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Commercial Single Line Connectors .............................................. 4-2 to 4-5
Multi Pin Circular Commercial Connectors .................................. 4-6, 4-7
Product Facts

- All parts made of UL Recognized, 94V-0 rated, plastic material
- Designed to exceed minimum creepage and clearance for specified voltages per applicable international specifications
- Available with or without leads
- Maximum flexibility of application through elimination of predetermined lead lengths
- Machine applied terminations provide for lowest applied cost

The AMP family of Commercial Single Line Connectors provides solutions to high-voltage connection problems at low applied cost. The connectors are excellent for commercial application in industrial environments. Ease of application makes them suitable for large-volume production applications. Crimp, snap-in contacts can be machine terminated or hand-tool crimped.

Housings are self-extinguishing plastic, UL rated 94V-0. 10 KVDC connectors accept 20–24 AWG [0.2–0.6 mm²] wires. 20 KVDC connectors have contacts which accept 22–20 AWG [0.3–0.6 mm²] and 18–16 AWG [0.8–1.4 mm²] conductors. Connectors rated for 30 KVDC offer three choices of contact sizes to cover the 16-8 AWG [1.25–8 mm²] range.

Performance Specifications

All Series
- Altitude — Sea level to 10,000 feet [3048 m]
- Temperature — 59°F to +185°F [15°C to +85°C]
- Product Specification — 108-36034

10 KVDC Connectors
- Voltage — 10 KVDC
- Current — 5 amperes, continuous, rms
- Dielectric Withstanding Test — 15 KVDC for 3 minutes at sea level, 77°F [25°C]
- Instruction Sheet — Part Number 867443-1

20 KVDC Connectors
- Voltage — 8 KVAC, rms, 60 Hz; 20 KVDC
- Current — 7.5 amperes, continuous, rms
- Dielectric Withstanding Test — 12 KVAC, rms, 60 Hz for 3 minutes at sea level, 77°F [25°C]; 30 KVDC for 3 minutes at sea level, 77°F [25°C]
- Instruction Sheets — Plugs — Part Number 862749-1
- Receptacles — Part Number 862755-1

30 KVDC Connectors
- Voltage — 12 KVAC, rms, 60 Hz; 30 KVDC
- Current — 25 amperes, continuous, rms
- Dielectric Withstanding Test — 16 KVAC, rms, 60 Hz for 3 minutes at sea level, 77°F [25°C]; 40 KVDC for 3 minutes at sea level, 77°F [25°C]
Commercial Single Line 10 KVDC Connectors

Plug Kits

<table>
<thead>
<tr>
<th>Voltage Rating</th>
<th>Description</th>
<th>Wire Size</th>
<th>Max. Ins. Dia.</th>
<th>Contact Type</th>
<th>Kit Part Number</th>
<th>Tooling Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 KVDC</td>
<td>Plug Kits*</td>
<td>20-24</td>
<td>0.2-0.6</td>
<td>.105</td>
<td>Type XI Socket</td>
<td>867157-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.160</td>
<td>Type XI Socket</td>
<td>867157-2</td>
</tr>
<tr>
<td></td>
<td>Receptacle Kit*</td>
<td>20-24</td>
<td>0.2-0.6</td>
<td>.160</td>
<td>Type XI Pin</td>
<td>867156-1</td>
</tr>
</tbody>
</table>

* Contact included with kit.

Recommended Wire Preparation (Ref. Socket Contact Part Number 203802-6)

Recommended Wire Preparation (Ref. Pin Contact Part Number 203816-6)
## AMP LGH High Voltage Connectors

### Commercial Single Line 20 KVDC Connectors

#### Plug Kits

![Diagram of Plug Kit](image)

These plugs mate with receptacles shown on this page.

#### Free-Hanging Receptacle Kits

![Diagram of Free-Hanging Receptacle Kit](image)

#### Bulkhead-Mounted Receptacle Kits

![Diagram of Bulkhead-Mounted Receptacle Kit](image)

#### Bulkhead-Mounted Receptacle Kits With Rear Insulation Collar

![Diagram of Bulkhead-Mounted Receptacle Kit with Rear Insulation Collar](image)

**Note:** If bulkhead and mounting hardware are metal at ground potential, the back end of the receptacle must be protected against arc-over and breakdown.

