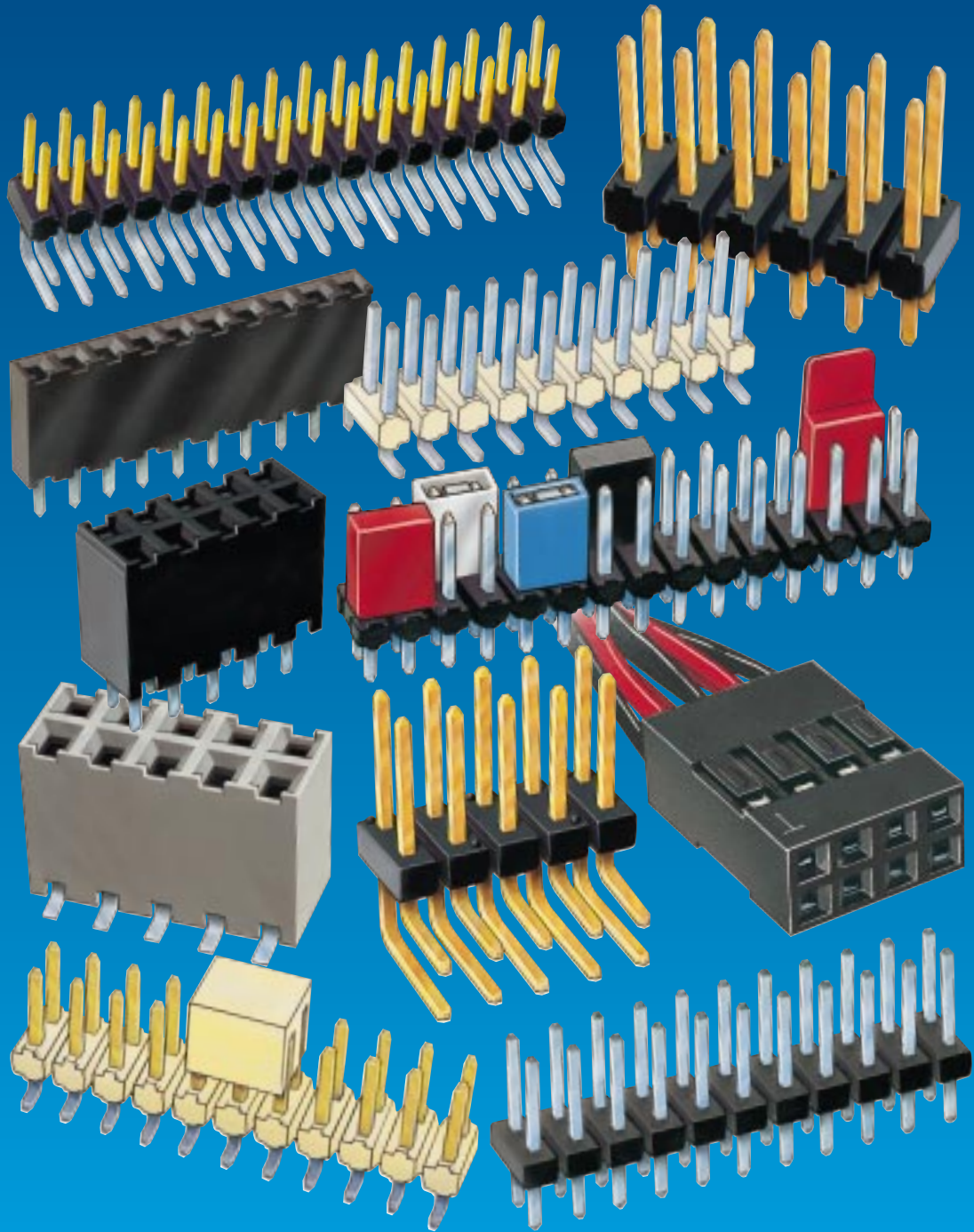


# 2.54mm (.100") Pitch Connectors



**HARWIN**


## HARWIN plc

Fitzherbert Road, Farlington, Portsmouth, Hampshire, PO6 1RT, UK

 **Tel:** (Sales) +44 (0) 23 9237 0451  
Tel: (Admin) +44 (0) 23 9231 4545  
 **Fax:** +44 (0) 23 9231 4590  
**E-mail:** mis@harwin.co.uk


## HARWIN Inc

P.O. Box 319, New Albany IN 47151 USA

 **Tel:** +1 812 285 0055  
 **Fax:** +1 812 285 0056  
**E-mail:** mis@harwin.com

## HARWIN pte

Block 71 Ayer Rajah Crescent  
#04-01/02 Ayer Rajah Industrial Estate Singapore 0513

 **Tel:** +65 779 4909  
 **Fax:** +65 779 3868  
**E-mail:** mis@harwin.com.sg

### 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.

# Sales, Service &

Wire To  
Board Connectors

Loose Board  
Sockets

IC  
Packaging

Spacers

# GLOBAL INTERCO MANUF

Component  
Assembly  
Systems

FROM  
TO

Tabs &  
Terminals

- Integrated manufacturing company
- Quality products to international standards - ISO 9001 (No: FM10993)
- Free of charge samples
- Extensive distribution network
- Technical support

For the latest product  
**our website:**

**HARWIN**

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

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

# 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  
[www.harwin.com](http://www.harwin.com)

North/South America  
Tel: +1 812 285 0055  
E-mail: [mis@harwin.com](mailto:mis@harwin.com)

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

## CONTENTS

Specification 3

Vertical Sockets 4  
Horizontal Sockets 5  
Bottom Entry Sockets 6  
Surface Mount Sockets 7  
Crimp Housing and Contacts 8  
Jumper Sockets 9-10

Vertical Pin Headers 11,13  
Horizontal Pin Headers 12,13  
Surface Mount Pin Headers 15  
Extended Pin Headers 16  
Latched Pin Headers 17

PC104 Connectors 18

Pin Header Variants 19-20

Modular Connectors 21  
Press-Fit Modular Connectors 22

Tools and Accessories 23

Component Selector Chart 24 - 26

## Part Number Index

D01-950	21	M20-877	15	M20-984	6
D01-961	22	M20-883	7	M20-988	5
D01-963	22	M20-944	17	M20-989	5
D01-967	22	M20-945	17	M20-995	14
D01-968	22	M20-946	17	M20-996	12
D01-992	21	M20-947	17	M20-997	16
D01-993	21	M20-960	16	M20-998	13
D01-994	21	M20-961	16	M20-999	11
D01-995	21	M20-966	6	M75	9
D01-997	21	M20-970	14	M76	10
D01-999	21	M20-971	12	M77	9
M20-003	4	M20-972	13	M79	9
M20-106	8	M20-973	11	Z1022-00	23
M20-107	8	M20-974	14	Z1023-00	23
M20-116	8	M20-975	12	Z20-320	23
M20-118	8	M20-976	13	Z20-321	23
M20-610	18	M20-977	11	Z20-331	23
M20-611	18	M20-982	4	ZGP-PEO	23
M20-876	15	M20-983	4	ZGP-SC10	23

Asia/Pacific  
Tel: +65 779 4909

E-mail: [mis@harwin.com.sg](mailto:mis@harwin.com.sg)

**HARWIN**

# 025 CONNECTORS

## 025 Connector Specification

### Electrical

Current rating: 3 Amps  
 Contact resistance: 15 Milliohms  
 Insulation resistance:  $1 \times 10^6$  Megohms at 500 V d.c.  
 Voltage Proof: 750 V rms at 50 Hz  
 Capacitance: 1.5 pF

### Mechanical

Insertion force: 1.5N max (gold) 3.0N max (tin/lead)  
 Withdrawal force: 0.3N min (gold) 0.5N min (tin/lead)  
 Number of operations: 300 (gold) 50 (tin/lead)  
 Climatic category: -40/+105/21 days at 95% R.H.

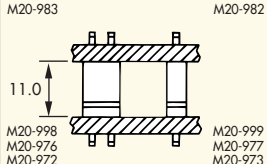
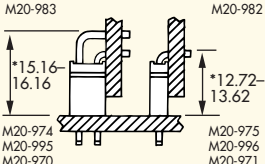
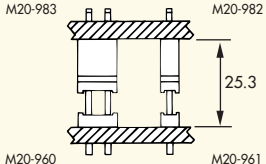
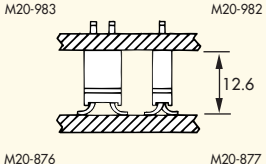
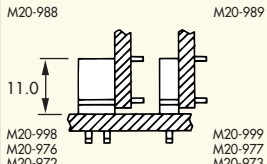
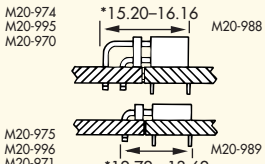
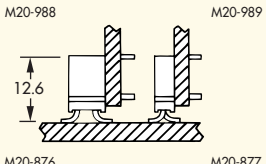
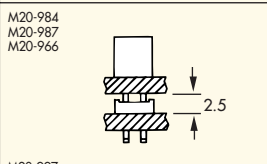
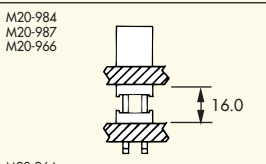
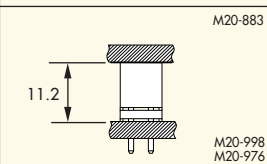
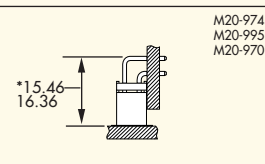
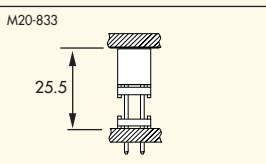
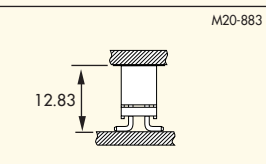
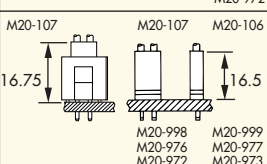
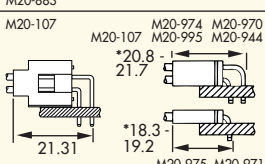
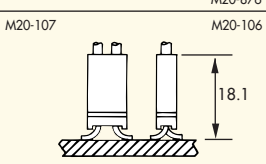
### Materials

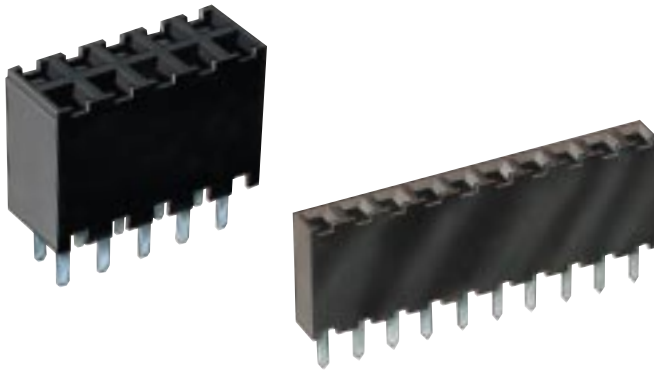
Housing: Glass filled polyester or high temperature thermoplastic UL94V-0  
 Socket Contacts: Phosphor bronze, twin leaf box design  
 Plug contacts: 0.635 square Copper alloy drawn wire with pyramid end  
 Plating finish: Socket contacts - tin/lead or selective gold tin/lead  
 Plug contacts: Gold, selective gold/tin lead or tin/lead  
 Solderability: Solderability +235°C, 2 seconds wetting time after ageing (IEC512 Test 12a)

### Jumper Socket Specification

Housing: Glass filled polyester UL94V-0  
 Socket Contact: Phosphor Bronze  
 Plating Finish: Gold over nickel, or tin over nickel  
 Current rating: 3A at 50°C  
 Contact Resistance: 20 Milliohms maximum  
 Insertion Force: 13N  
 Withdrawal force: 3N  
 Number of Insertions: 300 (Gold) 50 (tin)

\* Depends on combination of connectors.

025 Sockets	025 Plug Connectors			
	Vertical	Horizontal	Vertical Extended	Vertical SMT
<b>Vertical PC Tail</b>	 <p>M20-983 M20-982 11.0 M20-998 M20-999 M20-976 M20-977 M20-972 M20-973</p>	 <p>M20-983 M20-982 *15.16 16.16 *12.72-13.62 M20-974 M20-975 M20-995 M20-996 M20-970 M20-971</p>	 <p>M20-983 M20-982 25.3 M20-960 M20-961</p>	 <p>M20-983 M20-982 12.6 M20-876 M20-877</p>
<b>Horizontal PC Tail</b>	 <p>M20-988 M20-989 11.0 M20-998 M20-999 M20-976 M20-977 M20-972 M20-973</p>	 <p>M20-974 M20-975 M20-995 M20-996 M20-970 M20-971 *15.20-16.16 *12.72 - 13.62</p>	NOT AVAILABLE	 <p>M20-988 M20-989 12.6 M20-876 M20-877</p>
<b>Bottom Entry</b>	 <p>M20-984 M20-987 M20-966 2.5 M20-997</p>	NOT APPLICABLE	 <p>M20-984 M20-987 M20-966 16.0 M20-964</p>	NOT AVAILABLE
<b>Surface Mount</b>	 <p>M20-883 11.2 M20-998 M20-999 M20-976 M20-977 M20-972 M20-973</p>	 <p>M20-974 M20-975 M20-995 M20-996 M20-970 M20-971 *15.46 16.36</p>	 <p>M20-833 25.5 M20-960</p>	 <p>M20-883 M20-884 12.83 M20-876 M20-877</p>
<b>Crimp</b>	 <p>M20-107 M20-106 16.75 16.5 M20-998 M20-999 M20-976 M20-977 M20-972 M20-973 M20-946 M20-947</p>	 <p>M20-107 M20-106 *20.8 21.7 *18.3 19.2 21.31 M20-974 M20-975 M20-995 M20-996 M20-970 M20-971 M20-944 M20-945</p>	NOT AVAILABLE	 <p>M20-107 M20-106 18.1 M20-876 M20-877</p>



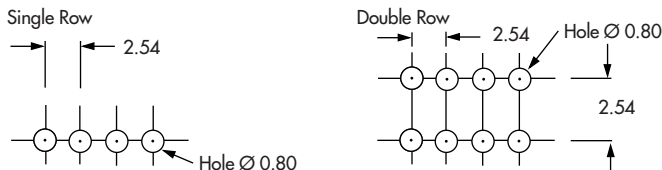
# 025 CONNECTORS

## Vertical Sockets

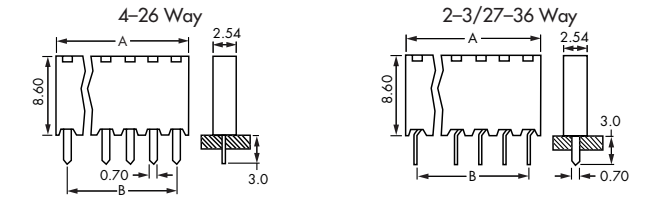
- Up to 36 way single row, 36+36 way double row.
- High performance twin leaf contact.
- Polarisation with separate key, use order code M20-003.

