

2mm Pitch Datamate Connectors



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Specifications

HARWIN operate an ongoing development program. This may result in changes to the product specifications shown in this catalogue.

Dimensions

Dimensions are in millimetres and are nominal unless otherwise stated.

From Conception to Connection

HARWIN produce an extensive range of standard items available from stock, but in addition also specialise in custom design. A major part of manufacturing is designed to specific customer requirements starting from original concept through to mass production within a matter of weeks.

With over 50 years experience in the industry HARWIN has grown and developed into a vast number of product fields, showing expertise in stamping, moulding, precision turning, cable assembly and automatic and semiautomatic assembly methods.

If you have a special requirement, please contact your nearest HARWIN office.

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Board Connectors

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Sockets

IC
Packaging

Spacers

GLOBAL INTERCO MANUF

FROM
TO
Component
Assembly
Systems

Tabs &
Terminals

- Integrated manufacturing company
- Quality products to international standards - ISO 9001 (No: FM1093)
- Free of charge samples
- Extensive distribution network
- Technical support

For the latest product our website:

HARWIN

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Manufacturing

High Rel
Connectors

Board To Board
Connectors

Surface Mount
Connectors

Power
Connectors

Custom
Connectors

Packaging

- Special labelling
- Tool design and manufacture capability
- Custom design and manufacturing capability
- Packaging options include tape and reel, radial tape and other special packaging options

information bookmark
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Datamate

Specification

This catalogue details a range of plug and socket connectors for interconnecting board to board, board to wire and cable to cable in data transmission applications.

- Available in discrete sizes 2 to 63 ways, 1, 2 or 3 rows.
- Polarisation prevents mis-mating of connectors.
- Fully shrouded contacts.
- Latching, if required.
- PC board strain relief.
- Four leaf beryllium copper contact suitable for high speed data transmission.



APPLICATIONS		MALE CONNECTORS			
FEMALE	VERTICAL	HORIZONTAL	SMT	CRIMP	
VERTICAL P.C. TAIL	M80-894 M80-897 M80-877 M80-879 M80-805 M80-867 M80-869 M80-815	M80-876 M80-878 M80-804 M80-866 M80-868 M80-814	M80-887 M80-891 M80-676 M80-647 M80-648	M80-812, M80-813 M80-816, M80-817 M80-897 M80-891	
	M80-898 M80-899 M80-877 M80-879 M80-805 M80-867 M80-869 M80-815	M80-876 M80-878 M80-804 M80-866 M80-868 M80-814	M80-888 M80-889 M80-646 M80-647 M80-648	M80-812 M80-813 M80-816 M80-817 M80-888 M80-887	
	M80-897 M80-867 M80-869 M80-815	M80-866 M80-868 M80-814 M80-897	M80-697 M80-646 M80-647 M80-648	M80-812, M80-813 M80-816, M80-817 M80-697	
APPLICATIONS	VERTICAL 3 ROW		APPLICATIONS	VERTICAL 3 ROW	
FEMALE VERTICAL P.C. TAIL	M80-714 M80-717 M80-704 M80-707 M80-710 M80-717 M80-700 M80-702		FEMALE CRIMP	M80-705* M80-706* M80-715 M80-716 M80-708* M80-718 M80-719 M80-700 M80-702 M80-710 M80-712	

Specification

This connector range is designed to conform to the requirements of British Standard 9525-F0033 with high reliability contacts for signal transmission without loss of data. To order connectors to the British Standard Specification see table below.

Materials

Housings:	Glass-filled thermoplastic UL94V-0
Female Contacts:	Brass shell, with beryllium copper inner contact.
Male Contacts:	Phosphor bronze
Plating Finish:	Female contact gold shell/gold contact tin/lead shell/gold contact (pc tail only)
Male Contacts:	Gold contact, tin/lead tail

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)	120V d.c. or a.c. peak
Proof voltage (at sea level 1013 mbar)	360V d.c. or a.c. peak
Contact resistance (initially)	20 miliohms max.
Contact resistance (after conditioning)	25 miliohms max.
Insulation resistance (initially):	1000 Megohms min at 500V d.c.
Insulation resistance (after conditioning):	100 Megohms min at 500V d.c.

Datamate

Specification

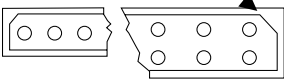
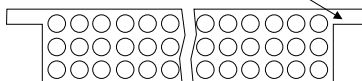
Mechanical

Mechanical endurance:	500 operations
Engaging and separating force (per contact pair):	2.8N max 0.2N min.
Contact retention in moulding:	10N min.
Contact holding force:	0.2N min.
Crimp barrel accommodation:	22 A.W.G. to 28 A.W.G. BS G 210 Type A. (16 A.W.G. to 18 A.W.G. for power contacts).

Environmental

Environmental classification:	55/125/56 days at 95% RH
Vibration severity general:	10Hz to 2000Hz 0.75mm/ 98mm/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)

Polarising Features

1 and 2 Row	3 Row
	

HARWIN DATAMATE TO BRITISH STANDARD 9525F0033

If certification to BS9525F0033 is required, please use the order codes shown below

DESCRIPTION OF CONNECTOR, INTENDED APPLICATION AND ORDER CODES.

Multi-contact, two part rectangular connectors, unsealed with parallel and perpendicular mounting for printed boards up to 1.6mm thickness. Female connector styles are also available having insertable crimp contacts accommodating wire BS G210 (type A) from 22 to 28 AWG. The connector is intended for use as a low voltage connector in high board packing density equipment. All contact faces are gold finish.

Order Codes

B5XXX	-	XXX	-	X	-	X	-	X
Style		Contact		Contact		Termination		Variant
Number		Arrangement		Style		Style		

Style Number

B5740	-	Female Connector Types C and D
B5741	-	Female Connector Types N and T
B5743	-	Male Connector Types L and T

Contact Arrangement

The first digit indicates number of rows of contacts i.e. 1 - single row, 2 - double row. The second and third digits indicate total number of contacts i.e. 107 - single row seven contact connectors, 220 - double row twenty contact connector.

Contact Gender

F	-	Female contact
M	-	Male contact

Termination Style

N	-	Throughboard solder (straight) short
T	-	Throughboard solder (straight)
L	-	Throughboard solder (90°) male only
C	-	Crimp 24-28 AWG (see clause 8.3 of Specification BS9525F0033) female only.
D	-	Crimp 22 AWG (see clause 8.3 of Specification BS9525F0033) female only

Variant

0	-	Unlatched connector tin alloy plated pc tail
1	-	Latch connector (male only) tin alloy plated pc tail
2	-	Unlatched connector gold flashed termination pc tail
3	-	Latched connector (male only) gold flashed pc tail
x	-	Users special requirement

Example Reference no: B5740-216-F-C-2

Datamate

Male Connectors - Vertical PC Tail

A range of high reliability miniature vertical male connectors, for use with female connectors shown on pages 9-12. By using retaining straps, strain on the pc board soldered joints can be eliminated.

- Polarised mouldings.
- Fully shrouded contacts
- Gold plating on contact area, tin/lead on tails.
- Choice of friction lock, latched or unlatched connectors.

No. of Ways	A	B	Gold/Tin Unlatched	Gold/Tin Latched	Gold/Tin with Friction Lock
2	7.6	2.0	M80-8790222	M80-8770222	M80-8050222
3	9.6	4.0	M80-8790322	M80-8770322	M80-8050322
4	11.6	6.0	M80-8790422	M80-8770422	M80-8050422
5	13.6	8.0	M80-8790522	M80-8770522	M80-8050522
6	15.6	10.0	M80-8790622	M80-8770622	M80-8050622
7	17.6	12.0	M80-8790722	M80-8770722	M80-8050722
17	37.6	32.0	M80-8791722	M80-8771722	M80-8051722
22	47.6	42.0	M80-8792222	M80-8772222	M80-8052222

No. of Ways	A	B	Gold/Tin Unlatched	Gold/Tin Latched	Gold/Tin with Friction Lock
2+2	7.6	2.0	M80-8690422	M80-8670422	M80-8150422
3+3	9.6	4.0	M80-8690622	M80-8670622	M80-8150622
4+4	11.6	6.0	M80-8690822	M80-8670822	M80-8150822
5+5	13.6	8.0	M80-8691022	M80-8671022	M80-8151022
6+6	15.6	10.0	M80-8691222	M80-8671222	M80-8151222
7+7	17.6	12.0	M80-8691422	M80-8671422	M80-8151422
8+8	19.6	14.0	M80-8691622	M80-8671622	M80-8151622
9+9	21.6	16.0	M80-8691822	M80-8671822	M80-8151822
10+10	23.6	18.0	M80-8692022	M80-8672022	M80-8152022
13+13	29.6	24.0	M80-8692622	M80-8672622	M80-8152622
17+17	37.6	32.0	M80-8693422	M80-8673422	M80-8153422
22+22	47.6	42.0	M80-8694422	M80-8674422	M80-8154422

Strain relief straps are optional.
Located at the end of each connector.
To order use the following order code (supplied loose).

