

**tyco**

Electronics

Power Connectors for  
Industrial and Commercial Applications  
Catalog 1308885 Issued 3-05

**AMP**



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**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



- 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
- Accessories available for mounting, vibration protection, and strain relief
- Component Recognized by Underwriters Laboratories Inc. to US and Canadian Standards, File No. E28476



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.

AMP Power Series Connectors are divided into eight Series, based on approximate current-carrying capability.

**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

**Technical Documents**

See page 26



**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)**

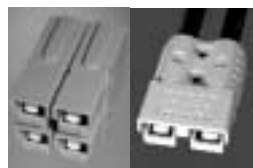
This new, 2-pole, FPR version helps prevent finger access, which allows it to be more safely used at elevated voltages and in user access areas.



**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.



**AMP Power Series 120**

This Series includes both single- and 2-pole (battery) versions. Single-pole housings with molded-in dovetails allow stacking. Housing retaining pins provide more vibration

protection. Two-pole housing have slots designed to accept mounting clamp sets for easier panel mounting.



**AMP Power Series 175**

Two-pole (battery) housings accept cold-headed contacts (4-1/0 AWG). Basically, these connectors offer the same features as the two-pole Series 50 connectors.



**AMP Power Series 180**

These stackable, single-pole connectors accept cold-headed contacts (4-1/0 AWG). Most features are similar to the smaller, single-pole, Series 120 connectors.



**AMP Power Series 350**

Rugged, 2-pole housings accept only loose piece, cold-headed contacts (1/0-3/0 MCM). Rated at 275 A, these connectors have been tested up to 275 A, with 4/0 AWG wire.

**Selection Guide**

Series	Housing Type	Stackable Housing	Current Max. (A)	Voltage, Max. (V, AC or DC)	Cold-headed Contact (AWG)	Stamped & Formed Contact (AWG)	Housing Colors	Approvals
15	Single-Pole	Yes	15	600	—	16-20	Blue, Black, White, Red Green, Yellow, Orange, Gray	UL File No. E28476
30	Single-Pole	Yes	30	600	—	12-16	Blue, Black, White, Red Green, Yellow, Orange, Gray	UL File No. E28476
45	Single-Pole	Yes	40*	600	—	10-14	Blue, Black, White, Red Green, Yellow, Orange, Gray	UL File No. E28476
50	2-Pole	No	50	600	6, 8, 10-12	6-10,10-12	Red, Gray, Blue, Black, Yellow	UL File No. E28476
75	Single-Pole	Yes	75	600	6, 8,10-12	6-10,10-12	Blue, Black, White, Green, Red (Single-Pole)	UL File No. E28476
120	Single-Pole	Yes	120	600	2, 4, 6	—	Blue, Black, White, Green, Red (Single-Pole)	UL File No. E28476
120	2-Pole	No	120	600	2, 4, 6	—	Blue, Gray (2-Pole)	UL File No. E28476
175	2-Pole	No	175	600	1/0, 1, 2, 4	—	Blue, Gray, Orange, Yellow, Red	UL File No. E28476
180	Single-Pole	Yes	180	600	1/0, 1, 2, 4	—	Blue, Black, White, Green, Red	UL File No. E28476
350	2-Pole	No	275**	600	1/0, 2/0, 3/0, 4/0, 300 MCM	—	Blue, Green, Red, Yellow, Orange, Gray	UL File No. E28476

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

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

**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 c  us

**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

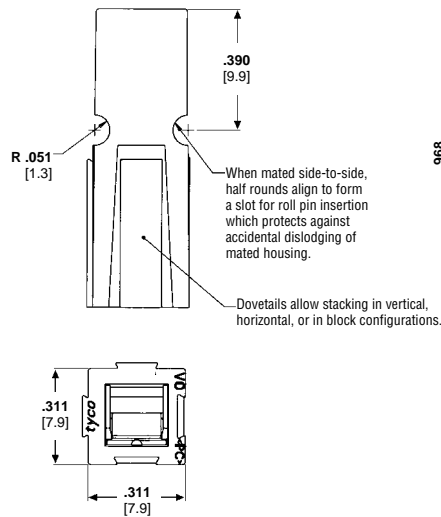
**Mechanical Characteristics**

- Contact Retention**—25 lbs. [111.2 N]
- Average Mating/Unmating Force**—4.7 [20.9 N]
- Max. Wire Insulation Diameter**—175 [18.16]
- Wire Size Range**—10-20 AWG [5-0.5 mm<sup>2</sup>]