### Voltage Rating

<table>
<thead>
<tr>
<th>Wire Size</th>
<th>Max. Ins. Dia.</th>
<th>Contact Part Number</th>
<th>Kit Part Number</th>
<th>RoHS Kit Part Number</th>
<th>Tooling Part Number</th>
<th>Hand Tool</th>
<th>Extraction Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>22-20</td>
<td>0.3-0.6</td>
<td>66399-1</td>
<td>861610-1</td>
<td>5-861610-1</td>
<td>91523-1</td>
<td>861751-1</td>
<td></td>
</tr>
<tr>
<td>18-16</td>
<td>0.8-1.4</td>
<td>66101-2</td>
<td>861610-3</td>
<td>5-861610-3</td>
<td>91505-1</td>
<td>861751-1</td>
<td></td>
</tr>
<tr>
<td>22-20</td>
<td>0.3-0.6</td>
<td>66399-1</td>
<td>861610-4</td>
<td>5-861610-4</td>
<td>91523-1</td>
<td>861751-1</td>
<td></td>
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<tr>
<td>18-16</td>
<td>0.8-1.4</td>
<td>66101-2</td>
<td>861610-2</td>
<td>5-861610-2</td>
<td>91505-1</td>
<td>861751-1</td>
<td></td>
</tr>
<tr>
<td>22-20</td>
<td>0.3-0.6</td>
<td>66400-1</td>
<td>861753-1</td>
<td>5-861753-1</td>
<td>91523-1</td>
<td>861751-1</td>
<td></td>
</tr>
<tr>
<td>18-16</td>
<td>0.8-1.4</td>
<td>66099-2</td>
<td>861753-3</td>
<td>—</td>
<td>91523-1</td>
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<tr>
<td>22-20</td>
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<td>66400-1</td>
<td>861753-4</td>
<td>5-861753-4</td>
<td>91523-1</td>
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<tr>
<td>18-16</td>
<td>0.8-1.4</td>
<td>66099-2</td>
<td>861753-2</td>
<td>5-861753-2</td>
<td>91505-1</td>
<td>861751-1</td>
<td></td>
</tr>
<tr>
<td>22-20</td>
<td>0.3-0.6</td>
<td>66400-1</td>
<td>861753-1</td>
<td>—</td>
<td>91505-1</td>
<td>861751-1</td>
<td></td>
</tr>
<tr>
<td>18-16</td>
<td>0.8-1.4</td>
<td>66099-2</td>
<td>861753-2</td>
<td>—</td>
<td>91505-1</td>
<td>861751-1</td>
<td></td>
</tr>
<tr>
<td>22-20</td>
<td>0.3-0.6</td>
<td>66400-1</td>
<td>862197-1</td>
<td>—</td>
<td>91523-1</td>
<td>861751-1</td>
<td></td>
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<tr>
<td>18-16</td>
<td>0.8-1.4</td>
<td>66099-2</td>
<td>862197-3</td>
<td>—</td>
<td>91505-1</td>
<td>861751-1</td>
<td></td>
</tr>
<tr>
<td>22-20</td>
<td>0.3-0.6</td>
<td>66400-1</td>
<td>862197-4</td>
<td>—</td>
<td>91523-1</td>
<td>861751-1</td>
<td></td>
</tr>
<tr>
<td>18-16</td>
<td>0.8-1.4</td>
<td>66099-2</td>
<td>862197-2</td>
<td>—</td>
<td>91505-1</td>
<td>861751-1</td>
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</tr>
<tr>
<td>22-20</td>
<td>0.3-0.6</td>
<td>66400-1</td>
<td>862197-6</td>
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<td>91523-1</td>
<td>861751-1</td>
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</tr>
<tr>
<td>18-16</td>
<td>0.8-1.4</td>
<td>66099-2</td>
<td>862197-7</td>
<td>—</td>
<td>91505-1</td>
<td>861751-1</td>
<td></td>
</tr>
</tbody>
</table>

* Contact included with kit.  ** Crimp-on Contacts.
### Commercial Single Line 30 KVDC Connectors

