ELCON Drawer Series Connectors
True Hot-Plug, Blind-Mating Mixed Signal and Power Connectors

Product Facts
■ Wide variety of contact sizes and styles from 1 Amp signals up to power contacts rated at up to 200 Amps each
■ Sequenced contacts for "mate-first-break-last" operation
■ Floating panel-mount connectors float up to +/- 2 mm
■ High durability specific products ranging from 100 to 1000 male/un-mate cycles
■ Customizable products allow the freedom to add or remove power or signal contacts to meet specific application requirement
■ Most products recognized to US and Canadian requirements under the Component Recognition program of Underwriters Laboratories File No. E28476

Typical Applications
■ Low noise power supplies
■ Switch-mode power supplies (SMPS)
■ Power factor-correcting (PFC) power supplies
■ Systems requiring mounting to backplane or chassis
■ Redundant (N + 1) power systems
■ “Live” hot-plug power supplies
■ All ELCON drawer connectors in this section are RoHS compliant

Tyco Electronics offers a wide selection of blind-mateable “drawer” connectors to suit modular equipment designs. The term “drawer connector” was created to describe a cabinet drawer where the connector is installed at the back of the drawer and is mated by closing the drawer. Since the “drawer” is often times made with a somewhat loose fit — to enable easy opening and closing, the drawer connector must provide sufficient self-alignment and ideally a floating connection to the cabinet or drawer to keep the connection from binding.

The power drawer connectors in this catalog are divided into two separate categories: high power drawers and low power drawers. Specifically, the product line names in these two categories are:

High Power Drawer Connectors
■ ELCON Drawer Series Connectors
Low Power Drawer Connectors
■ AMP Drawer Series Connectors
■ Mini Power Drawer
■ Blind-mate Drawer Connectors
■ Hybrid Mini Drawer Connectors

Some of the benefits of the power drawer connectors from Tyco Electronics are the robustness of the housing designs and the durability of the contacts. High-end applications such as networking switches and servers want the lowest possible voltage drop across the connector. For these applications the high conductivity screw-machined contacts with either gold or silver plating offer the best performance.

The contacts are the core of the ELCON drawer series connectors. For cost sensitive applications the different hybrid drawer connectors offer a wide variety of shapes and sizes aimed at keeping cost minimized and still providing a reliable separable interface.

Regardless of the application, Tyco Electronics offers a wide variety of power & signal blind-mateable drawer connectors.

Need more information?
Call Technical Support at the numbers listed below.

Technical Support is staffed with specialists well versed in all Tyco Electronics products. They can provide you with:
■ Technical Support
■ Catalogs
■ Technical Documents
■ Product Samples
■ Tyco Electronics Authorized Distributor Locations
ELCON Drawer Series Connectors
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Probe-proof Double CROWN BAND Contacts
The size #0 contacts used in the Top Drawer, Double Drawer, DualPower and QuadPower connectors are also available in a probe-proof double CROWN BAND version. These contacts are specially suited for operator-serviced power supplies that require extra safety protection.

Signal/Power Sequencing
All signal and some power contacts are available in various lengths to allow multiple levels of sequencing, thus giving the engineer further design flexibility.

Mating Polarization
To provide for positive housing mating of connectors, polarization is provided in the form of molded-in guide posts or pre-installed guide pins.

Wide Array of Standard Contacts
ELCON drawer connectors support various termination styles, including crimp for cable, solder tail and compliant press-fit for mounting to PCB, and internal/external threads for termination to lugs and/or busbars. See table below for details.

<table>
<thead>
<tr>
<th>Contact Size</th>
<th>Termination</th>
<th>Threaded</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PC Tail</td>
<td>Press-fit</td>
</tr>
<tr>
<td>#20</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>#16</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>#12</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>#8</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>#4</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>#0</td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>

Application-Specific Designs
If none of our standard drawer connectors satisfies your requirements, Tyco Electronics can develop an ELCON connector design specific to your application. We will work closely with your engineers to fully understand the design requirements and develop an interconnect solution that meets your stated needs. After the concept and design stages, Tyco Electronics produces prototypes that perform both electrically and mechanically the same as production parts. These machined parts are used for testing, regulatory agency evaluations and even as pre-production components, allowing the shortest lead time from concept to manufacturing in the industry.

Concept
Tyco Electronics engineers work closely with the customer to fully understand the design requirements.

Design
A sketch drawing of the design concept is created for customer review, and the design is finalized only when it fully meets the requirements of the customer.

Prototypes
The design is frozen and work on the mold tools starts. Meanwhile, Tyco Electronics builds prototypes that are identical to the production parts.

Production
By the time the customer is ready for production, all requirements for release to production, such as qualification and regulatory agency approval, have been cleared.
How to Tailor Your ELCON Drawer Connector

If you selected a standard drawer connector for your application, before placing an order you need to specify your application-specific requirements, such as housing type, contact loading, and termination style. Layout forms for all standard drawer connectors, such as the one shown below, are available online at http://www.tycoelectronics.com or can be obtained from Tyco Electronics customer service for this purpose. Complete a form for the pin and socket side of your connector as indicated in the instructions and fax it to your Tyco Electronics sales engineer. We will issue a unique part number specific to your configuration, which you can then use to place orders. Samples and customer drawings are also available upon request.

**Pin Assembly**
1. Choose one housing from the Pin Housing Selection Menu table. Place an X in the appropriate guide pin circles, if guide pins are required.
2. Write the total quantity of each pin contact you require for each pin assembly in the Qty column of the Pin Contact Selection Menu table.
3. Crimp contacts are shipped uninstalled. Threaded and PCB tail contacts are installed by Tyco Electronics; enter the letter reference of the desired contact in the appropriate contact positions on the drawing: e.g., if you need a size #20 premate PCB tail standard contact to be installed in contact position #10, write “Q” in circle #10.
4. Sign, date and send the completed form to your local Tyco Electronics Sales Engineer.

**Pin Housing Selection Menu**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Check</th>
</tr>
</thead>
<tbody>
<tr>
<td>1648183-1</td>
<td>Housing without guides</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Housing with guides (#6-32 thread)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Housing with guides (M3 x 0.5 thread)</td>
<td></td>
</tr>
</tbody>
</table>

**Pin Contact Selection Menu**

<table>
<thead>
<tr>
<th>Size</th>
<th>Ref. Part Number</th>
<th>Termination Style &amp; Pin Length</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>#0</td>
<td>A = 1766811-1</td>
<td>Crimp</td>
<td></td>
</tr>
<tr>
<td></td>
<td>B = 1766819-1</td>
<td>Probe Proof, crimp</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C = 1766220-1</td>
<td>1/4-20 Internal Thread</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D = 1766274-1</td>
<td>M6 x 1 Internal Thread</td>
<td></td>
</tr>
<tr>
<td></td>
<td>E = 1766269-1</td>
<td>Probe Proof, 1/4-20 Internal Thread</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F = 1766275-1</td>
<td>Probe Proof, M6 x 1 Internal Thread</td>
<td></td>
</tr>
<tr>
<td></td>
<td>G = 1766265-1</td>
<td>1/4-20 External Thread</td>
<td></td>
</tr>
<tr>
<td></td>
<td>H = 1766231-1</td>
<td>M6 x 1 External Thread</td>
<td></td>
</tr>
<tr>
<td></td>
<td>J = 1766270-1</td>
<td>Probe Proof, 1/4-20 External Thread</td>
<td></td>
</tr>
<tr>
<td></td>
<td>K = 1766276-1</td>
<td>Probe Proof, M6 x 1 External Thread</td>
<td></td>
</tr>
<tr>
<td>#20</td>
<td>L = 1650155-1</td>
<td>Crimp, standard</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M = 1650161-1</td>
<td>Crimp, premate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N = 1650162-1</td>
<td>Crimp, postmate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P = 1650233-1</td>
<td>PCB tail, standard</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q = 1650085-1</td>
<td>PCB tail, premate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>R = 1650226-1</td>
<td>PCB tail, postmate</td>
<td></td>
</tr>
<tr>
<td>#16</td>
<td>S = 1766196-1</td>
<td>Crimp, standard</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T = 1766198-1</td>
<td>Crimp, premate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>U = 1766199-2</td>
<td>Crimp, postmate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>V = 1766222-1</td>
<td>PCB tail, standard</td>
<td></td>
</tr>
<tr>
<td></td>
<td>W = 1766223-1</td>
<td>PCB tail, premate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X = 1766818-1</td>
<td>PCB tail, postmate</td>
<td></td>
</tr>
<tr>
<td>#12</td>
<td>Y = 1766193-1</td>
<td>Crimp, standard</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Z = 1766195-1</td>
<td>Crimp, premate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AA = 1766196-1</td>
<td>Crimp, postmate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AB = 1766245-1</td>
<td>PCB tail, standard</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AC = 1766250-1</td>
<td>PCB tail, premate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AD = 1766249-1</td>
<td>PCB tail, postmate</td>
<td></td>
</tr>
<tr>
<td>#12 Hot-Plug</td>
<td>AE = 1650153-2</td>
<td>Crimp, standard, Hot-Plug</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AF = 1650156-2</td>
<td>Crimp, premate, Hot-Plug</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AG = 1650060-2</td>
<td>PCB tail, standard, Hot-Plug</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AH = 1650074-3</td>
<td>PCB tail, premate, Hot-Plug</td>
<td></td>
</tr>
</tbody>
</table>

Crimp and Threaded contacts are removable. PCB tail contacts are non-removable.

**Float-Mount Shoulder Screw**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1650399-1</td>
<td>Screw, No 10-32 UNC 2A</td>
<td></td>
</tr>
<tr>
<td>1650401-1</td>
<td>Screw, M5 x 0.8</td>
<td></td>
</tr>
</tbody>
</table>
ELCON Drawer Connector Mounting

All ELCON drawer series connectors can be fix-mounted or float-mounted using the designated shoulder screws to allow improved gatherability for blind-mating of the connector. Panel cut out dimensions are shown on the customer drawing specific to your ELCON drawer connector.

Panel Float Mounting

When float-mounting to a panel or chassis, use the stainless steel shoulder screws specified in the layout sheet or customer drawing specific to your ELCON drawer connector. Shown in the sketch below is an example of how the Top Drawer connector is float-mounted to a panel.

Panel Fix Mounting

As a rule of thumb, ELCON drawer connectors can be fix-mounted to a panel, in two ways: (1) by attaching a screw through the top and bottom mounting flange of the housing; or (2) by attaching a screw into a threaded guide pin (for those connectors that have one). An example of each case is shown in the sketches below.

Screw Through Mounting Flange of Housing

Fix to the panel by attaching a commercially available screw and a washer through the top and bottom mounting flange of the housing.

Screw Into Thread of Guide Pin (When Applicable)

You can optionally fix-mount housings that have a guide pin by attaching a commercially available screw and washer into the thread on the back of the guide pin, as shown in the figures below.

Note: All part numbers are RoHS compliant.
Strain Relief and Wire Dress
If required, wires can be bundled together and supported with cable ties. Wires must not be stretched or confined in any way that would restrict the floating action of the connectors. Therefore, the wires must remain perpendicular to the connector and avoid an excessively sharp bend radius. The minimum recommended distance for the cable tie, and the minimum bend radius of a wire bundle are shown in the figure to the right.

PCB Fix Mounting
When mounting to a PC board, the connector standoffs must be seated on the board. Hold-downs are recommended to provide stability during the soldering procedure. PCB-mount hole patterns are shown on the customer drawing specific to your ELCON drawer connector.

Connector Engagement
To provide for proper mating of the connector when the power supply unit is fully engaged into the system, the gap between the pin and socket (shown as dimension “A” in the sketch below) must be within the limit specified in the customer drawing for your ELCON drawer connector. Failure to meet this requirement may compromise contact wipe. Refer to the customer drawing for details. ELCON drawer connectors are polarized and will only mate in the correct orientation (see sketch below).
ELCON Drawer Connector Tooling

**Insertion/Removal (I/R) Tools:** Industry standard plastic I/R tooling is compatible with all crimp contacts for pin and socket removal. The following tools are available from Tyco Electronics.

**I/R Tools**

<table>
<thead>
<tr>
<th>Part Numbers</th>
<th>Size</th>
<th>Color Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1643917-1</td>
<td>Size #20 I/R tool</td>
<td>Red/White</td>
</tr>
<tr>
<td>1643916-1</td>
<td>Size #16 I/R tool</td>
<td>Blue/White</td>
</tr>
<tr>
<td>1643915-1</td>
<td>Size #12 I/R tool</td>
<td>Yellow/White</td>
</tr>
<tr>
<td>1643914-1</td>
<td>Size #8 removal tool</td>
<td>Red</td>
</tr>
<tr>
<td>1643922-1</td>
<td>Size #4 removal tool</td>
<td>Blue</td>
</tr>
<tr>
<td>1643921-1</td>
<td>Size #0 removal tool</td>
<td>Light Yellow</td>
</tr>
</tbody>
</table>

Note: PCB tail contacts are non-removable.

**Wire strip length:** If inserting stranded wire into crimp style contacts, please use the table below to determine the proper strip length of the wire.

<table>
<thead>
<tr>
<th>Contact Size</th>
<th>Wire Size AWG</th>
<th>&quot;L&quot; + .020 [0.51]</th>
</tr>
</thead>
<tbody>
<tr>
<td>#20</td>
<td>#24 - #20</td>
<td>0.210 5.33</td>
</tr>
<tr>
<td>#16</td>
<td>#20 - #16</td>
<td>0.270 6.86</td>
</tr>
<tr>
<td>#12</td>
<td>#14 - #12</td>
<td>0.270 6.86</td>
</tr>
<tr>
<td>#8</td>
<td>#10* - #8</td>
<td>0.500 12.70</td>
</tr>
<tr>
<td>#4</td>
<td>#6* - #4</td>
<td>0.500 12.70</td>
</tr>
<tr>
<td>#0</td>
<td>#2&quot; - #0</td>
<td>0.600 15.24</td>
</tr>
</tbody>
</table>

*Ref: MS3348 “Contact Bushing, Electric, Wire Barrel”

**Crimp Tools:** The following table lists applicable MIL-STD crimp tools for contacts

<table>
<thead>
<tr>
<th>Size</th>
<th>Type</th>
<th>MIL-STD</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 - 24</td>
<td>Crimp Tool</td>
<td>M22520/1-01</td>
<td>601967-1</td>
</tr>
<tr>
<td></td>
<td>Turret head/locator</td>
<td>M22520/1-02</td>
<td>601967-2</td>
</tr>
<tr>
<td>8 - 10</td>
<td>Crimp Tool</td>
<td>M22520/23-01</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Indenter head</td>
<td>M22520/23-02</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Locator</td>
<td>M22520/23-09</td>
<td>—</td>
</tr>
<tr>
<td>4</td>
<td>Crimp Tool</td>
<td>M22520/23-01</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Indenter head</td>
<td>M22520/23-04</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Locator</td>
<td>M22520/23-11</td>
<td>—</td>
</tr>
<tr>
<td>0</td>
<td>Crimp Tool</td>
<td>M22520/23-01</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Indenter head</td>
<td>M22520/23-05</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Locator</td>
<td>M22520/23-13</td>
<td>—</td>
</tr>
</tbody>
</table>

**Crimp Termination Wire Sizes:** The following table shows crimp rear release contacts and their respective wire sizes when crimped with applicable industry standard terminal tools.

<table>
<thead>
<tr>
<th>Contact Size</th>
<th>Wire Range</th>
<th>AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>#20</td>
<td>20 - 24</td>
<td>0.241 - 0.616</td>
</tr>
<tr>
<td>#16</td>
<td>16 - 18</td>
<td>0.963 - 1.23</td>
</tr>
<tr>
<td>#12</td>
<td>12 - 14</td>
<td>1.94 - 2.98</td>
</tr>
<tr>
<td>#8</td>
<td>10 - 8</td>
<td>4.74 - 8.61</td>
</tr>
<tr>
<td>#4</td>
<td>4 (1)</td>
<td>21.60</td>
</tr>
<tr>
<td>#0</td>
<td>1/0</td>
<td>53.00</td>
</tr>
</tbody>
</table>

Note: (1) Consult Tyco Electronics for smaller wire sizes in #4 contacts

**Note:** All part numbers are RoHS compliant.
## ELCON Drawer Product Specifications

### Materials

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>Polyester, 30% glass-filled, UL 94V-0 black</td>
</tr>
<tr>
<td>Crimp Contacts</td>
<td>High conductivity copper alloy</td>
</tr>
<tr>
<td>PCB Tails</td>
<td>Brass</td>
</tr>
<tr>
<td>Socket Contact Hoods</td>
<td>305 corrosion resistant steel</td>
</tr>
<tr>
<td>Size #12 hoods, Hot-Plug</td>
<td>Beryllium copper</td>
</tr>
<tr>
<td>Crown contacts</td>
<td>Beryllium copper</td>
</tr>
</tbody>
</table>

### Plating

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size #20 and #12HP</td>
<td>Gold plated over nickel</td>
</tr>
<tr>
<td>Sizes #0, #4, #8, #16 and non-HP #12</td>
<td>Silver plated over nickel</td>
</tr>
<tr>
<td>Hot-Plug hoods and pin contacts</td>
<td>Gold plated over nickel</td>
</tr>
<tr>
<td>Socket Contact Hoods</td>
<td>Passivated</td>
</tr>
</tbody>
</table>

### Mechanical

#### Typical Insertion Forces of individual contacts

<table>
<thead>
<tr>
<th>Size</th>
<th>Force</th>
<th>1 lb</th>
<th>0.45 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>#20</td>
<td>0.2</td>
<td>0.09</td>
<td></td>
</tr>
<tr>
<td>#16</td>
<td>2.3</td>
<td>1.04</td>
<td></td>
</tr>
<tr>
<td>#12</td>
<td>2.9</td>
<td>1.32</td>
<td></td>
</tr>
<tr>
<td>#8</td>
<td>4.4</td>
<td>2.00</td>
<td></td>
</tr>
<tr>
<td>#4</td>
<td>3.8</td>
<td>1.72</td>
<td></td>
</tr>
<tr>
<td>#0</td>
<td>4.7</td>
<td>2.13</td>
<td></td>
</tr>
<tr>
<td>#0 w/double Crown</td>
<td>4.8</td>
<td>2.18</td>
<td></td>
</tr>
</tbody>
</table>

#### Typical Extraction Forces of individual contacts

<table>
<thead>
<tr>
<th>Size</th>
<th>Force</th>
<th>1 lb</th>
<th>0.45 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>#20</td>
<td>0.1</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>#16</td>
<td>0.7</td>
<td>0.32</td>
<td></td>
</tr>
<tr>
<td>#12</td>
<td>1.9</td>
<td>0.86</td>
<td></td>
</tr>
<tr>
<td>#8</td>
<td>2.4</td>
<td>1.07</td>
<td></td>
</tr>
<tr>
<td>#4</td>
<td>3.0</td>
<td>1.36</td>
<td></td>
</tr>
<tr>
<td>#0</td>
<td>3.0</td>
<td>1.36</td>
<td></td>
</tr>
<tr>
<td>#0 w/double Crown</td>
<td>3.5</td>
<td>1.59</td>
<td></td>
</tr>
</tbody>
</table>

### Electrical

#### Typical Voltage drop of individual contacts

<table>
<thead>
<tr>
<th>Size</th>
<th>Voltage</th>
<th>5A</th>
<th>250V</th>
</tr>
</thead>
<tbody>
<tr>
<td>#20</td>
<td>1.7 mV</td>
<td>5A</td>
<td>250V</td>
</tr>
<tr>
<td>#16</td>
<td>3 mV</td>
<td>15A</td>
<td>250V</td>
</tr>
<tr>
<td>#12</td>
<td>4.2 mV</td>
<td>35A</td>
<td>250V</td>
</tr>
<tr>
<td>#8</td>
<td>6.5 mV</td>
<td>75A</td>
<td>250V</td>
</tr>
<tr>
<td>#4</td>
<td>8.4 mV</td>
<td>125A</td>
<td>250V</td>
</tr>
<tr>
<td>#0</td>
<td>6.3 mV</td>
<td>200A</td>
<td>250V</td>
</tr>
<tr>
<td>#0 w/double Crown</td>
<td>5.6 mV</td>
<td>200A</td>
<td>250V</td>
</tr>
</tbody>
</table>

### Insulator dielectric strength

- 1,500 VDC for 1 minute, per MIL-STD 1344, Method 3001

### Regulatory Agency Evaluations

<table>
<thead>
<tr>
<th>Contacts</th>
<th>CSA-22.2 No. 0-M91 182.30 M1967 (CNR)</th>
<th>UL 498 and UL 1977 (USR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWG #20</td>
<td>4A / 250V</td>
<td>5A / 250V</td>
</tr>
<tr>
<td>AWG #16</td>
<td>10A / 250V</td>
<td>15A / 250V</td>
</tr>
<tr>
<td>AWG #12 Top Drawer</td>
<td>25A / 600V</td>
<td>35A / 600V</td>
</tr>
<tr>
<td>AWG #12 Others</td>
<td>25A / 250V</td>
<td>35A / 250V</td>
</tr>
<tr>
<td>AWG #12 with sockets</td>
<td>25A / 250V</td>
<td>35A / 250V</td>
</tr>
<tr>
<td>Size #12 hot-plug</td>
<td>25A / 250V</td>
<td>25A / 250VAC</td>
</tr>
<tr>
<td>Size #8</td>
<td>55A / 250V</td>
<td>75A / 120V</td>
</tr>
<tr>
<td>Size #0 with single or double Crown</td>
<td>150A / 250V</td>
<td>200A / 250V</td>
</tr>
<tr>
<td>Size #0 using bus bar</td>
<td>—</td>
<td>200A / 250V</td>
</tr>
<tr>
<td>Size #4</td>
<td>100A / 250V</td>
<td>125A / 250V</td>
</tr>
</tbody>
</table>
**ELCON Drawer Series Connectors**

### Mini Drawer

**Dimensions**
- 2.99" x 0.79" (75.9 x 20.1 mm)

**Housing Variations** — See Part Numbers

**Guides and Polarization** — Built in

**Available Contacts**
- Size 12 / 16 x 6 contacts
- Size 20 x 16 contacts

**Current Rating** — Up to 35 Amps per size 12 contact

**Contact Features** — Hot-Plug size 12 contact option

**Contact Sequencing** — Multi-level for power and signal

**Contact Terminations**
- Size 12: Crimp and PCB tail
- Size 16: Crimp and PCB tail
- Size 20: Crimp and PCB tail

**Base Housing Part Numbers**

<table>
<thead>
<tr>
<th>Pin Housing</th>
<th>Socket Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1648110-1 Size 12 + Size 20</td>
<td>1648115-1 Size 12 + Size 20</td>
</tr>
<tr>
<td>1648111-1 Size 16 + Size 20</td>
<td>1648116-1 Size 16 + Size 20</td>
</tr>
<tr>
<td>1648112-1 Size 12 + Size 16</td>
<td>1648117-1 Size 12 + Size 20</td>
</tr>
</tbody>
</table>

### Lower Drawer

**Dimensions**
- 3.26" x 1.34" (82.8 x 34.0 mm)

**Housing Variations** — See Part Numbers

**Guides and Polarization** — Built in

**Available Contacts**
- Size 12 / 16 x 8 contacts
- Size 20 x 21 contacts

**Current Rating** — Up to 35 Amps per size 12 contact

**Contact Features** — Hot-Plug size 12 contact option

**Contact Sequencing** — Multi-level for power and signal

**Contact Terminations**
- Size 12: Crimp and PCB tail
- Size 16: Crimp and PCB tail
- Size 20: Crimp and PCB tail

**Base Housing Part Numbers**

<table>
<thead>
<tr>
<th>Pin Housing</th>
<th>Socket Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1648203-1 Size 12 + Size 20</td>
<td>1648206-1 Size 12 + Size 20</td>
</tr>
<tr>
<td>1648204-1 Size 16 + Size 20</td>
<td>1648207-1 Size 16 + Size 20</td>
</tr>
<tr>
<td>1648205-1 Size 12 + Size 20</td>
<td>1648208-1 Size 12 + Size 20</td>
</tr>
</tbody>
</table>

**Note:** All part numbers are RoHS compliant.
ELCON Drawer Series Connectors (Continued)

75A Middle Drawer

Dimensions — 3.31” x 1.31” (84.1 x 33.3 mm)

Housing Variations — See Part Numbers

Guides and Polarization — Built in

Available Contacts —
Size 8 x 4 contacts
Size 12 x 9 contacts
Size 20 x 24 contacts

Current Rating — Up to 75 Amps per size 8 contact

Contact Features — Hot-Plug size 12 contact option

Contact Sequencing — Multi-level for power and signal

Contact Terminations —
Size 8: Crimp, internal/external thread and PCB tail
Size 12: Crimp and PCB tail
Size 20: Crimp and PCB tail

Values in brackets are metric equivalents.

Specifications subject to change.