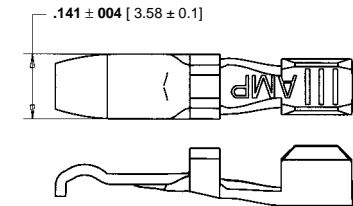
**Related Product Data**

**Accessories**—page 14

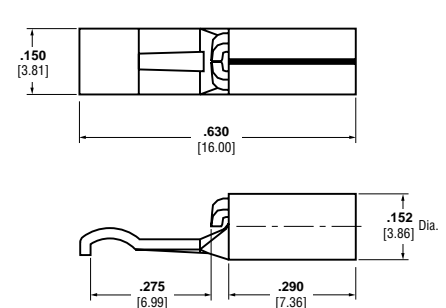
**Single-Pole Housing**



**Stamped and Formed Contact (Strip)**



**Closed Barrel Contact (Loose Piece)**



**AMP Power Series 15**

Housing <sup>1</sup>		Contact Part Number	
Color	Part Number	Strip Form (16, 18, 20 AWG)	Loose Piece (16-20 AWG)
Blue	1445957-1		
Black	1445957-2		
White	1445957-3		
Green	1445957-4	1604113-1 (silver) <sup>2</sup>	1744042-1
Red	1445957-5	1604113-2 (tin) <sup>2</sup>	
Yellow	1445957-6		
Orange	1445957-7		
Gray	1445957-8		

**AMP Power Series 30**

Housing <sup>1</sup>		Contact Part Number	
Color	Part Number	Strip Form (12, 14, 16 AWG)	Loose Piece (12-16 AWG)
Blue	1445957-1		
Black	1445957-2		
White	1445957-3		
Green	1445957-4	1604112-1 (silver) <sup>3</sup>	1744041-1 Dimensions shown above.
Red	1445957-5	1604112-2 (tin) <sup>3</sup>	
Yellow	1445957-6		
Orange	1445957-7		
Gray	1445957-8		

**AMP Power Series 45**

Housing <sup>1</sup>		Contact Part Number	
Color	Part Number	Strip Form (10, 12, 14 AWG)	
Blue	1445957-1		
Black	1445957-2		
White	1445957-3		
Green	1445957-4	1445962-1 (silver) <sup>4</sup>	
Red	1445957-5	1445962-2 (tin) <sup>4</sup>	
Yellow	1445957-6		
Orange	1445957-7		
Gray	1445957-8		

<sup>1</sup> Housings are bulk packaged.

<sup>2</sup> Use Applicator Part No. 1385450-3


<sup>3</sup> Use Applicator Part No. 1385468-3

<sup>4</sup> Use Applicator Part No. 1385469-3

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

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

**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 c **

**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 amp 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

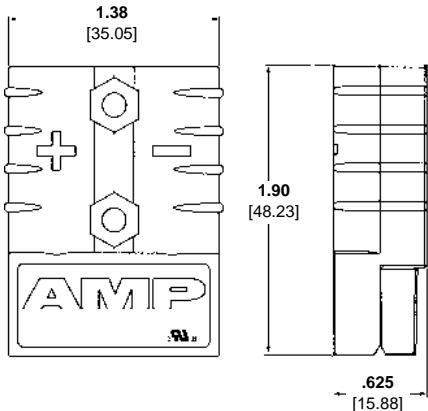
**Mechanical Characteristics**

**Contact Retention**—50 lbs. [222.4 N]  
**Average Mating/Unmating Force**—15 lbs. [66.7 N]  
**Max. Wire Insulation Diameter**—.44 [11.18]  
**Wire Size Range**—6-12 AWG (also 6-16 AWG w/Reducing Bushings)

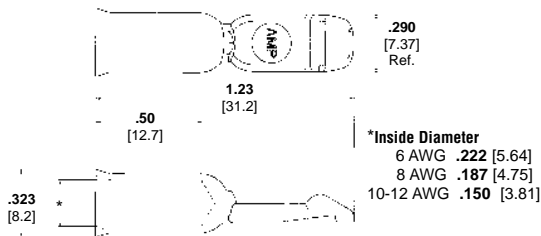
**Related Product Data**

**Accessories**—page 14

**2-Pole Housing**

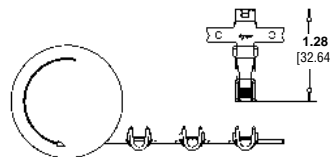


**Cold-headed Contact**



\*Inside Diameter  
 6 AWG .222 [5.64]  
 8 AWG .187 [4.75]  
 10-12 AWG .150 [3.81]