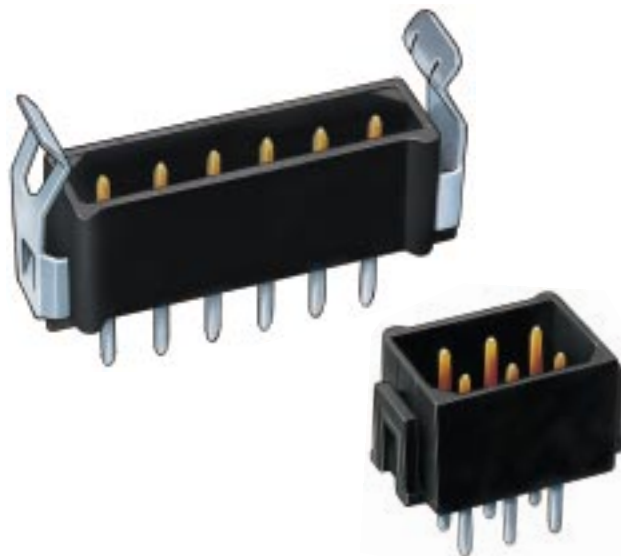
Order Code M80-0030006

Separator Tool (for latched connector only).
See page 19 for further information.

Order Code T5746

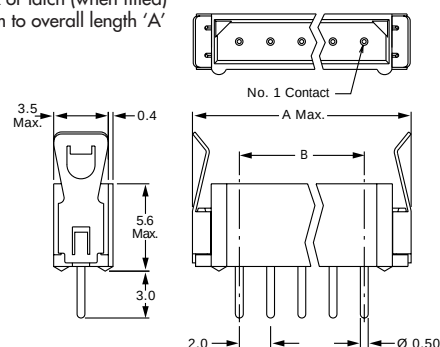
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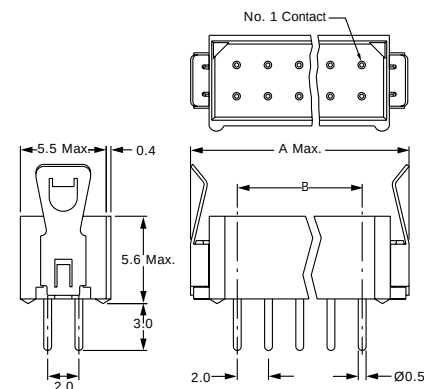
SINGLE ROW

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



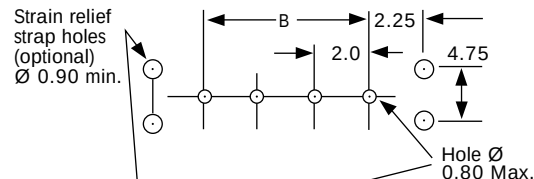
DOUBLE ROW

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

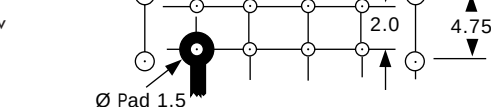


Recommended PC Board Pattern

Single Row

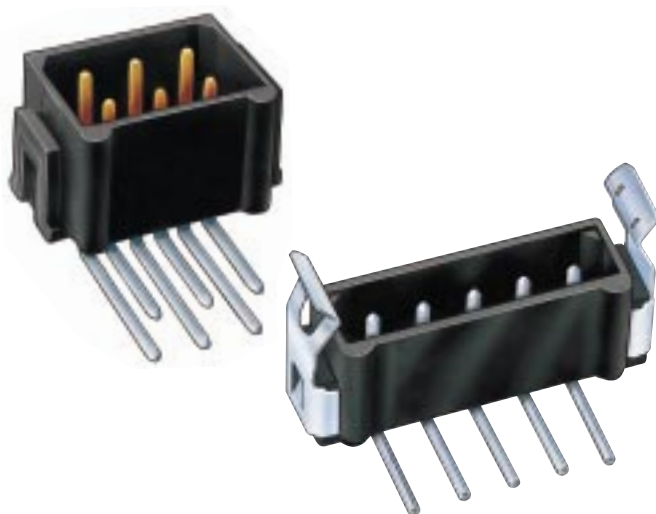


Double Row



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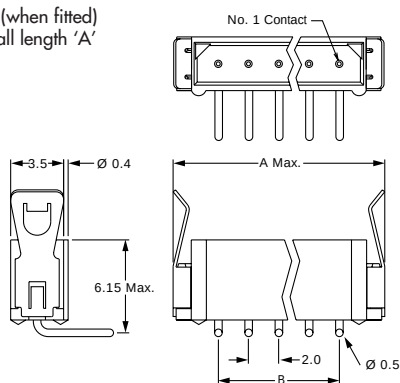
Male Connectors - Horizontal PC Tail

A range of high reliability miniature horizontal pc tail male connectors, for use with female connectors shown on pages 9-12. By using retaining straps, strain on the pc board soldered joints can be eliminated.

- Polarised mouldings.
- Fully shrouded contacts.
- Gold plating on contact area, tin/lead on tails.
- Choice of friction lock, latched or unlatched connectors.

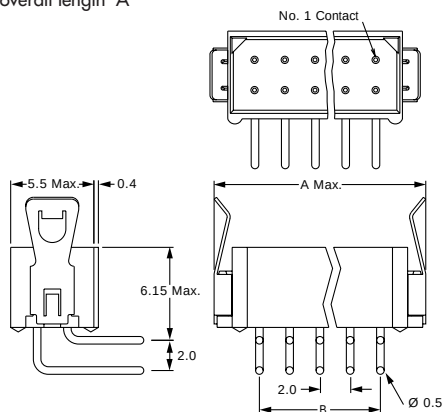
SINGLE ROW

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

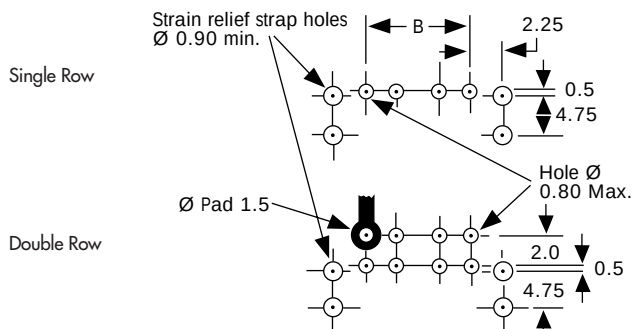


DOUBLE ROW

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



Recommended PC Board Pattern



No. of Ways	A	B	Gold/Tin Unlatched	Gold/Tin Latched	Gold/Tin with Friction Lock
2	7.6	2.0	M80-8780222	M80-8760222	M80-8040222
3	9.6	4.0	M80-8780322	M80-8760322	M80-8040322
4	11.6	6.0	M80-8780422	M80-8760422	M80-8040422
5	13.6	8.0	M80-8780522	M80-8760522	M80-8040522
6	15.6	10.0	M80-8780622	M80-8760622	M80-8040622
7	17.6	12.0	M80-8780722	M80-8760722	M80-8040722
17	37.6	32.0	M80-8781722	M80-8761722	M80-8041722
22	47.6	42.0	M80-8782222	M80-8762222	M80-8042222

No. of Ways	A	B	Gold/Tin Unlatched	Gold/Tin Latched	Gold/Tin with Friction Lock
2+2	7.6	2.0	M80-8680422	M80-8660422	M80-8140422
3+3	9.6	4.0	M80-8680622	M80-8660622	M80-8140622
4+4	11.6	6.0	M80-8680822	M80-8660822	M80-8140822
5+5	13.6	8.0	M80-8681022	M80-8661022	M80-8141022
6+6	15.6	10.0	M80-8681222	M80-8661222	M80-8141222
7+7	17.6	12.0	M80-8681422	M80-8661422	M80-8141422
8+8	19.6	14.0	M80-8681622	M80-8661622	M80-8141622
9+9	21.6	16.0	M80-8681822	M80-8661822	M80-8141822
10+10	23.6	18.0	M80-8682022	M80-8662022	M80-8142022
13+13	29.6	24.0	M80-8682622	M80-8662622	M80-8142622
17+17	37.6	32.0	M80-8683422	M80-8663422	M80-8143422
22+22	47.6	42.0	M80-8684422	M80-8664422	M80-8144422

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

Separator Tool (for latched connector only)
See page 19 for further information

Order Code T5746

Datamate

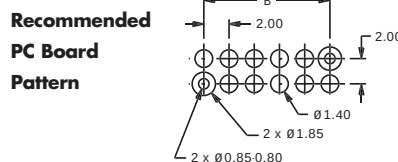
Surface Mount Male Connectors - Vertical

- With pick and place pad.
- Locating pegs to facilitate location on pcb.
- Packed in tubes.
- For Tape and Reel options, contact Technical Sales.

