Latest Products from...

**Shielded Die-Cast Backshells**

See page 1884

**Filtered PCB D Sub Connectors**

See page 1873

**Display Port; Plug & Receptacle Connectors**

See page 1915

**Harting 2.0mm Backpanel Systems**

See page 1940

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Connectors – Signal & Data

<table>
<thead>
<tr>
<th>Page</th>
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<tbody>
<tr>
<td>2.0mm Backpanel Systems</td>
</tr>
<tr>
<td>Adaptors</td>
</tr>
<tr>
<td>Battery Connectors</td>
</tr>
<tr>
<td>Bluetooth Connector Systems</td>
</tr>
<tr>
<td>Budget 'D' Range</td>
</tr>
<tr>
<td>Card Edge Connectors</td>
</tr>
<tr>
<td>Centronics/IEEE 488 Style</td>
</tr>
<tr>
<td>'D' Connectors</td>
</tr>
<tr>
<td>Accessories</td>
</tr>
<tr>
<td>Commercial</td>
</tr>
<tr>
<td>Economy</td>
</tr>
<tr>
<td>EMI/RFI Shielded</td>
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<tr>
<td>Filtered</td>
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<tr>
<td>High Density</td>
</tr>
<tr>
<td>Industrial</td>
</tr>
<tr>
<td>Micro Miniature</td>
</tr>
<tr>
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<td>Rewireable</td>
</tr>
<tr>
<td>Stackable</td>
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<tr>
<td>Surface Mount</td>
</tr>
<tr>
<td>Waterproof</td>
</tr>
<tr>
<td>Digital Visual Interface (DVI)</td>
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<tr>
<td>DIN41612 Class 1, 2 and 3</td>
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<td>Economy 'D' Range</td>
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<tr>
<td>EMI/RFI Shielding 'D' Shells</td>
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<tr>
<td>FCC-68 Modular Connectors</td>
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<td>Fibre Optic Connectors</td>
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<tr>
<td>Gds A Series DIN41612 Class 3/2</td>
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<td>RJ45 Ethernet Connector System</td>
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<td>Serial ATA Storage Interface</td>
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<td>VHDC1</td>
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<td>Connectors Linecard</td>
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<td>Connectors – Signal &amp; Data</td>
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<td><img src="image13" alt="SEE PAGE 1864" /> <img src="image14" alt="SEE PAGE 1874" /> <img src="image15" alt="SEE PAGE 1891" /> <img src="image16" alt="SEE WEBSITE" /></td>
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### Economy D-Sub

#### Solder Bucket

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<td>10</td>
<td>100+</td>
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<tr>
<td>Plugs</td>
<td>9</td>
<td>0.98</td>
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<tr>
<td>15</td>
<td>0.98</td>
<td>0.72</td>
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<td>25</td>
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<td>0.72</td>
</tr>
<tr>
<td>50</td>
<td>0.98</td>
<td>0.72</td>
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#### Straight PCB - Formed Pin

<table>
<thead>
<tr>
<th>Order Multiple = 10</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Ways</td>
<td>10</td>
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<tr>
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<td>0.72</td>
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### Economy D-Sub - Formed Pin

<table>
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</tr>
<tr>
<td>50</td>
<td>0.98</td>
<td>0.72</td>
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</tbody>
</table>

### Commercial ‘D’ Range

#### Commercial D (Formed Pin)

- Solder bucket, right angled and PCB termination styles
- Solder bucket and 90° contacts are stamped and formed
- 90° style features a 2.54mm spacing between contact rows and screwlocks
- Suitable for applications in instrumentation, computer interfacing, process control and professional electrical equipment

<table>
<thead>
<tr>
<th>Contact rating</th>
<th>Contact resistance</th>
<th>Temperature range</th>
<th>Insulation resistance</th>
<th>Part number</th>
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</thead>
<tbody>
<tr>
<td>5A</td>
<td>300µΩ</td>
<td>-55°C to +105°C</td>
<td>6.5kΩ</td>
<td>SDE9P = 150-808, SDE95 = 150-812, SD15P = 150-809, SD157P = 150-811, SDCC7P = 150-811, SDCC7S = 150-815</td>
</tr>
</tbody>
</table>

### Connector Types

- Battery Connectors
- Smart Card Connectors
- Memory Card Connectors
- SIM Card Connectors
- Card Edge Connectors

### Order Code

- 108-4677: 0.45
- 108-4678: 0.65
- 108-4679: 0.90

### Contact Information

RoHS Compliant | Non-Compliant
---|---
08447 11 11 11
Fax: 08447 11 11 12
1859
## Commercial D Range - continued

### 90°C PCB

<table>
<thead>
<tr>
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<th>Price Each</th>
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<tr>
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<td>150-9125</td>
<td>0.33</td>
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<tr>
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### 90°C PCB with Screwlocks

<table>
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<th>Price Each</th>
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### ZD Connectors

#### Solder Cup & PCB

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<thead>
<tr>
<th>Contact Rating</th>
<th>Housing Material</th>
<th>Steel, tin plating</th>
<th>Glass filled thermoplastic, UL94V-0</th>
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<tr>
<td>5A 60°C</td>
<td>Brass</td>
<td>Plastic</td>
<td>Class 3</td>
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<tr>
<td>Contact Resistance</td>
<td>Dcm²·V Max.</td>
<td>Male Contacts</td>
<td>Female Contacts</td>
</tr>
<tr>
<td>Working Voltage</td>
<td>350V dc/30V ac</td>
<td>Brass</td>
<td>Brass</td>
</tr>
<tr>
<td>Temperature-Range</td>
<td>-55°C to +105°C</td>
<td>Male Contacts</td>
<td>Female Contacts</td>
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</table>

### 90°C PCB

<table>
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<tr>
<td>15</td>
<td>134-9015</td>
<td>0.33</td>
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<tr>
<td>25</td>
<td>134-9015</td>
<td>0.22</td>
</tr>
<tr>
<td>37</td>
<td>134-9015</td>
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### 90°C PCB with Screwlocks

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<tbody>
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<tr>
<td>37</td>
<td>134-9155</td>
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### TDE Series

#### Straight PCB (Turned Pin)

<table>
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#### TDE Series European Footprint

<table>
<thead>
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<tbody>
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<tr>
<td>37</td>
<td>134-9015</td>
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</tbody>
</table>

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**ITT**

Engineered for Life

---

**Tyo Electronics**

A new range of economical D Sub connectors with a high level of performance and standard features.

- **Boardrods as standard**
- **Gold plated contacts**
- **Choice of 4-40 Threaded inserts or 4-40 female screwlocks**
- **Front shell Tin plated steel**
- **UL Listed**

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**TDE Series European Footprint**

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**Original 'D' Solder Bucket**

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**Tooling**

**Mixed Signal 'D' Connectors**

- Developed for industrial and telecommunications applications
- Solder contacts
- Solder bucket connectors supplied pre-loaded with signal contacts and holes for power or coax contacts
- Right angled PCB connectors supplied pre-loaded with signal and power contacts
- Right angled PCB coax contacts available

<table>
<thead>
<tr>
<th>Order Code</th>
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<td>309-0176</td>
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**Mixed Signal D-Sub**

- Power Contacts
  - Pin 12AWG: 2.13
  - Pin 16AWG: 2.67
- Socket 2AWG: 3.97
- Pin 2AWG: 4.50
- Socket 4AWG: 7.15

---

**ITG**

**D*A Range (Crimp Contacts)**

- D range connectors with rear release crimp snap in contacts
- Connector housing supplied without contacts loaded
- Highly reliable socket contact, sleeveless, spring finger contact that is inserted/extracted from the rear of insulator
- Ideal for selective loaded contacts application

<table>
<thead>
<tr>
<th>No of Ways</th>
<th>Order Code</th>
<th>Price Each / Per Pack</th>
</tr>
</thead>
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</tr>
<tr>
<td>50</td>
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<td>4.720</td>
</tr>
</tbody>
</table>

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**Mixed Power DW Series**
Mixed Signal ‘D’ Connectors - continued

21W4 1W 3W5 8W8 7W2

HARTING’s mixed D-Sub range brings the advantage of an industry standard I/O interconnect product with the possibility to customise for any application. The range is designed around the standard D-Sub shell sizes with the possibility to have a blend of contacts such as signals with coaxial, power or high voltage contacts. Due to its construction, the product is fully shielded and helps reducing the EM/RFI leakage.

The structure of the connector’s identification is so that the left side digits give the total number of contacts and the right side digits the number of special contacts which can be either power, coaxial or high voltage style. Example: 13W3 stands for 13 contacts in total with 10 signal contacts and 3 special contacts.

<table>
<thead>
<tr>
<th>Connector Identification</th>
<th>Mtrrs.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-21 Way - solder bucket termination for signal contacts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plugs 7W6</td>
<td>06 69 311 5072 120-7598</td>
<td>3.63</td>
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<td>13W3</td>
<td>06 69 311 5133 120-7596</td>
<td>3.33</td>
<td>2.94</td>
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<td>17W2</td>
<td>06 69 311 5172 120-7596</td>
<td>4.17</td>
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<tr>
<td>21W4</td>
<td>06 69 411 5214 120-7598</td>
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<td>4.33</td>
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<td>Sockets 7W6</td>
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<td>13W3</td>
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<td>06 69 411 5214 120-7598</td>
<td>5.82</td>
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<tr>
<td>7-21 Way - 90° PCB mounted</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Plugs, with 40A High Current Contacts 7W6</td>
<td>0696 00009040 120-0645</td>
<td>6.64</td>
<td>5.88</td>
</tr>
<tr>
<td>13W3</td>
<td>0696 00009018 120-0647</td>
<td>7.41</td>
<td>6.57</td>
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<td>21W4</td>
<td>0696 00009021 120-0472</td>
<td>11.32</td>
<td>9.94</td>
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<tr>
<td>Sockets, with 40A High Current Contacts 7W6</td>
<td>0696 00009050 120-0646</td>
<td>8.02</td>
<td>7.02</td>
</tr>
<tr>
<td>21W4</td>
<td>0696 00009022 120-0475</td>
<td>15.25</td>
<td>13.46</td>
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<tr>
<td>9-8 Way housings - without signal contacts</td>
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<td></td>
<td></td>
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<tr>
<td>Plug 3W6</td>
<td>06 69 210 0033 120-7599</td>
<td>1.42</td>
<td>1.26</td>
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<tr>
<td>5W5</td>
<td>06 69 310 0055 120-7599</td>
<td>1.72</td>
<td>1.51</td>
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<tr>
<td>8W6</td>
<td>06 69 410 0088 120-7599</td>
<td>1.78</td>
<td>1.59</td>
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<td>Socket 3W6</td>
<td>06 69 200 0033 120-7599</td>
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<td>5W5</td>
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<td>06 69 400 0088 120-7599</td>
<td>1.81</td>
<td>1.62</td>
</tr>
<tr>
<td>High Current Contacts - solder termination</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Pin 20A</td>
<td>0696 0817421 120-0477</td>
<td>1.40</td>
<td>1.25</td>
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<tr>
<td>30A</td>
<td>0696 0817422 120-0477</td>
<td>1.30</td>
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<td>40A</td>
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<td>1.77</td>
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<td>40A</td>
<td>0696 0817423 120-0478</td>
<td>1.77</td>
<td>1.51</td>
</tr>
<tr>
<td>Coastal Contacts - crimp/solder termination</td>
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<td></td>
<td></td>
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<tr>
<td>Male RG174U, 18AWG, 316U 0696 0817140 120-0482</td>
<td>3.35</td>
<td>2.96</td>
<td>2.63</td>
</tr>
<tr>
<td>RG178U, 19AWG, 40D4</td>
<td>0696 0817141 120-0485</td>
<td>3.99</td>
<td>3.50</td>
</tr>
<tr>
<td>RG179U, 18AWG 0696 0817230 120-0485</td>
<td>4.37</td>
<td>3.84</td>
<td>3.42</td>
</tr>
<tr>
<td>Female RG174U, 18AWG, 316U 0696 0817140 120-0481</td>
<td>3.59</td>
<td>3.13</td>
<td>2.76</td>
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<tr>
<td>RG178U, 19AWG, 40D4</td>
<td>0696 0817141 120-0484</td>
<td>3.99</td>
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</tbody>
</table>

Surface Mount ‘D’ Connectors

Surface Mount PCB D-Sub Connectors

The next generation of D-Sub connectors for surface mount assembly from Tyco Electronics. Utilising key design features to ensure efficient and reliable processing, surface mounting of this industry standard interface connector becomes a reality for an increasingly wide range of applications. Available in 9-37 position plug and socket variants.

- Controlled centre of gravity for sensitive positioning during processing
- Large mounting bracket improves grounding and mechanical stability
- Mounting options are 4-40 UNC and M3 threaded inserts or screws or 3mm plain hole
- UL recognised
- RoHS compliant

<table>
<thead>
<tr>
<th>Contacts</th>
<th>Front Shell</th>
<th>Steel</th>
<th>Tin plated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing Flammability</td>
<td>Black Thermoplastic UL94V-0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Stackable D Subs

- Plug/plug, Socket/socket & plug/socket combinations
- 4-40 UNC threaded inserts
- Intermateable with other D-Sub connectors
- 9, 15, 25 and 37 way versions available
- Housing: UL94V-0 rated thermoplastic
- Boardlock retention

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Mtrrs.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 x 9</td>
<td>1734279-3</td>
<td>122-5658</td>
<td>4.34</td>
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<tr>
<td>2 x 15</td>
<td>1734285-3</td>
<td>122-5660</td>
<td>3.92</td>
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<td>4.77</td>
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<td>2 x 45</td>
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<td>122-5660</td>
<td>3.73</td>
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</table>

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D-Sub Pin-In-Paste Connectors

***Straight***

FCI have extended their broad offering of D-subminiature connectors to include Pin-In-Paste (Through Hole Rework) versions. Pin-In-Paste (PIP) technology allows the use of through hole product in SMT manufacturing process.

- **The D-Sub PIP connectors are moulded in high temperature plastic enabling them to withstand a peak temperature exposure of up to 260°C for 10 to 30 seconds in a convention infrared or vapour-phase reflow oven.**
- **PIP is a more stable process than wave soldering as it does not need constant adjustment once set-up.**
- **No re-design of the PCB for PIP - Same layouts, same hole diameters for signal contacts.**
- **The termination length beyond the bottom of the PCB is shorter than traditional solder-to-board products. Thus the risk of pushing out the solder paste when setting the pin into the PCB hole is very much limited.**
- **Metal pegs significantly increase the connection robustness after soldering.**

**Mounting Options:-**

- **RL:** Insert M3 + Metal peg + Electrical continuity
- **RX:** Insert UNC 4-40 + Metal peg + Electrical continuity
- **RV:** Female screw UNC 4-40 + Metal peg + Electrical continuity

**Sockets**

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>Orientation</th>
<th>Footprint / Pitch</th>
<th>Termination / Thickness</th>
<th>Contact Material</th>
<th>Contact Plating</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>D02S3A4G908VF</td>
<td>Straight</td>
<td>6.0 / 2.84 mm</td>
<td>2.0 mm / 1.6 mm</td>
<td>Copper Alloy</td>
<td>Gold over nickel</td>
<td>1.84</td>
</tr>
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</table>

**Plugs**

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>Orientation</th>
<th>Footprint / Pitch</th>
<th>Termination / Thickness</th>
<th>Contact Material</th>
<th>Contact Plating</th>
<th>Price Each</th>
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</thead>
<tbody>
<tr>
<td>D02S3A4G908VF</td>
<td>Straight</td>
<td>6.0 / 2.84 mm</td>
<td>2.0 mm / 1.6 mm</td>
<td>Copper Alloy</td>
<td>Gold over nickel</td>
<td>1.84</td>
</tr>
</tbody>
</table>

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technicals@farnell.co.uk

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Surface Mount 'D' Connectors - continued

D Sub Power Module Input Connectors

The shielded connectors are designed to fit the power module faceplate on the front side of a power module made in accordance with the MicroTCA specification. The board-mount connectors, available as a single port or dual-stacked configuration for redundant input feeds, have the most compact footprint on the market providing more space on the board for routing supplementary traces or additional components.

Features:
- FMLB (first male last break) design for hot plugging
- Compact PCB footprint
- Solid-to-board and Pin-in-Paste (PIP) versions for through-hole reflow solder termination
- Cable connector is field repairable

<table>
<thead>
<tr>
<th>Shell Material</th>
<th>Contact Material</th>
<th>Contact Plating</th>
<th>Current Rating</th>
<th>Mating Cycles</th>
<th>Operating Temperature</th>
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<td>1+</td>
<td>5+</td>
<td>10+</td>
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<td>9</td>
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<td>25</td>
<td>50</td>
<td>100</td>
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<table>
<thead>
<tr>
<th>Price Each</th>
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</thead>
<tbody>
<tr>
<td>1+</td>
</tr>
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<td>5+</td>
</tr>
<tr>
<td>10+</td>
</tr>
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<table>
<thead>
<tr>
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<th>Price Each</th>
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<tbody>
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<td>10070158-004190</td>
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<td>156-83931</td>
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</table>

D-Connector Cable Assemblies

- Prefabricated D-Sub cable assemblies
- Female to male ribbon cable connector style

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Mfrs. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
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</thead>
<tbody>
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<td>869-6411</td>
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<td>15373732-1</td>
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<td>15373734-1</td>
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EMI/RFI Shielded 'D' Connectors

Solder Bucket (Formed Contacts)

- Tin and Dimple 'D'

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<tr>
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<th>No. of Ways</th>
<th>Price Each</th>
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<tr>
<td>37</td>
<td>109-9057</td>
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Economy 'D' Tin and Dimple (Formed Pin)

- Available in solder bucket or right angle and straight PCB termination
- Tinned shells and featuring dipped plugs for enhanced electrical continuity
- Ideal for EMI/RFI applications
- Solder bucket and 90° contacts are stamped and formed for extra economy
- 90° features a 2.54mm spacing between contact rows

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Mfrs. List No.</th>
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<th>Price Each</th>
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Solder Bucket

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<td>105-735</td>
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90° D-Sub Connectors

PCB Mount

A range of 90° D-Sub connectors with metal front shell, screwlocks and boardlocks

Contact material: Brass
Contact plating: Gold flash over Nickel
Contact resistance: 15mOhm
Insulation resistance: 5000MOhms
Temperature range: -55°C to +105°C

<table>
<thead>
<tr>
<th>No. of Ways</th>
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<th>Price Each</th>
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</table>

Prices are in £ sterling & exclusive of VAT

£40,000 PRICES REDUCED
90° PCB - with Screwlocks and Boardlocks

McMurdo Connectors

90° PCB - Available with or without Screwlocks

McMurdo Connectors

HDP-20 Solder Cup

MCY20E205-06000

Connectors – Signal & Data

No. of Ways | Order Code | 1+ | 25+ | 100+ | 250+ | 500+ | 1K+
--- | --- | --- | --- | --- | --- | --- | ---
Plugs | 8 | 107-5272 | 0.71 | 0.68 | 0.61 | 0.51 | 0.48 | 0.44
| 15 | 107-5275 | 0.93 | 0.90 | 0.75 | 0.67 | 0.62 | 0.56
| 25 | 107-5276 | 1.39 | 1.32 | 1.14 | 1.05 | 0.93 | 0.84
| 37 | 107-5277 | 2.16 | 2.07 | 1.75 | 1.62 | 1.51 | 1.36

Sockets | 8 | 107-5273 | 0.78 | 0.71 | 0.63 | 0.57 | 0.52 | 0.46
| 15 | 107-5277 | 1.11 | 1.05 | 0.91 | 0.84 | 0.80 | 0.67
| 25 | 107-5278 | 1.57 | 1.46 | 1.32 | 1.16 | 1.08 | 0.96
| 37 | 107-5279 | 2.58 | 2.49 | 2.14 | 1.98 | 1.81 | 1.58

No. of Mtrs. | List No. | Order Code | 1+ | 25+ | 100+ | 250+ | 500+ | 1K+
--- | --- | --- | --- | --- | --- | --- | ---
Plugs | 9 | 5-74794-2 | 113-8249 | 1.33 | 1.29 | 1.24 | 1.22 | 1.19
| 15 | 5-74796-2 | 113-8461 | 3.52 | 3.42 | 3.30 | 3.14 | 3.04
| 25 | 5-74799-2 | 113-8462 | 3.85 | 3.76 | 3.49 | 3.40 | 3.33
| 37 | 5-74816-2 | 113-8246 | 7.51 | 7.26 | 7.03 | 6.71 | 6.49

Sockets | 9 | 5-74795-2 | 113-8463 | 2.78 | 2.67 | 2.56 | 2.43 | 2.35
| 15 | 5-74799-2 | 113-8464 | 4.96 | 4.78 | 4.59 | 4.44 | 4.29
| 25 | 5-74812-2 | 113-8465 | 4.26 | 4.04 | 3.89 | 3.75 | 3.52
| 37 | 5-74797-2 | 158-0001 | 7.27 | 6.87 | 6.68 | 6.52 | 6.04

No. of Ways | List No. | Order Code | 1+ | 25+ | 100+ | 250+ | 500+ | 1K+
--- | --- | --- | --- | --- | --- | --- | ---
Plugs | 8 | 1734352-1 | 126-2130 | 1.07 | 0.98 | 0.93 | 0.87
| 15 | 1734351-1 | 126-2131 | 1.28 | 1.22 | 1.15 | 1.08
| 25 | 1734350-1 | 126-2140 | 1.43 | 1.31 | 1.27 | 1.21

Bargain ‘D’ Tin and Dimple (Formed Pin)

HARTING

Pushing Performance

No. of Ways | List No. | Order Code | 1+ | 25+ | 100+ | 250+ | 500+ | 1K+
--- | --- | --- | --- | --- | --- | --- | ---
Plugs | 9 | 0967-2xx-5684 | 0967-2xx-4704 | 0x-xx | No of ways

No. of Ways | List No. | 1+ | 25+ | 100+ | 250+ | 500+ | 1K+
--- | --- | --- | --- | --- | --- | --- | ---

90° PCB - with Boardlock and threaded inserts (4-40)

No. of Ways | List No. | Order Code | 1+ | 25+ | 100+ | 250+ | 500+ | 1K+
--- | --- | --- | --- | --- | --- | --- | ---

18

RoHS • Compliant  
Non-compliant  
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Fax: 08447 11 11 12  
1867
## EMI/RFI Shielded 'D' Connectors - continued

### Bargain 'D' Tin and Dimple (Formed Pin) - continued

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
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<td>109-7097</td>
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<td>10 +</td>
<td>109-7098</td>
<td>1.31</td>
</tr>
<tr>
<td>50 +</td>
<td>109-7099</td>
<td>1.37</td>
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<tr>
<td>100 +</td>
<td>109-7100</td>
<td>1.43</td>
</tr>
<tr>
<td>500 +</td>
<td>109-7101</td>
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**Solder Bucket Plugs**

<table>
<thead>
<tr>
<th>No. of Ways</th>
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<th>Price Each</th>
</tr>
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<tbody>
<tr>
<td>9</td>
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<tr>
<td>15</td>
<td>109-8097</td>
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<td>37</td>
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**Solder Bucket Plugs**

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Order Code</th>
<th>Price Each</th>
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</thead>
<tbody>
<tr>
<td>9</td>
<td>109-8096</td>
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<tr>
<td>15</td>
<td>109-8097</td>
<td>1.56</td>
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<tr>
<td>25</td>
<td>109-8098</td>
<td>1.62</td>
</tr>
<tr>
<td>37</td>
<td>109-8099</td>
<td>1.68</td>
</tr>
</tbody>
</table>

### D - Sub PCB Connectors

#### Straight and 90° - Formed Pin

- [Image](image_url)

**A range of High Performance D-sub connectors with stamped pins**

- UL Recognised
- Class II performance - DIN 41652
- 4-40 UNC threaded insert flange and grounding boards for improved continuity and mechanical strength
- Tinned and dimpled shells for excellent EMI shielding

**Current rating:** 6.5A Max

**Contact material:** Copper Alloy

**Contact plating:** Gold

**Temp range:** -55°C to +125°C

**Ins material:** PF/PT

**Shell material:** Tinised Steel

**Mating cycles:** >2000

---

### Solder Bucket - with Shielding Lugs

- Tin and dimple 'D' connectors with solder lugs attached to the shell
- Improved cable shield termination and EMI/RFI shielding
- The pins and sockets are formed contact style with solder bucket terminations.

**Contact rating:** 5A @ 20°C

**Housing:** Steel, Tin plating

**Working voltage:** 350V dc/ac peak

**Temperature range:** -55°C to +125°C

**Mating cycles:** 1,000

**Mfrs. List No.**

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Order Code</th>
<th>Price Each</th>
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<td>37</td>
<td>110-3979</td>
<td>3.81</td>
</tr>
</tbody>
</table>

**Delta 'D' - with Boardlocks**

- Straight PCB mounted tin & dimple
- Female screws and locking lugs

**Contact rating:** 5A max

**Working voltage:** 350V dc/ac peak

**Contact resistance:** >50mΩ max

**Temperature range:** -55°C to +125°C

**Mating cycles:** 300

**Plugs**

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Order Code</th>
<th>Price Each</th>
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</thead>
<tbody>
<tr>
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**Sockets**

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<tr>
<td>37</td>
<td>110-3984</td>
<td>6.65</td>
</tr>
</tbody>
</table>

**Turned Pin Solder Bucket**

- Gold plated machined contacts giving a minimum of 300 mating cycles.

