

Datamate **Mix-Tek**

OFF THE SHELF



Datamate Mix-Tek now available off-the-shelf

Datamate Mix-Tek is a 2mm pitch high reliability, high performance COTS connector system, which has a proven track record under the most extreme conditions.

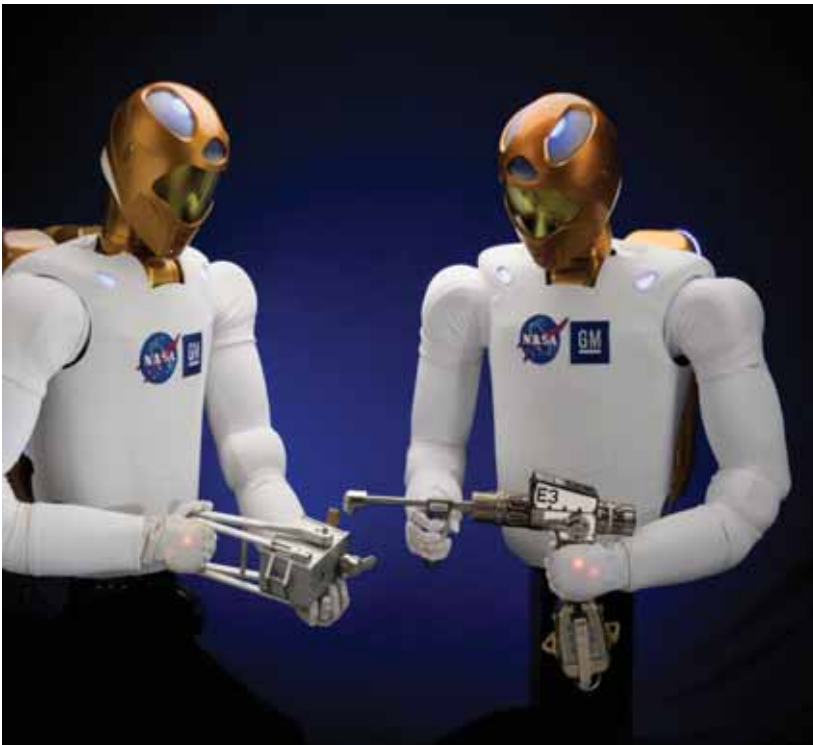
This performance is made possible by Harwin's high reliability contact technology; low frequency signal contacts feature four finger Beryllium Copper contact Technology (3A), Power contacts are rated for use up

to 20A & Coax rated to 6GHz. The Datamate Mix-Tek system can be customer specified in a huge number of configurations, effectively becoming an application specific part.

Standard Layouts

To reduce lead times Harwin is now launching standard layouts of its Power and Signal and Power mixed layouts to be stocked in depth and available off the shelf.

Free of charge samples are available from www.harwin.com



Robonaut used with kind permission of NASA.



High reliability
four finger
Beryllium
Copper contact



20A max current
solder contacts





Source: www.eurofighter.com



Features & Benefits

- ❖ COTS (Commercial off the shelf) system
- ❖ Free of charge samples, 3D CAD models and online Live Help
- ❖ Mixes high power with signal contacts in the same connection
- ❖ Miniature connector system with high performance contacts reduces space and weight
- ❖ High-Rel connector system at commercial prices
- ❖ Standard layouts stocked in depth by Harwin and throughout our distribution network
- ❖ Ruggedized for safety critical applications
- ❖ Suited for use in harsh environments where high vibration, shock and extremes of temperature are experienced
- ❖ Complies with BS9525-F0033 & CECC 75101-008

Applications

- ❖ Robotics
- ❖ Commercial and Military Aerospace
- ❖ UAV's
- ❖ Avionics
- ❖ Communications
- ❖ Rail & Transportation
- ❖ Medical
- ❖ Oil & Gas
- ❖ Space
- ❖ Military vehicles