A range of vertical single and double row sockets with tapered entry for pin insertion and a choice of plating finish, tin or selective gold/tin.

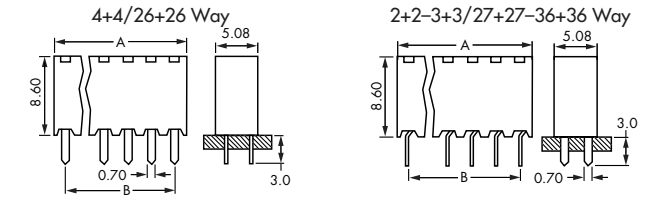
### Recommended PC Board Patterns



### SINGLE ROW



### DOUBLE ROW



No. of Ways	A	B	Order Code	
			Tin	Gold/Tin
2	5.08	2.54	M20-9820206	M20-9820222
3	7.62	5.08	M20-9820306	M20-9820322
4	10.16	7.62	M20-9820406	M20-9820422
5	12.70	10.16	M20-9820506	M20-9820522
6	15.24	12.70	M20-9820606	M20-9820622
7	17.78	15.24	M20-9820706	M20-9820722
8	20.32	17.78	M20-9820806	M20-9820822
9	22.86	20.32	M20-9820906	M20-9820922
10	25.40	22.86	M20-9821006	M20-9821022
11	27.94	25.40	M20-9821106	M20-9821122
12	30.48	27.94	M20-9821206	M20-9821222
13	33.02	30.48	M20-9821306	M20-9821322
14	35.56	33.02	M20-9821406	M20-9821422
15	38.10	35.56	M20-9821506	M20-9821522
16	40.64	38.10	M20-9821606	M20-9821622
17	43.18	40.64	M20-9821706	M20-9821722
18	45.72	43.18	M20-9821806	M20-9821822
19	48.26	45.72	M20-9821906	M20-9821922
20	50.80	48.26	M20-9822006	M20-9822022
21	53.34	50.80	M20-9822106	M20-9822122
22	55.88	53.34	M20-9822206	M20-9822222
23	58.42	55.88	M20-9822306	M20-9822322
24	60.96	58.42	M20-9822406	M20-9822422
25	63.50	60.96	M20-9822506	M20-9822522
26	66.04	63.50	M20-9822606	M20-9822622
27	69.34	66.04	M20-9822706	M20-9822722
28	71.88	68.58	M20-9822806	M20-9822822
29	74.42	71.12	M20-9822906	M20-9822922
30	76.96	73.66	M20-9823006	M20-9823022
31	79.50	76.20	M20-9823106	M20-9823122
32	82.04	78.74	M20-9823206	M20-9823222
33	84.58	81.28	M20-9823306	M20-9823322
34	87.12	83.82	M20-9823406	M20-9823422
35	89.66	86.36	M20-9823506	M20-9823522
36	91.44	88.90	M20-9823606	M20-9823622

No. of Ways	A	B	Order Code	
			Tin	Gold/Tin
2+2	5.08	2.54	M20-9830206	M20-9830222
3+3	7.62	5.08	M20-9830306	M20-9830322
4+4	10.16	7.62	M20-9830406	M20-9830422
5+5	12.70	10.16	M20-9830506	M20-9830522
6+6	15.24	12.70	M20-9830606	M20-9830622
7+7	17.78	15.24	M20-9830706	M20-9830722
8+8	20.32	17.78	M20-9830806	M20-9830822
9+9	22.86	20.32	M20-9830906	M20-9830922
10+10	25.40	22.86	M20-9831006	M20-9831022
11+11	27.94	25.40	M20-9831106	M20-9831122
12+12	30.48	27.94	M20-9831206	M20-9831222
13+13	33.02	30.48	M20-9831306	M20-9831322
14+14	35.56	33.02	M20-9831406	M20-9831422
15+15	38.10	35.56	M20-9831506	M20-9831522
16+16	40.64	38.10	M20-9831606	M20-9831622
17+17	43.18	40.64	M20-9831706	M20-9831722
18+18	45.72	43.18	M20-9831806	M20-9831822
19+19	48.26	45.72	M20-9831906	M20-9831922
20+20	50.80	48.26	M20-9832006	M20-9832022
21+21	53.34	50.80	M20-9832106	M20-9832122
22+22	55.88	53.34	M20-9832206	M20-9832222
23+23	58.42	55.88	M20-9832306	M20-9832322
24+24	60.96	58.42	M20-9832406	M20-9832422
25+25	63.50	60.96	M20-9832506	M20-9832522
26+26	66.04	63.50	M20-9832606	M20-9832622
27+27	69.34	66.04	M20-9832706	M20-9832722
28+28	71.88	68.58	M20-9832806	M20-9832822
29+29	74.42	71.12	M20-9832906	M20-9832922
30+30	76.96	73.66	M20-9833006	M20-9833022
31+31	79.50	76.20	M20-9833106	M20-9833122
32+32	82.04	78.74	M20-9833206	M20-9833222
33+33	84.58	81.28	M20-9833306	M20-9833322
34+34	87.12	83.82	M20-9833406	M20-9833422
35+35	89.66	86.36	M20-9833506	M20-9833522
36+36	91.44	88.90	M20-9833606	M20-9833622

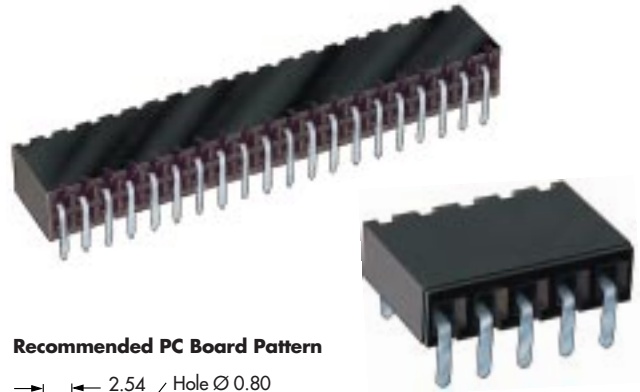


# 025 CONNECTORS

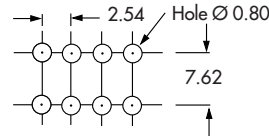
## Horizontal Sockets

A range of horizontal single and double row sockets with tapered entry for pin insertion and a choice of plating finish, tin or selective gold/tin.

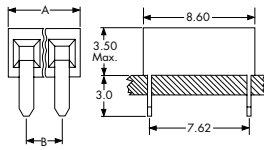
- Up to 36 way single row, 36+36 way double row.
- High performance twin leaf contact.
- Two point solder fixing for connector rigidity.
- Polarisation with separate key, use order code M20-003.



Recommended PC Board Pattern

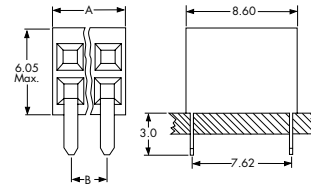


### SINGLE ROW

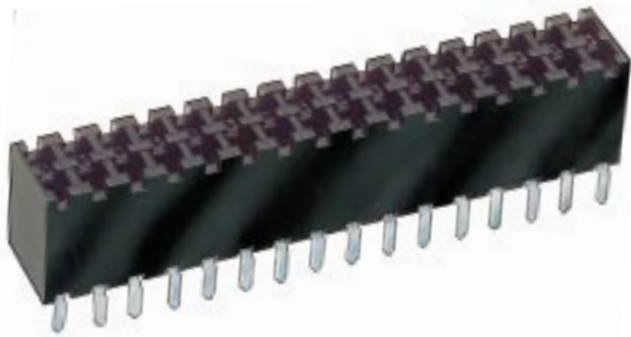


No. of Ways	A	B	Order Code	
			Tin	Gold/Tin
2	5.08	2.54	M20-9890206	M20-9890222
3	7.62	5.08	M20-9890306	M20-9890322
4	10.16	7.62	M20-9890406	M20-9890422
5	12.70	10.16	M20-9890506	M20-9890522
6	15.24	12.70	M20-9890606	M20-9890622
7	17.78	15.24	M20-9890706	M20-9890722
8	20.32	17.78	M20-9890806	M20-9890822
9	22.86	20.32	M20-9890906	M20-9890922
10	25.40	22.86	M20-9891006	M20-9891022
11	27.94	25.40	M20-9891106	M20-9891122
12	30.48	27.94	M20-9891206	M20-9891222
13	33.02	30.48	M20-9891306	M20-9891322
14	35.56	33.02	M20-9891406	M20-9891422
15	38.10	35.56	M20-9891506	M20-9891522
16	40.64	38.10	M20-9891606	M20-9891622
17	43.18	40.64	M20-9891706	M20-9891722
18	45.72	43.18	M20-9891806	M20-9891822
19	48.26	45.72	M20-9891906	M20-9891922
20	50.80	48.26	M20-9892006	M20-9892022
21	53.34	50.80	M20-9892106	M20-9892122
22	55.88	53.34	M20-9892206	M20-9892222
23	58.42	55.88	M20-9892306	M20-9892322
24	60.96	58.42	M20-9892406	M20-9892422
25	63.50	60.96	M20-9892506	M20-9892522
26	66.04	63.50	M20-9892606	M20-9892622
27	69.34	66.04	M20-9892706	M20-9892722
28	71.88	68.58	M20-9892806	M20-9892822
29	74.42	71.12	M20-9892906	M20-9892922
30	76.96	73.66	M20-9893006	M20-9893022
31	79.50	76.20	M20-9893106	M20-9893122
32	82.04	78.74	M20-9893206	M20-9893222
33	84.58	81.28	M20-9893306	M20-9893322
34	87.12	83.82	M20-9893406	M20-9893422
35	89.66	86.36	M20-9893506	M20-9893522
36	91.44	88.90	M20-9893606	M20-9893622

### DOUBLE ROW



No. of Ways	A	B	Order Code	
			Tin	Gold/Tin
2+2	5.08	2.54	M20-9880206	M20-9880222
3+3	7.62	5.08	M20-9880306	M20-9880322
4+4	10.16	7.62	M20-9880406	M20-9880422
5+5	12.70	10.16	M20-9880506	M20-9880522
6+6	15.24	12.70	M20-9880606	M20-9880622
7+7	17.78	15.24	M20-9880706	M20-9880722
8+8	20.32	17.78	M20-9880806	M20-9880822
9+9	22.86	20.32	M20-9880906	M20-9880922
10+10	25.40	22.86	M20-9881006	M20-9881022
11+11	27.94	25.40	M20-9881106	M20-9881122
12+12	30.48	27.94	M20-9881206	M20-9881222
13+13	33.02	30.48	M20-9881306	M20-9881322
14+14	35.56	33.02	M20-9881406	M20-9881422
15+15	38.10	35.56	M20-9881506	M20-9881522
16+16	40.64	38.10	M20-9881606	M20-9881622
17+17	43.18	40.64	M20-9881706	M20-9881722
18+18	45.72	43.18	M20-9881806	M20-9881822
19+19	48.26	45.72	M20-9881906	M20-9881922
20+20	50.80	48.26	M20-9882006	M20-9882022
21+21	53.34	50.80	M20-9882106	M20-9882122
22+22	55.88	53.34	M20-9882206	M20-9882222
23+23	58.42	55.88	M20-9882306	M20-9882322
24+24	60.96	58.42	M20-9882406	M20-9882422
25+25	63.50	60.96	M20-9882506	M20-9882522
26+26	66.04	63.50	M20-9882606	M20-9882622
27+27	69.34	66.04	M20-9882706	M20-9882722
28+28	71.88	68.58	M20-9882806	M20-9882822
29+29	74.42	71.12	M20-9882906	M20-9882922
30+30	76.96	73.66	M20-9883006	M20-9883022
31+31	79.50	76.20	M20-9883106	M20-9883122
32+32	82.04	78.74	M20-9883206	M20-9883222
33+33	84.58	81.28	M20-9883306	M20-9883322
34+34	87.12	83.82	M20-9883406	M20-9883422
35+35	89.66	86.36	M20-9883506	M20-9883522
36+36	91.44	88.90	M20-9883606	M20-9883622

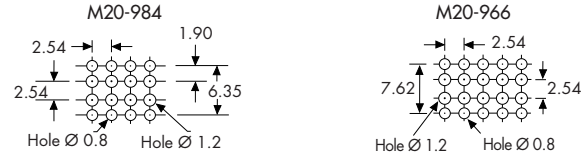


# 025 CONNECTORS

## Bottom Entry Sockets

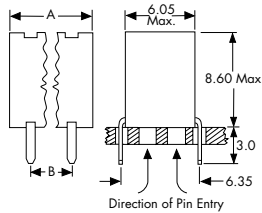
A range of double row bottom entry sockets with tapered entry for pin insertion and a choice of plating finish, tin or selective gold/tin. Can be used with pin headers M20-997 series shown on page 16.

### Recommended PC Board Patterns

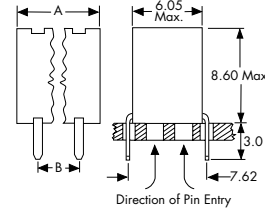


- Up to 36+36 way double row.
- High performance twin leaf contact.
- Polarisation with separate key, M20-003.