**Stamped and Formed Contact (on Reel)**



**Series 50 (2-Pole)**

Housing <sup>2,3</sup>		Contact <sup>2</sup>		Connector Kit Part Number <sup>1</sup>
Color	Part Number	Wire Size	Part Number	
Red	647845-3	6 AWG	647877-1	647892-3
		10-12 AWG	647879-1	647893-3
Gray	647845-4	6 AWG	647877-1	647892-4
		10-12 AWG	647879-1	647893-4
Blue	647845-5	6 AWG	647877-1	647892-5
		10-12 AWG	647879-1	647893-5
Black <sup>4</sup>	647845-7	6 AWG	647877-1	647892-7
		10-12 AWG	647879-1	647893-7
Yellow	647845-8	6 AWG	647877-1	647892-8
		10-12 AWG	647879-1	647893-8
Cold-headed Contact		8 AWG	647878-1	—
<sup>5,8</sup> Stamped and Formed contacts, on Reel		6-10 AWG	1604433-1 strip (tin) <sup>9</sup>	
<sup>6,8</sup> Stamped and Formed contacts, on Reel		10-12 AWG	1604433-2 (strip) <sup>9</sup>	
<sup>7</sup> Taped version of Cold-headed contacts		6 AWG	647754-1	
		8 AWG	647755-1	
		10-12 AWG	647756-1	

<sup>1</sup> 1 Housing and 2 contacts.  
<sup>2</sup> Housings and contacts are bulk packaged.  
<sup>3</sup> Mechanical keys molded in housings will engage only with housings of same color.  
<sup>4</sup> Black color housing has the same mechanical key as the gray housing.  
<sup>5</sup> Use Heavy Duty Mini-Applicator (HDM) for 6 to 8 AWG - Part Number 1385663-2 (Use with AMP-O-LECTRIC Model K Terminator)  
<sup>6</sup> Use Heavy Duty Mini-Applicator (HDM) for 10 to 12 AWG - Part Number 1385664-2 (Use with AMP-O-LECTRIC Model K Terminator)  
<sup>7</sup> Hand Tool for Cold-headed Contact - Part Number 1526955-1 Taped version can be terminated using the AMP-TAPETRONIC Machine  
<sup>8</sup> Hand Tool for Stamped & Formed Contact - Part Number 68321-1  
<sup>9</sup> Use Power Lock Machine Part Number 68296-1

**Voltage Key Color Chart**

Housing Color	Voltage
Yellow	12V
Red	24V
Gray	36V
Blue	48V
Black	80V

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 c  us

**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**

- Designed to defeat UL finger probe as outlined in UL 60950
- Contact Retention**—50 lbs. [222.4 N]
- Wire Size**—6-12 AWG [15-3 mm<sup>2</sup>]
- Max. Wire Insulation Diameter**—.44 [11.18]

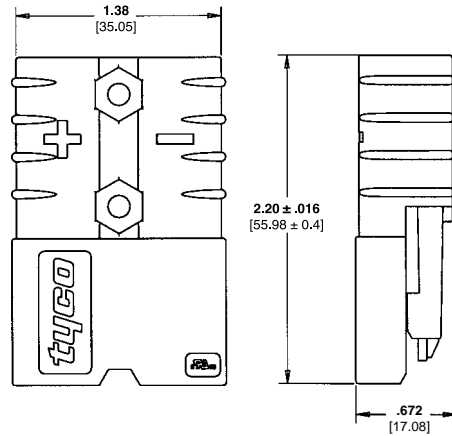
**Related Product Data**

**Accessories**—page 14

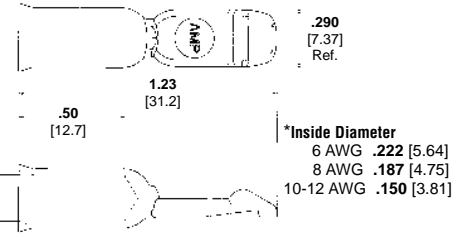
**Applications**

- Uninterruptible Power Supplies
- Power Supplies
- Battery Banks

**2-Pole Housing**

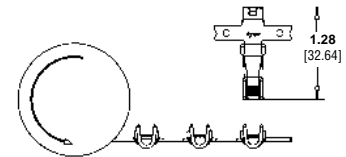


**Cold-headed Contact**



\*Inside Diameter  
6 AWG .222 [5.64]  
8 AWG .187 [4.75]  
10-12 AWG .150 [3.81]