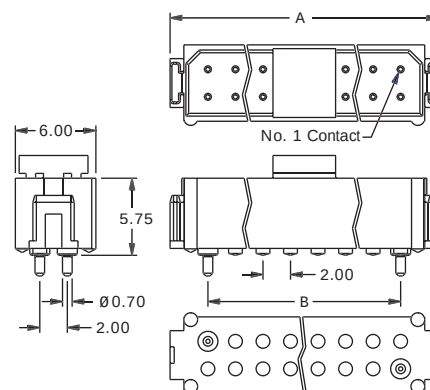
No. of Ways	A	B	Order Code	
			Tin	Gold
2+2	7.6	2.0	M80-6460406P	M80-6460405P
3+3	9.6	4.0	M80-6460606P	M80-6460605P
4+4	11.6	6.0	M80-6460806P	M80-6460805P
5+5	13.6	8.0	M80-6461006P	M80-6461005P
6+6	15.6	10.0	M80-6461206P	M80-6461205P
7+7	17.6	12.0	M80-6461406P	M80-6461405P
8+8	19.6	14.0	M80-6461606P	M80-6461605P
9+9	21.6	16.0	M80-6461806P	M80-6461805P
10+10	23.6	18.0	M80-6462006P	M80-6462005P
13+13	29.6	24.0	M80-6462606P	M80-6462605P
17+17	37.6	32.0	M80-6463406P	M80-6463405P
22+22	47.6	42.0	M80-6464406P	M80-6464405P

No. of Ways	A	B	Order Code	
			Tin	Gold
2+2	8.1	2.0	M80-6470406P	M80-6470405P
3+3	10.1	4.0	M80-6470606P	M80-6470605P
4+4	12.1	6.0	M80-6470806P	M80-6470805P
5+5	14.1	8.0	M80-6471006P	M80-6471005P
6+6	16.1	10.0	M80-6471206P	M80-6471205P
7+7	18.1	12.0	M80-6471406P	M80-6471405P
8+8	20.1	14.0	M80-6471606P	M80-6471605P
9+9	22.1	16.0	M80-6471806P	M80-6471805P
10+10	24.1	18.0	M80-6472006P	M80-6472005P
13+13	30.1	24.0	M80-6472606P	M80-6472605P
17+17	38.1	32.0	M80-6473406P	M80-6473405P
22+22	48.1	42.0	M80-6474406P	M80-6474405P

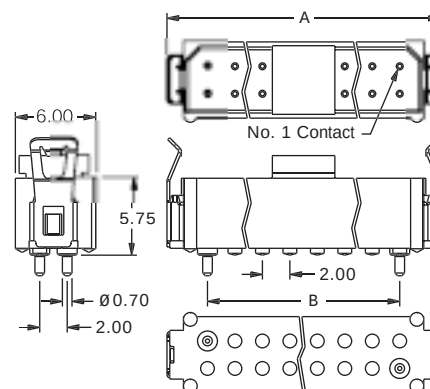
No. of Ways	A	B	Order Code	
			Tin	Gold
2+2	8.1	2.0	M80-6480406P	M80-6480405P
3+3	10.1	4.0	M80-6480606P	M80-6480605P
4+4	12.1	6.0	M80-6480806P	M80-6480805P
5+5	14.1	8.0	M80-6481006P	M80-6481005P
6+6	16.1	10.0	M80-6481206P	M80-6481205P
7+7	18.1	12.0	M80-6481406P	M80-6481405P
8+8	20.1	14.0	M80-6481606P	M80-6481605P
9+9	22.1	16.0	M80-6481806P	M80-6481805P
10+10	24.1	18.0	M80-6482006P	M80-6482005P
13+13	30.1	24.0	M80-6482606P	M80-6482605P
17+17	38.1	32.0	M80-6483406P	M80-6483405P
22+22	48.1	42.0	M80-6484406P	M80-6484405P



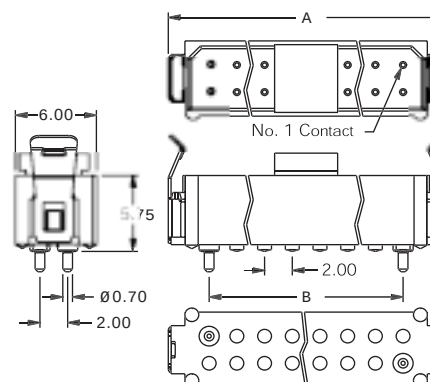
UNLATCHED



LATCHED



WITH FRICTION LOCK



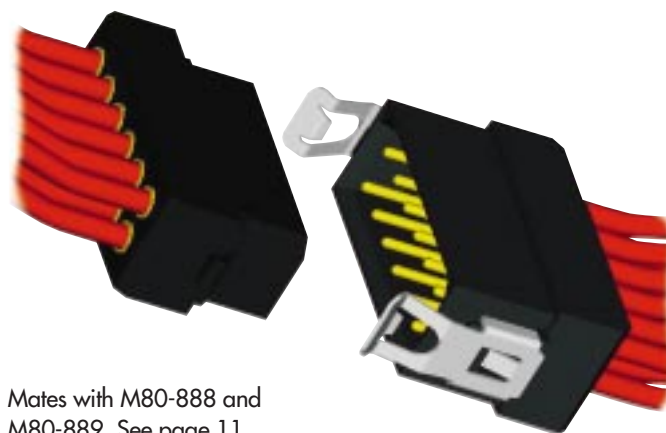
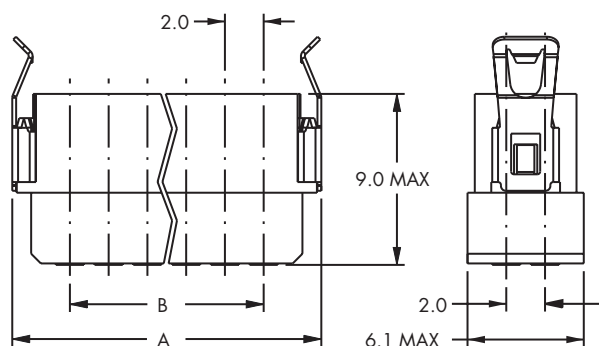


Datamate

Male Crimp Connector for Cable-to-Cable Applications

- Polarised housings.
- Locking or Friction latch for strain relief.
- Contacts rear insertable (replaceable).
- Part numbers are for housings and the equivalent number of contacts.
- Fully shrouded contacts.

DOUBLE ROW



Mates with M80-888 and M80-889. See page 11.
For overmoulding, see page 14.

No. of Ways	A	B	Small Bore, Latched	Large Bore, Latched	Small Bore, with Friction Lock	Large Bore, with Friction Lock
2+2	8.1	2.0	M80-8120405	M80-8130405	M80-8160405	M80-8170405
4+4	12.1	6.0	M80-8120805	M80-8130805	M80-8160805	M80-8170805
5+5	14.1	8.0	M80-8121005	M80-8131005	M80-8161005	M80-8171005
6+6	16.1	10.0	M80-8121205	M80-8131205	M80-8161205	M80-8171205

Please contact Technical Sales for other size availability.

CRIMP BARREL SIZE

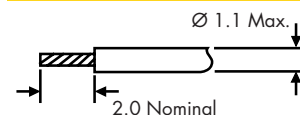
Crimp Type	Wire Size (AWG)	Stranding (mm)	Crimp Tool Setting	Pull-off Force (Newtons)
Small Bore	28	7/0.125	6	12.5
Small Bore	26	19/0.1	6	25.0
Small Bore	24	7/0.2	6	44.0
Large Bore	22	19/0.15	6	50.0

Wire Specification: 22 AWG to 28 AWG BS 3G 210 Type A

Spare replacement contacts can be obtained separately.

Order Code M80-0410005 (Small bore)
M80-0400005 (Large bore)

WIRE STRIPPING DETAILS



Recommended Crimp Tool
M22520/2-01, Positioner T5747,
Contact Insertion/Removal Tool -
Z80-250. See page 19.

Datamate

Female Connectors - PC Tail

A range of high reliability miniature vertical pc tail female connectors for use with male connectors.

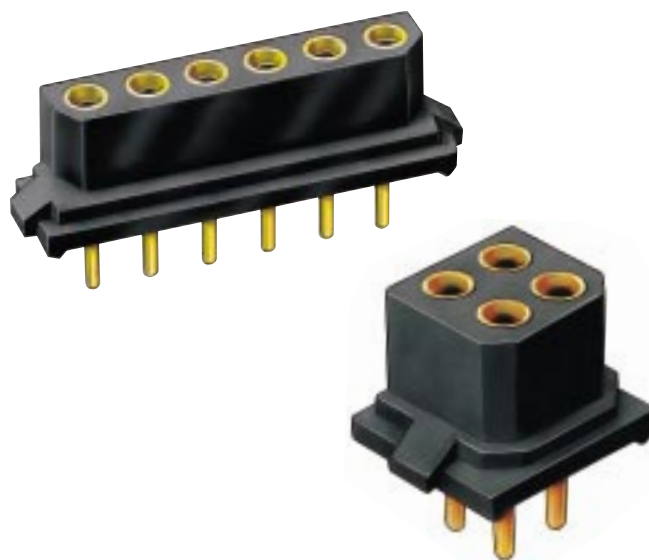
- Fully shrouded contacts.
- Polarised mouldings.

