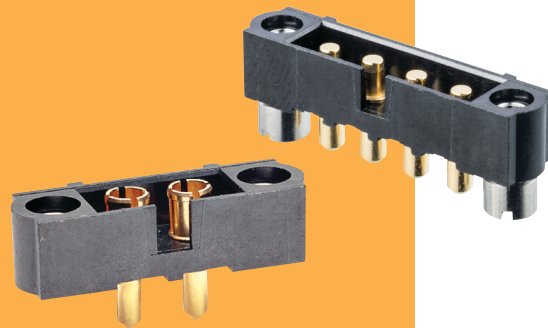
POWER CONTACTS ONLY		CALCULATION		SPARE SOLDER CONTACTS	
Standard Power (12 AWG)		A	B + 14	Standard Power (12 AWG)	
		B	(No. of Power contacts - 1) x 4		
		C	B + 9		
High Power (10 AWG)				High Power (10 AWG)	
				ORDER CODE M80-325	
				ORDER CODE M80-PF5	
TOOLS		WIRE STRIPPING DETAILS			
Contact Removal Tool - Z80-290 No special tooling required for connecting wire, other than standard soldering equipment.					
HOW TO ORDER					
M80 - 4000000F1 - XX - XXX - 00 - 000					
NO. OF POWER CONTACTS				JACKSCREW	
02, 04, 06, 08, 10	Standard Power			325	Standard Power
02, 04, 06	High Power			PF5	High Power

All dimensions in mm.

Datamate Power Connectors

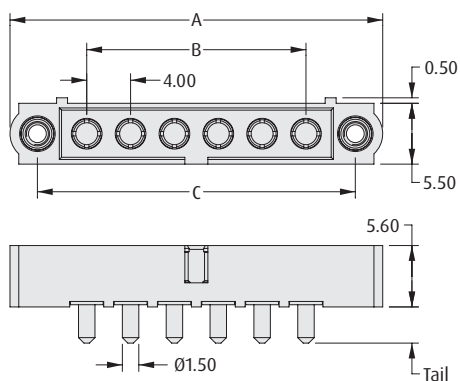
Male Vertical PC Tail

- ❖ A selection of stocked Datamate Mix-Tek solder tail standard layouts.
- ❖ Choice to suit two PCB thicknesses and two stud lengths.
- ❖ Standard Power contacts rated to 20A.
- ❖ High Power rated to 40A nominal, up to 80A max.

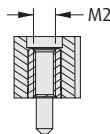


DATAMATE POWER

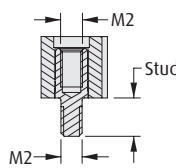
STANDARD POWER



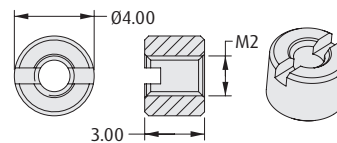
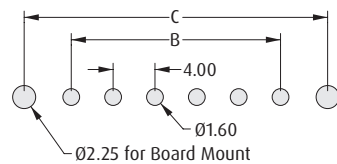
Jackscrew fixing



Jackscrew with Board Mount



Recommended PC Board Pattern

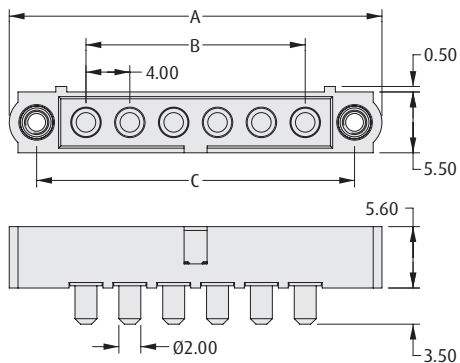


Board Mount Nut, 2 per connector

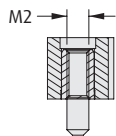
CALCULATION

A	$B + 14$
B	$(\text{No. of Power contacts} - 1) \times 4$
C	$B + 9$

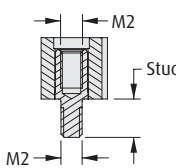
HIGH POWER



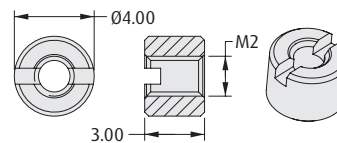
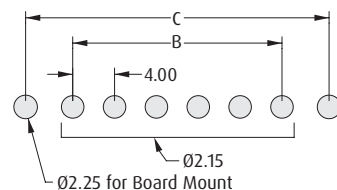
Jackscrew fixing



Jackscrew with Board Mount



Recommended PC Board Pattern



Board Mount Nut, 2 per connector

HOW TO ORDER

M80 - 5000000 XX - XX - XXX - 00 - 000

JACKSCREW

M1	Jackscrew only
M2	With 3.5mm Board Mount stud
M3	With 5mm Board Mount stud

Check image chart to confirm Off-The-Shelf sizes available

NO. OF POWER CONTACTS

02, 04	Standard Power (M1 Jackscrews)
02, 04, 06, 08, 10	Standard Power (M2/M3 Jackscrews)
02, 04, 06	High Power (M1/M2 Jackscrews)

POWER CONTACTS PART NO.

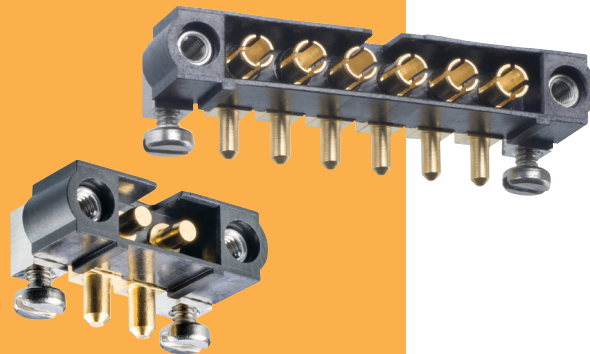
331	3.5mm Tail Standard Power
332	5mm Tail Standard Power
PM1	3.5mm Tail High Power

All dimensions in mm.