**Contact rating:** 6.5A @ 60°C

**Housing Insulator:** Steel, Tin plating

**Working voltage:** 500V dc/ac peak

**Insulation resistance:** 1000mΩ

**Temperature range:** -40°C to +105°C

**Mating cycles:** 300

**5 Per Pack**

<table>
<thead>
<tr>
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<th>Order Code</th>
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<td>200</td>
<td>110-3983</td>
<td>12.42</td>
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</table>

**Turned Pin 'D' Tin and Dimple**

[Image](image_url)
**EMI/RFI Shielded ’D’ Connectors - continued**

**Crimp ’D’ Tin and Dimple (Formed Pin) - continued**

<table>
<thead>
<tr>
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<td>37</td>
<td>120-7630</td>
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<tr>
<td>Socket Housing</td>
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<td>9</td>
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<td>37</td>
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<td>Crimp Contacts (10 Per Strip)</td>
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<tr>
<td>Socket</td>
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**Tooling for Crimp ’D’**

| Mtrs. List No. | 0999-000-0175 = 150-171, 0999-000-0171 = 150-172 |

**HDP-20 kits**

**Crimp Version**

- HDP-20 male and female connector with metal cover, shielding plates, plastic covering cap, integral, jack screws
- Each kit contains:
  1. HDP20 plug connector
  2. Empty housing for crimped contacts
  3. Plastic covering plate and 2 jack screws

**Metal cover:**
- Steel over nickel, galvanized

**Insulation body:**
- Polyamide UL94V-0

**Capping:**
- Plastic, galvanized

**Lifting screws:**
- 20g

**Solder connectors in packs**

- Supplied in blister packs of 5
- Packs include Connectors with 20:40 UNC thumbscrews
  - Rating: 6.5A
  - Temperature range: -55°C to +125°C
  - Contact resistance <1mΩ

**Harsh Environment**

- Special plated shell guarantees electrical grounding up to 25 years
  - Mating cycles: 500
  - Contacts: Copper Alloy
  - Insulator: GF polyester
  - Shell: Steel, special nickel plating
  - Current rating: 5A
  - Working voltage: 750Vac, peak
  - Proof voltage: 2.5kV ac peak
  - Temperature range: -55°C to +125°C

**Rewirable ’D’ Connectors**

**Screw Termination D-Sub Series**

**HD-20 Solder Cup kits**

**Solder Version**
Filtered 90° PCB 'D' Earthing Strap and Riv-Nuts

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Order Code</th>
<th>Price Each</th>
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<tbody>
<tr>
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<td>111-4131</td>
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<tr>
<td></td>
<td>37</td>
<td>111-4131</td>
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</table>

Filtered 'D' Adapters

- Converts standard 'D' to filtered 'D'
- Full shielding integrity for protection against RFI/EMI
- ‘Feed through’ technology enhances rejection levels in VHF and UHF bands

Contact Material
- Copper Alloy, Gold over nickel-plate material
- High impact epoxy

Current Rating
- Temperature Range: -40° to +125°C
- Working Voltage: 200V dc/ac peak
- Contact Resistance: 5x10⁻⁶Ω max
- Insulation Resistance: 5x10¹⁰Ω

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Mfrs. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
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<tbody>
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<td>37</td>
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Filtered D Sub Adapters

- Male to Female Filtered D Sub Adapter
- 9, 15, 25 and 37 way available
- 3 Filter Values: 47pF, 1000pF and 3900pF for effective electronic noise reduction
- Ideal for easy EMI/RFI connections in existing applications or quick filter tests during design phase
- Provided with 2 Jack screws 4–40 UNC not pre-mounted to allow flexibility of use

Contact Rating: 6.5A
- Working Voltage: 100V
- Temperature Range: to +

<table>
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<td>75</td>
<td>0964100720</td>
<td>43.12</td>
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</table>

Filtered 'D' Sub Connectors

- Plugs and Sockets
- Allowing user to use the same layout as a standard D-Sub (or D-Sub) but provides more space on the PCB board by having the filter in the connector

Contact Rating: 7.5A
- Housing Insulator Contacts
- Steel
- Copper Alloy, Selective Gold

Current Rating: 10mA max
- Working Voltage: 250V
- Temperature Range: to +125°C

Mfrs. List No.
- RoHS Compliant
- Non-compliant

Contact Rating: 5A
- Contact Resistance: 5000Ω max
- Insulation Resistance: 200V dc/ac peak 1µf @ 16Vdc 0.1µs
- Temperature Range: -55°C to +125°C
The High Density D connector is well suited to a wide range of applications where a larger than normal number of contacts is required in a standard D size subminiature shell. Available with solder bucket or crimp contacts - both male and female, straight pcb termination (male only) and right angled pcb termination (female only).

**Connector Specifications:**
- **Contact Rating:** 3A at 70°C
- **Contact Resistance:** 15mΩ max
- **Working Voltage:** 300V dc peak
- **Temperature Range:** -55°C to +105°C
- **Mating Cycles:** 50
- **Housing:** Steel, tin over nickel plating
- **Insulator:** Black polyamide
- **Contacts:**
  - **Pin:** Copper alloy, gold over nickel
  - **Socket:** Phosphor bronze, gold over nickel

**Dimensions:**
- **Width:** 3.32 mm
- **Height:** 2.29 mm

**Boardfootage Data:**
- **No. of Contacts:** 15
- **Boardfootage:** 1.05 mm

**Pin Contacts:**
- **No. of Contacts:** 15
- **Boardfootage:** 0.44 mm

**Socket Contacts:**
- **No. of Contacts:** 26
- **Boardfootage:** 3.32 mm

**Assembly Notes:**
- **Straight PCB Plugs (Turned Pin)**
- **Solder Bucket (Formed Pin)**
- **Crimp Housing (Formed Contacts and Tooling)**

**Order Codes:**
- **High Density D Sub DIP Connectors - continued**
- **High Density D Sub R/A PCB Connectors**
- **Solder Bucket (Formed Pin)**
- **Crimp Housing (Formed Contacts and Tooling)**

**Material Specifications:**
- **Plugs:**
  - **No. of Contacts:** 15
  - **Boardfootage:** 1.50 mm
- **Sockets:**
  - **No. of Contacts:** 15
  - **Boardfootage:** 1.26 mm
- **Contact Resistance - 20 µΩ mm**
- **Insulation Resistance - 5000 Mohm at 500Vdc**
- **Operating Temperature -55°C to 105°C**

**Order Codes:**
- **High Density D Sub DIP Connectors - continued**
- **High Density D Sub R/A PCB Connectors**
- **Solder Bucket (Formed Pin)**
- **Crimp Housing (Formed Contacts and Tooling)**
Plastic ‘D’

Plastic 90° PCB

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>1+ 25+ 50+ 100+ 250+</td>
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<td></td>
</tr>
<tr>
<td>26</td>
<td>107-5295</td>
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</tr>
</tbody>
</table>

**Contact Rating**
- 1A

**Working Voltage**
- 350V dc/ac peak

**Temperature Range**
- -55°C to +125°C

**Mating Cycles**
- 50

**Housing**
- Glass Filled Thermoplastic, Polyester

**Contacts**
- Phosphor Bronze, Gold over Nickel

Micro Miniature ‘D’ Connectors

**Commercial Micro-D**

1.27mm Pitch

- Suitable for commercial applications
- Metal interface and grounding tabs improve mechanical and electrical shielding properties

**Current Rating**
- 1A

**Insulation Resistance**
- 5000MΩ/m

**Temperature Range**
- -55°C to +125°C

**Volts**
- 350V

PCB Connectors

<table>
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<tr>
<th>No. of Ways</th>
<th>Order Code</th>
<th>Price Each</th>
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<tbody>
<tr>
<td>1+ 25+ 50+ 100+ 250+</td>
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<tr>
<td>26</td>
<td>107-5295</td>
<td>6.14</td>
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**Metal Shell - Plug**
- MCKNY-1-396A1-18.00
- 388-0047
- 55.43 | 47.83 | 46.75 |
- MCKNY-1-156A1-18.00
- 388-0056
- 82.05 | 70.61 | 68.68 |
- MCKNY-1-256A1-18.00
- 388-0060
- 140.59 | 121.31 | 117.81 |

**Metal Shell - Socket**
- MCKNY-1-956A1-18.00
- 388-0056
- 67.09 | 57.89 | 55.43 |
- MCKNY-1-156A1-18.00
- 388-0162
- 83.68 | 71.01 |
- MCKNY-1-256A1-18.00
- 388-0114
- 147.05 | 126.88 | 107.67 |

**Plastic Shell - Plug**
- MCDRS-1-956A1-18.00
- 388-0046
- 36.31 | 33.01 | 30.01 |

**Plastic Shell - Socket**
- MCDRS-1-955A1-18.00
- 388-017A
- 44.10 | 40.10 | 36.50 |
- MCDRS-1-155A1-18.00
- 388-019A
- 51.35 | 46.69 | 42.43 |

**Jacked Assembly** (Jackpot, nut and washer)
- 1460661-1
- 388-002A
- 5.72 | 5.18 | 4.72 |

**Jacked screw Assembly** (Jackcrews and circlip)
- 1460666-1
- 388-003E
- 7.15 | 6.51 | 5.23 |

Metal and Plastic Shell

- A high quality, high density range of environmental connectors
- Lightweight, durable shell
- Twisted pin contact
- Ideal for industrial application where size and malleability are important
- Metal and plastic body version, complete with dust cover

**Contact Rating**
- 3A

**Working Voltage**
- 600V dc/ac peak

**Temperature Range**
- -55°C to +125°C

**Mating Cycles**
- 500

**Microdot PCB Connectors**

**Lead Assemblies**

- 45mm colour coded PTFE flying leads
Micro Miniature 'D' Connectors - continued

Metal Shell - Flying Leads - continued

<table>
<thead>
<tr>
<th>No. of 2 Per Pack</th>
<th>Price Per Pack</th>
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<tbody>
<tr>
<td>Jack posts</td>
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<tr>
<td>M8S13/5.07-LF</td>
<td>111-4180</td>
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<td>111-4180</td>
</tr>
<tr>
<td>M8S13/5.07-LF</td>
<td>111-4181</td>
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</table>

Plastic Shell - Flying Leads

- 450mm Colour coded PTFE flying leads

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<tr>
<td>37 DC9A-335E6S12.08-LB</td>
<td>111-4781</td>
<td>36.69</td>
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</table>

Backshell

- EMC screened backshells
- 18° pre-terminated braid attachment on backshell
- Supplied with hex head jack screws & retaining clips

Back Shells with 450mm (18") Pre-terminated Braid

<table>
<thead>
<tr>
<th>Mftr. List No.</th>
<th>M8S1009-LB</th>
<th>M8S1009-LS</th>
<th>M8S1121-LB</th>
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<tbody>
<tr>
<td>MM8S1009-LB</td>
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<td>128-2163</td>
<td>128-2167</td>
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<td>MM8S1009-LS</td>
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<td>128-2166</td>
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<td>MM8S1121-LB</td>
<td>128-2161</td>
<td>128-2163</td>
<td>128-2167</td>
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</table>

Standard 'D' Shells

Economy D Hoops

- Plastic, Snap or screw together D-Hoops
- Black or grey plastic
- Long or short screws available

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Mftr. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
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<tbody>
<tr>
<td>9 9 Way</td>
<td>128-2161</td>
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<tr>
<td>15 15 Way</td>
<td>128-2161</td>
<td>128-2163</td>
<td>128-2165</td>
</tr>
<tr>
<td>25 25 Way</td>
<td>128-2161</td>
<td>128-2163</td>
<td>128-2165</td>
</tr>
</tbody>
</table>

Solder Bucket Contacts

- Rugged reliable contacts
- High working voltage
- Solder bucket contacts

Current Rating: 3A 3 Way: 600V ac @ 60Hz 8mm W" Contact Resistance: 80mohm Operating Temperature: -50 to +135°C

Metal and Plastic Shell

<table>
<thead>
<tr>
<th>No. of Ways Mftr. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
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</table>

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Contact us now:
Web: www.farnell.co.uk Phone: 08447 11 11 11
Prices are in £ sterling & exclusive of VAT
EMI/RFI Shielded ‘D’ Shells

Black Plastic 3
Plastic Shield Hoods

<table>
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For HDP20 and HDE20 metal shell connectors

For Metalised Plastic

<table>
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MHTRI Series - Metalised Plastic
3 Way Entry - Shielded

- All sizes feature 3-way entry solution
- UN4-40 thumbscrews
- Hood supplied with 2 blanking plates and 2 strain relief plates
- Side / Top / Side cable entry

<table>
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Multicable Entry Metalised
Available with Screw or SlideLock

- A screw together ‘D’ shell with internal strain relief
- Top entry on the 9 way and top side cable entry on the 15, 25 and 37 way options
- Caters for all types of locking requirements
- Can be fitted with a slide lock assembly or jack screws (either short or long)
- Latches are available for the connector mating to the slide lock version

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<td>25</td>
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Metalised ‘D’ Shells

- Nickel plated ABS shell
- Knockout for top or side cable entry
- Supplied with two 5mm and two 1mm jack screws

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Top entry hoods with 4-40 UNC locking screws

9 way          | 2.5-Tmn| 15-50 way | 4.5-Tmn

Black and Metalised Plastic

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40,000 PRICES REDUCED
EMI/RFI Shielded 'D' Shells - continued

Black and Metallised Plastic - continued

<table>
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<tr>
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The shell consists of two halves which easily snap together. The metallised finish gives protection from EMI/RFI interference.

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</table>

Metallised Plastic

Top entry
Steel depth = 16

50° entry
Steel depth = 16

Metallised Plastic

Metal Plated Plastic Shielded Shells

- For HD20 and HDE20 metal shell connectors
- Thermoplastic nickel plated over copper
- 4-40 screws
- Steel, zinc plated
- Jackscrews
- Steel, zinc plated clear chromate

<table>
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Metallised Plastic

Straight and 45° Cable Entry

- Low profile 45° design
- Turned, full metal thumb screws
- Plastic strain relief inserts for cable sizes
- 3.5mm to 13mm

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</table>

Metallised Plastic

Metal EMI Junction Shell

- Easy assembly
- Lightweight, compact design
- Supplied with hardware on 4-40 UNC thread, 2 Jackscrews, 2 x Saddle washers and 2 nuts
- No tooling required for shielding

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<th>List No.</th>
<th>Order Code</th>
<th>Price Each</th>
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<tr>
<td>357-0900</td>
<td>357-0901</td>
<td>1+</td>
<td>2.99</td>
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D Sub EMI Junction Shell

Metallised Plastic

- Protection from EMI / ESD
- Easy assembly reduces time and labour for low cost
- Light weight and a compact design
- Strain Relief compensates for multiple cable diameters
- Jackscrews provide positive retention
- RoHS compliant

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<tr>
<td>Flammability Rating</td>
<td>UL 94HB</td>
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40,000 PRICES REDUCED

1882 Find it fast online

Prices are £ sterling & exclusive of VAT
Plastic with Folded Tin Inner Shell
45° Cable Entry

- Insulated outer casing
- Substantial cable clamp/ground contact
- Plastic head finger jack screws (sold separately)
- Click together hood

Note: Jack screws must be fitted to lower hood before final assembly

Diecast Rapid Assembly

- Nickel plated die cast covers
- High quality plastic capped UNC440 jackscrews
- Rapid assembly strain relief insert
- 360° shielding
- Fully tapped screw holes
- Phillips headed screws

Diecast Rapid Assembly Hi-Grade

- Nickel plated die cast covers
- High quality plastic capped UNC440 jackscrews
- Rapid assembly strain relief insert
- 360° Metallised shielding
- Metallised shielding greatly enhances the performance of the hood
- Fully tapped screw holes
- Phillips headed screws

Die Cast Sub D Hood System

A range of Die-Cast hoods for sub D connectors to suit all applications with one adaptable product range. This high grade system gives exceptional RFI/EMI shielding and conforms to European and US standards when used as part of an approved system.

Standard Assembly D Hoods - MHDM Series

- Designed with the cable assembler in mind
- Allows fast assembly
- Metalised plastic insert gives 360 degree shielding in cable entry area
- Simple removal of inserts allows reworking or maintenance

Cone Style D Hoods - MHEE Series

- Well proven shielding system using metalised cone insert
- 360 Degree shielding
- Cone insert can be cut to suit cable size
- Cone easily cut with knife

Crimp Style D Hoods - MHC Series

- For use where braided cable is used for a stronger permanent earth path
- Allows pre assembly of the earth connection before assembling the connector and backshell
- Select appropriate ferrule and die size for cable diameter

Double Clamp Backshells

The DTZ series is supplied complete with two internal Cable Clamps, which make it suitable for heavy duty applications. The Double Cable Clamp provides strong and secure strain relief which will withstand heavy pull forces.

Key Features:
- Excellent EMI Shielding
- Re-openable
- Available in sizes 9, 15, 25, 37, 50 way
- RoHS Compliant

Specifications:
- Current Rating: 15A, 25A, or 37A
- Zinc, Nickel plated
- Voltage Rating: -30°C to 90°C
- Screw: UNC 4-40 (standard)

Over 480,000 products online
EMI/RFI Shielded ‘D’ Shells - continued

### Diecast Mihulti 35° Hood Series

![Front profile]

- **35° Cable Entry**
- **Nickel plated die cast covers**
- **High quality plastic capped UN4400 jack screws**
- **Rapid assembly strain relief insert**
- **360° Metallised shielding**
- **Metallised shielding greatly enhances the performance of the hood**
- **Fully tapped screw holes**
- **Phillips headed screws**
- **Crimp Hood uses female kits from MH Die cast Hood System**

<table>
<thead>
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Order Code 4861772 will require Slide Lock Accessories. Lock Posts 148704 and Lock Plate 148644

### Diecast Zinc - Metal Right Angle Ultra Low Profile Covers

- **Low profile and Ultra-Slim design allows for use in confined spaces**
- **Tapped through-holes ensures easy and rapid assembly**
- **Rugged Die-Cast Zinc covers provide excellent protection against EMI/RFI**
- **Available in 9 and 25 position with captive screws and unique 9 position ETHERNET style that is less than 1 inch in height**

<table>
<thead>
<tr>
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<th>Order Code</th>
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Order Code 4861772 will require Slide Lock Accessories. Lock Posts 148704 and Lock Plate 148644

### Economy Metlas and Die cast D-Hoods

**Top Entry**

A range of Economy Top entry Metallised and die cast D connector Hoods

<table>
<thead>
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<th>No. of Ways</th>
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No. of Ways | Order Code | 1 +  | 10 + | 50 + | 100 + |
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No. of Ways | Order Code | 1 +  | 10 + | 50 + | 100 + |
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<td>1.46</td>
<td>1.36</td>
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</table>
Diecast
Single or Dual Entry
- Single or dual cable entry
- Steel, zinc plated screws and clamp

Diecast
Diecast Zinc Alloy Shield Hoods
- For HD20 and HDE20 metal shell connectors

Diecast
90° Exit
- For HD20 and HDE20 metal shell connectors
- For jacketed cable (two piece)

45° Cable Entry
- Lightweight zinc diecast shell, nickel plating over copper
- Low profile design
- Turned, full metal 4-40 UNC thumbscrews

Diecast Shells and Retainers
- Heavy duty die cast shells complete with cable clamp
- Fixing screws and die cast base retainer
- Manufactured from zinc alloy with a polished finish

Screw Lock Accessories
- Male Type D20419, 'D' Flange Th = 0.99
- Female Thread length = 8
- Female extended thread Thread length = 14.5 Type D20418-2
Available in a pale Yellow chrome on zinc plating finish, designed to match the standard 'D' connectors, or a bright tin plating suitable for EMI/HFI shielded 'D' connectors. The base of the female screwlocks have chamfered corners to prevent scratching of surface during assembly.

2 Per Pack
- Order Code
- Price Per Pack
- 1+ | 25+ | 100+ | 500+ | 1K+
- Male Thread Plated (TH = 0.99)
- Female
- Type D20419-16
- Type D20418-2

45° Slide Lock Accessories
- Male for DA, DE plug or socket, DB, DC socket
- Female

Screw Lock Accessories
- Mfrs. List No. 121-5323
- DD0419 Male
- DD0418-2 Female

[Additional text as needed]
D’ Accessories - continued

Screw Lock Accessories - continued

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<tr>
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D-sub accessories

Screw/bolt kits

Screw locking kits for HDP200/HDP200 Sub-D connectors. Kit comprises 2 bolts with nuts, washers and spring washers.

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<thead>
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<td></td>
</tr>
<tr>
<td>029068-1</td>
<td>116-7870</td>
<td>0.137</td>
<td>0.125</td>
<td>0.112</td>
<td>0.100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-016654-2</td>
<td>421-8115</td>
<td>0.710</td>
<td>0.650</td>
<td>0.580</td>
<td>0.520</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mounting Accessories

129-7955 Brackets and screws

107-5300 PCB spacer

Electromagnetic Shielding Gaskets

- I/O gaskets provide a ground between metal connectors and enclosure/mating connector
- Ensures continuous shield from cable to enclosure
- Light weight
- Shielding Effectiveness (SE) of 70dB between 1MHz to 18GHz
- UL listed
- Three thickness styles
- Each style available in ‘D’ sizes 1-5 (9, 15, 25, 37, 50 way)

Amplimite ‘D’ Hardware

- All female screwlock kits fit metal shell or plastic connector and contain 2 assemblies per pack
- Slide latch clip assembly contains 2 per pack
- Latching blocks are supplied 2 per pack

D Type Connector Covers

- Prevents physical and chemical damage
- For cable assemblies, computers, peripherals, etc
- Plug and socket options

Electromagnetic Shielding Gaskets

Thickness styles:

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>a = 0.3mm (0.012&quot;)</td>
<td>Die-cut non-woven fabric</td>
</tr>
</tbody>
</table>
| b = 1.0mm (0.040") | Woven fabric around reimpregnation

Amplimite ‘D’ Hardware

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>D110277 = 118-6663</td>
<td>2 Per Pack</td>
</tr>
<tr>
<td>Plate with spring</td>
<td>118-6664</td>
</tr>
<tr>
<td>Retaining plate</td>
<td>118-6664</td>
</tr>
</tbody>
</table>

Prices are in £ sterling & exclusive of VAT

1886 Find it fast online www.farnell.co.uk
ModuLar Integrated Connector Enclosures

ModuLICe

Modular Integrated Connector Enclosures (ModuLICe) offers sealed packaging solutions for rugged electronic control module applications often found in commercial vehicles within construction, mining, agriculture, industrial and on-highway markets. ModuLICe consists of 2 distinct enclosure sizes and 6 header configurations allowing 18, 30, 48 and 60 I/O.

- Rugged connector enclosure system
- Heat sink option
- Ferrite filtering option
- Interfaces with Cinch/SHS, industry standard harness connectors
- IP67

Wittstand Voltage 1000V - No breakdown
Insulation Resistance 1000M欧姆
Contact Resistance 10μm
Operating Temperature -40 to +85°C

Small Enclosure: Dimensions 153.2 x 134.6 mm

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Mfrs. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>77336</td>
<td>12-21818</td>
<td>1.0</td>
</tr>
<tr>
<td>15</td>
<td>77336</td>
<td>12-21818</td>
<td>1.0</td>
</tr>
<tr>
<td>25</td>
<td>77336</td>
<td>12-21818</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Large Enclosure: Dimensions 189.2 x 172.7 mm

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Mfrs. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>5810110003</td>
<td>12-21818</td>
<td>0.59</td>
</tr>
<tr>
<td>30</td>
<td>5810100034</td>
<td>12-21818</td>
<td>0.59</td>
</tr>
<tr>
<td>48</td>
<td>5810140007</td>
<td>12-21818</td>
<td>0.59</td>
</tr>
</tbody>
</table>

- Enclosure dimensions: SE: 153.2 x 134.6 mm LE: 189.2 x 172.7
- Full range of mating options
- High-quality materials

Contacts and Tooling

<table>
<thead>
<tr>
<th>Crimp Contacts (200 per reel)</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5 - 0.8mm²</td>
<td>4250000072</td>
<td>20.36</td>
</tr>
<tr>
<td>0.8 - 1mm²</td>
<td>4250000087</td>
<td>20.36</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cavity Filter</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>5810000011</td>
<td>4.17</td>
<td></td>
</tr>
</tbody>
</table>

ModuLCE

SHS Harness Connector

- Push to seat terminal
- Secondary lock for positive seating
- Multiple keyed 18 and 30 position
- Protective backplate
- Center thread jackscrew mating

Centronics/IEEE 488 Style

A range of metal shell connectors most commonly used for IEEE488 and printer interface connections.