**Stamped and Formed Contact (on Reel)**



**Series 50 FPR (2-Pole)**

Housing <sup>1,2</sup>		Wire Size	Contact Part Number <sup>1</sup>			
Color	Part Number		Cold-headed <sup>5</sup>		Stamped and Formed/Strip <sup>3,4,6</sup>	
			Loose Piece	On Tape	On Reel	
Brown	1604342-1	6 AWG	647877-1	647754-1	6-10 AWG	1604433-17 (tin)
		8 AWG	647878-1	647755-1		
White	1604342-2	10-12 AWG	647879-1	647756-1	10-12 AWG	1604433-27

<sup>1</sup> Housings and contacts are bulk packaged.  
<sup>2</sup> Mechanical keys molded in housings will engage only with housings of same color.  
<sup>3</sup> Use Heavy Duty Mini-Applicator (HDM) for 6 to 8 AWG - Part Number 1385663-2 (Use with AMP-O-LECTRIC Model K Terminator)  
<sup>4</sup> Use Heavy Duty Mini-Applicator (HDM) for 10 to 12 AWG - Part Number 1385664-2 (Use with AMP-O-LECTRIC Model K Terminator)  
<sup>5</sup> Hand Tool for Cold-headed Contact - Part Number 1526955-1 Taped version can be terminated using the AMP-TAPETRONIC Machine  
<sup>6</sup> Hand Tool for Stamped & Formed Contact - Part Number 68321-1  
<sup>7</sup> Use Power Lock Machine Part Number 68296-1

**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 c us

**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

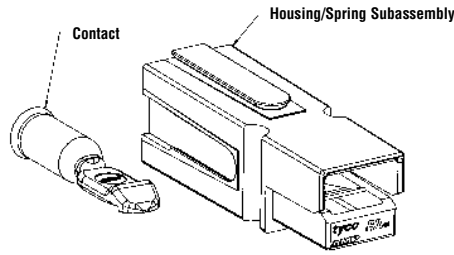
**Mechanical Characteristics**

**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 mm<sup>2</sup>]

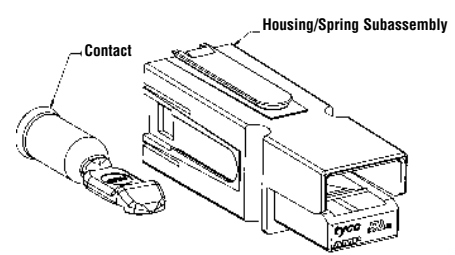
**Related Product Data**

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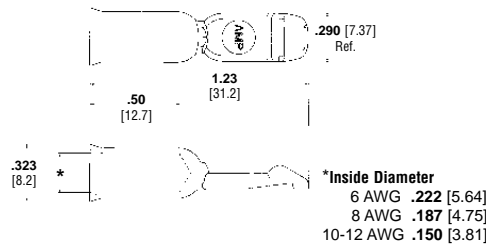
**Housing without Locking Feature**



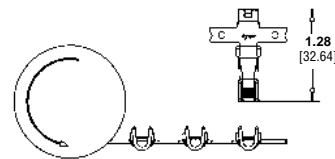
**Housing with Locking Feature**



**Cold-headed Contact**



**Stamped and Formed Contact (on Reel)**



**Series 75 (Single-Pole)**

Housing <sup>2</sup>		Cold-headed Contact <sup>2</sup>		Connector Kit Part Number <sup>1</sup>
Color	Part Number	Wire Size	Part Number	
<b>Non-Locking Version</b>				
Blue	1445715-1	6 AWG	647877-1	1445716-1
Black	1445715-2	6 AWG	647877-1	1445716-2
White	1445715-3	6 AWG	647877-1	1445716-3
Green	1445715-4	6 AWG	647877-1	1445716-4
Red	1445715-5	6 AWG	647877-1	1445716-5
<b>Locking Version</b>				
Blue	1445715-6	6 AWG	647877-1	1445716-6
Black	1445715-7	6 AWG	647877-1	1445716-7
White	1445715-8	6 AWG	647877-1	1445716-8
Green	1445715-9	6 AWG	647877-1	1445716-9
Red	1-1445715-0	6 AWG	647877-1	1-1445716-0

\*Samples available on loose housing and contacts only.

**Contacts**

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

<sup>1</sup> 1 housing and 1 contact

<sup>2</sup> Housings and contacts are bulk packaged.

<sup>3</sup> Taped version can be terminated using the AMP-TAPETRONIC machine Part Number 68250-1.