#### Plug Kits

<table>
<thead>
<tr>
<th>Voltage Rating</th>
<th>Description</th>
<th>Wire Size</th>
<th>Max. Ins. Dia.</th>
<th>Contact Part Number</th>
<th>Kit Part Number</th>
<th>Tooling Part Number</th>
<th>Die Set**</th>
<th>Extraction Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 KVDC</td>
<td>Plug Kits*</td>
<td>10 5-6</td>
<td>.50 12.7</td>
<td>66741-8 (Type XII)</td>
<td>66741-1</td>
<td>863103-1</td>
<td>5-863103-1</td>
<td>90140-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14-12 2-3</td>
<td>.50 12.7</td>
<td>66740-8 (Type XII)</td>
<td>66740-1</td>
<td>863103-2</td>
<td>5-863103-2</td>
<td>90145-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16 1.4</td>
<td>.50 12.7</td>
<td>66740-8 (Type XII)</td>
<td>66740-1</td>
<td>863103-3</td>
<td>5-863103-3</td>
<td>90145-2</td>
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</table>

#### Free-Hanging Receptacle Kit

<table>
<thead>
<tr>
<th>Voltage Rating</th>
<th>Description</th>
<th>Wire Size</th>
<th>Contact Part Number</th>
<th>Kit Part Number</th>
<th>Tooling Part Number</th>
<th>Die Set**</th>
<th>Extraction Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 KVDC</td>
<td>Free Hanging Receptacle Kits*</td>
<td>10 5-6</td>
<td>.50 12.7</td>
<td>66259-1 (Type XII)</td>
<td>66259-5</td>
<td>863104-1</td>
<td>5-863104-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16 1.4</td>
<td>.50 12.7</td>
<td>66261-1 (Type XII)</td>
<td>66261-5</td>
<td>863104-3</td>
<td>5-863104-3</td>
</tr>
</tbody>
</table>

#### Bulkhead-Mounted Receptacle Kits

<table>
<thead>
<tr>
<th>Voltage Rating</th>
<th>Description</th>
<th>Wire Size</th>
<th>Contact Part Number</th>
<th>Kit Part Number</th>
<th>Tooling Part Number</th>
<th>Die Set**</th>
<th>Extraction Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 KVDC</td>
<td>Bulkhead-Mounted Receptacle Kits*</td>
<td>10 5-6</td>
<td>.50 12.7</td>
<td>66259-1 (Type XII)</td>
<td>66259-5</td>
<td>863350-1</td>
<td>5-863350-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16 1.4</td>
<td>.50 12.7</td>
<td>66261-1 (Type XII)</td>
<td>66261-5</td>
<td>863350-3</td>
<td>5-863350-3</td>
</tr>
</tbody>
</table>

* Contact included with kit.
** Die Set for Hand Tool Part Number 69710-1 or 626 Pneumatic Tool System.

---

**Dimensions and Panel Cutout:**

- **Recommended Panel Cutout for Bulkhead Mounting:**

- **3/4-16 UNS Thread (M):**
  - Recommended Panel Cutout: 365 (13.63) Diameter
  - Recommended Panel Cutout: 770 (19.56) Diameter

---

**Catalog 7-1773446-2**

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.
Product Facts

- Housing made of UL recognized, 94V-0 rated, self-extinguishing polyester materials
- Standard housing color is black — other colors available
- Operating and storage temperature range: -55°C to +125°C [-67°F to +257°F]
- Operates up to 27 KVDC
- Will withstand a 35 KVDC hipot test
- Safe handling of high-voltage — no exposed contacts
- Lightweight, compact design
- Threaded coupling provides positive, quick connect/disconnect
- Resilient silicone rubber "O" rings provide positive sealing for mated connectors
- Can be panel or bulkhead mounted or used in free-hanging applications
- Size 16 gold-plated contacts with 13 ampere rating accommodate wide range of wire sizes — 24-20 AWG and 18-16-14 AWG — may be hand tool or machine crimped or soldered
- Two shell sizes available: smaller size offers 2-, 3- and 4-contact configurations; larger diameter shell contains 6 or 7 contacts

AMP Multi-Pin Circular Connectors provide reliable, safe, low cost means of connecting high voltages in critical applications and environments. They are lightweight, extremely compact and can be operated within a temperature range of -67°F to 257°F [-55°C to +125°C] and to 27 KVDC.