Base Housing Part Numbers

<table>
<thead>
<tr>
<th>Pin Housing</th>
<th>Socket Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1648162-1</td>
<td>6648167-1</td>
</tr>
<tr>
<td>1648163-1</td>
<td>1648168-1</td>
</tr>
</tbody>
</table>

Note: All part numbers are RoHS compliant.
**125A Middle Drawer**

Dimensions — 3.15" x 1.31" (80.0 x 33.3 mm)

**Housing Variations** — See Part Numbers

**Guides and Polarization** — Built in

**Available Contacts** —
- Size 4 x 2 contacts
- Size 12 x 6 contacts
- Size 20 x 32 contacts

**Current Rating** — Up to 125 Amps per size 4 contact

**Contact Features** — Hot-Plug size 12 contact option

**Contact Sequencing** — Multi-level for power and signal

**Contact Terminations** —
- Size 4: Crimp and internal/external thread
- Size 12: Crimp and PCB tail
- Size 20: Crimp and PCB tail

---

**Base Housing Part Numbers**

<table>
<thead>
<tr>
<th>Pin Housing</th>
<th>Socket Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1648151-1</td>
<td>1648156-1</td>
</tr>
<tr>
<td>1648152-1</td>
<td>1648157-1</td>
</tr>
</tbody>
</table>

---

**Note:** All part numbers are RoHS compliant.
ELCON Drawer Series Connectors (Continued)

200A Middle Drawer

Dimensions —
3.31" x 1.31" (84.1 x 33.3 mm)

Housing Variations — See Part Numbers

Guides and Polarization — Built in

Available Contacts —
Size 4 x 2 contacts
Size 8 x 6 contacts
Size 12 x 3 contacts
Size 20 x 14 contacts

Current Rating — Up to 125 Amps per size 4 contact

Contact Features — Hot-Plug size 12 contact option

Contact Sequencing — Multi-level for power and signal

Contact Terminations —
Size 4: Crimp and internal/external thread
Size 8: Crimp, internal/external thread and PCB tail
Size 12: Crimp and PCB tail
Size 20: Crimp and PCB tail

Base Housing Part Numbers

<table>
<thead>
<tr>
<th>Pin Housing</th>
<th>Socket Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1648134-1</td>
<td>1648135-1</td>
</tr>
</tbody>
</table>

Square Drawer

Dimensions —
2.76" x 1.24" (70.1 x 31.5 mm)

Housing Variations — See Part Numbers

Guides and Polarization — Built in

Available Contacts —
Size 12 x 4 contacts
Size 20 x 36 contacts

Current Rating — Up to 35 Amps per size 12 contact

Contact Features — Hot-Plug size 12 contact option

Contact Sequencing — Multi-level for power and signal

Contact Terminations —
Size 12: Crimp and PCB tail
Size 20: Crimp and PCB tail

Base Housing Part Numbers

<table>
<thead>
<tr>
<th>Pin Housing</th>
<th>Socket Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1648132-1</td>
<td>1648133-1</td>
</tr>
</tbody>
</table>

Note: All part numbers are RoHS compliant.
ELCON Drawer Series Connectors (Continued)

Top Drawer

Dimensions — 4.24” x 1.60” (107.8 x 40.7 mm)
Housing Variations — Various guide pin configurations available.
Guides and Polarization — Optional Steel Guide Pins with either #6-32 or M3 internal thread
Available Contacts —
Size 0 x 2 contacts
Size 12 x 6 contacts
Size 16 x 12 contacts
Size 20 x 32 contacts
Current Rating — Up to 200 Amps per size 0 contact
Contact Features— Hot-Plug size 12 contact option
Probe-proof size 0 contact option
Contact Sequencing — Multi-level for power and signal
Contact Terminations —
Size 0: Crimp and internal/external thread
Size 12: Crimp and PCB tail
Size 16: Crimp and PCB tail
Size 20: Crimp and PCB tail

Base Housing Part Numbers

<table>
<thead>
<tr>
<th>Pin Housing</th>
<th>Socket Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1648183-1</td>
<td>1648186-1</td>
</tr>
</tbody>
</table>

Optional guide posts are available for improved alignment. Consult Customer Service for details.

Double Drawer

Dimensions — 4.24” x 1.60” (107.8 x 40.7 mm)
Housing Variations — Various guide pin configurations available.
Guides and Polarization — Optional Steel Guide Pins with either #6-32 or M3 internal thread
Available Contacts —
Size 0 x 4 contacts
Size 12 x 11 contacts
Size 20 x 24 contacts
Current Rating — Up to 200 Amps per size 0 contact
Contact Features— Hot-Plug size 12 contact option
Probe-proof size 0 contact option
Contact Sequencing — Multi-level for power and signal
Contact Terminations —
Size 0: Crimp and internal/external thread
Size 12: Crimp and PCB tail
Size 20: Crimp and PCB tail

Base Housing Part Numbers

<table>
<thead>
<tr>
<th>Pin Housing</th>
<th>Socket Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1648552-1</td>
<td>1648578-1</td>
</tr>
</tbody>
</table>

Optional guide posts are available for improved alignment. Consult Customer Service for details.

Note: All part numbers are RoHS compliant.
ELCON Drawer Series Connectors (Continued)

DualPower Drawer

Dimensions — 1.80" x 1.60" (45.7 x 40.7 mm)
Housing Variations — Various guide pin configurations available.
Guides and Polarization — Optional Steel Guide Pins with either #6-32 or M3 internal thread
Available Contacts — Size 0 x 2 contacts
Current Rating — Up to 200 Amps per contact
Contact Features — Probe-proof size 0 contact option
Contact Sequencing — Standard only
Contact Terminations — Size 0: Crimp and internal/external thread

Base Housing Part Numbers

<table>
<thead>
<tr>
<th>Pin Housing</th>
<th>Socket Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1648549-1</td>
<td>1648575-1</td>
</tr>
</tbody>
</table>

Optional guide posts are available for improved alignment. Consult Customer Service for details.

QuadPower Drawer

Dimensions — 2.50" x 1.60" (63.5 x 40.7 mm)
Housing Variations — Various guide pin configurations available.
Guides and Polarization — Optional Steel Guide Pins with either #6-32 or M3 internal thread
Available Contacts — Size 0 x 4 contacts
Current Rating — Up to 200 Amps per contact
Contact Features — Probe-proof size 0 contact option
Contact Sequencing — Standard only
Contact Terminations — Size 0: Crimp and internal/external thread

Base Housing Part Numbers

<table>
<thead>
<tr>
<th>Pin Housing</th>
<th>Socket Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1648548-1</td>
<td>1648574-1</td>
</tr>
</tbody>
</table>

Optional guide posts are available for improved alignment. Consult Customer Service for details.

Note: All part numbers are RoHS compliant.
ELCON Drawer Series Connectors (Continued)

In-Line QuadPower Drawer

Dimensions — 4.84" x 1.21" (122.8 x 30.7 mm)
Housing Variations — See Part Numbers
Guides and Polarization — Built in
Available Contacts — Size 0 x 4 contacts
Current Rating — Up to 200 Amps per contact
Contact Features — Probe-proof size 0 contact option
Contact Sequencing — Standard only
Contact Terminations — Size 0: Crimp and internal/external thread

Base Housing Part Numbers

<table>
<thead>
<tr>
<th>Pin Housing</th>
<th>Socket Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>6651493-1</td>
<td>6651494-1</td>
</tr>
</tbody>
</table>

W5 Power Drawer

Dimensions — 3.00" x 1.18" (76.2 x 30.0 mm)
Housing Variations — See Part Numbers
Guides and Polarization — Built in
Available Contacts — Size 4 x 5 contacts
Current Rating — Up to 100 Amps per contact
Contact Features — Probe-proof size 0 contact option
Contact Sequencing — Standard only
Contact Terminations — Size 4: Crimp and internal/external thread

Base Housing Part Numbers

<table>
<thead>
<tr>
<th>Pin Housing</th>
<th>Socket Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>6651457-1</td>
<td>6651458-1</td>
</tr>
</tbody>
</table>

Note: All part numbers are RoHS compliant.
ELCON Drawer Series Connectors (Continued)

P3S0 Drawer

Dimensions — 0.99” x 0.95” (25.0 x 24.0 mm)
Housing Variations — See Part Numbers
Guides and Polarization — Polarization only
Available Contacts — Size 12 x 3 contacts
Current Rating — Up to 35 Amps per size 12 contact
Contact Sequencing — Multi-level for power
Contact Terminations — Size 12: Crimp only

Base Housing Part Numbers

<table>
<thead>
<tr>
<th>Pin Housing</th>
<th>Socket Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1766447-1</td>
<td>1766448-1</td>
</tr>
</tbody>
</table>

P4S0 Drawer

Dimensions — 1.34” x .76” (34.0 x 19.4 mm)
Housing Variations — See Part Numbers
Guides and Polarization — Polarization only
Available Contacts — Size 12 x 4 contacts
Current Rating — Up to 35 Amps per size 12 contact
Contact Sequencing — Standard only
Contact Terminations — Size 12: Crimp Pin and PCB tail Socket
Note: Supplied as kit, including contacts

Base Housing Part Numbers

<table>
<thead>
<tr>
<th>Pin Side Kit</th>
<th>Socket Side Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>6766014-1</td>
<td>6766015-1</td>
</tr>
</tbody>
</table>

Note: All part numbers are RoHS compliant.
ELCON Drawer Series Connectors (Continued)

### HV8P Drawer

**Dimensions**
2.50" x 1.11" (63.5 x 28.2 mm)

**Housing Variations**
See Part Numbers

**Guides and Polarization**
Built in

**Available Contacts**
Size 12 x 8 contacts

**Current Rating**
Up to 35 Amps per size 12 contact

**Contact Features**
Hot-Plug size 12 contact option

**Contact Sequencing**
Multi-level for power

**Contact Terminations**
Size 12: Crimp and PCB tail

---

**Base Housing Part Numbers**

<table>
<thead>
<tr>
<th>Pin Housing</th>
<th>Socket Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1648127-1</td>
<td>1648128-1</td>
</tr>
</tbody>
</table>

---

### P10S0 Drawer

**Dimensions**
2.96" x 1.00" (75.0 x 25.4 mm)

**Housing Variations**
See Part Numbers

**Guides and Polarization**
Built in

**Available Contacts**
Size 12 x 10 contacts

**Current Rating**
Up to 35 Amps per size 12 contact

**Contact Features**
Hot-Plug size 12 contact option

**Contact Sequencing**
Multi-level for power

**Contact Terminations**
Size 12: Crimp and PCB tail

---

**Base Housing Part Numbers**

<table>
<thead>
<tr>
<th>Pin Housing</th>
<th>Socket Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1648568-1</td>
<td>1648596-1</td>
</tr>
</tbody>
</table>

---

**Note:** All part numbers are RoHS compliant.
ELCON Drawer Series Connectors (Continued)

P6S18 Drawer

Dimensions — 5.45" x 1.35" (138.4 x 34.3 mm)

Housing Variations — See Part Numbers

Guides and Polarization — Built in

Available Contacts —
Size 4 x 6 contacts
Size 20 x 18 contacts

Current Rating — Up to 100 Amps per size 4 contact

Contact Features — Standard

Contact Sequencing — Multi-level for power and signal

Contact Terminations —
Size 4: Crimp and internal/external thread
Size 20: Crimp and PCB tail

Base Housing Part Numbers

<table>
<thead>
<tr>
<th>Pin Housing</th>
<th>Socket Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>6766615-1</td>
<td>6651810-1</td>
</tr>
</tbody>
</table>

P10S22 Drawer

Dimensions — 4.12" x 0.79" (104.5 x 20.1 mm)

Housing Variations — See Part Numbers

Guides and Polarization — Built in

Available Contacts —
Size 12 x 10 contacts
Size 20 x 22 contacts

Current Rating — Up to 35 Amps per size 12 contact

Contact Features — Hot-Plug size 12 contact option

Contact Sequencing — Multi-level for power and signal

Contact Terminations —
Size 12: Crimp and PCB tail
Size 20: Crimp and PCB tail

Base Housing Part Numbers

<table>
<thead>
<tr>
<th>Pin Housing</th>
<th>Socket Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1648211-1</td>
<td>1648212-1</td>
</tr>
</tbody>
</table>

Note: All part numbers are RoHS compliant.
## ELCON Drawer Series Connectors (Continued)

### P12S12 Drawer

**Dimensions**
- 4.31” x 0.70” (109.5 x 17.8 mm)

**Housing Variations**
- See Part Numbers

**Guides and Polarization**
- Built in

**Available Contacts**
- Size 16 x 12 contacts
- Size 20 x 12 contacts

**Current Rating**
- Up to 15 Amps per size 16 contact

**Contact Features**
- Standard only

**Contact Terminations**
- Size 16: Crimp and PCB tail
- Size 20: Crimp and PCB tail

---

### Base Housing Part Numbers

<table>
<thead>
<tr>
<th>Pin Housing</th>
<th>Socket Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1651202-1</td>
<td>1651203-1</td>
</tr>
</tbody>
</table>

---

### POS30 Drawer

**Dimensions**
- 3.22” x 0.70” (81.8 x 17.8 mm)

**Housing Variations**
- See Part Numbers

**Guides and Polarization**
- Built in

**Available Contacts**
- Size 16 x 12 contacts
- Size 20 x 12 contacts

**Current Rating**
- Up to 15 Amps per size 16 contact

**Contact Features**
- Standard only

**Contact Terminations**
- Multi-level for power and signal

**Contact Terminations**
- Size 20: Crimp and PCB tail

---

### Base Housing Part Numbers

<table>
<thead>
<tr>
<th>Pin Housing</th>
<th>Socket Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>6651204-1</td>
<td>6651205-1</td>
</tr>
</tbody>
</table>

---

**Note:** All part numbers are RoHS compliant.
## ELCON Drawer Standard Contacts

The ELCON drawer series connectors use standard contacts across the product line. This section shows the standard contacts available in different sizes and various lengths and termination styles, with their respective part numbers.

### Contact Size #20 — For use in most drawer connectors

<table>
<thead>
<tr>
<th>Termination Type</th>
<th>Contact Part Number</th>
<th>Dimensions</th>
<th>A (in)</th>
<th>A (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crimp, standard</td>
<td>1650155-1</td>
<td></td>
<td>0.32</td>
<td>8.12</td>
</tr>
<tr>
<td>Crimp, premate</td>
<td>1650161-1</td>
<td></td>
<td>0.47</td>
<td>11.93</td>
</tr>
<tr>
<td>Crimp, postmate</td>
<td>1650162-2</td>
<td></td>
<td>0.27</td>
<td>6.85</td>
</tr>
<tr>
<td>PCB tail, standard</td>
<td>1650263-1</td>
<td></td>
<td>0.32</td>
<td>8.12</td>
</tr>
<tr>
<td>PCB tail, premate</td>
<td>1650065-1</td>
<td></td>
<td>0.47</td>
<td>11.93</td>
</tr>
<tr>
<td>PCB tail, postmate</td>
<td>1650226-1</td>
<td></td>
<td>0.27</td>
<td>6.85</td>
</tr>
</tbody>
</table>

### Contact Size #16 — For use in Mini Drawer, Lower Drawer, Top Drawer, and P12S12

<table>
<thead>
<tr>
<th>Termination Type</th>
<th>Contact Part Number</th>
<th>Dimensions</th>
<th>A</th>
<th>A (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crimp, standard</td>
<td>1766194-1</td>
<td></td>
<td>0.33</td>
<td>8.38</td>
</tr>
<tr>
<td>Crimp, premate</td>
<td>1766196-1</td>
<td></td>
<td>0.48</td>
<td>12.19</td>
</tr>
<tr>
<td>Crimp, postmate</td>
<td>1766199-1</td>
<td></td>
<td>0.29</td>
<td>7.36</td>
</tr>
<tr>
<td>PCB tail, standard</td>
<td>1766221-1</td>
<td></td>
<td>0.33</td>
<td>8.38</td>
</tr>
<tr>
<td>PCB tail, premate</td>
<td>1766223-1</td>
<td></td>
<td>0.48</td>
<td>12.19</td>
</tr>
<tr>
<td>PCB tail, postmate</td>
<td>1766818-1</td>
<td></td>
<td>0.29</td>
<td>7.36</td>
</tr>
</tbody>
</table>

### Contact Size #12 — For use in Mini Drawer, Lower Drawer, 75A, 125A and 200A Middle Drawer; Square Drawer, TOP Drawer & Double Drawer; P3S0 and P4S0, HV8P, P10S0, P10S22

<table>
<thead>
<tr>
<th>Termination Type</th>
<th>Contact Part Number</th>
<th>Dimensions</th>
<th>A</th>
<th>A (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crimp, standard</td>
<td>1650153-2</td>
<td>1766193-1</td>
<td>0.43</td>
<td>10.92</td>
</tr>
<tr>
<td>Crimp, premate</td>
<td>1650156-2</td>
<td>1766195-1</td>
<td>0.48</td>
<td>12.19</td>
</tr>
<tr>
<td>Crimp, postmate</td>
<td>1650158-2</td>
<td>1766196-1</td>
<td>0.39</td>
<td>9.90</td>
</tr>
<tr>
<td>PCB tail, standard</td>
<td>1650060-2</td>
<td>1766250-1</td>
<td>0.46</td>
<td>11.68</td>
</tr>
<tr>
<td>PCB tail, premate</td>
<td>1650074-3</td>
<td>1766249-1</td>
<td>0.39</td>
<td>9.90</td>
</tr>
</tbody>
</table>

**Note:** For applications using the #12 hot-plug socket use of gold plated pins are recommended.

### Contact Size #8 — For use in 75A and 200 A Middle Drawer

<table>
<thead>
<tr>
<th>Termination Type</th>
<th>Contact Part Number</th>
<th>Dimensions</th>
<th>A</th>
<th>A (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crimp, standard</td>
<td>1766192-1</td>
<td></td>
<td>0.43</td>
<td>10.92</td>
</tr>
<tr>
<td>Crimp, premate</td>
<td>1766217-1</td>
<td></td>
<td>0.48</td>
<td>12.19</td>
</tr>
<tr>
<td>Crimp, postmate</td>
<td>1766821-1</td>
<td></td>
<td>0.33</td>
<td>8.38</td>
</tr>
<tr>
<td>PCB tail, standard</td>
<td>1766221-1</td>
<td></td>
<td>0.43</td>
<td>10.92</td>
</tr>
<tr>
<td>PCB tail, premate</td>
<td>1766222-1</td>
<td></td>
<td>0.48</td>
<td>12.19</td>
</tr>
</tbody>
</table>

### Contact Size #4 — For use in 125A and 200A Middle Drawer. P6518 Drawer, WS Power Drawer

<table>
<thead>
<tr>
<th>Termination Type</th>
<th>Contact Part Number</th>
<th>Dimensions</th>
<th>A (in)</th>
<th>A (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crimp, Standard</td>
<td>1766232-1</td>
<td></td>
<td>0.51</td>
<td>12.95</td>
</tr>
<tr>
<td>1/4 - 20 x .050 DP External Thread</td>
<td>1766812-1</td>
<td></td>
<td>0.51</td>
<td>12.95</td>
</tr>
</tbody>
</table>

**Note:** All part numbers are RoHS compliant.

---

**Specifications:**

- Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.
- Dimensions are shown for reference purposes only. Specifications subject to change.
- USA: 1-800-522-6752
- Canada: 1-905-470-4425
- Mexico: 01-800-733-8926
- C. America: 52-55-1106-0803
- UK: 44-(0)800-2-67666
- South America: 55-11-2103-6000
- Hong Kong: 852-2735-1628
- Japan: 81-44-844-8013

---

**Note:**

- Contact Size #20 — For use in Mini Drawer, Lower Drawer, Top Drawer, and P12S12
- Contact Size #16 — For use in Mini Drawer, Lower Drawer, Top Drawer, and P12S12
- Contact Size #12 — For use in Mini Drawer, Lower Drawer, 75A, 125A and 200A Middle Drawer; Square Drawer, TOP Drawer & Double Drawer; P3S0 and P4S0, HV8P, P10S0, P10S22
- Contact Size #8 — For use in 75A and 200 A Middle Drawer
- Contact Size #4 — For use in 125A and 200A Middle Drawer. P6518 Drawer, WS Power Drawer

---

**Contact Size #4**

- Crimp, Standard
- 1/4 - 20 x .050 DP External Thread

**Dimensions:**

- **Crimp, Standard:** 0.51 (12.95)
- **1/4 - 20 x .050 DP External Thread:** 0.51 (12.95)
### ELCON Drawer Standard Contacts (Continued)

#### Contact Size #0¹ - For use in Top Drawer, Double Drawer, DualPower & QuadPower, In-Line QuadPower

<table>
<thead>
<tr>
<th>Termination Type</th>
<th>Contact Part Number</th>
<th>Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crimp</td>
<td>1766811-1</td>
<td>0.495 [12.57]</td>
</tr>
<tr>
<td>Probe-proof crimp²</td>
<td>1766819-1</td>
<td>0.430 [10.92]</td>
</tr>
<tr>
<td>1/4 - 20 x .050 DP Internal thread</td>
<td>1766230-1</td>
<td>0.495 [12.57]</td>
</tr>
<tr>
<td>M6 x 1 x 12.7 mm DP Internal thread</td>
<td>1766274-1</td>
<td>0.495 [12.57]</td>
</tr>
<tr>
<td>1/4 - 20 x .050 DP Probe-proof/Internal thread²</td>
<td>1766269-1</td>
<td>0.430 [10.92]</td>
</tr>
<tr>
<td>M6 x 1 x 12.7 mm DP Probe-proof/Internal thread²</td>
<td>1766275-1</td>
<td>0.430 [10.92]</td>
</tr>
<tr>
<td>1/4 - 20 x .050 DP External thread</td>
<td>1766268-1</td>
<td>0.495 [12.57]</td>
</tr>
<tr>
<td>M6 x 1 x 12.7 mm DP External thread</td>
<td>1766271-1</td>
<td>0.495 [12.57]</td>
</tr>
<tr>
<td>1/4 - 20 x .050 DP Probe-proof/external thread²</td>
<td>1766270-1</td>
<td>0.430 [10.92]</td>
</tr>
<tr>
<td>M6 x 1 x 12.7 mm DP Probe-proof/external thread²</td>
<td>1766276-1</td>
<td>0.430 [10.92]</td>
</tr>
</tbody>
</table>

**Notes:**
1. Contact Tyco Electronics for alternate contact terminations.
2. Use only with probe-proof socket contacts.
3. Crimp and threaded contact are insertable/removable.

#### Contact Size #12

<table>
<thead>
<tr>
<th>Termination Type</th>
<th>Contact Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crimp</td>
<td>6648318-1</td>
</tr>
<tr>
<td>Hot-Plug Crimp</td>
<td>1648384-1</td>
</tr>
<tr>
<td>PCB Tail</td>
<td>6648374-1</td>
</tr>
<tr>
<td>Hot-Plug PCB Tail</td>
<td>1648387-1</td>
</tr>
</tbody>
</table>

**Note:** For applications using the #12 hot-plug socket, the use of gold plated pins are recommended (see page 80).

#### Contact Size #16

<table>
<thead>
<tr>
<th>Termination Type</th>
<th>Contact Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crimp</td>
<td>6648319-1</td>
</tr>
<tr>
<td>PCB Tail</td>
<td>6648383-1</td>
</tr>
</tbody>
</table>

#### Contact Size #20

<table>
<thead>
<tr>
<th>Termination Type</th>
<th>Contact Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crimp</td>
<td>1648325-1</td>
</tr>
<tr>
<td>PCB Tail</td>
<td>1648382-1</td>
</tr>
</tbody>
</table>

**Note:** All part numbers are RoHS compliant.

---

¹Contact Tyco Electronics for alternate contact terminations.
²Use only with probe-proof socket contacts.
³Crimp and threaded contact are insertable/removable.
### ELCON Drawer Standard Contacts (Continued)

#### Contact Size #8

<table>
<thead>
<tr>
<th>Termination Type</th>
<th>Contact Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crimp</td>
<td>6648317-1</td>
</tr>
<tr>
<td>PCB Tail</td>
<td>6648400-1</td>
</tr>
</tbody>
</table>

#### Contact Size #4

<table>
<thead>
<tr>
<th>Termination Type</th>
<th>Contact Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crimp, Standard</td>
<td>6648434-1</td>
</tr>
<tr>
<td>1/4 - 20 x .050 DP External Thread</td>
<td>6648435-1</td>
</tr>
<tr>
<td>M5 x 0.8 x 9.6 mm DP M5 Internal Thread</td>
<td>6648335-1</td>
</tr>
</tbody>
</table>

#### Contact Size #0

<table>
<thead>
<tr>
<th>Termination Type</th>
<th>Contact Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crimp</td>
<td>6648405-1</td>
</tr>
<tr>
<td>Probe-proof crimp</td>
<td>6648418-1</td>
</tr>
<tr>
<td>1/4 - 20 x .050 DP Internal thread</td>
<td>6648416-1</td>
</tr>
<tr>
<td>M6 x 1 x 12.7 mm DP Internal thread</td>
<td>6648428-1</td>
</tr>
<tr>
<td>1/4 - 20 x .050 DP Probe-proof/internal thread</td>
<td>6648419-1</td>
</tr>
<tr>
<td>M6 x 1 x 12.7 mm DP Probe-proof/Internal thread</td>
<td>6648429-1</td>
</tr>
<tr>
<td>1/4 - 20 x .050 DP External thread</td>
<td>6648417-1</td>
</tr>
<tr>
<td>M6 x 1 x 12.7 mm DP External thread</td>
<td>6648430-1</td>
</tr>
<tr>
<td>1/4 - 20 x .050 DP Probe-proof/external thread</td>
<td>6648420-1</td>
</tr>
<tr>
<td>M6 x 1 x 12.7 mm DP Probe-proof/external thread</td>
<td>6648431-1</td>
</tr>
</tbody>
</table>

**Notes:**

1. Contact Tyco Electronics for alternate contact terminations.
2. Use only with probe-proof Pin contacts.
3. Crimp and threaded contact are insertable/removable.

### Non-Standard Contacts

Contacts with pin lengths and terminations other than standard are available. Consult customer service if your design requires contacts different from the ones shown in this catalog.

**Note:** All part numbers are RoHS compliant.
AMP Miniature Power Drawer (MPD) Connectors

Product Facts
- High mating cycle life
- Low Mating and Un-mating force (< 0.2lbs per contact)
- Single-piece molded housing
- Molded-in guide pins provide generous blind-mateability
- Sizes: 3 – 10 positions
- Compact size is ideal for distributed DC power applications
- Two Levels of contact sequencing
- One contact for either solder or press-fit termination
- Hardware — Less or traditional shoulder bolt mounting
- Minimum of 3 mm contact wipe on shortest power contact
- All MPD connectors in this section are RoHS compliant

Specifications
- Up to 16 Amps per contact
- 250 mating cycle durability
- ± 1.25 mm radial mis-alignment capability. (Total float is 2.5 mm!)
- 1.6 mm sequencing distance — ideal for modular sheet metal construction applications
- Minimum of 3 mm contact wipe on shortest power contact
- Maximum continuous operating temperature — 105°C
- UL 94 V-0 High-temperature thermoplastic housings
- All MPD connectors in this section are RoHS compliant

The miniature power drawer connector combines a high density power interface in a blind-mateable wire-to-board connector. The MPD contact interface has been previously qualified to requirements similar to BellCore GR-1217 in board-to-board applications. Now available in a crimp-to-wire version, the contacts are rated for up to 15 Amps on 14 AWG wire. In addition, the MPD contacts are designed to meet UL 1977 hot-plug requirements for up to 7.8 Amps at 48VDC.

The connection consists of a vertical pcb mountable receptacle and a panel-mounted floating plug. The vertical receptacle pcb tails are designed for use in either through hole solder or press-fit applications. The float-mount plug is easily installed from the inside of the chassis without any additional hardware, lending itself to easy assembly of pre-made cable assemblies. Additionally, the staggered wire exit pattern permits the maximum number of contact interfaces in the least amount of connector volume.

The compact design is ideal for bringing power to small rack-mounted devices such as 1U computer servers and telecommunications switches. The 3 mm center-line satisfies UL 1977 safety requirements for 48 VDC distributed power applications. For higher voltage applications such as AC input, the contacts can be selectively loaded to handle up to 300 V AC or DC.

Technical Documents
- Product Specification
  108-1998
- Application Specification
  114-13067
AMP Miniature Power Drawer (MPD) Connectors

Crimp Contacts
Current Ratings
Standard Power — 10 Amps
High Power — 16 Amps

Material and Finish
Standard Power:
Crimp Blade Contacts — Brass
Receptacle Contacts — Phos. Bronze.
Finish — 0.38μm Gold over 1.27μm Nickel

High Power:
Blades — High Conductivity Cu Alloy
Receptacle — High Conductivity Cu Alloy
Finish — 1.27μm Gold over 1.27μm Nickel

Contact Mating Length (Min.) —
Type A — 4.6 mm
Type B — 3.0 mm

Hot-Pluggability (With High Current Contacts only) —
250 Cycles — 7.8 Amps @ 48VDC

Note: All contacts are Sn plated in the crimp barrel or Sn in pcb interface.