- Current rating: 3A DC
- Temperature range: -5°C to +105°C
- Contact resistance: 30mΩ max.
- Housing: Blue Polyester, UL54V-0

RoHS Compliant - Non-compliant
Centronics/IEEE 488 Style - continued

Centronics IDC Ribbon Connectors

- Metal front shell (24 way plastic shell)
- Pitch, 1.27 (0.050")

Current Rating
insulation resistance
Diatlectric withstand Voltage

1A 1000 kΩ 500 V ac @ 1min

No of Ways Order Code 1+ 25+ 50+ 100+ 250+ 500+
Plug
24 109-9271 1.650 1.460 1.260 1.110 1.020
36 109-9272 1.060 0.910 0.800 0.700 0.650
50 109-9273 1.650 1.460 1.260 1.110 1.030
Socket
24 109-9281 1.650 1.460 1.260 1.110 1.020
36 109-9282 0.560 0.510 0.450 0.480 0.380
50 109-9283 1.650 1.460 1.260 1.110 1.030
Strain relief
24 109-9284 0.280 0.220 0.192 0.173 0.162
36 109-9285 0.138 0.115 0.099 0.090 0.084
50 109-9286 0.138 0.115 0.099 0.090 0.084

90° Pin I/O Connectors

- High density connectors with angled solder pins
- M2.5 Panel and board fixing (100 pole 2.56 UNC)

Contact rating
Temperature range
Contact resistance
Housing Insulator Contacts
Thermoplastic Resin
Die-cast zamak nickel plated
Copper Alloy, Gold over Palladium / Nickel

Mfrs. List No. No. of Ways Order Code 1+ 10+ 50+ 100+ Price Each
Plug 68 114-2814 10.47 9.75 9.35 8.93
Socket 68 114-2821 9.44 8.31 7.77 7.37 6.40

Insulation-Displacement Terminal Connector

- Male miltaway connectors with a grid size of 1.27 mm, specifically for connection of round ribbon cables and individual conductors
- Without interlock

Insulation diameter: 0.65-0.80 mm

Mfrs. List No. No. of Ways Order Code 1+ 10+ 50+ 100+ Price Each
Male multaway connectors 6003 050 5210 50 120-7653 10.32 9.95 7.99 6.99
6003 068 5210 68 120-7643 13.63 11.84 11.13 --

Intra Cabinet, Ribbon Cable Connectors

- Female panel mount and male all plastic connectors
- 4 point IDC fork design for accurate termina- tion
- Connector guides for cable alignment
- Optional strain relief

Contact rating
Temperature range
Insulation resistance
Housing Shell Contacts
Thermoplastic resin UL94V-0
Nickel plated
Beryllium Copper, Gold / Nickel plated

H=10.26, W=63.88, D=15.7

SCSI Connectors

Har-mill 1.27mm Pitch

- SCSI 'One stop shop' solution
- Two mating styles, pin/socket and sockets
- Meets ANSI standards
- Intra cabinet input/output and terminator
- Termninator ensure matched impedance transfer
- Bellows style gives reliable mating and reduced susceptibility to contact damage
- Conforms to B-directional parallel interface (IEEE 1284-C)

Straight and 90° Pin I/O Connectors

- Polareised 'D' shaped shell
- UL Recognised

H=10.75, W=52.45, D=12.3
H=9.3, W=52.45, D=10.5

293943

293944

21828
**Amplimite .050 Series Headers**

**SCSI**

- **Compatible with SCSI-2 and SCSI-3 standards**
- **Vertical and right angle headers**
- **Housing** Thermoplastic, UL94V-0, Black, 3M™ compatible
- **Shell** Steel, plated Nickel over Copper
- **Bracket** Zinc, plated Nickel over Copper
- **Contacts** Phosphor Bronze, Gold plated on mating end, Tin plated on solder end

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Mftrs. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 + 10 + 50 + 100 + 250 +</td>
<td>1 + 0.05</td>
<td>0.53</td>
<td>1.29</td>
</tr>
</tbody>
</table>

**Amplimite .050 Cable Plugs**

**SCSI2**

- **High density 'D' type interface to mate with SCSI2 receptacles**
- **Excellent EM/RFI shielding when used with metal backshell kits**
- **Compatible with SCSI2, EIA RS232 IPI and HIPPI standards**
- **Housing** Black Thermoplastic, UL94V-0
- **Shell** Contacts Phosphor Bronze
- **Plating** Gold (mating end), Tin-lead (termination end)
- **Wire size** 28-30AWG (0.08-0.09)
- **Insulation dia.** 0.74-0.91mm, solid or 7 strand

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Mftrs. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 + 0 + 50 +</td>
<td>1 + 0.05</td>
<td>0.60</td>
<td>1.47</td>
</tr>
</tbody>
</table>

**High Density SCSI2 Connectors**

**Vertical and 9A PCB Mount Sockets**

- **High Density SCSI2 connectors**
- **PCB Mounting**
  - **1.27” (0.050”) Pitch.**
- **Insulation resistance** 5000MΩ MIN
- **Dielectric strength** 3500V
- **Operating temperature** -55°C to +125°C
- **Insulator material** Glass filled PBT UL94V-0
- **Temperature range** -55°C to +125°C

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 + 10 + 25 + 50 + 100 + 250 +</td>
<td>1 + 0.05</td>
<td>0.53</td>
</tr>
</tbody>
</table>

**Over 480,000 products online**
A range of quality RJ series Modular Plugs
- High quality gold plated contacts
- Insulation piercing IDC blade contacts
- Strain relief is ideal replacement for a moulded boot

Ideal for volume user
Body is glass filled poly carbonate - UL94V-0
Standard crimp tool compatible

Unshielded Plugs
- Quick and easily terminated connectors
- Suitable for use with flat telephone cable

Unshielded Plugs
- Suitable for flat cable connection
- Housing: Poly carbonate
- Contact surface: Gold plated, 6μm
- Isolation resistance: 5000MΩ, 3500v

ICD Plugs
- 4/4, 6/4, 6/6 and 8/8 Way
- Denotes pin 1
- IDC plugs commonly used in both telecommunications and computer equipment.
- Two styles - handset and standard line plugs with a wide contact area for ease of crimping
- The handset plugs are mostly used to interconnect a telephone handset to the base unit
- The 8 way 8 contact version is also available with a polarising side key and is mainly used in computer applications

RoHS Compliant
Non-compliant

08447 11 11 11
Fax: 08447 11 11 12
1891
Shielded 8 Way RJ45 Plug

- Shielded 8 position RJ45 plug ideal for constructing patch leads
- Suitable for terminating flat oval cable

**Housing**
Clear Polycarbonate

**Shield**
Copper Alloy plated with 2.03μm min. tin lead over 2.34μm min. copper

**Plating**
1.25μm min. gold in localized gold plate area, gold flash over the remainder, over 2.54μm min. nickel

**Suitable wire**
0.74mm to 0.99mm dia. stranded wire, 26 or AWG with a 2.80mm x 0.90mm maximum jacket

FOR SUITABLE CRIMP TOOL SEE ORDER CODE 546-148

---

**RJ45 Shielded Standard**

- Compact shielded Plug
- 8 position, 8 contacts
- Meet FCC Rules and Regulations, part 68
- Accommodates 24 to 28 AWG wire
- Mate with any FCC accepted jacks, shielded or unshielded
- UL Recognised and CSA Certified

---

**Unshielded 8 Way RJ45 Plug**

- Unshielded 8 position RJ45 plug ideal for constructing patch leads
- Suitable for terminating round cable

**Housing**
Clear Polycarbonate

**Contacts**
Phosphor Bronze

**Plating**
1.27μm gold in localized gold. Rate area, gold flash over the remainder, over 2.54μm nickel

**Suitable wire**
0.74mm to 0.99mm dia. stranded wire, 26 or AWG with a 5.34mm dia. max. jacket

---

**High Performance RJ45 Connectors**

- Exceed TIA/EIA-568A requirements of UTP applications
- Supplied with a lead bar to aid installation with a 1.26mm untwist
- Designed 24 AWG stranded cable with a maximum diameter of 0.99mm

**Crimping Tool**
- Cut and strip blades incorporated within the tool
- Ratchet mechanism

---

**FREE technical support**
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technsales@farnell.co.uk
Live technical chat at www.farnell.co.uk
**RJ45 Shielded Cat5e**

- One-piece construction with pre-loaded contacts
- 8 position, 8 contacts
- Exceeds FCC and TIA/EIA-568A requirements
- Accommodates 24 or 26 AWG wire
- Selectively gold plated terminals
- UL Recognised and CSA Certified

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>Description</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stranded Cable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-569552-2</td>
<td>Plug</td>
<td>473-968</td>
<td>1.34</td>
</tr>
<tr>
<td></td>
<td>Crimp Tool</td>
<td>301-3482</td>
<td>1.17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>161.15</td>
<td>1.87</td>
</tr>
<tr>
<td></td>
<td></td>
<td>142.78</td>
<td>0.99</td>
</tr>
</tbody>
</table>

**Strain Relief Boots RJ45**

- Protection for terminated plugs
- Nine colours available for easy cable recognition
- This neoprene strain relief boot offers protection against strain on cable connections
- Designed for fitment on RJ45 data plugs the strain relief will accept standard 4 Pair UTP and STP cable
- Strain relief boots can be used with the shielding cans (726-780) below, to provide both shielded and protected termination

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Price Per Pack</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>1.97</td>
</tr>
<tr>
<td>Light Grey</td>
<td>1.97</td>
</tr>
<tr>
<td>Dark Grey</td>
<td>1.97</td>
</tr>
<tr>
<td>Blue</td>
<td>1.97</td>
</tr>
<tr>
<td>Yellow</td>
<td>1.97</td>
</tr>
<tr>
<td>Red</td>
<td>1.97</td>
</tr>
<tr>
<td>Green</td>
<td>1.97</td>
</tr>
<tr>
<td>White</td>
<td>1.97</td>
</tr>
<tr>
<td>Purple</td>
<td>1.97</td>
</tr>
</tbody>
</table>

**Modular Connectors, Cat 6 Plugs**

- Designed for solid and stranded conductors
- Meets E/!/A Category 6 component standard when terminated to Category 6 compliant cable
- Electro-polished contacts for minimum of 1000 insertion cycles
- Loadbar for easy assembly
- Nickel plated with Category 6 termination tool
- Shielded and unshielded plugs available

<table>
<thead>
<tr>
<th>Material</th>
<th>Contact Material</th>
<th>Contact Pating</th>
<th>No. of Ways</th>
<th>LAN Category</th>
<th>Flammability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polycarbonate</td>
<td>Copper Alloy</td>
<td>Gold</td>
<td>8</td>
<td>Cat6</td>
<td>UL94V-0</td>
</tr>
</tbody>
</table>

**Shields 8 Way RJ45 Plugs**

- Fully shielded plug designed for ease of termination and assembly and to minimise EMI/RFI
- Approved to UL and CSA and manufactured to FCC, EN61010-1
- A four piece assembly consisting of a strain relief ferrule which clamps the braid and also contacts directly on to the shielded plug
- A lead bar holds twisted pair wires firmly in place during assembly
- A black flexible hood clicks over the plug housing

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>Description</th>
<th>No. of Pairs</th>
<th>Price Per Pack</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stranded wire</td>
<td>20</td>
<td>1.60</td>
</tr>
<tr>
<td></td>
<td>Solid wire</td>
<td>30</td>
<td>1.60</td>
</tr>
</tbody>
</table>

**Shielded 8 Way RJ45 Plug**

- Shortbody RJ45 plug suitable for CAT5 shielded twisted pair plastic cable
- Plastic housing has an integrated wire manager
- Loaded IDC terminals have two contact points
- The metal shield ensures optimum protection due to a hex crimp on the cable
- A short grey boot is included

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>Description</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Contact rating</td>
<td>600k</td>
<td>10.01</td>
</tr>
<tr>
<td></td>
<td>Contact resistance</td>
<td>42.0</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>Dielectric strength</td>
<td>43.00-45.0</td>
<td>8.02</td>
</tr>
<tr>
<td></td>
<td>Dielectric density</td>
<td>42.00-45.0</td>
<td>7.11</td>
</tr>
<tr>
<td></td>
<td>Insulation resistance</td>
<td>42.00-45.0</td>
<td>6.54</td>
</tr>
<tr>
<td></td>
<td>Mfrs.</td>
<td>95043-2891</td>
<td></td>
</tr>
</tbody>
</table>

**Jacks**

- Preloaded, formed wire contacts offer superior mechanical and electrical performance
- Through hole jacks for PCB soldering
- Designed for Category 6 patch panel and wall jack applications
- Vertical, right angle, shielded and unshielded jacks available
- Minimum of 1000 insertion cycles

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>Description</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Contact material</td>
<td>200</td>
<td>1.45</td>
</tr>
<tr>
<td></td>
<td>Contact Plating</td>
<td>400</td>
<td>1.35</td>
</tr>
<tr>
<td></td>
<td>No. of Ways</td>
<td>8</td>
<td>1.30</td>
</tr>
<tr>
<td></td>
<td>LAN Category</td>
<td>Cat6</td>
<td>1.19</td>
</tr>
</tbody>
</table>

**Câteà6 Jâck**

- Easily compensated to CAT6a performance levels through an integrated flexible circuit board design
- Flexible PCB design helps cancel Near End Cross Talk (NEXT) at the plug / jack interface
- Right angle mount, shielded jack
- Minimal secondary compensation required due to the jack’s construction
- Selectively plated contacts with 50 micro-inches of gold
- Designed for use in 10 Gigabit Ethernet applications
- UL 94V-0 plastic
- Wave solder compatible

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>Description</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R/A, shielded</td>
<td>60300-010</td>
<td>4.01</td>
</tr>
</tbody>
</table>

**Hand Tools**

Professional hand tools for the assembly of shielded and unshielded Cat 6 plugs.
Unshielded 10 Way RJ48 Plug

- UL recognised - File No. E132408 (N)
- Complies with F.C.C requirements

<table>
<thead>
<tr>
<th>Description</th>
<th>List No.</th>
<th>Order Code</th>
<th>Price Each 1+</th>
<th>Price Each 10+</th>
<th>Price Each 100+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unshielded</td>
<td>2980047-01</td>
<td>157-2197</td>
<td>92.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shielded</td>
<td>2980075-01</td>
<td>157-2198</td>
<td>248.47</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Contact rating: 1.5A @ 30V ac/42V dc
Contact resistance: 10Mohm
Mating cycles: 1000
Housing: Clear Polycarbonate, UL94V-0

Mfrs. List No.: 9840SP10100R

Unshielded Flush Mount Panel / PCB Sockets

- UL recognised and CSA approved

<table>
<thead>
<tr>
<th>Housing</th>
<th>Contacts</th>
<th>Plating Level 1 - 30unich gold</th>
<th>Plating Level 2 - 50unich gold</th>
<th>No. of Ways/Contacts</th>
<th>Order Code</th>
<th>Mfrs. List No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black Polyester UL94V-0</td>
<td>Black PolyesterGold</td>
<td></td>
<td></td>
<td></td>
<td>950909-2441</td>
<td>4/4</td>
</tr>
<tr>
<td></td>
<td>Phosphor Bronze</td>
<td></td>
<td></td>
<td></td>
<td>950909-2561</td>
<td>6/6</td>
</tr>
<tr>
<td></td>
<td>Gold plated</td>
<td></td>
<td></td>
<td></td>
<td>950909-2801</td>
<td>8/8</td>
</tr>
</tbody>
</table>

Modular Jacks - Vertical and Right Angle

- PCB Mount

A range of right angle and vertical PCB mounted modular jacks
- Shielded or Unshielded options
- Compatible with industry standard PCB layouts
- Pre tensed solder terminals

Contact Material: Phosphor Bronze
Contact Plating: Gold over Nickel
**FCC-68 Modular Connectors - continued**

### Modular Jacks - continued

**SMT, Right Angle Low Profile - continued**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Current Rating</th>
<th>Contact Resistance</th>
<th>Insulation Resistance</th>
<th>Temperature Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>125V</td>
<td>5A</td>
<td>20Ω</td>
<td>500kΩ</td>
<td>-40°C to 80°C</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Loaded Circuits</th>
<th>Mfrs. No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>10+</td>
</tr>
<tr>
<td>6</td>
<td>8</td>
<td>85502-5006</td>
<td>138-8876</td>
</tr>
</tbody>
</table>

### Shielded

Molex

- 925-1910

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Current Rating</th>
<th>Contact Resistance</th>
<th>Contact Plating</th>
<th>Temperature Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>125V</td>
<td>1.5A</td>
<td>10MΩ</td>
<td>Gold</td>
<td>-40°C to 80°C</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Loaded Circuits</th>
<th>Mfrs. No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
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<td>10+</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>85502-5006</td>
<td>138-8876</td>
</tr>
</tbody>
</table>

### Double Modular Jack

**SMT, Right Angle Low Profile**

- Surface mount solder tab provides retention to the PCB and strain relief for PC tails
- Side-to-side stackable for modular configurations
- 0.15mm max. nail-to-tail coplanarity ensures high reliability during surface mount soldering

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Current Rating</th>
<th>Contact Resistance</th>
<th>Contact Plating</th>
<th>Temperature Range</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>3</td>
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<tr>
<td>6</td>
<td>8</td>
<td>95203-2881</td>
<td>157-2011</td>
</tr>
</tbody>
</table>

### Inverted Modular Jack

**Low Profile**

- Inverted plug latch on top for easy insertion and extraction
- Mating contacts on bottom of inverted jack provide shorter leads to reduce electrical noise
- Connector designed for through hole PCB mounting and pin-through-paste soldering
- Cat 3 performance

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Current Rating</th>
<th>Contact Resistance</th>
<th>Contact Plating</th>
<th>Temperature Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>125V</td>
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<td>-40°C to 80°C</td>
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</tbody>
</table>

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<tr>
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<th>Price Each</th>
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</thead>
<tbody>
<tr>
<td>8</td>
<td>8</td>
<td>0438800001</td>
<td>925-189B</td>
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</table>

### Unshielded 90° PCB Sockets

**10 Way - RJ48**

- UL recognised and manufactured to FCC requirements

<table>
<thead>
<tr>
<th>Contact rating</th>
<th>Contact resistance</th>
<th>Contacting cycles</th>
<th>Housing Material</th>
<th>Temperature Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5A @ 30V ac/42V dc</td>
<td>10MΩ</td>
<td>1000</td>
<td>Black Thermosplastic, UL94V-0</td>
<td>10°C to 80°C</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>112-2285</td>
<td>2.76</td>
</tr>
</tbody>
</table>

### Unshielded, Vertical PCB Sockets

- FCC compliant - part 68, Subpart F
- 4-6 and 8-position receptacles
- Horizontal and vertical entry styles
- Drawn wire contacts
- Meets industry standard jack-to-board footprints

- Available with snap or diamond shaped mounting pegs
- FCC approved GXT® plating
- UL Recognised and CSA approved

<table>
<thead>
<tr>
<th>Current Rating</th>
<th>Withstanding voltage</th>
<th>Insulation Resistance</th>
<th>Contact Spring</th>
<th>Contacting Peg Material</th>
<th>Durability</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 amp dc</td>
<td>1000 Vms, 60Hz</td>
<td>5000V 0.08ms min</td>
<td>Phosphor Bronze</td>
<td>Copper Alloy/Thermosplastic Resin(UL94V-0)</td>
<td>250 cycles</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Ways</th>
<th>Last No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>4/4</td>
<td>68254-001LF</td>
<td>689199-001LF</td>
<td>68958-001LF</td>
</tr>
<tr>
<td>6/6</td>
<td>68254-001LF</td>
<td>689199-001LF</td>
<td>68958-001LF</td>
</tr>
<tr>
<td>8/8</td>
<td>68254-001LF</td>
<td>689199-001LF</td>
<td>68958-001LF</td>
</tr>
</tbody>
</table>

### High Speed Modular Jacks

**Flangeless Low Profile**

- Category 5E performance
- Footprint meets industry standard
- Mates with industry standard FCC 68 plugs

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Current Rating</th>
<th>Contact Resistance</th>
<th>Temperature Range</th>
</tr>
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<tr>
<td>125V</td>
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<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>10+</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>85505-5113</td>
<td>158-019D</td>
</tr>
</tbody>
</table>

### Unshielded, Horizontal PCB Sockets

- FCC compliant - part 68, Subpart F
- 4-6 and 8-position receptacles
- Horizontal and vertical entry styles
- Drawn wire contacts
- Meets industry standard jack-to-board footprints
- Available with snap or diamond shaped mounting pegs

- FCC approved GXT® plating
- CSA approved and UL Recognised

- Contact Plating (Finish) | Housing Material | Contacting Peg Material | Durability |
<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold/Nickel</td>
<td>Black</td>
<td>Thermosplastic Resin</td>
<td>250 cycles</td>
</tr>
<tr>
<td>Black</td>
<td>Gold/Nickel</td>
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<td>250 cycles</td>
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<th>Contacting Peg Material</th>
<th>Durability</th>
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<td>68254-001LF</td>
<td>689199-001LF</td>
<td>68958-001LF</td>
</tr>
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### Unshielded, Horizontal PCB Sockets

- FCC compliant - part 68, Subpart F
- 4-6 and 8-position receptacles
- Horizontal and vertical entry styles
- Drawn wire contacts
- Meets industry standard jack-to-board footprints
- Available with snap or diamond shaped mounting pegs

- FCC approved GXT® plating
- CSA approved and UL Recognised

- Contact Plating (Finish) | Housing Material | Contacting Peg Material | Durability |
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<td>250 cycles</td>
</tr>
<tr>
<td>Black</td>
<td>Gold/Nickel</td>
<td>Thermosplastic Resin</td>
<td>250 cycles</td>
</tr>
</tbody>
</table>
Shielded Filtered Jack

- UL recognised and CSA approved
- FCC compliant - part 68, subpart f
- Horizontal RJ-45 style
- Drawn wire contacts
- Meets industry standard jack-to-board footprints
- According to the EIA/TIA 568, TSB 31, 40 specifications
- FCC approved GXTM plating

Unshielded Jack

- CSA Approved and UL Recognised
- FCC compliant - part 68, subpart f
- Horizontal RJ-45 style
- Unshielded version
- Available with 8 ports
- Drawn wire contacts

Shielded Jack

- CSA Approved and UL Recognised
- FCC compliant - part 68, subpart f
- Horizontal RJ-45 style
- Shielded, unshielded, filtered and Category 5 versions available
- Available with 1 or 8 ports

Double Modular Jack

- 8 Position/8 Contacts
- 750 Mating Cycles
- Shielded
- Through Hole Mounting
- Voltage 150V
- Current Rating 1.5A
- Housing Polymer, black, UL94-V-0
- Contact Pressure Contact Rating Gold plated
- Durability 750 mating cycles

Cat. 5 Shielded Gang Jack

- UL Recognised and CSA approved
- FCC compliant - part 68, subpart f
- Horizontal RJ-45 style
- Shielded, unshielded, filtered and Category 5 versions available
- Available with 1 or 4 ports
- Drawn wire contacts
- Meets industry standard jack-to-board footprints
- According to the EIA/TIA 568, TSB 31, 40 specifications
- FCC approved GXTM plating

RJ45 Shielded Modular Jack Inverted

- Fully shielded, inverted RJ45 Jack
- 8 position, 8 contacts
- Meets FCC Rules and Regulations, Part 68
- UL Recognised and CSA Certified

RJ45 Shielded Modular Jack Inverted with LED’s

- Compact size with high reliability
- 8 position, 8 contacts
- Meets FCC Rules and Regulations, Part 68
- UL Recognised and CSA Certified

RJ45 Shielded Stacked Cat5, PCB Mounted Jacks

- Low profile Cat 5 Multi-port
- 8 position, 8 contacts jack
- 2 rows of either 2 or 4 jacks available
- High temperature polyester (PCT) for IR reflow applications
- UL Recognised and CSA Certified

Voltage Rating
- Withstand Voltage Insulation Resistance
- Durability
- Temperature Range

Material
- Flammability
- UL94-V-0
- Shield
- Copper alloy, tin-lead plated
- Contact Rating Gold plated

No. of Ports
- List No.
- Order Code
- Price Each
- 1+ 10+ 50+ 100+ 500+

Current rating
- Withstanding voltage
- Insulation resistance
- Contact resistance
- Electrical performance meets or exceeds

RJ45 Shielded Modular Jack

- Fully shielded, inverted RJ45 Jack
- 8 position, 8 contacts
- Meets FCC Rules and Regulations, Part 68
- UL Recognised and CSA Certified

Contact Rating
- Insulation Resistance
- Durability
- Temperature Range

Material
- Flammability
- UL94-V-0
- Contact Rating Gold plated

No. of Ports
- List No.
- Order Code
- Price Each
- 1+ 10+ 50+ 100+ 500+

Current rating
- Withstanding voltage
- Insulation resistance
- Contact resistance
- Electrical performance meets or exceeds

Shielded Filtered Jack

- UL recognised and CSA approved
- FCC compliant - part 68, subpart f
- Horizontal RJ-45 style
- Drawn wire contacts
- Meets industry standard jack-to-board footprints
- According to the EIA/TIA 568, TSB 31, 40 specifications
- FCC approved GXTM plating

Unshielded Jack

- CSA Approved and UL Recognised
- FCC compliant - part 68, subpart f
- Horizontal RJ-45 style
- Unshielded version
- Available with 8 ports
- Drawn wire contacts

Shielded Jack

- CSA Approved and UL Recognised
- FCC compliant - part 68, subpart f
- Horizontal RJ-45 style
- Shielded, unshielded, filtered and Category 5 versions available
- Available with 1 or 8 ports

Double Modular Jack

- 8 Position/8 Contacts
- 750 Mating Cycles
- Shielded
- Through Hole Mounting
- Voltage 150V
- Current Rating 1.5A
- Housing Polymer, black, UL94-V-0
- Contact Pressure Contact Rating Gold plated
- Durability 750 mating cycles

Cat. 5 Shielded Gang Jack

- UL Recognised and CSA approved
- FCC compliant - part 68, subpart f
- Horizontal RJ-45 style
- Shielded, unshielded, filtered and Category 5 versions available
- Available with 1 or 4 ports
- Drawn wire contacts
- Meets industry standard jack-to-board footprints
- According to the EIA/TIA 568, TSB 31, 40 specifications
- FCC approved GXTM plating

RJ45 Shielded Modular Jack

- Fully shielded, inverted RJ45 Jack
- 8 position, 8 contacts
- Meets FCC Rules and Regulations, Part 68
- UL Recognised and CSA Certified

Contact Rating
- Insulation Resistance
- Durability
- Temperature Range

Material
- Flammability
- UL94-V-0
- Contact Rating Gold plated

No. of Ports
- List No.
- Order Code
- Price Each
- 1+ 10+ 50+ 100+ 500+

Current rating
- Withstanding voltage
- Insulation resistance
- Contact resistance
- Electrical performance meets or exceeds