Datamate Power Connectors

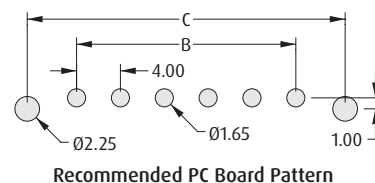
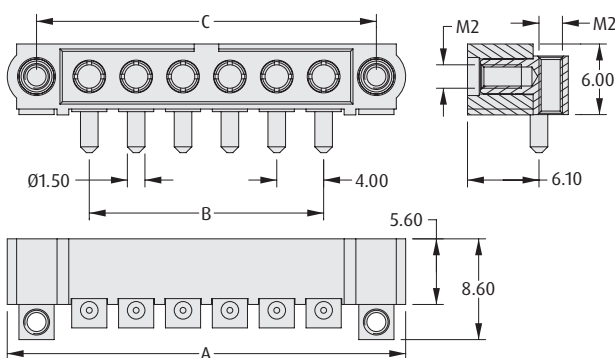
Male Horizontal PC Tail

- Choice to suit two PCB thicknesses and two stud lengths.
- Standard Power contacts rated to 20A.
- High Power rated to 40A nominal, up to 80A max.

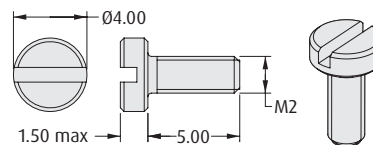


DATAMATE POWER

STANDARD POWER



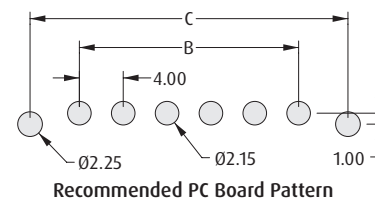
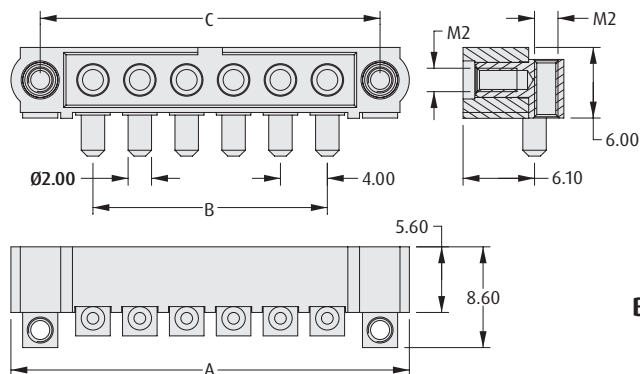
Board Mount Bolt,
2 per connector



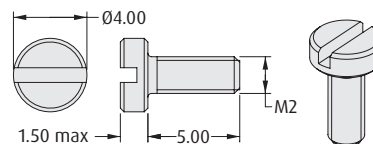
CALCULATION

A	$B + 14$
B	$(\text{No. of Power contacts} - 1) \times 4$
C	$B + 9$

HIGH POWER



Board Mount Bolt,
2 per connector



HOW TO ORDER

M80 - 500000 M5 - XX - XXX - 00 - 000

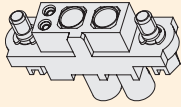
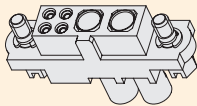
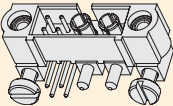
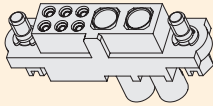
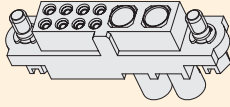
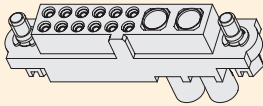
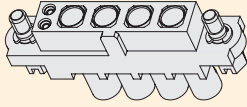
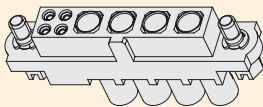
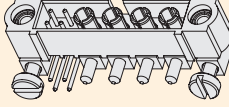
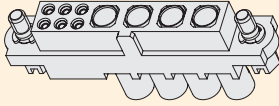
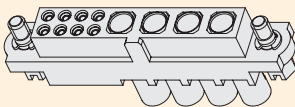
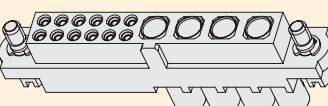
NO. OF POWER CONTACTS	
02, 04, 06, 08, 10	Standard Power
02, 04, 06,	High Power

POWER CONTACTS PART NO.	
333	3.5mm Tail Standard Power
PM3	3.5mm Tail High Power

All dimensions in mm.

Datamate Power/Signal Connectors

- Standard high-reliability connectors fitted with a combination of signal and 20A power contacts.

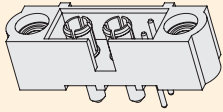
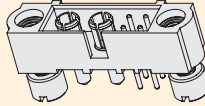
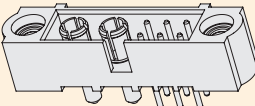
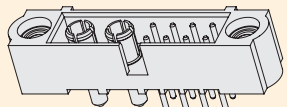
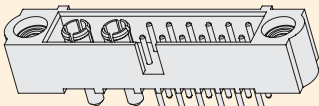
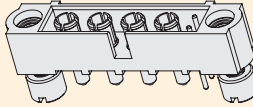
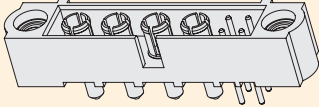
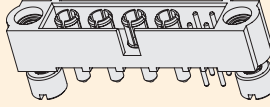
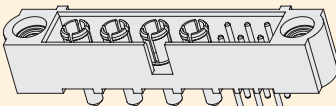
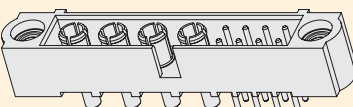
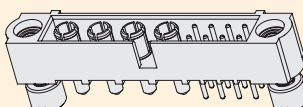
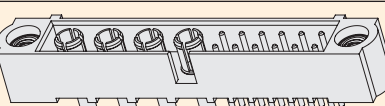
		TYPE	
		Female Cable - Hex Slotted Jackscrews	Male Horizontal 3mm PC Tail - 5mm Board Mount Jackcrew
TOTAL NO. OF CONTACTS	2 Power	 M80-4C10205F1-02-325-00-000	
	4 Signal	 M80-4C10405F1-02-325-00-000	 M80-5L10405M5-02-333-00-000
	6 Signal	 M80-4C10605F1-02-325-00-000	
	8 Signal	 M80-4C10805F1-02-325-00-000	
	12 Signal	 M80-4C11205F1-02-325-00-000	
TOTAL NO. OF CONTACTS	4 Power	 M80-4C10205F1-04-325-00-000	
	4 Signal	 M80-4C10405F1-04-325-00-000	 M80-5L10405M5-04-333-00-000
	6 Signal	 M80-4C10605F1-04-325-00-000	
	8 Signal	 M80-4C10805F1-04-325-00-000	
	12 Signal	 M80-4C11205F1-04-325-00-000	

All dimensions in mm.