### OFFSET TAIL 6.35mm



### OFFSET TAIL 7.62mm



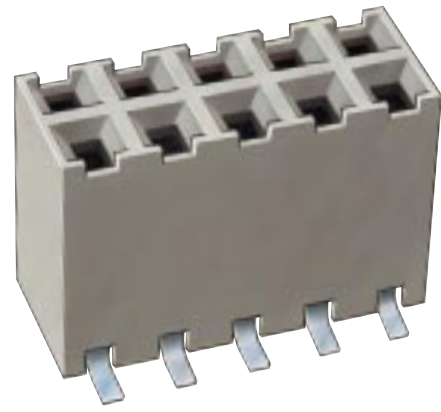
No. of Ways	A	B	Order Code Offset Tail (6.35mm)		Order Code Offset Tail (7.62mm)	
			Tin	Gold/Tin	Tin	Gold/Tin
2+2	5.08	2.54	M20-9840206	M20-9840222	M20-9660206	M20-9660222
3+3	7.62	5.08	M20-9840306	M20-9840322	M20-9660306	M20-9660322
4+4	10.16	7.62	M20-9840406	M20-9840422	M20-9660406	M20-9660422
5+5	12.70	10.16	M20-9840506	M20-9840522	M20-9660506	M20-9660522
6+6	15.24	12.70	M20-9840606	M20-9840622	M20-9660606	M20-9660622
7+7	17.78	15.24	M20-9840706	M20-9840722	M20-9660706	M20-9660722
8+8	20.32	17.78	M20-9840806	M20-9840822	M20-9660806	M20-9660822
9+9	22.86	20.32	M20-9840906	M20-9840922	M20-9660906	M20-9660922
10+10	25.40	22.86	M20-9841006	M20-9841022	M20-9661006	M20-9661022
11+11	27.94	25.40	M20-9841106	M20-9841122	M20-9661106	M20-9661122
12+12	30.48	27.94	M20-9841206	M20-9841222	M20-9661206	M20-9661222
13+13	33.02	30.48	M20-9841306	M20-9841322	M20-9661306	M20-9661322
14+14	35.56	33.02	M20-9841406	M20-9841422	M20-9661406	M20-9661422
15+15	38.10	35.56	M20-9841506	M20-9841522	M20-9661506	M20-9661522
16+16	40.64	38.10	M20-9841606	M20-9841622	M20-9661606	M20-9661622
17+17	43.18	40.64	M20-9841706	M20-9841722	M20-9661706	M20-9661722
18+18	45.72	43.18	M20-9841806	M20-9841822	M20-9661806	M20-9661822
19+19	48.26	45.72	M20-9841906	M20-9841922	M20-9661906	M20-9661922
20+20	50.80	48.26	M20-9842006	M20-9842022	M20-9662006	M20-9662022
21+21	53.34	50.80	M20-9842106	M20-9842122	M20-9662106	M20-9662122
22+22	55.88	53.34	M20-9842206	M20-9842222	M20-9662206	M20-9662222
23+23	58.42	55.88	M20-9842306	M20-9842322	M20-9662306	M20-9662322
24+24	60.96	58.42	M20-9842406	M20-9842422	M20-9662406	M20-9662422
25+25	63.50	60.96	M20-9842506	M20-9842522	M20-9662506	M20-9662522
26+26	66.04	63.50	M20-9842606	M20-9842622	M20-9662606	M20-9662622
27+27	69.34	66.04	M20-9842706	M20-9842722	M20-9662706	M20-9662722
28+28	71.88	68.58	M20-9842806	M20-9842822	M20-9662806	M20-9662822
29+29	74.42	71.12	M20-9842906	M20-9842922	M20-9662906	M20-9662922
30+30	76.96	73.66	M20-9843006	M20-9843022	M20-9663006	M20-9663022
31+31	79.50	76.20	M20-9843106	M20-9843122	M20-9663106	M20-9663122
32+32	82.04	78.74	M20-9843206	M20-9843222	M20-9663206	M20-9663222
33+33	84.58	81.28	M20-9843306	M20-9843322	M20-9663306	M20-9663322
34+34	87.12	83.82	M20-9843406	M20-9843422	M20-9663406	M20-9663422
35+35	89.66	86.36	M20-9843506	M20-9843522	M20-9663506	M20-9663522
36+36	91.44	88.90	M20-9843606	M20-9843622	M20-9663606	M20-9663622

# 025 CONNECTORS

## Surface Mount Socket

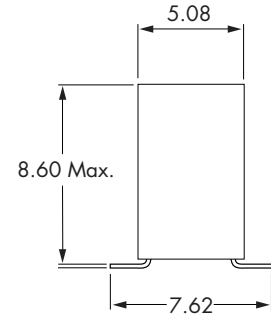
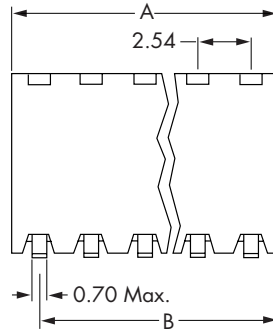
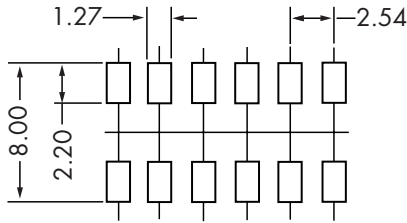
A range of double row surface mount sockets, top entry.

- Available in tin/lead, or gold/tin plating finishes.
- Supplied in tubes.



### SURFACE MOUNT SOCKET

#### Recommended PC Board Pattern



No. of Ways	A	B	Order Code	
			Tin/Lead	Gold/Tin
2+2	5.08	2.54	M20-8830206	M20-8830222
3+3	7.62	5.08	M20-8830306	M20-8830322
4+4	10.16	7.62	M20-8830406	M20-8830422
5+5	12.70	10.16	M20-8830506	M20-8830522
6+6	15.24	12.70	M20-8830606	M20-8830622
7+7	17.78	15.24	M20-8830706	M20-8830722
8+8	20.32	17.78	M20-8830806	M20-8830822
9+9	22.86	20.32	M20-8830906	M20-8830922
10+10	25.40	22.86	M20-8831006	M20-8831022
11+11	27.94	25.40	M20-8831106	M20-8831122
12+12	30.48	27.94	M20-8831206	M20-8831222
13+13	33.02	30.48	M20-8831306	M20-8831322
14+14	35.56	33.02	M20-8831406	M20-8831422
15+15	38.10	35.56	M20-8831506	M20-8831522
16+16	40.64	38.10	M20-8831606	M20-8831622
17+17	43.18	40.64	M20-8831706	M20-8831722
18+18	45.72	43.18	M20-8831806	M20-8831822
19+19	48.26	45.72	M20-8831906	M20-8831922
20+20	50.80	48.26	M20-8832006	M20-8832022
21+21	53.34	50.80	M20-8832106	M20-8832122
22+22	55.88	53.34	M20-8832206	M20-8832222
23+23	58.42	55.88	M20-8832306	M20-8832322
24+24	60.96	58.42	M20-8832406	M20-8832422
25+25	63.50	60.96	M20-8832506	M20-8832522
26+26	66.04	63.50	M20-8832606	M20-8832622
27+27	69.34	66.04	M20-8832706	M20-8832722
28+28	71.88	68.58	M20-8832806	M20-8832822
29+29	74.42	71.12	M20-8832906	M20-8832922
30+30	76.96	73.66	M20-8833006	M20-8833022
31+31	79.50	76.20	M20-8833106	M20-8833122
32+32	82.04	78.74	M20-8833206	M20-8833222
33+33	84.58	81.28	M20-8833306	M20-8833322
34+34	87.12	83.82	M20-8833406	M20-8833422
35+35	89.60	86.36	M20-8833506	M20-8833522
36+36	91.44	88.90	M20-8833606	M20-8833622



# 025 CONNECTORS

## Crimp Housing and Contacts



A range of single and double row crimp housings that accept contact shown below. Used with pin headers shown on pages 11 to 17.

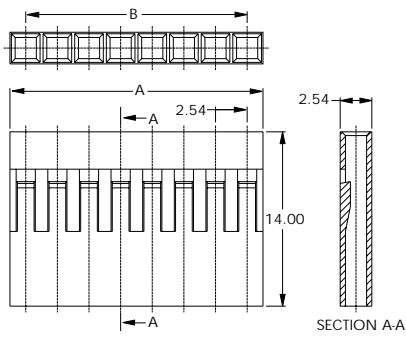
### Polarising Key

Polarising key latches into moulding in place of contact.  
Material: Brass, tin/lead plated.

**Order Code** M20-003

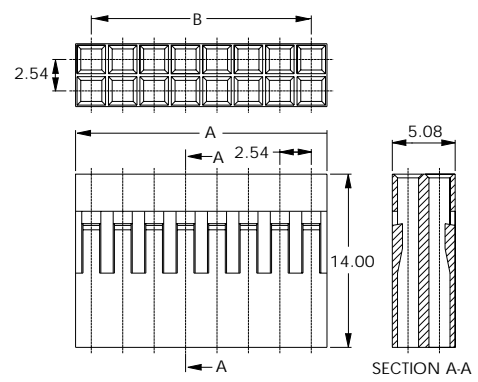
- Up to 12 way single row, 12+12 way double row.
- Tapered entry for pin insertion.
- Contacts available on reels or loose.
- Polarisation with a separate key.
- Rear removable contacts.
- For crimp machines and hand tools see page 23.
- Wire to board application.
- For larger sizes, please contact Technical Sales.

### SINGLE ROW



No. of Ways	A	B	Order Code
2	5.28	2.54	M20-1060200
3	7.82	5.08	M20-1060300
4	10.36	7.62	M20-1060400
5	12.90	10.16	M20-1060500
6	15.44	12.70	M20-1060600
7	17.98	15.24	M20-1060700
8	20.52	17.78	M20-1060800
9	23.06	20.32	M20-1060900
10	25.60	22.86	M20-1061000
11	28.14	25.40	M20-1061100
12	30.68	27.94	M20-1061200

### DOUBLE ROW

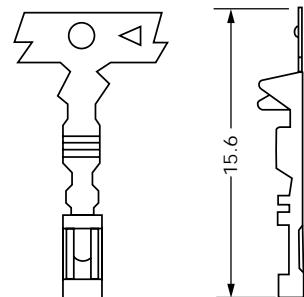


No. of Ways	A	B	Order Code
2+2	5.28	2.54	M20-1070200
3+3	7.82	5.08	M20-1070300
4+4	10.36	7.62	M20-1070400
5+5	12.90	10.16	M20-1070500
6+6	15.44	12.70	M20-1070600
7+7	17.98	15.24	M20-1070700
8+8	20.52	17.78	M20-1070800
9+9	23.06	20.32	M20-1070900
10+10	25.60	22.86	M20-1071000
11+11	28.14	25.40	M20-1071100
12+12	30.68	27.94	M20-1071200

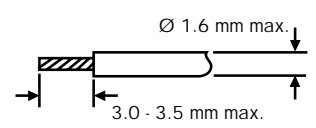
### CONTACTS

Finish	Wire Gauge	Order Code	Order Code
		Loose Contacts	Reeled Contacts
Selective Gold	22-30 AWG	M20-1180022	M20-1160022
Tin	22-30 AWG	M20-1180006	M20-1160006

- Order codes for reeled contacts refer to one reel of 10,000 contacts.
- Order codes for loose contacts refer to one pack of 100 contacts.



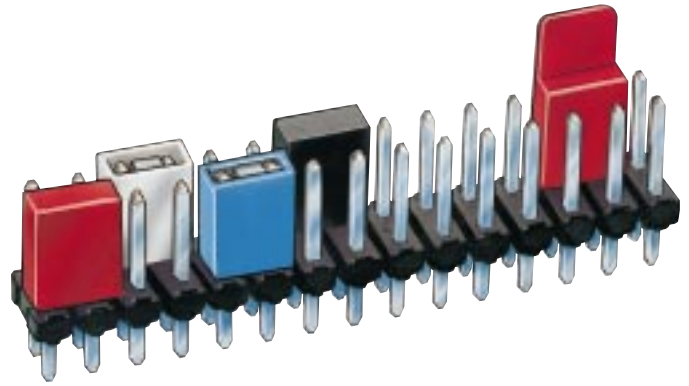
### Wire Stripping Details



# 025 CONNECTORS

## Jumper Sockets

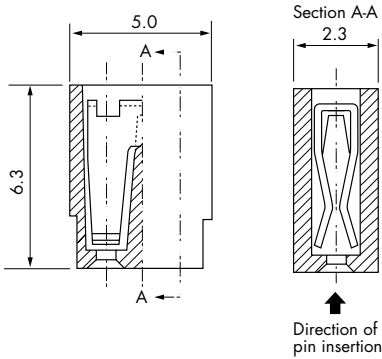
A range of end and side stackable jumper sockets on a 2.54mm grid. Plugs onto 0.635mm square or round pins and has tapered entry for pin insertion.



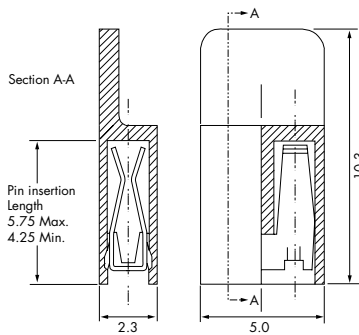
- Double sided contacts.
- Can be fitted and removed by hand.
- An alternative on-board programming method to DIL switches.
- Open top for test probes.
- Multiusage socket upto 250 removals.

### HIGH REL, MULTIUSAGE

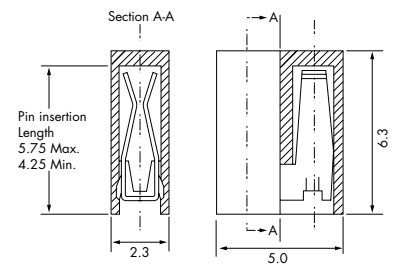
#### OPEN TOP



#### CLOSED TOP WITH HANDLE



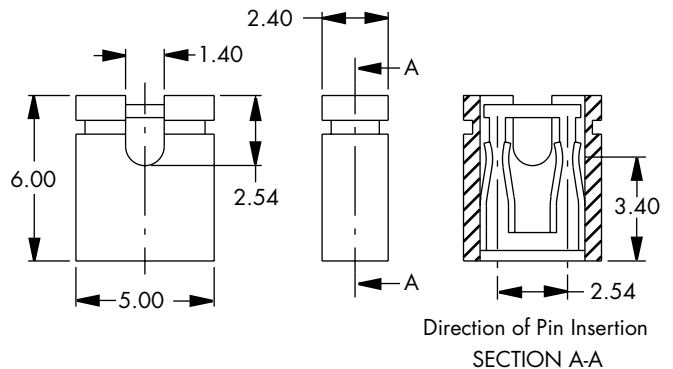
#### CLOSED TOP



Colour	Order Code Open Top		Order Code Closed Top with Handle		Order Code Closed Top	
	Gold	Tin	Gold	Tin	Gold	Tin
Black	M7567-05	M7567-06	M7967-05	M7967-06	M7767-05	M7767-06
Light Grey	M7565-05	M7565-06	M7965-05	M7965-06	M7765-05	M7765-06
Red	M7566-05	M7566-06	M7966-05	M7966-06		
Blue	M7571-05	M7571-06				

### HIGH FORCE, SINGLE OPERATION

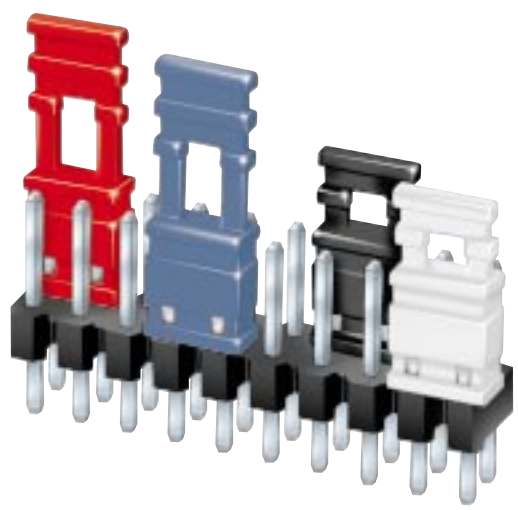
#### OPEN TOP



Colour	Order Code	
	Gold	Tin
Black	M7582-05	M7582-06
Light Grey	M7580-05	M7580-06
Red	M7581-05	M7581-06
Blue	M7583-05	M7583-06

# 025 CONNECTORS

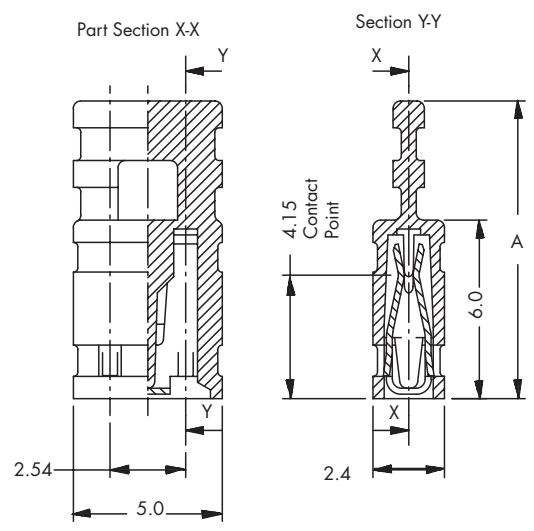
## Jumper Sockets



A range of end and side stackable closed top jumper sockets on a 2.54mm grid. Plugs on to 0.635mm square or round pins and has tapered entry for pin insertion.