Datamate

MATING PROFILES

Electrical

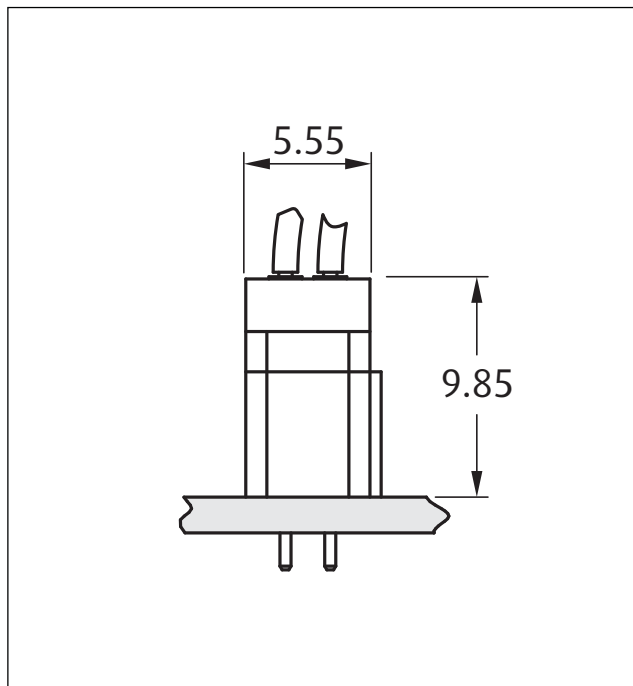
Current (signal contacts):	3.0A (all contacts, 25°C)
Current (power contacts):	20A (single contact)
Voltage:	240V dc/ac peak (at 2.0A max)
Contact Resistance (signal):	25 mΩ max
Contact Resistance (power):	6 mΩ max
Insulation Resistance:	100 MΩ min (at 500V dc)

Mechanical

Durability:	500 operations
Wire sizes (signal contacts):	24 to 28 AWG, BS3G210 Type A
Wire size (power contacts):	12 AWG, Ø2.3mm max

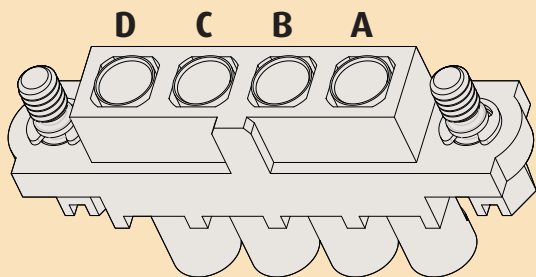
Environmental

Operating 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 bumps
Shock severity:	981m/s ² (100G) for 6ms
Acceleration severity:	490m/s ² (50G)

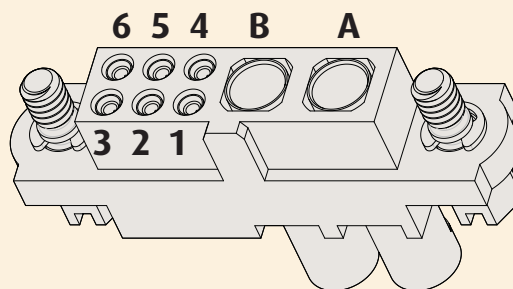


Pin Numbering

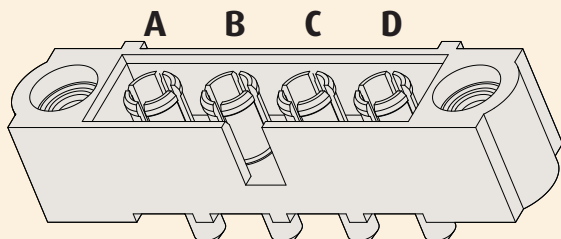
Female, Power Contacts only



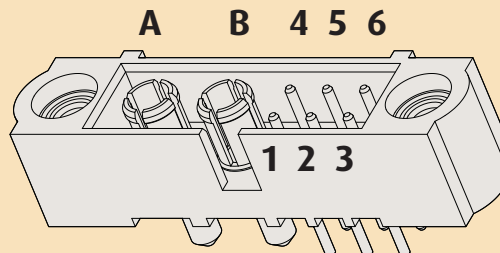
Female, Signal and Power Contacts



Male, Power Contacts only






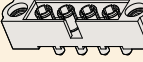


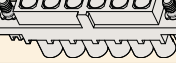





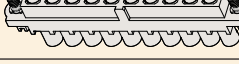





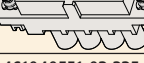


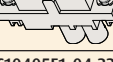


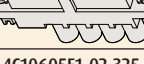







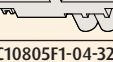
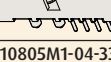
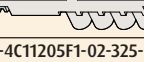
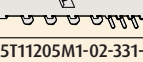

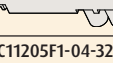
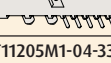
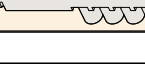



