

COMPONENT SPECIFICATION**M20 SERIES CONNECTORS**

JANUARY 2009

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APPENDICES NOTES:

1. Third angle projection is used where projected views are shown.
2. All dimensions are in millimetres.
3. For explanation of dimensions, etc. see BS8888.
4. Unless otherwise stated, all dimensions are maxima.

PREPARED BY.....APPROVED BY.....

<u>ISSUE</u>	<u>C/NOTE</u>	<u>DATE</u>
04	1039	16.12.86
05	1567	01.02.89
06	1663	29.06.90
07	1688	08.09.90
08	1845	28.06.91
09	2014	01.06.92
10	2116	13.10.92
11	2310	16.06.93
12	7332	02.09.03
13	10256	13.01.09

COMPONENT SPECIFICATION

M20 SERIES CONNECTORS

1. DESCRIPTION OF CONNECTOR AND INTENDED APPLICATION.

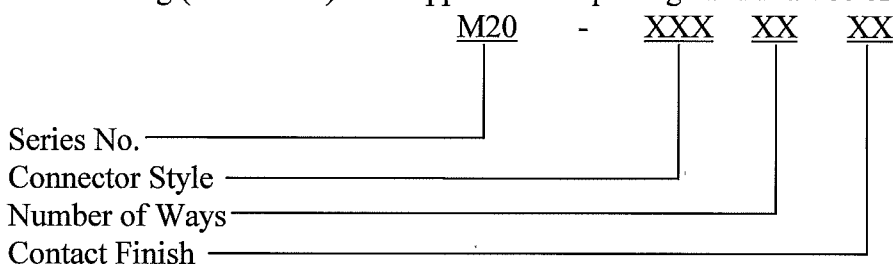
A range of 2.54mm (0.1") pitch connectors, having 0.64mm (0.025") square pins and sockets suitable for interconnecting board to board and board to wire.

The socket is a box section design with a latch to locate and hold in an insulated housing. Terminations are available for wire crimp, through board solder or surface mount in either horizontal or vertical mounting.

The plug pin is held in a moulding, and is available for either horizontal or vertical, surface mount or through board solder mounting. Plug mouldings are available in unlatched or latched versions. Contacts may be gold. Surface mountable pin headers are available in single and double row, vertical and horizontal variations.

2. MARKING OF THE CONNECTOR AND/OR PACKAGE (ORDER CODE).

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



For details of styles, numbers of ways and finishes see applicable catalogue and engineering drawings.

3. RATINGS.

3.1. ELECTRICAL CHARACTERISTICS.

3.1.1. Crimp contacts M20-116 and M20-118.

Rated Current	2.5A
Rated Voltage	250V AC/DC
Dielectric Withstanding Voltage	1,000V AC/minute
Insulation Resistance	1,000 M Ω /minute

3.1.2. General.

Current per individual contact at an ambient temperature of 25°C	3A max
(When only one contact per connector is electrically loaded)	
Current per contact through all contacts at an ambient temperature of 25°C	2A max
Creepage path contact-to-contact	1.7mm min
Air gap contact-to-contact	1.7mm min
Voltage proof	750V rms at 50 Hz (sea level)
Maximum contact resistance (initially)	20 m Ω Tin, 15 m Ω Gold
Maximum contact resistance (after conditioning)	30 m Ω Tin, 25 m Ω Gold
Minimum insulation resistance (initially)	100,000 M Ω
Minimum insulation resistance (hot after conditioning)	1000 M Ω

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3. RATINGS (continued).**3.2. ENVIRONMENTAL CHARACTERISTICS.****3.2.1. Crimp contacts M20-116 and M20-118.**

Temperature Range.....-25°C to 85°C

3.2.2. General.

Environmental classification.....40/105/21

Low air pressure severity300 mbar

3.3. MECHANICAL CHARACTERISTICS.

Durability50 operations Tin, 300 operations Gold

High temperature, long term (current as in 3.1.).....1000 hours at 70°C

High temperature, short term (no electrical load)250 hours at 85°C

High temperature, short term (surface mount only)260°C for 1 minute

Contact retention in moulding:

Socket (Crimp)15N min

Socket (PC Tail)4N min

Plug.....12N min

Insertion and withdrawal forces:

Maximum insertion force (using 0.635mm square pin).

Average result over 10 measurements must not exceed 4N.

Single result must not exceed 5N.

Minimum Insertion Force.....1N

Withdrawal Force (using 0.635mm square pin).....1.5N max, 0.2N min

Crimp contact minimum pull-off forces:

Contact	Wire Size (A.W.G)				
	30	28	26	24	22
M20-11600XX (Reeled)	9N	11N	18N	29N	45N
M20-11800XX (Loose)	9N	11N	18N	29N	45N

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APPENDIX 1 - GAUGES.

NOTES:

1. Material = Steel to BS1407 or equivalent.
2. Gauging surfaces to be hardened/ground to 650 H.V.5 minimum.
3. These gauges to be used for testing fully assembled components only.
4. Ultimate wear limit of 0.005mm is allowable on gauging diameters.

CONTACT PUSH-OUT GAUGE.