Datamate Power/Signal Connectors

DATAMATE POWER/SIGNAL

- Standard high-reliability connectors fitted with a combination of signal and 20A power contacts.

		TYPE	
		Male Vertical 3mm PC Tail - Jackscrew fixing	Male Vertical 3mm PC Tail - 3.5mm Board Mount Jackcrew
TOTAL NO. OF CONTACTS	2 Power	2 Signal  M80-5T10205M1-02-331-00-000	2 Signal  M80-5T10205M2-02-331-00-000
		4 Signal  M80-5T10405M1-02-331-00-000	4 Signal  M80-5T10405M2-02-331-00-000
		6 Signal  M80-5T10605M1-02-331-00-000	
		8 Signal  M80-5T10805M1-02-331-00-000	
		12 Signal  M80-5T11205M1-02-331-00-000	
TOTAL NO. OF CONTACTS	4 Power	2 Signal  M80-5T10205M1-04-331-00-000	2 Signal  M80-5T10205M2-04-331-00-000
		4 Signal  M80-5T10405M1-04-331-00-000	4 Signal  M80-5T10405M2-04-331-00-000
		6 Signal  M80-5T10605M1-04-331-00-000	6 Signal  M80-5T10605M2-04-331-00-000
		8 Signal  M80-5T10805M1-04-331-00-000	8 Signal  M80-5T10805M2-04-331-00-000
		12 Signal  M80-5T11205M1-04-331-00-000	

All dimensions in mm.

Datamate Power/Signal Connectors

Female Power/Signal Cable Connector Kit

- ❖ Part numbers are for a complete kit of a housing and the applicable number of contacts.
- ❖ Hexagonal slotted jackscrews are assembled.
- ❖ Polarised mouldings.
- ❖ Standard Power contacts rated to 20A, signal to 3A.



DATAMATE POWER/SIGNAL

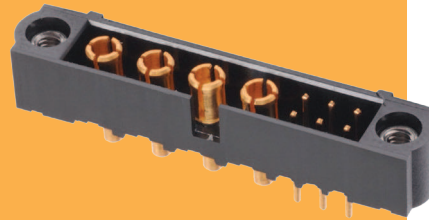
SIGNAL AND POWER	CALCULATION	SPARE CONTACTS						
	<table border="1"> <tr> <td>A</td> <td>B + 13</td> </tr> <tr> <td>B</td> <td>(No. of Power contacts - 1) x 4 + Total no. of Signal contacts + 1</td> </tr> <tr> <td>C</td> <td>B + 8</td> </tr> </table>	A	B + 13	B	(No. of Power contacts - 1) x 4 + Total no. of Signal contacts + 1	C	B + 8	<p>Signal (24 to 28 AWG)</p> <p>Indent Groove</p> <p>ORDER CODE M80-0130005</p> <p>Standard Power (12 AWG)</p> <p>ORDER CODE M80-325</p>
	A	B + 13						
	B	(No. of Power contacts - 1) x 4 + Total no. of Signal contacts + 1						
C	B + 8							
<p>TOOLS</p> <p>Recommended Crimp Tool (Signal) - M22520/2-01 Positioner (Signal) - T5747 Contact Insertion/Removal Tool (Signal) - Z80-280 Contact Removal Tool (Power) - Z80-290</p> <ul style="list-style-type: none"> ❖ No special tooling required for connecting Power wire, other than standard soldering equipment. ❖ Instruction sheets available at www.harwin.com/instructions. 	<p>WIRE STRIPPING DETAILS</p> <p>01.10 max for Signal 02.25 for Standard Power</p> <p>2.00 for Signal 5.00 for Standard Power</p>							
<p>HOW TO ORDER</p> <p>M80 - 4C1 XX 05F1 - XX - 325 - 00 - 000</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td style="background-color: #f4a460;">NO. OF SIGNAL CONTACTS</td> <td style="border: 1px solid black; width: 200px;"></td> <td style="background-color: #f4a460;">NO. OF POWER CONTACTS</td> </tr> <tr> <td style="background-color: #f4a460;">02, 04, 06, 08, 12</td> <td style="border: 1px solid black;"></td> <td style="background-color: #f4a460;">02, 04</td> </tr> </table> <p>Check image chart to confirm Off-The-Shelf sizes available</p>			NO. OF SIGNAL CONTACTS		NO. OF POWER CONTACTS	02, 04, 06, 08, 12		02, 04
NO. OF SIGNAL CONTACTS		NO. OF POWER CONTACTS						
02, 04, 06, 08, 12		02, 04						

All dimensions in mm.

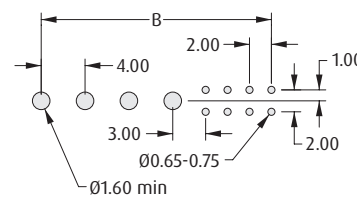
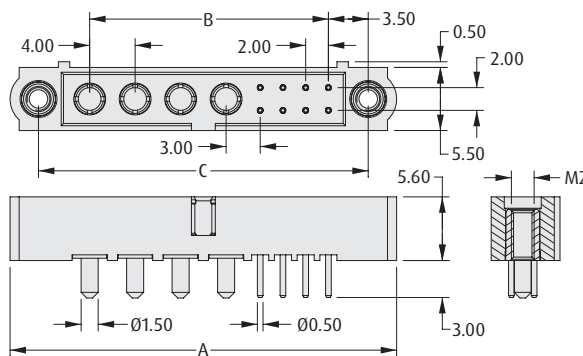
Datamate Power/Signal Connectors

Male Power/Signal Vertical PC Tail

- A selection of stocked Datamate Mix-Tek solder tail standard layouts.
- Choice to suit two PCB thicknesses and two stud lengths.
- Polarised mouldings.
- Standard Power contacts rated to 20A, signal to 3A.