Male, Signal and Power Contacts



All dimensions in mm

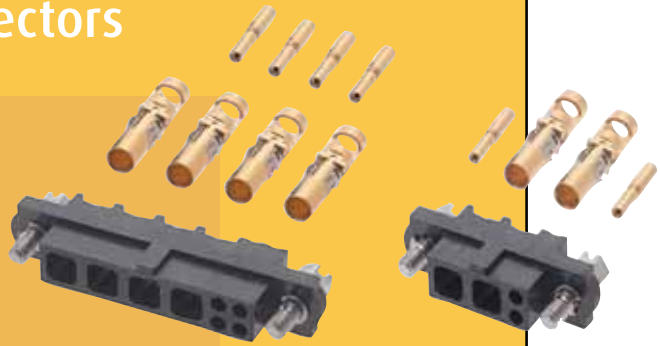
www.harwin.com

	Female Connectors		Male Connectors		
	Hexagonal slotted jackscrew		Jackscrew with 3.5mm board-mount	Jackscrew with 5mm board-mount	
Contact Arrangement	2 Power	M80-4000000F1-02-325-00-000 	M80-5000000M1-02-331-00-000 	M80-5000000M2-02-331-00-000 	M80-5000000M3-02-332-00-000 
	4 Power	M80-4000000F1-04-325-00-000 	M80-5000000M1-04-331-00-000 	M80-5000000M2-04-331-00-000 	M80-5000000M3-04-332-00-000 
	6 Power	M80-4000000F1-06-325-00-000 		M80-5000000M2-06-331-00-000 	M80-5000000M3-06-332-00-000 
	8 Power	M80-4000000F1-08-325-00-000 		M80-5000000M2-08-331-00-000 	M80-5000000M3-08-332-00-000 
	10 Power	M80-4000000F1-10-325-00-000 		M80-5000000M2-10-331-00-000 	M80-5000000M3-10-332-00-000 
	2 Signal, 2 Power	M80-4C10205F1-02-325-00-000 	M80-5T10205M1-02-331-00-000 	M80-5T10205M2-02-331-00-000 	
	2 Signal, 4 Power	M80-4C10205F1-04-325-00-000 	M80-5T10205M1-04-331-00-000 	M80-5T10205M2-04-331-00-000 	
	4 Signal, 2 Power	M80-4C10405F1-02-325-00-000 	M80-5T10405M1-02-331-00-000 	M80-5T10405M2-02-331-00-000 	
	4 Signal, 4 Power	M80-4C10405F1-04-325-00-000 	M80-5T10405M1-04-331-00-000 	M80-5T10405M2-04-331-00-000 	
	6 Signal, 2 Power	M80-4C10605F1-02-325-00-000 	M80-5T10605M1-02-331-00-000 		
	6 Signal, 4 Power	M80-4C10605F1-04-325-00-000 	M80-5T10605M1-04-331-00-000 	M80-5T10605M2-04-331-00-000 	
	8 Signal, 2 Power	M80-4C10805F1-02-325-00-000 	M80-5T10805M1-02-331-00-000 		
	8 Signal, 4 Power	M80-4C10805F1-04-325-00-000 	M80-5T10805M1-04-331-00-000 	M80-5T10805M2-04-331-00-000 	
	12 Signal, 2 Power	M80-4C11205F1-02-325-00-000 	M80-5T11205M1-02-331-00-000 		
12 Signal, 4 Power	M80-4C11205F1-04-325-00-000 	M80-5T11205M1-04-331-00-000 			

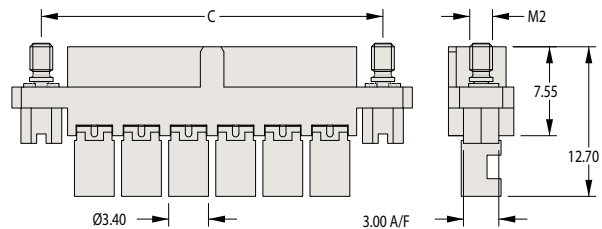
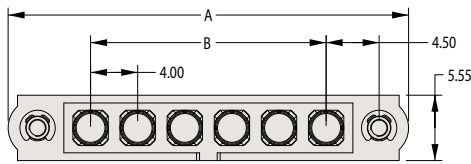
Datamate Mix-Tek Connectors

Female

- ❖ A selection of stocked, female crimp, Datamate Mix-Tek standard layouts
- ❖ Hexagonal slotted jackscrew style
- ❖ Crimp tooling on page 8
- ❖ Polarised mouldings
- ❖ Power contacts rated to 20A, signal to 3A
- ❖ Mates with connectors shown opposite



POWER CONTACTS ONLY



CALCULATION

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

PART NUMBER BREAKDOWN

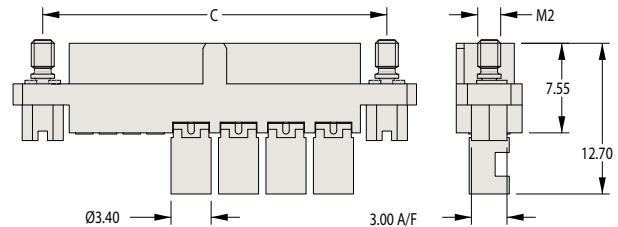
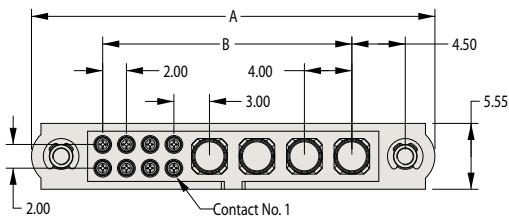
M80 - 4000000F1 - XX - 325 - 00 - 000

Refer to page 5 for in stock sizes.