No. of Ways	A	B	Outer Shell Gold Inner Contact Gold	Outer Shell Tin/Lead Inner Contact Gold
2	7.3	2.0	M80-8970205	M80-8970201
3	9.3	4.0	M80-8970305	M80-8970301
4	11.3	6.0	M80-8970405	M80-8970401
5	13.3	8.0	M80-8970505	M80-8970501
6	15.3	10.0	M80-8970605	M80-8970601
7	17.3	12.0	M80-8970705	M80-8970701
17	37.3	32.0	M80-8971705	M80-8971701
22	47.3	42.0	M80-8972205	M80-8972201

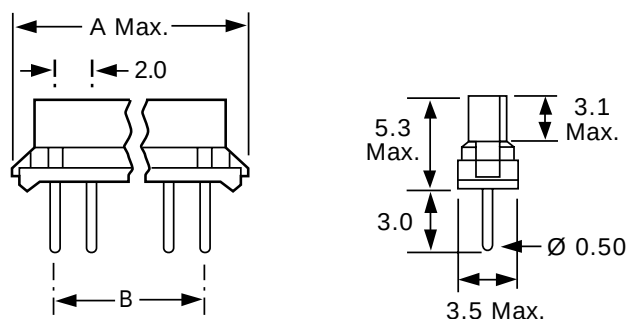
No. of Ways	A	B	Outer Shell Gold Inner Contact Gold	Outer Shell Tin/Lead Inner Contact Gold
2+2	7.3	2.0	M80-8870405	M80-8870401
3+3	9.3	4.0	M80-8870605	M80-8870601
4+4	11.3	6.0	M80-8870805	M80-8870801
5+5	13.3	8.0	M80-8871005	M80-8871001
6+6	15.3	10.0	M80-8871205	M80-8871201
7+7	17.3	12.0	M80-8871405	M80-8871401
8+8	19.3	14.0	M80-8871605	M80-8871601
9+9	21.3	16.0	M80-8871805	M80-8871801
10+10	23.3	18.0	M80-8872005	M80-8872001
13+13	29.3	24.0	M80-8872605	M80-8872601
17+17	37.3	32.0	M80-8873405	M80-8873401
22+22	47.3	42.0	M80-8874405	M80-8874401

Dummy contact for additional polarisation (packs of 100). Front loading.

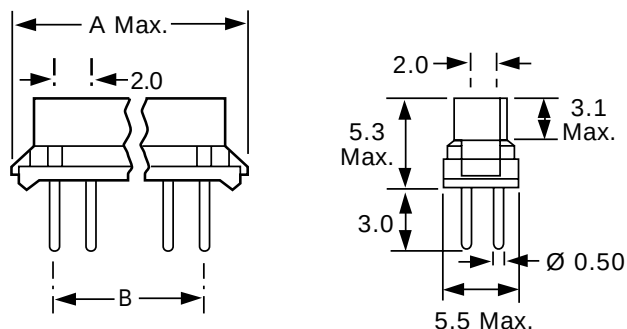
Order Code M80-023



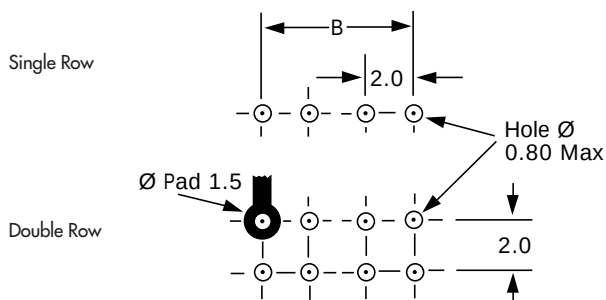
SINGLE ROW



DOUBLE ROW



Recommended PC Board Pattern





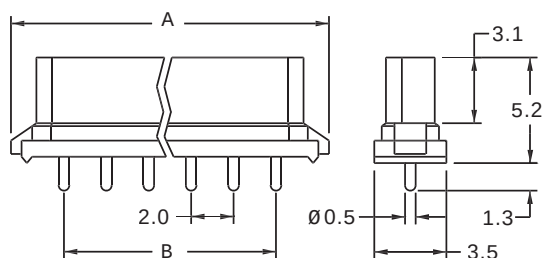
Datamate

Female Connectors - Flexi-Circuit Tail

A range of high reliability miniature female connectors suitable for flexi-circuit applications.

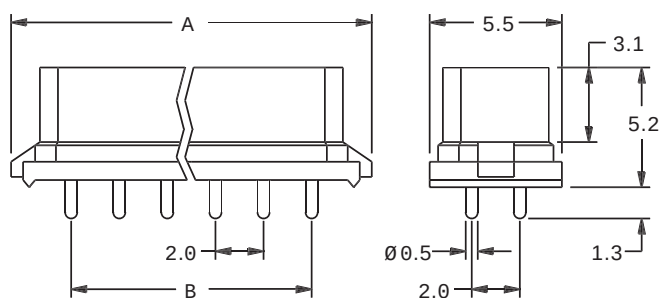
- 1.3mm pc tail length.
- Fully shrouded contacts.
- Polarised mouldings.
- Choice of plating finishes.

SINGLE ROW



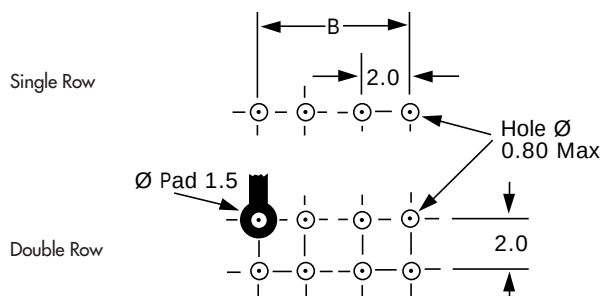
No. of Ways	A	B	Outer Shell Gold Inner Contact Gold	Outer Shell Tin/Lead Inner Contact Gold
2	7.2	2.0	M80-8940205	M80-8940201
3	9.2	4.0	M80-8940305	M80-8940301
4	11.2	6.0	M80-8940405	M80-8940401
5	13.2	8.0	M80-8940505	M80-8940501
6	15.2	10.0	M80-8940605	M80-8940601
7	17.2	12.0	M80-8940705	M80-8940701
17	37.2	32.0	M80-8941705	M80-8941701
22	47.2	42.0	M80-8942205	M80-8942201

DOUBLE ROW



No. of Ways	A	B	Outer Shell Gold Inner Contact Gold	Outer Shell Tin/Lead Inner Contact Gold
2+2	7.2	2.0	M80-8910405	M80-8910401
3+3	9.2	4.0	M80-8910605	M80-8910601
4+4	11.2	6.0	M80-8910805	M80-8910801
5+5	13.2	8.0	M80-8911005	M80-8911001
6+6	15.2	10.0	M80-8911205	M80-8911201
7+7	17.2	12.0	M80-8911405	M80-8911401
8+8	19.2	14.0	M80-8911605	M80-8911601
9+9	21.2	16.0	M80-8911805	M80-8911801
10+10	23.2	18.0	M80-8912005	M80-8912001
13+13	29.2	24.0	M80-8912605	M80-8912601
17+17	37.2	32.0	M80-8913405	M80-8913401
22+22	47.2	42.0	M80-8914405	M80-8914401

Recommended PC Board Pattern



Datamate

Female Connectors - Crimp Tail

A range of high reliability miniature female connectors for use with male connectors.

- Polarised mouldings.
- Fully shrouded contacts.
- Part numbers are for housings and the equivalent number of contacts.
- Contacts are rear insertable.



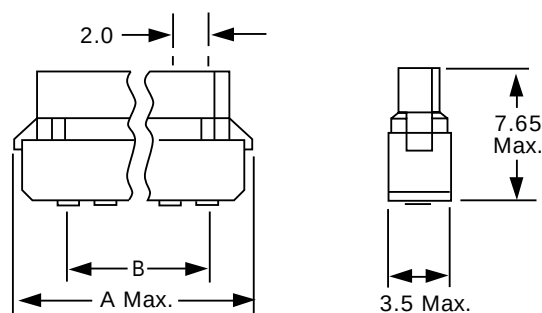
No. of Ways	A	B	Large Bore Crimp Gold	Small Bore Crimp Gold
2	7.3	2.0	M80-8990205	M80-8980205
3	9.3	4.0	M80-8990305	M80-8980305
4	11.3	6.0	M80-8990405	M80-8980405
5	13.3	8.0	M80-8990505	M80-8980505
6	15.3	10.0	M80-8990605	M80-8980605
7	17.3	12.0	M80-8990705	M80-8980705
17	37.3	32.0	M80-8991705	M80-8981705

No. of Ways	A	B	Large Bore Crimp Gold	Small Bore Crimp Gold
2+2	7.3	2.0	M80-8890405	M80-8880405
3+3	9.3	4.0	M80-8890605	M80-8880605
4+4	11.3	6.0	M80-8890805	M80-8880805
5+5	13.3	8.0	M80-8891005	M80-8881005
6+6	15.3	10.0	M80-8891205	M80-8881205
7+7	17.3	12.0	M80-8891405	M80-8881405
8+8	19.3	14.0	M80-8891605	M80-8881605
9+9	21.3	16.0	M80-8891805	M80-8881805
10+10	23.3	18.0	M80-8892005	M80-8882005
13+13	29.3	24.0	M80-8892605	M80-8882605
17+17	37.3	32.0	M80-8893405	M80-8883405

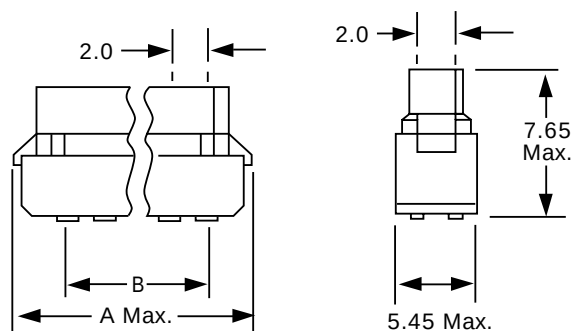
Dummy contact for additional polarisation (packs of 100).