JACKSCREW ONLY

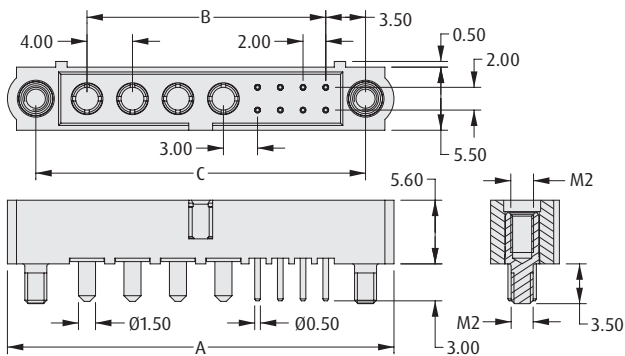


Recommended PC Board Pattern

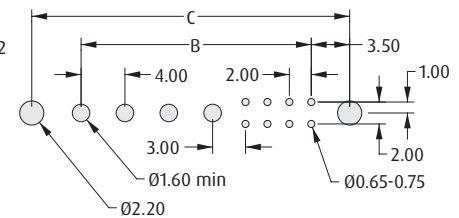
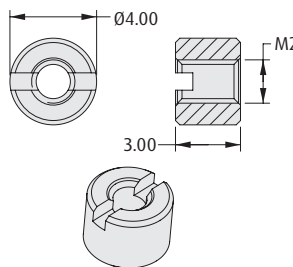
CALCULATION

A	$B + 13$
B	(No. of Power contacts - 1) x 4 + Total no. of Signal contacts + 1
C	$B + 8$

WITH BOARD MOUNT



Board Mount Nut, 2 per connector



Recommended PC Board Pattern

HOW TO ORDER

M80 - 5T1 XX 05 XX - XX - 331 - 00 - 000

NO. OF SIGNAL CONTACTS

02, 04, 06, 08, 12

NO. OF POWER CONTACTS

02, 04

JACKSCREW

M1	Jackscrew only
M2	With 3.5mm Board Mount stud

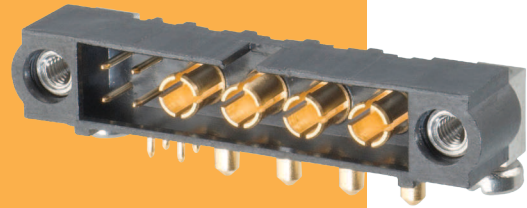
Check image chart to confirm Off-The-Shelf sizes available

All dimensions in mm.

Datamate Power/Signal Connectors

Male Power/Signal Horizontal PC Tail

- ❖ A selection of stocked Datamate Mix-Tek solder tail standard layouts.
- ❖ Choice to suit two PCB thicknesses and two stud lengths.
- ❖ Polarised mouldings.
- ❖ Standard Power contacts rated to 20A, signal to 3A.

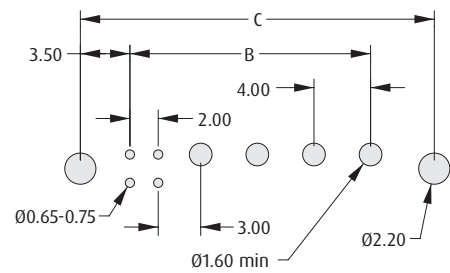
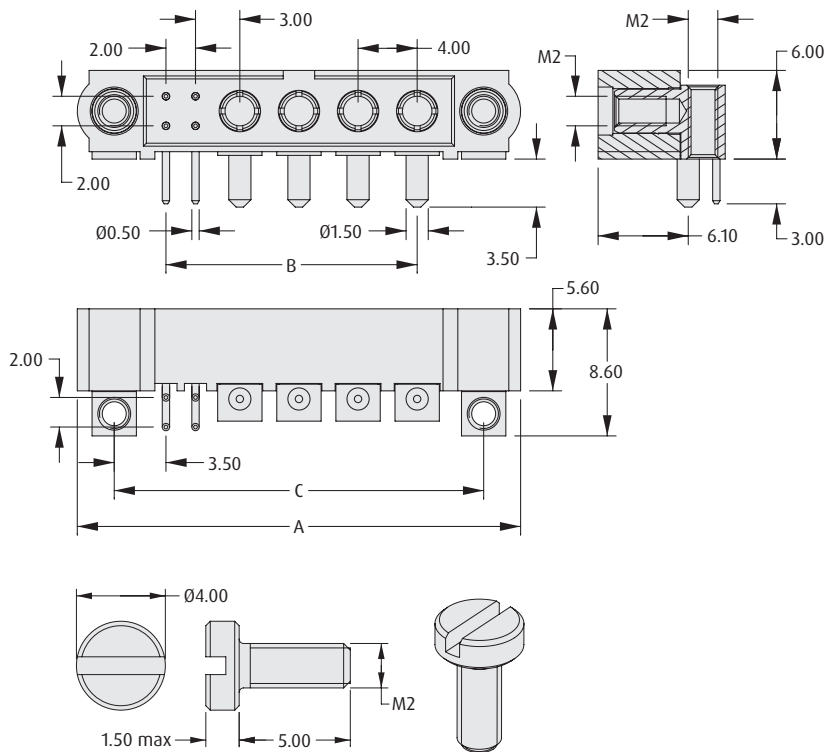


DATAMATE POWER/SIGNAL

SIGNAL AND POWER

CALCULATION

A	B + 13
B	(No. of Power contacts - 1) x 4 + Total no. of Signal contacts + 1
C	B + 8



Recommended PC Board Pattern

Board Mount Bolt, 2 per connector

HOW TO ORDER

M80 - 5L1 04 05 M5 - XX - 333 - 00 - 000

NO. OF SIGNAL CONTACTS

04

NO. OF POWER CONTACTS

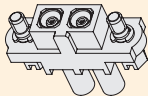
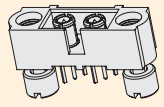
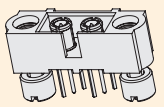
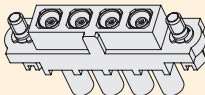
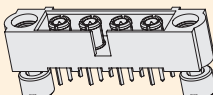
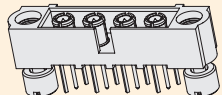
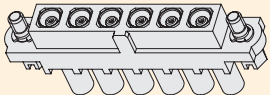
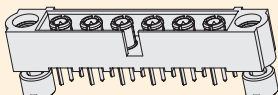
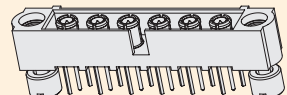
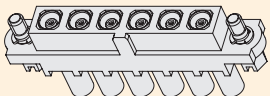
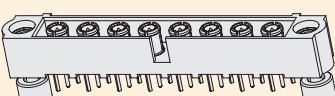
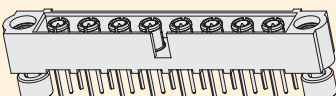
02, 04