Shielded Filtered Jack

- UL recognised and CSA approved
- FCC compliant - part 68, subpart f
- Horizontal RJ-45 style
- Drawn wire contacts
- Meets industry standard jack-to-board footprints
- According to the EIA/TIA 568, TSB 31, 40 specifications
- FCC approved GXTM plating

Unshielded Jack

- CSA Approved and UL Recognised
- FCC compliant - part 68, subpart f
- Horizontal RJ-45 style
- Unshielded version
- Available with 8 ports
- Drawn wire contacts

Shielded Jack

- CSA Approved and UL Recognised
- FCC compliant - part 68, subpart f
- Horizontal RJ-45 style
- Shielded, unshielded, filtered and Category 5 versions available
- Available with 1 or 8 ports

Double Modular Jack

- 8 Position/8 Contacts
- 750 Mating Cycles
- Shielded
- Through Hole Mounting
- Voltage 150V
- Current Rating 1.5A
- Housing Polymer, black, UL94-V-0
- Contact Pressure Contact Rating Gold plated
- Durability 750 mating cycles

Cat. 5 Shielded Gang Jack

- UL Recognised and CSA approved
- FCC compliant - part 68, subpart f
- Horizontal RJ-45 style
- Shielded, unshielded, filtered and Category 5 versions available
- Available with 1 or 4 ports
- Drawn wire contacts
- Meets industry standard jack-to-board footprints
- According to the EIA/TIA 568, TSB 31, 40 specifications
- FCC approved GXTM plating

RJ45 Shielded Modular Jack

- Fully shielded, inverted RJ45 Jack
- 8 position, 8 contacts
- Meets FCC Rules and Regulations, Part 68
- UL Recognised and CSA Certified

Contact Rating
- Insulation Resistance
- Durability
- Temperature Range

Material
- Flammability
- UL94-V-0
- Contact Rating Gold plated

No. of Ports
- List No.
- Order Code
- Price Each
- 1+ 10+ 50+ 100+ 500+

Current rating
- Withstanding voltage
- Insulation resistance
- Contact resistance
- Electrical performance meets or exceeds

Shielded Filtered Jack

- UL recognised and CSA approved
- FCC compliant - part 68, subpart f
- Horizontal RJ-45 style
- Drawn wire contacts
- Meets industry standard jack-to-board footprints
- According to the EIA/TIA 568, TSB 31, 40 specifications
- FCC approved GXTM plating

Unshielded Jack

- CSA Approved and UL Recognised
- FCC compliant - part 68, subpart f
- Horizontal RJ-45 style
- Unshielded version
- Available with 8 ports
- Drawn wire contacts

Shielded Jack

- CSA Approved and UL Recognised
- FCC compliant - part 68, subpart f
- Horizontal RJ-45 style
- Shielded, unshielded, filtered and Category 5 versions available
- Available with 1 or 8 ports

Double Modular Jack

- 8 Position/8 Contacts
- 750 Mating Cycles
- Shielded
- Through Hole Mounting
- Voltage 150V
- Current Rating 1.5A
- Housing Polymer, black, UL94-V-0
- Contact Pressure Contact Rating Gold plated
- Durability 750 mating cycles

Cat. 5 Shielded Gang Jack

- UL Recognised and CSA approved
- FCC compliant - part 68, subpart f
- Horizontal RJ-45 style
- Shielded, unshielded, filtered and Category 5 versions available
- Available with 1 or 4 ports
- Drawn wire contacts
- Meets industry standard jack-to-board footprints
- According to the EIA/TIA 568, TSB 31, 40 specifications
- FCC approved GXTM plating

RJ45 Shielded Modular Jack

- Fully shielded, inverted RJ45 Jack
- 8 position, 8 contacts
- Meets FCC Rules and Regulations, Part 68
- UL Recognised and CSA Certified

Contact Rating
- Insulation Resistance
- Durability
- Temperature Range

Material
- Flammability
- UL94-V-0
- Contact Rating Gold plated

No. of Ports
- List No.
- Order Code
- Price Each
- 1+ 10+ 50+ 100+ 500+

Current rating
- Withstanding voltage
- Insulation resistance
- Contact resistance
- Electrical performance meets or exceeds
**FCC-68 Modular Connectors - continued**

**FCC-68 Modular Connectors - continued**

**Cat5, PCB Mounted Jacks - continued**

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Mtts.</th>
<th>List No.</th>
<th>Order Code</th>
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<th>10+</th>
<th>50+</th>
<th>100+</th>
<th>500+</th>
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</thead>
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<tr>
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<td>5569286-1</td>
<td>116-2484G</td>
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<td>6.00</td>
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<td>2 x 4</td>
<td>5569286-2</td>
<td>116-2485G</td>
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<td>9.24</td>
<td>8.85</td>
<td>8.49</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Meets performance requirements of Cat5e when link tested up to 250MHz Class E
- Jacks fully shielded with the facility to take ground from the mating plug to the panel and PCB (2 PCB and 6 panel ground pins are available in single port and 1x4 configurations)
- Plugs supplied with black hood and guard plate to assist assembly
- Hood incorporates latch protectors and can be fitted after plug assembled onto cable

**Specifications**

- **Jack**
  - Voltage Rating: 125V AC
  - Current Rating: 500mA
  - Temperature Range: -25°C to +80°C
  - Insulation Resistance: 100MΩ for 1 min
  - Contact Resistance: <200Ω

- **PCB Mounting**
  - Contacts: Copper Alloy/SelectGold
  - Shield Plate: Copper Alloy Tinned Plated
  - Insert: PBT UL94V-0 Black

**PCB Mounted RJ45 Jack**

Tyco Electronics have released this low profile modular jack to meet requirements for AdvancedTCA and AdvancedMC cards. These jacks are shielded and include panel ground springs for EMI containment. They are available in single port and 1x4 configurations with LEDs, and are designed for GigE performance.

- **Cat5e performance**
- **Low profile meets half height requirements. 4.20mm above PCB**
- **Press-fit termination**

**Description**

- Mtrts. | List No. | Order Code | Description | Single Port, Green/Yellow LED 1888250-2 | 152-7784 | 1x4, Green/Yellow LED 1888251-2 | 152-7786 |

**RJ45 Shielded Modular Jack**

- **FCC compatible - Part 68, Subpart I**
- **Fully shielded RJ45 Jack**
- **Available with 2, 4, 6 or 8 Ports**

**Current**

- 1.5 amp dc
- 150 volts rms, 60Hz

- Voltage: 150 volts rms, 60Hz

- Enclosure: NIylon, UL94V-0

- Contact spring: Phosphor Bronze

- Colour: Black

- Operation Temperature: -40°C to +80°C

**RJ45 Shielded Modular Jack**

<table>
<thead>
<tr>
<th>Mtts.</th>
<th>List No.</th>
<th>Order Code</th>
<th>1+</th>
<th>10+</th>
<th>50+</th>
<th>100+</th>
<th>500+</th>
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</thead>
<tbody>
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<td>5558505-1</td>
<td>134-669G</td>
<td>11.24</td>
<td>10.55</td>
<td>9.73</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Amphenol RJ Modular Jacks**

- **LED Indicators**
- **UL Recognised**
- **Ganged or Stacked**

**LEDs**

- **Order Code**
  - RJM3201022610NR 135-7423
  - RJM3201022611NR 135-7423
  - RJM3203131209NR 135-7423
  - RJM3203131210NR 135-7423
  - RJM3203131211NR 135-7423
  - RJM3242120260NR 135-7432
  - RJM3242120261NR 135-7432
  - RJM3242120262NR 135-7432
  - RJM3242120263NR 135-7432

**Amphenol Modular Jacks with Integrated Magnetics MAG 45**

- **RJ45, B Position**
- **Through Hole**
- **Side Entry**
- **UL recognised, UL 94V-0**
- **IEC 60950-3 & ANSI X3.263 compliant**
- **Supports all available and appropriate PH2 Chips and applications**
- **Magnetics integrated into connector:**
  - **Less components needed**
  - **Saves board space**
  - **Cheaper assembly on PCB (only 1 component)**

**Tycos Electronics**

- **No. of Ports**
- **Order Code**
  - 10/100 Power over Ethernet (POE) 128-23245-6 128-23245-7 128-23245-8 128-23245-9

**RJ45 Modular Jacks**

- **LED Indicators**
- **UL Recognised**

- **Contact**
  - Insulator: Phosphor Bronze
  - Temperature Range: 0°C to +70°C

**Amphenol**

- **RJ45 Modular Jacks**
  - **Order Code**
    - RJM3201022610NR 135-7423
    - RJM3201022611NR 135-7423
    - RJM3203131209NR 135-7423
    - RJM3203131210NR 135-7423
    - RJM3203131211NR 135-7423
    - RJM3242120260NR 135-7432
    - RJM3242120261NR 135-7432
    - RJM3242120262NR 135-7432
    - RJM3242120263NR 135-7432

**Prices in £ sterling & exclusive of VAT**

---

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---

**Find it fast online**

www.farnell.co.uk

---

**1898**
**Modular RJ45 Panel Couplers**

- Shielded or Unshielded options
- Compatible with industry standard panel cutouts
- Cat5e

**Integrated Connector Modules (ICMs)**

10/100 Base

- 1 x 10/100 Base-T Ethernet RJ45, 8 Position + 2 x USB
- LEDs: Green/Orange + Yellow
- Through Hole
- Side Entry
- UL recognised, UL 94V-0
- ECE 802.3 & ANSI X3.263 compliant
- Supports all appropriate and available PHY Chips and applications
- Magnetics integrated into connector:
  - Low components needed
  - Saves board space
  - Cheaper assembly on PCB (only 1 component)

**Stacked RJ45 and USB Port with Integrated Magnetics**

**MAG 45**

- 1 x 10/100 Base-T Ethernet RJ45, 8 Position + 2 x USB
- LEDs: Green/Orange + Yellow
- Through Hole
- Side Entry
- UL recognised, UL 94V-0
- Supports all appropriate and available PHY Chips and applications

**No. of Ports**

<table>
<thead>
<tr>
<th>Mtr.</th>
<th>List No.</th>
<th>Order Code</th>
<th>1+</th>
<th>10+</th>
<th>20+</th>
<th>50+</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 x RJ45 + 2 x USB</td>
<td>6020004-1</td>
<td>128-4355</td>
<td>5.88</td>
<td>5.54</td>
<td>5.28</td>
<td>5.05</td>
</tr>
</tbody>
</table>

**Low Cost Plastic Crimp Tool with Stripper**

- Low cost plastic crimping tools
- Contain outer insulation stripping blades with stop gauges
- Just the right amount of outer insulation is removed prior to plug/cable assembly
- Only suitable for the connectors 106-308 and 106-309

**Crimp Tool for FCC-68 Plugs**

- A full cycling parallel action ratchet crimp tool with manual release and a thumbscrew for replacing dies quickly
- Suitable for crimping all Molex unshielded modular plugs. Supplied with full instructions.
- Order dies separately.

**Crimp Tool for RJ45 Plugs**

- A full cycling parallel action ratchet crimp tool with manual release and a thumbscrew for replacing dies quickly
- Suitable for crimping all Stewart RJ45 modular plugs. Supplied with full instructions.
- Order dies separately.

- Shielded or Unshielded options
- Compatible with industry standard panel cutouts
- Cat5e

**No. of Positions**

<table>
<thead>
<tr>
<th>Mtr.</th>
<th>List No.</th>
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<th>5+</th>
<th>10+</th>
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</thead>
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<tr>
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<td>290001-01</td>
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<td>88.58</td>
<td></td>
<td></td>
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<tr>
<td>Die Set</td>
<td>290011-01</td>
<td>308-0599</td>
<td>88.58</td>
<td></td>
<td></td>
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<tr>
<td>Die Set</td>
<td>290012-01</td>
<td>308-0599</td>
<td>88.58</td>
<td></td>
<td></td>
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<tr>
<td>Female crimp tool</td>
<td>290029-08</td>
<td>308-0554</td>
<td>73.76</td>
<td></td>
<td></td>
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<tr>
<td>Female Insert cage</td>
<td>290021-05</td>
<td>308-0666</td>
<td>38.85</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
FCC-68 Modular Connectors - continued

**Crimp Tool for RJ45 Plugs**

- Ratchet crimp tool suitable for terminating AMP modular plugs to jacketed cable
- Features spring-actuated handles with cushioned hand grips
- The ratchet release will allow disengagement of the ratchet in the event of a faulty termination.

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>734218-3</td>
<td>546-148</td>
<td>1.01.59</td>
</tr>
</tbody>
</table>

**Crimp Tool for Shielded Plug**

- A full cycling parallel action ratchet crimp tool with manual release
- Suitable for crimping Molex shielded modular plug 497-861
- Supplied with full instructions

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>63008-1100</td>
<td>473-250</td>
<td>1.02.03</td>
</tr>
</tbody>
</table>

**All-in-One Telephone Tools**

**Economy Crimping Tools - WE/SS and AMP**

Two models available: Western Electric (WE)/Stewart Stamping (SS) types and AMP (Tyco) for 6 and 8 position modular telephone plugs.

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>All-in-one Tool (WE/SS)</td>
<td>1545</td>
<td>454-8428</td>
</tr>
<tr>
<td>All-in-one Tool (AMP)</td>
<td>1554</td>
<td>748-7703</td>
</tr>
</tbody>
</table>

**All-in-One Pro Telephone Tools**

**Crimping Tools - WE/SS and AMP**

Crimps CAT-3 to CAT-6 with one crimping tool. Two models available: Western Electric (WE)/Stewart Stamping (SS) types and AMP (Tyco) for 4 - 6 and 8 position modular telephone plugs.

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>All-in-one Pro (WE/SS)</td>
<td>1540</td>
<td>182-9965</td>
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<tr>
<td>All-in-one Pro (AMP)</td>
<td>1541</td>
<td>748-7680</td>
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</table>

**Crimp Tool All in One**

Amp and WE/SS Style

<table>
<thead>
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<th>Price Each</th>
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<tr>
<td>1346963</td>
<td>134-6963</td>
</tr>
<tr>
<td>1346964</td>
<td>134-6964</td>
</tr>
</tbody>
</table>

**ADDITIONAL AUTOMATION PRODUCTS AVAILABLE**

**FULL RANGE OF BULGIN ETHERNET CONNECTORS AVAILABLE**

**BULGIN RJ45 Ethernet Connector Systems**

**Cat 5e Ethernet Buccaneer**

IP68 Sealed

The Ethernet Buccaneer provides a high degree of environmental sealing for Cat 5e Ethernet connections using standard RJ45s. Dust and waterproof to IP68 the Ethernet Buccaneer is ideal for industrial applications where a robust and secure connection is required.

- Dust and waterproof to IP68
- Shielded RJ45 connectors to maintain screening
- Flex re-wireable & chassis body styles
- Patch cords conform to Cat 5e standard
- Plug connector is shrouded from accidental damage
- Shroud also provides positive alignment
- Compression gland sealing system
- Sealing caps to maintain IP68 rating

<table>
<thead>
<tr>
<th>Sealing</th>
<th>Flammability</th>
<th>Characteristic Impedance</th>
<th>Cat 5e</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL94V-0</td>
<td>100Ω±15% at 4MHz to 100MHz</td>
<td>Operating Temp</td>
<td>-40°C to +70°C</td>
</tr>
<tr>
<td>IP68 EN60529 (When mate)/TIA/EIA Rating</td>
<td>1600V/4min</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Re-wireable Flex Cable Connector**

- Re-wireable flex cable connector
- Supplied with shielded RJ45 plug
- Mates with panel mounting connector PX0833

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>PX0833/48</td>
<td>966-7723</td>
<td>8.09</td>
</tr>
</tbody>
</table>

**Panel Mount Connector**

- Cat 5e shielded coupler
- For use with Ethernet Buccaneer flex connectors
- Standard patchcord can be plugged into rear

**PCB Mounting Connector**

- Complete with panel sealing gasket

**Over 480,000 products online**

Prices are in £ sterling & exclusive of VAT
Amphenol

RJ45 Field Sealed RJ45
MIL-C-26482

- Sealed against fluid and dust (IP67)
- Shock, Vibration and Traction resistant
- Suitable for at least 500 mating cycles

Transforms regular RJ45 cordset for use in harsh environments. Easy to assemble, the plug adapts a standard RJ45 cordset without the need for tools.

Salt Spray 96h
Flammability / Smoke UL94 V0 and NF F 16 101 & 16 102
Vibrations 10kHz - 500Hz, 10g, 3 axes, no discontinuity ≤10ms
Shock IK06: 250g dropped from 45cm onto mated connectors
Humidity 21 days, 43°C, 98% humidity
Thermal Shock 5 cycles @ -40°C / +100°C
Temperature Range -40°C to +85°C

Amphenol

RJ45 Field TV Sealed RJ45
MIL-C-38999 Series III

- Sealed against fluid and dust (IP67) in mating and unmated states
- Shock, Vibration and Traction resistant
- Suitable for at least 500 mating cycles
- Olive Drab Cadmium finish
- Metallised receptacle inserts

Transforms regular RJ45 cordset for use in harsh environments. Easy to assemble, the plug adapts a standard RJ45 cordset without the need for tools.

Salt Spray 96h
Flammability / Smoke UL94 V0 and NF F 16 101 & 16 102
Vibrations NAS 1599
Shock IK06: 250g dropped from 45cm onto mated connectors
Humidity 21 days, 43°C, 98% humidity
Thermal Shock 5 cycles @ -40°C / +100°C
Temperature Range -40°C to +85°C

Amphenol

RJ45 Field Sealed RJ45
MIL-C-26482 Right Angle

Ideal for appliances where panel depth is of a premium

Amphenol

RJ45 Field Sealed RJ45
MIL-C-26482 Reverse Bayonet

Amphenol

RJ Field TV Sealed RJ45
MIL-C-38999, Nickel Finish

With USB Field, you can insert a standard USB 2.0 port into a metallic plug which will protect it from dust, shocks and fluids.

Salt Spray 48h
Flammability / Smoke and NF F 16 101 & 16 102
Vibrations 10-500 Hz
Shock IK06: 250g dropped from 45cm onto mated connectors
Humidity 21 days, 43°C, 98% humidity
Temperature Range -55°C to 85°C

RJ Industrial Ethernet

The Modular Harting RJ Industrial® family of connectors is based on the standard RJ45 connector pattern, and is specifically developed for use in harsh industrial environments. The Haran®/Rayfield termination technology has been proven in many industrial applications. The design of the Harting RJ® family allows for the quick and easy termination and connection to ethernet devices in either data only or hybrid networks.
IP20, Standard cable connector
- Protection level: IP20
- Wire Size: Flexible 22 AWG, Rigid 22-23 AWG
- Temperature Range: -40°C to +70°C

IP67, Hybrid Connector
- Cable Sheath Diameter: IP20, IP67, 3A, 6.5 - 6.9mm
- Cable Sheath Diameter: Push-Pull connector, 5.8 - 7.2mm
- Mating Cycles: 750

Smallest RJ45 ethernet connector
- AWG 22 Cables can be connected using IDC technology
- Designed on a 1.4mm standard grid
- Latching clip makes unlocking connector significantly easier
- Connector set includes housing, cable gland, and instruction manual

IP67 data connector in standard Han®3A
- RJ45 Compatible for standard service and test purposes
- Optional coding prevents incorrect mating up to four different connectors
- Plastic or metal housing

Panel Feed Through, Data 3A
- Optional coding prevents incorrect mating up to four different connectors
- Plastic or metal housing

Industrial Ethernet Field Installable RJ45 Modular Plugs

The category 5e IP20 field installable RJ45 modular plug is designed for use in industrial applications. The 4 way version is capable of data transmission rates of 10/100 Mbit/s, and the 8 way version is capable of 1000 Mbit/s. The tool-less IDC contact design makes it easy to terminate in the field.

Key features:
- Tool-less IDC termination
- Stainless steel locking tab and rigid plastic case make it ideal for use in harsh environments
- Shielded
- Mates with standard RJ45 modular jacks
- Easy to assemble - only 3 parts
- Accepts cable diameters between 6.3 and 6.7mm
- 4 way - 22 AWG solid and stranded wire
- 8 way - 26 AWG stranded wire
- IP20, UL444-B

Rugged RJ45 Ethernet Connection System
Bayonet Locking

Ideal for use in harsh environments where EtherNet protocol is used including manufacturing facilities, water treatment plants and transportation hubs. Designed with one sealing surface, the connectors ensure optimum performance even in harsh environments.
- Bayonet locking for easy connection
- Meets NEMA 6P and IP67 protection ratings
- Meets Open DeviceNet Vendors Association and ControlNets Vendors Association IP specification

Over 480,000 products online
**RJ45 Ethernet Connector Systems - continued**

**RJ-45 Industrial Ethernet connectors and assemblies**

- Circular bayonet locking style allows quick and easy connection
- One sealing surface for superior sealing
- Accepts 2.9mm to 6.4mm cable diameters
- Meets NEMA 6P and IP67 protection ratings

<table>
<thead>
<tr>
<th>Mfrs.</th>
<th>List No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug</td>
<td>847000002</td>
<td>078-05794</td>
<td>9.53</td>
</tr>
<tr>
<td>Receptacle</td>
<td>847000001</td>
<td>078-05604</td>
<td>18.39</td>
</tr>
<tr>
<td>Dust Cap</td>
<td>847000303</td>
<td>078-05813</td>
<td>7.12</td>
</tr>
</tbody>
</table>

**RJ-45 PC and Panel Mounted Receptacles**

**Ethernet / USB Panel Mount Assemblies**

<table>
<thead>
<tr>
<th>Insulator Material</th>
<th>Contact Material</th>
<th>Contact Plating</th>
<th>Panel Thickness</th>
<th>Flammability Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBT</td>
<td>Phosphor Bronze</td>
<td>Gold</td>
<td>0.8 ± 0.2mm</td>
<td>UL94-V0</td>
</tr>
</tbody>
</table>

**Bluetooth Connector Systems**

**IP68 Bluetooth Cable Replacement Introduction**

The IP68 Environmentally sealed Buccaneer® Bluetooth Cable Replacement products eliminate RS232, RS422 or RS485 data cables and allow equipment to communicate wirelessly up to 100m range. These self-connecting units automatically establish wireless Point-to-Point or multiple slave Multi-Drop data connections between serial interfaces or dumb devices without any need for special commands, a PC, PLC or Software. The products can be quickly and easily installed internally or externally in harsh or hostile applications, when cabling is difficult, impractical or expensive to install. Typical applications are communication between different buildings, between walls or floors, around or over obstructions, or on open field sites. Significant savings can be made over a hard-wired solution in terms of installation time, disruption and cost.