Plugs and Receptacles
Materials
UL 94V-0 Thermoplastic
105°C Max. Operating temperature

Note: Vertical PCB Mt. Receptacles supplied with press-fit ACTION PIN contacts.

Crimp Blade Contacts

<table>
<thead>
<tr>
<th>Wire Size</th>
<th>Type</th>
<th>Cycles</th>
<th>Mating Length</th>
<th>Part Number</th>
<th>Applicator</th>
<th>Hand Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-20 AWG</td>
<td>Standard Power</td>
<td>100</td>
<td>A</td>
<td>1489128-8</td>
<td>1385248-3</td>
<td>91363-1</td>
</tr>
<tr>
<td></td>
<td>High Power</td>
<td>250</td>
<td>A</td>
<td>1-1489128-9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PRO-CRIMP Hand Tool #354940-1, Die set # 91363-2

Part Number 1489127-

Note: All part numbers are RoHS compliant.

Dimensions are shown for reference purposes only. Specifications subject to change.
Hybrid Blind-Mate Drawer Connectors

Product Facts
- High current circuits and signal circuits can be mixed in the same connector
- High current circuits use MIC connector contacts located at four corners of the housing
- Signal circuits use Standard Drawer Connector contacts
- 24 positions
- Hermaphroditic housing can be mated with top and bottom turned while maintaining polarity

Hybrid Drawer Connectors offer high current and signal circuits mixed in the same connector system.

High current circuits use MIC connector contacts which are located at the four corners of the housing. Signal circuits use the same hermaphroditic crimp snap-in contacts that are used in the Standard Drawer Connector.

The hermaphroditic housings are available in a popular 24-position size. These housings can be mated with top and bottom turned while maintaining polarity.

Performance Specifications

Voltage Rating — 250 VAC
Current Rating (Max.) —
  - Signal Circuit (Drawer):
    - 4 Amps — 24 AWG [0.2 mm²] Wire
    - 5 Amps — 22 AWG [0.3-0.4 mm²] Wire
    - 7 Amps — 20 AWG [0.5-0.6 mm²] Wire
  - Power Circuit (MIC):
    - 10 Amps

Low Level Resistance —
  - Signal Circuit (Drawer):
    - 10 milliohms max. (Initial)
    - 20 milliohms max. (Final)
  - Power Circuit (MIC):
    - 3 milliohms (Initial)
    - 6 milliohms (Final)

Dielectric Withstanding Voltage —
  - 5000 milliohms (Initial)
  - 2000 milliohms (Final)

Operating Temperature —
  - –20°C to +120°C
Hybrid Blind-Mate Drawer Connectors (Continued)

**Housings**
(Hermaphroditic),
24 Positions

**Material**
Housing — Glass-filled polybutylene terephthalate (PBT), blue
Bushing — Brass, zinc-plated

**Related Product Data**
Performance Specifications — page 85
MIC Contacts — page 87
Crimp Snap-In Contacts — page 87

**Technical Documents**
Product Specification
108-5371

---

**Floating of Bushing**

<table>
<thead>
<tr>
<th>Housing Part Numbers</th>
<th>Floating of Bushing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Up- and downward = 0.05 [.002]</td>
</tr>
<tr>
<td></td>
<td>Circumferential = 0.14 [.006]</td>
</tr>
<tr>
<td></td>
<td>5176916-1</td>
</tr>
<tr>
<td></td>
<td>Up- and downward = 0.30 [.012]</td>
</tr>
<tr>
<td></td>
<td>Circumferential = 0.80 [.031]</td>
</tr>
<tr>
<td></td>
<td>5176916-2</td>
</tr>
</tbody>
</table>

Upward and downward = Axial clearance
Circumferential = Floating

---

**Recommended Panel Cutout**

---

*Dimensions applicable for rear mounting.*

---

**Note:**
All part numbers are RoHS compliant.
Hybrid Blind-Mate Drawer Connectors (Continued)

MIC Contacts
(Used for Power Circuits)

Material and Finish
Phosphor bronze, plated .000030
(0.00076) gold in contact area, remain-
der of contact gold flash, with entire contact underplated nickel

Related Product Data
Performance Specifications —
page 85
Housings — page 86

Technical Documents
Instruction Sheets
408-089J, 408-369J, 408-370J

Crimp Snap-In Contacts
(Hermaphroditic, Used for
Signal Circuits)

Material and Finish
Phosphor bronze, plated gold in contact
area (for length of 0.236 [6.0] from tip),
with entire contact underplated nickel

Related Product Data
Performance Specifications —
page 85
Housings — page 86

Technical Documents
Instruction Sheets
408-097J, 408-151J

Tab Contacts

Material and Finish
Brass, plated .000030 [0.00076] gold in
contact area, with entire contact under-
plated nickel

Related Product Data
Performance Specifications —
page 85
Housings — page 86

Technical Documents
Instruction Sheets
408-144J, 408-369J, 408-370J

Notes:
For applicable wire, use wire specified in UL 1015 or 1007.
Extraction Tool Part Number 723735-1

Tab Contacts

Material and Finish
Brass, plated .000030 [0.00076] gold in
contact area, with entire contact under-
plated nickel

Related Product Data
Performance Specifications —
page 85
Housings — page 86

Technical Documents
Instruction Sheets
408-089J, 408-369J, 408-370J

Note: All part numbers are RoHS compliant.
Special Blind-Mate Drawer Connectors (uses AMP-LEAF Contacts)

Product Facts
- Blind-mate connectors accept AMP-LEAF crimp snap-in and solder dip contacts
- Contacts are phosphor bronze, gold-over-nickel plated
- 6 and 10 positions
- Housings made of polybutylene terephthalate (PBT)

Special blind-mate drawer connectors are available in 6- and 10-position configurations and provide wire-to-board and wire-to-wire connection capabilities. These connectors offer the integrity of AMP-LEAF contacts with maximum travel wiping action.

Housings feature molded-in guide pins and diagonally aligned sockets for correct polarization and to facilitate blind-mating. The PC header guide pins extend through the PC board to secure the header to the board prior to soldering.

Performance Specifications
- Current Rating — 4 Amps (max.) — 26-22 AWG
- Voltage Rating — 50 VDC
- Temperature Rating — –10°C to +80°C

Mounting Screw (2 Required per Socket Housing)
- Part Number 343404-1
- Material and Finish
  - Steel, plated bright zinc chromate

Note: All part numbers are RoHS compliant.
Special Blind-Mate Drawer Connectors (Continued)

Socket Housing, 6 Positions
Part Number 343886-1

Accepts the following AMP-LEAF Crimp Snap-In Contacts:
Part Number 583990-3 (loose piece)
Part Number 583204-2 (strip form)
Contacts must be ordered separately.

Material
Glass-filled polybutylene terephthalate (PBT), black

PC Board Header Housing, 6 Positions with Board Retention
Part Number 343887-1

Accepts AMP-LEAF Crimp Snap-In Contact Part Number 343371-1 and Solder Dip Contact Part Number 583294-2
Contacts must be ordered separately; refer to contact specification pages for details.

Material
Glass-filled polybutylene terephthalate (PBT), black

Note: All part numbers are RoHS compliant.
Special Blind-Mate Drawer Connectors (Continued)

Socket Housing, 10 Positions
Part Number 343348-1

Accepts the following AMP-LEAF Crimp Snap-In Contacts:
- Part Number 343371-1 (strip form)
- Part Number 583204-2 (strip form)

Contacts must be ordered separately.

Material
Glass-filled polybutylene terephthalate (PBT), black

Header Housing, 10 Positions
Part Number 343347-1

Accepts AMP-LEAF Crimp Snap-In Contact Part Number 343371-1 and Solder Dip Contact Part Number 583294-2

Contacts must be ordered separately: refer to contact specification pages for details.

Material
Glass-filled polybutylene terephthalate (PBT), black

Note: All part numbers are RoHS compliant.
**Special Blind-Mate Drawer Connectors (Continued)**

### Material and Finish

Phosphor bronze, plated as follows:

- **Plating A**: 
  - .000100-.000200" [0.00254-0.00508]" tin (lubricant must be used)

- **Plating B**: 
  - .000030" [0.00076]" min.
  - Gold in mating area, gold flash on remainder of contact, with entire contact underplated .000050" [0.00127]" min. nickel.

- **Plating C**: 
  - .000015" [0.00038]" min.
  - Gold in mating area, gold flash on remainder of contact, with entire contact underplated .000050" [0.00127]" min. nickel.

- **Plating D**: 
  - .000030" [0.00076]" min.
  - Gold over .000050" [0.00127]" min. nickel in mating area, remainder of contact gold flash over .000015" [0.00038]" min. nickel.

- **Plating E**: 
  - .000030" [0.00076]" min.
  - Gold in mating area, with entire contact underplated .000050" [0.00127]" min. nickel.

- **Plating F**: 
  - .000015" [0.00038]" min.
  - Gold in mating area, with entire contact underplated .000050" [0.00127]" min. nickel.

### Crimp, Snap-In Contacts

### Hand Crimping Tool

<table>
<thead>
<tr>
<th>Wire Range AWG/mm²</th>
<th>Insulation Range</th>
<th>Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>26-22 0.12-0.4</td>
<td>.050-.064</td>
<td>583990-3</td>
</tr>
<tr>
<td>22-16 0.3-0.9</td>
<td>.055-.080</td>
<td>583989-3</td>
</tr>
<tr>
<td>16     1.25-1.40</td>
<td>.108-.160</td>
<td>583991-3</td>
</tr>
</tbody>
</table>

*Applicators are for AMP-O-LECTRIC Model "K" machines. Consult Tyco Electronics for applicators for other bench machines and lead-making machines.

### Notes:

1. Shorting contacts are available, consult Tyco Electronics.
2. Contacts and housings to accommodate .093" [2.36]" thick PC boards can be made available, consult Tyco Electronics.

### Technical Documents

- **Product Specifications**: 108-9013, 108-9043
- **Application Specification**: 114-9003
- **Instruction Sheets**: 408-6591, 408-7045, 408-7622, 408-7624, 408-7625, 408-7626
- **Crimp Inspection Sheet**: CI 8050-33
- **Cable Mounted Products**: CD 7511-198

### Technical Documents

- **Instruction Sheet**: 408-7037

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**Note:** All part numbers are RoHS compliant.
Standard Blind-Mate Drawer Connectors

**Product Facts**
- Designed for rack and panel applications
- Durable—withstanding multiple mating/unmating
- Low insertion and withdrawal force
- Hermaphroditic contacts
- Accepts signal and power contacts
- Provides excellent creep distance
- Mated connectors dust-proof
- Configurations available in 8, 12, 16, 20 and 24 positions
- Contacts accept wire sizes 24-14 AWG [0.2-2.0 mm²]
- Accept wire insulation diameter — .059-.154 [1.5-3.9]
- Recognized under the Component Program of the Underwriters Laboratories Inc.

Drawer connectors are designed as an economical rack and panel connector. They are used in copying machines, control panels, power distribution boards, industrial equipment, power supplies and other electronic equipment.

Blind-mate drawer connectors feature excellent durability and provide low insertion and withdrawal force. Leaf-type hermaphroditic contacts ensure reliable, positive contact.

Contacts are on .197 [5.00] centerlines for signal circuits, and .260 [6.60] centerlines for power circuits (2-circuits at each end of the double row of contacts) for a total of 4. Row-to-row spacing is .390 [9.90].

Housings are made of UL 94V-0 rated thermoplastic and feature molded-in guide pins and sockets for positive connector mating. Other features include wire outlets which provide for sufficient creep distance, plus mated assemblies are completely dust-proof.

Additional economies are achieved through the use of strip-form contacts suitable for high-speed automatic machine terminations. For prototype, maintenance and repair applications, contacts are available in loose piece for easy termination with Tyco Electronics hand crimping tools.

**Performance Specifications**

**Voltage Rating** — 250 VAC

**Current Rating**
- 4 Amps — 24 AWG [0.2 mm²] Wire
- 5 Amps — 22 AWG [0.3-0.4 mm²] Wire
- 7 Amps — 20 AWG [0.5-0.6 mm²] Wire
- 8 Amps — 18 AWG [0.8-0.9 mm²] Wire
- 12 Amps — 16 AWG [1.25-1.4 mm²] Wire
- 15 Amps — 14 AWG [2.0 mm²] Wire

**Contact Resistance**
- 10 milliohms max. (Initial)
- 20 milliohms max. (Final)

**Insulation Resistance**
- 5000 milliohms min. (Initial)
- 2000 milliohms min. (Final)

**Dielectric Withstanding Voltage** — 2000 VAC/1 minute

**Operating Temperature**
- -20°C to +120°C (Includes T-Rise)

**Insertion/Extraction Force**
- Insertion—4 kg max. (Initial) — 16-position
- Extraction—0.7 kg min. (Initial) — 16-position

**Durability**
- Tested to 1000 Mate/Unmate cycles
Standard Blind-Mate Drawer Connectors (Continued)

Plug Connectors, PCB-Mount

Material and Finish

Housing — Glass-filled polybutylene terephthalate (PBT), blue, 94V-0 rated
Contacts — Phosphor bronze, plated gold in contact area over nickel underplating; board-mount tails are brass, plated tin over steel underplating

Related Product Data:
Performance Specifications — page 92
Mating Receptacles — page 94

Technical Documents
Product Specification 108-5125
Application Specification 114-5044

No. of Dimensions Plug Connector Part Numbers
Nos. Pos. A B C D E 1 172653-2
8 2.016 1.500 1.055 .197 51.2 38.0 26.8 5.00 172653-2
12 2.409 1.890 1.449 .591 61.2 48.0 36.8 15.0 3 172653-3
16 2.803 2.283 1.843 .984 71.2 58.0 46.8 25.0 5 172653-1

Note: To ensure proper contact alignment, connectors must be mated during the soldering process.

Recommended PC Board Layout

Note: All part numbers are RoHS compliant.
Housings for Crimp Snap-In Contacts

Material
Polybutylene terephthalate (PBT), blue, 94V-0 rated

Related Product Data
Performance Specifications — page 92
Crimp Snap-In Contacts — page 95
Panel Cutout — page 95

Technical Documents
Product Specification
108-5125
Application Specification
114-5044

<table>
<thead>
<tr>
<th>No. of Pos.</th>
<th>Dimensions</th>
<th>Receptacle</th>
<th>Plug</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A  B  C  D  E  F</td>
<td>Floating Bushing Size</td>
<td>Part Numbers</td>
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<tr>
<td>8</td>
<td>1.858 47.20 26.80 51.20 38.00</td>
<td>.118 3.00</td>
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<tr>
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<td>1.055 57.20 36.80 61.20 48.00</td>
<td>.157 3.00</td>
<td>5172070-3</td>
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<tr>
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<td>2.016 2.252 1.449 1.890 1.900</td>
<td>.118 3.00</td>
<td>5172069-1</td>
</tr>
<tr>
<td></td>
<td>1.500 3.591 1.886 3.00 1.035</td>
<td>.157 4.00</td>
<td>5172069-3</td>
</tr>
<tr>
<td>16</td>
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<td>.118 3.00</td>
<td>5172068-1</td>
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<td>5172068-3</td>
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<tr>
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<td>3.039 77.20 56.80 81.20 68.00</td>
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<td>5173033-1</td>
</tr>
<tr>
<td></td>
<td>3.197 2.339 2.236 3.197 2.677</td>
<td>.157 4.00</td>
<td>5173033-3</td>
</tr>
<tr>
<td>24</td>
<td>3.433 87.20 66.80 91.20 78.00</td>
<td>.118 3.00</td>
<td>5172625-1</td>
</tr>
<tr>
<td></td>
<td>3.071 2.803 2.630 3.071 3.007</td>
<td>.157 4.00</td>
<td>5172625-3</td>
</tr>
</tbody>
</table>

Note: All part numbers are RoHS compliant.
Standard Blind-Mate Drawer Connectors (Continued)

Crimp Snap-In Contacts (Hermaphroditic)

Material and Finish
Phosphor bronze, plated gold in contact area (for length of .236 [6.0] from tip), with entire contact underplated nickel.

Related Product Data
Performance Specifications — page 92
Housings — page 94

Technical Documents
Instruction Sheets
408-097J, 408-098J, 408-151J

<table>
<thead>
<tr>
<th>Wire Size Range</th>
<th>Insulation Dia. Range</th>
<th>Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWG mm²</td>
<td>Strip Form</td>
<td>Loose Piece</td>
</tr>
<tr>
<td>24-20 0.2-0.6</td>
<td>.059-.077</td>
<td>1.50-1.95</td>
</tr>
<tr>
<td>20-16 0.5-1.4</td>
<td>.071-.130</td>
<td>1.80-3.30</td>
</tr>
<tr>
<td>18-14 0.8-2.0</td>
<td>.091-.154</td>
<td>2.30-3.90</td>
</tr>
</tbody>
</table>

*Applicators are for Model "K" machines. Consult Tyco Electronics for applicators for other bench machines and lead-making machines.

Notes: 1. For applicable wire, use wire specified in UL 1015 or 1007.
2. Contacts for 18-14 AWG [0.8-2.0 mm²] wire are used at the four corners of the connector as power contacts (8 required per assembly).

Extraction Tool Part Number 723986-1

Recommended Panel Cutout

Note: Mounting holes of .209 [5.30] dia. are used when mounting receptacle housings with .157 [4.0] long floating bushings and the mating plug housings. Panel thickness is .063 [1.60]. Panel cutout shown above is for use with plug housings. For receptacle housings, use the mirror-image cutout.

Note: All part numbers are RoHS compliant.
Hybrid Mini-Drawer Connectors

Product Facts
- Combine signal circuits and power circuits into one connector
- Power circuits can be used for high current of up to 15A
- Signal circuits accept CT connector in the back, reducing harnessing costs
- Power circuits use crimp-type tab and receptacle contacts
- Meet requirements for creepage distance and spatial distance for primary power supply as set forth in IEC-950, safety specifications for business machines and OA equipment.
- Creepage distance on active power side: 5 mm
- Spatial distance on active power side: 4.5 mm

Technical Documents
Product Specification
108-60022
Application Specification
114-5182

Hybrid mini-drawer connectors are designed for use in rack and panel application to serve as an I/O connector for copying machines, laser-beam printers and other OA equipment. They provide an economical means of combining into one connector signal circuits and power circuits which were packaged separately in the past.

A major design feature of these hybrid mini-drawer connectors is that mini-drawer connectors mate with one another on the connector mating side and in the back, signal circuits accept a pre-terminated CT receptacle connector.

Also, for power circuits, crimp-type power contacts are used by inserting them into the four corners of the mini-drawer connector.

The housing has an integrated guide-pin and socket to facilitate mating of the connector halves. Provision is also made to prevent dust from entering.

This product line includes:
- 12-position connector (4 positions for power and 8 positions for signal circuits)
- 24-position connector (4 positions for power and 20 positions for signal circuits)
- 32-position connector (4 positions for power and 28 positions for signal circuits)

Drawer connectors are available in the following types depending on application: (For details contact our sales department)
- Mini-drawer connectors
- Standard drawer connectors
- High current drawer connectors

Performance Data
Voltage Rating — 250V AC (power) 30V AC (signal)
Current Rating — 15A max. (power) 2A max. (signal)
Contact Resistance — 10 mm Ω max. (power) 40 mm Ω max. (signal)
Insulation Resistance — 100M Ω max.
Dielectric Withstanding Voltage — 1.8KV AC/min. (power) 1.0KV AC/min. (signal)
Durability — 3,000 cycles min.
## Hybrid Mini-Drawer Connectors (Continued)

### Standard Width

#### Plugs

![Plugs Diagram](image)

#### Receptacles

![Receptacles Diagram](image)

<table>
<thead>
<tr>
<th>Type</th>
<th>Part Number</th>
<th>Number of Power Contacts</th>
<th>Number of Signal Contacts</th>
<th>L</th>
<th>W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug</td>
<td>292180-1</td>
<td>2</td>
<td>4</td>
<td>1.299 [33.00]</td>
<td>.646 [16.40]</td>
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<tr>
<td>Receptacle</td>
<td>292184-1</td>
<td>2</td>
<td>4</td>
<td>1.299 [33.00]</td>
<td>.646 [16.40]</td>
</tr>
<tr>
<td>Plug</td>
<td>1-292183-2</td>
<td>6</td>
<td>12</td>
<td>2.638 [67.00]</td>
<td>.748 [19.00]</td>
</tr>
<tr>
<td>Receptacle</td>
<td>1-292186-2</td>
<td>6</td>
<td>12</td>
<td>2.638 [67.00]</td>
<td>.748 [19.00]</td>
</tr>
</tbody>
</table>

### Slim Width

#### Plugs

![Plugs Diagram](image)

#### Receptacles

![Receptacles Diagram](image)

<table>
<thead>
<tr>
<th>Type</th>
<th>Part Number</th>
<th>Number of Power Contacts</th>
<th>Number of Signal Contacts</th>
<th>L</th>
<th>W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug</td>
<td>1-292187-2</td>
<td>3</td>
<td>5</td>
<td>1.870 [47.50]</td>
<td>.591 [15.00]</td>
</tr>
<tr>
<td>Receptacle</td>
<td>2-292190-2</td>
<td>3</td>
<td>5</td>
<td>1.713 [43.50]</td>
<td>.472 [12.00]</td>
</tr>
<tr>
<td>Plug</td>
<td>3-292187-2</td>
<td>4</td>
<td>5</td>
<td>2.146 [54.50]</td>
<td>.531 [13.50]</td>
</tr>
<tr>
<td>Receptacle</td>
<td>4-292190-2</td>
<td>4</td>
<td>5</td>
<td>1.988 [50.50]</td>
<td>.472 [12.00]</td>
</tr>
<tr>
<td>Plug</td>
<td>2-292189-3</td>
<td>3</td>
<td>7</td>
<td>2.028 [51.50]</td>
<td>.591 [15.00]</td>
</tr>
<tr>
<td>Receptacle</td>
<td>1-292192-3</td>
<td>3</td>
<td>7</td>
<td>1.870 [47.50]</td>
<td>.472 [12.00]</td>
</tr>
</tbody>
</table>

**Note:** All part numbers are RoHS compliant.
Hybrid Mini-Drawer Connectors (Continued)

Power Contacts

Material
Copper alloy
For finish, see table below.

Finish Codes
1) Over nickel underplated, contact area: gold plated, crimp area: tin plated
2) Tin plated all over.
Hand Tool AWG #20-24
Part No. 934199-1 (411-5662)
AWG #16-20
Part No. 934198-1 (411-5661)

<table>
<thead>
<tr>
<th>Wire Range</th>
<th>Wire Ins. Dia.</th>
<th>Plating Code</th>
<th>Receptacle Part Number</th>
<th>Tab Part Number</th>
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</thead>
<tbody>
<tr>
<td>AWG mm²</td>
<td></td>
<td></td>
<td>Strip Form</td>
<td>Strip Form</td>
</tr>
<tr>
<td>24-20</td>
<td>0.2-0.5</td>
<td>1</td>
<td>179317-2</td>
<td>179322-2</td>
</tr>
<tr>
<td>20-16</td>
<td>0.5-1.25</td>
<td>1</td>
<td>179316-2</td>
<td>179321-2</td>
</tr>
</tbody>
</table>

Receptacle Assembly

Material and Finish
Housing — Thermoplastic, black
Contact — Copper alloy, gold plated on mating side over nickel underplate, tin plated on CT mating side over nickel underplate.

<table>
<thead>
<tr>
<th>No. of Pos. (Power/Signal)</th>
<th>Dimensions</th>
<th>Mini-Drawer Receptacle Assembly Part No.</th>
<th>Required Number of Power Contact</th>
<th>Required Number of CT Connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
</tr>
<tr>
<td>12 (4-8)</td>
<td>56.0</td>
<td>47.0</td>
<td>6.0</td>
<td>24.1</td>
</tr>
<tr>
<td>24 (4-20)</td>
<td>68.0</td>
<td>59.0</td>
<td>18.0</td>
<td>36.1</td>
</tr>
<tr>
<td>32 (4-28)</td>
<td>76.0</td>
<td>67.0</td>
<td>26.0</td>
<td>44.1</td>
</tr>
</tbody>
</table>

Note: All part numbers are RoHS compliant.
Hybrid Mini-Drawer Connectors (Continued)

Plug Assembly
Material and Finish

Housing — Thermoplastic, black
UL94V-0

Contact — Copper alloy, gold plated on mating side over nickel underplate, tin plated platen on CT mating side over nickel underplate.

<table>
<thead>
<tr>
<th>No. of Pos. (Power/Signal)</th>
<th>Dimensions</th>
<th>Mini-Drawer Receptacle Assembly Part No.</th>
<th>Required Number of Power Contact</th>
<th>Required Number of CT Connector</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>12 (4-8)</td>
<td>56.0</td>
<td>47.0</td>
<td>6.0</td>
<td>24.1</td>
</tr>
<tr>
<td>24 (4-20)</td>
<td>68.0</td>
<td>59.0</td>
<td>18.0</td>
<td>36.1</td>
</tr>
<tr>
<td>32 (4-28)</td>
<td>76.0</td>
<td>67.0</td>
<td>26.0</td>
<td>44.1</td>
</tr>
</tbody>
</table>

*12-Position connector is provided with sequential feature in one power circuit position. Other connector sizes have sequential feature in power circuits and signal circuits.

**Optional part numbers offer sequential mating – see customer drawings for details.

Note: All part numbers are RoHS compliant.
## Hybrid Mini-Drawer Connectors

### CT Receptacle Connectors
To Mate with Signal Circuit Terminator with Insulation Displacement Contacts

#### Receptacle Assemblies
(Wire Application Side)

**Material and Finish**
- **Housing**: UL94V-0 rated, glass-filled PBT. See chart below for color.
- **Contact**: Pre-tinned phosphor bronze

**Wire Size** — AWG #28-26
(0.08-0.15 mm²)

**Insulation Dia.** — 0.85-1.05 mm

**Wire Size** — AWG #24
(0.20-0.22 mm²)

**Insulation Dia** — 0.95-1.05 mm²
(For AWG #24 wire, see notes under the table)

### Table: Receptacle Assemblies

<table>
<thead>
<tr>
<th>No. of Positions</th>
<th>Dimensions</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>2</td>
<td>2.0</td>
<td>4.8</td>
</tr>
<tr>
<td>3</td>
<td>4.0</td>
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</tr>
<tr>
<td>15</td>
<td>28.0</td>
<td>30.8</td>
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</tbody>
</table>

*The color of housing is natural. Other colors available include blue, yellow and black. For details contact our Sales Department

**For wire to be used, contact our Sales Department as there are wires that have been tested by Tyco Electronics and can be recommended for your use.

