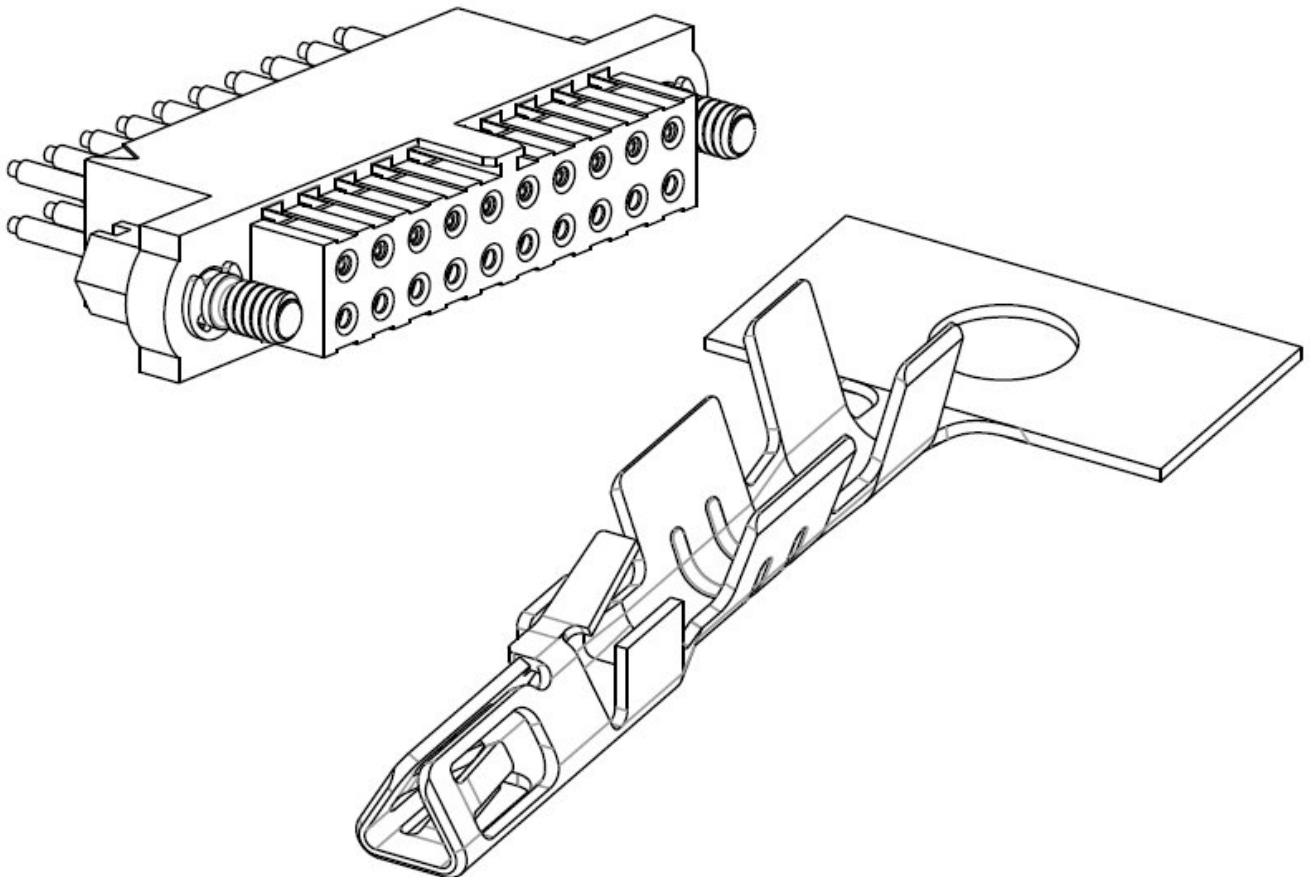


M80 SERIES FEMALE OPEN BARREL CRIMP CONTACT AND ASSOCIATED RECTANGULAR CRIMP HOUSING

April 2008

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ISSUE

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08.04.08

Component Specification

C04001

Datamate Trio-Tek

1.0 DESCRIPTION OF CONNECTOR AND INTENDED APPLICATION.

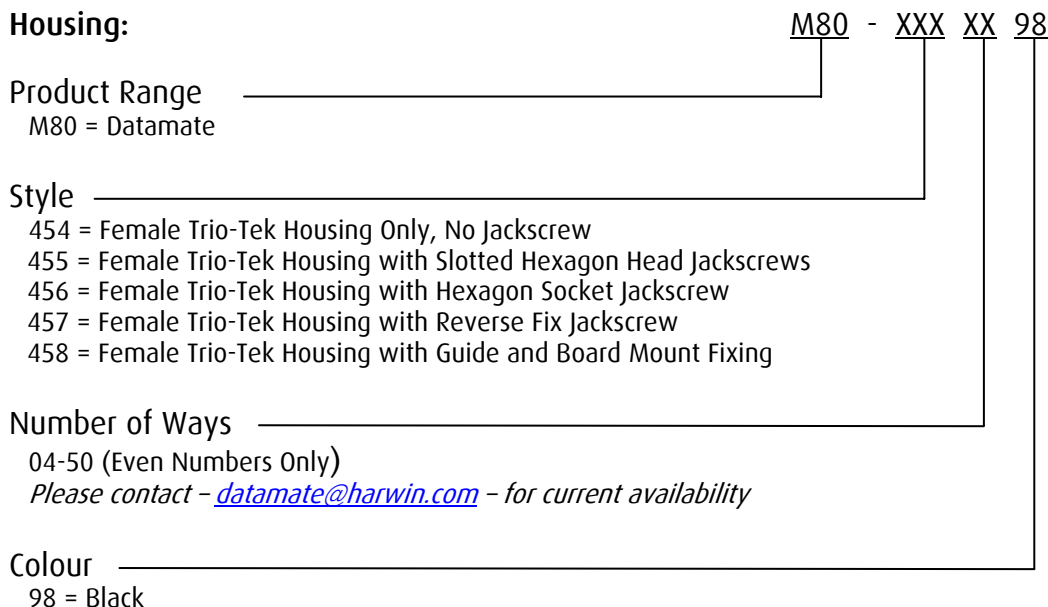
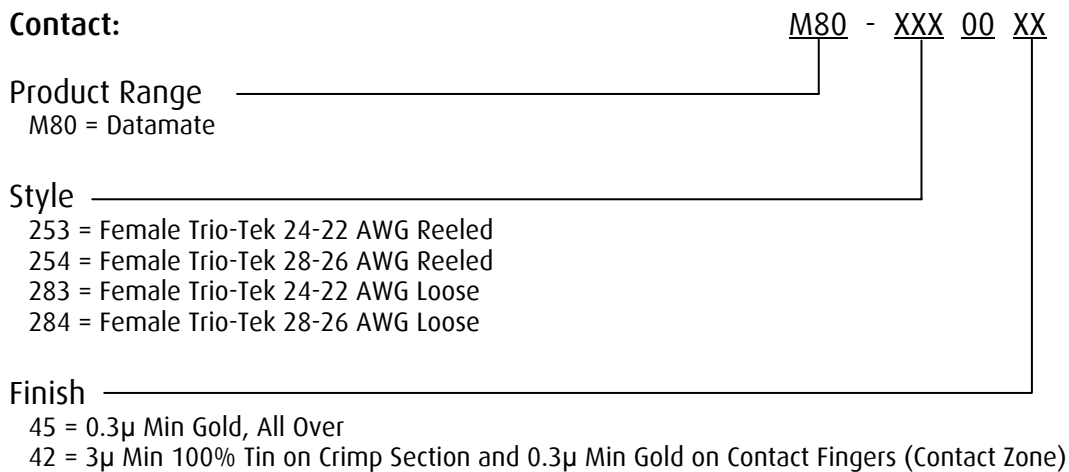
The M80 series stamped female Trio-Tek open barrel crimp contact and rectangular Trio-Tek crimp housing form part of the Datamate J-Tek range of 2mm pitch male and female rectangular, fully shrouded unsealed connectors with replaceable contacts for interconnecting board to board, cable to board and cable to cable. The range covers 4 to 50 ways, in various application methods. Female connectors are available for F-crimp (Trio-Tek open barrel), machined closed barrel crimp, vertical through-board and surface mount termination. Male connectors are available for machined closed barrel crimp, vertical or horizontal (90°) through-board and vertical or horizontal (90°) surface-mount termination.

Datamate Trio-Tek contacts are gold or gold/tin plated. The contact zone of a gold plated contact is hard acid gold of 98% purity.

Datamate Trio-Tek connectors are intended for use as low voltage connectors in high packing density electronic equipment. Connector housing are polarised to prevent mis-matching and can be produced with jackscrew, with or without board mounting. Datamate Trio-Tek reeled contacts permit fully automated crimping in medium and high volume application, whereas loose contacts can be used for low volume applications using appropriate hand crimp tooling.