- Flexible handle for ease of location and withdrawal.
- Double sided contacts.
- Can be fitted and removed by hand.
- Multi-usage sockets up to 300 operations (gold).

### CLOSED TOP WITH HANDLE



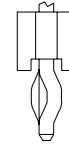
Colour	Order Code A = 10mm		Order Code A = 14mm	
	Gold	Tin	Gold	Tin
Light Grey	M7684-05	M7684-06	M7680-05	M7680-06
Red	M7685-05	M7685-06	M7681-05	M7681-06
Black	M7686-05	M7686-06	M7682-05	M7682-06
Blue	M7687-05	M7687-06	M7683-05	M7683-06

# 025 CONNECTORS

## Vertical Pin Headers Single Row



Hold down option

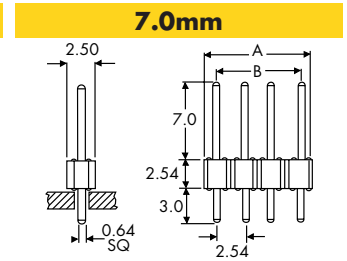
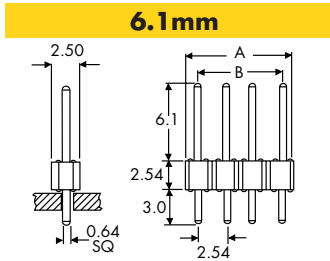
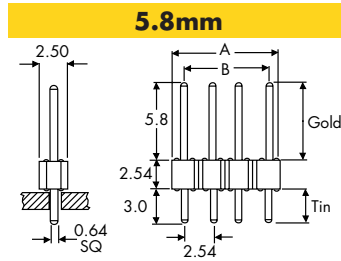
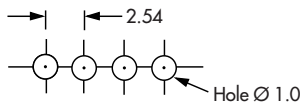


A range of 0.635 mm square pin headers, suitable for wire wrapping, connector or programming applications.

- Up to 36 way single row.
- Copper Alloy contact.
- Stand off feature.
- Choice of mating pin lengths 5.8mm, 6.1mm and 7.0mm.
- For board retention, please add H after the series code. For example M20-977H0206. Minimum order quantities may apply.

### Recommended PC Board Pattern

Single Row

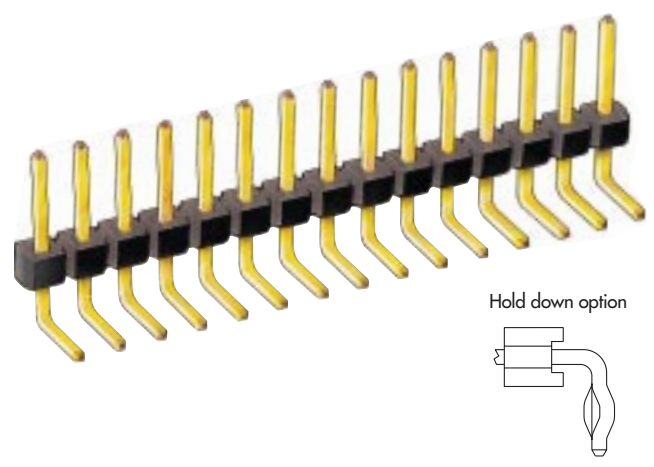


No. of Ways	A	B	Order Code 5.8mm		Order Code 6.1mm		Order Code 7.0mm	
			Tin	Gold/Tin	Tin	Gold	Tin	Gold
2	5.08	2.54	M20-9770206	M20-9770222	M20-9990206	M20-9990205	M20-9730206	M20-9730205
3	7.62	5.08	M20-9770306	M20-9770322	M20-9990306	M20-9990305	M20-9730306	M20-9730305
4	10.16	7.62	M20-9770406	M20-9770422	M20-9990406	M20-9990405	M20-9730406	M20-9730405
5	12.70	10.16	M20-9770506	M20-9770522	M20-9990506	M20-9990505	M20-9730506	M20-9730505
6	15.24	12.70	M20-9770606	M20-9770622	M20-9990606	M20-9990605	M20-9730606	M20-9730605
7	17.78	15.24	M20-9770706	M20-9770722	M20-9990706	M20-9990705	M20-9730706	M20-9730705
8	20.32	17.78	M20-9770806	M20-9770822	M20-9990806	M20-9990805	M20-9730806	M20-9730805
9	22.86	20.32	M20-9770906	M20-9770922	M20-9990906	M20-9990905	M20-9730906	M20-9730905
10	25.40	22.86	M20-9771006	M20-9771022	M20-9991006	M20-9991005	M20-9731006	M20-9731005
11	27.94	25.40	M20-9771106	M20-9771122	M20-9991106	M20-9991105	M20-9731106	M20-9731105
12	30.48	27.94	M20-9771206	M20-9771222	M20-9991206	M20-9991205	M20-9731206	M20-9731205
13	33.02	30.48	M20-9771306	M20-9771322	M20-9991306	M20-9991305	M20-9731306	M20-9731305
14	35.56	33.02	M20-9771406	M20-9771422	M20-9991406	M20-9991405	M20-9731406	M20-9731405
15	38.10	35.56	M20-9771506	M20-9771522	M20-9991506	M20-9991505	M20-9731506	M20-9731505
16	40.64	38.10	M20-9771606	M20-9771622	M20-9991606	M20-9991605	M20-9731606	M20-9731605
17	43.18	40.64	M20-9771706	M20-9771722	M20-9991706	M20-9991705	M20-9731706	M20-9731705
18	45.72	43.18	M20-9771806	M20-9771822	M20-9991806	M20-9991805	M20-9731806	M20-9731805
19	48.26	45.72	M20-9771906	M20-9771922	M20-9991906	M20-9991905	M20-9731906	M20-9731905
20	50.80	48.26	M20-9772006	M20-9772022	M20-9992006	M20-9992005	M20-9732006	M20-9732005
21	53.34	50.80	M20-9772106	M20-9772122	M20-9992106	M20-9992105	M20-9732106	M20-9732105
22	55.88	53.34	M20-9772206	M20-9772222	M20-9992206	M20-9992205	M20-9732206	M20-9732205
23	58.42	55.88	M20-9772306	M20-9772322	M20-9992306	M20-9992305	M20-9732306	M20-9732305
24	60.96	58.42	M20-9772406	M20-9772422	M20-9992406	M20-9992405	M20-9732406	M20-9732405
25	63.50	60.96	M20-9772506	M20-9772522	M20-9992506	M20-9992505	M20-9732506	M20-9732505
26	66.04	63.50	M20-9772606	M20-9772622	M20-9992606	M20-9992605	M20-9732606	M20-9732605
27	68.58	66.04	M20-9772706	M20-9772722	M20-9992706	M20-9992705	M20-9732706	M20-9732705
28	71.12	68.58	M20-9772806	M20-9772822	M20-9992806	M20-9992805	M20-9732806	M20-9732805
29	73.66	71.12	M20-9772906	M20-9772922	M20-9992906	M20-9992905	M20-9732906	M20-9732905
30	76.20	73.66	M20-9773006	M20-9773022	M20-9993006	M20-9993005	M20-9733006	M20-9733005
31	78.74	76.20	M20-9773106	M20-9773122	M20-9993106	M20-9993105	M20-9733106	M20-9733105
32	81.28	78.74	M20-9773206	M20-9773222	M20-9993206	M20-9993205	M20-9733206	M20-9733205
33	83.82	81.28	M20-9773306	M20-9773322	M20-9993306	M20-9993305	M20-9733306	M20-9733305
34	86.36	83.82	M20-9773406	M20-9773422	M20-9993406	M20-9993405	M20-9733406	M20-9733405
35	88.90	86.36	M20-9773506	M20-9773522	M20-9993506	M20-9993505	M20-9733506	M20-9733505
36	91.44	88.90	M20-9773606	M20-9773622	M20-9993606	M20-9993605	M20-9733606	M20-9733605

# 025 CONNECTORS

## Horizontal Pin Headers

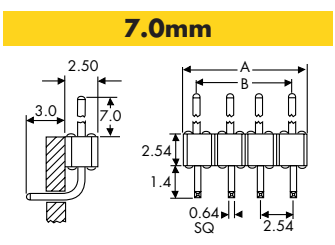
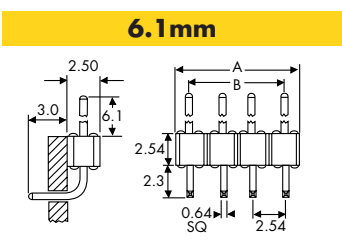
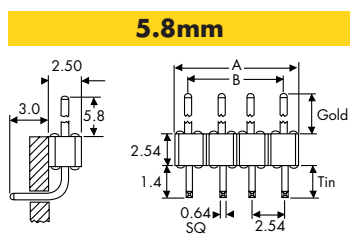
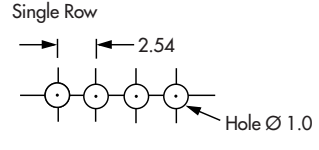
### Single Row



A range of 0.635 mm square pin headers, suitable for wire wrapping, connector or programming applications.

- Up to 36 single row.
- Copper Alloy contact.
- Choice of mating pin lengths 5.8mm, 6.1mm and 7.0mm.
- For board retention, please add H after the series code. For example M20-975H0206. Minimum order quantities may apply.

#### Recommended PC Board Pattern



No. of Ways	A	B	Order Code 5.8mm		Order Code 6.1mm		Order Code 7.0mm	
			Tin	Gold/Tin	Tin	Gold	Tin	Gold
2	5.08	2.54	M20-9750206	M20-9750222	M20-9960206	M20-9960205	M20-9710206	M20-9710205
3	7.62	5.08	M20-9750306	M20-9750322	M20-9960306	M20-9960305	M20-9710306	M20-9710305
4	10.16	7.62	M20-9750406	M20-9750422	M20-9960406	M20-9960405	M20-9710406	M20-9710405
5	12.70	10.16	M20-9750506	M20-9750522	M20-9960506	M20-9960505	M20-9710506	M20-9710505
6	15.24	12.70	M20-9750606	M20-9750622	M20-9960606	M20-9960605	M20-9710606	M20-9710605
7	17.78	15.24	M20-9750706	M20-9750722	M20-9960706	M20-9960705	M20-9710706	M20-9710705
8	20.32	17.78	M20-9750806	M20-9750822	M20-9960806	M20-9960805	M20-9710806	M20-9710805
9	22.86	20.32	M20-9750906	M20-9750922	M20-9960906	M20-9960905	M20-9710906	M20-9710905
10	25.40	22.86	M20-9751006	M20-9751022	M20-9961006	M20-9961005	M20-9711006	M20-9711005
11	27.94	25.40	M20-9751106	M20-9751122	M20-9961106	M20-9961105	M20-9711106	M20-9711105
12	30.48	27.94	M20-9751206	M20-9751222	M20-9961206	M20-9961205	M20-9711206	M20-9711205
13	33.02	30.48	M20-9751306	M20-9751322	M20-9961306	M20-9961305	M20-9711306	M20-9711305
14	35.56	33.02	M20-9751406	M20-9751422	M20-9961406	M20-9961405	M20-9711406	M20-9711405
15	38.10	35.56	M20-9751506	M20-9751522	M20-9961506	M20-9961505	M20-9711506	M20-9711505
16	40.64	38.10	M20-9751606	M20-9751622	M20-9961606	M20-9961605	M20-9711606	M20-9711605
17	43.18	40.64	M20-9751706	M20-9751722	M20-9961706	M20-9961705	M20-9711706	M20-9711705
18	45.72	43.18	M20-9751806	M20-9751822	M20-9961806	M20-9961805	M20-9711806	M20-9711805
19	48.26	45.72	M20-9751906	M20-9751922	M20-9961906	M20-9961905	M20-9711906	M20-9711905
20	50.80	48.26	M20-9752006	M20-9752022	M20-9962006	M20-9962005	M20-9712006	M20-9712005
21	53.34	50.80	M20-9752106	M20-9752122	M20-9962106	M20-9962105	M20-9712106	M20-9712105
22	55.88	53.34	M20-9752206	M20-9752222	M20-9962206	M20-9962205	M20-9712206	M20-9712205
23	58.42	55.88	M20-9752306	M20-9752322	M20-9962306	M20-9962305	M20-9712306	M20-9712305
24	60.96	58.42	M20-9752406	M20-9752422	M20-9962406	M20-9962405	M20-9712406	M20-9712405
25	63.50	60.96	M20-9752506	M20-9752522	M20-9962506	M20-9962505	M20-9712506	M20-9712505
26	66.04	63.50	M20-9752606	M20-9752622	M20-9962606	M20-9962605	M20-9712606	M20-9712605
27	68.58	66.04	M20-9752706	M20-9752722	M20-9962706	M20-9962705	M20-9712706	M20-9712705
28	71.12	68.58	M20-9752806	M20-9752822	M20-9962806	M20-9962805	M20-9712806	M20-9712805
29	73.66	71.12	M20-9752906	M20-9752922	M20-9962906	M20-9962905	M20-9712906	M20-9712905
30	76.20	73.66	M20-9753006	M20-9753022	M20-9963006	M20-9963005	M20-9713006	M20-9713005
31	78.74	76.20	M20-9753106	M20-9753122	M20-9963106	M20-9963105	M20-9713106	M20-9713105
32	81.28	78.74	M20-9753206	M20-9753222	M20-9963206	M20-9963205	M20-9713206	M20-9713205
33	83.82	81.28	M20-9753306	M20-9753322	M20-9963306	M20-9963305	M20-9713306	M20-9713305
34	86.36	83.82	M20-9753406	M20-9753422	M20-9963406	M20-9963405	M20-9713406	M20-9713405
35	88.90	86.36	M20-9753506	M20-9753522	M20-9963506	M20-9963505	M20-9713506	M20-9713505
36	91.44	88.90	M20-9753606	M20-9753622	M20-9963606	M20-9963605	M20-9713606	M20-9713605