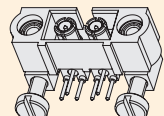
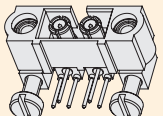
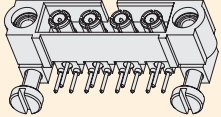
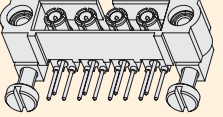
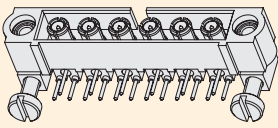
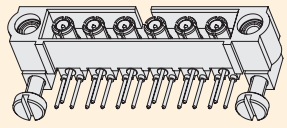
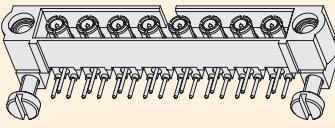
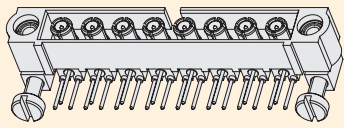
All dimensions in mm.

Datamate Coax Connectors

- Standard high-reliability connectors fitted with coax contacts on 4mm pitch.

DATAMATE COAX

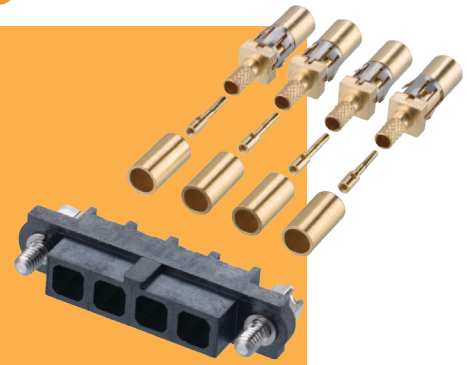
		TYPE		
		Female Cable Connectors - Hex Slotted Jackscrews	Male Vertical 3mm PC Tail - 3.5mm Board Mount Jackcrew	Male Vertical 4.5mm PC Tail - 5mm Board Mount Jackcrew
TOTAL NO. OF CONTACTS	2 Coax	 M80-FC305F1-02	 M80-MV311M2-02	 M80-MV312M3-02
	4 Coax	 M80-FC305F1-04	 M80-MV311M2-04	 M80-MV312M3-04
	6 Coax	 M80-FC305F1-06	 M80-MV311M2-06	 M80-MV312M3-06
	8 Coax	 M80-FC305F1-08	 M80-MV311M2-08	 M80-MV312M3-08

		TYPE		
		Female Cable Assemblies - Hex Slotted Jackscrews	Male Horizontal 3mm PC Tail - 5mm Board Mount Jackcrew	Male Horizontal 4.5mm PC Tail - 5mm Board Mount Jackcrew
TOTAL NO. OF CONTACTS	2 Coax	Single Ended (Female to Cut End) M80-FC305F1-02-0150L Double Ended (Female to Female) M80-FC305F1-02-0150F1	 M80-MH313M5-02	 M80-MH314M5-02
	4 Coax	Single Ended (Female to Cut End) M80-FC305F1-04-0150L Double Ended (Female to Female) M80-FC305F1-04-0150F1	 M80-MH313M5-04	 M80-MH314M5-04
	6 Coax	Single Ended (Female to Cut End) M80-FC305F1-06-1050L Double Ended (Female to Female) M80-FC305F1-06-0150F1	 M80-MH313M5-06	 M80-MH314M5-06
	8 Coax	Single Ended (Female to Cut End) M80-FC305F1-08-0150L Double Ended (Female to Female) M80-FC305F1-08-0150F1	 M80-MH313M5-08	 M80-MH314M5-08

Datamate Coax Connectors

Jack (Female) Crimp Kit

- ❖ A selection of stocked jack cable connectors in standard layouts.
- ❖ 6GHz, 50Ω Coax contacts, suitable for RG178 cable.
- ❖ Product supplied as a complete kit; housing with jackscrews assembled, and the applicable number of coax contacts supplied loose, not assembled.
- ❖ Polarised mouldings.
- ❖ Hexagonal slotted jackscrew style.



DATAMATE COAX

CABLE	CALCULATION	SPARE COAX CONTACTS							
	<table border="1"> <tr> <td>A</td> <td>$B + 14$</td> </tr> <tr> <td>B</td> <td>$(\text{No. of Coax contacts} - 1) \times 4$</td> </tr> <tr> <td>C</td> <td>$B + 9$</td> </tr> </table>	A	$B + 14$	B	$(\text{No. of Coax contacts} - 1) \times 4$	C	$B + 9$		
A	$B + 14$								
B	$(\text{No. of Coax contacts} - 1) \times 4$								
C	$B + 9$								
		<table border="1"> <tr> <td style="background-color: #f4a460;">ORDER CODE</td> </tr> <tr> <td>M80-305</td> </tr> </table>	ORDER CODE	M80-305					
ORDER CODE									
M80-305									
TOOLS	WIRE STRIPPING DETAILS								
<p>Recommended Inner Contact Crimp Tool - Z80-292</p> <p>Positioner for Inner Contact - Z80-291</p> <p>Recommended Outer Sleeve Crimp Tool - Z80-293</p> <p>Contact Removal Tool - Z80-290</p> <p>❖ Instruction sheets available at www.harwin.com/instructions.</p>									
HOW TO ORDER									
<p>M80 - FC 305 F1 - XX</p>									
<table border="1"> <tr> <th colspan="2" style="background-color: #f4a460;">COAX CONTACT TYPE</th> </tr> <tr> <td style="background-color: #f4a460;">305</td> <td>Ø2.00mm cable</td> </tr> </table>	COAX CONTACT TYPE		305	Ø2.00mm cable	<table border="1"> <tr> <th colspan="2" style="background-color: #f4a460;">NO. OF COAX CONTACTS</th> </tr> <tr> <td style="background-color: #f4a460;">02, 04, 06, 08</td> <td></td> </tr> </table>	NO. OF COAX CONTACTS		02, 04, 06, 08	
COAX CONTACT TYPE									
305	Ø2.00mm cable								
NO. OF COAX CONTACTS									
02, 04, 06, 08									

All dimensions in mm.