2.0 MARKING OF CONTACT AND HOUSING, AND/OR PACKAGE (ORDER CODE).

The marking (order code) shall appear on the package and shall be of the following style:



3.0 RATINGS.

All materials are listed on individual drawings.

3.1 Electrical Characteristics.

Current – per individual contact at an ambient temperature of 25°C.....	3.3A max (When only one contact per connector is electrically loaded)
Current – per individual contact at an ambient temperature of 85°C.....	2.6A max (When only one contact per connector is electrically loaded)
Current – per contact through all contacts at an ambient temperature of 25°C.....	3.0A max
Current – per contact through all contacts at an ambient temperature of 85°C.....	2.2A max
Working Voltage (at 3.3A max, 1013mbar, sea level).....	120V DC or AC peak
Working Voltage (at 2.0A max, 1013mbar, sea level).....	240V DC or AC peak
Voltage Proof (at 1013mbar, sea level).....	360V DC or AC peak
Contact Resistance (initial)	20mΩ max
Contact Resistance (after conditioning)	25mΩ max
Insulation Resistance (initial)	1,000MΩ min
Insulation Resistance (hot after conditioning).....	100MΩ min
Creepage Distance (contact-to-contact)	0.35mm min
Clearance Distance (contact-to-contact).....	0.35mm min

3.2 Environmental Characteristics.

Environmental Classification.....	55/125/56 at 95% RH
Low Air Pressure Severity	300 mbar
Vibration Severity *	10Hz to 2000Hz over 0.75mm at 98m/s ² (10g) duration 6 hours
Bump Severity *	390m/s ² (40g) 4000 ±10 bumps
Shock Severity *	981m/s ² (100g) for 6ms
Acceleration Severity *	490m/s ² (50g)

* *Jackscrew fixings fully utilized*

Component Specification

C04001

Datamate Trio-Tek

3.3 Mechanical Characteristics.

Durability **	500 operations
High Temperature, Long Term (current as in 3.1).....	1000 hours at 85°C
High Temperature, Short Term (no electrical load).....	250 hours at 125°C
Contact Retention in Housing	10N min
Contact Replacement in Housing.....	5 times
Contact Holding Force	0.2N min
Insertion Force (per contact, using mating contact)	2.8N max, 0.5N min
Withdrawal Force (per contact, using mating contact).....	1.8N max, 0.2N min

** *Datamate has been tested to 5,000 operations, and still performed within Electrical specifications.
Please contact – datamate@harwin.com – for more information.*

3.4 Materials.

Contact, Trio-Tek.....	Beryllium Copper
Housing.....	Glass Filled Thermoplastic
Housing Flame Retardancy	UL 94 V-0
Jackscrew Hardware	Stainless Steel