<table>
<thead>
<tr>
<th>Technical Specification:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security</td>
</tr>
<tr>
<td>Authentication, encryption and pin code supported</td>
</tr>
<tr>
<td>Serial Interface</td>
</tr>
<tr>
<td>RS485 (4-wire) full-duplex</td>
</tr>
<tr>
<td>RS485 (2-wire) half-duplex</td>
</tr>
<tr>
<td>RS232 (4-wire) full-duplex</td>
</tr>
<tr>
<td>Max Rates</td>
</tr>
<tr>
<td>RS00, 19200, 38400, 57600 supported</td>
</tr>
<tr>
<td>6 data bits, no parity, 1 stop bit (ds-dk)</td>
</tr>
<tr>
<td>Alternative settings supported</td>
</tr>
<tr>
<td>Mechanical</td>
</tr>
<tr>
<td>Sealing IP68, EN60529 when mated</td>
</tr>
<tr>
<td>Operating Temp. -20 to +70°C</td>
</tr>
<tr>
<td>Abrasion to EN60068</td>
</tr>
<tr>
<td>Approvals</td>
</tr>
<tr>
<td>EEC part 15 Class B compliant RoHS compliant</td>
</tr>
</tbody>
</table>

**IP68 Bluetooth Cable Replacements**

RS322 / RS485

- Dust & waterproof to IP68, EN60529 when mated
- RS485 & RS232 Serial data to Bluetooth Adapter
- Up to 57600 Band, full / half duplex
- Wireless transparent data connection
- Self connecting for true cable replacement
- Built-in sealed antenna
- Range - Up to 100m class 1, up to 25m class 2
- Mates with PX0884 as well as Farnell p/n 469-713, 978-050

**Technical Specifications:**

<table>
<thead>
<tr>
<th>Lens</th>
<th>Mating Nylon</th>
<th>DC Supply</th>
<th>Operating Temp. Contacts</th>
<th>Flammability Rating</th>
<th>UL94V-0</th>
<th>-30°C to 70°C Copper alloy, Gold plated</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>100</td>
<td>6 to 2W/Ac</td>
<td></td>
<td></td>
<td></td>
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<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>Class</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>PX0884/01/S</td>
<td>Class 1</td>
<td>162-93856</td>
<td>147.18</td>
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<tr>
<td></td>
<td>Class 2</td>
<td>162-93857</td>
<td>125.86</td>
</tr>
<tr>
<td>PX0884/02/S</td>
<td>Class 1</td>
<td>162-93858</td>
<td>147.18</td>
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<td>Class 1</td>
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<td></td>
<td>Class 2</td>
<td>162-93861</td>
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<td>PX0884/04/S</td>
<td>Class 1</td>
<td>162-93862</td>
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<td>Class 2</td>
<td>162-93863</td>
<td>125.86</td>
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<tr>
<td>PX0884/05/S</td>
<td>Class 1</td>
<td>162-93864</td>
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</tr>
<tr>
<td></td>
<td>Class 2</td>
<td>162-93865</td>
<td>125.86</td>
</tr>
</tbody>
</table>
Fibre Optic Connectors

ST, SC Hot Melt Connectors with Tooling

- High performance hot melt connectors
- Qualified to TIA/EIA 568B standards
- Pre loaded with adhesive
- PC arcon ceramic ferrule provides superior opical contact and durability
- Hot melt termination kit contains all materials necessary to terminate 3M connectors

<table>
<thead>
<tr>
<th>Termination Kit Contents</th>
<th>Mfrs. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>230V Oven</td>
<td>6323</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Universal Holder</td>
<td>6365-LH</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Round Polishing Pad</td>
<td>6365-PP</td>
<td>1</td>
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</tr>
<tr>
<td>Soft Polishing Pad</td>
<td>6365-PP</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2um Lapping film (gray)</td>
<td>6192-200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5um Diamond film (gray)</td>
<td>6014-0.5S</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>0.5um Feat Lapping film</td>
<td>8034-0.5S</td>
<td>50</td>
<td></td>
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<tr>
<td>Polishing Jig</td>
<td>8892</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Jacket Stripper</td>
<td>6365-JS</td>
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<tr>
<td>Kevlar Sips</td>
<td>6365-KS</td>
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<tr>
<td>Stepping Tool</td>
<td>6365-ST</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Crimp Tool</td>
<td>6365-CT</td>
<td>1</td>
<td></td>
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<tr>
<td>Fibre Sorter</td>
<td>6365-FS</td>
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<td></td>
</tr>
<tr>
<td>View Scope (200X)</td>
<td>6365-VS</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Pronto Adhesive</td>
<td>CA-B</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Lint Free Clothes</td>
<td>--</td>
<td>100</td>
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</tr>
<tr>
<td>230V UK Power Cord</td>
<td>--</td>
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<tr>
<td>230V EU Power Cord</td>
<td>--</td>
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<tr>
<td>Alcohol Bottle (empty)</td>
<td>--</td>
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<tr>
<td>Water Bottle (empty)</td>
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</tr>
<tr>
<td>Fibre Scrap Cap</td>
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<td>1</td>
<td></td>
</tr>
<tr>
<td>Roll Up Pouch</td>
<td>--</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Fibre Marking Pen</td>
<td>--</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Training CD Rom</td>
<td>--</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Instructions (Paper)</td>
<td>--</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Insertion loss: <0.4dB
Temperature range: -45°C to 85°C
No of mating: 1000

<table>
<thead>
<tr>
<th>Type</th>
<th>Mfrs. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector, ST Hotmelt</td>
<td>121-104</td>
<td>5.70</td>
<td>5.43</td>
</tr>
<tr>
<td>Termination Kit</td>
<td></td>
<td>1.811.87</td>
<td>5.17</td>
</tr>
</tbody>
</table>

SC Coupler

- Allows terminated fibre cables to be coupled together
- Die cast metal housing, polymer alignment sleeve
- Supplied with lock nut and washer
- Intermateable with all "ST style" connectors

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>Order Code</th>
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</thead>
<tbody>
<tr>
<td>501381-1</td>
<td>915-916</td>
<td>3.41</td>
</tr>
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</table>

SC-ST Coupler

- Interconnects SC terminated cable with ST terminated cable
- Plastic housing with metal alignment sleeve

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>Order Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>550-4640-1</td>
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ST Connectors-Epoxy

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<tbody>
<tr>
<td>Connector (Simples)</td>
<td>5503948-1</td>
<td>105-642</td>
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</table>

Signal and Data Tools

Modular Ratchet Tool and Dies
For DataCom Connectors

- Modular tool with interchangeable die sets
- 7 die sets to suit most RJ connectors
- ABS case holds 1 tool and 7 die sets

Part No. Description

- 2065 Crimp Die RJ11 RJ12 RJ12C RJ14C 6P6C 6P6C / Stewart
- 2066 Crimp Die RJ11 RJ12 RJ12C RJ14C 6P6C 6P6C / Tyco AMP
- 901010 ABS Tool Case
Incorporates 4 important ergonomic features that improve user satisfaction and job function:
1. Angled head prevents awkward wrist bending during operation.
2. Reduced handle grip distance is comfortable for workers with small and large hands.
3. The higher crimp force is produced with a lower hand force so hands don’t tire as quickly.
4. No breakaway hand force.

- Ergonomic design
- Long lasting tool that delivers over 50,000 crimp cycles
- Ultra-smooth, fully-ratcheting cycle with built in safety release
- Double plated jaw assembly
- Comfortable rubber embedded handles.

**DataReady™ Kit**

A complete Category 5 datacomm tool set in a zip up case. The kit includes everything needed for a CAT-5 installation. Kit contains:

- AM 12 UTP/STP cutters/stripper - 1112
- Standard 110 blade - 4528
- All-in-one telephone tool for RJ45 & RJ11 modular plugs (AMP) - 1545
- Standard Krone blade - 4527
- Patch-Check™ tester - 1529
- RJ45 connectors - 9546
- RJ45 interchangeable die set crimp frame
- Die sets for RJ45 WE/SS, RJ11, RJ12 WE/SS, RJ45 AMP, RJ11 DE/CMU
- AM12 twisted pair (UTP/STP) cutter/stripper
- PDT punchdown tool with 110 and 66 blades
- LAN ProNavigator tester with remote
- Operating and instruction manual

**DataReady Pro Kit**

Data cable installation kit

**Premise Service Kit**

A large data, voice and coaxial LAN installation kit providing everything for twisted pair and coaxial cable installation. Kit contains:

- KT6 round cable cutter - 900265
- Data SureStrip™ UTP/STP & flat satin cutter/stripper - 1116
- LC CST-58/59 coax stripper - 1255
- FlatCrimp™ flat satin cable cutter/stripper - 1160
- CrimpALL® CrimpFrame with EZ-CHANGE™ thumb screws - 8000
- Die sets: RJ45 AMP-style - 2061
- RJ11 AMP Style - 2062
- RG58/59/62AU BNC/TNC - 2034
- SurePunch™ PDT punchdown tool - 35/70
- SurePunch™ 110 reversible blade - 4572
- SurePunch™ Krone reversible blade - 4573
- LAN ProNavigator™ tester - 1543
- Speaker probe with volume control and light - 1571

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Universal Serial Bus

Micro USB Receptacle

A new Micro USB connector with the smallest footprint available in USB connectors. This miniature connector is smaller than the conventional Mini-USB connector and enables portable device makers to further miniaturise portable products.
- Supports current USB On-The-Go supplement
- Design feature helps prevent wire pinching
- Typical applications include Mobile Phones, MP3 Players, other portable devices

Micro USB ZX Series

- Micro USB compliant connector
- Maintains high retention forces over 10,000 mating life cycles
- Micro USB saves approximately 25% PCB space

USB Wireable Plug

- Solder Cup
- Current Rating: 1.5A
- Voltage Rating: 30V AC
- Insulation Resistance: 1000MΩ
- Operating Temperature: -55°C to 85°C

USB 2.0

- USB 2.0
- Housing: Brass, Nickel plated
- Insulation: PBT Glass Filled
- Solder Pin: Brass, Tin Plated
- Contact Spring: Brass, Gold plated
- Contact Resistance: ≤50mΩ
- Tensile Voltage: 500V±40s
- Insulation Resistance: >100GΩ
- Temperature Range: -30°C to +85°C

Universal Serial Bus

Receptacles

- 4 and 5 pin receptacles available
- A and B types
- A type in single and double deck
- UL approved

Insulation resistance

Withstanding voltage: 1500V AC rms, 60 Hz
Current rating: 1A max.
Contact resistance: ≤30mΩ max
Contact capacitance: ≤2pF max

Temperature range: 0°C to +40°C

Insulator Material
Contact Material: Copper Alloy
Insulator Material: Au (0.75µm Min.)
Contact Plating: 1A
Voltage Rating: 30V AC/DC
Operating Temperature: 0°C to 55°C

USB Receptacle

No. of Ways Mfrs. List No. Order Code Price Each

- Right Angle Through Hole - Type A 4 292336-1 107-6665
- 4 + 4 Stacked 5787617-1 107-6665
- Vertical Through Hole - Type A 4 292336-1 107-6665
- 4 + 4 Stacked 5787617-1 107-6665
- Vertical Through Hole - Type B 4 292336-1 107-6665
- 4 + 4 Stacked 5787617-1 107-6665
- SMT - Type B 4 1734345-1 173-122-1918

USB Type B Receptacle Connector

- Improved rear shell for EMI shielding
- Reduced mounting area
- Pre-loaded contacts
- High contact pressure
- Interface contamination removed by wiping contacts

Mini-USB Type B Receptacle Connector

- USB Type B Receptacle Connector
- Improved rear shell for EMI shielding
- Reduced mounting area
- Pre-loaded contacts
- High contact pressure
- Interface contamination removed by wiping contacts

40,000 PRICES REDUCED
**Universal Serial Bus - continued**

### Cable Assemblies

<table>
<thead>
<tr>
<th>Cable</th>
<th>Mfrs. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
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<tbody>
<tr>
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<td>120-1089</td>
<td>2.74</td>
<td>2.20</td>
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<tr>
<td>A-B cable, 1.30 m</td>
<td>120-1089</td>
<td>5.15</td>
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<td>A-B cable, 2.00 m</td>
<td>121-1022</td>
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<td>A-B cable, 5.00 m</td>
<td>120-1089</td>
<td>10.50</td>
<td>9.87</td>
</tr>
</tbody>
</table>

#### USB 2.0 Cable Assemblies

- **High quality cable assemblies**
- **Various cable lengths available**

### Micro USB Receptacles

- Mating cycles over 10000
- Stainless steel shell provides high mating durability and strength
- Shell tabs enhance PCB retention

#### Cable Assemblies (male/male)

- **1.0m long**
  - USB Type A to Mini B: 88732-6860
  - USB Type B to Mini A: 88732-6862

### USB 2.0 Cable Assemblies

<table>
<thead>
<tr>
<th>Cable</th>
<th>Mfrs. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
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<tr>
<td>A-B Type A</td>
<td>47594-0001</td>
<td>106-8023</td>
<td>0.46</td>
</tr>
<tr>
<td>A-B Type B</td>
<td>47589-0001</td>
<td>106-8023</td>
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<td>B type Mid Mount</td>
<td>47491-0001</td>
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<tr>
<td>B type Bottom Mount</td>
<td>47434-0001</td>
<td>106-8023</td>
<td>0.54</td>
</tr>
</tbody>
</table>

#### USB Cable Assemblies

- **Serial, bidirectional data bus for networking different peripherals**
- **Up to 127 on one bus**
- **Power supply transmission (for IEEE 1394)**
- **12 Mbit/s (standard); 1.5 Mbit (slow)**
- **Cable length: per segment, maximum 0.63m**
- **Bus lines: 4-core, shielded**
- **Plug connector: Series A and B avoids loop formation**

### USB - On The Go Connectors and Cable Assemblies

- **Approximately 1/6 the size of standard USB connectors**
- **Cable Assemblies have 5 pin design (one ID pin)**
- **Cable Assemblies are fully shielded for EMI protection**
- **Fully compliant with current USB 2.0 specifications**
- **Operates at speeds up to 480 Mbps**
- **Rugged durability up to 5000 cycles**
- **Connector, Order Code 4768334 has additional back cover shielding**

OTG connectors can be used to enable mobile devices such as digital cameras, PDAs, audio players, printers and cellular phones to exchange data directly without the need for a host PC. The new OTG technology also enables mobile products to become "dual-role" devices, serving as either host or peripheral.

### USB Connector Systems

#### HandyLink™ I/O Interconnect System

The new USB 2.0 compatible, 0.8mm (0.031") pitch HandyLink™ product family of connectors, cable assemblies and accessories from Molex offers a perfect solution to any handheld device design or application. The HandyLink family includes a right-angle SMT receptacle, a wire and PCB version of the plug, perpendicular and parallel mounted cradle connectors for docking applications and a wide array of cable assemblies. The HandyLink family’s current-carrying capability of 1.5A continuous (up to 3.0A depending on circuit configuration) and compact size provide an optimal solution for the mobile device industry. The patented integrated-latch design provides ESD protection and mechanical integrity. The HandyLink connector interface is suitable for wire-to-board or board-to-board docking solution for small handheld devices.

- **USB 2.0 compatible up to 624Mbits**
- **Low profile receptacle height: 3.5mm**
- **Hot plug mating**
- **Robust cradle connector offers parallel or perpendicular mounting to PCB**
- **1.5A - 3A Depending on circuit configuration**
- **Lead free process compatible and RoHS compliant**

#### Micro USB Receptacles

- **Current Rating:** 1 A
- **Durability:** 10,000 cycles
- **Voltage Rating:** 100V AC
- **Operating Temperature:** -20°C to 85°C

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Bulgin - USB Buccaneer
PX0840 / PX0841

The USB Buccaneer is designed to conform to the latest USB version 2 specification and provide an environmental seal to IP68.

- Dust and waterproof to IP68
- Data rates up to 480Mbps
- PCB adapter leads
- Hot pluggable, standard 4 pole USB interface
- PVC black cable jacket

Sealing:
- IP68, EN60529 (when mated)

Operating Temp.: 0°C to 70°C

<table>
<thead>
<tr>
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<th>50+</th>
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<td>999-7371</td>
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<td>7.43</td>
<td>7.11</td>
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<tr>
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<td>5m</td>
<td>999-7383</td>
<td>4.85</td>
<td>4.51</td>
<td>4.32</td>
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<td>PX0840/4/5MM0</td>
<td>5m</td>
<td>999-7383</td>
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<td>7.43</td>
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<td>2m</td>
<td>999-7415</td>
<td>9.23</td>
<td>9.06</td>
<td>8.25</td>
</tr>
</tbody>
</table>

Panel Mount Connectors:
- Single hole fixing
- Front panel sealed to IP68
- Sealed "A" type to "B" type or "B" type to "A" type adapter
- Opposite connector at rear of adapter
- Mounting hole diameter 27.5mm (plus keyway)

Rear Panel Mounting Connector - PCB Direct Mount

- 1166684 - USB "A" type IP68 connector
- 1166685 - USB "B" type IP68 connector
- PCB contacts at rear
- Direct PCB mount

IP68 Sealed - Mini USB Buccaneer

The Mini USB Buccaneer provides a compact solution for USB connectorism industrial environments. Utilising industry standard Mini "B" connections, the connector provides an IP68 sealed, secure and robust connection performing to USB V2.0, for use in areas where dust or water could prove detrimental to system operation. Fully shielded, providing good levels of noise immunity and EMI protection. Cables are moulded offering secure, tamper-proof connections.

- Dust and waterproof to IP68
- USB V2.0 data rates up to 480Mbps
- Mated with FID: 9997377, 9997385, 9997393, 9997407, 9997415 and 9997423

Front Panel Mounting Connector
Flying Lead Termination

- 1166681 - USB "A" type IP68 connector
- 1166683 - USB "B" type IP68 connector
- Mates with FID: 9997377, 9997385, 9997393, 9997407, 9997415 and 9997423
- Loaded with 5 way crimp connector

Adaptor Leads

- PCB adapter lead, USB to 5 way crimp connector
- Lead length 100mm
- 5 way PC82 header (0.1" 2.54mm pitch)

Sealing Caps

- Sealing caps to maintain IP68 rating when connectors are not in use

IP68 Sealed - Mini USB Buccaneer

- 1166681
- 1166683
- 1166684
- 1166685

18

353271-06745
353272-06746
353273-068148
353279-068148
342607
442623

£ 40,000 PRICES REDUCED
IEEE 1394 Connectors - continued

Right Angle Upright
IEEE 1394 Socket Assembly

IEEE 1394 Connector and Cable Assemblies

The IEEE1394, also known “Firewire” by Apple, and “iLink” by Sony, is a new standard I/O interface designed to service the demands of the emerging multimedia bus requirements. 1394 is unique in its ability to carry video and audio with assured quality, based on its high bandwidth capabilities. This simple to use, peer-to-peer connection system can carry a dense multimedia data stream between computers, video cameras, high-fidelity audio products, and imaging devices at a maximum speed of 400Mbps. The hot plugging capabilities of 1394 make it ideal as a consumer interface. A new node can be plugged in without powering down. When a new node is detected, all existing nodes on the bus sense it and know a change in bus topology has occurred.

Sockets
- Provides the interface for speeds up to 400 Mbps
- Full metal shielding for ESD protection
- High temperature plastic housing for SMT processing

IEE 1394 - Industrial Connector and Cable Assembly

This SMT PCB socket and cable plug system is designed for rugged applications such as factory automation machines, instrumentation and industrial cameras.

An outer metal shell design on both the plug and socket offers superior EMI/RFI protection. Six friction grounding fingers provide additional shielding and mating stability. The system can reach speeds up to 400 Mbps and is IEEE 1394-1995 compliant.

The right-angle SMT PCB socket features a diecast metal shell that provides robust construction for harsh environments and four screw lock locations for secure panel and pcb mounting. Metal PCB tabs offer additional SMT solder-joint support and plastic pegs provide board-placement guidance. The socket is made of high-temperature housing to withstand SMT soldering environments.

Socket
- Provides for speeds up to 400Mbps
- Robust diecast metal shell for harsh environments
- Double shielding offers superior EMI/RFI protection
- Four screwlock locations enable secure panel and PCB mounting
- Spring retention features provide secure mating and outer shell grounding

Cable Assemblies
- Provides for speeds up to 400Mbps
- 6 circuit to 6 circuit configuration
- Easy to use latch provides strong retention and audible "click"
- Rugged PCB moulded boot includes serrated finger grips for easy mating and unmating and an open area for custom logos

IP68 Sealed - FireWire Buccaneer

Dust and waterproof to IP68, Bulgin’s FireWire Buccaneer is ideally suited to industrial or hostile environments where a high data rate combined with a robust and secure connection is required.

- Dust and waterproof to IP68
- IEEE 1394a performance to 400mbps
- 4 & 6 pole FireWire connectors
- Panel adapter leads to PCB

IEEE 1394 Connector System

4 Pole FireWire IP68 Cables

- IP68 sealed connector to standard 4 and 6 pole FireWire
- Overmoulded construction
- 2m and 4m lengths
- IP68 4 pole to standard 4 pole

IEEE 1394 - Low Profile A/V

The Cable Assembly provides a digital link between consumer devices and PCs with the four-circuit, 1394 standard and 1394 A/V connectors. A sturdy detent lock on the shell interface provides secure mating retention. Compatable with compliant IEEE 1394a products from other manufacturers.

- IEEE 1394 standard to IEEE 1394 A/V Cable Assembly
- 4 circuit to 4 circuit configuration
- Shielded cable
6 Pole FireWire IP68 Cables

- IP68 6 pole sealed connector to standard 6 pole FireWire
- Overmoulded construction
- 2m and 4m lengths

<table>
<thead>
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<td>10.82</td>
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<tr>
<td>PX0484/4M00</td>
<td>4m</td>
<td>995-7291</td>
<td>16.01</td>
<td>14.89</td>
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</table>

IP68 Panel Mount Connectors

- Front panel mounting
- 4 and 6 pole FireWire
- PX0419 mates with PX0417 & PX0418
- PX0447 mates with PX0846
- PX0419 terminated with 5 way crimp at rear
- PX0447 terminated with 7 way crimp at rear

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
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FireWire Accessories

Sealing Caps
- Sealing caps to maintain IP rating when connectors are not in use

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</table>

Serial ATA Storage Interface

- Ideal Storage interface to meet increased bandwidth and performance requirements
- Can support 1.5 Gbps.

<table>
<thead>
<tr>
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E-SATA

- E SATA plugs with cable assembly options

<table>
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<th>Order Code</th>
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<tr>
<td>142-8273</td>
<td>0.53</td>
<td>0.47</td>
<td></td>
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</tbody>
</table>

Serial ATA Interface Board-to-Board and Cable-to-Board Solution

Moving beyond traditional desktop and network storage applications, Serial ATA is now becoming an integral part of consumer electronic products with integrated hard disk drives.

Typical applications include HDD-DVD recorders, home-servers, multimedia hubs, LCD TVs, digital jake boxes, HDD enabled game consoles, set-top boxes with personal video recorders, audio players and audiovisual devices for the automotive industry.

E-SATA

- E SATA plugs with cable assembly options

<table>
<thead>
<tr>
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</table>

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RoHS Compliant

Fax: 08447 11 11 11

08447 11 11 12 1913
Serial ATA Storage Interface - continued

E-Sata covers a very wide range of applications in the external storage market. E-Sata encompassed applications from single disk drives to multi disk storage backed up.

- Upto six times faster than existing external storage solutions such as USB 2.0 or Firewire
- Complies with EMI
- Rugged user friendly external connection

Serial Attached SCSI

Serial Attached SCSI (SAS)

Cable Assemblies

Tycos Electronics 4x Series of cable assemblies are designed to meet the most demanding SAS applications.

- High signal integrity capabilities
- Fully shielded for EMI/RF protection
- Reduced crosstalk (less than 3%)

Small Form Pluggable

SFP Cages

Tyco Electronics supports the market with a full range of SFP products, including single port and high density SFP products in single row and stacked configurations. This range includes a full range of Light Pipes for single cages, ganged (single row), and stacked (double row) SFP products.

SFP Cable Assemblies

- Low cost solution for short reach applications
- Compatible with MSA Compliant SFP cages
- Applications include Servers and Storage

XFP 10 Gigabit Pluggable Solution

The XFP Multi-Source agreement specifies the next generation pluggable transceiver. Tyco Electronics' XFP is fully compliant with the XFP MSA. The goal of the XFP MSA is to provide a universal design for the transceiver that will be suitable for all applications (one size fits all).

- Press fit PCIR latch
- Designed for use in belly-to-belly applications
- Applications include 10 Gigabit Ethernet Switches and Routers, 10 Gigabit Aggregator ports

SFP Connectors, Cages, Cable Assemblies and Adapters

The SFP product range meets the demands of networking and storage industries, which require denser and faster packaging for high-speed serial interfaces. The Multi-Port connectors offer high port density with complete integration of stacked 20-circuit SFP connector ports within a cage. Integrated light pipes are available to provide port-status indication to the user.
Disconnectors – Signal & Data

Digital Video (with / without audio)

Display Port™ 0.50mm Pitch

Connector and Cable Assembly

The DisplayPort™ is designed for internal and external system solution for high bandwidth audio and video data transfer in the notebook and PC market. Consisting of a 20 circuit, 0.50mm pitch receptacle and cable assembly with metal shield for full EMI / RFI protection. The receptacle is designed with four solder pins for added mechanical stability as well as a snap-in plastic peg for positive polarisation during mounting.

- Plastic locating peg
- Small footprint
- Shielded for EMI/RFI protection
- Polarisated mating

Mfrs. No. | Length | Price Each
---|---|---
1686453 | 2m | 1686454 |
1686455 | 3m | 1686456 |

Specifications:
- Contact Rating: Gold Flash over Nickel / Shell Flating Nickel
- Type: Order Code / Order Code / Price Each
- Receptacle, W/O Flange: 168-6453 / 0.77 / 0.64 / 0.59 / 0.53
- Receptacle, with RIB: 168-6454 / 0.77 / 0.64 / 0.59 / 0.53
- Plug with Latch Hole, with Hole: 168-6457 / 0.80 / 0.73 / 0.66 / 0.61 / 0.56
- Plug with Latch Hole, W/O Hole: 168-6456 / 0.98 / 0.87 / 0.79 / 0.72 / 0.60

DMS-59™ System Interface

Connectors and Cable Assemblies

Molex’s DMS-59™ features the Molex LFH™ (Low Force Hinge) contacts aimed at the industry wide standard for multi-head graphic card applications. The DMS-59 is based on the 60-circuit LFH using circuit #58 as the voided pin for the keying mechanism. The connector system consists of a 58-circuit receptacle and plug cable assemblies offering DMS-59 to various combinations of VGA, DVI-D and cross-talk and Skew.

- Applications include: Monitors, displays, graphic cards etc.
- VESA selected

Specifications:
- Direct-To-Mount: 0.100 / 0.100 / 0.0 A
- Terminals: 0.100 / 0.100 / 0.0 A
- Voltage: 0.100 / 0.100 / 0.0 A
- Current: 0.100 / 0.100 / 0.0 A
- Power: 0.100 / 0.100 / 0.0 A

DVI-I, meeting requirements for impedance,
- VESA #58 ensures exclusive mating
- Low Force Hinge (LFH) contact interface
- 1.27mm pitch
- Various cable assembly configurations

Single link can support UXGA (1600 x 1200) displays
Dual link can support UXGA (2048 x 1536) displays
DVI-I version supports Analog and Digital (TMDS) transmission
DVI-D supports 1.6 Gbit/sec, TMDS transmission rates
DVI-A version supports 2.5GHz Analog RGB bandwidths.