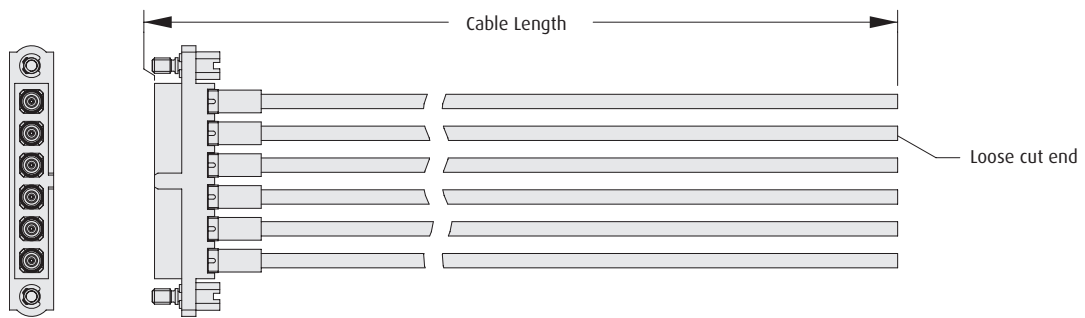
Datamate Coax Connectors

Jack (Female) Cable Assemblies

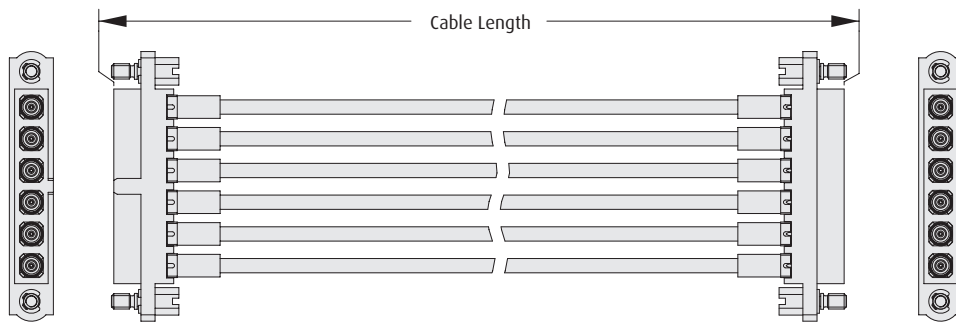
- ❏ A selection of stocked ganged multipoint coaxial cable assemblies in standard layouts.
- ❏ 6GHz, 50Ω Coax contacts, assembled with RG178 cable.
- ❏ Hexagonal slotted jackscrew style.
- ❏ For non-standard cable lengths, please visit harwin.com/cable-assemblies and fill in your requirements.



FEMALE SINGLE ENDED



FEMALE - FEMALE



HOW TO ORDER

M80 - FC305F1 - XX - 0150 X

SERIES CODE

NO. OF POWER CONTACTS

02, 04, 06, 08

TERMINATION - SECOND END

L	Loose cut end
F1	Female connector

CABLE LENGTH

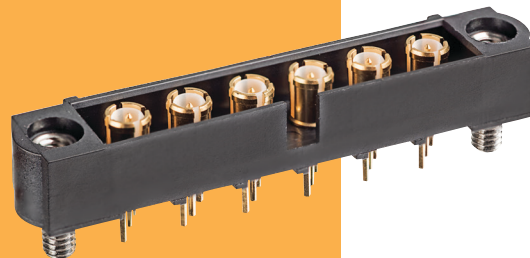
0150 150mm

All dimensions in mm.

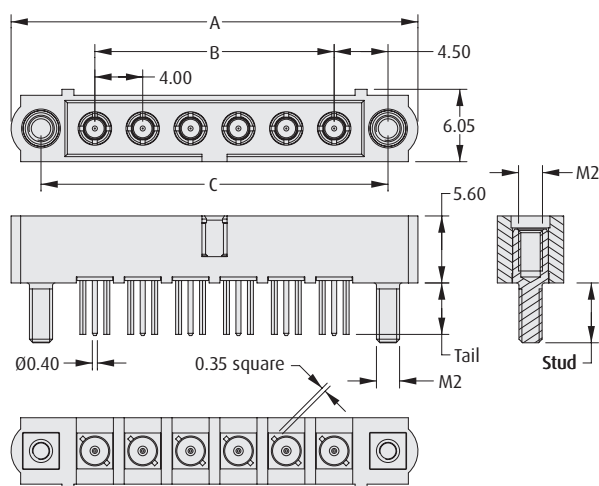
Datamate Coax Connectors

Plug (Male) Vertical PC Tail

- Stocked coax connectors in vertical orientation, with board-mount jackscrews for added security.
- 6GHz, 50Ω Coax contacts.
- Choice to suit two PCB thicknesses.
- Order board mount nuts separately.
- Screwdriver **Z80-298** available for assembling slotted jackscrew nuts.

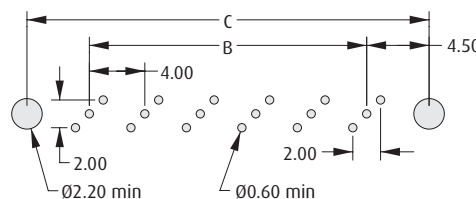


VERTICAL



CALCULATION

A	B + 14
B	(No. of Coax contacts - 1) x 4
C	B + 9



Recommended PCB Board Pattern

HOW TO ORDER

M80 - MV 3XX MX - XX

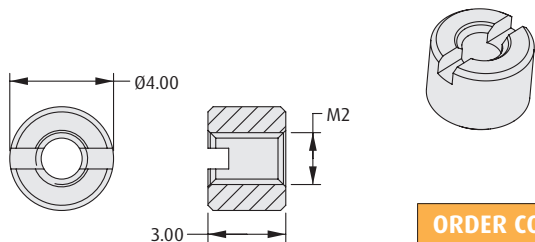
TYPE	
311M2	3mm Tail with 3.5mm Board Mount Stud
312M3	4.5mm Tail with 5mm Board Mount Stud