***The color of housing is gray.

---

*Note:* All part numbers are RoHS compliant.
Hybrid Mini-Drawer Connectors (Continued)

<table>
<thead>
<tr>
<th>No. of Positions</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
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<td>6.0</td>
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<td>4.0</td>
<td>6.8</td>
<td>8.0</td>
<td>179228-3</td>
</tr>
<tr>
<td>4</td>
<td>6.0</td>
<td>8.8</td>
<td>10.0</td>
<td>179228-4</td>
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<tr>
<td>5</td>
<td>8.0</td>
<td>10.8</td>
<td>12.0</td>
<td>179228-5</td>
</tr>
<tr>
<td>6</td>
<td>10.0</td>
<td>12.8</td>
<td>14.0</td>
<td>179228-6</td>
</tr>
<tr>
<td>7</td>
<td>12.0</td>
<td>14.8</td>
<td>16.0</td>
<td>179228-7</td>
</tr>
<tr>
<td>8</td>
<td>14.0</td>
<td>16.8</td>
<td>18.0</td>
<td>179228-8</td>
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<tr>
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<td>16.0</td>
<td>18.8</td>
<td>20.0</td>
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<td>24.0</td>
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</tr>
<tr>
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<td>22.0</td>
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<td>26.0</td>
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<tr>
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<td>24.0</td>
<td>26.8</td>
<td>28.0</td>
<td>1-179228-3</td>
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<tr>
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<td>26.0</td>
<td>28.8</td>
<td>30.0</td>
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<tr>
<td>15</td>
<td>28.0</td>
<td>30.8</td>
<td>32.0</td>
<td>1-179228-5</td>
</tr>
</tbody>
</table>

* The color of housing is natural. Other colors available include blue, yellow and black. For details contact our Sales Department

Note: All part numbers are RoHS compliant.

Receptacle Contact

Wire Size Insulation Dia. Material and Finish Part Number
AWG (mm²) (mm) Strip Form Loose Piece Hand Tool
30-26 0.65-1.35 Phosphor bronze 179609-1 — 234169-1
(0.05-0.12) (0.20 mm thickness), tin plated (411-5711)
26-22 0.93-1.5 179227-1 179518-1 91573-1
(0.12-0.35) (408-8547)

Cable Mounted Products

CT Receptacle Contacts to Mate with Signal Circuit Termination with Crimp Type Contacts

Receptacle Housing Material
UL94-0 rated, 66 nylon, natural color (white)

Note: Loose piece contacts, being small in size, are supplied in the form of a comb with 10 pieces on 7.5 mm pitch. There is a slit at the root of each contact and it can be snapped off easily.
ET Power Connector

Product Facts
- Right-angle and vertical mounts available
- Low profile right-angle connector ≤ 8 mm above pcb
- 2.5 mm² (14 AWG) to 6 mm² (10 AWG) wire range
- Refer to current v temp rise graphs for current capability
- Coding contacts for sense function
- Positive metal latch retention
- Up to 30 Amps per contact. See temperature rise charts on page 103

Description
- Cable to pcb
- Low profile Right Angle
- Vertical Mount
- High reliability interface
- Excellent price to performance ratio

Designed for low-profile power distribution units requiring small form factor connector with high current, the ET power connector is a low loss, highly reliable and cost effective solution for cable-to-pcb applications.

The connector is available in both a vertical mount and a right-angle mount, which stands at just 8 mm off of the board. A unique feature of the ET power series is integrated coding contacts which allow different electronic functions such as sense and enable to be designed into the PDU electronics with activation on full insertion of the cable connector.

Crimp contacts from the industry proven “Standard Power Timer” range for use with 2.5 mm² (14 AWG), 4 mm² (12 AWG) and 6 mm² (10 AWG) wire.

The cable connector has a positive latching mechanism providing no accidental un-mating even with pull forces up to 100N.

Material and Finish
- Housing ST Cable — Black glass-filled thermoplastic, UL 94V-0 rated
- Latch — Stainless Steel
- Housing ST & Right-angle PCB — Black glass-filled thermoplastic, UL 94V-0 rated
- Power Contacts — Copper alloy, 3.0 µm Ag min.
- Contact Detection — 0.8 µm gold min. in contact place; 1.27 µm nickel min. contact place

Application
- Power Distribution
- Power Supplies
- Telecoms Base Stations
- Computer Servers and Storage Systems
- Industrial Electronic Equipment Cabinets

Technical Documents
- Product Specification 108-19346
- Application Specification 114-19110
**ET Power Connector** (Continued)

### Test Results

**Temperature Rise vs. Current Results**

- **2.5mm² Wire**
- **5mm² Wire**
- **6mm² Wire**

### Contact Summary

Refer to Standard Timer catalog 889759 for detailed information or Product/Application Specification.

### Material

<table>
<thead>
<tr>
<th>Wire Size Range mm²</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2 – 0.5</td>
<td>927840-4</td>
</tr>
<tr>
<td>0.5 – 1.0</td>
<td>927831-4</td>
</tr>
<tr>
<td>&gt;1.0 – 2.5</td>
<td>927837-4</td>
</tr>
<tr>
<td>&gt;2.5 – 4.0</td>
<td>927829-5</td>
</tr>
<tr>
<td>&gt;4.0 – 6.0</td>
<td>963709-5</td>
</tr>
</tbody>
</table>

**Plating** — Silver

### Technical Documents

- **Product Specification**
  - 108-18025
- **Application Specification**
  - 114-18037

**Note:** All part numbers are RoHS compliant.
ET Power Cable Connector

Material and Finish
Housing — Thermoplastic, UL 94V-0 rated
Latch — Stainless Steel

Right-Angle PCB Header

Material and Finish
Housing — High temperature liquid crystal polymer, UL 94V-0 rated
Contacts — Silver plated copper alloy

Vertical PCB Header

Material and Finish
Housing — High temperature liquid crystal polymer, UL 94V-0 rated
Contacts — Silver plated copper alloy

Note: All part numbers are RoHS compliant.
AMP-DUAC PL Connectors

Product Facts

- Wire to board connection system
- Improved dual-action contact design — provides better contact lead-in and reduces contact mating force
- Sequenced contacts available for mate-first break-last operation
- 4-, 6- and 12-position right-angle headers and free hanging receptacles
- 4.2 mm x 5.5 mm centerline
- Receptacle contacts designed for 26-16 AWG stranded wire
- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476
- Certified by Canadian Standards Association, File No. LR7189

Technical Documents

- Product Specification 108-1646
- Application Specification 114-6067-Crimping Contacts
- Qualification Test Report 501-394

Performance Data

- Voltage Rating — 600 VAC
- Current Rating — 9 Amps maximum in 2-position application
- Low Level Resistance — 10 megohms max.
- Dielectric Withstanding Voltage — 1500 VAC/min.
- Insulation Resistance — 1000 Megohms minimum
- Operating Temperature — -55°C to +105°C [-67°F to +221°F]

The latest addition to the 4.2 mm Wire-to-Board Power Connectors is the AMP-DUAC PL Connector. This product uses the industry proven AMP-DUAC contacts with the addition of several housing improvements to offer significant overall improvements in connector reliability. The product is available in both component form and as fully assembled custom cable assemblies. The AMP-DUAC PL housings are designed to confirm that all electrical contacts are fully seated. The “PL” refers to “Positive Locking” of the contacts. It is also referred to as terminal position assurance. Contacts are inserted into the receptacle housing and the contact lock is installed to lock all the contacts into position. If any one of the contacts is not fully inserted, the contact lock cannot be installed. This feature eliminates a common concern of operator fatigue and the resulting contact back-out, which occurs when a contact is not installed properly. An improved mounting flange has also been added for more secure printed circuit board mounting.

Finally, the housings have been re-designed to provide an improved latch, which offers a metal spring instead of the original plastic spring/latch. An extended latch arm is also available for hard to reach installations or where the connectors are stacked in close proximity.

All the housings are polarized to help prevent mis-mating.
AMP-DUAC PL Connectors (Continued)

AMP-DUAC PL PCB Headers

Material
Housings — Nylon, UL 94V-0
Color, white
Contacts — Brass, tin-lead
Finish — 0.00038 [0.00030] gold in mating area, tin-lead in solder tail, all over 0.00127 [0.00050] nickel

Recommended Mounting Hole Pattern
For 1.78 Max. Thick PC Board
Component Side Shown

<table>
<thead>
<tr>
<th>No. of Positions</th>
<th>Mate-First Break-Last Position #</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>All Standard Length 3</td>
<td>5794172-2</td>
</tr>
<tr>
<td></td>
<td>All Standard Length 3</td>
<td>5794172-3</td>
</tr>
<tr>
<td>6</td>
<td>All Standard Length 3</td>
<td>5794173-2</td>
</tr>
<tr>
<td></td>
<td>All Standard Length 3</td>
<td>5794173-3</td>
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<tr>
<td>12</td>
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<td>5794176-2</td>
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<tr>
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<td></td>
<td>5794176-3</td>
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</tbody>
</table>

Note: All part numbers are RoHS compliant.
AMP-DUAC PL Connectors (Continued)

AMP-DUAC PL Receptacles

Material
Housings — Nylon, UL94V-0
Color, White
Technical Documents — page 105
Contacts — page 113

<table>
<thead>
<tr>
<th>Material</th>
<th>Color, White</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Parts</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Positions</td>
<td>Dimension L</td>
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<tr>
<td>4</td>
<td>15.9</td>
</tr>
<tr>
<td>6</td>
<td>20.1</td>
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<tr>
<td>12</td>
<td>28.6</td>
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<table>
<thead>
<tr>
<th>Part Numbers</th>
<th>Housing</th>
<th>Housing with Positive Lock</th>
<th>Standard Latch</th>
<th>Extended Latch</th>
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<tbody>
<tr>
<td>794152-1*</td>
<td>794318-1</td>
<td>794150</td>
<td>794149</td>
<td></td>
</tr>
<tr>
<td>794153-1</td>
<td>794319-1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>794156-1</td>
<td>794322-1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Latch items ordered separately
Optional keying plug — Part No. 794144-1

Note: Position Lock Required — use one per housing — Part No. 794145-3

Note: All part numbers are RoHS compliant.
Cable Mounted Products

Power Connectors & Interconnection Systems

AMP-DUAC PL-II Connectors

Product Facts
- Wire-to-board connection system combining power and signal contacts
  - 10A power contacts
  - 4A signal contacts
- High conductivity copper alloy power contacts yield 30% gain in current carrying capacity compared to alternative designs
- Dual action contact design — reduces mating forces by up to 50% compared to alternative designs
- 9 power and 20 signal contacts
- Positive Lock (PL) feature on both power and signal contacts ensures contacts remain in position in cable receptacle
- Pin and receptacle contacts offered in three sizes:
  - 16 AWG
  - 18 AWG
  - 20-22 AWG
- Wide 5.2 X 5.5 mm contact spacing allows for 300V applications.
- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476

The AMP-DUAC PL-II Connectors bring both shielding and a power / signal mix to the popular AMP-DUAC product family. In addition, the wider contact spacing and the use of high conductivity materials results in a higher current carrying capacity than the original 4.2 mm pitch AMP-DUAC product.

The deep back shell allows for gathering the larger wire and insulation diameters involves with combination power / signal and shielding all in the same cable. Traditional signal connectors do not accept the range of wire sizes covered by the AMP-DUAC PL-II product.

For applications involving higher voltage cabled power distribution, this product is the ideal solution. The AMP-DUAC PL-II connector uses the original industry proven dual-action contact design which provides a lower mating force and less plating wear than alternate contact designs. The signal contacts also feature a twin-cantilever beam that mates on the milled contact surface to provide low plating wear and high long-term reliability.

The cable mounted receptacle uses the popular “Positive Lock” devices proven throughout the automotive industry to ensure all the contacts are fully seated. The “positive locks” are also referred to as “terminal position assurance”. If any one of the contacts is not properly/ completely installed into the housing, then the “Positive Lock” can not be installed. This feature reduces the common concern of operator fatigue and the resulting contact back-out which occurs when a contact is not properly seated.

The shielding system fully encapsulates the inner conductors and cable braids and provides a reliable conduction to the faceplate of the mating equipment. Finally, the cable retention is accomplished through two rear-accessed over molded jackscrews for easy installation and removal.

Technical Documents
Product Specification
108-2218
Application Specification
Contact Tyco Electronics

Performance Data
Voltage Rating — 600 VAC
Current Rating —
  - 10 Amps max on a single contact
  - 6 Amps on each contact in 48 pos. connector
Low Level Resistance — 10 milliohms max
Insulation Resistance — 1000 Megohms minimum
Operating Temperature — -40°C to +105°C

Materials
Housing Material — PBT, UL 94V-0
Colors —
  - Plugs and Receptacles — Black
  - Positive Locks — White

Catalog 1773096
Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.
Dimensions are shown for reference purposes only.
Specifications subject to change.
USA: 1-800-522-6752
Canada: 1-905-470-4425
Mexico: 01-800-733-8926
C. America: 52-55-1106-0803
South America: 55-11-2103-6000
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-(0)8002-67666

www.tycoelectronics.com
AMP-DUAC PL-II Connectors (Continued)

PCB Plug
Part Number 6469602-3

Note: Other cable components required. Cable receptacle components shown not sold separately. Receptacle only sold as part of a finished cable assembly.

Note: All part numbers are RoHS compliant.
AMP-DUAC UPC Connectors

Product Facts

- Wire-to-wire connection system
- High conductivity copper alloy contacts yield 30% gain in current carrying capacity compared to alternative designs
- Dual action contact design — reduces mating forces by up to 50% compared to alternative designs
- Sequenced contacts for make-first-break-last operation
- 48 and 66 position housings
- 4.4 mm X 5.3 mm contact grid
- Pin and Receptacle contacts offered in three sizes:
  - 16 AWG
  - 18 AWG
  - 20-22 AWG
- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476

The latest addition to the AMP-DUAC product family is the AMP-DUAC UPC connector. The UPC connector offers much higher pin counts and a variety of product improvements to make the connector more reliable and easier to use. The UPC connector uses the original industry proven dual-action contact design along with very high conductivity copper alloys to improve the current carrying capacity.

The first noticeable difference of the UPC connector is the large pin count. With either 48 or 66 positions, the housing can serve as a common mating I/O point where multiple low current power connector cables are combined into one interface. Other connectors would yield an excessive mating force when mating this number of wires, however, the low mating force of the AMP-DUAC / UPC connector allows up to 66 wires to be mated with less than a 20 lb mating force.

The next key improvement is the use of molded-in guide pins. The guide pins make the mating process very easy and provide a visual polarization of the connector. The housings mate together easily. The use of two locking latches provides a more secure connection and the screw-mounts for the panel mounted plug provide better retention than plastic latches.

Finally, the free-hanging receptacle uses the popular “Positive Lock” device to confirm all the contacts are fully seated. The “positive locks” are also referred to as “terminal position assurance”. If any one of the contacts is not properly/completely installed into the housing, then the “Positive Lock” can not be installed. This feature eliminates the common concern of operator fatigue and the resulting contact back-out which occurs when a contact is not properly seated.

Technical Documents

- Product Specification 108-2248
- Application Specification 114-13195

Performance Data

- Voltage Rating — 600 VAC
- Current Rating — 11 Amps max on a single contact
  4 Amps on each contact in 48 pos. connector
- Low Level Resistance — 10 milliohms max
- Insulation Resistance — 1.2 E16 ohms minimum
- Operating Temperature — -40°C to +105°C

Materials

- Housing Material — PBT, UL 94V-0
- Colors —
  - Plugs and Receptacles — Black
  - Positive Locks — White
AMP-DUAC UPC Connectors (Continued)

Panel-Mount Plug
(Accepts contacts on page 112)

Free-Hanging Receptacle
(Accepts contacts on page 113)

<table>
<thead>
<tr>
<th>Size (No. Circuits)</th>
<th>Panel-Mount Plug</th>
<th>Dimensions</th>
<th>Free-Hanging Receptacle*</th>
<th>Positive Lock*</th>
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<tbody>
<tr>
<td>48</td>
<td>1934142-1</td>
<td>A: 1.61</td>
<td>1934144-1</td>
<td>1469910-1</td>
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<tr>
<td></td>
<td></td>
<td>B: 1.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C: 2.22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>1934143-1</td>
<td>2.13</td>
<td>1934145-1</td>
<td>1934017-1</td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>69.6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Two (2) required for each receptacle housing. Not used in plug housings.

Additional configurations possible. For information, please contact your Tyco Electronics sales engineer.

Note: All part numbers are RoHS compliant.
## Contacts for AMP-DUAC PL, PL-II and UPC Connectors

### Materials
- High Conductivity Copper Alloy
- Pre-Tin or Gold Plated

### Technical Documents
- Product Specification: 108-2246 AMP-DUAC UPC
- Application Specification: 114-6067 AMP-DUAC PL, 114-13195 AMP-DUAC UPC

### AMP-DUAC PL or UPC Contacts

<table>
<thead>
<tr>
<th>Wire Size Range</th>
<th>Ins. Dia. Range</th>
<th>Plating</th>
<th>Part Number (Continuous Strip)</th>
<th>Applicator</th>
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</thead>
<tbody>
<tr>
<td>22-20 [0.3-0.5]</td>
<td>.590–.094 [1.50–2.40]</td>
<td>Gold</td>
<td>794576-4</td>
<td>680308-3</td>
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<tr>
<td>18 or 18+22 [0.8-1.1]</td>
<td>.087–.154 [2.20–3.90]</td>
<td>Gold</td>
<td>1934185-4</td>
<td>1852467-3</td>
</tr>
<tr>
<td>16 or 2 @ 18 [1.3-1.6]</td>
<td>.098–.173 [2.50–4.40]</td>
<td>Gold</td>
<td>1934184-4</td>
<td>1852468-3</td>
</tr>
</tbody>
</table>

Application Equipment: Extraction Tool 1976132

*Made from Phosphor-Bronze material (low conductivity)*

---

**Note:** All part numbers are RoHS compliant.
### Contacts for AMP-DUAC PL, PL-II and UPC Connectors (Continued)

**Materials** — High Conductivity Copper Alloy  
**Finish** — Gold Plated

---

**AMP-DUAC PL or UPC Contacts**

<table>
<thead>
<tr>
<th>Wire Size Range AWG [mm²]</th>
<th>Ins. Dia. Range</th>
<th>Plating</th>
<th>Part Number (Continuous Strip)</th>
<th>Applicator</th>
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<tbody>
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<td>1852469-3</td>
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<tr>
<td>16 or 2 @ 18</td>
<td>0.087–1.154</td>
<td>Gold</td>
<td>1934183-4</td>
<td>1852467-3</td>
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<tr>
<td>[0.8–1.1]</td>
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</tr>
<tr>
<td>16 or 2 @ 18</td>
<td>0.098–1.173</td>
<td>Gold</td>
<td>1934182-4</td>
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<tr>
<td>[1.3–1.6]</td>
<td>[2.50–4.40]</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Application Equipment: Extraction Tool 1976382

**Note:** All part numbers are RoHS compliant.
Other Soft Shell Pin & Socket Connectors

Micro MATE-N-LOK 3 mm Connector System
- Wire-to-wire and wire-to-board, pin and receptacle connectors
- 3.0 mm (.118") centerline spacing
- 2-12 positions – single row
- 2-24 positions – dual row
- Ratings: 5A, 250 VAC
- Accommodates 30-20 AWG wire
- Panel-mount or free-hanging versions
- Dual beam receptacle contact design for improved reliability
- PCB-mount pin header assemblies available in both vertical and right-angle styles; surface-mount or through hole versions
- Available in a low profile design (<4.7 mm)

Grace Inertia Connector System
- Wire-to-wire and wire-to-board, blade and receptacle connectors
- Wire-to-wire
  - 2.5 mm, 3.5 mm and 6.2 mm centerline spacing
  - Select 2-12 position depending on centerline spacing
- Wire-to-board
  - 2.0 mm, 3.3 mm, 6.5 mm, 7.92 mm, 9.0 mm and 12.4 mm centerline spacing
  - Select 2-20 position depending on centerline spacing
- Four kinds of keying per color-coded housings
- Inertia locking mechanism on the housing which simultaneously locks when mated to prevent mismating
- Robust connections for use in high vibration or transportation applications

Commercial Pin and Socket Connector System
- Panel-mount or free-hanging, wire-to-wire, pin and socket connectors
- 3.68 mm (.145") and 5.03 mm (.198") centerline spacing
- High density, 1-9 positions – 2, 3 & 4 in-line and 4, 6 & 9 matrix
- Standard density, 1-15 positions – 2-6 in-line and 4, 6, 9, 12 & 15 matrix
- Ratings: 7A (high density) or 13A, 250 VAC
- High density system accommodates 30-18 AWG wire
- Standard density system accommodates 24-14 AWG wire
- Dual contact locking lances provide optimum contact stability
- Low contact-mating force

For more information order Catalog 82181, "Soft Shell Pin and Socket Connectors"
Other Soft Shell Pin & Socket Connectors (Continued)

Power Double Lock Connector System
- Wire-to-wire and wire-to-board, blade and receptacle connectors
- 3.96 mm [.156] and 6.5 mm [.256] centerline spacing
- High density, 1-12 positions – 2, 3 & 4 in-line and 4, 6, 8, 9, 10 & 12 matrix
- Standard density, 2-12 positions – 2, 3 & 4 in-line and 4, 6, & 12 matrix
- Ratings: 14A, 300 VAC
- Accommodates 26-16 AWG wire
- Panel-mount or free-hanging versions
- Optional double lock plate on the wire side that confirms contact seating
- Lanceless contacts prevent entanglement of contacts with each other
- Housings are polarized with four types of special keying to prevent mismating

Mini-Universal MATE-N-LOK and
Mini-Universal MATE-N-LOK II Connector System
- Wire-to-wire and wire-to-board, pin and socket connectors
- 4.14 mm [.163"] centerline
- 1-24 and 2-24 positions, respectively
- Ratings: 9.5A and 10.5A respectively
  600 VAC or VDC
- Accommodates 30-16 AWG wire
- Compact, durable housings
- Contacts protected in the housings
- Fully polarized to provide proper mating
- Seals available for splash protection (Mini-Universal MATE-N-LOK system only)

VAL-U-LOK Connector System
- Wire-to-wire and wire-to-board, pin and receptacle connectors
- 4.2 mm [.165] centerline
- 2-24 position dual row and 3-5 single row configurations
- Ratings: 9A, 600 VAC
- Accommodates 26-18 AWG wire
- Easy-to-mate, positive locking housings
- Fully isolated terminals
- Panel-mount or free-hanging versions
- Black, red and blue in addition to the standard white
- PCB headers are available in vertical, right-angle, screw-mount, and blind-mate configurations
- Intermateable with similar connectors from other manufacturers

For more Information Order Catalog 82181, "Soft Shell Pin and Socket Connectors"
Other Soft Shell Pin & Socket Connectors (Continued)

Commercial MATE-N-LOK Connector System
- Wire-to-wire and wire-to-board, pin and socket connectors
- 5.08 mm [0.200"] centerline
- Panel-mount or free-hanging versions
- 1-16 positions
- Ratings: 19A, 250 VAC
- Accommodates 30-14 AWG wire
- Fully polarized housings
- Contact stabilization and self-aligning features
- Hot side is egg-crated for safety
- Locking devices are integral part of design

Universal MATE-N-LOK and Universal MATE-N-LOK II Connector System
- Wire-to-wire and wire-to-board, pin and socket connectors
- 6.35 mm [0.250"] centerline
- 1-15 and 2-15 positions, respectively
- Panel-mount or free-hanging versions
- Ratings: 19A, 600 VAC or VDC
- Accommodates 30-10 AWG wire
- Contacts protected in the housings
- Special keying to prevent incorrect mating
- Additional offerings include:
  - UV resistant materials
  - High temperature materials
  - Glow wire approved products
  - Special high retention contacts
  - Seals available for splash protection (UMNL only)
  - Color housings available (UMNL only)

For more information, order Catalog 82181, "Soft Shell Pin and Socket Connectors."
AMPINNERGY Wire-To-Wire Connectors

AMPINNERGY wire-to-wire (WTW) Connectors provide a reliable and efficient means of interconnecting conductors employed to carry up to 600 VAC in power circuits or networks. The WTW connectors consist of mating hermaphroditic, flame retardant polycarbonate housings into which customer terminated power contacts are inserted. Stackable in four directions through the use of molded interlocking keyways, the connectors make wire routing and dressing orderly and easy to accomplish. More importantly, the built-in interlocking features on the connectors and the accessory mounting adapters provide better resistance to the effects of shock and vibration, keeping the interconnect more stable and secure.

The design features of the WTW connector make it easily applicable to free-hanging, surface mounted or panel mounted applications. By simply sliding the accessory mounting adapters into the molded keyways of the connector housing, a free-hanging connector can be transformed into a surface-mount connector or a panel-mount connector. The WTW connector system is available in six different colors which makes circuit differentiation and identification possible. The crimped power terminals will accommodate either 10-12 AWG or 14-16-18 AWG stranded conductors. Depending upon the conductor size and the number of conductors in the connector configuration, the current rating ranges from 10 Amps to 55 Amps.

For more information, request Catalog 1308885.
**Housings**

**Material and Finish**

**Housing** — Polycarbonate, 94V-0

For surface mounting and panel mounting information, see Instruction Sheet 408-3277, AMPINNERGY Wire-To-Wire Stackable Connectors.

<table>
<thead>
<tr>
<th>Color</th>
<th>Housing Part Numbers</th>
</tr>
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<tbody>
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<td>White</td>
<td>556137-1</td>
</tr>
<tr>
<td>Black</td>
<td>556137-2</td>
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<tr>
<td>Green</td>
<td>556137-3</td>
</tr>
<tr>
<td>Red</td>
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<tr>
<td>Blue</td>
<td>556137-6</td>
</tr>
<tr>
<td>Gray</td>
<td>556137-8</td>
</tr>
</tbody>
</table>

**Mounting Adapters**

Part Number 557313-1

**Material and Finish**

**Housing** — Polycarbonate, Black

Two mounting adapters can be used with one or more connector housings to provide thru-panel or horizontal surface mounting capability of the completed assembly.

**External Locking Latch Clip**

Part Number 557640-1

AMPINNERGY wire-to-wire connector housings have an integral locking feature designed to keep housings mated in most applications. However, the external locking latch clip may be used as needed in applications where severe vibration or tension may pull mated housings apart.

**Note:** All part numbers are RoHS compliant.
AMPINNERGY Wire-To-Wire Connectors (Continued)

Loose Piece

Part Number 556136-2

Material and Finish
Contacts — Copper alloy plated with .000100 [0.00254] minimum tin.