- Supports TMDS (Transmission Minimized Differential Signalling)
- Meets the Infini™ DDDG (Digital Display Working Group) specification
- Crosses ground blade design provides video bandwidth of 1.7Gbps per differential pair for digital interface and 2.4GHz for analog interface
- Range of adapters available to allow backwards compatibility to existing displays

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MicroCross™ DVI Cables and Adaptors

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- Range of adapters available to allow backwards compatibility to existing displays

- Applications include: Monitors, displays, graphic cards etc.
- VESA selected
Digital Video (with/without audio) – continued

MicroCross™ DVI Cables and Adaptors – continued

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>997-3898E</td>
<td>10.09</td>
</tr>
<tr>
<td>987-8269E</td>
<td>17.46</td>
</tr>
<tr>
<td>987-7869E</td>
<td>11.49</td>
</tr>
<tr>
<td>987-8279E</td>
<td>23.01</td>
</tr>
<tr>
<td>997-3898E</td>
<td>3.87</td>
</tr>
<tr>
<td>997-3898E</td>
<td>14.14</td>
</tr>
<tr>
<td>997-3898E</td>
<td>5.62</td>
</tr>
</tbody>
</table>

DVI Receptacles
- DVI PCB receptacles approved by the DDAWG
- Suitable for both digital and analogue transmission (0.95GHz and 2.5GHz)
- Mates with both Molex DVI cables and adapters
- Available in both right angle and vertical configurations

DVI Series I/O Connectors

The DVI Series was designed to meet the needs for higher performance digital/analog interface between computer graphics input devices and computer monitor. The DVI supports Transmission Differential Signalling (TMSD) and conforms to the standard (DDWG) Digital Display Working Group.

Current Rating/Signal: 3A
Dielectric Voltage: 500V AC rms
Contact Resistance: 25mΩ max
Wire Size: 28 AWG
Operating Temperature: -40°C to +85°C

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>Description</th>
<th>Order Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>DV262024H1E</td>
<td>Receptacle R/A with Screws to DVI-D 24 Pin</td>
<td>996-5189</td>
</tr>
<tr>
<td>DV262029H1E</td>
<td>Receptacle R/A with Screws to DVI-D 24 + 4 Pin</td>
<td>996-5180</td>
</tr>
<tr>
<td>DV262024U1E</td>
<td>Receptacle R/A with Screws to DVI-D 24 Pin</td>
<td>996-5101</td>
</tr>
<tr>
<td>DV262029U1E</td>
<td>Receptacle R/A with Screws to DVI-D 24 + 4 Pin</td>
<td>996-5173</td>
</tr>
<tr>
<td>DV262024M1E</td>
<td>Straight Cable Plug Connector DVI-D 24 Pin</td>
<td>996-5106</td>
</tr>
<tr>
<td>DV262029M1E</td>
<td>Straight Cable Plug Connector DVI-D 29 Pin</td>
<td>996-5190</td>
</tr>
</tbody>
</table>

DVI Cable Assembly
- DVI supports Analog and digital (TMSD) transmission
- Industry standard interface
- Board mount connector with interconnection cable assembly
- For all monitor and video interconnections

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>Description</th>
<th>Order Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1775079-1</td>
<td>Stacked VGA Receptacle over DVI-4</td>
<td>152-2192</td>
</tr>
<tr>
<td>1653929-2</td>
<td>2.0m DVI-I to DVI-I Cable</td>
<td>152-2193</td>
</tr>
</tbody>
</table>

HDMI Connectors and cable assemblies

<table>
<thead>
<tr>
<th>Description</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>1+</td>
<td>10+</td>
<td>50+</td>
</tr>
</tbody>
</table>

- Current Rating: 0.5A
- Insulation Resistance: 100 Mohm-m
- Voltage Rating: 40 ACV
- Operating Temperature: -25°C to 85°C

High Definition Multimedia Interface (HDMI) Connector System

The new HDMI cable assemblies, adaptors and connectors provide an uncompressed digital link between consumer electronics equipment such as DVD players, set-top boxes and audio video monitors such as plasma display screens for high definition TVs.
- 10,000 mating cycles
- DVI backward compatible
- Fully shielded
- Lead-free plating
Cost effective shielded connectors and cable assemblies capable of ensuring data integrity at high speed. Supports ANSI/SF/SF-8411, 68 way single, 136 way dual stack RA PCB mount connectors and provides ready made cable assemblies with die cast backshells and screws.

**High Speed Data Connector (HSSDC) Receptacle**
- Fully shielded for high speed data transfer
- IEEE802.3z (Gigabit Ethernet), NDTS T11 (FC) and T101.1 (SSA) approved
- Impedance controlled by design for 150 ohm differential systems
- Handles data transfer rates exceeding 2.125 Gbits/sec
- Champ .005 Series II style contacts

<table>
<thead>
<tr>
<th>Description</th>
<th>Mfrs. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flanged With 4-40 threaded insert</td>
<td>1685250-1</td>
<td>107-60206</td>
<td>2.70</td>
</tr>
</tbody>
</table>

**High Speed Data Connector (HSSDC2) Receptacle**
- Meets Infiniband™ 1.0 specification
- Data transfer rate of 2.125 Gbps and beyond
- Shielded
- Polarisied for ease when mating
- PCB retention legs

<table>
<thead>
<tr>
<th>Used With</th>
<th>Mfrs. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rectangular</td>
<td>1701069-1</td>
<td>107-66300</td>
<td>9.48</td>
</tr>
</tbody>
</table>

**Infiniband Receptacle**
- Infiniband 1.0 specification
- High speed serial 2.125 Gbps and beyond
- Shielded

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>1406962-1</td>
<td>128-43344</td>
<td>11.21</td>
</tr>
</tbody>
</table>

**High Speed Data Connectors**

**Molex Triad™ Differential Pair Connectors**
- TDP / PCIe Cable Assemblies
- Bandwidths up to 5.0Gbps
- Shielded for maximum EMI/RFI protection
- Low profile (7.0mm) PCB receptacle
- High cycle life: min. 5000 cycles
- Low Force Helix™ (LHF) contact design
- 18, 28 & 48 circuits

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Current Rating</th>
<th>Insulation Resistance</th>
<th>Operating Temperature</th>
<th>Contact Material</th>
<th>Contact Plating</th>
<th>Shield</th>
<th>Copper Alloy</th>
<th>Selective Gold 0.76µ</th>
<th>Deep-drawn Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>48V</td>
<td>1.5A</td>
<td>1000Mohm</td>
<td>-20 to +85°C</td>
<td>Nickel Silver</td>
<td>Nickel Silver</td>
<td>Copper</td>
<td>Copper</td>
<td>Selective Gold 0.76µ</td>
<td>Deep-drawn Steel</td>
</tr>
</tbody>
</table>

**Connectors – Signal & Data**

- Passive connectors for high speed data transfer
- Infiniband™ 1.0 compliant
- Data transfer rate of 2.125 Gbps and beyond
- Shielded for high reliability
**Connectors – Signal & Data**

**High Speed Data Connectors (HSSDC2) - continued**

Cable Assemblies, Plug - Plug - continued

<table>
<thead>
<tr>
<th>Length</th>
<th>Mfrs. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5m</td>
<td>6364561-1</td>
<td>119-6418</td>
<td>68.53</td>
</tr>
<tr>
<td>5m</td>
<td>6364561-6</td>
<td>119-6418</td>
<td>84.86</td>
</tr>
</tbody>
</table>

**Advanced Mezzanine Card Connector AMC.0 B+**

- Insert moulded waler design provides excellent electrical performance enabling signal transmission up to 12.5 Gbps, providing system scalability at no additional cost.
- Press-fit contacts and high-speed footprint for simpler application to PCB and superior signal integrity.
- Tin or Tin-Lead tail plating supports RoHs requirement and customer preferences for press-fit.
- Reference PCB available for SI-measurement.

**Har-link Connector System**

Har-link is a unique modular metric I/0 connector system that can transfer data rates up to 100 Mbits/s or alternatively 1 Gbit/s.

**4X Cable Assemblies**

Tycos Electronics’ 4X series of cable assemblies are designed to meet the most demanding INFRAHANSPECifications, Fibre Channel and Gigabit Ethernet (C4X) applications. This family of products exhibits its high signal integrity capabilities.

- High signal integrity capabilities
- Fully shielded for EMI/RF protection
- Built with robust strain relief and wire retention
- Available in lanyard latching style
- Reduced crossstalk (less than 3%)
- Available with standard 28, 26 and 24 AWG wires

**MCR (Shrunk D Ribbon) Receptacle**

0.8mm High Speed Digital Data Transmission - 26 way

- Supports new Industrial Camera-LINK™ in Automated Imaging Association for camera to frame grabber communications.
- Fully shielded, matched impedance system using twin-ax cables for higher speed applications.
- Rugged thumbscrew retention.
- Available in 3, 5 and 10 metre lengths.

**Camera Link**

High Speed Digital Data Transmission System - 26 way

- Signal speed up to 1.5Gb over a 10-metre length.
- 3M have designed and developed the Camera-Link™ Interconnect standard based on a 26-pin mini dital ribbon (MCR) connector from 3M that uses LVDS technology (low voltage differential signaling). The assemblies provide the link between the digital cameras and the frame grabbers becoming the Camera-Link™ Standard interconnect solution. The assemblies are made up of 3M connectors and backshells providing full shielding and are based on the LVDS technology. The twin-ax cable contains 11 high speed shielded pairs and 4 drain wires allowing multiple applications.

**Mini D Ribbon (MCR) Assemblies**

1.27mm Right-Angle Digital Camera Cable - 26 position

- Mates to popular 3M MDR 26 position receptacle.
- For machine vision camera to frame grabber communications in applications where full CameraLink™ configuration is not necessary.
- 3 shielded quads with drains and 5 unshielded twisted pairs.
- Entire cable bundle shielded with foil and braid for additional signal protection.
- Rugged MCR ribbon type contact for reliable, repeatable connectivity.
- Rugged thumbscrew retention.
- EMI shielded junction shell.

**Infiniband**

3M has designed and developed the InfiniBand™ Interconnect standard based on a 26-pin mini dital ribbon (MCR) connector from 3M that uses LVDS technology (low voltage differential signaling). The assemblies provide the link between the digital cameras and the frame grabbers becoming the Camera-Link™ Standard interconnect solution. The assemblies are made up of 3M connectors and backshells providing full shielding and are based on the LVDS technology. The twin-ax cable contains 11 high speed shielded pairs and 4 drain wires allowing multiple applications.

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SDR (Shrunk D Ribbon) Cable Assemblies
0.8mm High Speed Digital Data Transmission - 26 way

- Supports new AIA Industrial Camera-Link™ standard for new Mini C/L camera to C/L frame grabber applications
- 11 shielded, twisted twinax pairs with four drain wires
- Double overall shield with inner foil and outer braid
- Rugged ribbon contact type
- Rugged thumbscrew retention
- RoHS compliant

3M

Micro Miniature Interface connectors
M0172 Series

- Ultra miniature low profile
- SMT design
- Automatic mounting
- Reliable contact
- High current capacity
- Positive locking
- Keys for preventing incorrect insertion

Interface Connectors
ST Series

- Strong locking mechanism
- Prevention against reversed or angle insertion
- Small size and low profile
- EMI protection
- Wide variety of contact positions and mounting styles

Receptacle / Cradle / Plug
The DA1 series connectors are low profile SMT compact interface connectors for use in compact and slim mobile information terminal devices such as PDAs, HPCs, mobile communication equipment.

- Mating height 3mm
- Metal shell provides shielding against EMI and static electricity
- Side locking system for positive mating between plug and receptacle
- Board mounting cradle for PCB-PCB applications

Current Rating - Signal 0.5A
Current Rating - Power 1.0A
Insulation Resistance 1000MΩ
Operating Temperature -25°C to +75°C
Contact Resistance 50MΩ

No. Contacts Mfrs. List No. Order Code 1+ 10+ 50+ 100+ 250+

Plug - Cable Mount
10 DA1P10MM105 996-9010 3.64 3.39 3.24
18 DA1P18MM105 996-9018 3.82 3.55 3.23

Receptacle - PCB Mount
10 DA1R10MM105 996-9100 1.93 1.79 1.35
18 DA1R18MM105 996-9118 2.11 1.96 1.79

Cradle - PCB Mount
10 DA1C10MM105 996-9210 2.01 1.86 1.79
18 DA1C18MM105 996-9218 2.21 2.06 1.97

No. Ways Mfrs. List No. Order Code 1+ 10+ 50+ 100+

Plug
3 M0172-3SPA-55 151-8720 1.87 1.75 1.64 1.50
18 M0172-4SPA-55 151-8730 1.41 1.31 1.23 1.13

Receptacle
3 M0172-3SAA-55 151-8723 1.50 1.40 1.31 1.20
18 M0172-4SAA-55 151-8733 1.79 1.67 1.56 1.42

Connectors – Signal & Data

Miniature I/O Connectors
MOBO™ - 1mm pitch

- Designed for portable equipment such as mobile phones, PDA’s and docking/charging for any portable device.
- The fixed SMT socket is designed to be housed within the portable device.
- The plug/cover connector has sprung contacts and is designed for termination to accessory equipment.

- 15 & 19 signal contacts on a 1mm pitch, rated at 1.5A
- Switching RF option
- Patented 20° angled face on the sockets - self cleaning

RoHS compliant
Miniature I/O Connectors - continued

Ultra Low Profile Interface Connectors
2mm Mounting Height - LX Series

- Low profile on the PCB
- Strong Construction
- High Durability
- Sequenced contact mating
- Incorrect insertion prevention
- Safety plug release

No. of Ways Mfrs. List No. Order Code 1+ 10+ 25+ 50+

Plug
12 LX04-12P 142-5713E 3.15 2.75 2.19
16 LX04-16P 142-5714E 3.44 3.02 2.41
20 LX04-20P 142-5715E 3.69 3.30 2.63

Receptacles
12 LX04-12S 142-5716E 1.47 1.34 1.15
16 LX04-16S 142-5717E 1.58 1.43 1.21
20 LX04-20S 142-5718E 1.66 1.50 1.28

Accessories
Cable Bushing 4.0 LX04-D4B5 142-5719E 0.29 0.26 0.23
Cable Bushing 4.5 LX04-D4B5 142-5721E 0.29 0.26 0.23
Cable Bushing 5.0 LX04-D4B5 142-5722E 0.29 0.26 0.23

Shields and Ferrules

No. of Ways Mfrs. List No. Order Code 1+ 10+ 25+ 50+

Shell Top Half
4 520461-1 156-9935E 0.74 0.64 0.56 0.53
6 520461-2 156-9936E 0.88 0.75 0.66 0.62
8 520461-3 156-9937E 0.91 0.79 0.68 0.64
10 520461-4 156-9938E 1.16 1.01 0.89 0.84

Shielded Data Link (SDL)

- Cost-effective shielded connector for data interconnection
- Miniature size saves PCB space
- UL & CSA approved

Housing Polyester, UL 94V-0
Current Rating 1.5A
Voltage Rating 30VAC, 42VDC
Temperature Range -20°C to 85°C
Durability Up to 1000 mating cycles
Shielding Effectiveness 20 dB min from 30 MHz to 500 MHz and 10 dB min from 500 MHz to 1 GHz

No. of Ways Mfrs. List No. Order Code 1+ 10+ 25+ 50+

Side Entry Receptacles with Ground
4 A 1-1711B8-1 125-4380E 1.73 1.62 1.52 1.43
6 A 1-1711B8-2 125-4381C 1.89 1.75 1.68 1.60
8 A 1-1711B8-3 125-4382C 2.55 2.36 2.23 2.09
10 A 5-1711B8-4 125-4383C 3.38 3.24 3.10 2.95

Top Entry Receptacles
4 A 1-1711B8-1 125-4380E 2.04 1.90 1.82 1.74
6 A 1-1711B8-2 125-4381C 2.60 2.34 2.20 2.07
8 A 1-1711B8-3 125-4382C 3.53 3.37 3.27 3.23
10 A 5-1711B8-4 125-4383C 5.25 4.92 4.68 4.48

Plug Assemblies for Flat Cable - 24-26AWG
4 A 1-1711B8-1 125-4380E 1.26 1.17 1.12 1.07
6 A 1-1711B8-2 125-4381C 1.50 1.41 1.35 1.29
8 A 1-1711B8-3 125-4382C 2.86 2.68 2.56 2.45
10 A 5-1711B8-4 125-4383C 5.25 4.92 4.68 4.48

Plug Assemblies for Round Cable - 24-26AWG
4 A 1-52242-1 125-2082E 1.57 1.48 1.41 1.35
6 A 1-52242-2 125-2083C 1.50 1.40 1.34 1.29
8 A 1-52242-3 125-2084C 1.73 1.63 1.56 1.48
10 A 5-52242-4 125-2085C 2.08 1.95 1.87 1.79

Shields and Ferrules

New

Housing Carbon Steel
Current Rating 1.5A
Voltage Rating 30VAC, 42VDC
Temperature Range -20°C to 85°C
Durability 500 mating cycles

No. of Ways Mfrs. List No. Order Code 1+ 10+ 25+ 50+

Shell Bottom Half
4 520461-1 156-9935E 0.88 0.75 0.66 0.62
6 520461-2 156-9936E 0.91 0.79 0.68 0.64
8 520461-3 156-9937E 0.91 0.79 0.68 0.64
10 520461-4 156-9938E 1.16 1.01 0.89 0.84

Shielded Compact Ribbon connectors 361 and 363 Series

- Polarised to provide proper cable insertion
- Vibration resistant
- 10 contacts can carry signal or power (up to 1A per pin)
- 360° shielding for excellent EMI protection

Current Rating 1A
Voltage Rating 150 V ac
Insulation resistance > 5 x 10^10 ohms at 500 V dc
Temperature Range -55°C to +85°C

No. of Ways Mfrs. List No. Order Code 1+ 10+ 25+ 50+

Receptacle 36210-0100L9 142-5081R 3.35 3.03 2.82 2.55
Plug 36110-3000F 142-5081L 5.07 4.59 4.28 3.84
10 PCB Straight 36110-1110L9 142-5081M 6.28 5.68 5.30 5.07
10 PCB Right Angle 36210-2300P 142-5081J 5.06 4.59 4.28 3.84

Shell Kit 36310-3000-008 142-5081B 6.23 5.64 5.25 4.73
Plug 36310-2000-008 142-5081S 8.32 7.50 7.01 6.31

Battery Connectors

M800™ - 2.5mm pitch

- Specifically designed for mobile equipment
- Available in 3, 4 and 5 way configurations all on a 2.5mm pitch
- Insulator height provides a 3mm spacing
- Various contact nose heights from 1.2mm to 2.3mm provides flexibility in design
- Suitable for 5000 mechanical cycles
- Contacts are gold plated, stamped and rated to 3A
- Retaining brackets provide even greater strength when connected to the PCB

Contact Nose Height Mfrs. List No. Order Code 5+ 50+ 100+ 250+

3 Way
1.2mm 9155000030010 972-8256E 0.58 0.50 0.49 0.42
1.8mm 9155000030010 972-8255E 0.58 0.50 0.49 0.42
2.3mm 9155000030010 972-8254E 0.58 0.50 0.49 0.42

4 Way
1.2mm 9155000040010 972-8255E 0.42 0.36 0.34 0.30
1.8mm 9155000040010 972-8409E 0.62 0.53 0.51 0.43
2.3mm 9155000040010 972-8404E 0.62 0.53 0.51 0.43

5 Way
1.2mm 9155000050010 972-8422E 0.45 0.40 0.37 0.33
1.8mm 9155000050010 972-8423E 0.47 0.42 0.39 0.34
2.3mm 9155000050010 972-8424E 0.68 0.62 0.57 0.51

40,000 PRICES REDUCED
Ultra-Low Profile Battery Connector

- Available in 2 and 3 way configurations all on a 2.5mm pitch
- 1.3mm compressed "Z" axis height
- Integral end stop
- Suitable for 5000 mechanical cycles
- Contacts are gold plated and rated to 3A

Reduced Size Battery Connector MOBO = 2.5mm pitch

- Available in 2, 3, 4 and 5 way configurations all on a 2.5mm pitch
- 2.4mm Insulator height
- 1.2/1.5mm nose height
- Only 2.5mm total height when contacts fully deflected
- Suitable for 5000 mechanical cycles
- Contacts are gold plated, stamped and rated to 3A

End-to-End stackable

Hot Shoe Connectors

- 2.5mm pitch and row spacing
- Spring loaded contacts maintain positive force
- Tolerant to mating misalignment
- Ideal for use where separate battery modules are used and data transfer docking stations

Hot Shoe Connector

- Mfrs. List No: 1357715
- Male PC Tail
- Female PC Tail
- M90-001X45
- M90-701X445

SIM Card Connectors

SIM Card Connector MOBO 2.54mm pitch - Slide in

- For use with both full ISO and micro SIM cards
- Integral guides aid card insertion
- Rounded contact design avoids damage during and after card insertion
- Gold plated contacts rated to 0.5A
- 5000 mechanical cycles
- Insulator is moulded from high temperature plastic
- Can be used in connection or infra red soldering processes
- All plastic design prevents damage to the SIM card
- Two contact sizes:
  - Standard - 1.6 x 1.6mm
  - Narrow - 1.05 x 1.05mm

SIM Card Connector 1.27mm Pitch

- The spring- eject mechanism obtains stronger clicking feeling on insertion and ejection
- High durability for 5,000 cycle mating
- A wide range of variations are available such as 6 positions or 8 positions, with a lock or without a lock of the card retention mechanism that prevents SIM card coming off. The lock guarantees the durability against an excessive vibration or dropping impact, and 6 positions type services as a card detection switch that detects the existence of the card
- Metal shell is adopted for EMI protection

SIM Card Connectors

FMS - Series

- Typical applications include GSM phones and EPSC equipment
- Conform to GSM11.11 standard
- FMS006Z-0000-8F
- Ultra low profile - 2.3mm
- Locking lid - one touch release
- FMS006-0001
- Ultra low profile - 2.3mm
- Locking lid - one touch release
- Integrated card detection switch
- FMS006-2100-8
- Push / Push insert / extract mechanism
- Reverse mount

FMS006-2100-0
- Ultra low profile - 2.3mm
- Locking lid - one touch release
- Integrated card detection switch
- Reverse mount

Insulation Resistance 500MΩ min
Withstand Voltage 250V AC rms
Contact Resistance 100mΩ max
Voltage Rating 250V AC

REACH - SVHCs

Products containing Substances of Very High Concern under REACH can now be easily identified online. Look for this logo to access supporting safety datasheets at www.farnell.co.uk

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Non-compliant

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SIM Card Connectors - continued

**SIM Card Connectors with Eject 2.54mm Pitch**
- For use with ISO and Micro sim cards
- Standard 6-pin configuration on a 2.54mm pitch
- Push-pull button enables easy extraction
- Polarization on card holder prevents mismating of card
- Eject mechanism with card holder (91236-****)
- 5000 mating cycles (minimum)
- Contacts are gold plated and rated to 0.5A

![SIM Card Connectors](image)

**Security Access Modules (SAM)**
- SIM/SAM
- Metal Locking Disk
- Includes Switch
- Housing: High Temperature Thermoplastic, Black
- Contact Rating: Gold
- Durability: Up to 10000 mating cycles

![Security Access Modules](image)

**Over 480,000 products online**

![Over 480,000 products online](image)

**Smart Card Connectors**
- A range of chip card connector products, with wiping and landing contacts
- Provides electrical connection of chip cards according to ISO/IEC 7810-7813
- Varies for different environments, friendly, harsh or space critical
- Wide range of application: data terminal, security, Epos, payment, metering

**Current rating**
- 1A max
- Housing/Self extinguishing thermoplastic UL94V-0
- Contact Copper Alloy, Gold over Nickel

**Voltage rating**
- \(\geq 300\) Vms
- Pins Copper Alloy, Tin over Nickel

**Dielectric withstand voltage**
- \(\geq 1000\) Vms

**Contact resistance**
- \(<100\) \(\Omega\) max

**Insulation resistance**
- \(>1000\) Megohms

**Operating temperature**
- \(-40^\circ\) C to +95\(^\circ\) C

**L26 Series**
- Wiping technology
- Protected contacts
- Suitable for all environments
- Sealed switch card detection
- PCB mounting
- 100,000 Card insertions

**Low Profile 5.8mm**
- Landing Technology
- Suitable for all environments
- Sealed switch card detection
- PCB mounting
- Protected contacts
- 200,000 Card insertions

**Ultra Low Profile 3.4mm**
- Wiping technology
- Suitable for all environments
- Blade switch card detection
- SMT mounting
- Protected contacts
- 100,000 Card insertions

**CCM Series**
- COM01 Papillon SMT 8 way/sealed switch/narrow cover/reduced contact base sealed end travel switch
- COM02 Advanced landing style contacts for long line in SMT and through hole versions
- COM03 GSM style for mini smart cards for POS and mobile phones in 6 way and 8 way
- COM04 SM Small package miniature connectors in 6 and 8 way for use in limited space applications

**Through hole 8 or 16 way for low usage**
- 8 way Papillon SMT end travel switch sealed
- 16 way Papillon SMT end travel switch sealed
- MK2 8 way through hole end travel switch sealed
- MK2 8 way M4 end travel switch sealed
- 6 way & card detectors switch unsealed

![CCM Series](image)

**Equipment for life**

![Equipment for life](image)

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**Prices are in £ sterling & exclusive of VAT**
Smart Card

- Accept 0.76mm thick integrated circuit type Smartcard ISO 7816-7816 or ISOB-ADF
- Include switch
- 30,000 mating cycles, with up to 300,000 mating cycles on high durability version

Housing
Glass-Filled PBT, Black

Contact Plating
Gold over Nickel

Mounting

<table>
<thead>
<tr>
<th>No. of Contacts</th>
<th>Mfrs. No.</th>
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<th>Price Each</th>
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<td>5953398-1</td>
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<td>8</td>
<td>170504-1</td>
<td>128-4406</td>
<td>1.47</td>
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</table>

MicroSD/SIM Combo Socket

- 2.75mm Height
- Molex’s new microSD/SIM card combo connector offers the smallest overall size of any combo version in the market today.
- Molex developed its microSD/SIM combo connector to meet the continuing downsizing and low height requirements of its mobile phone customers. By combining two connectors in one, this combo design provides significant PCB space savings. This connector was originally introduced for 3G MegaSIM phone applications, but the different pin-out options make it suitable for various mobile device applications.