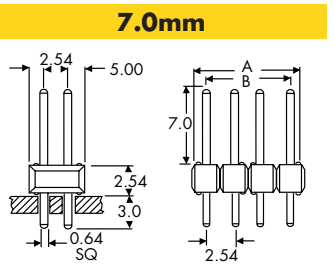
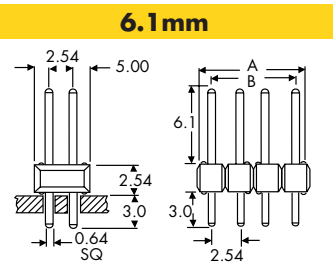
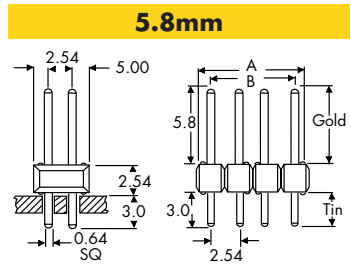
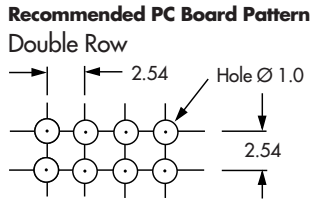
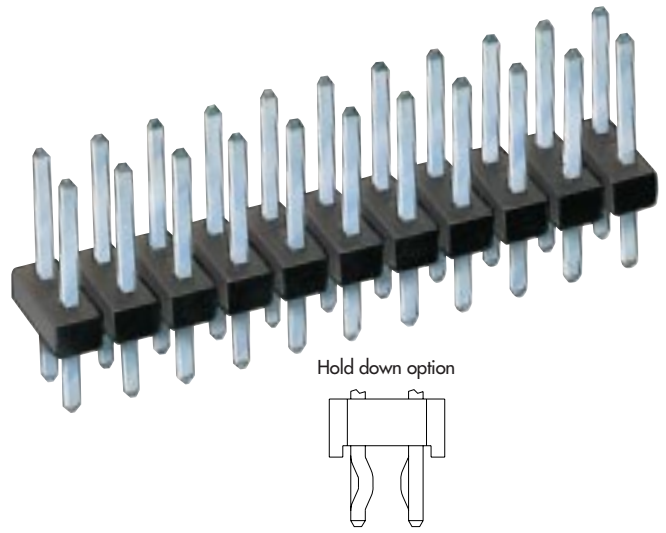


# 025 CONNECTORS

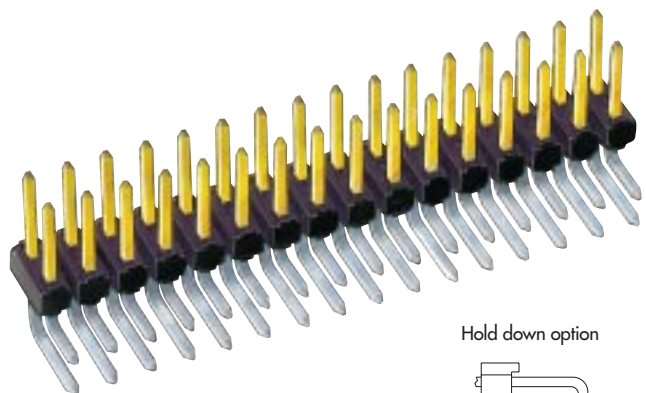
## Vertical Pin Headers Double Row

A range of 0.635mm square pin headers, suitable for wire wrapping, connectors or programming applications.

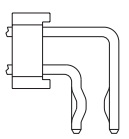
- Up to 36 + 36 way double row.
- Copper alloy contact.
- Stand off feature.
- Choice of mating pin lengths 5.8mm, 6.1mm and 7.0mm.
- For board retention, please add H after the series code. For example M20-975H0206. Minimum order quantities may apply.



No. of Ways	A	B	Order Code 5.8mm		Order Code 6.1mm		Order Code 7.0mm	
			Tin	Gold/Tin	Tin	Gold	Tin	Gold
2+2	5.08	2.54	M20-9760206	M20-9760222	M20-9980206	M20-9980205	M20-9720206	M20-9720205
3+3	7.62	5.08	M20-9760306	M20-9760322	M20-9980306	M20-9980305	M20-9720306	M20-9720305
4+4	10.16	7.62	M20-9760406	M20-9760422	M20-9980406	M20-9980405	M20-9720406	M20-9720405
5+5	12.70	10.16	M20-9760506	M20-9760522	M20-9980506	M20-9980505	M20-9720506	M20-9720505
6+6	15.24	12.70	M20-9760606	M20-9760622	M20-9980606	M20-9980605	M20-9720606	M20-9720605
7+7	17.78	15.24	M20-9760706	M20-9760722	M20-9980706	M20-9980705	M20-9720706	M20-9720705
8+8	20.32	17.78	M20-9760806	M20-9760822	M20-9980806	M20-9980805	M20-9720806	M20-9720805
9+9	22.86	20.32	M20-9760906	M20-9760922	M20-9980906	M20-9980905	M20-9720906	M20-9720905
10+10	25.40	22.86	M20-9761006	M20-9761022	M20-9981006	M20-9981005	M20-9721006	M20-9721005
11+11	27.94	25.40	M20-9761106	M20-9761122	M20-9981106	M20-9981105	M20-9721106	M20-9721105
12+12	30.48	27.94	M20-9761206	M20-9761222	M20-9981206	M20-9981205	M20-9721206	M20-9721205
13+13	33.02	30.48	M20-9761306	M20-9761322	M20-9981306	M20-9981305	M20-9721306	M20-9721305
14+14	35.56	33.02	M20-9761406	M20-9761422	M20-9981406	M20-9981405	M20-9721406	M20-9721405
15+15	38.10	35.56	M20-9761506	M20-9761522	M20-9981506	M20-9981505	M20-9721506	M20-9721505
16+16	40.64	38.10	M20-9761606	M20-9761622	M20-9981606	M20-9981605	M20-9721606	M20-9721605
17+17	43.18	40.64	M20-9761706	M20-9761722	M20-9981706	M20-9981705	M20-9721706	M20-9721705
18+18	45.72	43.18	M20-9761806	M20-9761822	M20-9981806	M20-9981805	M20-9721806	M20-9721805
19+19	48.26	45.72	M20-9761906	M20-9761922	M20-9981906	M20-9981905	M20-9721906	M20-9721905
20+20	50.80	48.26	M20-9762006	M20-9762022	M20-9982006	M20-9982005	M20-9722006	M20-9722005
21+21	53.34	50.80	M20-9762106	M20-9762122	M20-9982106	M20-9982105	M20-9722106	M20-9722105
22+22	55.88	53.34	M20-9762206	M20-9762222	M20-9982206	M20-9982205	M20-9722206	M20-9722205
23+23	58.42	55.88	M20-9762306	M20-9762322	M20-9982306	M20-9982305	M20-9722306	M20-9722305
24+24	60.96	58.42	M20-9762406	M20-9762422	M20-9982406	M20-9982405	M20-9722406	M20-9722405
25+25	63.50	60.96	M20-9762506	M20-9762522	M20-9982506	M20-9982505	M20-9722506	M20-9722505
26+26	66.04	63.50	M20-9762606	M20-9762622	M20-9982606	M20-9982605	M20-9722606	M20-9722605
27+27	68.58	66.04	M20-9762706	M20-9762722	M20-9982706	M20-9982705	M20-9722706	M20-9722705
28+28	71.12	68.58	M20-9762806	M20-9762822	M20-9982806	M20-9982805	M20-9722806	M20-9722805
29+29	73.66	71.12	M20-9762906	M20-9762922	M20-9982906	M20-9982905	M20-9722906	M20-9722905
30+30	76.20	73.66	M20-9763006	M20-9763022	M20-9983006	M20-9983005	M20-9723006	M20-9723005
31+31	78.74	76.20	M20-9763106	M20-9763122	M20-9983106	M20-9983105	M20-9723106	M20-9723105
32+32	81.28	78.74	M20-9763206	M20-9763222	M20-9983206	M20-9983205	M20-9723206	M20-9723205
33+33	83.82	81.28	M20-9763306	M20-9763322	M20-9983306	M20-9983305	M20-9723306	M20-9723305
34+34	86.36	83.82	M20-9763406	M20-9763422	M20-9983406	M20-9983405	M20-9723406	M20-9723405
35+35	88.90	86.36	M20-9763506	M20-9763522	M20-9983506	M20-9983505	M20-9723506	M20-9723505
36+36	91.44	88.90	M20-9763606	M20-9763622	M20-9983606	M20-9983605	M20-9723606	M20-9723605



Hold down option



# 025 CONNECTORS

## Horizontal Pin Headers

### Double Row

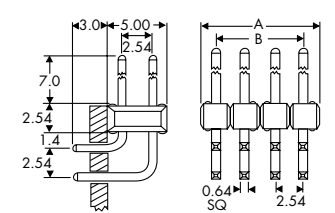
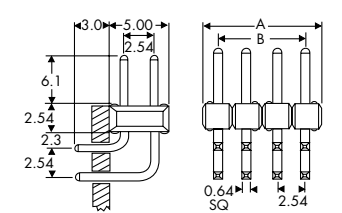
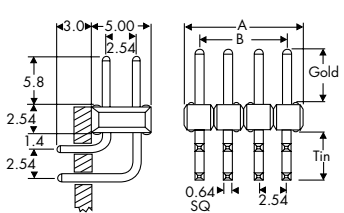
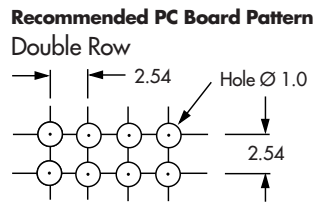
A range of 0.635mm square pin headers, suitable for wire wrapping, connectors or programming applications.

- Up to 36 + 36 way double row.
- Copper alloy contact.
- Choice of mating pin lengths 5.8mm, 6.1mm and 7.0mm.
- For board retention, please add H after the series code. For example M20-974H0206. Minimum order quantities may apply.

#### 5.8mm

#### 6.1mm

#### 7.0mm



No. of Ways	A	B	Order Code 5.8mm		Order Code 6.1mm		Order Code 7.0mm	
			Tin	Gold/Tin	Tin	Gold	Tin	Gold
2+2	5.08	2.54	M20-9740206	M20-9740222	M20-9950206	M20-9950205	M20-9700206	M20-9700205
3+3	7.62	5.08	M20-9740306	M20-9740322	M20-9950306	M20-9950305	M20-9700306	M20-9700305
4+4	10.16	7.62	M20-9740406	M20-9740422	M20-9950406	M20-9950405	M20-9700406	M20-9700405
5+5	12.70	10.16	M20-9740506	M20-9740522	M20-9950506	M20-9950505	M20-9700506	M20-9700505
6+6	15.24	12.70	M20-9740606	M20-9740622	M20-9950606	M20-9950605	M20-9700606	M20-9700605
7+7	17.78	15.24	M20-9740706	M20-9740722	M20-9950706	M20-9950705	M20-9700706	M20-9700705
8+8	20.32	17.78	M20-9740806	M20-9740822	M20-9950806	M20-9950805	M20-9700806	M20-9700805
9+9	22.86	20.32	M20-9740906	M20-9740922	M20-9950906	M20-9950905	M20-9700906	M20-9700905
10+10	25.40	22.86	M20-9741006	M20-9741022	M20-9951006	M20-9951005	M20-9701006	M20-9701005
11+11	27.94	25.40	M20-9741106	M20-9741122	M20-9951106	M20-9951105	M20-9701106	M20-9701105
12+12	30.48	27.94	M20-9741206	M20-9741222	M20-9951206	M20-9951205	M20-9701206	M20-9701205
13+13	33.02	30.48	M20-9741306	M20-9741322	M20-9951306	M20-9951305	M20-9701306	M20-9701305
14+14	35.56	33.02	M20-9741406	M20-9741422	M20-9951406	M20-9951405	M20-9701406	M20-9701405
15+15	38.10	35.56	M20-9741506	M20-9741522	M20-9951506	M20-9951505	M20-9701506	M20-9701505
16+16	40.64	38.10	M20-9741606	M20-9741622	M20-9951606	M20-9951605	M20-9701606	M20-9701605
17+17	43.18	40.64	M20-9741706	M20-9741722	M20-9951706	M20-9951705	M20-9701706	M20-9701705
18+18	45.72	43.18	M20-9741806	M20-9741822	M20-9951806	M20-9951805	M20-9701806	M20-9701805
19+19	48.26	45.72	M20-9741906	M20-9741922	M20-9951906	M20-9951905	M20-9701906	M20-9701905
20+20	50.80	48.26	M20-9742006	M20-9742022	M20-9952006	M20-9952005	M20-9702006	M20-9702005
21+21	53.34	50.80	M20-9742106	M20-9742122	M20-9952106	M20-9952105	M20-9702106	M20-9702105
22+22	55.88	53.34	M20-9742206	M20-9742222	M20-9952206	M20-9952205	M20-9702206	M20-9702205
23+23	58.42	55.88	M20-9742306	M20-9742322	M20-9952306	M20-9952305	M20-9702306	M20-9702305
24+24	60.96	58.42	M20-9742406	M20-9742422	M20-9952406	M20-9952405	M20-9702406	M20-9702405
25+25	63.50	60.96	M20-9742506	M20-9742522	M20-9952506	M20-9952505	M20-9702506	M20-9702505
26+26	66.04	63.50	M20-9742606	M20-9742622	M20-9952606	M20-9952605	M20-9702606	M20-9702605
27+27	68.58	66.04	M20-9742706	M20-9742722	M20-9952706	M20-9952705	M20-9702706	M20-9702705
28+28	71.12	68.58	M20-9742806	M20-9742822	M20-9952806	M20-9952805	M20-9702806	M20-9702805
29+29	73.66	71.12	M20-9742906	M20-9742922	M20-9952906	M20-9952905	M20-9702906	M20-9702905
30+30	76.20	73.66	M20-9743006	M20-9743022	M20-9953006	M20-9953005	M20-9703006	M20-9703005
31+31	78.74	76.20	M20-9743106	M20-9743122	M20-9953106	M20-9953105	M20-9703106	M20-9703105
32+32	81.28	78.74	M20-9743206	M20-9743222	M20-9953206	M20-9953205	M20-9703206	M20-9703205
33+33	83.82	81.28	M20-9743306	M20-9743322	M20-9953306	M20-9953305	M20-9703306	M20-9703305
34+34	86.36	83.82	M20-9743406	M20-9743422	M20-9953406	M20-9953405	M20-9703406	M20-9703405
35+35	88.90	86.36	M20-9743506	M20-9743522	M20-9953506	M20-9953505	M20-9703506	M20-9703505
36+36	91.44	88.90	M20-9743606	M20-9743622	M20-9953606	M20-9953605	M20-9703606	M20-9703605

# 025 CONNECTORS

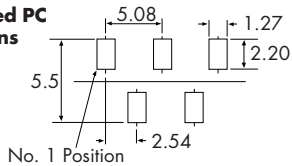
## Surface Mount Pin Headers

A range of 0.635 mm square pin headers, suitable for surface mount applications.