The wire-to-wire connector power contacts are available in either strip form or in loose piece form.

Contacts in strip form are terminated on continuous feed type terminators and the loose piece contacts are terminated with the hand tool or pneumatic tool.

For wire preparation and crimped contact inspection information, refer to Instruction Sheet 408-3198, Inspection of AMPINNERGY System Power Contacts.

Strip Form

Part Number 556135-1

Part Number 556136-1

Part Number 788109-1

Part Number 788110-1

Note: All part numbers are RoHS compliant.
AMPINNERGY Wire-To-Board Connectors

Product Facts
- Ratings: 600 VAC (RMS), current ratings range from 12-35 Amps
- Receptacles polarized to plug
- Receptacles and plugs available in contact configurations of 2 through 8 positions
- Vertical receptacle polarized to PCB
- Receptacle contacts have dual solder posts for efficient heat dissipation, low millivolt drop and mechanical strength
- Receptacles may be mounted on PCBs .062 to .125 inch thick
- Plugs have positive latching to receptacles
- Removable crimp contacts latch firmly in plug
- Plugs are one-piece design
- Two ranges of crimped contacts accommodate either 10-12 AWG or 14-16-18 AWG conductors
- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476
- Certified by Canadian Standards Association, File No. LR7189-239

AMPINNERGY Wire-To-Board (WTB) Connectors
Connectors provide a convenient and efficient means of delivering up to 600 VAC to component printed circuit boards and other power distribution devices in computers and peripherals, telephone systems and appliances. The WTB connectors also have automotive and industrial applications.

Receptacles
The AMPINNERGY WTB connector receptacles can be installed on pc boards varying in thickness from .062 inch to .125 inch. A polarizing pin is provided on the vertical receptacle assembly to aid in proper positioning on the pc board. Both the vertical and right-angle assemblies are polarized for accurate mating to the plug assemblies. The receptacle assemblies are available in contact configurations ranging from two to eight positions.

Plugs
The single piece plug housings are available in contact configurations to mate with the receptacles. The plug is equipped with positive latches to allow full and more secure mating to the respective receptacle. A make-first/break-last feature is designed into position 1 of the plug assemblies to provide grounding protection.

Contacts
The crimp contacts will accommodate either 10-12 AWG or 14-16-18 AWG conductors. The contacts latch firmly within the plug housing.

Technical Documents
- Product Specification
  108-1349 AMPINNERGY WTB Connectors
- Application Specification
  114-6044 AMPINNERGY WTB Connectors
- Instruction Sheets
  408-3236 Installation of AMPINNERGY WTB Connectors
  408-3198 Inspection of AMPINNERGY Contacts
Vertical PCB Receptacles

Product Facts
- Withstands vapor phase, infrared and wave soldering processes
- .040 inch minimum standoff to PCB
- Polarized to PCB; to plug
- Contact centerline spacing: .440 inch
- Overall height on PCB: .600 inch
- Fits PCB thickness .062 through .125 inch
- Contacts have dual solder posts for efficient heat dissipation, low millivolt drop and mechanical strength
- Positive latching to mating plug

Material and Finish
Housing — Polyphenylene Sulfide, Black, 94V-0
Contacts — Tin Plated Copper Alloy

<table>
<thead>
<tr>
<th>No. of Positions</th>
<th>Dimensions</th>
<th>Receptacle Part Numbers</th>
</tr>
</thead>
<tbody>
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<td>2</td>
<td>.93</td>
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<td>39.62</td>
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<tr>
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<td>57.79</td>
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PCB Thickness — .062-.125 inch

<table>
<thead>
<tr>
<th>No. of Positions</th>
<th>Dimensions</th>
<th>Receptacle Part Numbers</th>
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<tr>
<td>3</td>
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<td>.070±.003</td>
<td>[1.78±.08]</td>
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PCB Thickness — .250 inch

<table>
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<tr>
<td>4</td>
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</tr>
<tr>
<td>6</td>
<td>558084-1</td>
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</table>

Note: All part numbers are RoHS compliant.
Right-Angle
PCB Receptacles

Product Facts
- Withstands vapor phase, infrared and wave soldering processes
- .040 inch minimum standoff to PCB
- Receptacles polarized to plug
- Contact centerline spacing: .440 inch
- Overall height on PCB: .600 inch
- Fits PCB thickness .062 through .125 inch
- Contacts have dual solder posts for efficient heat dissipation, low millivolt drop and mechanical strength
- Positive latching to mating plug

Material and Finish
Housing — Polyphenylene Sulfide, Black, 94V-0
Contacts — Tin Plated Copper Alloy

PCB Thickness — .062-.125 inch

<table>
<thead>
<tr>
<th>No. of Positions</th>
<th>Dimensions</th>
<th>Receptacle Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
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<tr>
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<td>90.56</td>
<td>106.68</td>
</tr>
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</table>

Note: All part numbers are RoHS compliant.
Plug Housings

Product Facts

- One-piece housing
- Polared to mating receptacles
- Positive latching to mating receptacles
- Accepts crimp contacts
- Part Numbers 556880-2 and 556883-1
- Internal latching of crimp contact

Material

Housing — Polycarbonate, Black, 94V-0

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

---

AMPINNERGY Wire-To-Board Connectors

<table>
<thead>
<tr>
<th>No. of Positions</th>
<th>Dimensions A</th>
<th>Dimensions B</th>
<th>Plug Part Numbers</th>
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Note: All part numbers are RoHS compliant.
AMPINERGY Wire-To-Board Connectors (Continued)

Crimp Contacts

Product Facts
- Contacts are dual beam design

Material and Finish
Contacts—Tin Plated Copper Alloy

Wire barrel accepts one
10 or 12 AWG stranded
copper conductor

Part Number 556880-2 Strip
Part Number 556880-1 Loose Piece

Application Tooling Part Number
Applicator Part Number
567256-3 (for Lead Makers)
567256-4 (for AMP-O-LECTRIC Model K Machine)
567256-6 (for AMP-O-LECTRIC Model G Machine)

Wire barrel accepts one
14, 16 or 18 AWG stranded
copper conductor

Part Number 556883-1 Loose Piece
Part Number 556883-2 Strip

Application Tooling Part Number
69710-1 Hand Tool
58492-1 Die Set (14 AWG)
58493-1 Die Set (18-16 AWG)
91308-1 Extraction Tool

Note: All part numbers are RoHS compliant.
Product Facts

- Lightweight, all-plastic and metal-shell connectors
- CPC connectors are UL 94V-0 rated and made of stabilized, heat resistant, self-extinguishing thermoplastic material
- Metal-shell CPC connector housings made of UL 94V-0 rated thermoplastic
- Operating temperature range: -55°C to +125°C
- Available in panel- or chassis-mount and free-hanging configurations
- Quick connect/disconnect capability with thread assist, positive detent coupling
- Built-in pin and socket protection
- Polarized for proper mating of connector halves
- Special connector configurations offer special solder and posted contacts, special receptacles with or without threaded inserts
- Full complement of optional accessories
- Recognized under the Component Program of Underwriters Laboratories Inc.
  - Series 1 and Series 3 (600 V); Series 2; Series 4, Series 5 and Series 6 (250 V)
  - File No. E28476
  - Select connectors are recognized for 600 volts service.

- Certified by Canadian Standards Association.
  - File No. LR 7189

- Certain products meet VDE Standard 0627

 Connector series for different interconnection requirements:
- Series 3 — Low density, power applications with Type XII contacts capable of carrying up to 35 Amps of current
- Series 4 — Combination of standard and power density application with Type III+ and Type XII contacts
- Series 5 — Power density application with Size 8 screw machined and precision formed contacts
- Series 6 — Combination of standard and power density application with Type III+ and Size 8 contacts

Type XII, Precision Formed, Crimp Contacts

High Current Type XII Crimp Contacts

For more information, request Catalog 82021.
Connectors and Types

Series 3 — Power Contacts
Series 3 connectors accept Type XII power contacts which can carry up to 25 Amps per contact. These contacts will accommodate a wire size range of 16 to 10 AWG [1.4 to 5 mm²]. Two connector sizes are available in both standard and reverse sex connector arrangements 3 and 7 positions.

Series 4 — Combination Size 16 and Power Contacts
Series 4 connectors accept Size 16 Multimate and Type XII power contacts, combining the signal and coaxial circuit capabilities of Series 1 connectors with the power circuit capabilities of Series 3 connectors. Available in two connector sizes offering power mixing combinations totaling 16 and 22 positions.

Series 5 — Power Contacts .125 POWERBAND
Series 5 connectors combine the revolutionary performance of the new POWERBAND Contact, high current contact in configurations similar to the Series 3 connectors. POWERBAND contacts offer the electrical performance of the best Mil Spec Size 8 screw-machined contacts with the economy and productivity of strip-fed, precision formed contacts. Series 5 connectors are environmentally sealable to meet IEC IP 65 and IP 67 specifications. Rated at 600 VAC or VDC, 45 Amps maximum in a single contact, the connectors are available in free-hanging and panel-mount applications — one connector configuration containing three .125 POWERBAND contacts.

Series 6 — Combination, Size 16 and .125 POWERBAND Contacts
Series 6 combines the high current and environmental sealing capability of Series 5, POWERBAND contacts, and the reliability of signal carrying, low current Type III+ contacts. This combination of power and signal contacts is offered in one connector configuration containing two .125 POWERBAND contacts and eight Type III+ signal pin and socket contacts.
Circular (CPC) Connectors for Commercial Signal and Power Applications (Continued)

**Metal-Shell, Circular Plastic Connectors (Series 3 and 4)**

Metal-Shell CPC connectors consist of a black thermoplastic insert in a nickel-plated, zinc alloy shell. These connectors are currently available in shell sizes 14, 22 and 28, and in two basic configurations consisting of plugs and square flange receptacles.

**Miniature CPC Connectors**

These compact connectors accept existing Mini-Universal MATE-N-LOK pin and socket contacts, 30-18 AWG [0.05–0.8 mm²]. Two shell sizes (8 or 11) are available, accommodating from 1 to 4 and 5 to 9 positions. Featuring high contact density and IP67 sealing, these durable connectors are well suited for many wire-to-wire, wire-to-board, and wire-to-panel applications.
High Current Products (LOUVERTAC Contacts)

The transfer of high current with manageable insertion and withdrawal forces has always presented a challenge to the connector industry. LOUVERTAC bands provide a unique means of transferring high amperage with a resultant space and weight savings. Tyco Electronics offers a wide range of pin and socket sizes for your applications. Strip and formed LOUVERTAC bands are also offered for customer use in their own contact design. The wide variety of flat and formed male and female bands provide the ability to design electrical connections more inexpensively and quickly. LOUVERTAC products are your high current applications solution.

The variety of pins and sockets available from Tyco Electronics provide a quick and simple solution to most high current applications.

**Product Facts**
- Pins and sockets have low insertion force
- High current ratings with very low resistance
- All plated products are gold or silver plated
- LOUVERTAC bands have a temperature range from -196°C to +200°C available
- Formed bands are available for up to 1.250 [31.75] pin diameter

**Typical application of LOUVERTAC strip**

**Thread-mount pin is installed directly into power supply**

**Thread-mount socket is installed directly into power supply**

**Crimp pin with cable installed**

**Threaded sleeve socket assembly is installed directly into power supply**

**METRIMATE drawer connector with high current contacts**

**MATE-N-LOK II connector with high current contacts**

**ELCON High Power Drawer Connectors pages 62-82**
Thread-Mount Sockets

These sockets are designed for easy installation and removal. The large variety of sizes have ratings from 30 continuous Amps and can be mated with Thread-Mount Pins and Crimp Pins.

Material
Body — Brass
LOUVERTAC Band — Beryllium Copper

Finish
Body — Silver
LOUVERTAC Band — See Table

Thread-Mount Pins

These pins are designed for thread-mount. The large variety of sizes have ratings from 30 continuous Amps and are designed to be mated with Thread-Mount Sockets, Threaded Sleeve Sockets and Crimp Sockets.

Material — Brass
Finish — Silver

<table>
<thead>
<tr>
<th>Material Pin Dia.</th>
<th>Part Number</th>
<th>Thread</th>
<th>Contin. Current (Amp)</th>
<th>Contin. Voltage Drop (mV)</th>
<th>Dimensions</th>
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<tr>
<td></td>
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<td>5.6</td>
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<td>.280</td>
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<td>4.1</td>
<td>7.1</td>
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<td>192244-1</td>
<td>1/4-28</td>
<td>100</td>
<td>.240</td>
<td>.410</td>
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<td>10.4</td>
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<td>.560</td>
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<td></td>
<td></td>
<td>8.1</td>
<td>14.2</td>
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</table>

Note: All part numbers are RoHS compliant.
Threaded Sleeve Sockets

The Threaded Sleeve Socket Assembly is designed for High Current in a restricted space. The Sleeve can be screwed directly into a threaded bus bar or it may be inserted into a drilled hole in the bus bar with tightened nuts on each side of the bus bar. A Crimp Pin or Thread-Mount Pin can be attached to a cable for the completed connector.

### Material
- **Body** — Brass
- **LOUVERTAC Band** — Beryllium Copper

### Finish
- **Body** — Silver
- **LOUVERTAC Band** — See Table

### Specifications

<table>
<thead>
<tr>
<th>Mating Pin Dia.</th>
<th>Part Number</th>
<th>Thread</th>
<th>Contin. Current (Amp)</th>
<th>Voltage Drop (mV)</th>
<th>Dimensions</th>
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<td>C</td>
<td>D</td>
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<td>10</td>
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<td>11</td>
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<td>.770</td>
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<td>185</td>
<td>12</td>
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**Note:** All part numbers are RoHS compliant.
**Crimp Pins**

Crimp Pins feature a mechanism for locking the pin into a housing designed by the customer. The 2 mm and 4 mm pins are crimped with a Daniels Hand Crimp Tool. Pin sizes from 6 mm to 8 mm may be crimped with the indicated tooling and a DYNA-CRIMP 69120-1 electric-hydraulic power unit. The large variety of sizes have ratings from 24 continuous Amps and can be mated with Thread-Mount Socket Assemblies, Threaded Sleeve Socket Assemblies or Crimp Sockets.

**Material**

Body — Copper Alloy
Retention Spring — Stainless Steel or Beryllium Copper

**Finish**

Body — Silver

---

### Dimensions

<table>
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<tr>
<th>Pin Dia.</th>
<th>Part Number</th>
<th>Cont. Current (Amp)</th>
<th>Voltage Drop (mV)</th>
<th>B Dia.</th>
<th>C Dia.</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G Dia.</th>
<th>Use with AWG</th>
<th>Tooling Part Numbers</th>
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<td>.050</td>
<td>.080</td>
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<tr>
<td>4 mm</td>
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</table>

**Notes:**

1. Additional information on AMPOWER terminal hydraulic crimping is available in Catalog 82025.
2. Application Specification — 114-16022

---

**Note:** All part numbers are RoHS compliant.
Crimp Sockets

Crimp Sockets feature a mechanism for locking the socket into a housing designed by the customer. A Tyco Electronics extraction tool is offered to remove the contact. The 2 mm and 4 mm sockets are crimped with a Daniels Hand Crimp Tool. Socket sizes from 6 mm to 8 mm may be crimped with the indicated tooling and a DYNACRIMP 69120-1 electric-hydraulic power unit. The large variety of sizes have ratings from 24 continuous Amps and can be mated with Thread-Mount Pins or Crimp Pins.

Material

<table>
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<th>Body</th>
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<tr>
<td>LOUVERTAC Band</td>
<td>Beryllium Copper</td>
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<tr>
<td>Retention Spring</td>
<td>Stainless Steel or Beryllium Copper</td>
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Finish

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<tr>
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<th>Use with AWG</th>
<th>Tooling Part Numbers</th>
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<td>57.4</td>
<td>14.5</td>
<td>9.91</td>
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<tr>
<td></td>
<td>193673-7</td>
<td>185</td>
<td>12</td>
<td>2.45</td>
<td>.570</td>
<td>.487</td>
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<td>62.2</td>
<td>14.5</td>
<td>12.37</td>
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<tr>
<td>12 mm</td>
<td>193673-8*</td>
<td>290</td>
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<td>2.51</td>
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<td>63.7</td>
<td>20.19</td>
<td>13.74</td>
</tr>
<tr>
<td>20 mm</td>
<td>1-193673-2*</td>
<td>480</td>
<td>11</td>
<td>3.17</td>
<td>1.072</td>
<td>.721</td>
</tr>
</tbody>
</table>

* Socket contact uses retention ring (not supplied) for locking contact in housing. See Application Specification 114-16022 for details.

Notes:
1. Additional information on AMPower terminal hydraulic crimping is available in Catalog 82025.
2. Application Specification — 114-16022

**Note:** All part numbers are RoHS compliant.
Thread-Mount Fork

The Thread-Mount Fork was developed to mount onto a plate or bus bar designed and fabricated by the customer. The Fork is rated at 64 Amps (Upper Tolerance Limit) and accepts a .087 thick blade or circuit board. The anti-rotation pin is in place to help prevent the Fork from rotating while tightening the screw.

Material

Fork — Zinc Al Alloy
LOUVERTAC Bands — Copper Alloy
Screw — Steel

Finish

Fork — Silver
LOUVERTAC Bands — Silver
Screw — Zinc

Thread-Mount Fork

Material

Fork — Zinc Al Alloy
LOUVERTAC Bands — Copper Alloy
Spring Pin — Stainless Steel

Finish

Fork — Silver
LOUVERTAC Bands — Silver

Note: All part numbers are RoHS compliant.
LOUVERTAC Strip, Torsional Louver Type

The Torsional Louver Type Band was designed as an electrical interface that allows the transfer of high current and a more generous tolerance between mating surfaces. A strip can be sized with scissors in an on-site installation. They are available for use in flat and circular applications. A male band is used on the outside diameter of a pin. The female band is used on the inside diameter of a socket.

Material — Beryllium Copper
Finish — See Tables

LAOG

Louver Height — See Table
Tooth Angle — 45°
Minimum Diameter — 1.75 inches

LAIA

.L050 [1.27] Louver Height
Tooth Angle — See Table
Minimum Diameter — 1½ inches

Notes:
1. Product will be sold by the foot except where length is specified.
2. Suggested current limits are application dependent.
3. Additional sizes are available upon request.

Note: All part numbers are RoHS compliant.
LOUVERTAC Strip, Bridge Louver Type

The Bridge Louver Type Band was designed to transfer high currents in very small spaces. A strip can be sized with scissors in an on-site installation. They are available for use in flat and circular applications. A male band is used on the outside diameter of a pin. The female band is used on the inside diameter of a socket.

Material—Beryllium Copper

**LAIII**

**.034 [.86] Louver Height**

Minimum Diameter — 1 inch
Suggested Current Limit
Per Inch — 150 Amps
Material Thickness — .006 [.15]

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Application</th>
<th>Finish</th>
<th>Material Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>192038-6</td>
<td>Female</td>
<td>Silver</td>
<td>.006 .15</td>
</tr>
<tr>
<td>192039-5</td>
<td>Male</td>
<td>Silver</td>
<td>.006 .15</td>
</tr>
</tbody>
</table>

**LAIV**

**.026 [.66] Louver Height**

Minimum Diameter — ¾ inch
Suggested Current Limit
Per Inch — 150 Amps
Material Thickness — See Table

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Application</th>
<th>Finish</th>
<th>Material Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-192041-2</td>
<td>Female</td>
<td>Silver</td>
<td>.006 .15</td>
</tr>
<tr>
<td>192042-5</td>
<td>Male</td>
<td>Silver</td>
<td>.006 .15</td>
</tr>
<tr>
<td>192048-2</td>
<td>Male</td>
<td>Gold</td>
<td>.004 .10</td>
</tr>
</tbody>
</table>

**LAV**

**.022 [.56] Louver Height**

Minimum Diameter — ⅜ inch
Suggested Current Limit
Per Inch — 120 Amps
Material Thickness — See Table

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Application</th>
<th>Finish</th>
<th>Material Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-192044-9</td>
<td>Female</td>
<td>Silver</td>
<td>.005 .13</td>
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<tr>
<td>192045-5</td>
<td>Male</td>
<td>Silver</td>
<td>.005 .13</td>
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<tr>
<td>192045-2</td>
<td>Male</td>
<td>Gold</td>
<td>.004 .10</td>
</tr>
</tbody>
</table>

**Notes:**
1. Product will be sold by the foot except where length is specified.
2. Suggested current limits are application dependent.
3. Additional sizes are available upon request.

**Note:** All part numbers are RoHS compliant.
### Preformed Female LOUVERTAC Bands

#### Female Torsional Formed Type

**LA1A/LA1B**

- **.050 [1.27] Louver Height**

- **Material** — Beryllium Copper

- **Finish** — See Table

- **Tooth Angle** — See Table

LOUVERTAC Bands can be manufactured as preformed diameters. This will allow the insertion of the band into a socket.

The diameter indicated is the mating pin diameter that will be inserted into the socket assembly.

Consult Product Engineering for mounting details.

---

### High Current Products (LOUVERTAC Contacts) (Continued)

#### Table 1:

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Mating Pin Dia.</th>
<th>Material Thickness</th>
<th>Suggested Current Limit (A)</th>
<th>Finish</th>
<th>Tooth Angle</th>
<th>Band Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-192013-3</td>
<td>.312 [7.92]</td>
<td>.004 [.10]</td>
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<td>Silver</td>
<td>15°</td>
<td>LA1A</td>
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<tr>
<td>4-192013-5</td>
<td>.312 [7.92]</td>
<td>.006 [.15]</td>
<td>250</td>
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<td>15°</td>
<td>LA1A</td>
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<tr>
<td>5-192013-1</td>
<td>.355 [9.01]</td>
<td>.006 [.15]</td>
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<td>Gold</td>
<td>15°</td>
<td>LA1A</td>
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<tr>
<td>5-192013-4</td>
<td>.375 [9.53]</td>
<td>.006 [.15]</td>
<td>300</td>
<td>Silver</td>
<td>15°</td>
<td>LA1A</td>
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<tr>
<td>5-192013-5</td>
<td>.394 [10.00]</td>
<td>.006 [.15]</td>
<td>325</td>
<td>Silver</td>
<td>15°</td>
<td>LA1A</td>
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<tr>
<td>7-192013-1</td>
<td>.500 [12.70]</td>
<td>.006 [.15]</td>
<td>400</td>
<td>Silver</td>
<td>15°</td>
<td>LA1A</td>
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<td>7-192013-6</td>
<td>.551 [14.00]</td>
<td>.006 [.15]</td>
<td>450</td>
<td>Silver</td>
<td>15°</td>
<td>LA1A</td>
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<tr>
<td>8-192013-2</td>
<td>.625 [15.88]</td>
<td>.006 [.15]</td>
<td>500</td>
<td>Silver</td>
<td>15°</td>
<td>LA1A</td>
</tr>
<tr>
<td>8-192013-6</td>
<td>.625 [15.88]</td>
<td>.008 [.20]</td>
<td>475</td>
<td>Silver</td>
<td>15°</td>
<td>LA1A</td>
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<tr>
<td>8-192013-9</td>
<td>.685 [17.40]</td>
<td>.008 [.20]</td>
<td>550</td>
<td>Silver</td>
<td>15°</td>
<td>LA1A</td>
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<tr>
<td>9-192013-6</td>
<td>.750 [19.05]</td>
<td>.006 [.15]</td>
<td>600</td>
<td>Silver</td>
<td>15°</td>
<td>LA1A</td>
</tr>
<tr>
<td>192033-5</td>
<td>.750 [19.05]</td>
<td>.006 [.15]</td>
<td>600</td>
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<td>15°</td>
<td>LA1A</td>
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<tr>
<td>1-192033-9</td>
<td>.875 [22.22]</td>
<td>.006 [.15]</td>
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<td>15°</td>
<td>LA1A</td>
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<tr>
<td>2-192033-0</td>
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<td>.006 [.15]</td>
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<td>Silver</td>
<td>15°</td>
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<td>2-192033-6</td>
<td>1.000 [25.40]</td>
<td>.006 [.15]</td>
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<td>15°</td>
<td>LA1A</td>
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<td>3-192033-4</td>
<td>1.250 [31.75]</td>
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<td>.008 [.20]</td>
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<td>Silver</td>
<td>15°</td>
<td>LA1A</td>
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<td>.008 [.20]</td>
<td>625</td>
<td>Silver</td>
<td>45°</td>
<td>LA1B</td>
</tr>
</tbody>
</table>

---

**Notes:**
1. Suggested current limits are application dependent.
2. Additional sizes are available upon request.

**Note:** All part numbers are RoHS compliant.
**Preformed Female LOUVERTAC Bands**  
(Continued)

**Female Bridge Formed Type**  
LAIII through LAVI

**Material** — Beryllium Copper  
**Finish** — See Table

---

### High Current Products (LOUVERTAC Contacts)  
(Continued)

![Diagram of LOUVERTAC Bands](image-url)