NO. OF COAX CONTACTS
02, 04, 06, 08

REQUIRED HARDWARE

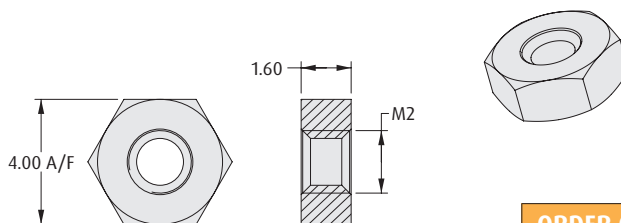
Order separately from connector

Slotted Board Mount Nut



ORDER CODE
M80-2130000B

Hexagonal Board Mount Nut



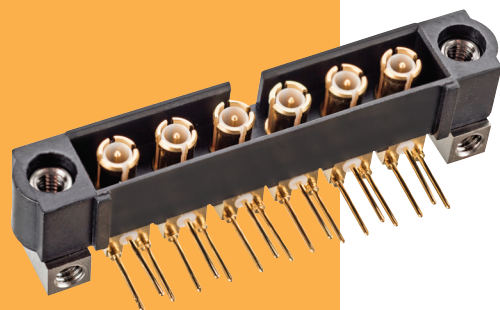
ORDER CODE
M80-2430000B

All dimensions in mm.

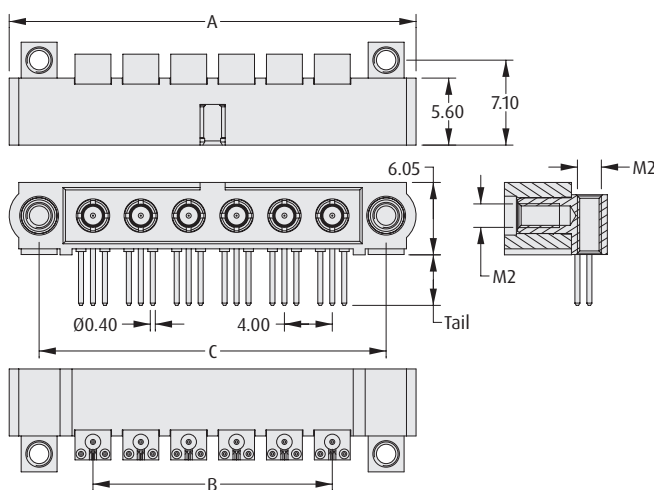
Datamate Coax Connectors

Plug (Male) Horizontal PC Tail

- ❖ Stocked coax connectors in horizontal orientation, with board-mount jackscrews for added security.
- ❖ 6GHz, 50Ω Coax contacts.
- ❖ Choice to suit two PCB thicknesses.
- ❖ Order board mount bolts separately.

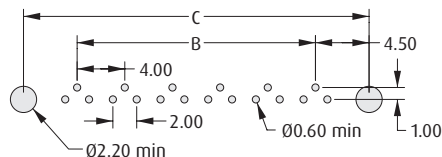


HORIZONTAL



CALCULATION

A	B + 14
B	(No. of Coax contacts - 1) x 4
C	B + 9



Recommended PCB Board Pattern

HOW TO ORDER

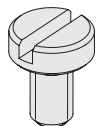
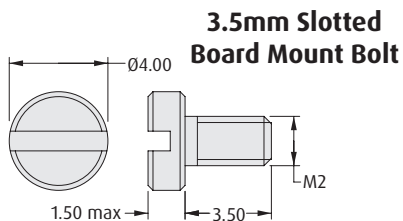
M80 - MH 3XX M5 - XX

TYPE	
313	3mm PC Tail
314	4.5mm PC Tail

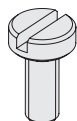
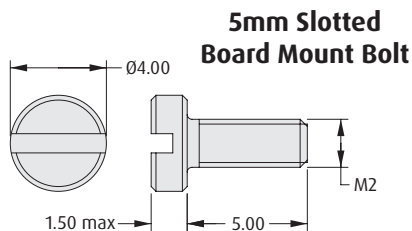
NO. OF COAX CONTACTS
02, 04, 06, 08

REQUIRED HARDWARE

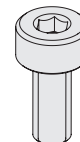
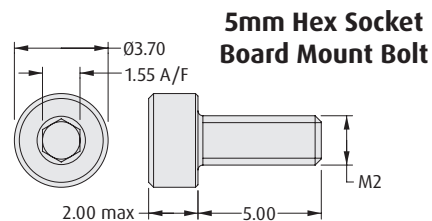
Order separately from connector



ORDER CODE
M80-2260000B



ORDER CODE
M80-2270000B



ORDER CODE
M80-2320000B

All dimensions in mm.

Datamate Mix-Tek Connectors

Metal Backshell Accessories

- ❖ Metal Backshells that can be used with any female cable connector (up to 12AWG), or male connectors with board mount jackscrews.
- ❖ Female backshells come with jackscrews - any existing jackscrews can be removed by removing the e-clip.
- ❖ Suitable for new designs, or in-production addition to enhance existing designs.



DATAMATE MIX-TEK

PART NUMBERING SYSTEM

M80 - 9 XX XX 02

SERIES CODE

FINISH

02 Nickel

TYPE

06	Male
45	Female with Slotted Jackscrews
46	Female with Hex Socket Jackscrews

EQUIVALENT NO. OF SIGNAL CONTACTS	NO. OF POWER ONLY OR COAX ONLY CONTACTS	NO. OF CONTACTS IN POWER/SIGNAL COMBINATION
08	2 contacts	-
10	-	2 Power, 2 Signal
12	3 contacts	2 Power, 4 Signal
14	-	2 Power, 6 Signal
16	4 contacts	2 Power, 8 Signal
18	-	4 Power, 2 Signal
20	5 contacts	2 Power, 12 Signal or 4 Power, 4 Signal
22	-	4 Power, 6 Signal
24	6 contacts	4 Power, 8 Signal
28	7 contacts	4 Power, 12 Signal
32	8 contacts	-

All dimensions in mm.

Datamate Mix-Tek Connectors

Female Metal Backshell

- ❖ Supplied as an accessory kit, including metal backshell, e-clips and the applicable jackscrews.
- ❖ To be used with the appropriate size of Female Cable connector kit without jackscrews (existing jackscrews can be removed).
- ❖ Gives 360 degree shielding when used with conductive braid and mated to a compatible male connector with metal backshell.
- ❖ Instruction sheets available at www.harwin.com/instructions.