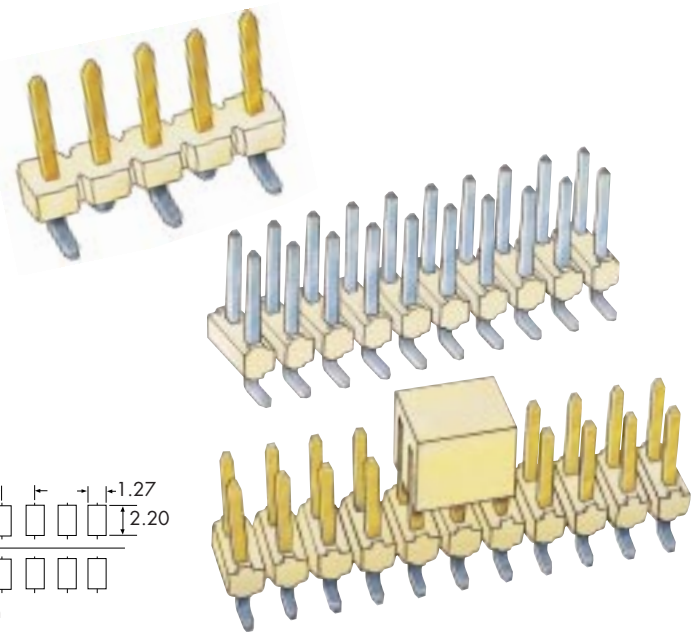
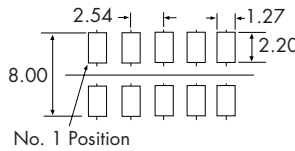
- High temperature thermoplastic moulding UL94V-0.
- For pick and place cap and packed in a tube - add P to the end of the part number.
- For pick and place cap in tape and reel packaging - add R to the end of the part number.

### Recommended PC Board Patterns

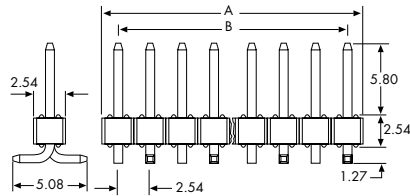
Single Row



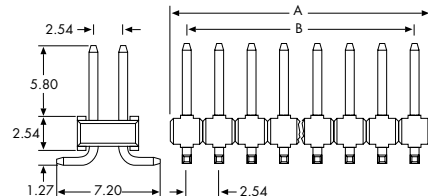
Double Row



### SINGLE ROW



### DOUBLE ROW



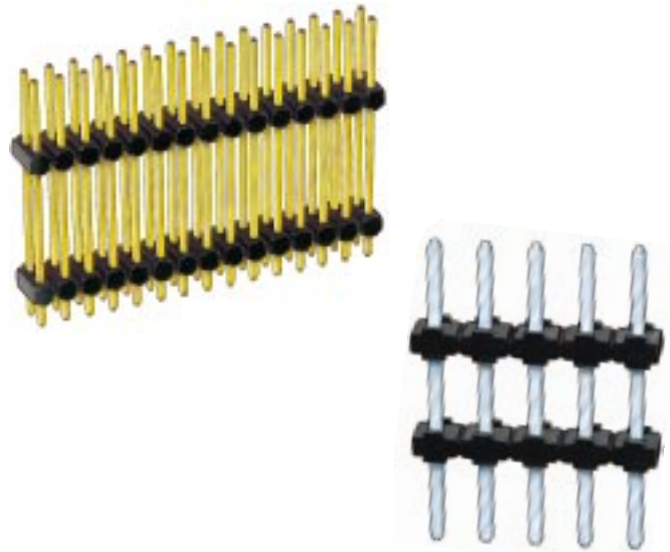
No. of Ways	A	B	Single Row Order Code	
			Tin	Gold/Tin
2	5.08	2.54	M20-8770206	M20-8770222
3	7.62	5.08	M20-8770306	M20-8770322
4	10.16	7.62	M20-8770406	M20-8770422
5	12.70	10.16	M20-8770506	M20-8770522
6	15.24	12.70	M20-8770606	M20-8770622
7	17.78	15.24	M20-8770706	M20-8770722
8	20.32	17.78	M20-8770806	M20-8770822
9	22.86	20.32	M20-8770906	M20-8770922
10	25.40	22.86	M20-8771006	M20-8771022
11	27.94	25.40	M20-8771106	M20-8771122
12	30.48	27.94	M20-8771206	M20-8771222
13	33.02	30.48	M20-8771306	M20-8771322
14	35.56	33.02	M20-8771406	M20-8771422
15	38.10	35.56	M20-8771506	M20-8771522
16	40.64	38.10	M20-8771606	M20-8771622
17	43.18	40.64	M20-8771706	M20-8771722
18	45.72	43.18	M20-8771806	M20-8771822
19	48.26	45.72	M20-8771906	M20-8771922
20	50.80	48.26	M20-8772006	M20-8772022
21	53.34	50.80	M20-8772106	M20-8772122
22	55.88	53.34	M20-8772206	M20-8772222
23	58.42	55.88	M20-8772306	M20-8772322
24	60.96	58.42	M20-8772406	M20-8772422
25	63.50	60.96	M20-8772506	M20-8772522
26	66.04	63.50	M20-8772606	M20-8772622
27	69.34	66.04	M20-8772706	M20-8772722
28	71.88	68.58	M20-8772806	M20-8772822
29	74.42	71.12	M20-8772906	M20-8772922
30	76.96	73.66	M20-8773006	M20-8773022
31	79.50	76.20	M20-8773106	M20-8773122
32	82.04	78.74	M20-8773206	M20-8773222
33	84.58	81.28	M20-8773306	M20-8773322
34	87.12	83.82	M20-8773406	M20-8773422
35	89.66	86.36	M20-8773506	M20-8773522
36	91.44	88.90	M20-8773606	M20-8773622

No. of Ways	A	B	Double Row Order Code	
			Tin	Gold/Tin
2+2	5.08	2.54	M20-8760206	M20-8760222
3+3	7.62	5.08	M20-8760306	M20-8760322
4+4	10.16	7.62	M20-8760406	M20-8760422
5+5	12.70	10.16	M20-8760506	M20-8760522
6+6	15.24	12.70	M20-8760606	M20-8760622
7+7	17.78	15.24	M20-8760706	M20-8760722
8+8	20.32	17.78	M20-8760806	M20-8760822
9+9	22.86	20.32	M20-8760906	M20-8760922
10+10	25.40	22.86	M20-8761006	M20-8761022
11+11	27.94	25.40	M20-8761106	M20-8761122
12+12	30.48	27.94	M20-8761206	M20-8761222
13+13	33.02	30.48	M20-8761306	M20-8761322
14+14	35.56	33.02	M20-8761406	M20-8761422
15+15	38.10	35.56	M20-8761506	M20-8761522
16+16	40.64	38.10	M20-8761606	M20-8761622
17+17	43.18	40.64	M20-8761706	M20-8761722
18+18	45.72	43.18	M20-8761806	M20-8761822
19+19	48.26	45.72	M20-8761906	M20-8761922
20+20	50.80	48.26	M20-8762006	M20-8762022
21+21	53.34	50.80	M20-8762106	M20-8762122
22+22	55.88	53.34	M20-8762206	M20-8762222
23+23	58.42	55.88	M20-8762306	M20-8762322
24+24	60.96	58.42	M20-8762406	M20-8762422
25+25	63.50	60.96	M20-8762506	M20-8762522
26+26	66.04	63.50	M20-8762606	M20-8762622
27+27	69.34	66.04	M20-8762706	M20-8762722
28+28	71.88	68.58	M20-8762806	M20-8762822
29+29	74.42	71.12	M20-8762906	M20-8762922
30+30	76.96	73.66	M20-8763006	M20-8763022
31+31	79.50	76.20	M20-8763106	M20-8763122
32+32	82.04	78.74	M20-8763206	M20-8763222
33+33	84.58	81.28	M20-8763306	M20-8763322
34+34	87.12	83.82	M20-8763406	M20-8763422
35+35	89.66	86.36	M20-8763506	M20-8763522
36+36	91.44	88.90	M20-8763606	M20-8763622



# 025 CONNECTORS

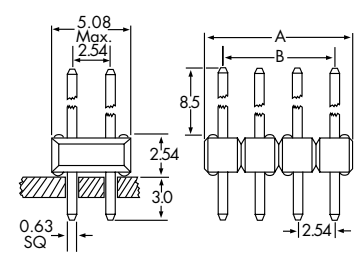
## Extended Pin Headers



Single and double row extended pin headers are suitable for stacking PC boards. Recommended for use with sockets, pages 4 and 6.

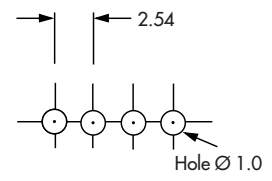
- Copper alloy contacts.
- Additional insulator gives greater rigidity ensuring pin alignment, and controls the board spacing.
- For board retention, please add H after the series code. For example M20-977H0206. Minimum order quantities may apply.

### DOUBLE ROW (FOR BOTTOM ENTRY SOCKETS)

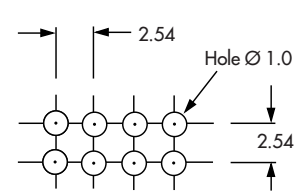


### Recommended PC Board Patterns

Single Row



Double Row

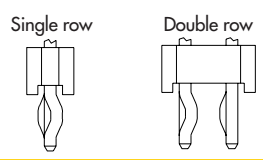


### ORDER CODE

Sizes not shown in the tables below can be ordered using the following order code.

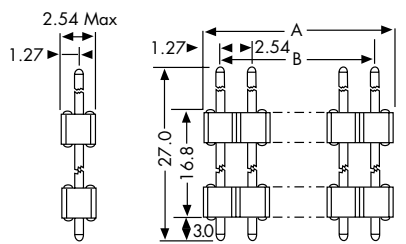
M20	-	XXX	XX	XX
Series		Type	No. of Ways	Finish: 06 Tin, 05 Gold

Hold down option

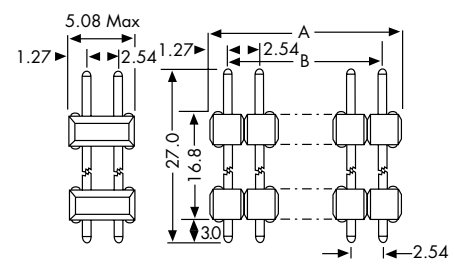


No. of Ways	A	B	Order Code	
			Tin	Gold
2+2	5.08	2.54	M20-9970206	M20-9970205
3+3	7.62	5.08	M20-9970306	M20-9970305
4+4	10.16	7.62	M20-9970406	M20-9970405
5+5	12.70	10.16	M20-9970506	M20-9970505
6+6	15.24	12.70	M20-9970606	M20-9970605
7+7	17.78	15.24	M20-9970706	M20-9970705
8+8	20.32	17.78	M20-9970806	M20-9970805
9+9	22.86	20.32	M20-9970906	M20-9970905
10+10	25.40	22.86	M20-9971006	M20-9971005
20+20	50.80	48.26	M20-9972006	M20-9972005
36+36	91.44	88.90	M20-9973606	M20-9973605

### SINGLE ROW (FOR VERTICAL SOCKETS)



### DOUBLE ROW (FOR VERTICAL SOCKETS)



No. of Ways	A	B	Order Code	
			Tin	Gold
10	24.50	22.86	M20-9611006	M20-9611005
15	38.10	35.56	M20-9611506	M20-9611505
20	50.80	48.26	M20-9612006	M20-9612005
25	63.50	60.96	M20-9612506	M20-9612505

No. of Ways	A	B	Order Code	
			Tin	Gold
10+10	24.50	22.86	M20-9601006	M20-9601005
15+15	38.10	35.56	M20-9601506	M20-9601505
20+20	50.80	48.26	M20-9602006	M20-9602005
25+25	63.50	60.96	M20-9602506	M20-9602505

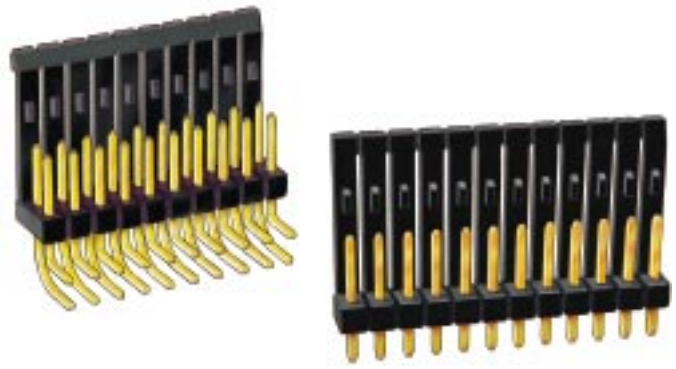


# 025 CONNECTORS

## Latched Pin Headers

A range of latched 0.635 mm square pin headers, mates with crimp sockets shown on page G6.

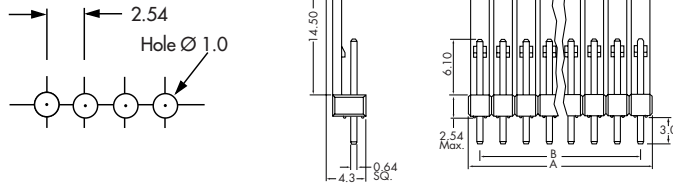
- End stackable to make longer lengths.
- Stand off feature.
- Up to 12 way single row and 12+12 double row.