**Part Number** | **Mating Pin Dia.** | **Length** | **Material Thickness** | **Suggested Current Limit (A)** | **Finish** | **Band Type**
--- | --- | --- | --- | --- | --- | ---
1-192038-9 | .125 | .47 | .119 | .004 | 40 | Nickel | LAIII
2-192038-8 | .197 | .47 | .119 | .006 | 90 | Gold | LAIII
3-192038-7 | .236 | .47 | .119 | .006 | 100 | Gold | LAIII
4-192038-0 | .236 | .47 | .119 | .008 | 120 | Gold | LAIII
4-192038-9 | .236 | .47 | .119 | .008 | 120 | Gold | LAIII
4-192038-8 | .250 | .47 | .119 | .006 | 110 | Silver | LAIII
4-192038-9 | .250 | .47 | .119 | .006 | 110 | Gold | LAIII
5-192038-4 | .250 | .47 | .119 | .008 | 125 | Gold | LAIII
6-192038-0 | .280 | .47 | .119 | .008 | 165 | Silver | LAIII
6-192038-1 | .280 | .47 | .119 | .008 | 125 | Gold | LAIII
6-192038-2 | .250 | .47 | .119 | .006 | 125 | Unplated | LAIII
6-192038-5 | .315 | .47 | .119 | .008 | 185 | Silver | LAIII
6-192038-6 | .315 | .47 | .119 | .008 | 185 | Gold | LAIII
7-192038-7 | .394 | .47 | .119 | .008 | 250 | Silver | LAIII
8-192038-1 | .437 | .47 | .119 | .008 | 270 | Silver | LAIII
8-192038-6 | .472 | .47 | .119 | .008 | 300 | Silver | LAIII
9-192038-4 | .500 | .47 | .119 | .008 | 300 | Tin | LAIII
192040-8 | .375 | .47 | .119 | .008 | 200 | Gold | LAIII
2-192040-7 | .250 | .47 | .119 | .006 | 110 | Gold | LAIII
2-192041-0 | .025 | .32 | .163 | .005 | 15 | Gold | LAIV
4-192041-0 | .062 | .32 | .163 | .006 | 25 | Silver | LAIV
4-192041-1 | .062 | .32 | .163 | .006 | 25 | Gold | LAIV
4-192041-4 | .080 | .32 | .163 | .006 | 35 | Gold | LAIV
5-192041-0 | .093 | .32 | .163 | .005 | 40 | Gold | LAIV
5-192041-9 | .100 | .32 | .163 | .006 | 50 | Gold | LAIV
6-192041-9 | .125 | .32 | .163 | .006 | 60 | Gold | LAIV
7-192041-4 | .157 | .32 | .163 | .006 | 65 | Gold | LAIV
7-192041-7 | .157 | .32 | .163 | .006 | 65 | Silver | LAIV
8-192041-8 | .157 | .32 | .163 | .006 | 65 | Gold | LAIV
8-192041-4 | .157 | .32 | .163 | .008 | 75 | Gold | LAIV
8-192041-9 | .173 | .32 | .163 | .006 | 70 | Gold | LAIV
192043-8 | .218 | .32 | .163 | .006 | 95 | Silver | LAIV
1-192043-5 | .254 | .32 | .163 | .006 | 110 | Silver | LAIV
1-192043-6 | .254 | .32 | .163 | .006 | 110 | Silver | LAIV
2-192043-0 | .280 | .32 | .163 | .006 | 130 | Gold | LAIV
2-192043-7 | .315 | .32 | .163 | .006 | 165 | Silver | LAIV
4-192043-8 | .375 | .32 | .163 | .006 | 175 | Gold | LAIV
5-192043-0 | .375 | .32 | .163 | .007 | 175 | Tin | LAIV
6-192043-7 | .502 | .32 | .163 | .006 | 285 | Gold | LAIV
6-192043-2 | .562 | .32 | .163 | .006 | 60 | Silver | LAIV
9-192043-3 | .157 | .32 | .163 | .006 | 65 | Silver | LAIV
9-192043-6 | .725 | .32 | .163 | .006 | 350 | Silver | LAIV
4-192044-1 | .030 | .20 | .510 | .005 | 13 | Gold | LAV
4-192044-2 | .030 | .20 | .510 | .005 | 11 | Unplated | LAV
4-192044-4 | .055 | .20 | .510 | .005 | 20 | Gold | LAV
4-192044-7 | .060 | .20 | .510 | .004 | 22 | Gold | LAV
5-192044-6 | .062 | .20 | .510 | .005 | 25 | Gold | LAV
5-192044-8 | .065 | .20 | .510 | .005 | 23 | Unplated | LAV
6-192044-0 | .080 | .20 | .510 | .004 | 30 | Silver | LAV
6-192044-4 | .080 | .20 | .510 | .005 | 30 | Gold | LAV

---

**Note:** All part numbers are RoHS compliant.  
**Notes:**  
1. Suggested current limits are application dependent.  
2. Additional sizes are available upon request.
### High Current Products (LOUVERTAC Contacts) (Continued)

#### Preformed Female LOUVERTAC Bands

**Female Bridge Formed Type**

LAIII through LAVI (Continued)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Mating Pin Dia.</th>
<th>Length</th>
<th>Material Thickness</th>
<th>Suggested Current Limit (A)</th>
<th>Finish</th>
<th>Band Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-192047-4</td>
<td>.040 [1.00]</td>
<td>.10 [2.54]</td>
<td>.004 [10]</td>
<td>15</td>
<td>Gold</td>
<td>LAVI</td>
</tr>
<tr>
<td>5-192047-1</td>
<td>.256 [6.50]</td>
<td>.10 [2.54]</td>
<td>.004 [10]</td>
<td>95</td>
<td>Gold</td>
<td>LAVI</td>
</tr>
<tr>
<td>7-192047-5</td>
<td>.256 [6.50]</td>
<td>.10 [2.54]</td>
<td>.004 [10]</td>
<td>95</td>
<td>Unplated</td>
<td>LAVI</td>
</tr>
</tbody>
</table>

**Material** — Beryllium Copper

**Finish** — See Table

---

**Notes:**

1. Suggested current limits are application dependent.
2. Additional sizes are available upon request.

**Note:** All part numbers are RoHS compliant.
Preformed Male
LOUVERTAC Bands

Male
Torsional Formed Type
LA1AS/LA1BS
Material — Beryllium Copper
Finish — See Table
Tooth Angle — See Table

LOUVERTAC Bands can be formed into a “male” shape for use on a pin.
Selection begins with the amperage requirement and then the mating hole diameter.
Consult Product Engineering for mounting details.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Mating Hole Dia.</th>
<th>Material Thickness</th>
<th>Suggested Current Limit (A)</th>
<th>Finish</th>
<th>Tooth Angle</th>
<th>Band Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-192008-5</td>
<td>.875 [22.22]</td>
<td>.008 [20]</td>
<td>650</td>
<td>Silver</td>
<td>45°</td>
<td>LA1BS</td>
</tr>
</tbody>
</table>

Male
Bridge Formed Type
LAIIIS through LAVIS
Material — Beryllium Copper
Finish — See Table

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Mating Hole Dia.</th>
<th>Length</th>
<th>Material Thickness</th>
<th>Suggested Current Limit (A)</th>
<th>Finish</th>
<th>Band Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>192048-6</td>
<td>.051 [1.3]</td>
<td>.100 [2.54]</td>
<td>.004 [10]</td>
<td>17</td>
<td>Gold</td>
<td>LAIVS</td>
</tr>
</tbody>
</table>

Notes:
1. Suggested current limits are application dependent.
2. Additional sizes are available upon request.

Note: All part numbers are RoHS compliant.
AMP Power Series Connectors

Product Facts

■ Single-pole and 2-pole (battery) quick connect/disconnect connectors
■ Eight Series, based on approximate current-carrying capability:
  ■ Series 15/30/45 (Single-Pole)
  ■ Series 50 (2-Pole Battery)
  ■ Series 50 Finger Probe Resistant (FPR)
  ■ Series 75 (Single-Pole)
  ■ Series 120 (Single- and 2-Pole)
  ■ Series 175 (2-Pole Battery)
  ■ Series 180 (Single-Pole)
  ■ Series 350 (2-Pole Battery)
■ Voltage rating: 600 V AC/DC
■ Color-coded housings, UL 94V-0
■ Hermaphroditic (genderless) housings reduce inventory
■ Modular, single-pole housings are stackable in four directions
■ Polarity (+ and -) molded into 2-pole housings promotes proper wiring
■ Mechanical keys help prevent two different color-coded housings from mating
■ Stainless steel retaining springs secure contacts in housings
■ Stamped and formed, open barrel contacts (6-20 AWG) on reels for automatic and semiautomatic machine termination
■ Loose piece, cold-headed contacts (6 AWG – 300 MCM) for manual and hydraulic hand tools; reducing bushings accommodate smaller wire sizes
■ Compatible with industry standard crimp tooling from Pico Corporation (http://www.picotools.com)
■ Connectors intermateable with similar connectors from other manufacturers

AMP power series connectors provide a durable, quick connect/disconnect means to transmit “power” levels of current and voltage (15-275 A, 600 V AC/DC).

This product family is primarily comprised of single-pole and 2-pole (battery) connector housings, crimp snap-in contacts, and accessories. Housings are offered in various colors. Two-pole housings have different polarization configurations; with the exception of black housings, each color identifies a different keying configuration. In general, only like color housings will mate. Contacts are either cold-headed or stamped and formed, depending upon the connector series.

Applications

AC/DC power supplies and charging systems, rechargeable batteries, material handling equipment (e.g. forklift trucks), electric vehicles (e.g., golf carts, sweepers, wheelchairs), office furniture/panels, amateur emergency radios, and industrial equipment.
### AMP Power Series Connectors (Continued)

#### AMP Power Series 15/30/45
Single-pole connector housings are stackable side-to-side and top-to-bottom. For example, Series 30 red and black housings joined side-to-side, are commonly used as standard power connectors for handheld, mobile, or base amateur radio equipment. Modular housings can also be grouped into plug frames with or without latches, which mate with receptacle housings. Typically, these are used as quick disconnects for electrical power distribution in office furniture and panels.

#### AMP Power Series 50
Two-pole (battery) housings are available in bulk quantities or in kit form (i.e., 1 housing and 2 contacts). These high durability connectors are designed for repeated mating and unmating.

#### AMP Power Series 50 Finger Probe Resistant (FPR)
This new, 2-pole, FPR version helps prevent finger access, which allows it to be more safely used at elevated voltages and in user access areas.

#### AMP Power Series 75
Single-pole, stackable housings, in locking and non-locking versions, are available in a variety of colors. Housings accept stamped and formed or cold-headed contacts. Bulk quantities and connector kits (1 housing and 1 contact) can be ordered. Accessories include: mounting wings for through-panel or surface mounting and mounting clamp sets for ganging housings.

### Selection Guide

<table>
<thead>
<tr>
<th>Series</th>
<th>Housing Type</th>
<th>Stackable Housing</th>
<th>Current Max. (A)</th>
<th>Voltage, Max. (V, AC or DC)</th>
<th>Cold-headed Contact (AWG)</th>
<th>Stamped &amp; Formed Contact (AWG)</th>
<th>Housing Colors</th>
<th>Approvals</th>
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<tbody>
<tr>
<td>15</td>
<td>Single-Pole</td>
<td>Yes</td>
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<td>—</td>
<td>12-16</td>
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<td>10-14</td>
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<td>Red, Gray, Blue, Black, Yellow</td>
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<td>75</td>
<td>600</td>
<td>6, 8,10-12</td>
<td>6-10,10-12</td>
<td>Blue, Black, White, Green, Red (Single-Pole)</td>
<td>File No. E28476</td>
</tr>
<tr>
<td>120</td>
<td>Single-Pole</td>
<td>Yes</td>
<td>120</td>
<td>600</td>
<td>2, 4, 6</td>
<td>—</td>
<td>Blue, Black, White, Green, Red (Single-Pole)</td>
<td>File No. E28476</td>
</tr>
<tr>
<td>120</td>
<td>2-Pole</td>
<td>No</td>
<td>120</td>
<td>600</td>
<td>2, 4, 6</td>
<td>—</td>
<td>Blue, Gray (2-Pole)</td>
<td>File No. E28476</td>
</tr>
<tr>
<td>175</td>
<td>2-Pole</td>
<td>No</td>
<td>175</td>
<td>600</td>
<td>1/0, 1, 2, 4</td>
<td>—</td>
<td>Blue, Gray, Orange, Yellow, Red</td>
<td>File No. E28476</td>
</tr>
<tr>
<td>180</td>
<td>Single-Pole</td>
<td>No</td>
<td>180</td>
<td>600</td>
<td>1/0, 1, 2, 4</td>
<td>—</td>
<td>Blue, Black, White, Green, Red</td>
<td>File No. E28476</td>
</tr>
<tr>
<td>350</td>
<td>2-Pole</td>
<td>No</td>
<td>275**</td>
<td>600</td>
<td>1/0, 20, 30, 4/0, 300 MCM</td>
<td>—</td>
<td>Blue, Green, Red, Yellow, Orange, Gray</td>
<td>File No. E28476</td>
</tr>
</tbody>
</table>

*Performance equivalent to competition **Tested to 275 Amps with 4/0 AWG wire

---

**Catalog 1773096**
Revised 2-10

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

- USA: 1-800-522-6752
- Canada: 1-905-470-4425
- Mexico: 01-800-733-8926
- C. America: 52-55-1108-0803
- South America: 55-11-2103-6000
- Hong Kong: 852-2735-1628
- Japan: 81-44-844-8013
- UK: 44-(0)8002-67666
**Product Facts**
- Color-coded UL 94V-0 housings: blue, black, white, green, red, yellow, orange, and gray
- Genderless housings reduce inventory
- 3 contact offerings available: Series 15, 30 and 45
- Built-in interlocking features (dovetails) allow stacking
- Series 15/30/45, single-pole connectors designed to meet Amateur Radio Emergency Service (ARES)/Radio Amateur Civil Emergency Service (RACES) Standard Power Connector requirements
- Plug frames (with or without latches) and receptacle housings accept stacked single-pole housings (2 to 8 poles)
- File No. E28476

**Material and Finish**
- Housing—Polycarbonate, UL 94V-0
- Retaining Spring—Stainless Steel
- Contacts—Copper with silver or tin plating
- Mounting Wings & Spacers—Polycarbonate, UL 94V-0
- Retaining Pins—Stainless steel

**Electrical Characteristics**
- Current Carrying Capability—40 A w/10 AWG wire (Series 45), 30 A w/12 AWG wire (Series 30), 20 A w/16 AWG wire (Series 15)
- Operating Voltage—600 V, AC or DC
- Dielectric Withstanding Voltage—2200 VDC
- Average Initial Contact Resistance—525 micro-ohms

**Mechanical Characteristics**
- Contact Retention—25 lbs. (111.2 N)
- Average Mating/Unmating Force—4.7 [20.3 N]
- Max. Wire Insulation Diameter—175 [18.16]
- Wire Size Range—10-20 AWG [5-0.5 mm²]

**Related Product Data**
- Accessories—page 151

---

### AMP Power Series 15/30/45 Connectors (Single-Pole)

#### AMP Power Series 15

<table>
<thead>
<tr>
<th>Housing</th>
<th>Part Number</th>
<th>Strip Form (16, 18, 20 AWG)</th>
<th>Loose Piece (16-20 AWG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue</td>
<td>1445957-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>1445957-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>1445957-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green</td>
<td>1445957-4</td>
<td>1604113-1 (silver)²</td>
<td></td>
</tr>
<tr>
<td>Red</td>
<td>1445957-5</td>
<td>1604113-2 (tin)²</td>
<td>1744042-1</td>
</tr>
<tr>
<td>Orange</td>
<td>1445957-6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gray</td>
<td>1445957-8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### AMP Power Series 30

<table>
<thead>
<tr>
<th>Housing</th>
<th>Part Number</th>
<th>Strip Form (12, 14, 16 AWG)</th>
<th>Loose Piece (12-16 AWG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue</td>
<td>1445957-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>1445957-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>1445957-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green</td>
<td>1445957-4</td>
<td>1604112-1 (silver)³</td>
<td></td>
</tr>
<tr>
<td>Red</td>
<td>1445957-5</td>
<td>1604112-2 (tin)³</td>
<td>1744041-1</td>
</tr>
<tr>
<td>Orange</td>
<td>1445957-6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gray</td>
<td>1445957-8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### AMP Power Series 45

<table>
<thead>
<tr>
<th>Housing</th>
<th>Part Number</th>
<th>Strip Form (10, 12, 14 AWG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue</td>
<td>1445957-1</td>
<td>1445962-1 (silver)²</td>
</tr>
<tr>
<td>Black</td>
<td>1445957-2</td>
<td>1445962-2 (tin)²</td>
</tr>
<tr>
<td>White</td>
<td>1445957-3</td>
<td></td>
</tr>
<tr>
<td>Green</td>
<td>1445957-4</td>
<td></td>
</tr>
<tr>
<td>Red</td>
<td>1445957-5</td>
<td></td>
</tr>
<tr>
<td>Orange</td>
<td>1445957-6</td>
<td></td>
</tr>
<tr>
<td>Gray</td>
<td>1445957-8</td>
<td></td>
</tr>
</tbody>
</table>

1. Housings are bulk packaged.
2. Use Applicator Part No. 1385468-3
3. Use Applicator Part No. 1385450-3
4. Use Applicator Part No. 1385469-3

**Note:** Tyco Electronics does NOT recommend intermating connectors with different contact platings.

**Note:** All part numbers are RoHS compliant.

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**Note:**
- All part numbers are RoHS compliant.
- Dimensions in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.
- Dimensions are shown for reference purposes only. Specifications subject to change.

**Contact Information:**
- USA: 1-800-522-6752
- Canada: 1-905-470-4425
- Mexico: 01-800-733-8926
- C. America: 52-55-1105-0803
- South America: 55-11-2103-6000
- Hong Kong: 852-2735-1628
- Japan: 81-44-844-8013
- UK: 44-(0)800-2-67666
Product Facts

- Color-coded UL 94V-0 housings: gray, red, blue, yellow and black; other colors available upon request.
- Note: Black color housing has the same mechanical key as the gray housing.
- Mechanical keys help prevent two different voltage color-coded housings from mating.
- Polarity (+ and -) molded into housings.
- Genderless housings reduce inventory.
- Cold-headed contact wire range: 6, 8, 10-12 AWG (Taped version of the cold-headed contacts available.)
- File No. E28476

Material and Finish

- Housing—Polycarbonate, UL 94V-0
- Retaining Spring—Stainless Steel
- Contacts—Copper with silver plating
- Reducing Bushings—Copper with silver plating

Electrical Characteristics

- Current Carrying Capability—50 Amps per circuit w/6 AWG wire
- Max. Operating Voltage—600 V, AC or DC
- Dielectric Withstanding Voltage—2200 VDC
- Average Initial Contact Resistance—200 micro-ohms

Mechanical Characteristics

- Contact Retention—50 lbs. (222.4 N)
- Average Mating/Unmating Force—15 lbs. (66.7 N)
- Max. Wire Insulation Diameter—.44 (.1118)
- Wire Size Range—6-12 AWG (also 6-16 AWG w/Reducing Bushings)

Related Product Data

- Accessories—page 151

Note: All part numbers are RoHS compliant.

**AMP Power Series 50 Connectors (2-Pole Battery)**

<table>
<thead>
<tr>
<th>Housing</th>
<th>Contacts</th>
<th>Connector Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>6 AWG</td>
<td>647877-1 647892-3</td>
</tr>
<tr>
<td>Gray</td>
<td>6 AWG</td>
<td>647877-1 647892-4</td>
</tr>
<tr>
<td>Blue</td>
<td>6 AWG</td>
<td>647877-1 647892-5</td>
</tr>
<tr>
<td>Black</td>
<td>6 AWG</td>
<td>647877-1 647892-7</td>
</tr>
<tr>
<td>Yellow</td>
<td>6 AWG</td>
<td>647877-1 647892-8</td>
</tr>
</tbody>
</table>

1. Housing and 2 contacts.
2. housings and contacts are bulk packaged.
3. Mechanical keys molded in housings generally will engage only with housings of same color.
4. Black color housing has the same mechanical key as the gray housing.
5. Use Heavy Duty Mini-Applicator (HDM) for 6 to 8 AWG - Part Number 1385663-2
   (Use with AMP-O-LECTRIC Model K Terminator)
6. Use Heavy Duty Mini-Applicator (HDM) for 10 to 12 AWG - Part Number 1385664-2
   (Use with AMP-O-LECTRIC Model K Terminator)
7. Use Power Lock Machine Part Number 68296-1

Color code given for various voltages is only a suggestion, other codes and keys available upon request.

**Voltage Key Color Chart**

<table>
<thead>
<tr>
<th>Housing Color</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow</td>
<td>12V</td>
</tr>
<tr>
<td>Red</td>
<td>24V</td>
</tr>
<tr>
<td>Gray</td>
<td>36V</td>
</tr>
<tr>
<td>Blue</td>
<td>48V</td>
</tr>
<tr>
<td>Black</td>
<td>80V</td>
</tr>
</tbody>
</table>

Color code given for various voltages is only a suggestion, other codes and keys available upon request.
**AMP Power Series 50 FPR (Finger Probe Resistant) Connectors**

**Product Facts**
- Complies with UL 60950 finger probe requirements
- Utilizes AMP Power Series 50 contacts
- Brown and white housing colors available (other colors possible)
- Two keying configurations available (up to 6 keying configurations possible)
- File No. E28476

**Material and Finish**
- Housing — Polycarbonate, UL 94V-0
- Retaining Spring — Stainless Steel
- Contacts — Copper
- Reducing Bushings — Copper with silver plating

**Electrical Characteristics**
- Current Capability — 50 A max.
- Voltage Rating — 600 V AC or DC
- Dielectric Withstanding Voltage — 2200 VDC

**Mechanical Characteristics**
- Meets UL finger probe as outlined in UL 60950
- Contact Retention — 50 lbs. (222.4 N)
- Wire Size — 6-12 AWG (15-3 mm²)
- Max. Wire Insulation Diameter — .44 [11.18]

**Related Product Data**
- Accessories — page 151

**Applications**
- Uninterruptible Power Supplies
- Power Supplies
- Battery Banks

**Note:** All part numbers are RoHS compliant.

### AMP Power Series 50 FPR (2-Pole)

<table>
<thead>
<tr>
<th>Housing1,2</th>
<th>Wire Size</th>
<th>Contact Part Number1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Part Number</td>
<td>Loose Piece</td>
</tr>
<tr>
<td>Brown</td>
<td>1604342-1</td>
<td>6 AWG</td>
</tr>
<tr>
<td>White</td>
<td>1604342-2</td>
<td>8 AWG</td>
</tr>
</tbody>
</table>

1. Housings and contacts are bulk packaged.
2. Mechanical keys molded in housings will engage only with housings of same color.
3. Use Heavy Duty Mini-Applicator (HDM) for 6 to 8 AWG - Part Number 1385663-2
   (Use with AMP-O-LECTRIC Model K Terminator)
4. Use Heavy Duty Mini-Applicator (HDM) for 10 to 12 AWG - Part Number 1385664-2
   (Use with AMP-O-LECTRIC Model K Terminator)
5. Hand Tool for Cold-headed Contact - Part Number 1526955-1
   Taped version can be terminated using the AMP-TAPETRONIC Machine
6. Use Power Lock Machine Part Number 68296-1

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**Cable Mounted Products**

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**Power Connectors & Interconnection Systems**

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AMP Power Series 75 Connectors (Single-Pole)

**Product Facts**

- Color-coded UL 94V-0 housings: blue, black, white, green and red
- Genderless housings reduce inventory
- Cold-headed contact wire range: 6, 8, 10-12 AWG
- Stamped and formed contacts available: 6-8 AWG Part Number 1604433-1 (strip); 10-12 AWG Part Number 1604433-2 (strip)
- File No. E28476

**Material and Finish**

- **Housing**—Polycarbonate, UL 94V-0
- **Retaining Spring**—Stainless Steel
- **Contacts**—Copper with silver plating
- **Reducing Bushings**—Copper with silver plating
- **Mounting Wings**—Polycarbonate, UL 94V-0
- **Retaining Pins**—Stainless steel

**Electrical Characteristics**

- Current Carrying Capability (with 6 AWG)—Configuration:
  - Single-Pole 75 A
  - 1x2 Stacked 62 A
  - 2x2 Stacked 60 A
  - 1x3 Stacked 58 A
  - 2x3 Stacked 52 A
- Operating Voltage—600 V, AC or DC
- Dielectric Withstanding Voltage—2200 VDC
- Average Initial Contact Resistance—200 micro-ohms

**Mechanical Characteristics**

- Contact Retention—50 lbs. [222.4 N]
- Average Mating/Unmating Force—15 lbs. [66.7 N]
- Max. Wire Insulation Diameter—.44 [11.18]
- Wire Size Range—6-12 AWG [15-3 mm²]

**Related Product Data**

- Accessories—page 151
- Application Tooling—page 153

**Contact**

- **Description**
  - **Wire Size**
  - **Part Number**
  - **Die Set Part Number**
  - **Applicator Part No. for AMP-O-LECTRIC Model K Terminator**

<table>
<thead>
<tr>
<th>Description</th>
<th>Wire Size</th>
<th>Part Number</th>
<th>Die Set Part Number</th>
<th>Applicator Part No. for AMP-O-LECTRIC Model K Terminator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cold-headed Contact</td>
<td>6 AWG</td>
<td>647877-1</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>(Loose Piece)²</td>
<td>8 AWG</td>
<td>647878-1</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>10-12 AWG</td>
<td>647879-1</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Cold-headed Contact</td>
<td>6 AWG</td>
<td>647754-1</td>
<td>68344-1</td>
<td>—</td>
</tr>
<tr>
<td>(Tape)³, ⁴</td>
<td>8 AWG</td>
<td>647755-1</td>
<td>68344-1</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>10-12 AWG</td>
<td>647756-1</td>
<td>68313-1</td>
<td>—</td>
</tr>
<tr>
<td>Stamped and Formed</td>
<td>6-8 AWG</td>
<td>1604433-1</td>
<td>—</td>
<td>1385664-2</td>
</tr>
<tr>
<td>(Strip)⁴</td>
<td>10-12 AWG</td>
<td>1604433-2</td>
<td>—</td>
<td>1385663-2</td>
</tr>
</tbody>
</table>

1. Housing and contact
2. housings and contacts are bulk packaged.
3. Taped version can be terminated using the AMP-TAPETRONIC machine Part Number 68250-1.
4. Use hand tool Part Number 1526955-1 for Cold-headed contacts

**Note:** All part numbers are RoHS compliant.

**Dimensions**

- Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.
- Dimensions are shown for reference purposes only. Specifications subject to change.
- Dimensions are for AMP-O-LECTRIC Model K Terminator.