Order Code M80-023

SINGLE ROW



DOUBLE ROW



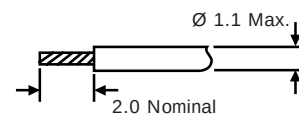
Spare contact for replacement can be obtained separately.

Order Code M80-0130005 (Small bore)
M80-0110005 (Large bore)

CRIMP BARREL SIZE

Crimp Type	Wire Size (AWG)	Stranding (mm)	Crimp Tool Setting	Pull-off Force (Newtons)
Small Bore	28	7/0.125	6	12.5
Small Bore	26	19/0.1	6	25.0
Small Bore	24	7/0.2	6	44.0
Large Bore	22	19/0.15	6	50.0

WIRE STRIPPING DETAILS



Recommended Crimp Tool
M22520/2-01, Positioner T5747,
Contact Insertion Tool -
T5748-19. See page 19.

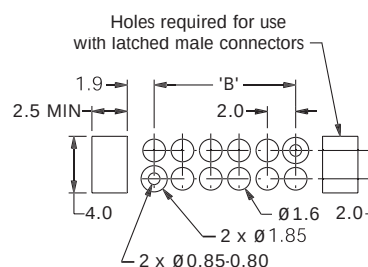


Datamate

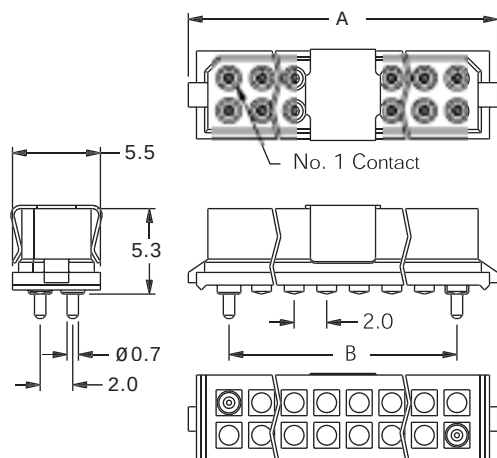
Surface Mount Female Connectors

- With pick and place pad.
- Locating pegs to facilitate location on pcb.
- Packed in tubes.
- Contact Technical sales for Tape and Reel packaging.

Recommended PC Board Pattern



UNLATCHED



No. of Ways	A	B	Order Code	
			Tin	Gold
2+2	7.3	2.0	M80-6970406P	M80-6970405P
3+3	9.3	4.0	M80-6970606P	M80-6970605P
4+4	11.3	6.0	M80-6970806P	M80-6970805P
5+5	13.3	8.0	M80-6971006P	M80-6971005P
6+6	15.3	10.0	M80-6971206P	M80-6971205P
7+7	17.3	12.0	M80-6971406P	M80-6971405P
8+8	19.3	14.0	M80-6971606P	M80-6971605P
9+9	21.3	16.0	M80-6971806P	M80-6971805P
10+10	23.3	18.0	M80-6972006P	M80-6972005P
13+13	29.3	24.0	M80-6972606P	M80-6972605P
17+17	37.3	32.0	M80-6973406P	M80-6973405P
22+22	47.3	42.0	M80-6974406P	M80-6974405P

Datamate

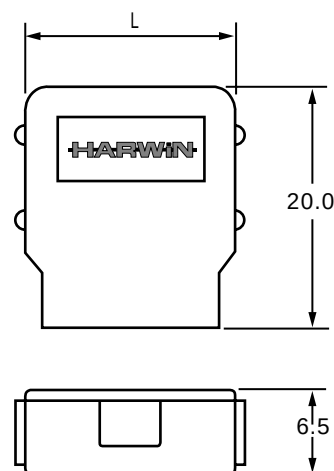
Hoods

This range is for use with the Datamate crimp connectors M80-888 and M80-889 series (see page 11) to give cable strain relief. They can be used with unlatched connectors only.

- Sizes 10, 12, 14, 16, 18, 20, 26 and 34 ways.
- Top entry moulding, with internal strain relief.
- Supplied as a kit parts, including screws.
- Hoods available for large diameter multi-core shielded cable up to 5.6mm.



Size	DIM L	Order Code
5+5	17.0	M80-8801098
6+6	19.0	M80-8801298
7+7	21.0	M80-8801498
8+8	23.0	M80-8801698
9+9	24.0	M80-8801898
10+10	26.0	M80-8802098
13+13	33.0	M80-8802698
17+17	41.0	M80-8803498





Datamate

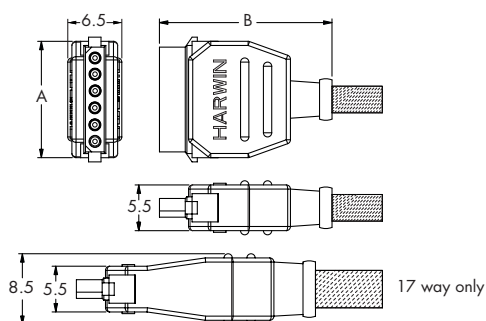
Overmoulded Male and Female Crimp

HARWIN can provide Datamate Crimp connectors fully assembled with cabling incorporating our new overmoulding capabilities.

Overmoulding provides additional strain relief and seals the rear face of the crimp housing, whilst assisting with connector engagement and disengagement.

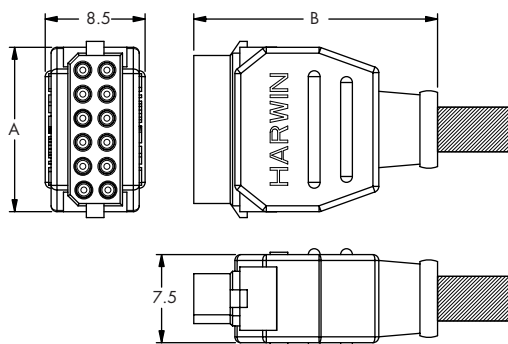
Overmoulding is available for SIL/DIL female and DIL Male Datamate Crimp Connectors. Please Contact HARWIN with your requirement for a quotation.

FEMALE - SINGLE ROW



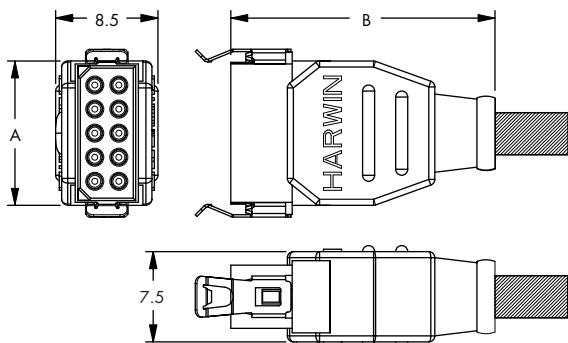
No. of Ways	A	B	Order Code
2	6.0	20.8	Please Contact Technical Sales
3	8.0	20.8	
4	8.0	20.8	
5	12.0	20.8	
6	14.0	20.8	
7	16.0	20.8	
17	36.0	28.8	

FEMALE - DOUBLE ROW



No. of Ways	A	B	Order Code
2+2	6.0	20.8	Please Contact Technical Sales
3+3	8.0	20.8	
4+4	10.0	20.8	
5+5	12.0	20.8	
6+6	14.0	20.8	
7+7	16.0	20.8	
8+8	18.0	23.8	
9+9	20.0	23.8	
10+10	22.0	23.8	
13+13	28.0	25.8	
17+17	36.0	28.8	

MALE - DOUBLE ROW



No. of Ways	A	B	Order Code
2+2	12.25	22.0	Please Contact Technical Sales
4+4	12.25	22.0	
5+5	12.25	22.0	
6+6	12.25	22.0	

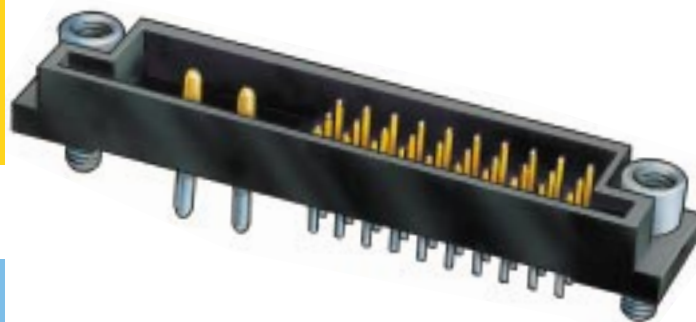
Datamate

Power Signal Connectors

Male PC Tail

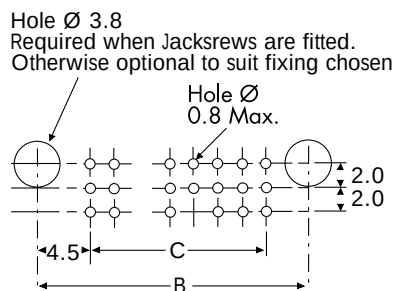
A range of high reliability miniature male connectors.