### VERTICAL SINGLE ROW

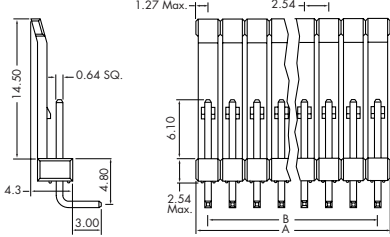
#### Recommended PC Board Pattern

Single Row



No. of Ways	A	B	Order Code	
			Tin	Gold
2	5.08	2.54	M20-9470206	M20-9470205
3	7.62	5.08	M20-9470306	M20-9470305
4	10.16	7.62	M20-9470406	M20-9470405
5	12.70	10.16	M20-9470506	M20-9470505
6	15.24	12.70	M20-9470606	M20-9470605
7	17.78	15.24	M20-9470706	M20-9470705
8	20.32	17.78	M20-9470806	M20-9470805
9	22.86	20.32	M20-9470906	M20-9470905
10	25.40	22.86	M20-9471006	M20-9471005
11	27.94	25.40	M20-9471106	M20-9471105
12	30.48	27.94	M20-9471206	M20-9471205

### HORIZONTAL SINGLE ROW

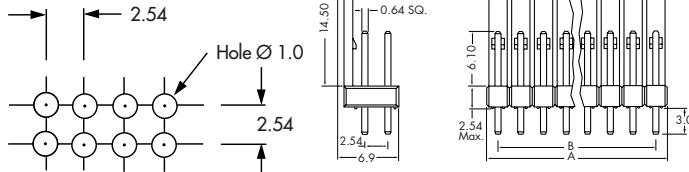


No. of Ways	A	B	Order Code	
			Tin	Gold
2	5.08	2.54	M20-9450206	M20-9450205
3	7.62	5.08	M20-9450306	M20-9450305
4	10.16	7.62	M20-9450406	M20-9450405
5	12.70	10.16	M20-9450506	M20-9450505
6	15.24	12.70	M20-9450606	M20-9450605
7	17.78	15.24	M20-9450706	M20-9450705
8	20.32	17.78	M20-9450806	M20-9450805
9	22.86	20.32	M20-9450906	M20-9450905
10	25.40	22.86	M20-9451006	M20-9451005
11	27.94	25.40	M20-9451106	M20-9451105
12	30.48	27.94	M20-9451206	M20-9451205

### VERTICAL DOUBLE ROW

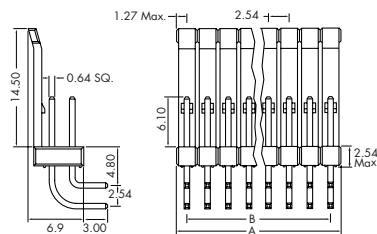
#### Recommended PC Board Pattern

Double Row



No. of Ways	A	B	Order Code	
			Tin	Gold
2+2	5.08	2.54	M20-9460206	M20-9460205
3+3	7.62	5.08	M20-9460306	M20-9460305
4+4	10.16	7.62	M20-9460406	M20-9460405
5+5	12.70	10.16	M20-9460506	M20-9460505
6+6	15.24	12.70	M20-9460606	M20-9460605
7+7	17.78	15.24	M20-9460706	M20-9460705
8+8	20.32	17.78	M20-9460806	M20-9460805
9+9	22.86	20.32	M20-9460906	M20-9460905
10+10	25.40	22.86	M20-9461006	M20-9461005
11+11	27.94	25.40	M20-9461106	M20-9461105
12+12	30.48	27.94	M20-9461206	M20-9461205

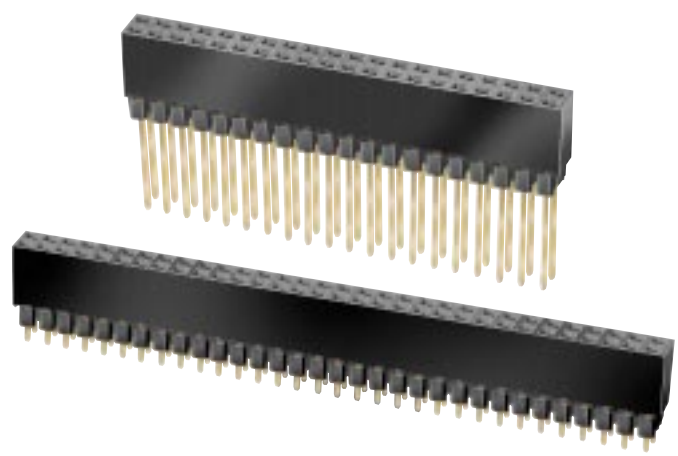
### HORIZONTAL DOUBLE ROW



No. of Ways	A	B	Order Code	
			Tin	Gold
2+2	5.08	2.54	M20-9440206	M20-9440205
3+3	7.62	5.08	M20-9440306	M20-9440305
4+4	10.16	7.62	M20-9440406	M20-9440405
5+5	12.70	10.16	M20-9440506	M20-9440505
6+6	15.24	12.70	M20-9440606	M20-9440605
7+7	17.78	15.24	M20-9440706	M20-9440705
8+8	20.32	17.78	M20-9440806	M20-9440805
9+9	22.86	20.32	M20-9440906	M20-9440905
10+10	25.40	22.86	M20-9441006	M20-9441005
11+11	27.94	25.40	M20-9441106	M20-9441105
12+12	30.48	27.94	M20-9441206	M20-9441205

# PC/104 CONNECTORS

A range of bus connectors compatible with the PC104 industry standard for embedded pc applications, designed for stacking boards with a common bus.



**Materials**  
 Moulding: Glass filled polyester UL94V-0  
 Contacts: Phosphor Bronze

**Finish**  
 Contacts: Gold Flash over nickel

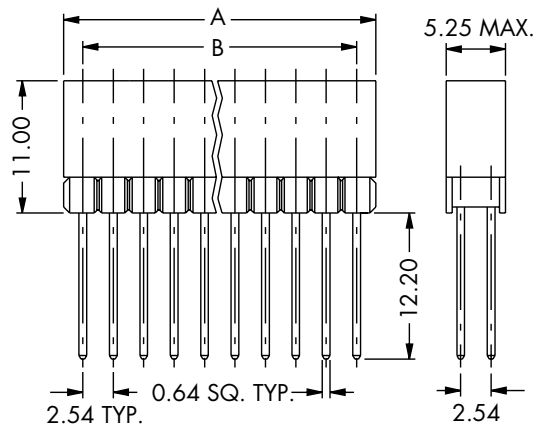
**Electrical**  
 Contact Resistance: 10 milliohms max.  
 Insulation Resistance: 5000 Megohms min.  
 Current Rating: 1A  
 Voltage proof: 1000V AC

- 32+32 ways Supports an 8-bit system.
- 20+20 ways combined with 32+32 ways supports a 16-bit system.
- PC104 Plus also available (2mm Pitch). Contact Technical Sales.

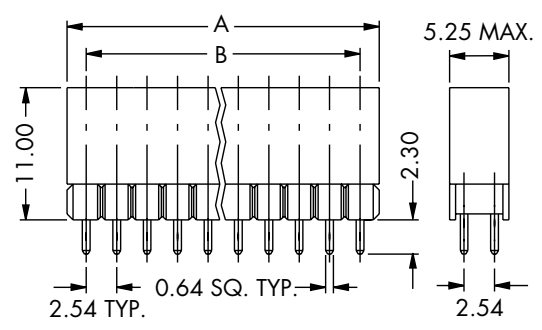
**Mechanical**  
 Average Insertion Force per contact: 1.1N  
 Average Withdrawal Force per contact: 0.7N

**Environmental**  
 Temperature Range: -55°C to +105°C

## STACKTHROUGH CONNECTOR



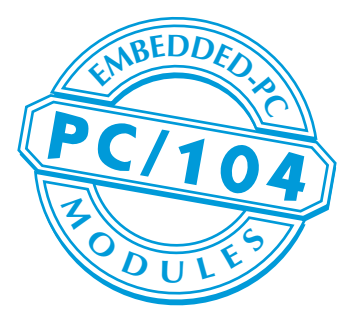
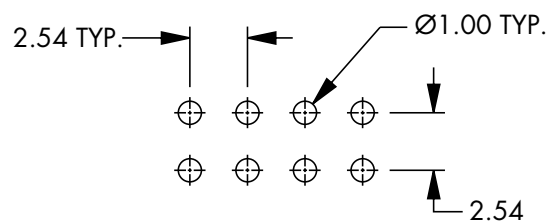
## NON STACKTHROUGH CONNECTOR



No. of Ways	A	B	Order Code
20+20	51.46	48.26	M20-6102005
32+32	81.94	78.74	M20-6103205

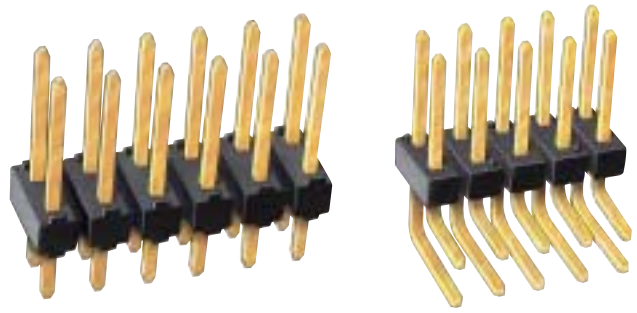
No. of Ways	A	B	Order Code
20+20	51.46	48.26	M20-6112005
32+32	81.94	78.74	M20-6113205

**Recommended PC Board Pattern**



# M20 CONNECTORS

## Pin Header Variants



- HARWIN offers the ultimate flexibility "Standard Variant Pin Headers." Use the order code opposite to make up your very own pin header. Contact Technical Sales for price and delivery.
- To design a pin header, use the table to select a pin if one of our standards is unsuitable, please specify your required pin length up to a maximum of 38mm.

### TERMINATION STYLES

<p><b>V Series Vertical</b></p> <p><b>W Series</b></p> <p>Pin section is 0.64 sq, PCB mounting hole is <math>\varnothing</math> 1.0 mm.</p>	<p><b>H Series Vertical Press Fit</b></p> <p><b>J Series</b></p> <p>Pin section is 0.64 sq, PCB mounting hole is <math>\varnothing</math> 1.0 mm. Max. B dimension is 6.00 mm.</p>
<p><b>E Series Extended</b></p> <p><b>F Series</b></p> <p>Pin section is 0.64 sq, PCB mounting hole is <math>\varnothing</math> 1.0 mm.</p>	<p><b>S Series Surface Mount</b></p> <p><b>T Series</b></p> <p>Pin section is 0.64 sq. For PCB pad layout see page 15. S style only. B dimension is "0"</p>

● To design a pin header, use the order code and table below to select a pin. If one of our standard pins is unsuitable, please specify your required pin length up to a maximum of 38mm.

# 025 CONNECTORS

## Pin Header Variants

**Total length of A dimension and B dimension must equal the figure shown below for each series.**

Overall Pin length (mm)	E/F Series	H/J Series	S Series	T Series	V/W Series
10.0	7.0	5.3	4.3	6.9	7.5
11.5	8.5	6.8	5.8	8.4	9.0
13.5	10.5	8.8	7.8	10.4	11.0
15.0	12.0	10.3	9.3	11.9	12.5
16.5	13.5	11.8	10.8	13.4	14.0
18.5	15.5	13.8	12.8	15.4	16.0
19.5	16.5	14.8	13.8	16.4	17.0
21.0	18.0	16.3	15.3	17.9	18.5
23.5	20.5	18.8	17.8	20.4	21.0
25.0	22.0	20.3	19.3	21.9	22.5
27.0	24.0	22.3	21.3	23.9	24.5
28.5	25.5	23.8	22.8	25.4	26.0

### ORDER CODE

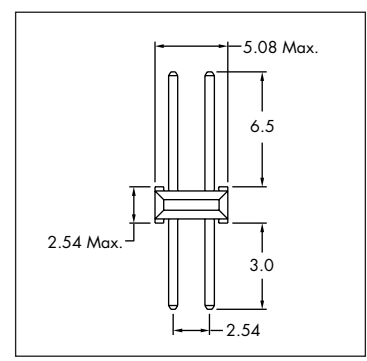
<b>M20 -</b>	<b>XXX</b>	<b>XXX</b>	<b>X</b>	<b>XX</b>	<b>XX</b>
	A	B	Termination Style (see below)	No. of pins per row	Plating Finish
	Dimension xx.x mm	Dimension xx.x mm			06 Tin 05 Gold
For Hold down option, add H after the termination style. Contact Technical Sales for dimensional information.					

### TERMINATION STYLES CODES

	Single Row	Double Row
Vertical	V	W
Horizontal	H	J
Extended	E	F
Surface Mount	-	S
Extended Surface Mount	-	T

**Example: M20-06503W0506 - 2.54mm Pitch vertical double row pin header with 5 pins per row and A dimension is 6.5 and B dimension is 3.0 in tin finish.**

**M20-065030WH0506 - Hold down option.**



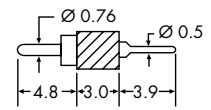
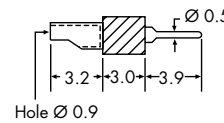
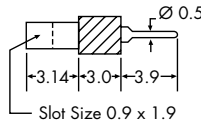
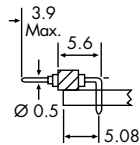
# SINGLE IN LINE MODULAR SOCKETS



Single row modular 2.54mm pitch sockets fitted with a four leaf beryllium copper contact for high reliability.

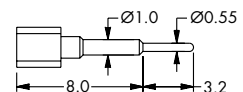
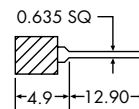
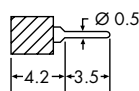
- The sockets intermate with the modular headers detailed below, or integrated circuits.
- Can be cut to size.

## HEADERS



No. of Ways	90° Plug (Tin)	Slotted (Tin)	Solder Cup (Tin)	Through Connect (Tin)
4	D01-9990401	D01-9940401	D01-9930401	D01-9920401
5	D01-9990501	D01-9940501	D01-9930501	D01-9920501
6	D01-9990601	D01-9940601	D01-9930601	D01-9920601
7	D01-9990701	D01-9940701	D01-9930701	D01-9920701
8	D01-9990801	D01-9940801	D01-9930801	D01-9920801
9	D01-9990901	D01-9940901	D01-9930901	D01-9920901
10	D01-9991001	D01-9941001	D01-9931001	D01-9921001
12	D01-9991201	D01-9941201	D01-9931201	D01-9921201
14	D01-9991401	D01-9941401	D01-9931401	D01-9921401
16	D01-9991601	D01-9941601	D01-9931601	D01-9921601
18	D01-9991801	D01-9941801	D01-9931801	D01-9921801
20	D01-9992001	D01-9942001	D01-9932001	D01-9922001
32	D01-9993201	D01-9943201	D01-9933201	D01-9923201

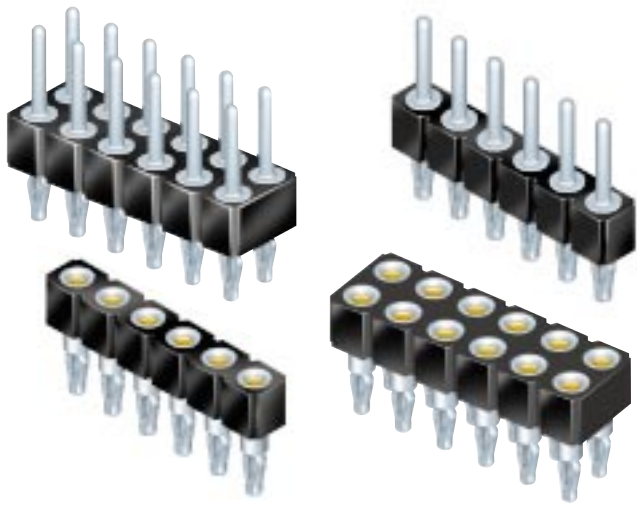
## SOCKETS



No. of Ways	Solder (Gold)	Wrap (Gold)	Extended (Gold)
4	D01-9970401	D01-9950401	D01-9500401
5	D01-9970501	D01-9950501	D01-9500501
6	D01-9970601	D01-9950601	D01-9500601
7	D01-9970701	D01-9950701	D01-9500701
8	D01-9970801	D01-9950801	D01-9500801
9	D01-9970901	D01-9950901	D01-9500901
10	D01-9971001	D01-9951001	D01-9501001
12	D01-9971201	D01-9951201	D01-9501201
14	D01-9971401	D01-9951401	D01-9501401
16	D01-9971601	D01-9951601	D01-9501601
18	D01-9971801	D01-9951801	D01-9501801
20	D01-9972001	D01-9952001	D01-9502001
32	D01-9973201	D01-9953201	D01-9503201

### Your Custom Variants

To create a variant of those shown above, fax a sketch back to HARWIN for a quotation, detailing the type, number of ways and the finish.



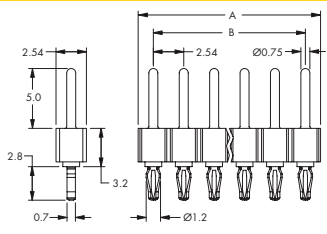
# MODULAR CONNECTORS

## Press Fit Headers and Sockets

- Single and double row modular sockets and terminal strips.
- Sockets incorporate a high reliability beryllium copper contact clip.
- Can be cut to size.
- Press-fit tails to eliminate requirement for soldering.