FEMALE		CALCULATION	
		A	$B + 16.2$
		B	Equivalent no. of contacts - 2
		C	$B + 7$
		D	$B + 0.8$
E-CLIP TOOL 		BAND-IT TIE 	
❖ For assembling E-Clips supplied with kit. ORDER CODE Z80-300		❖ For fixing braid to rear collar (requires Tie Dex II A30199 Micro Band tool). ORDER CODE M80-9470000	
HOW TO ORDER			
M80 - 94 X XX 02			
SERIES CODE M80 - 94		FINISH 02 Nickel	
TYPE 5 With Slotted Jackscrews 6 With Hex Socket Jackscrews		EQUIVALENT NO. OF SIGNAL CONTACTS 08, 10, 12, 14, 16, 18, 20, 22, 24, 28, 32	

All dimensions in mm.

Datamate Mix-Tek Connectors

Male Metal Backshell

- ❖ Supplied as an accessory, to be used with existing male connectors.
- ❖ Can be fitted to either male vertical PCB connectors with board mount, or male cable connectors with panel mount jackscrews.
- ❖ Gives 360 degree shielding when mounted to a conductive panel and mated to a compatible female connector with metal backshell.



MALE		CALCULATION	
A	$B + 13.7$	B	Equivalent no. of contacts - 2
C	$B + 7$	D	$B + 2.8$

HOW TO ORDER

M80 - 906 XX 02

SERIES CODE	FINISH
	02 Nickel

EQUIVALENT NO. OF SIGNAL CONTACTS
08, 10, 12, 14, 16, 18, 20, 22, 24, 28, 32

All dimensions in mm.

Datamate J-Tek Specification

Materials

Mouldings:	Glass-filled thermoplastic UL94V-0
Female contacts	
Standard J-Tek:	Brass shell, with Beryllium Copper inner contact
T-Contact:	Beryllium Copper
Trio-Tek:	Beryllium Copper
Male contacts:	Copper alloy
Finish:	See individual pages

Electrical

Current - Standard J-Tek, Trio-Tek

Individual contacts in isolation:	3.3A max (at 25°C)
	2.6A max (at 85°C)
All contacts simultaneously:	3.0A max (at 25°C)
	2.2A max (at 85°C)

Current - T-Contact

Individual contacts in isolation:	8.5A max (at 25°C)
	6.5A max (at 85°C)
All contacts simultaneously:	3.5A max (at 25°C)
	2.6A max (at 85°C)

Working voltage

At sea level 1013 mbar:	800V DC or AC peak
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Voltage proof

At sea level 1013 mbar:	1,200V DC or AC peak
-------------------------	----------------------

Contact resistance

Initial:	20mΩ max
After conditioning:	25mΩ max

Insulation resistance

Initial:	1,000MΩ min
After conditioning:	100MΩ min

Mechanical

Durability

Standard J-Tek:	500 operations
T-Contact:	1,000 operations
Trio-Tek:	400 operations

Insertion force (max)

Standard J-Tek:	2.8N
T-Contact:	4.0N
Trio-Tek:	2.8N

Withdrawal force (min)

Standard J-Tek:	0.2N
T-Contact:	0.5N
Trio-Tek:	0.2N

Signal crimp accommodation:

22 AWG to 32 AWG
BS 3G 210 Type A, MIL-W-16878

Environmental

Environmental classification: 55/125/56 days at 95% RH

Operational temperature: -55°C to +125°C

*Vibration sensitivity

Standard J-Tek, Trio-Tek: 10Hz to 2000Hz, 0.75mm, 98m/s² (10G), duration 6 hours

T-Contact: 10Hz to 2000Hz, 0.75mm, 390m/s² (40G), duration 6 hours

*Bump severity:

390m/s² (40G), 4000 ±10 bumps

*Shock severity:

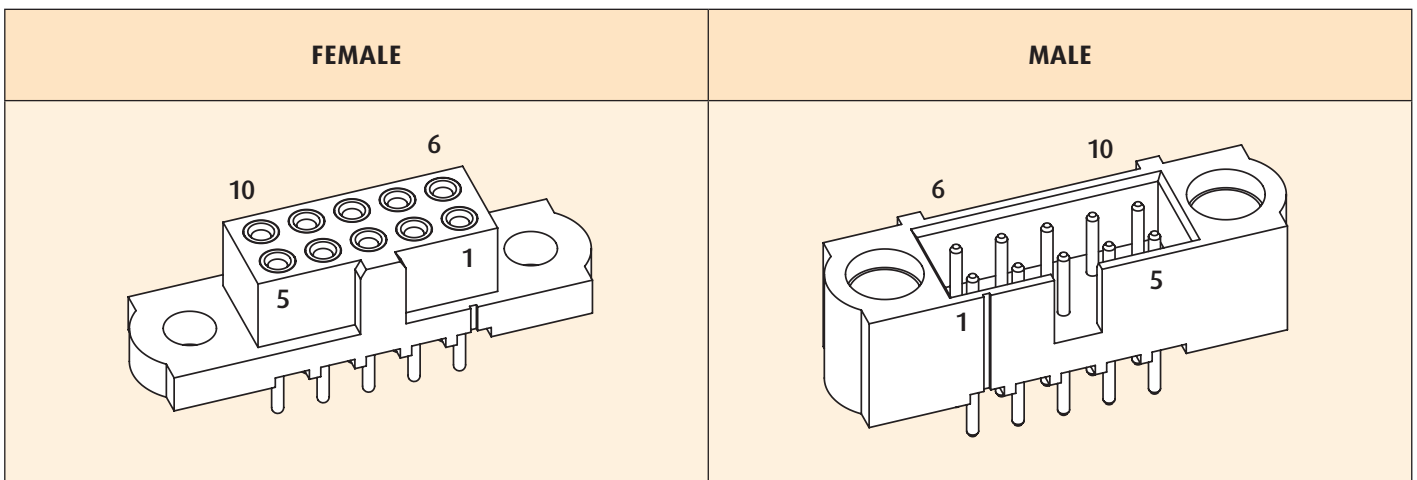
981m/s² (100G) for 6ms

*Acceleration severity:

490m/s² (50G)

* Tested with connectors with Jackscrews.

Pin Numbering



All dimensions in mm.