Features:
- Ultra low profile and compact, combines two socketports into one footprint
- Reliable mate/un-mate cycling
- Solder tails on two sides
- Visible solder tails
- Card polarization
- Space savings for mobile device applications

Specifications:
- Current Rating: 0.5A
- Contact Rating: 250mW
- Insulation Resistance: 1000MΩ
- Operating Temp.: -20°C to +85°C

Memory Card Connectors

Micro SD TransFlash Memory Card Connectors

- TransFlash is the world’s smallest memory card storage system. Offering over 70% volume savings versus miniSD, Trans Flash will store up to 256MB of removable memory.
- Molex offers two types of Trans Flash connectors, a hinged version intended for one-time card insertion applications and a push-pull design for scenarios where the card will be removed more frequently.

- Hinged and push/pull types
- Gold plated beveled contacts
- Solder tails on inside of design
- Metal shielding with shell tabs

- Voltage rating: 10V
- Current rating: 0.5A
- Contact resistance: 1.0mΩ max
- Withstand voltage: 500V
- Insulation resistance: 1000MΩ min
- Operating temperature range: -25°C to +85°C
- Mating cycles: 1000

- Housing Material: LCP Liquid Crystal Polymer
- Contact Material: Phosphor Bronze - Gold

Micro SD and SIM

- 1.27mm Pitch
- This connector is an integration of SIM and micro SD™ within a compact structure to minimize mounting space yet allowing the 2 cards to be inserted at the same time. This is achieved by the orientation of the cards, their insertion being at 90° to each other allows both cards to be inserted without interference from the other card.
- There is a slide insertion for the SIM and a Push/Pull operation for the micro SD™

- Temperature Range: -25°C to +85°C
- Contact Material: Nickel
- Mating Cycles: 250

- Price Each

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Memory Card Connectors - continued

Micro SD Hinged
- Steel Shell
- Low Profile 1.9mm height
- 10,000 Card insertions

| Voltage | 10V |
| Current rating | 0.5A |
| Contacts | Copper Alloy |
| Insulator | Thermal plastic |
| Operating temperature | -25°C to +85°C |
| Insulation resistance | 1000 Mohms |

<table>
<thead>
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<tbody>
<tr>
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<td>136-8133</td>
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Micro SD Card Connector

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Mini SD Memory Card Connector

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<tbody>
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<td>Mini SD</td>
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SD Memory Card Connectors (Header)
- 2.5mm pitch
- 9 circuits

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<td>W</td>
<td>978-6430</td>
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</table>

SD I/O Memory Card Connectors

Molex’s new SD I/O Card connectors are similar to the standard push-push type SD Card connectors, but also includes grounding arms to provide frame grounding to the metal tab on the SD I/O Cards.

- Accepts SD and SD I/O memory cards
- Push-push card ejector system
- Reverse and normal surface mount versions available
- Stand-offs provide trading space under connector (reverse mount only)

Voltage rating | 100V |
Current rating | 0.5A |
Contact resistance | 100mΩ |
Withstand voltage | 500V AC |
Insulation resistance | 1000MΩ |

<table>
<thead>
<tr>
<th>MFN</th>
<th>List No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
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<tr>
<td>1+</td>
<td>114-3853</td>
<td>5.91</td>
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<tr>
<td>1+</td>
<td>114-5890</td>
<td>4.87</td>
<td>4.75</td>
</tr>
</tbody>
</table>

Card Connectors SMT

Secure Digital
- SG1 - Secure Digital
  - Push-Push card insertion and extraction
  - First mate last break contacts
  - 3.3mm height when mounted
  - MMC can be inserted

Applications
- DSC, DVC, PDA, HP, portable audio, game machines, and other compact portable devices

Voltage rating | 100V |
Current rating | 0.5A |
Voltage | 500V AC |
Contact resistance | 100mΩ |
Withstand voltage | 500V AC |
Operating temperature | -25°C to +85°C |

<table>
<thead>
<tr>
<th>No.</th>
<th>Contacts</th>
<th>MFN</th>
<th>List No.</th>
<th>Order Code</th>
<th>Price Each</th>
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<td>2.25</td>
<td>2.15</td>
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</table>

Secure Digital / Multi Media Card Connectors

FPS - Series
- Connector for both SD and MMC cards
- Cryptographic security feature built into the SD card makes it ideal for use in secure transactions
- Premium quality ensures 10,000 mating cycles

Voltage rating | 250V AC |
Contact resistance | 1000mΩ |
Withstand voltage | 500V AC |
Operating temperature range | -25°C to +85°C |

<table>
<thead>
<tr>
<th>MFN</th>
<th>List No.</th>
<th>Order Code</th>
<th>Price Each</th>
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</thead>
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<tr>
<td>1+</td>
<td>114-3953</td>
<td>5.91</td>
<td>5.48</td>
</tr>
<tr>
<td>1+</td>
<td>114-5890</td>
<td>4.87</td>
<td>4.75</td>
</tr>
</tbody>
</table>

Coming soon

Register your interest for items that are ‘Coming Soon’ at www.farnell.co.uk and we’ll email you to let you know that they’re in stock.
Memory Card Connectors

538 Series
The 538 series is a range of S0IO connectors that comply with the S009 specifications as defined by the SDA I/O working group that recommends S0 memory cards. These memory card connectors can be used in a wide range of applications such as cellular phones, PHS, PDA, Notebook-PC and Digital AV apparatus.

- The spring-eject mechanism gives a strong clicking feeling in insertion and ejection
- Two tail types are available - outer tail type suitable for notebook PCs and digital audio-visual equipment, and inner tail type suitable for cellular phones and PDA
- Low profile design on the board achieved due to low range of stacking heights - 2.7 - 2.8mm
- Equipped with the write protection switch and card detection switch

### 538 Series Parameters
- **Heat Resistance Plastic:** Copper Alloy Au (0.25um Min.)
- **Ways**:
  - 14 538 009 784 859 859 Outer Tail: 2.6mm
  - 14 538 009 302 859 859 Inner Tail: 2.9mm
  - 14 538 009 210 859 859 Outer Tail: 2.7mm
- **Order Code**:
  - 10 + 50 +

### Table

<table>
<thead>
<tr>
<th>Mfrs. No.</th>
<th>List No.</th>
<th>Stack Height</th>
<th>Order Code</th>
<th>Price Each</th>
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<td>14 538 009 111 110 683+</td>
<td>2.15mm</td>
<td>150-8171</td>
<td>1.75</td>
<td>1.66</td>
</tr>
</tbody>
</table>

Multimedia Card Connector

- **Low Profile** - 3mm height
- **Surface Mount**
- **‘Push-Push’ mechanism. One push to card edge for smooth insertion and extraction**
- **2.5mm pitch**

### Multimedia Card Connector Parameters
- **Current Rating**: 0.5A AC DC
- **Voltage**: 5V AC DC
- **Contact Resistance**: Initial/Max 30mΩ 250V AC 1 min
- **Dielectric & Insulation Voltage**: 1000V dc at 500V dc
- **Contact Material**: Copper Alloy Au (0.25um Min.)
- **Operating Temperature Range**: -25°C to +85°C
- **Order Code**: 1 + 5 + 25 + 100 +

### Table

<table>
<thead>
<tr>
<th>Mfrs. No.</th>
<th>List No.</th>
<th>Stack Height</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 MMC-7S-412R(LF)(SN)</td>
<td>949-1999+</td>
<td>2.15mm</td>
<td>1.75</td>
<td>1.66</td>
</tr>
</tbody>
</table>

Secure Digital Card Connectors

538 Series
The 538 series is compliant with the microSDTM+ standards specified by the SD Card Association. This microSDTM card connector has the lowest profile in the industry at 1.6mm in height, and was developed for equipment requiring portability such as cellular phones and mobile equipment.

- The spring-eject mechanism gives a strong clicking feeling in insertion and ejection
- Equipped with the card detection switch
- Equipped with card locking mechanism to prevent the card from jumping out
- The outer lead frame enables rework after mounted easily

### 538 Series Parameters
- **Heat Resistance Plastic:** Copper Alloy Au (0.5um Min.)
- **Ways**:
  - 10 in 1 combo: 151-4398 3.78 3.29 2.81 1.19
  - 6 in 1 combo: 151-4468 1.59 1.60 1.36 1.19
  - 5 in 1 combo: 151-4469 1.43 1.66 1.34 1.06
  - 4 in 1 combo: 151-4462 2.40 2.10 1.78 1.56

### Table

<table>
<thead>
<tr>
<th>Mfrs. No.</th>
<th>List No.</th>
<th>Stack Height</th>
<th>Order Code</th>
<th>Price Each</th>
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<tr>
<td>04 538 008 010 889+</td>
<td>1.6mm</td>
<td>155-8171</td>
<td>1.04</td>
<td>0.99</td>
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</tbody>
</table>
**Memory Card Connectors - continued**

**Eject Headers - continued**

**Card Bus and Type III - continued**

- Conforms to PCMCIA and JEIDA standards
- 10,000 mating cycles when using Berg headers and card kits
- Polarity to prevent incorrect card insertion
- Eject headers provide enhanced ESD protection
- Type III ejectors accepts Type I, 11, and 11i cards

<table>
<thead>
<tr>
<th>R/A Cardbus</th>
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<th>Price Each</th>
</tr>
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<tbody>
<tr>
<td>Single Deck Card Bus</td>
<td>109-8023</td>
<td>1+</td>
</tr>
<tr>
<td>Type III Eject Headers - 68 pin (without stand off)</td>
<td>109-8024</td>
<td>1+</td>
</tr>
<tr>
<td>Double deck</td>
<td>109-8025</td>
<td>1+</td>
</tr>
</tbody>
</table>

**PC Card Headers**

- Accepts Type I, II and III PC Cards
- UL and CSA Approved

**ROCARD™ -Rugged Original CARD**

- Compiles to PC card and JEIDA standards
- Rugged concept with unique SnapFit latches
- Integrated frame bar within shield
- Withstanding voltage: 500V min
- Current rating: 4.5A per contact
- Contact resistance: 40mΩ initial, 10mΩ after cycling
- Temperature range: Operating: -20°C to +60°C, Storage: -55°C to +85°C
- I/O connectors: Phosphor Bronze, plated Au 0.1µm min over PdNi 0.5µm min

**Compact Flash™ Interconnectors**

- Ejector, (SMT) card headers and PC card adapter to support compact flash card
- Total interconnect solution for compact flash
- Light, compact eject mechanism
- Standard header = 6.64mm height, Low profile header = 4.00mm
- Adaptor converts compact flash card to PC card

**Compact Flash™ Interconnectors**

- Ejector (Header): Mfrs. List No.: NTE50-7216-JY-20 = 634-529, DTE50-7216-03-2 = 634-530, 20468-0000-11 = 634-542
- Ejector (Header): NTE50-7216 PK-20 = 1034424, NTE50-ES1PKX-30 = 1034423

**CF Memory Cards**

- CF memory cards available with storage capacities up to around 120GB
- Type I and II CF cards accepted
- Using the adaptor a CF card can be connected to a standard Type II PC Card slot
- Note: Card ejector mechanism supplied separately to card connector (header)
**PC Express Card Edge Connector 6325 Series 1mm Pitch**

- Molded polarisation key to prevent misalignment
- Ejector Latch (size 164 only)
- Tails are offset to form 4 rows on a 2.0mm pitch
- Conforms to PCI Express specification

**Memory Sockets**

- Small pitch of 0.6mm permits maximum use of space available on the PCB
- Small form factor allows DIMM to fit into slim enclosures
- All are pick and place process capable
- Surface mount technology for easy processing and ability to utilize both sides of PCB

**dropdown list**

- Designed to accept DDR2 miniDIMM memory modules (JEDEC MO-244 and MO-258)

<table>
<thead>
<tr>
<th>Description</th>
<th>List No.</th>
<th>Order Code</th>
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<th>List No.</th>
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**Memory Sockets**

- Small pitch of 0.6mm permits maximum use of space available on the PCB
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<table>
<thead>
<tr>
<th>Contact Rating</th>
<th>Body Style</th>
<th>No. of Ways</th>
<th>Contact Arrangement</th>
<th>Comments</th>
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<tr>
<td>6A @ 125Vac/dc</td>
<td>D</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>48</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15A @ 500Vac/dc</td>
<td>H</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6A @ 125Vac/dc</td>
<td>NH</td>
<td>24-7</td>
<td>Mixed contact bodies</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signal 3A @ 350Vac ac/dc</td>
<td>M</td>
<td>42-6</td>
<td>Reverse sex 'B' body</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>60-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>78-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2Q</td>
<td>32</td>
<td></td>
<td>Half length 'U' body</td>
<td></td>
</tr>
<tr>
<td>2A @ 250Vac/dc</td>
<td>R</td>
<td>64</td>
<td>Reverse sex 'C' body</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2R</td>
<td>32</td>
<td></td>
<td>Half length 'R' body</td>
<td></td>
</tr>
<tr>
<td></td>
<td>48</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

![Image](image_url)

**DIN41612 Class 1,2 and 3**

<table>
<thead>
<tr>
<th>Class</th>
<th>Mating cycles</th>
<th>Industrial atmospheres</th>
<th>Gold plating thickness</th>
<th>10 day gas test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1</td>
<td>10 days</td>
<td>60%RH</td>
<td>0.6µm</td>
<td>10 days</td>
</tr>
<tr>
<td>Class 2</td>
<td>4 days</td>
<td>90%RH</td>
<td>0.6µm</td>
<td>4 days</td>
</tr>
</tbody>
</table>

**Contact rating**
- 2A @ 20°C
- Insertion/ extraction force

**Contact resistance**
- 1.5Ω max

**Working voltage**
- 330Vac/400Vac

**Insulation resistance**
- 1GΩ

**Test voltage**
- 1000Vrms

**Temperature range**
- -65°C to +125°C

**Terminal**
- Insertion

**90° PCB Plugs 'B' and 'C' Body**

![Image](image_url)

**PCB Sockets 'B' and 'C' Body**

![Image](image_url)

**DIN41612 Performance Levels**

**Classes 1, 2 and 3** are the performance levels as specified in DIN41612, part 5. Connectors appearing in this catalogue will meet the minimum performance levels as shown below and will often exceed them. See individual connector specifications.

**Class 1**
- Service life: 500 mating cycles min.
- No abrasion of the contact finish through to base material.

**Class 2**
- Service life: 400 mating cycles min.
- No abrasion of the contact finish through to base material.

**Class 3**
- Service life: 50 mating cycles min.
### CECC Approved

Mating cycles: 500, 400, 400
Industrial atmospheres: 21, 21

- Contact rating: 1.5A @ 85°C
- Contact resistance: 20mΩ max
- Insulation resistance: 100MΩ min
- Test voltage between contacts: 1000V
- Contacts and earth: 1500V
- Temperature range: -50°C to +125°C

### 90° PCB Plugs ‘B’ and ‘C’ Body

![PCB Plugs 'B' and 'C' Body Diagram]

**PCB hole dia.=1±0.1, PCB mounting hole=2.5 dia.x8.89, Pin spacing=2.54**

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>Description</th>
<th>No. of Ways</th>
<th>Rows Loaded</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Row 'C' Body</td>
<td>64 a+c</td>
<td>3.82</td>
<td>3.02</td>
<td>1+</td>
<td>64 112-2932</td>
</tr>
<tr>
<td>66 a+b+c</td>
<td>3.98</td>
<td>3.51</td>
<td>3.67</td>
<td>10+</td>
<td>66 112-2933</td>
</tr>
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</table>

### PCB Sockets ‘B’ and ‘C’ Body

**PCB hole dia.=1±0.1, PCB mounting hole=2.8 dia.x8.74, Pin spacing=2.54**

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>Description</th>
<th>No. of Ways</th>
<th>Rows Loaded</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Row 'B' Body</td>
<td>64 a+b</td>
<td>2.88</td>
<td>2.55</td>
<td>1+</td>
<td>64 112-2930</td>
</tr>
<tr>
<td>3 Row 'C' Body</td>
<td>64 a+c</td>
<td>2.43</td>
<td>2.13</td>
<td>50+</td>
<td>64 112-2931</td>
</tr>
<tr>
<td>96 a+b+c</td>
<td>3.60</td>
<td>3.21</td>
<td>3.40</td>
<td>100+</td>
<td>96 112-2932</td>
</tr>
</tbody>
</table>

### Half Size ‘B’ and ‘C’ Body

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Rows Loaded</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Row 'C' Body</td>
<td>64 a+c</td>
<td>3.82</td>
<td>3.02</td>
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<tr>
<td>96 a+b+c</td>
<td>3.98</td>
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<td>3.67</td>
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### Hall Size ‘B’ and ‘C’ Body

<table>
<thead>
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<th>No. of Ways</th>
<th>Rows Loaded</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Row 'C' Body</td>
<td>64 a+c</td>
<td>3.82</td>
<td>3.02</td>
</tr>
<tr>
<td>96 a+b+c</td>
<td>3.98</td>
<td>3.51</td>
<td>3.67</td>
</tr>
</tbody>
</table>

### PCB Sockets

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Rows Loaded</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Row 'B' Body</td>
<td>32 a+b</td>
<td>3.82</td>
<td>3.51</td>
</tr>
<tr>
<td>112-2930</td>
<td>3.98</td>
<td>3.67</td>
<td>3.39</td>
</tr>
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</table>

### Din 41612 Plugs & SOCKETS

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Rows Loaded</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8 B/5/6 C</td>
<td>32 a</td>
<td>3.82</td>
<td>3.51</td>
</tr>
<tr>
<td>112-2930</td>
<td>3.98</td>
<td>3.67</td>
<td>3.39</td>
</tr>
</tbody>
</table>

### Type F

<table>
<thead>
<tr>
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<th>Rows Loaded</th>
<th>Order Code</th>
<th>Price Each</th>
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</thead>
<tbody>
<tr>
<td>1/8 B/5/6 C</td>
<td>32 a</td>
<td>3.82</td>
<td>3.51</td>
</tr>
<tr>
<td>112-2930</td>
<td>3.98</td>
<td>3.67</td>
<td>3.39</td>
</tr>
</tbody>
</table>

---

**RoHS Compliant**

**Fax: 08447 11 11 12 1929**
PCB and Wire Wrap Plug

- Contact rating: 2A @ 20°C
- Insertion A: Extraction force: 96 contacts >50N
- Housing: Polyester UL94-V0
- Insulation resistance: >10¹² Ω max.
- Colours: Black, Gold over nickel plating
- Temperature range: -50°C to +125°C
- Mating cycles: 50, no gas test

PCB Sockets

- Contact rating: 2A @ 20°C
- Insertion A: Extraction force: 96 contacts >50N
- Housing: Polyester UL94-V0
- Insulation resistance: >10¹² Ω max.
- Colours: Black, Gold over nickel plating
- Temperature range: -50°C to +125°C
- Mating cycles: 50, no gas test

Gds A Series DIN41612 Class 2

- 2 Row 'B' Body
  - Contacts: 32, 64, 96
  - Pin spacing: 2.54mm
  - Contact spacing: 0.635mm

- 3 Row 'C' Body
  - Contacts: 32, 64, 96
  - Pin spacing: 2.54mm
  - Contact spacing: 0.635mm

Solder and Wire Wrap Sockets

- Contact rating: 2A @ 20°C
- Insertion A: Extraction force: 96 contacts >50N
- Housing: Polyester UL94-V0
- Insulation resistance: >10¹² Ω max.
- Colours: Black, Gold over nickel plating
- Temperature range: -50°C to +125°C
- Mating cycles: 50, no gas test

Coded PCB Plugs

- Avoids accidental mating of adjacent connectors
- Coding facility integral part of the connector
- Code keys are push fit into plug and socket connectors

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Gds A Series DIN41612 Class 2 - continued

Coded PCB Plugs - continued

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Rows Loaded</th>
<th>Pin Length</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Row 'B' Body 90° PCB Pins</td>
<td>a+b</td>
<td>3</td>
<td>114-2810</td>
<td>4.14</td>
</tr>
<tr>
<td>3 Row 'C' Body 90° PCB Pins</td>
<td>a+c</td>
<td>3</td>
<td>119-6951</td>
<td>4.14</td>
</tr>
<tr>
<td></td>
<td>a+b+c</td>
<td>3</td>
<td>114-2812</td>
<td>5.81</td>
</tr>
</tbody>
</table>

Coded PCB Sockets

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Rows Loaded</th>
<th>Pin Length</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Row 'B' Body 90° PCB Pins</td>
<td>a+b</td>
<td>3</td>
<td>0903 766 6852</td>
<td>6.39</td>
</tr>
<tr>
<td></td>
<td>a+c</td>
<td>3</td>
<td>0903 766 6853</td>
<td>8.86</td>
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</tbody>
</table>

PCB Plugs with Snap in Clips

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Pin Length</th>
<th>Mfrs. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Row 'B' Body 90° PCB Pins</td>
<td>a+c</td>
<td>3</td>
<td>0903 364 6921</td>
<td>109-6948</td>
</tr>
<tr>
<td></td>
<td>a+b+c</td>
<td>3</td>
<td>0903 364 6921</td>
<td>109-6950</td>
</tr>
</tbody>
</table>

Half Size 2 Row 'B' Body

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Pins Loaded</th>
<th>L (mm)</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plugs 90° PCB Solder Pin</td>
<td>a+b</td>
<td>3</td>
<td>114-2800</td>
<td>1.90</td>
</tr>
<tr>
<td></td>
<td>a+b+c</td>
<td>3</td>
<td>109-6910</td>
<td>2.93</td>
</tr>
<tr>
<td>Socket</td>
<td>a+b</td>
<td>4</td>
<td>110-6772</td>
<td>3.24</td>
</tr>
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</table>

Half Size 3 Row 'C' Body

<table>
<thead>
<tr>
<th>Contact rating</th>
<th>Working voltage</th>
<th>Contact material</th>
<th>Copper Alloy, Gold plating</th>
</tr>
</thead>
<tbody>
<tr>
<td>32 Way, Rows a+c Loaded</td>
<td>90° PCB Solder Pin</td>
<td>2.96</td>
<td>0.60</td>
</tr>
<tr>
<td></td>
<td>48° PCB Solder Pin</td>
<td>2.96</td>
<td>0.60</td>
</tr>
<tr>
<td></td>
<td>Straight PCB Solder Pin</td>
<td>4</td>
<td>110-6916</td>
</tr>
</tbody>
</table>

'D' Body Plug and Sockets

<table>
<thead>
<tr>
<th>Contact rating</th>
<th>Working voltage</th>
<th>Contact material</th>
<th>Copper Alloy, Gold plating</th>
</tr>
</thead>
<tbody>
<tr>
<td>32 Way, Rows a+c Loaded</td>
<td>90° PCB pins</td>
<td>3</td>
<td>110-6773</td>
</tr>
<tr>
<td></td>
<td>48° PCB pins</td>
<td>8</td>
<td>109-6872</td>
</tr>
<tr>
<td></td>
<td>Wire wrap pins</td>
<td>20</td>
<td>109-6887</td>
</tr>
</tbody>
</table>

Crimp Contact Socket Housings

<table>
<thead>
<tr>
<th>Contact rating</th>
<th>Working voltage</th>
<th>Working voltage</th>
<th>D+F 125V ac/dc</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Housing</td>
<td>D+F 125V ac/dc</td>
<td>Poly carbonate (F)</td>
</tr>
<tr>
<td></td>
<td>Contact material</td>
<td>Copper Alloy, Gold plating</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contact material</td>
<td>Copper Alloy, Gold plating</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contact material</td>
<td>Copper Alloy, Gold plating</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Housing &amp; Contacts</th>
<th>Pin Length</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>B+C 2A @ 20°C</td>
<td>109-6917</td>
<td>3.90</td>
<td>3.60</td>
</tr>
<tr>
<td>B+F 6A @ 20°C</td>
<td>110-6774</td>
<td>7.86</td>
<td>7.23</td>
</tr>
<tr>
<td>D+F 125V ac/dc</td>
<td>109-6872</td>
<td>6.05</td>
<td>5.32</td>
</tr>
</tbody>
</table>

| Plugs | 90° PCB pins | 3 | 109-6917 | 3.90 | 3.60 | 3.44 | 3.28 | 2.42 |
| | 48° PCB pins | 8 | 109-6872 | 6.05 | 5.32 | 4.84 | 4.27 | 3.90 |
| | Wire wrap pins | 20 | 109-6887 | 6.21 | 5.73 | 5.47 | 5.22 | 4.12 |

<table>
<thead>
<tr>
<th>Socket Housing</th>
<th>No. of Ways</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>B+C 2A @ 20°C</td>
<td>109-6917</td>
<td>3.90</td>
<td>3.60</td>
</tr>
<tr>
<td>B+F 6A @ 20°C</td>
<td>110-6774</td>
<td>7.86</td>
<td>7.23</td>
</tr>
<tr>
<td>D+F 125V ac/dc</td>
<td>109-6872</td>
<td>6.05</td>
<td>5.32</td>
</tr>
</tbody>
</table>
**Contacts (100 Per Pack)**

<table>
<thead>
<tr>
<th>Size</th>
<th>Order Code</th>
<th>Price Per Pack</th>
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<tbody>
<tr>
<td>B’ + C 0.14 - 0.5mm²</td>
<td>109-6944</td>
<td>27.93</td>
</tr>
<tr>
<td>D’ + F 0.14 - 0.5mm²</td>
<td>109-6944</td>
<td>42.69</td>
</tr>
<tr>
<td>D’ + F 0.14 - 0.5mm²</td>
<td>109-6944</td>
<td>42.69</td>
</tr>
</tbody>
</table>