NO. OF POWER CONTACTS

2, 4, 6, 8, 10

SIGNAL AND POWER CONTACTS



CALCULATION

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

PART NUMBER BREAKDOWN

M80 - 4C1 XX 05F1 - XX - 325 - 00 - 000

Refer to page 5 for in stock sizes.

NO. OF SIGNAL CONTACTS

2, 4, 6, 8, 12

NO. OF POWER CONTACTS

2, 4, 6, 8, 10

All dimensions in mm

www.harwin.com

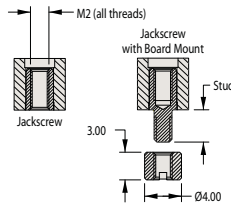
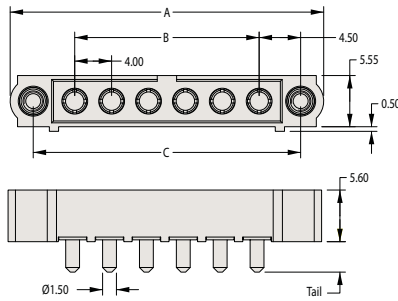
Datamate Mix-Tek Connectors

Male



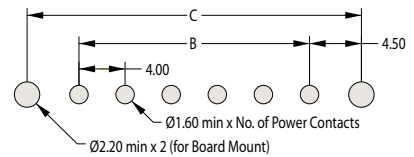
- ❖ A selection of stocked Datamate Mix-Tek solder tail standard layouts
- ❖ Choice to suit two PCB thicknesses and two stud lengths
- ❖ Mates with connectors shown opposite

POWER CONTACTS ONLY



CALCULATION

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



PART NUMBER BREAKDOWN

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

Refer to page 5 for in stock sizes.

JACKSCREW

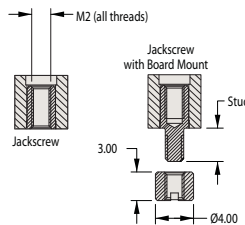
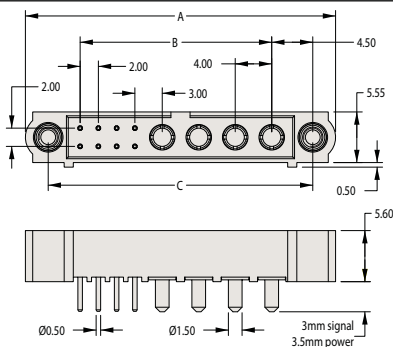
M1	Jackscrew only
M2	With 3.5mm Board Mount stud
M3	With 5mm Board Mount stud

NO. OF POWER CONTACTS
2, 4, 6, 8, 10

POWER CONTACT PART NO.

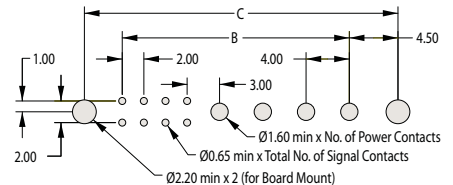
331	3.5mm Tail
332	5 mm Tail

SIGNAL AND POWER CONTACTS



CALCULATION

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



PART NUMBER BREAKDOWN

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

Refer to page 5 for in stock sizes.

NO. OF SIGNAL CONTACTS
2, 4, 6, 8, 12

JACKSCREW

M1	Jackscrew only
M2	With 3.5mm Board Mount stud

NO. OF POWER CONTACTS
2, 4, 6, 8, 10

Datamate Tooling

❖ Instruction sheets can be accessed at www.harwin.com/downloads/instructions

POSITIONER

- ❖ Used with hand crimp tool shown opposite.



ORDER CODE

Female signal crimp	T5747
---------------------	--------------

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

Female signal contacts	M22520/2-01
------------------------	--------------------

REMOVAL TOOL

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



ORDER CODE

Mix-Tek special cable connectors	Z80-290
----------------------------------	----------------

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	Z80-280
---------------	----------------

Harwin North America
Salem, New Hampshire, USA
E: misboston@harwin.com
T: +1 603 893 5376

Harwin Europe
Portsmouth, Hampshire, UK
E: mis@harwin.co.uk
T: +44 (0) 23 9237 0451

Harwin Germany
Munich
E: wpohl@harwin.com
T: +49 (0) 89 379 19 400

Harwin Asia
Singapore
E: mis@harwin.com.sg
T: +65 6 779 4909