- Fully shrouded contacts, standard and high power.
- With or without Jackscrews.
- Polarised mouldings.
- 10A power contacts.
- Full specifications on page 3.
- For horizontal 3 row, please contact Technical Sales.



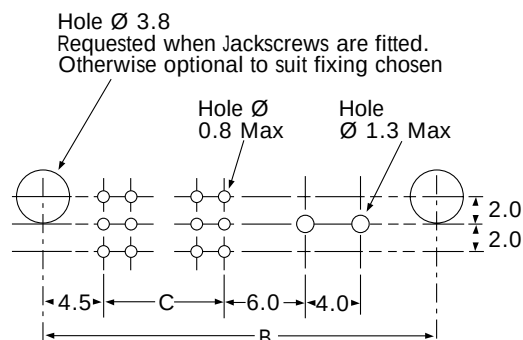
No. of Ways	A	B	C	Without Jackscrews Gold/Tin	With Jackscrews Gold/Tin
27	31.1	25.0	16.0	M80-7022722	M80-7002722
36	37.1	31.0	22.0	M80-7023622	M80-7003622
45	43.1	37.0	28.0	M80-7024522	M80-7004522
51	47.1	41.0	32.0	M80-7025122	M80-7005122
63	55.1	49.0	40.0	M80-7026322	M80-7006322

Recommended PC Board Pattern

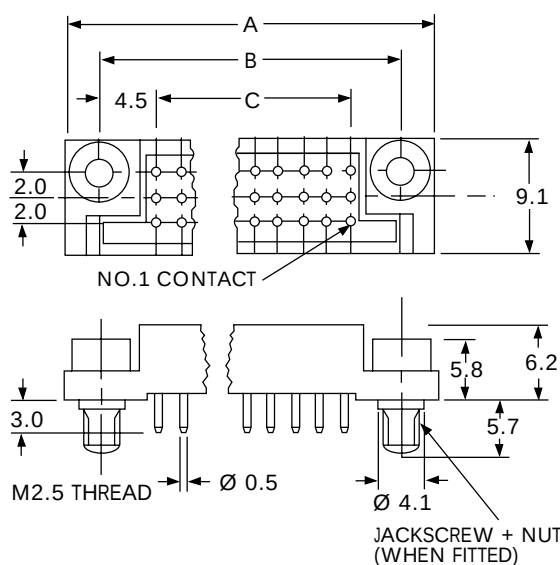


No. of Ways	A	B	C	Without Jackscrews Gold/Tin	With Jackscrews Gold/Tin
6+2	31.1	25.0	2.0	M80-7120622	M80-7100622
15+2	37.1	31.0	8.0	M80-7121522	M80-7101522
24+2	43.1	37.0	14.0	M80-7122422	M80-7102422
30+2	47.1	41.0	18.0	M80-7123022	M80-7103022
42+2	55.1	47.0	26.0	M80-7124222	M80-7104222

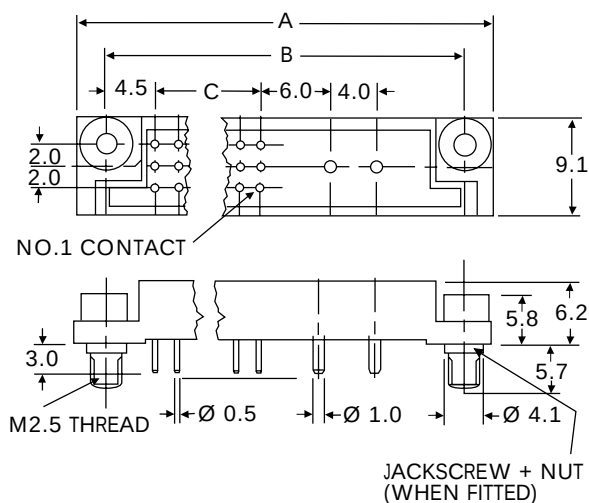
Recommended PC Board Pattern



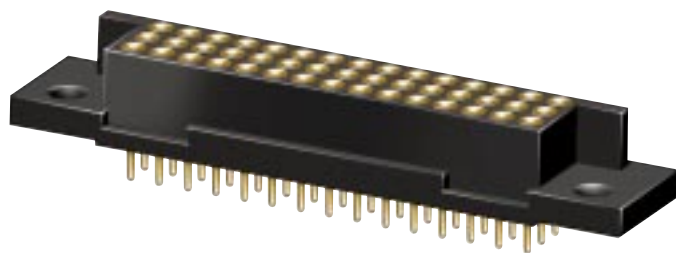
MALE VERTICAL PC TAIL



MALE VERTICAL PC TAIL WITH POWER CONTACTS



To operate Jackscrews, use a 2mm across flat hexagon key.
Operate each Jackscrew alternately 1.5 turns each end, until fully mated or unmated.



Datamate

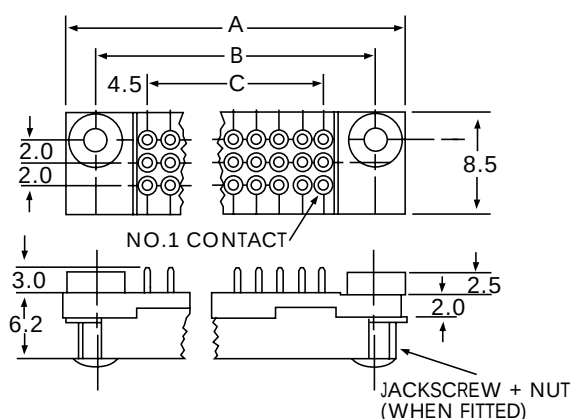
Power Signal Connectors

Female PC Tail

A range of high reliability miniature female connectors.

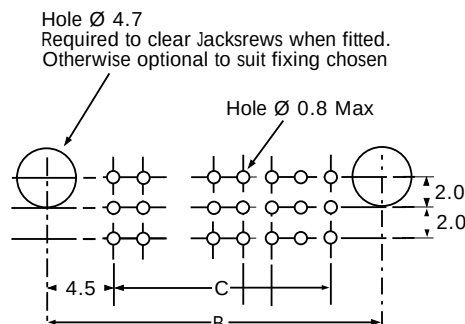
- Fully shrouded contacts, standard and high power.
- With or without Jackscrews.
- Polarised mouldings.
- 10A power contacts.
- Full specifications on page 3.
- Full horizontal 3 row, please contact Technical Sales.

FEMALE VERTICAL PC TAIL

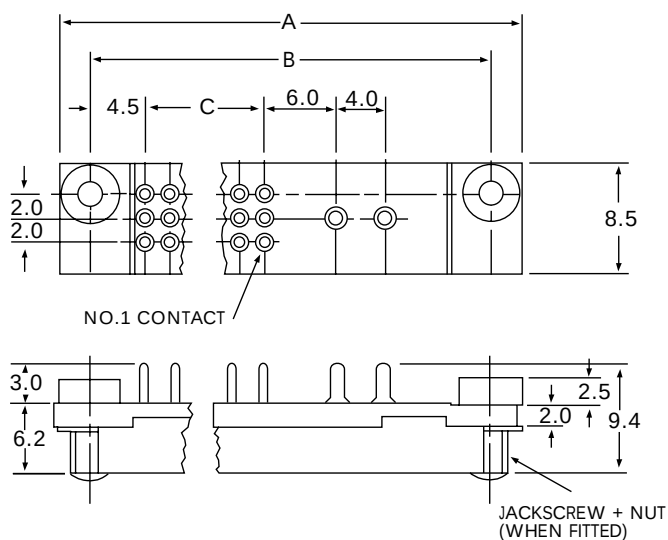


No. of Ways	A	B	C	Without Jackscrews Gold	With Jackscrews Gold
27	31.1	25.0	16.0	M80-7072705	M80-7042705
36	37.1	31.0	22.0	M80-7073605	M80-7043605
45	43.1	37.0	28.0	M80-7074505	M80-7044505
51	47.1	41.0	32.0	M80-7075105	M80-7045105
63	55.1	49.0	40.0	M80-7076305	M80-7046305