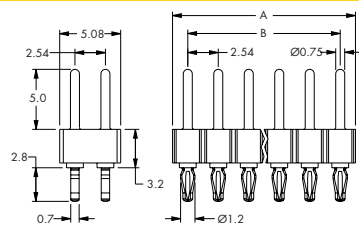
Recommended plated through hole size =  $\varnothing 1.09 - 0.94\text{mm}$

### SINGLE ROW HEADER



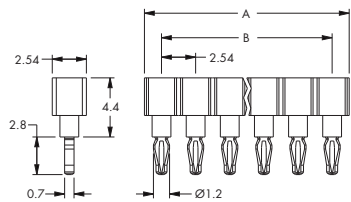
No. of Ways	A	B	Order Code Tin
4	10.16	7.62	D01-9620401
5	12.70	10.16	D01-9620501
6	15.24	12.70	D01-9620601
7	17.78	15.24	D01-9620701
8	20.32	17.78	D01-9620801
9	22.86	20.32	D01-9620901
10	25.40	22.86	D01-9621001
12	30.48	27.94	D01-9621201
14	35.56	33.02	D01-9621401
16	40.64	38.10	D01-9621601
18	45.72	43.18	D01-9621801
20	50.80	48.26	D01-9622001
32	81.28	78.74	D01-9623201
36	91.44	88.90	D01-9623601

### DOUBLE ROW HEADER



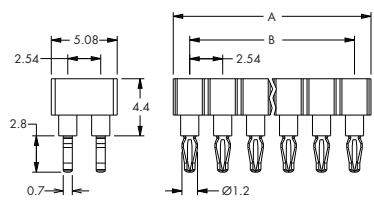
No. of Ways	A	B	Order Code Tin
4	10.16	7.62	D01-9630401
5	12.70	10.16	D01-9630501
6	15.24	12.70	D01-9630601
7	17.78	15.24	D01-9630701
8	20.32	17.78	D01-9630801
9	22.86	20.32	D01-9630901
10	25.40	22.86	D01-9631001
12	30.48	27.94	D01-9631201
14	35.56	33.02	D01-9631401
16	40.64	38.10	D01-9631601
18	45.72	43.18	D01-9631801
20	50.80	48.26	D01-9632001
32	81.28	78.74	D01-9633201
36	91.44	88.90	D01-9633601

### SINGLE ROW SOCKET



No. of Ways	A	B	Order Code Tin Shell/Gold Clip
4	10.16	7.62	D01-9670401
5	12.70	10.16	D01-9670501
6	15.24	12.70	D01-9670601
7	17.78	15.24	D01-9670701
8	20.32	17.78	D01-9670801
9	22.86	20.32	D01-9670901
10	25.40	22.86	D01-9671001
12	30.48	27.94	D01-9671201
14	35.56	33.02	D01-9671401
16	40.64	38.10	D01-9671601
18	45.72	43.18	D01-9671801
20	50.80	48.26	D01-9672001
32	81.28	78.74	D01-9673201
36	91.44	88.90	D01-9673601

### DOUBLE ROW SOCKET



No. of Ways	A	B	Order Code Tin Shell/Gold Clip
4	10.16	7.62	D01-9680401
5	12.70	10.16	D01-9680501
6	15.24	12.70	D01-9680601
7	17.78	15.24	D01-9680701
8	20.32	17.78	D01-9680801
9	22.86	20.32	D01-9680901
10	25.40	22.86	D01-9681001
12	30.48	27.94	D01-9681201
14	35.56	33.02	D01-9681401
16	40.64	38.10	D01-9681601
18	45.72	43.18	D01-9681801
20	50.80	48.26	D01-9682001
32	81.28	78.74	D01-9683201
36	91.44	88.90	D01-9683601

# TOOLS AND ACCESSORIES

## HAND CRIMP TOOL

For loose contacts. Hand tool has a fixed ratchet cycle to ensure correct crimp form for repeatable use.

- Instruction sheet available.



Contact	AWG
M20-118	22-30

**Order Code** Z20-320

## HAND CUTTING TOOL

For 2.54mm pitch pin headers. A hand cutting tool suitable for cutting all single and double row pin headers, adjustable stop allows easy changeover with repeatable cuts.

Tool

Replacement Cutting Blade

**Order Code** Z1022-00

**Order Code** Z1023-00



# CRIMP PRESS AND MINI APPLICATOR

## SEMI-AUTOMATED SYSTEM

A versatile low cost bench mounted electromechanical press, ideal for small to medium volume production requirements, fitted with a standard mini-applicator.

Order the press and mini-applicator separately.

### FEATURES

- Interchangeable with other presses/applicators.
- Low noise level.
- Safety mechanism.
- Operated by foot control.
- Stripper-crimper available as an addition to the press.
- Instruction sheet available.

### Mini Applicator

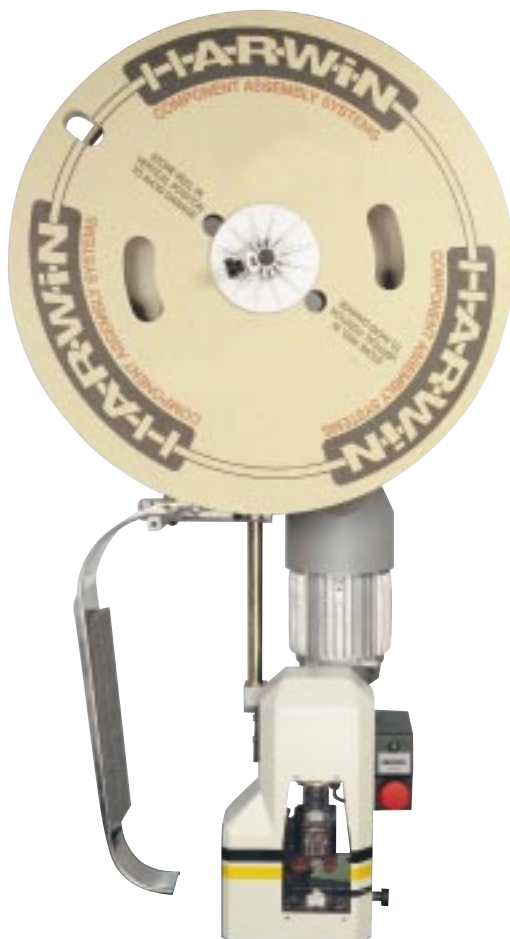
Contact	Applicator Order Code	Spares Kit Order Code
M20-116	Z20-321	Z20-331

Applicators should be ordered separately.

**Machine Order Code** ZGP-PEO

**Stripper Crimper Order Code** ZGP-SC10

Please order stripper crimper separately. The stripper-crimper is used to strip insulation from the wire, in conjunction with the crimping operation.





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

# Selector Chart

## BOARD TO BOARD - THROUGH BOARD

### Through Board




Pitch	Series	Features	Product Style
1.27mm	M50 Connectors	<ul style="list-style-type: none"> <li>● Polarised with locating pegs.</li> <li>● Shrouded contacts on pin headers.</li> </ul>	
2.00mm	M22 Connectors	<ul style="list-style-type: none"> <li>● Single and double row.</li> <li>● Vertical and horizontal styles.</li> </ul>	
2.00mm	M80 Connectors Datamate	<ul style="list-style-type: none"> <li>● High reliability connectors with four finger beryllium copper contacts.</li> <li>● One, two and three row styles.</li> </ul>	
2.54mm	025 Connectors	<ul style="list-style-type: none"> <li>● Single and double row.</li> <li>● Up to 36 ways.</li> <li>● Vertical and horizontal styles.</li> </ul>	
4.20mm	KF Connectors	<ul style="list-style-type: none"> <li>● Current rating up to 9 amperes per circuit.</li> <li>● Compatible with existing standards.</li> <li>● Natural or black mouldings.</li> <li>● Fully shrouded with plastic locking.</li> <li>● Secure polarisation of male and female connectors.</li> </ul>	

## BOARD TO BOARD - SURFACE MOUNT


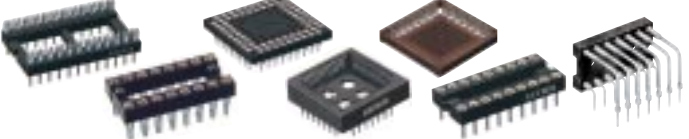
Pitch	Series	Features	Product Style
0.5mm	F05 Connectors	<ul style="list-style-type: none"> <li>● Zero insertion force.</li> <li>● Actuator cover.</li> </ul>	
0.8mm	M60 Connectors	<ul style="list-style-type: none"> <li>● Variable stacking height of between 5mm-9mm.</li> <li>● Locating pegs.</li> </ul>	
1.0mm	M40 Connectors	<ul style="list-style-type: none"> <li>● 4.3mm stacking height.</li> <li>● Available with or without tape.</li> <li>● Locating pegs.</li> </ul>	
1.0mm	F10 Connectors	<ul style="list-style-type: none"> <li>● Compact.</li> <li>● Zero insertion force.</li> <li>● Surface mount.</li> </ul>	
1.25mm	M30 Connectors	<ul style="list-style-type: none"> <li>● SMT or through hole plug.</li> <li>● Plug latches onto housing.</li> <li>● Metal solder down tabs.</li> </ul>	

# Selector Chart



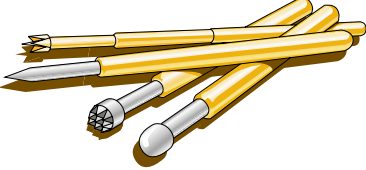
## FLEXI TO BOARD

Pitch	Series	Features	Product Style
0.5mm	F05 Connectors	<ul style="list-style-type: none"> <li>● Zero insertion force.</li> <li>● Actuator cover.</li> <li>● Surface mount design.</li> </ul>	
1.00mm	F10 Connectors	<ul style="list-style-type: none"> <li>● Compact.</li> <li>● Zero insertion force.</li> <li>● Surface mount.</li> </ul>	
2.00mm	M80 Connectors Datamate	<ul style="list-style-type: none"> <li>● 1.3mm pc tail length.</li> </ul>	

## SOCKETS





Range	Features	Product Style
PCB Sockets	<ul style="list-style-type: none"> <li>● For pins, Ø0.5, Ø0.6, Ø0.8, Ø1.0 and Ø2.00mm</li> <li>● High reliability four finger contact.</li> <li>● Available with RTV sealing.</li> <li>● Available loose or reeled.</li> </ul>	
Sockets	<ul style="list-style-type: none"> <li>● IC sockets—high reliability four finger contact.</li> <li>● Choice of styles.</li> <li>● Choice of finishes.</li> </ul>	

## HARDWARE






Range	Features	Product Style
Spacers	<ul style="list-style-type: none"> <li>● Clearance and threaded.</li> <li>● Metric and imperial sizes.</li> <li>● Hexagonal and circular.</li> <li>● Plastic and metal.</li> </ul>	
Terminals	<ul style="list-style-type: none"> <li>● 0.635mm square terminal pins.</li> <li>● 1mm terminals.</li> <li>● PCB spade terminals.</li> <li>● Terminal blocks.</li> <li>● Insulated plugs.</li> <li>● Uninsulated plugs.</li> </ul>	
Probes	<ul style="list-style-type: none"> <li>● Head styles for various applications.</li> <li>● Different travels for specific applications.</li> <li>● Wide range of sizes from 0.82 to 4.20mm centres.</li> </ul>	

# Selector Chart

## BOARD TO BOARD - SURFACE MOUNT (continued)

Pitch	Series	Features	Product Style
1.27mm	M50 Connectors	<ul style="list-style-type: none"> <li>● Polarised with locating pegs.</li> <li>● Shrouded contacts.</li> </ul>	
2.00mm	M22 Connectors	<ul style="list-style-type: none"> <li>● With or without pick and place pad.</li> <li>● Low profile design socket.</li> </ul>	
2.00mm	M80 Connectors Datamate	<ul style="list-style-type: none"> <li>● 4 to 44 positions double row.</li> <li>● Pick and place pad for automatic placement.</li> <li>● Optional latches provide additional strain relief.</li> </ul>	
2.54mm	O25 Connectors	<ul style="list-style-type: none"> <li>● Single and double row.</li> <li>● With or without pick and place pad.</li> </ul>	

## WIRE TO BOARD

Pitch	Series	Features	Product Style
1.25mm	M30 Connectors	<ul style="list-style-type: none"> <li>● SMT or through hole plug.</li> <li>● Plug latches onto housing.</li> <li>● Metal solder down tabs.</li> </ul>	
2.00mm	M22 Connectors	<ul style="list-style-type: none"> <li>● Single and double row.</li> <li>● Polarising optional.</li> <li>● Twin leaf contacts.</li> </ul>	
2.00mm	M80 Connectors Datamate	<ul style="list-style-type: none"> <li>● One, two and three row styles.</li> <li>● High reliability connectors with four finger beryllium copper contacts.</li> </ul>	
2.54mm	O25 Connectors	<ul style="list-style-type: none"> <li>● Single and double row.</li> <li>● Polarising optional.</li> <li>● Tapered entry for pin insertion</li> <li>● Latched pin headers.</li> </ul>	
4.20mm	KF Connectors	<ul style="list-style-type: none"> <li>● Current rating up to 9 amperes per circuit.</li> <li>● Compatible with existing standards.</li> <li>● Natural or black mouldings.</li> <li>● Fully shrouded with plastic locking.</li> </ul>	

# CUSTOMER SERVICES



Telephone calls direct onto our Sales Desk for immediate response.



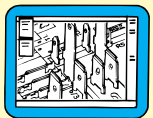
Technical Engineers on-hand to advise you on your problem.



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



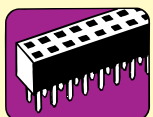
ISO 9001 Approval Certificate No. FM10993.



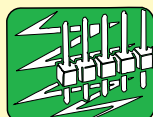
Integrated CAD drawing facility for quick response to your queries.



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-????



## 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 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.

Visit our Website: [Http://www.harwin.com](http://www.harwin.com)

#### HARWIN Inc

P.O. Box 319  
New Albany  
IN 47151  
USA

Tel: +1 812 285 0055  
Fax: +1 812 285 0056  
E-mail: [mis@harwin.com](mailto:mis@harwin.com)

#### HARWIN plc

Fitzherbert Road  
Farlinton, Portsmouth  
Hants PO6 1RT  
UK

Tel: (Sales) +44 (0) 23 9237 0451  
Fax: +44 (0) 23 9231 4590  
E-mail: [mis@harwin.co.uk](mailto:mis@harwin.co.uk)

#### HARWIN pte

Block 71 Ayer Rajah Crescent  
#04-01/02 Ayer Rajah Ind. Est.  
Singapore 0513

Tel: (Sales) +65 779 4909  
Fax: +65 779 3868  
E-mail: [mis@harwin.com.sg](mailto:mis@harwin.com.sg)

# HARWIN