**Contact Numbers**

- USA: 1-800-522-6752
- Canada: 1-905-470-4425
- Mexico: 01-800-733-8926
- C. America: 52-55-1106-0803
- South America: 55-11-2103-6000
- Hong Kong: 852-2735-1628
- Japan: 81-44-844-8013
- UK: 44-(0)8002-67667
AMP Power Series 120 Connectors (Single-Pole)

Product Facts
- Color-coded modular housings: blue, black, white, green and red
- Genderless housings reduce inventory
- Cold-headed contact wire range: 2, 4, and 6 AWG
- Built-in interlocking features (dovetails) allow stacking and wire routing
- Self-wiping contacts increase product life and improve conductivity
- Integral stainless steel locking spring in housing for contact retention
- Rugged design
- File No. E28476

Material and Finish
- Housing: Polycarbonate, UL 94V-0
- Retaining Spring: Stainless Steel
- Contacts: Copper with silver plating
- Reducing Bushings: Copper with silver plating
- Mounting Clamp Sets: Aluminum

Electrical Characteristics
- Current Carrying Capability:
  - Single-Pole: 120 A
  - 2x1 Stacked Array: 115 A
  - 2x2 Stacked Array: 115 A
- Voltage Rating: 600 V (both AC and DC)
- Dielectric Withstanding Voltage: 2200 VDC
- Average Initial Contact Resistance: 136 micro-ohms

Mechanical Characteristics
- Contact Retention: 100 lbs. (444.8 N)
- Average Mating/Unmating Force: 8 lbs. (35.6 N)
- Temperature Rating: -4˚F to 221˚F [-20˚C to 105˚C]
- Max. Wire Insulation Diameter: .6 [15.24]
- Wire Size Range: 2-6 AWG

Related Product Data
- Accessories: page 152
- Application Tooling: page 153
- Technical Documents: page 154

Note: All part numbers are RoHS compliant.
### AMP Power Series 120 Connectors (2-Pole Battery)

#### Product Facts
- **Color-coded UL 94V-0 housings:** gray and blue
- **Keying feature helps prevent two different voltage color-coded housings from mating**
- **Genderless housings reduce inventory**
- **Contact wire range:** 2, 4, 6 AWG
- **Molded-in panel-mount grooves**
- **Integral stainless steel locking spring in housing for contact retention**
- **Rugged design**
- **File No.** E28476

#### Material and Finish
- **Housing—** Polycarbonate, UL 94V-0
- **Retaining Spring—** Stainless Steel
- **Contacts—** Copper with silver plating
- **Reducing Bushings—** Copper with silver plating

#### Electrical Characteristics
- **Current Carrying Capability—** 115 A with 2 AWG
- **Voltage Rating—** 600 V (both AC and DC)
- **Dielectric Withstanding Voltage—** 2200 VDC
- **Avg. Initial Contact Resistance—** 136 micro-ohms

#### Mechanical Characteristics
- **Contact Retention—** 100 lbs. (444.8 N)
- **Average Mating/Unmating Force—** 18 lbs. (80.1 N)
- **Temperature Rating—** -4°F to 221°F [-20°C to 105°C]
- **Max. Wire Insulation Diameter—** .6 [15.24]
- **Wire Size Range—** 2-6 AWG

#### Related Product Data
- **Accessories—** page 152
- **Application Tooling—** page 153
- **Technical Documents—** page 154

#### AMP Power Series 120 (2-Pole)

<table>
<thead>
<tr>
<th>Housing</th>
<th>Contacts</th>
<th>Connector Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Part Number</td>
<td>Wire Size</td>
</tr>
<tr>
<td>Gray</td>
<td>1445994-1</td>
<td>2 AWG</td>
</tr>
<tr>
<td>Blue</td>
<td>1445994-2</td>
<td>2 AWG</td>
</tr>
<tr>
<td>Gray</td>
<td>1445994-1</td>
<td>4 AWG</td>
</tr>
<tr>
<td>Blue</td>
<td>1445994-2</td>
<td>4 AWG</td>
</tr>
<tr>
<td>Gray</td>
<td>1445994-1</td>
<td>6 AWG</td>
</tr>
<tr>
<td>Blue</td>
<td>1445994-2</td>
<td>6 AWG</td>
</tr>
</tbody>
</table>

1 Housing and 2 contacts.  
2 Housings and contacts are bulk packaged.  
3 Mechanical keys molded in connectors will engage only with connectors of same color.

#### Voltage Key Color Chart

<table>
<thead>
<tr>
<th>Housing</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gray</td>
<td>36 V</td>
</tr>
<tr>
<td>Blue</td>
<td>48 V</td>
</tr>
</tbody>
</table>

Color code given for various voltages is only a suggestion, other codes and keys available upon request.

---

**Note:** All part numbers are RoHS compliant.
AMP Power Series 175 Connectors (2-Pole Battery)

Product Facts
- Color-coded UL 94V-0 housings: yellow, orange, red, gray, blue, and black
- Keying feature helps prevent two different voltage color-coded housings from mating
- Genderless housings reduce inventory
- Contact wire range: 1/0, 1, 2, 4 AWG
- Integral stainless steel locking spring in housing for contact retention
- Reducing bushings down to 10 gauge
- File No. E28476

Material and Finish
- Housing—Polycarbonate, UL 94V-0
- Retaining Spring—Stainless Steel
- Contacts—Copper with silver plating
- Reducing Bushings—Copper with silver plating

Electrical Characteristics
- Current Carrying Capability—175 Amp @ 80.42˚F [26.9˚C] T-Rise with 1/0 AWG wire
- Voltage Rating—600 V (both AC and DC)
- Dielectric Withstanding Voltage—2200 VDC
- Avg. Initial Contact Resistance—100 micro-ohms

Mechanical Characteristics
- Average Mating/Unmating Force—25 lbs. [111.21 N]
- Max. Wire Insulation Diameter—.750 [19.05]
- Wire Size Range—1/0, 1, 2, 4 AWG [53, 40, 35, 21 mm²]
- Contact Retention—300 lbs. [1,334.47 N]
- Temperature Rating—-4˚F to 221˚F [-20˚C to 105˚C]

Related Product Data
- Accessories—page 152
- Application Tooling—page 153
- Technical Documents—page 154

AMP Power Series 175 (2-Pole)

<table>
<thead>
<tr>
<th>Color</th>
<th>Part Number</th>
<th>4 AWG</th>
<th>2 AWG</th>
<th>1 AWG</th>
<th>1/0 AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow</td>
<td>1604037-1</td>
<td>1604044-1</td>
<td>1604043-1</td>
<td>1604045-1</td>
<td>1604042-1</td>
</tr>
<tr>
<td>Orange</td>
<td>1604037-2</td>
<td>1604044-2</td>
<td>1604043-2</td>
<td>1604045-2</td>
<td>1604042-2</td>
</tr>
<tr>
<td>Red</td>
<td>1604037-3</td>
<td>1604044-3</td>
<td>1604043-3</td>
<td>1604045-3</td>
<td>1604042-3</td>
</tr>
<tr>
<td>Gray</td>
<td>1604037-4</td>
<td>1604044-4</td>
<td>1604043-4</td>
<td>1604045-4</td>
<td>1604042-4</td>
</tr>
<tr>
<td>Blue</td>
<td>1604037-5</td>
<td>1604044-5</td>
<td>1604043-5</td>
<td>1604045-5</td>
<td>1604042-5</td>
</tr>
</tbody>
</table>

1 Housing and 2 contacts.
2 Housings and contacts are bulk packaged.
3 Black housing mates with any other housing.

Contacts (Cold-headed)

<table>
<thead>
<tr>
<th>Wire Size</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 AWG</td>
<td>1604040-1</td>
</tr>
<tr>
<td>2 AWG</td>
<td>1604039-1</td>
</tr>
<tr>
<td>1 AWG</td>
<td>1604041-1</td>
</tr>
<tr>
<td>1/0 AWG</td>
<td>1604038-1</td>
</tr>
</tbody>
</table>

Voltage Key Color Chart

<table>
<thead>
<tr>
<th>Housing Color</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow</td>
<td>12 V</td>
</tr>
<tr>
<td>Orange</td>
<td>18 V</td>
</tr>
<tr>
<td>Red</td>
<td>24 V</td>
</tr>
<tr>
<td>Gray</td>
<td>36 V</td>
</tr>
<tr>
<td>Blue</td>
<td>48 V</td>
</tr>
<tr>
<td>Black</td>
<td>80 V</td>
</tr>
</tbody>
</table>

Color code given for various voltages is only a suggestion, other codes and keys available upon request.

Note: All part numbers are RoHS compliant.
AMP Power Series 180 Connectors (Single-Pole)

Product Facts
- Color-coded modular housings: blue, black, white, red and green
- Genderless housings reduce inventory
- Contact wire range: 1/0, 1, 2, 4 AWG
- Integral stainless steel locking spring in housing for contact retention
- Built-in interlocking features (dovetails) allow stacking and wire routing
- Reducing bushings down to 10 gauge
- File No. E28476

Material and Finish
- Housing—Polycarbonate, UL 94V-0
- Retaining Spring—Stainless Steel
- Contacts—Copper with silver plating
- Mounting Clamp Sets—Aluminum
- Reducing Bushings—Copper with silver plating

Electrical Characteristics
- Current Carrying Capability—
  (1/0 AWG Wire)
  1 x 1 — 180 A, 84.9°F [29.4°C] T-Rise
  2 x 1 — 165 A, 78.3°F [25.7°C] T-Rise
  2 x 2 — 150 A, 76.6°F [24.8°C] T-Rise
- Voltage Rating—600 V (both AC and DC)
- Dielectric Withstanding Voltage—2200 VDC
- Avg. Initial Contact Resistance—100 micro-ohms

Mechanical Characteristics
- Average Mating/Unmating Force—20 lb. [89 N]
- Max. Wire Insulation Diameter—.900 [22.86]
- Wire Size Range—1/0, 1, 2, 4 AWG [53, 40, 35, 21 mm²]
- Contact Retention—170 lb. [756 N]
- Temperature Rating—-4°F to 221°F [-20°C to 105°C]

Related Product Data
- Accessories—page 152
- Application Tooling—page 153
- Technical Documents—page 154

Note: All part numbers are RoHS compliant.

AMP Power Series 180 (Single-Pole)

<table>
<thead>
<tr>
<th>Color</th>
<th>Housing Part Number</th>
<th>Connector Kit Part Numbers¹,²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue</td>
<td>1604062-1</td>
<td>1604395-1, 1604396-1, 1604397-1, 1604398-1</td>
</tr>
<tr>
<td>Black</td>
<td>1604062-2</td>
<td>1604395-2, 1604396-2, 1604397-2, 1604398-2</td>
</tr>
<tr>
<td>White</td>
<td>1604062-3</td>
<td>1604395-3, 1604396-3, 1604397-3, 1604398-3</td>
</tr>
<tr>
<td>Red</td>
<td>1604062-4</td>
<td>1604395-4, 1604396-4, 1604397-4, 1604398-4</td>
</tr>
<tr>
<td>Green</td>
<td>1604062-5</td>
<td>1604395-5, 1604396-5, 1604397-5, 1604398-5</td>
</tr>
</tbody>
</table>

¹ Housing and 1 contact.
² Housings and contacts are bulk packaged.

Contacts (Cold-headed)

<table>
<thead>
<tr>
<th>Wire Size</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 AWG</td>
<td>1604040-1</td>
</tr>
<tr>
<td>2 AWG</td>
<td>1604039-1</td>
</tr>
<tr>
<td>1 AWG</td>
<td>1604041-1</td>
</tr>
<tr>
<td>1/0 AWG</td>
<td>1604038-1</td>
</tr>
</tbody>
</table>

Dimensions are shown for reference purposes only. Specifications subject to change.
AMP Power Series 350 Connectors (2-Pole Battery)

2-Pole Housing

Cold-headed Contact

AMP Power Series 350 (2-Pole)

<table>
<thead>
<tr>
<th>Color</th>
<th>Part Number</th>
<th>1/0 AWG</th>
<th>2/0 AWG</th>
<th>3/0 AWG</th>
<th>4/0 AWG</th>
<th>300 MCM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow</td>
<td>1604050-1</td>
<td>1604060-1</td>
<td>1604059-1</td>
<td>1604058-1</td>
<td>1604057-1</td>
<td>1604056-1</td>
</tr>
<tr>
<td>Orange</td>
<td>1604050-2</td>
<td>1604060-2</td>
<td>1604059-2</td>
<td>1604058-2</td>
<td>1604057-2</td>
<td>1604056-2</td>
</tr>
<tr>
<td>Red</td>
<td>1604050-3</td>
<td>1604060-3</td>
<td>1604059-3</td>
<td>1604058-3</td>
<td>1604057-3</td>
<td>1604056-3</td>
</tr>
<tr>
<td>Gray</td>
<td>1604050-4</td>
<td>1604060-4</td>
<td>1604059-4</td>
<td>1604058-4</td>
<td>1604057-4</td>
<td>1604056-4</td>
</tr>
<tr>
<td>Blue</td>
<td>1604050-5</td>
<td>1604060-5</td>
<td>1604059-5</td>
<td>1604058-5</td>
<td>1604057-5</td>
<td>1604056-5</td>
</tr>
<tr>
<td>Green</td>
<td>1604050-6</td>
<td>1604060-6</td>
<td>1604059-6</td>
<td>1604058-6</td>
<td>1604057-6</td>
<td>1604056-6</td>
</tr>
</tbody>
</table>

Connector Kit Part Numbers¹ ²

<table>
<thead>
<tr>
<th>Wire Size</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/0 AWG</td>
<td>1604055-1</td>
</tr>
<tr>
<td>2/0 AWG</td>
<td>1604054-1</td>
</tr>
<tr>
<td>3/0 AWG</td>
<td>1604053-1</td>
</tr>
<tr>
<td>4/0 AWG</td>
<td>1604052-1</td>
</tr>
<tr>
<td>300 MCM</td>
<td>1604051-1</td>
</tr>
</tbody>
</table>

Contacts (Cold-headed)

<table>
<thead>
<tr>
<th>Wire Size</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/0 AWG</td>
<td>1604055-1</td>
</tr>
<tr>
<td>2/0 AWG</td>
<td>1604054-1</td>
</tr>
<tr>
<td>3/0 AWG</td>
<td>1604053-1</td>
</tr>
<tr>
<td>4/0 AWG</td>
<td>1604052-1</td>
</tr>
<tr>
<td>300 MCM</td>
<td>1604051-1</td>
</tr>
</tbody>
</table>

Voltage Key Color Chart

<table>
<thead>
<tr>
<th>Housing Color</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow</td>
<td>12V</td>
</tr>
<tr>
<td>Orange</td>
<td>18V</td>
</tr>
<tr>
<td>Red</td>
<td>24V</td>
</tr>
<tr>
<td>Gray</td>
<td>36V</td>
</tr>
<tr>
<td>Blue</td>
<td>48V</td>
</tr>
<tr>
<td>Green</td>
<td>72V</td>
</tr>
</tbody>
</table>

¹ Housing and 2 contacts.
² Housings and contacts are bulk packaged.

Note: All part numbers are RoHS compliant.

Material and Finish

Housing—Polycarbonate, UL 94V-0
Retaining Spring—Stainless Steel
Contacts—Copper with silver plating
Reducing Bushings—Copper with silver plating

Electrical Characteristics

Current Carrying Capability—275 Amp @ 83.3°F [28.5˚C] T-Rise with 4/0 AWG wire
Voltage Rating—600 V, AC or DC
Dielectric Withstanding Voltage—2200 VDC
Average Initial Contact Resistance—50 micro-ohms

Mechanical Characteristics

Contact Retention—500 lbs. [2224.1 N]
Average Rating/Unmating Force—30 lbs. [133.5 N]
Max. Wire Insulation Diameter—1.10 [27.94]
Temperature Rating—-4˚F to 221˚F [-20˚C to 105˚C]
Wire Size Range—1/0, 2/0, 3/0, 4/0, 300 MCM [53, 67, 85, 107, 152 mm²]

Related Product Data

Accessories—page 152
Application Tooling—page 153
Technical Documents—page 154
Reducing Bushing—(1/0 to 2/0 AWG)
Part No. 1604121-6
Cable Clamp—Part No. 647688-1

Note: All part numbers are RoHS compliant.
### AMP Power Series 15/30/45 Accessories

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1445960-1</td>
<td>Red, UL 94V-0</td>
</tr>
<tr>
<td>1445959-1</td>
<td>Red, UL 94V-0, Short</td>
</tr>
<tr>
<td>1445959-2</td>
<td>Red, UL 94V-0, Long</td>
</tr>
</tbody>
</table>

### AMP Power Series 50 Accessories

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1744077-1</td>
<td>Dust Cover, Black</td>
</tr>
<tr>
<td>1445762-1</td>
<td>Reducing Bushing — 6 to 8 AWG</td>
</tr>
<tr>
<td>647840-1</td>
<td>Reducing Bushing — 6 to 10-12 AWG</td>
</tr>
<tr>
<td>1445763-1</td>
<td>Reducing Bushing — 6 to 14-16 AWG</td>
</tr>
</tbody>
</table>

Please contact Product Engineering or Product Management for availability. (permits use of smaller wires with 6 AWG contact Part Number 647877-1)

### AMP Power Series 75 Accessories

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1445729-1</td>
<td>Blue, oval mounting hole</td>
</tr>
<tr>
<td>1445729-2</td>
<td>Blue, round mounting hole</td>
</tr>
<tr>
<td>1445960-1</td>
<td>Mounting Wings</td>
</tr>
<tr>
<td>1445959-1</td>
<td>Retaining Pins for use with 15 A/30 A/45 A</td>
</tr>
<tr>
<td>1445959-2</td>
<td>Retaining Pins for use with 15 A/30 A/45 A</td>
</tr>
<tr>
<td>1445886-1</td>
<td>Reducing Bushings for Series 50 A and 75 A</td>
</tr>
<tr>
<td>647747-3</td>
<td>Hardware Kits</td>
</tr>
<tr>
<td>647747-2</td>
<td>4 pole</td>
</tr>
<tr>
<td>647747-1</td>
<td>8 pole</td>
</tr>
</tbody>
</table>

Mounting clamp set part numbers available.

### AMP Power Series 15/30/45 Hardware Kits

- **Cable Clamp Kit**
- **Retainer Pin**
- **Plug With Latches**
- **Plug Without Latches**

Note: All part numbers are RoHS compliant.
### AMP Power Series Accessories (Continued)

#### AMP Power Series 120 Accessories

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1445886-1</td>
<td>Single-Pole</td>
<td>1 high block</td>
</tr>
<tr>
<td>1445886-2</td>
<td>Single-Pole</td>
<td>2 high block</td>
</tr>
</tbody>
</table>

#### Reducing Bushings

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1604072-3</td>
<td>Single/2-Pole</td>
<td>2 to 4 AWG</td>
</tr>
<tr>
<td>1604072-2</td>
<td>Single/2-Pole</td>
<td>2 to 6 AWG</td>
</tr>
<tr>
<td>1604072-1</td>
<td>Single/2-Pole</td>
<td>2 to 8 AWG</td>
</tr>
</tbody>
</table>

#### Mounting Clamp Sets

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>647721-1</td>
<td>Single-Pole</td>
<td>2- &amp; 4- pole config</td>
</tr>
<tr>
<td>647722-1</td>
<td>Single-Pole</td>
<td>3-pole configuration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1744090-1</td>
<td>2-Pole</td>
<td>—</td>
</tr>
</tbody>
</table>

#### AMP Power Series 175, 180 & 350 Accessories

#### Reducing Bushings

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1604121-1</td>
<td>175/180</td>
<td>10 to 1/0 AWG</td>
</tr>
<tr>
<td>1604121-2</td>
<td>175/180</td>
<td>6 to 1/0 AWG</td>
</tr>
<tr>
<td>1604121-5</td>
<td>175/180</td>
<td>4 to 1/0 AWG</td>
</tr>
<tr>
<td>1604121-4</td>
<td>175/180</td>
<td>2 to 1/0 AWG</td>
</tr>
<tr>
<td>1604121-3</td>
<td>175/180</td>
<td>1 to 1/0 AWG</td>
</tr>
<tr>
<td>1604121-6</td>
<td>350</td>
<td>1/0 to 2/0 AWG</td>
</tr>
</tbody>
</table>

#### Handle Kit

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>647737-1</td>
<td>175 2-Pole</td>
<td>Red</td>
</tr>
<tr>
<td>647737-2</td>
<td>175 2-Pole</td>
<td>Gray</td>
</tr>
<tr>
<td>1-647737-1</td>
<td>350 2-Pole</td>
<td>Red</td>
</tr>
<tr>
<td>1-647737-2</td>
<td>350 2-Pole</td>
<td>Gray</td>
</tr>
</tbody>
</table>

#### AMP Power Series 175 & 180 Accessories

#### Cable Clamps

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>647720-1</td>
<td>180</td>
<td>2 pole version</td>
</tr>
<tr>
<td>647719-1</td>
<td>180</td>
<td>3 pole version</td>
</tr>
</tbody>
</table>

#### Dust Cover

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>647691-1</td>
<td>175</td>
<td>Dust Cover Assembly (Shown)</td>
</tr>
<tr>
<td>647692-1</td>
<td>175</td>
<td>Dust Cover Housing</td>
</tr>
</tbody>
</table>

---

**Note:** All part numbers are RoHS compliant.

---

**Catalog 1773096**

**Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.**

**USA:** 1-800-522-6752  
**Canada:** 1-905-470-4425  
**Mexico:** 01-800-733-8926  
**C. America:** 52-55-1196-0830  
**South America:** 55-11-2103-6000  
**Hong Kong:** 852-2735-1628  
**Japan:** 81-44-844-8013  
**UK:** 44-(0)8002-67666

**Revised 2-10**

**www.tycoelectronics.com**
Power Applicator
Part Number 68296-1
(Customer Manual 409-2661)

The semiautomatic power applicator is designed to produce a carefully controlled uniform pressure crimp while providing a high rate of production. The applicator features matching dies that fully bottom at the completion of the crimp to provide proper crimp height. The one die set is fully adjustable to provide the full range of crimp heights for all wire sizes.

Hand Tools for Cold-Headed Contacts and Heavy-Duty Lug Terminals (Single-Indent Crimp)

<table>
<thead>
<tr>
<th>Wire Size (AWG)</th>
<th>Strip Length</th>
<th>Part No.</th>
<th>Tyco Electronics Crimp Tool Part No. 1526955-1 Includes Adapter</th>
<th>Part Number</th>
<th>Marking</th>
<th>American Electrical Terminal (AET) Crimp Tool Part No. T-406 Includes Adapter</th>
<th>Part Number</th>
<th>Marking</th>
<th>Also For Heavy-Duty Lug Terminals</th>
<th>Wire Size (AWG)</th>
<th>Strip Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>475-525</td>
<td>647877-1</td>
<td>1527508-1 A</td>
<td>5992 A</td>
<td></td>
<td>6</td>
<td>7/16 [11.11]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>12.06-13.33</td>
<td>647878-1</td>
<td>1527507-1 B</td>
<td>5991 B</td>
<td></td>
<td>4</td>
<td>1/2 [12.70]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>647879-1</td>
<td>1527505-1 C</td>
<td>5989 C</td>
<td></td>
<td>1/0</td>
<td>11/16 [17.46]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2/0</td>
<td>11/16 [17.46]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>9/16 [14.29]</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>5/8 [15.87]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3/0</td>
<td>3/4 [19.05]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td></td>
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<td>4/0</td>
<td>13/16 [20.64]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Pneumatic Tools for Cold-Headed Contacts (Dual-Indent Crimp) and Heavy-Duty Lug Terminals

<table>
<thead>
<tr>
<th>AMP Power Series Contacts</th>
<th>Part No.</th>
<th>400 Series Power Unit</th>
<th>Die</th>
<th>Locator</th>
<th>Closure Dim.</th>
</tr>
</thead>
<tbody>
<tr>
<td>50/50 FPR/75</td>
<td>6</td>
<td>647877-1</td>
<td>400-BEC</td>
<td>400-BHD</td>
<td>.152 [3.86]</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>647878-1</td>
<td>400-BEC</td>
<td>400-BHD</td>
<td>.152 [3.86]</td>
</tr>
<tr>
<td></td>
<td>10-12</td>
<td>647879-1</td>
<td>400-BEC</td>
<td>400-BHD</td>
<td>.134 [3.40]</td>
</tr>
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</table>

* Pico Corporation, 444 Constitution Ave., Camarillo, CA 93012-8505; Tel: (805) 388-5510
** Pneumatic Tool consists of a power unit, die, and locator; it can be used as a portable hand tool, bench-mounted hand tool, or foot-controlled unit.

Note: All part numbers are RoHS compliant.

Catalog 1773096
Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

USA: 1-800-522-6752
Canada: 1-905-470-4425
Mexico: 01-800-733-8926
C. America: 52-55-1106-0803

South America: 55-11-2103-6000
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013

www.tycoelectronics.com
AMP Power Series Connectors (Continued)

Technical Documents

Various technical documents are available for your use:

**Product Specifications** describe technical performance characteristics and verification tests. They are intended for the Design, Component and Quality Engineer.

- **108-1349** AMPINNERGY WTB Connectors
- **108-1373** AMPINNERGY WTW Connectors
- **108-2104** AMP Power Series 50 Connectors
- **108-2149** AMP Power Series 15 Connectors
- **108-2150** AMP Power Series 30 Connectors
- **108-2151** AMP Power Series 45 Connectors
- **108-2152** AMP Power Series 75 Connectors
- **108-2153** AMP Power Series 120 Connectors
- **108-2154** AMP Power Series 175 Connectors
- **108-2155** AMP Power Series 180 Connectors
- **108-2156** AMP Power Series 350 Connectors

**Application Specifications** describe requirements for using the product in its intended application and/or crimping information. They are intended for the Packaging and Design Engineer and the Machine Setup Person.

- **114-6044** AMPINNERGY WTB Connectors
- **114-6051** AMPINNERGY WTW Connectors
- **114-13071** AMP Power Series 50 (Double-Pole) and 75 (Single Pole) Connector Assemblies
- **114-13107** AMP Power Series 120 (Single- and Double-Pole) Connector Assemblies
- **114-13118** AMP Power Series 175 (Double-Pole) and 180 (Single-Pole) Connector Assemblies
- **114-13119** AMP Power Series 350 (Double-Pole) Connector Assemblies
- **114-13127** AMP Power Series 15, 30 and 45 (Single-Pole) Connector Assemblies

**Instruction Sheets** provide instructions for assembling or applying the product. They are intended for the Manufacturing Assembler or Operator.

- **408-3198** Inspection of AMPINNERGY System Power Contacts
- **408-3236** Installation of AMPINNERGY WTB Connectors
- **408-3277** AMPINNERGY Wire-To-Wire Stackable Connectors
- **408-8636** AMP Power Series 50 Connector Assemblies
- **408-8868** AMP Power Series 175 and 350 Connector Assemblies with Cable Clamp Kits
- **408-4557** Heavy Duty Cable Cutter Hand Tool 605743-1
- **408-4559** Heavy Duty Cable Cutter Hand Tool 605744-1
- **408-4561** Heavy Duty Cable Cutter Hand Tool 6057469-1
- **408-8540** Crimp Tool 1526955-1
- **408-9688** Cable Stripper/Slitter Tool 606700-1
- **408-9816** Handling of Reeled Products

**Test Summary**

- **502-1136** 50/75 Product Evaluation
- **502-1160** 15/30/45 Product Evaluation
- **502-1166** 120 Product Evaluation
- **502-1167** 120 Competitive Evaluation
- **502-1172** AMP Power Series 175/180 Product Evaluation
- **502-1173** AMP Power Series 350 Product Evaluation
- **502-1189** 15/30/45 Intermate
- **502-1206** 15/30/45 Stamped and Formed Contact Evaluation

**Customer Manual**

- **409-5128** AMP-O-LECTRIC Model K Terminator Machine 1-471273-2

---

**Note:** All part numbers are RoHS compliant.
**Domino Series Connectors**

**Key Features**
- Modular construction
- Blind-mating
- High current CROWN BAND contacts
- Logic/Signal
- Locking system
- Uses ELCON drawer contacts

**Typical Applications**
- Power Supplies
- Telecommunications
- Automatic Test Equipment
- Computer Hardware
- Process Control
- Uninterruptible Power Systems
- All Domino products in this section are RoHS compliant

The ELCON Domino connector system is a modular high-current connector system consisting of interchangeable modules which can provide AC, DC, logic and signal, float mounting, and pin sequencing. All Domino modules incorporate CROWN BAND technologies, tried and tested under the most arduous conditions. The high current capabilities virtually eliminate the need for bussing or splitting current, with resulting space savings and economies.