Recommended PC Board Pattern

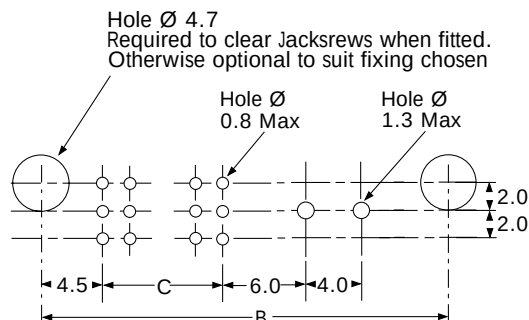


FEMALE VERTICAL PC TAIL WITH POWER CONTACTS



No. of Ways	A	B	C	Without Jackscrews Gold	With Jackscrews Gold
6+2	31.1	25.0	2.0	M80-7170605	M80-7140605
15+2	37.1	31.0	8.0	M80-7171505	M80-7141505
24+2	43.1	37.0	14.0	M80-7172405	M80-7142405
30+2	47.1	41.0	18.0	M80-7173005	M80-7143005
42+2	55.1	47.0	26.0	M80-7174205	M80-7144205

Recommended PC Board Pattern



To operate Jackscrews, use a 2mm across flat hexagon key.
Operate each Jackscrew alternately 1.5 turns each end, until fully mated or unmated.

Datamate

Power Signal Connectors

Female Crimp

A range of high reliability miniature male and female connectors.

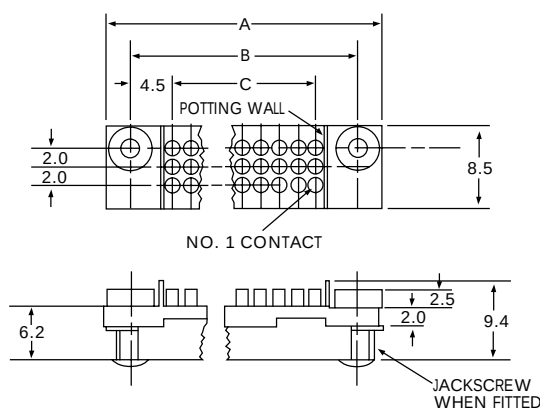
- Fully shrouded contacts, standard and high power.
- With or without jackscrews.
- Polarised mouldings.
- 10A power contacts.
- Full specifications on page 3.



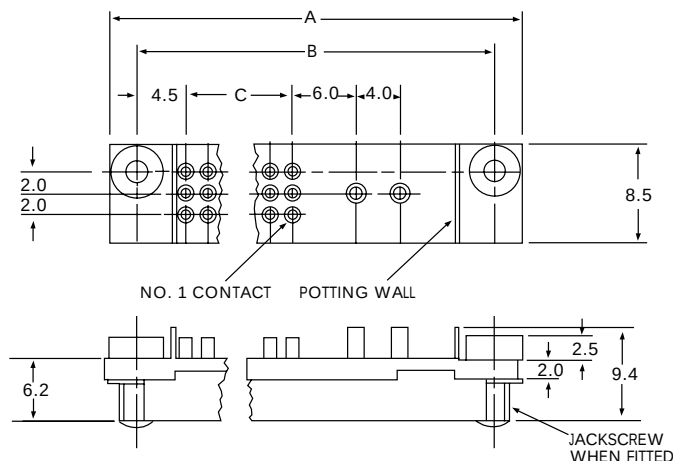
No. of Ways	A	B	C	Without Jackscrews Gold	With Jackscrews Gold
27	31.1	25.0	16.0	M80-7082705	M80-7052705
36	37.1	31.0	22.0	M80-7083605	M80-7053605
45	43.1	37.0	28.0	M80-7084505	M80-7054505
51	47.1	41.0	32.0	M80-7085105	M80-7055105
63	55.1	49.0	40.0	M80-7086305	M80-7056305

No. of Ways	A	B	C	Without Jackscrews Gold/Tin	With Jackscrews Gold
6+2	31.1	25.0	2.0	M80-7180605	M80-7150605
15+2	37.1	31.0	8.0	M80-7181505	M80-7151505
24+2	43.1	37.0	14.0	M80-7182405	M80-7152405
30+2	47.1	41.0	18.0	M80-7183005	M80-7153005
42+2	55.1	49.0	26.0	M80-7184205	M80-7154205

CRIMP TAIL SMALL BORE



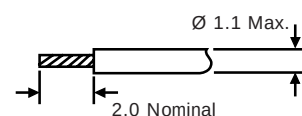
CRIMP TAIL SMALL BORE WITH POWER CONTACTS



CRIMP BARREL ACCOMMODATION

Crimp Type	Wire Size (AWG)	Stranding (mm)	Crimp Tool Setting	Pull-off Force (Newtons)
Small Bore	28	7/0.125	6	12.5
Small Bore	26	19/0.1	6	25.0
Small Bore	24	7/0.2	6	44.0
Large Bore	22	19/0.15	6	50.0
Power Crimp	20	19/0.2	8	85.0
Power Crimp	18	19/0.26	8	140.0

WIRE STRIPPING DETAILS



Recommended Crimp Tool
M22520/2-01, Positioner
T5747, Contact Insertion Tool -
T5748-19. See page 19.



Datamate

Power Signal Connectors

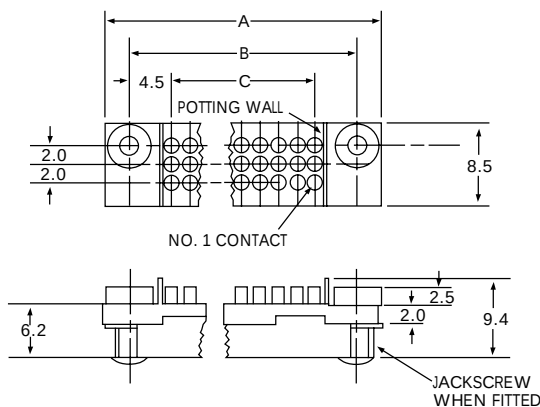
Female Crimp

A range of high reliability miniature male and female connectors.

- Fully shrouded contacts, standard and high power.
- With or without jackscrews.
- Polarised mouldings.
- 10A power contacts.
- Full specifications on page 3.

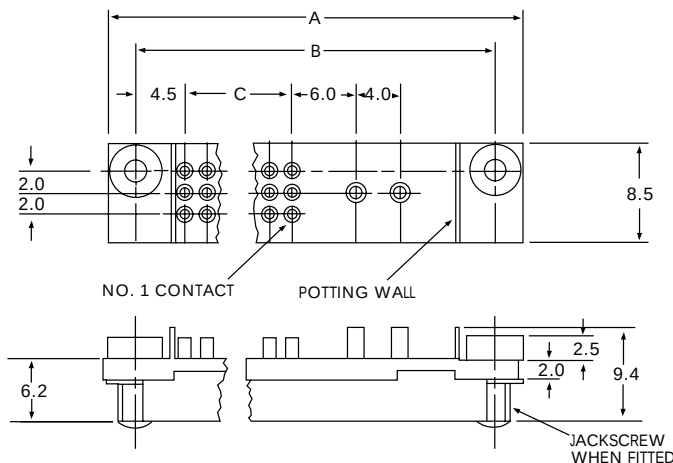
2mm PITCH

CRIMP TAIL LARGE BORE



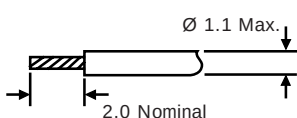
No. of Ways	A	B	C	Without Jackscrews Gold	With Jackscrews Gold
27	31.1	25.0	16.0	M80-7092705	M80-7062705
36	37.1	31.0	22.0	M80-7093605	M80-7063605
45	43.1	37.0	28.0	M80-7094505	M80-7064505
51	47.1	41.0	32.0	M80-7095105	M80-7065105
63	55.1	49.0	40.0	M80-7096305	M80-7066305

CRIMP TAIL LARGE BORE WITH POWER CONTACTS



No. of Ways	A	B	C	Without Jackscrews Gold	With Jackscrews Gold
6+2	31.1	25.0	2.0	M80-7190605	M80-7160605
15+2	37.1	31.0	8.0	M80-7191505	M80-7161505
24+2	43.1	37.0	14.0	M80-7192405	M80-7162405
30+2	47.1	41.0	18.0	M80-7193005	M80-7163005
42+2	55.1	47.0	26.0	M80-7194205	M80-7164205

WIRE STRIPPING DETAILS



Recommended Crimp Tool
M22520/2-01, Positioner
T5747, Contact Insertion Tool -
T5748-19. See page 19.