Circular multi-pin high voltage connectors are available in two basic shell sizes offering 2-, 3-, 4-, 6- and 7-contact configurations. All are equipped with threaded couplings for positive, quick connect/disconnect capability and can be panel or bulkhead mounted or used as free-hanging connectors. They incorporate many outstanding design features to assure their complete electrical, mechanical and environmental integrity.

To satisfy customer requirements, the connectors are supplied pre-assembled (with attached leads) or in kit form. Each kit includes a plug, receptacle and an appropriate number of pins and sockets that can be hand tool or machine crimped or soldered to wire. Pre-assembled connectors can be furnished with leads of virtually any length and color. All are fully potted and tested so that they are of high quality and meet performance specifications.
Multi-Pin Circular Commercial Connectors, 27 KVDC (Continued)

### Dimensions

<table>
<thead>
<tr>
<th>Contacts</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>2, 3, 4</td>
<td>1.25</td>
<td>1.75</td>
<td>0.100</td>
<td>(28 UN)</td>
<td>1.25</td>
<td>1.31</td>
<td>1.38</td>
<td>2.00</td>
<td>1.56</td>
<td>1.015–1.031</td>
</tr>
<tr>
<td>6, 7</td>
<td>1.50</td>
<td>2.00</td>
<td>1.06</td>
<td>1.25 (20 UN)</td>
<td>1.90</td>
<td>1.56</td>
<td>1.48</td>
<td>3.30</td>
<td>203</td>
<td>1.260–1.270</td>
</tr>
</tbody>
</table>

### Cable Assembly, 7 Pos. Plug

- **Wire Range**: 24-20 AWG [0.2-0.6 mm²]
- **Part Number**: 447288-1

#### Note
- **4-Pos. Receptacle Housing Dim. (Typ.)**: 1.75 [44.45] L x 1.25 [31.75] Dia.

#### Note: Contacts are packaged separately within the connector kit for shipment. Connectors are available with leads attached.

#### Extraction Tool
- **Part Number**: 861751-1

#### Component Parts
- **Pin (loose piece)**
  - 24-20 AWG [0.2-0.6 mm²]
  - Part Number 200679-1
  - 18-16 AWG [0.8-1.4 mm²]
  - Part Number 200681-1
  - 14 AWG [2 mm²]
  - Part Number 201645-1

- **Socket (loose piece)**
  - 24-20 AWG [0.2-0.6 mm²]
  - Part Number 200679-1
  - 18-16 AWG [0.8-1.4 mm²]
  - Part Number 200681-1
  - 14 AWG [2 mm²]
  - Part Number 201645-1

- **O-ring (package of 50)**
  - Part Number 862798-1

- **Potting shell/strain relief**
  - (2, 3 and 4 contact plugs)
  - Part Number 862954-1
  - (6 and 7 contact plugs)
  - Part Number 862955-1

- **Potting shell (short, for 6 and 7 contact plugs, 1.125 [28.58] long)**
  - Part Number 863955-1

**Note**: Components are available with leads attached.

**Material**
- **Housing, Cap Nut and Strain Relief**: Glass-reinforced polyester
- **O-Ring**: Silicone rubber
- **Contacts**: Type II, gold plated per MIL-G-45204
- **Instruction Sheet**: IS 408-9169

**Hand Tools**
- 24-20 AWG [0.2-0.6 mm²]
  - Part Number 58305-1
- 18-16 AWG [0.8-1.4 mm²]
  - Part Number 45008
- 14 AWG [2 mm²]
  - Part Number 45008

**Extraction Tool**
- **Part Number**: 861751-1

**Socket (loose piece)**
- 24-20 AWG [0.2-0.6 mm²]
  - Part Number 200679-1
- 18-16 AWG [0.8-1.4 mm²]
  - Part Number 200681-1
- 14 AWG [2 mm²]
  - Part Number 201645-1

**O-ring (package of 50)**
- Part Number 862798-1

**Potting shell/strain relief**
- (2, 3 and 4 contact plugs)
  - Part Number 862954-1
- (6 and 7 contact plugs)
  - Part Number 862955-1

**Potting shell (short, for 6 and 7 contact plugs, 1.125 [28.58] long)**
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