The Domino connector system allows the user to configure a connector specific to an application, from off-the-shelf components. It can be purchased as separate modules and assembled by the user, but is more generally ordered as a connector assembly using an assembly part number which Tyco Electronics assigns to a specific configuration. Consult Tyco Electronics for assistance in laying out a new connector. If required, Domino connector assembly is simple: once the locking rails are cut to size, the only tool required is a Phillips screwdriver for tightening the end-caps.

Most Domino contacts are the same as used in ELCON drawer connectors. Modules A through E and R are sold as housings with retention clips; the contacts are ordered separately. See page 80 for available contact options and plating information, page 67 for tooling. Modules K, L, and M are sold pre-loaded with contacts. Domino assemblies are shipped complete with contacts.

The Domino system is ideal for use with hot-pluggable power supplies of the type employed for load-sharing and/or redundant power for computer systems. Current interruption capability is standard in the L module and an available option in the A module.

The CROWN BAND contact is a small louvered cylindrical receptacle of beryllium copper. Manufactured on progressive dies to allow consistent, even insertion and withdrawal forces, its design helps ensure maximum surface contact area for minimum voltage drop and minimum heat generation. CROWN BAND contacts also provide excellent shock and vibration resistance.
Domino Series Connectors (Continued)

A Modules — 3 x #12 Power Contacts, Hot-Plug option available
Note: Supplied without contacts. Crimp insertable/removable, PCB insertable/non-removable
Specifications: Contact rating 35 Amps UL, 20 Amps CSA, 250V; Hot-plug 35 Amps UL, 30 Amps CSA, 120 V ac, 50 cycles; Fully loaded module nominal forces: insertion 9.2 lbs, extraction 5.5 lbs (Hot-plug insertion 11.5 lbs, extraction 6.4 lbs)

B Modules — 2 x #8 Power Contacts
Note: Supplied without contacts. Crimp insertable/removable, PCB insertable/non-removable
Specifications: Contact rating 75 Amps UL, 40 Amps CSA, 250V; Fully loaded module nominal forces: insertion 6.7 lbs, extraction 3.9 lbs

C Modules — 20 x #20 Signal Contacts
Note: Supplied without contacts. Crimp insertable/removable, PCB insertable/non-removable
Specifications: Contact rating 5 Amps UL, 4 Amps CSA, 125V; Fully loaded module nominal forces: insertion 2.4 lbs, extraction 2.6 lbs

D Module — 5 x #16 Power Contacts
Note: Supplied without contacts. Crimp insertable/removable, PCB insertable/non-removable
Specifications: Contact rating 15 Amps UL, 10 Amps CSA, 125V; Fully loaded module nominal forces: insertion 18.6 lbs, extraction 13.0 lbs

Note: All part numbers are RoHS compliant.
Domino Series Connectors (Continued)

**E Modules — 14 x #16 Power Contacts**

*Note:* Supplied without contacts. Crimp insertable/removable, PCB insertable/non-removable

Specifications: Contact rating 15 Amps UL, 10 Amps CSA, 125V; Fully loaded module nominal forces: insertion 43.1 lbs, extraction 33.7 lbs

![Diagram of E Modules](image)

**G Modules - Non-electrical Guide Module**

*Note:* May be turned through 180 in the horizontal plane

Specifications: Guide pin type 303 Stainless Steel, passivated

![Diagram of G Modules](image)

**J Modules — Jackscrew Locking Module**

*Note:* Select socket side to match desired orientation of T-handle in locked position

Specifications: Corrosion resistant Steel

![Diagram of J Modules](image)

**Note:** All part numbers are RoHS compliant.
K Modules — Electrically Active Ground/Guide Module
Note: May be turned through 180° in the horizontal plane. Use Crimp Tool PN 1766453-1
Specifications: Contact rating 40 Amps UL, 15 Amps CSA, 250V; Fully loaded module nominal forces: insertion 3.0 lbs, extraction 1.3 lbs

M Modules — Pre-installed Dual In-Line Crown Pin & Socket
Specifications: Contact rating 125 Amps UL/CSA, 250V; Fully loaded module nominal forces: insertion 14.9 lbs, extraction 9.8 lbs

R Modules — 2 x 1/4" Power Contacts
Note: Supplied without contacts; available contacts: Crimp insertable/removable, Ext. Threaded insertable/non-removable, consult Tyco Electronics for contact part numbers and available Double Crown option
Specifications: Contact rating 150 Amps UL, 110 Amps CSA, 250V; Fully loaded module nominal forces: insertion 9.4 lbs, extraction 6.0 lbs

Spacer Module — Non-electrical
Note: any module may be ordered without contacts for use as spacers; consult sales engineer for options and part numbers.
Domino Assembly
Mounting Accessories

End Caps — Zinc die cast, CRS hardware, trivalent chromate finish
End caps secure the modules when screwed into the locking rails providing rigid assembly and a means of mounting assembly to frames, bulkheads, etc. Float-mount styles correct for misalignment during mating. Any end cap may be used to mount either pin or socket sides.

Note: All part numbers are RoHS compliant.
**Cable Mounted Products**

**Power Connectors & Interconnection Systems**

**Domino Series Connectors** (Continued)

---

**Domino Module Assembly Process**

1. Align modules in desired order.

2. Measure length of assembly, and add .100" (2.54 mm) to determine overall rail length. Cut rails to length.

3. Slide locking rails into position on both sides of module assembly via the molded rail tracks.

4. Position end caps over locking rail ends and secure using Phillips head screws.

---

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents. Specifications subject to change.

USA: 1-800-522-6752
Canada: 1-905-470-4425
Mexico: 01-800-733-8926
C. America: 52-55-1106-0803
South America: 55-11-2103-6000
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-(0)8002-67666

Catalog 1773096
Revised 2-10

www.tycoelectronics.com
Domino Connector Layout Form

Instructions
1. Indicate the connector layout by filling in the Module letter for each module required in the boxes below, one per box. Use one form per mated pair.
2. Contacts are required for most modules, and are sold separately. Please see the High Current Drawer Section Contacts for specific part numbers.
3. The left to right order of the modules should match the mating face views of the connector.
4. Sign, date and send the completed form to your local Tyco Electronics Sales Engineer.

Upon receipt of this form, Tyco Electronics will generate a Customer Drawing for you to check and approve prior to connector production.

Pin Side:

Socket Side:

Enter Customer Information

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<thead>
<tr>
<th>Company</th>
<th>Location</th>
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<tbody>
<tr>
<td>Contact Name</td>
<td>Title</td>
</tr>
<tr>
<td>Telephone</td>
<td>Fax</td>
</tr>
<tr>
<td>Email Address</td>
<td></td>
</tr>
</tbody>
</table>

I am:  
- End user
- Contract manufacturer (end user:

Signature | Today’s Date | Annual Quantity Required

<table>
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<tr>
<th>Company Location</th>
<th>Contact Name</th>
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<th>I am:</th>
<th>Signature</th>
<th>Today’s Date</th>
<th>Annual Quantity Required</th>
</tr>
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</table>

A Modules
- 3 x #12 Power Contacts
- Hot Plug

B Modules
- 2 x #8 Power Contacts

C Modules
- 20 x #20 Signal Contacts

D Modules
- 5 x #15 Power Contacts

E Modules
- 14 x #16 Power Contacts

G Modules
- Non-Electrical Guide Modules

J Modules
- Jackscrew Locking Module

K Modules
- Electrically Active Guide/ Ground Module

M Modules
- Pre-Installed Dual In-Line Crown Pin & Socket

R Modules
- 2 x 1/4” Power Contacts

Screw (Steel)
- Part Number 1766827-1

Locking Rail
- Aluminum Alloy, 36” length (must cut to size)
- Part Number 1649990-1
- Locking Rail, 1’ Interval
- Part Number 1650469-1

Contacts

Please reference Power Connectors & Interconnection Systems Catalog 1773096 for contact part numbers.
HTS Power Connectors

Product Facts

- Heavy-duty, rectangular, multiple-position, pin and socket connectors
- Current rating: 10-500 A
- Voltage rating: 1-1.4 kV
- Number of contact positions: 1 through 216
- Connectors are designated by four components: base and hood, and male and female inserts
- Contact inserts provide for three types of wire termination: screw (no crimp tool required), crimp (higher pin count), and cage clamp (fastest)
- HE Series inserts (screw terminated) are the most popular
- Bases provide environmental (IP 55, 65 and 68) and electrical protection (NEMA 4 and 4X)
- Bases share an industry standard panel cutout and mounting hole pattern
- Hoods offer top, side, or angled cable entry. Hoods are tapped to accommodate metric or PG fittings
- Automated tooling matched to contact
- DIN/VDE, UL, CSA and SEV approved

HTS power connectors are heavy-duty, rectangular, multiple-position, pin and socket connectors. They are commonly referred to as “rectangular” or “European metal shell” connectors.

The appropriate housing size (1-12) to accommodate selected inserts is then defined. Housing selection criteria include: base mounting style, latch type, hood cable entry location, and hood gland size. The most popular housing sizes are: Shell Size 1 (3 or 4 positions), Shell Size 3 (6 positions), Shell Size 6 (16 positions), Shell Size 8 (24 positions), and Shell Size 5 (25 positions).

HTS connectors have many applications: industrial machinery (automotive, plastics, semiconductors, material handling, packaging and printing), and railroad and mass transit (A/C and brake subsystems, power transformers, door systems, switches and signals, and drive motor enclosures).
Contact Inserts
Series HVS
- High Variable System
- Zinc Frames Size 3 to 8 (acc. to Housing)
- For up to 6 Single Modules

Material
- PBT
- Flammability Rating: acc. UL 94 V-0

To offer a maximum of flexibility and reliability with a minimum of installation or maintenance effort Tyco Electronics developed the HVS product range (high variable system).

This system enables customers to build their own application specific connection and due to the combination variety of the different modules customers benefit in terms of reduced costs (cost efficiency) and less mounting space.

The HVS range comprises more than 25 different modules and the particular zinc frames which can then be mounted into all standard hoods and housings from Tyco Electronics. There is no tooling needed to put the modules in and out of the frame due to lever snap-in technology.

Up to 6 single modules can be used in a size 8 frame whereby the customer can individually define the combination of modules.

Signal, high current and high voltage, high density, Fire Wire, RJ45, USB, Coax, twisted pair, high speed and also pressure air are only some of the different connector modules. According to the insert contacts can be used individually.

In combination with the Tyco Electronics' hoods and housings IP ratings of IP 65 or even IP 68 can be realized. Customers also benefit from EMI- and corrosion-protection dependent on housing.

A large variety of customer specific applications complete the product range.

For more information on the entire line of HTS heavy-duty connectors, see Catalog 889745-2.
RAPID LOCK Quick Connect/Disconnect Bus Bar Connectors

Product Facts
- Replaces power lugs
- Locking feature “snaps” each contact to mating pin
- Up to 250 Amps per contact
- CROWN BAND connector technology provides low contact resistance

Typical Applications
- Power Distribution Systems
- Recognized under the Component Program of Underwriters Laboratories, File No. E28476

The RAPID LOCK connector is a single-pole, quick connect/disconnect replacement for lug connections, used in bus bar and backplane power distribution applications. RAPID LOCK connectors allow a reliable and safe connection, as well as better serviceability, than bolt-fitted lugs. The cable mounted sockets have a right-angle configuration, and feature an insulator cap that provides the retention mechanism on the pin. The pin contacts can be attached to a bus bar by screw or swage, and to a backplane by press fit and backup screw.

Secure Power Distribution
By replacing power lugs fitted using nuts and bolts, the RAPID LOCK connector offers an extremely secure interconnect mechanism that totally frees the power distribution system from the risk of loose connections, which can cause arcing.

Safety Locking Feature
A locking feature is provided on the pins for protection against accidental unlatching of the cable. Although connection of the cable is easily performed by hand, disconnection requires a simple tool to provide the leverage needed to overcome the locking feature.

Improved Ease of Service
Service in the field becomes very easy with RAPID LOCK connectors because there are no nuts and washers to lose in the equipment. The RAPID LOCK connector is available with red or black color insulators.

CROWN BAND Technology
The RAPID LOCK connector enjoys all the benefits of the ELCON CROWN BAND technology, providing a stable connection with excellent mechanical and electrical performance with ratings up to 300 Amps depending on wire gauge and application.

Note: All RAPID LOCK Products in this section are RoHS compliant.
RAPID LOCK Connectors

Ordering Information

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Product Specifications

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<td>1651003-1</td>
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<tr>
<td>#2</td>
<td>1766600-1</td>
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Materials

| Insulator | Thermoplastic, UL 94V-0 flammability rated |
| Socket Contact Body | Copper alloy, plated Silver over nickel |
| CROWN BAND | Beryllium Copper, plated Gold (30 micro inches minimum) over nickel |
| Pin Contact | Copper alloy, plated Silver over nickel |

Electrical

| Size | Insulation Boot |
|      | Black | Red | Grey | Blue |
|      | 1651003-1 | 1651003-2 | 1651003-3 | 1651003-4 |
|      | 1766600-1 | 1766600-2 | 1766600-3 | 1766600-4 |

| Current Rating @ 30°C T-rise | Size 8 — 50 Amps on 8 AWG wire |
|                              | Size 4 — 115 Amps on 4 AWG wire |
|                              | Size 2 — 145 Amps on 2 AWG wire |
|                              | Size 12 mm — 250 Amps on 95 mm² wire |
| Contact Resistance | Size 8 — 0.5 ms I |
|                      | Size 4 — 0.15 ms I |
|                      | Size 2 — 0.12 ms I |
| Voltage Drop | See graphs |

Mechanical

| Removal Tool | Part Number 1857376-1 |

Note: For more information about tooling, call Tooling Sales at 888-777-5917, (717)-810-2080 or e-mail toolingsales@tycoelectronics.com.

Test Data

<table>
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<tr>
<th>Test Description</th>
<th>Chart Title</th>
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<td>Shown below is current versus temperature rise of the five different available socket sizes.</td>
<td>Temperature Rise</td>
</tr>
<tr>
<td>Shown below is current versus voltage drop performance of the five different available socket sizes.</td>
<td>Voltage Drop</td>
</tr>
</tbody>
</table>

Note: All part numbers are RoHS compliant.
Cable Mounted Sockets

RAPID LOCK sockets are crimped to AWG #4, #6 or #8 size cable depending on the application requirements. Envelope dimensions are common except for the crimp barrel diameter.

**RAPID LOCK Quick Connect Sockets and Pins**

<table>
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<th>Size</th>
<th>Dimensions</th>
<th>Cable AWG</th>
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*Requires washer Part Number 1857513-2

**Pin Contacts**

RAPID LOCK pin contacts are offered in either swage or screw & washer mounting options for .125" (3.18 mm) or 3 mm (.118") thick PCB or bus bars. Consult Tyco Electronics Customer Service for other bus bar and backplane thicknesses and designs.

**Press Fit Pin Contacts**

<table>
<thead>
<tr>
<th>Attach Type</th>
<th>Pin Size</th>
<th>Mounts to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screw and Washer</td>
<td>#4</td>
<td>Bus bar/Backplane</td>
</tr>
<tr>
<td>Swage</td>
<td>#4</td>
<td>Bus bar</td>
</tr>
</tbody>
</table>

*Note: All part numbers include attachment hardware (screw, washer, etc.)

**Swage-Mount Pin**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Screw-Mount Pin**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: All part numbers are RoHS compliant.*
In addition to the flexibility offered with standard RAPID LOCK connector products, the basic technology and standard components may also be packaged to suit specific customer needs. Some examples of custom packages are given below.

### Snap-Lock Sockets
Discrete pins are generally offered with or without a locking feature. A locking feature for a discrete socket is provided by a special two piece molding (94 V-0). This enables the socket to snap over a locking pin, and provides a 5 lb withdrawal force. The molding will also lock into a panel or holder of .125 (3.18) thickness.

<table>
<thead>
<tr>
<th>Part Numbers</th>
<th>Wire Size</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1643279-1</td>
<td>8 AWG</td>
<td>Black</td>
</tr>
<tr>
<td>1643279-2</td>
<td>8 AWG</td>
<td>Red</td>
</tr>
<tr>
<td>1643279-3</td>
<td>4 AWG</td>
<td>Blue</td>
</tr>
<tr>
<td>1651766-1</td>
<td>4 AWG</td>
<td>Black</td>
</tr>
</tbody>
</table>

### Press-Fit Discrete Contacts
Pins and sockets of the type shown are designed for press-fit to board or bus bar, and allow plug-in removal of a variety of board-mount components, discrete contacts, and flat-pack power supplies. Each socket contains a CROWN BAND contact, providing high current capacity and minimum loss, and accommodating misalignment.

**Note:** All part numbers are RoHS compliant.
AMP Power Taps

Product Facts

- **ACTION PIN contacts** eliminate soldering
- Provides high current, separable connection to pc board traces
- Wire-to-board connection using common terminals
- All metal-to-metal assembly for long-term integrity
- Standard DIP outlines (7.62 x 2.54 [.300 x .100]), 10 positions, and 6.35 x 3.18 [.250 x .125], 6 and 10 positions, plus high current versions on 10.16 x 5.08 [.400 x .200] footprint in 4 and 6 positions, 7.62 x 2.54 [.300 x .100] in 8 positions, and both 2 and 3 position in-line 2.54 [.100] tab taps
- Low resistance interface
- Internally threaded tap to secure screw to terminal
- Anti-rotational embossments hold wire and terminal in place
- Standard power taps rated at 2.5 Amps per pin — 6 position 15 Amps, 10 position 25 Amps current carrying capability
- High current power taps rated at up to 5 Amps per pin — 2 position 10 Amps, 3 position 15 Amps, 4 and 6 position 20 Amps and 8 position 40 Amps
- 30 Amp inverse sex power tap

AMP power taps are designed for the growing need for power to printed circuit board applications required in today's electronic industry. The taps provide a high current, separable connection to a pc board. Pin configuration is of the standard DIP outline with 7.62 x 2.54 [.300 x .100] or 6.35 x 3.18 [.250 x .125] for the standard versions, plus 10.16 x 5.08 [.400 x .200], 7.62 x 2.54 [.300 x .100] and in-line spacing for the high current versions.

ACTION PIN contacts provide a low resistance interface with tin-plated through holes in the pc board, thereby eliminating the need for soldering.

The variety of available power taps allow for various installation schemes. The uninsulated tap and low profile tap can be used in bus bar pattern. The high profile and low profile taps offer insulation protection from other components. The high current versions provide a greater power density option with current ratings from 10 Amps on the 2 position in-line 6.35 [.250] tab tap up to 40 Amps on the 8 position dual 6.35 [.250] tab tap.

All AMP power tap configurations are easily inserted into the pc board with a simple Tyco Electronics or customer supplied tool.
### Material and Finish

**Connector Body and Lid** — Nylon, 105°C 94V-0 rated  
**Contact** — Copper alloy, bright tin-lead or tin plated  
**Screw** — Plated steel

### Electrical and Mechanical Characteristics

**Resistance** — 2 milliohms, max. (stud hole to ACTION PIN contact)  
**Insertion Force** — 40 lbs. [177.9N], max. per pin  
**Retention Force** — 7 lbs. [31.1N], min. per pin

### Technical Documents

**Product Specification**  
108-11030 Tap, Power Distribution  
**Application Specification**  
114-11000 Tap, Power Distribution  
**Handbook**  
5697 Guide to Application of ACTION PIN Connectors

### AMP Power Taps (Continued)

<table>
<thead>
<tr>
<th>Tap Version</th>
<th>PCB Thickness</th>
<th>Description</th>
<th>Screw Hole Size</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Profile</td>
<td>1.57–3.18</td>
<td>Housing and Contact Assembled With Screw&lt;sup&gt;1,2&lt;/sup&gt;</td>
<td>6-32</td>
<td>55557-4● 5055557-4</td>
</tr>
<tr>
<td>Low Profile</td>
<td>1.57–3.18</td>
<td>Housing and Contact Assembled With Screw&lt;sup&gt;2&lt;/sup&gt;</td>
<td>6-32</td>
<td>55556-4● 5055556-4</td>
</tr>
<tr>
<td>Low Profile</td>
<td>1.57–3.18</td>
<td>Housing and Contact Assembled With Screw&lt;sup&gt;3&lt;/sup&gt;</td>
<td>6-32</td>
<td>55673-2● 5055673-2</td>
</tr>
<tr>
<td>Low Profile</td>
<td>1.57–3.18</td>
<td>Housing and Contact Assembled Without Screw</td>
<td>M4</td>
<td>55556-9● 5055556-9</td>
</tr>
</tbody>
</table>

<sup>1</sup>Cover not Assembled  
<sup>2</sup>Screw not Assembled  
<sup>3</sup>No Anti-rotational Embossments

Note: Part Numbers are RoHS compliant except: ● Indicates “5 of 6 compliant” (lead in solderable interface only).
AMP Power Taps (Continued)

### Cable Mounted Products

**Contact** — Copper alloy, post plated bright tin-lead or tin plated  
**Screw** — Stainless steel, passivated

**Electrical and Mechanical Characteristics**
- **Resistance** — 2 milliohms, max. (stud hole to ACTION PIN contact)  
- **Insertion Force** — 40 lbs. [177.9N] max. per pin  
- **Retention Force** — 7 lbs. [31.1N] min. per pin

**Material and Finish**
- **Contact** — Phosphor bronze, tin-lead or tin plated  
- **Screw** — Stainless steel, passivated  
- **Washer** — Stainless steel

### Power Connectors & Interconnection Systems

**Cable Mounted Products**

**Cable Mounted Products**

**Dimensions** are shown for USA: 1-800-522-6752  
**South America**: 55-11-2103-6000  
**Canada**: 1-905-470-4425  
**Mexico**: 01-800-733-8926  
**C. America**: 52-55-1106-0803  
**UK**: 44-(0)8002-6766

**Dimensions** are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

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**Dimensions** are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.
AMP Power Taps (Continued)

*Up to 5 Amps per pin

Mating Connectors
FASTON Receptacles

Material and Finish
Contact — Phosphor bronze, post plated tin-lead or tin plated
Screw — Stainless steel, passivated
Washer — Stainless steel

Electrical and Mechanical Characteristics
Current Rating — 5 Amps max. per pin
Insertion Force — 40 lbs. [180N] max. per pin

For Recommended PC Board Layout, see page 170.

<table>
<thead>
<tr>
<th>Style</th>
<th>PCB Thickness</th>
<th>Dimensions</th>
<th>Description</th>
<th>Part Number</th>
<th>Receptacle Mating</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>1.39 x 1.54</td>
<td>A: 13.50</td>
<td>Tab With Hole</td>
<td>338429-2</td>
<td>Positive Lock</td>
</tr>
<tr>
<td></td>
<td>.055 x .061</td>
<td>B: 10.75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C: 18.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>D: 2.54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.8 x 0.80</td>
<td>.110 x .031</td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>1.57 x 3.18</td>
<td>A: 5.08</td>
<td>Tab With Hole</td>
<td>216926-1</td>
<td>Positive Lock</td>
</tr>
<tr>
<td></td>
<td>.062 x .125</td>
<td>B: 13.49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C: —</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>D: —</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6.35 x 0.81</td>
<td>.250 x .032</td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>1.57 x 3.18</td>
<td>A: 2.54</td>
<td>Tab With Hole</td>
<td>216843-1</td>
<td>Positive Lock</td>
</tr>
<tr>
<td></td>
<td>.062 x .125</td>
<td>B: 13.49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C: —</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>D: —</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6.35 x 0.81</td>
<td>.250 x .032</td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>1.57 x 3.18</td>
<td>A: 10.16</td>
<td>Tab With Hole Without Washer</td>
<td>216905-1*</td>
<td>Positive Lock</td>
</tr>
<tr>
<td></td>
<td>.062 x .125</td>
<td>B: 5.08</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C: 13.49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>D: 10.95</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1-6.35 x 0.81</td>
<td>.250 x .032</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2-2.79 x 0.81</td>
<td>.110 x .032</td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>3.18</td>
<td>A: 3.18</td>
<td>With Dimple</td>
<td>167892-3*</td>
<td>FASTON Rcpt.</td>
</tr>
<tr>
<td></td>
<td>.125</td>
<td>B: 7.62</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C: 2.54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>D: 12.32</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2-6.35 x 0.81</td>
<td>.250 x .032</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 No Anti-rotation Embossments featured on High Current Taps. Therefore, if application requires product supplied without washer and screw, use of lockwashers with a high surface contact area are strongly recommended.
2 Phosphor Bronze, post plated matte tin
AMP Power Taps (Continued)

Application Tooling/PCB Layout

For Standard Threaded Taps Only

Recommended PC Board Layout

Drilled Hole Diameter—.045±.001 [1.15±0.03]

After Plating—.037-.043 [0.94-1.09]

After Reflow—.036-.043 [0.91-1.09]

Installation and Extraction Tooling

Impact Insertion Tool Number 313102-1

(Insertion Tip No. 58133-1 required)

For High Current and FASTON Taps

Use with Hand Press 677430-1

Recommended PC Board Layout

Drilled Hole Diameter—.063±.001 [1.60±0.03]

Cu Thickness—.001-.003 [0.03-0.08]

SnPb Thickness—.0002 min. [0.004 min.]

Finished Hole—.055-.061 [1.39-1.54]

After Reflow—.054-.061 [1.36-1.54]

Installation Tooling

<table>
<thead>
<tr>
<th>Type</th>
<th>Part Number</th>
<th>Upper Tool</th>
<th>Lower Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Current</td>
<td>216906-1</td>
<td>432848-1</td>
<td>433600-2 or</td>
</tr>
<tr>
<td>4 &amp; 6 Positions</td>
<td>216907-1</td>
<td></td>
<td>432130-2</td>
</tr>
<tr>
<td>High Current Style I, II</td>
<td>216926-1</td>
<td>432845-1</td>
<td>433600-2 or</td>
</tr>
<tr>
<td></td>
<td>216643-1</td>
<td></td>
<td>432130-2</td>
</tr>
<tr>
<td>High Current Style III</td>
<td>216905-1</td>
<td>432847-1</td>
<td>433600-2 or</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>432130-2</td>
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<tr>
<td>High Current Style IV</td>
<td>5167892-3</td>
<td>432849-1</td>
<td>433600-2 or</td>
</tr>
<tr>
<td></td>
<td>167892-6</td>
<td></td>
<td>432130-2</td>
</tr>
</tbody>
</table>

Note: All part numbers are RoHS compliant.

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

USA: 1-800-522-6752
Canada: 1-905-470-4425
Mexico: 01-800-733-8926
C. America: 52-55-1106-0803

South America: 55-11-2103-6000
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-(0)800-67666