**Tooling for Crimp Contacts**

For individual contacts FC 1, FC 2 & FC 3

Wire gauge - 0.14 - 1.5mm²

**Crimping Tool**

- For individual contacts FC 1, FC 2 & FC 3
- Wire gauge - 0.14 - 1.5mm²

**'F' Body Plug and Sockets**

48 Way, Rows d + b + z Loaded

**'H' Body Plugs and Sockets**

15 Way, Rows d + z Loaded

- Horizontal faston terminals (6.3 x 0.8)
- Contact rating: 15A @ 20°C
- Working voltage: 500 V ac/dc
- Contact material: Copper Alloy, Silver plating

**Socket rear views**

- Cage clamp terminals (6.3 x 0.8)
- Vertical faston terminals (6.3 x 0.8)

**Notes:**
- The plugs have a leading earth pin in position Z32. 225-940 will not accept 'H' body backshell

**'MH' Body Plugs and Socket**

24 Way, Rows d + b + z Loaded and 7 Way, Rows d + z Loaded

- Contact rating: 24 way 6A @ 20°C
- Working voltage: 24 way 125 V ac/dc
- Contact material: Copper Alloy, Silver plating

**Note:**
- The plugs have a leading earth pin in position Z32. 225-940 will not accept 'H' body backshell

---

**RoHS Compliant**

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---

Connectors – Signal & Data

---

RoHS Compliant △ Non-compliant

Fax: 08447 11 11 12

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1933
## Gds A Series DIN41612 Class 2 - continued

### MH Body Plugs and Socket - continued

24 Way, Rows d + b + z Loaded and 7 Way, Rows d + z Loaded - continued

<table>
<thead>
<tr>
<th>Order Code</th>
<th>1+</th>
<th>10+</th>
<th>Price Each</th>
<th>50+</th>
<th>100+</th>
<th>250+</th>
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<tbody>
<tr>
<td>109-6801</td>
<td>8.71</td>
<td>7.67</td>
<td>6.92</td>
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<td>5.55</td>
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<tr>
<td>109-6802</td>
<td>8.71</td>
<td>8.02</td>
<td>7.66</td>
<td>7.33</td>
<td>6.21</td>
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</tr>
</tbody>
</table>

- **Straight wire wrap + straight fasteners**
- **Straight PCB pins + straight fasteners**
- **MH Body**
- **'C' + 'D' Body**
- **'F' + 'H' + MH Body**

<table>
<thead>
<tr>
<th>Mfrs. List No</th>
<th>0902 064 0501 = 110-6777</th>
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</table>

### B, C, D, F, H and MH Accessories

- **Backshell with lever latches fitted**

<table>
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<tr>
<th>Order Code</th>
<th>1+</th>
<th>10+</th>
<th>Price Each</th>
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<th>100+</th>
<th>250+</th>
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<tbody>
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<td>4.73</td>
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<td>109-6805</td>
<td>6.95</td>
<td>8.32</td>
<td>7.97</td>
<td>7.61</td>
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<tr>
<td>109-6892</td>
<td>6.33</td>
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<td>5.40</td>
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</table>

<table>
<thead>
<tr>
<th>Mfrs. List No</th>
<th>0902 000 9902 = 109-6927</th>
</tr>
</thead>
</table>

### Fixing Brackets

- **'B', 'C' + 'D' + H' Fire Main left hand**
- **'F', 'H' + 'MV' right hand**

<table>
<thead>
<tr>
<th>Order Code</th>
<th>1+</th>
<th>10+</th>
<th>Price Each</th>
<th>50+</th>
<th>100+</th>
<th>250+</th>
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<tbody>
<tr>
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<td>1.75</td>
<td>1.51</td>
<td>1.22</td>
<td>1.09</td>
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</tr>
<tr>
<td>109-6932</td>
<td>3.05</td>
<td>2.66</td>
<td>2.26</td>
<td>1.84</td>
<td>1.69</td>
<td></td>
</tr>
<tr>
<td>109-6933</td>
<td>1.63</td>
<td>1.43</td>
<td>1.41</td>
<td>1.01</td>
<td>0.90</td>
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<table>
<thead>
<tr>
<th>Mfrs. List No</th>
<th>0902 000 9921 = 109-6931</th>
</tr>
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### Rear Shrouds for W/W Connectors

<table>
<thead>
<tr>
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<th>10+</th>
<th>Price Each</th>
<th>50+</th>
<th>100+</th>
<th>250+</th>
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<td>4.07</td>
<td>3.64</td>
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<table>
<thead>
<tr>
<th>Mfrs. List No</th>
<th>0903 000 9912 = 109-6956</th>
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## Coaxial Contacts 50Ω

- **90° PCB socket 119-6997**

<table>
<thead>
<tr>
<th>Style</th>
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<th>25+</th>
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<td>88+6</td>
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<tr>
<td>90°-PCB plug 119-6997</td>
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<td>90°-PCB socket 119-6997</td>
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<td>6.29</td>
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<td></td>
</tr>
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</table>

### Power Contacts

- **Plug 109-600100**
- **Socket 109-600200**
- **90° PCB Plug 109-600300**

<table>
<thead>
<tr>
<th>Current Rating (A)</th>
<th>Order Code</th>
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</thead>
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<tr>
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<tr>
<td>108-76000</td>
<td>40</td>
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<tr>
<td>109-600100</td>
<td>10</td>
<td>37.51</td>
</tr>
<tr>
<td>109-600200</td>
<td>20</td>
<td>38.91</td>
</tr>
<tr>
<td>109-600300</td>
<td>40</td>
<td>77.82</td>
</tr>
</tbody>
</table>

### Need a better price?

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Web: **www.farnell.co.uk**
Phone: **08447 11 11 11**
Z-PACK High Speed, High Density Backplane Connectors

Receptacle Assembly
- 10 ± 0.0001 in performance
- 100 ohm impedance for Differential Pair configuration
- 5 pair versions 26 pairs/10mm [66 differential pairs/inch] fitting within a 25.40mm card slot pitch
- 4 pair versions 21 pairs/10mm [53 differential pairs/inch] fitting within a 20.30mm card slot pitch
- Reliable, redundant contact design
- Low crosstalk and high through-put performance levels
- Meets Industry reliability requirements of Belcore/ Telcordia
- Sequencing for ground and signal contacts

Specifications:
- Current Rating: 0.5A
- Voltage Rating: 250V
- Contact Material: Copper Alloy
- Contact Plating: Nickel
- Housing Material: LCP
- Impedance: 100Ω±10%
- No. of Mating Cycles: 200
- Operating Temp.: -65°C to 90°C

<table>
<thead>
<tr>
<th>No. of Mating Cycles</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 ± 0.0001 in</td>
<td>$10.50</td>
</tr>
<tr>
<td>25 ± 0.0005 in</td>
<td>$25.00</td>
</tr>
<tr>
<td>50 ± 0.0005 in</td>
<td>$25.00</td>
</tr>
</tbody>
</table>

AdvancedTCA® Zone 1 (Z1)

- New part numbers
- No 27mA contacts
- 2x embedded Z1 compliant D40 connectors
- Rugged connector design and post-plated 30 microinch gold plating ensures long-term reliability in demanding environments
- High Precision formed contacts
- Housing lead-in on receptacle to prevent stubbing of signal contacts
- 22 size 22 signal contacts
- 8 size 16 power contacts
- Positions 1-4 not populated and reserved for future use

<table>
<thead>
<tr>
<th>No. of Mating Cycles</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 ± 0.0001 in</td>
<td>$10.50</td>
</tr>
<tr>
<td>25 ± 0.0005 in</td>
<td>$25.00</td>
</tr>
<tr>
<td>50 ± 0.0005 in</td>
<td>$25.00</td>
</tr>
</tbody>
</table>
MicroTCA
Vertical AdvancedMC Connector

MicroTCA is complimentary to AdvancedTCA. The basic premise of MicroTCA is to support the mezzanine boards, conform to the AdvancedMC standard, and connect to the back plane, eliminating the need to use an additional carrier board.

- Pre-slit connector per MicroTCA C specification
- 170 lines
- Connector designed so that custom load patterns are easily created

AdvancedMC Connector
PICMG AMC B+ Style

The PICMG AMC B+ Card Edge Connector has two rows of contacts spaced on 0.75mm centres. There are 170 contacts on the mating face. It is designed to mate to a 1.6 x 0.16mm thick printed circuit board with contact pads on 0.75mm centres. The interface to the back plane is through compliant tabs.

- Targeted for high-speed differential applications (3.125 Gb/s) to 10+ Gb/s
- Suitable for assembly processes using flat-rocker tooling

MicroTCA
Minipak HD Power Connector

The MINIPAK HD Connector is a 2-piece board-to-board connector designed to meet the PICMG MicroTCA specification. The connector consists of 24 power contacts and 72 high density signal contacts.

- High current density
- Hot Plug contact design controls arc during hot mate/ unmate cycles
- Long term reliability in demanding environments

HD Mezz™ Board-to-Board Receivers and Plugs

Advanced gold-plated plastic housing with integrated shielding system supporting high-speed differential signaling in excess of 10.0 Gbps. These Mezzanine Connectors are ideal for servers, mainframe computers, workstations, test equipment and telecommunications equipment such as switches and routers.

- Two points of contact on each signal ensure high reliability
- Contacts on 1.0mm pitch arranged in isolated differential pairs on 3.5mm pitch for controlled impedance
- Current: 1.5A max.
- Operating Temp: -20 to +85°C

Plateau HS Mezz™
High Speed Mezzanine for 10.0Gbps Bandwidth

The i-Trac™ is a broad-side, skew-equalized design that handles speeds up to 12.5 Gbps with superior impedance control and lower cross-talk for traditional and orthogonal backplane applications. It is an open, flexible, mono-block system with integrated guidance, power and signals that can be stacked end-to-end to meet specific pin-out requirements. Open-field design permits assigning high speed differential pairs, low speed signals, power and ground contacts anywhere within the pin field. 11 Row i-Trac™ has 24.8mm slot width, 55 Parts/Inch of 36 (6x8) Parts/Node.

No. of Ways

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>152-7870</td>
<td>21.43</td>
<td>20.41</td>
<td>19.05</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Connectors – Signal & Data

18

RoHS Compliant
Non-compliant

08447 11 11 12
Fax: 08447 11 11 12
High Speed Differential - continued

Airmax VS® Power Connectors

High power connectors from the FCI Airmax virtual shield high-speed signal connector offering. The unique insulator design includes openings to help air flow around the contacts to improve heat dissipation and with flat contacts to enable the use of high conductivity base metal; these design features contribute to the connectors higher current-carrying capacity.

The right-angle headers and vertical receptacles enable power connections at a backplane-to-daughtercard interface. Each header offers 2, 4 or 6 individual power contacts positioned in 1x2, 2x2 or 2x3 arrays. The backplane receptacles are offered in 2x2 or 2x3 configurations, the 2x2 receptacle mates to either the 1x2 or 2x2 header configuration.

Features:
- Current rating to 80 amps for 1x2 and 2x2 modules.
- Hand Metric (mm) equipment practice.
- Standard profile and low profile options.

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>No. of Contacts</th>
<th>Contact Height Above PCB</th>
<th>Contact Material</th>
<th>Contact Plating</th>
</tr>
</thead>
<tbody>
<tr>
<td>10028918-001LF</td>
<td>2 1 x 2</td>
<td>14.7 mm</td>
<td>Copper Alloy</td>
<td>Au over Ni</td>
</tr>
<tr>
<td>10028917-001LF</td>
<td>4 2 x 2</td>
<td>14.7 mm</td>
<td>Copper Alloy</td>
<td>Au over Ni</td>
</tr>
<tr>
<td>10073739-001LF</td>
<td>4 2 x 2</td>
<td>11.5 mm</td>
<td>Copper Alloy</td>
<td>Au over Ni</td>
</tr>
<tr>
<td>10073839-001LF</td>
<td>4 6 x 3</td>
<td>11.5 mm</td>
<td>Copper Alloy</td>
<td>Au over Ni</td>
</tr>
<tr>
<td>10082916-455P50LF</td>
<td>4 2 x 2</td>
<td>11.5 mm</td>
<td>Copper Alloy</td>
<td>Au over Ni</td>
</tr>
<tr>
<td>10082916-554SS5PLF</td>
<td>6 1 x 3</td>
<td>11.5 mm</td>
<td>Copper Alloy</td>
<td>Au over Ni</td>
</tr>
</tbody>
</table>

PwrBlade™ Power Distribution Connector System

The PwrBlade™ power distribution connector system from FCI includes power and signal contacts to provide power distribution and power control in a single connector. Vertical or right angle versions are available for both headers and receptacles to deliver support for coplanar, backplane or mezzanine connections. The connectors are ideal for robust power connectors to embedded AC/DC power supplies or for board-to-board connections in servers, storage enclosures and communications equipment.

Features and Benefits:
- Provides contacts for power distribution and power control.
- Robust 2.54mm pitch for signal contacts.
- Rugged blind-mate design.
- 48A individual power contact, 30A contact for 10 contacts at 30°C rise in still air.
- Capability for up to 50 power contacts and 148 signal contacts in up to 8 inches.
- Options for solder or press-fit termination of PCB-mount connectors.
- Board retention devices provided to secure connectors during processing.

<table>
<thead>
<tr>
<th>Description</th>
<th>Mfrs. List No.</th>
<th>Order Code</th>
<th>Contact Material</th>
<th>Contact Plating</th>
<th>No. of Matting Contacts</th>
<th>Operating Temperature</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>PwrBlade, R/A</td>
<td>51416-001LF</td>
<td>162-1084</td>
<td>Copper Alloy 0.76 μm (10 μ)</td>
<td>Gold</td>
<td>100</td>
<td>-20°C to 105°C</td>
<td>$57/423</td>
</tr>
</tbody>
</table>

MetPak™ HSHM Press-Fit Headers & Sockets

2mm Pitch, Type B19, B22

- Up to 5 Gb/s data rates
- Low crosstalk at high frequencies
- 50/100 Ohm (single-ended / differential) impedance
- Modular / scalable format IEC 010704-101
- Press-fit headers and receptacles
- 63 mating lines per linear inch
- Sockets have dual beam contact for high reliability
- End-to-end stackable
- 5 Rows

Specifications—

<table>
<thead>
<tr>
<th>Contact Material</th>
<th>Insulation Resistance</th>
<th>Pitch</th>
<th>Pitch Row</th>
<th>Withstanding Voltage</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper Alloy</td>
<td>10000MΩmm</td>
<td>2mm</td>
<td>5mm</td>
<td>750mV</td>
<td>$57/917</td>
</tr>
</tbody>
</table>

HD Mezz Elevated Array

HDAF, HDAM series

- Open pin field for Single-Ended or Differential Pair configurations
- Intermateable with Molex HD Mezz
- Male and female versions available
- Pitch - 2.00mm
- Elevated stack heights of 20mm, 25mm, 30mm and 35mm
- 143, 155 & 299 pins versions
- 15 rows

NB - The suffix ‘1’ and ‘2’ from the mfrs. list no. refers to the solder charge material, “1” = 63% Tin / 37% Lead, “2” = 95.5% Tin / 3% Silver / 0.7% Copper.

<table>
<thead>
<tr>
<th>Insulator Material</th>
<th>Contact Material</th>
<th>Contact Plating</th>
<th>Rating</th>
<th>Operating Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper Alloy</td>
<td>Copper Alloy</td>
<td>2.3A</td>
<td>17-0°C</td>
<td>-55°C to 125°C</td>
</tr>
</tbody>
</table>

HDAF Profile

- 08 ** (10.51 mm)

HDAM Profile

- 12 ** * (14.14 mm) 30.51 mm)

**Lead style taken from Mfrs. List No. - Measurements in brackets give the unmarked profile height.

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**Connectors – Signal & Data**

### 2.0mm Backpanel Systems

- **Millipacs 1 2.0mm System**
  - Board to board modular connector on a 2 x 2mm grid
  - Developed for design requirements where high speed and pin density are required
  - Conforms to requirements of IEC817 and meets IEEE Futurebus standards

**Contact rating**
- 1.5A (signal)
- 3A (power)

**Housing**
- High temperature GF Thermoplastic U/L94V-0

**Temperature range**
- -55°C to +125°C

**PCB Plugs and Sockets**
- Sockets have push fit retention pegs

**Plugs**
- FCI 102-3921
- FCI 102-3922
- FCI 102-3923
- FCI 102-3924

**Sockets**
- FCI 102-3925
- FCI 102-3926
- FCI 102-3927
- FCI 102-3928

---

### Power/Signal

- Power modules have a current rating of 3A
- The two modules have 4 rows of 2 pins
- Female has push fit retention peg

---

**2.0mm Plugs**

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>1+</td>
<td>10+</td>
<td>50+</td>
</tr>
</tbody>
</table>

**60°C**
- Straight PCB Pins
  - Order Code: 102-3921
  - Price: 3.36
  - Package: 50+ in 1000s

**90°C**
- PCB Sockets
  - Order Code: 102-3922
  - Price: 2.53
  - Package: 100+ in 100s

---

**Z-PACK 2mm FB (Futurebus+)**

- High density connections: four-row and five-row, 2mm x 2mm circuit grid
- Modular design, end to end stackable
- UL recognised & CSA approved
- Press-fit termination

**Current Rating**
- 1A

**Housing**
- Contacts: High Temperature Liquid crystal polymer
- Contacts: Gold plated

---

### Differential Pair Array

**DPAF, DPAM series**

- Staggered layout reduces grounds required
- Performance of up to a tertabit per connector
- Low insertion / extraction forces
- Male and female versions available
- Pitch - 2.18mm
- Pitch row - 2.54mm

---

### MEG-array® Connector System

The MEG-Array® connector is designed to meet the needs of 100Gb/s applications requiring up to 528 signal pins per connector. The combination of multiple stack heights (4mm to 14mm) and multiple sizes (61 signals to 528 signals) allows for optimal design flexibility while yielding less than 1% cross-talk performance when configured differently.

**Features & Benefits**
- Ball Grid Array (BGA) termination for process friendly attachment
- 1.27 x 1.27mm BGA interface pitch optimizes routing and electrical performance
- Stack Heights available from 4mm to 14mm (2mm increments)
- Connector sizes of 100 signals to 400 signals providing 80 usable signals per linear cm (205 signals per linear inch) allow for optimization of board space and signal requirements
- 10 Gb/s differential pair performance at less than 1% cross-talk meets the needs of high speed mezzanine applications
- Demonstrated solder joint reliability of greater than 22 years life (per IPC-SM-785) is unmatched for a BGA mezzanine connector
- Polarized design assures proper mating of the connector
- RoHS Compliant (Lead-Free)

**Housing Material**
- Copper Alloy

**Contact Material**
- Copper Alloy

**Contact Plating**
- 0.76 μm (30 μi) Gold over 0.76 μm (30 μi) Nickel

**Voltage Rating**
- 200V

**Current Rating**
- 0.42A

**Operating Temperature**
- -40°C to 80°C

---

**NB.** The contact plating is different for p/n 162-3934. It is 50 μm. Gold and meets Telcordia GR-1217-CORE and NPS2528-2 specifications for utilisation in telecom applications.
2.0mm Backpanel Systems - continued

Z-PACK 2mm FB (Futurebus+) - continued

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Mfrs. No.</th>
<th>Order Code</th>
<th>Price Each</th>
<th>1+</th>
<th>50+</th>
<th>100+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Four Row - Plug - Vertical</td>
<td>24</td>
<td>5536641-1</td>
<td>129-430-6</td>
<td>1.70</td>
<td>1.53</td>
<td>1.37</td>
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<tr>
<td></td>
<td>48</td>
<td>5536604-2</td>
<td>129-430-8</td>
<td>2.58</td>
<td>2.28</td>
<td>2.05</td>
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<tr>
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<td>96</td>
<td>5536604-3</td>
<td>129-430-8</td>
<td>4.88</td>
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<td>192</td>
<td>5536604-4</td>
<td>129-430-9</td>
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<td>5.72</td>
<td>5.14</td>
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<tr>
<td>Four Row - Socket - Right-Angle</td>
<td>24</td>
<td>5536611-1</td>
<td>129-431-6</td>
<td>1.10</td>
<td>0.98</td>
<td>0.88</td>
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<td>48</td>
<td>5536611-2</td>
<td>129-431-8</td>
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<td>5536611-4</td>
<td>129-431-8</td>
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<td>4.10</td>
<td>3.69</td>
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<tr>
<td>Five Row - Plug - Vertical</td>
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<td>5223016-1</td>
<td>129-434-8</td>
<td>2.88</td>
<td>2.56</td>
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<td>60</td>
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<td>3.45</td>
<td>3.00</td>
<td>2.75</td>
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<tr>
<td>Five Row - Socket - Right-Angle</td>
<td>30</td>
<td>5223008-1</td>
<td>129-434-7</td>
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<td>2.09</td>
<td>1.88</td>
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</table>

Z-Pack 2.0mm Hard Metric

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Mfrs. No.</th>
<th>Order Code</th>
<th>Price Each</th>
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<th>50+</th>
<th>100+</th>
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</thead>
<tbody>
<tr>
<td>Straight PCB Pins - Signal</td>
<td>24</td>
<td>5536601-1</td>
<td>109-848-4</td>
<td>1.84</td>
<td>1.71</td>
<td>1.64</td>
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<tr>
<td></td>
<td>48</td>
<td>5536602-2</td>
<td>109-848-4</td>
<td>3.93</td>
<td>3.66</td>
<td>3.51</td>
</tr>
<tr>
<td>90° PCB Sockets - Signal</td>
<td>24</td>
<td>2.73</td>
<td>5536607-1</td>
<td>109-846-7</td>
<td>2.38</td>
<td>2.21</td>
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<tr>
<td></td>
<td>48</td>
<td>2.73</td>
<td>5536607-2</td>
<td>109-846-7</td>
<td>4.05</td>
<td>3.76</td>
</tr>
<tr>
<td></td>
<td>96</td>
<td>2.73</td>
<td>5536607-3</td>
<td>109-846-9</td>
<td>5.87</td>
<td>5.48</td>
</tr>
<tr>
<td></td>
<td>192</td>
<td>2.73</td>
<td>5536607-4</td>
<td>109-846-9</td>
<td>7.92</td>
<td>7.38</td>
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<tr>
<td>Power Modules</td>
<td>B(Coiler)</td>
<td>2.73</td>
<td>5536607-1</td>
<td>109-846-7</td>
<td>3.97</td>
<td>3.79</td>
</tr>
</tbody>
</table>

Compact PCI Backplane

- Meets needs of telecommunications, computer and instrumentation applications
- Comply with IEC917 and IEC1076-4-101
- Press fit
- C-PCI can use 32 bit or 64 bits on 3U cards and 6U cards using standard and special length connectors

C-PCI Components for Backplane
- 22 column type A header hot swap
- 22 column type B header
- 22 column type A header
- System slot () and peripheral slot(II) adapters
- 22 column type A shielded receptacle
- 22 column type B shielded receptacle
- 19 column type B shielded receptacle

Har. bus HM 2.0mm

- Meets needs of telecommunications, computer and instrumentation applications
- Comply with IEC917 and IEC1076-4-101
- Pre-installed upper shields on the sockets
- Specific colour code keys for board insertion identification
- •16,4 Bit Transfer Rate

Test Voltage | 750Vrms
Contact rating | 1.5A (dc) (signal)
Contact resistance | 20mohm max
Temperature range | -55°C to +125°C
Mating cycles | 1000 pin (max)
Retension force | 200N (max)

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Mfrs. No.</th>
<th>Order Code</th>
<th>Price Each</th>
<th>1+</th>
<th>100+</th>
<th>250+</th>
<th>500+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straight Plug</td>
<td>110</td>
<td>B</td>
<td>1701 110 2201</td>
<td>110-678-4</td>
<td>4.80</td>
<td>4.46</td>
<td>2.71</td>
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<td></td>
<td>110</td>
<td>B</td>
<td>1704 110 2201</td>
<td>110-678-5</td>
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<td>110-660-8</td>
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Prices are in £ sterling & exclusive of VAT
Card Edge Connectors - continued

0.156" Pitch Double Sided - continued

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<th>Double Sided</th>
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0.8mm Hi-Speed Sockets
HSEC8 series

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<th>Contact Material</th>
<th>Contact Plating</th>
<th>Current Rating</th>
<th>Operating Temperature</th>
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<td>LCP</td>
<td>Beryllium Copper</td>
<td>Gold</td>
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<td>-55°C to 125°C</td>
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Mini Edge Card Sockets
MEC1 series

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<th>Contact Plating</th>
<th>Current Rating</th>
<th>Operating Temperature</th>
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<tr>
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<td>Gold</td>
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Power Card Edge Connectors

The Power Card Edge connector is a cost effective connector system that can be used for DC power output from embedded AC/DC power supplies or for distribution between boards within an enclosure.

The connector range includes options for right-angle, vertical or straddle-mount solder termination.

The connectors low profiles are ideal for use in high density boards, particularly in servers and external storage systems.

Features:
- One-piece card edge design provides cost-effective power delivery with capacity for up to 7.0A per power contact
- Narrow connector body enables use in 1U servers and power supplies
- Low profile design helps to maximise airflow for system cooling
- Straddle mount connectors feature mounting ears for secure PCB attachment

Power Contact | Signal Contact
---|---
2.54 mm | 1.27 mm
12µ" Pure Matte Tin over 50µ" Ni | 30µ" Gold over 50µ" Ni

Current Rating: 7A
Operating Temperature: -5°C to 105°C

FREE technical support
Our trained engineers are here to help!

08447 11 11 22
technicalsales@farnell.co.uk
Live technical chat at www.farnell.co.uk

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