3.5 Wire Termination Range.

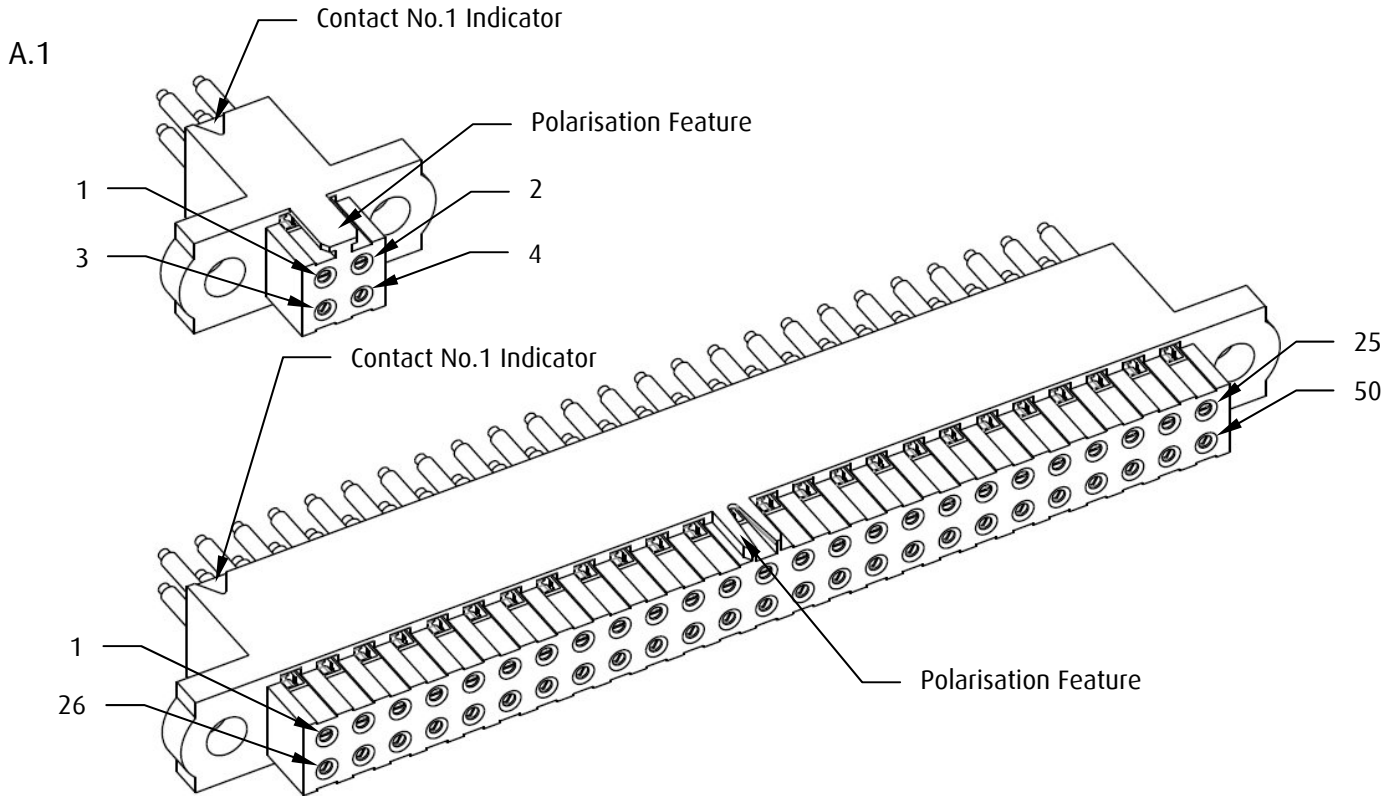
Wire Type (recommended).....	BS 3G 210 Type A
Maximum Insulation Diameter.....	Ø1.1mm
Insulation Strip Length	2.5-3.0mm

Size	Conductor				Maximum Insulation Diameter	Hand Crimp Tool Z80-255 Nest I/D	Conductor Barrel		Minimum Pull-Off Force
	Stranding	Diameter	Area	Circular MIL Area			Crimp Height	Crimp Width	
AWG	No. x Ømm	Ømm	mm ²	CMA	Ømm	No.	mm	mm	N
28	7 x 0.12	0.36	0.0792	156	0.71	26-28	TBC	TBC	12.5
26	7 x 0.15	0.45	0.1237	244	0.80				25
24	7 x 0.20	0.60	0.2199	434	0.95	22-24	0.81	1.21	44
22	19 x 0.15	0.75	0.3358	663	1.10				50

All dimensions are nominal unless otherwise stated

APPENDIX B - Contact Orientations

These diagrams show examples of contact numbering with reference to the polarisation feature. They represent female connectors, without jackscrews.



APPENDIX B - Instructions For The Use of Housings Fitted With Jackscrews

Connectors are fitted with jackscrews where it is considered necessary to provide mechanical assistance in ensuring a satisfactory engagement and separation of the connector. This may apply in cases where engagement and separation forces are so high as to prevent satisfactory hand engagement, or where access to connector is restricted. Jackscrews also provide a locking feature, preventing the connector from disengaging under adverse conditions.

In order to obtain maximum effectiveness from the jackscrew system, the following rules for their use should be observed.

1. The connector with the fixed jackscrew should be fixed to the mounting board by means of the male thread on the jackscrew, and the supplied M2 nut. The nut should be tightened to a torque of 20cmN.
2. On engaging the two halves of the connector after ensuring correct polarity, lightly push home the floating half until the jackscrews touch. Then, maintaining the pressure, turn one of the floating jackscrews clockwise, until it engages with the fixed screw. Repeat with the other screw.

Then screw in each jackscrew, ensuring even loading by applying a maximum of one turn to each screw in sequence until the connector is bottomed. This will be evident by a sudden increase in the torque required on the screw. This torque should not exceed 20cmN.

NB: Care to be taken when aligning male and female threads to avoid cross-threading and possible failure of parts.

3. On disengaging the two halves of the connector turn each of the floating jackscrews anti-clockwise. Again ensure even loading by turning each screw in sequence for a maximum of one turn until the jackscrew disengage. The connector can then be easily pulled apart.