North/South America
Tel: +1 812 285 0055
E-mail: mis@harwin.com

CRIMP BARREL ACCOMMODATION

Crimp Type	Wire Size (AWG)	Stranding (mm)	Crimp Tool Setting	Pull-off Force (Newtons)
Small Bore	28	7/0.125	6	12.5
Small Bore	26	19/0.1	6	25.0
Small Bore	24	7/0.2	6	44.0
Large Bore	22	19/0.15	6	50.0
Power Crimp	20	19/0.2	8	85.0
Power Crimp	18	19/0.26	8	140.0

Europe/Middle East
Tel: +44 (0) 23 9237 0451
E-mail: mis@harwin.co.uk

Asia/Pacific
Tel: +65 779 4909
E-mail: mis@harwin.com.sg

HARWIN

Datamate

Tooling

PNEUMATIC DATAMATE CRIMP MACHINE

Pneumatically operated crimp machine

- Typical crimp rate is 600 per hour.
- Meets the requirements of BS5210-3A-300 and MIL M22520/2-01.
- Instruction sheet available.

Order Code Crimp Machine Z80-WA22AP
Order Code Positioner Z80-KAP778-1

POSITIONER

Used with hand crimp tool shown opposite.



Order Code T5747 (Small and Large bore crimp)

Order Code Z80-058 (Power Crimp)

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 M22520/2-01

SEPARATOR TOOL

Recommended for unplugging 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 T5746

INSERTION/REMOVAL TOOL

For inserting crimped socket contacts into the rear of mouldings. Instruction sheet available.



Order Code T5748-19 (complete with tool bits)
 Z80-250 (male crimp contacts only)

The charts on the next three pages details other product ranges available from HARWIN.

Selector Chart

2mm PITCH

BOARD TO BOARD - THROUGH BOARD

Through Board

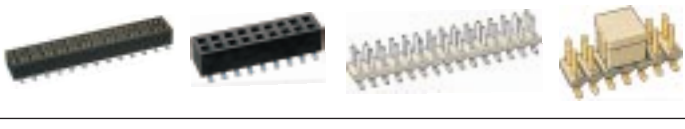
Pitch	Series	Features	Product Style
1.27mm	M50 Connectors	● Polarised with locating pegs. ● Shrouded contacts on pin headers.	
2.00mm	M22 Connectors	● Single and double row. ● Vertical and horizontal styles.	
2.00mm	M80 Connectors Datamate	● High reliability connectors with four finger beryllium copper contacts. ● One, two and three row styles.	
2.54mm	025 Connectors	● Single and double row. ● Up to 36 ways. ● Vertical and horizontal styles.	
4.20mm	KF Connectors	● Current rating up to 9 amperes per circuit. ● Compatible with existing standards. ● Natural or black mouldings. ● Fully shrouded with plastic locking. ● Secure polarisation of male and female connectors.	

BOARD TO BOARD - SURFACE MOUNT

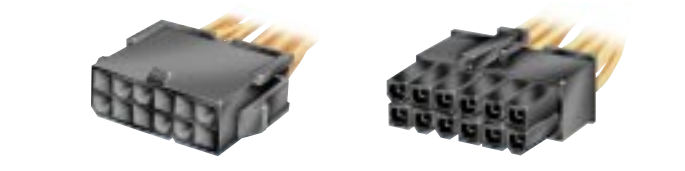
Pitch	Series	Features	Product Style
0.5mm	F05 Connectors	● Zero insertion force. ● Actuator cover.	
0.8mm	M60 Connectors	● Variable stacking height of between 5mm-9mm. ● Locating pegs.	
1.0mm	M40 Connectors	● 4.3mm stacking height. ● Available with or without tape. ● Locating pegs.	
1.0mm	F10 Connectors	● Compact. ● Zero insertion force. ● Surface mount.	
1.25mm	M30 Connectors	● SMT or through hole plug. ● Plug latches onto housing. ● Metal solder down tabs.	

Selector Chart

BOARD TO BOARD - SURFACE MOUNT (continued)

Pitch	Series	Features	Product Style
1.27mm	M50 Connectors	● Polarised with locating pegs. ● Shrouded contacts.	
2.00mm	M22 Connectors	● With or without pick and place pad. ● Low profile design socket.	
2.00mm	M80 Connectors Datamate	● 4 to 44 positions double row. ● Pick and place pad for automatic placement. ● Optional latched provides additional strain relief.	
2.54mm	025 Connectors	● Single and double row. ● With or without pick and place pad.	

WIRE TO BOARD

Pitch	Series	Features	Product Style
1.25mm	M30 Connectors	● SMT or through hole plug. ● Plug latches onto housing. ● Metal solder down tabs.	
2.00mm	M22 Connectors	● Single and double row. ● Polarising optional. ● Twin leaf contacts.	
2.00mm	Datamate	● One, two and three row styles. ● High reliability connectors with four finger beryllium copper contacts.	
2.54mm	025 Connectors	● Single and double row. ● Polarising optional. ● Tapered entry for pin insertion ● Latched pin headers.	
4.20mm	KF Connectors	● Current rating up to 9 amperes per circuit. ● Compatible with existing standards. ● Natural or black mouldings. ● Fully shrouded with plastic locking.	

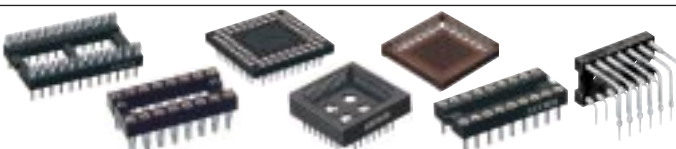
Selector Chart

2mm PITCH

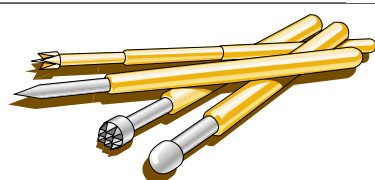
FLEXI TO BOARD

Pitch	Series	Features	Product Style
0.5mm	F05 Connectors	● Zero insertion force. ● Actuator cover. ● Surface mount design.	
1.00mm	F10 Connectors	● Compact. ● Zero insertion force. ● Surface mount.	
1.25mm	F25 Connectors	● Low insertion force. ● Vertical and horizontal.	
2.54mm	F20 Connections	● Low insertion force. ● Vertical and horizontal.	

SOCKETS

Range	Features	Product Style
PCB Sockets	● For pins, Ø0.5, Ø0.6, Ø0.8, Ø1.0 and Ø2.00mm ● High reliability four finger contact. ● Available with RTV sealing. ● Available loose or reeled.	
Sockets	● IC sockets—high reliability four finger contact. ● Choice of styles. ● Choice of finishes.	

HARDWARE

Range	Features	Product Style
Spacers	● Clearance and threaded. ● Metric and imperial sizes. ● Hexagonal and circular. ● Plastic and metal.	 New Pic to come
Terminals	● 0.635mm square terminal pins. ● 1mm terminals. ● PCB spade terminals. ● Terminal blocks. ● Insulated plugs. ● Uninsulated plugs.	
Probes	● Head styles for various applications. ● Different travels for specific applications. ● Wide range of sizes from 0.82 to 4.20 mm centres.	

CUSTOMER SERVICES



Telephone calls direct onto our Sales Desk for immediate response.



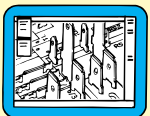
Technical Engineers on-hand to advise you on your problem.



Ship-to-stock or ship-to-line with qualified accounts.



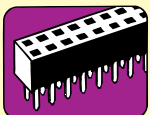
ISO 9001 Approval Certificate No. FM10993.



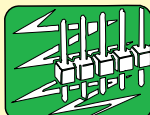
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Customised labels for your own production.

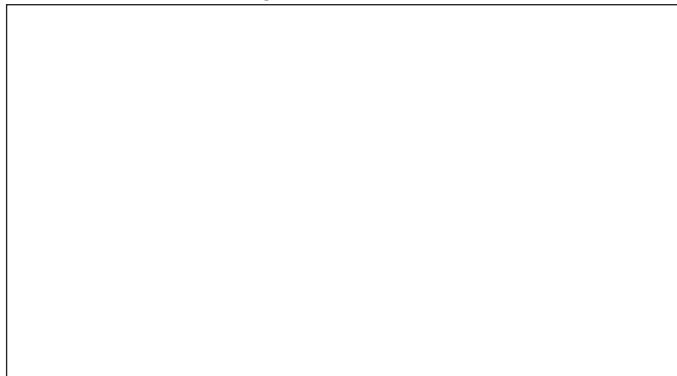


Free of charge samples on standard products.



Selective electroplating can be offered from our own plating facility.

Catalogue No: 01-2401



HARWIN Literature



Component Assembly Catalogue

High speed systems for inserting sockets, tabs, pins and other oddform components into printed circuit boards, bobbins and housings. *Also available on CD ROM.*



CD Catalogue

If you prefer electronic media, then we have our full line catalogue available on CD ROM. It contains technical data, specifications and catalogue pages in PDF format. Plus details of distributors, new products and other useful information.



Web Site

Bookmark [harwin.com](http://www.harwin.com) for the latest new product releases, distributor listings, product information and other useful information. You will find an extensive searchable database of our products including technical drawings, specifications and catalogue pages in pdf format.

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