<sup>4</sup> Use hand tool Part Number 1526955-1 for Cold-headed contacts



**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 c <sup>us</sup>

**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

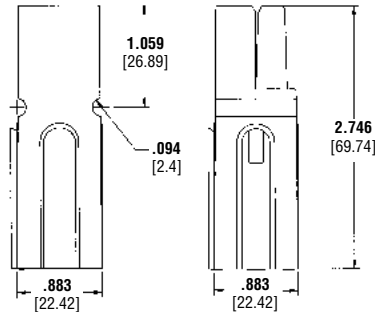
**Electrical Characteristics**

**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

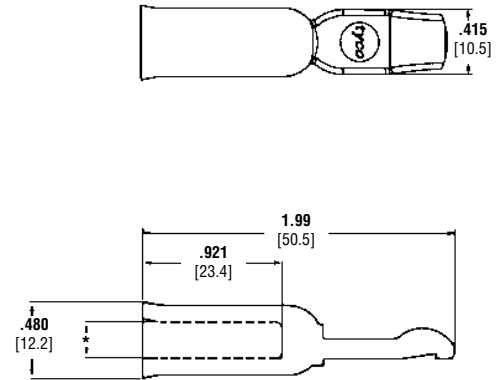
**Mechanical Characteristics**

**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

**Single-Pole Housing**



**Cold-headed Contact**



\*Inside Diameter 6 AWG **.222** [5.64];  
 4 AWG **.295** [7.5];  
 2 AWG **.344** [8.74]

**Series 120 (Single-Pole)**

Housing		Contact		Connector Kit Part Number <sup>1</sup>
Color	Part Number	Wire Size	Part Number	
Blue	1604001-1	2 AWG	1445995-1	1604002-1
Black	1604001-2	2 AWG	1445995-1	1604002-2
White	1604001-3	2 AWG	1445995-1	1604002-3
Green	1604001-4	2 AWG	1445995-1	1604002-4
Red	1604001-5	2 AWG	1445995-1	1604002-5
—	—	4 AWG	1445996-1	—
—	—	6 AWG	1445997-1	—

<sup>1</sup> 1 Housing and 1 contact.


**Related Product Data**

**Accessories**—page 15  
**Application Tooling**—page 16  
**Technical Documents**—page 26

**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 and 8 AWG
- Molded-in panel mount grooves
- Integral stainless steel locking spring in housing for contact retention
- Rugged design
- File No. E28476 c 

**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

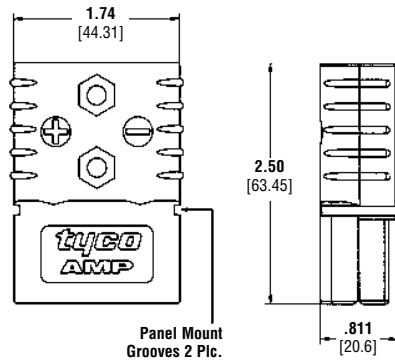
**Mechanical Characteristics**

**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**—2-8 AWG

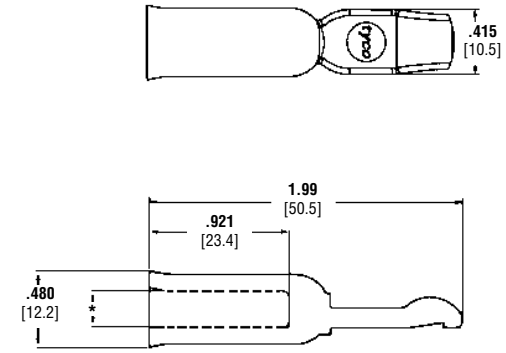
**Related Product Data**

**Accessories**—page 15  
**Application Tooling**—page 16  
**Technical Documents**—page 26

**2-Pole Housing**



**Cold-headed Contact**



\*Inside Diameter 6 AWG .222 [5.64];  
 4 AWG .295 [7.5];  
 2 AWG .344 [8.74]

**Series 120 (2-Pole)**

Housing <sup>2,3</sup>		Contact <sup>2</sup>		Connector Kit
Color	Part Number	Wire Size	Part Number	Part Number <sup>1</sup>
Gray	1445994-1	2 AWG	1445995-1	1445998-1
Blue	1445994-2	2 AWG	1445995-1	1445998-2
Gray	1445994-1	4 AWG	1445996-1	1445999-1
Blue	1445994-2	4 AWG	1445996-1	1445999-2
Gray	1445994-1	6 AWG	1445997-1	1446000-1
Blue	1445994-2	6 AWG	1445997-1	1446000-2

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

**Voltage Key Color Chart**

Housing <sup>2,3</sup> Color	Voltage
Gray	36 V
Blue	48 V

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

**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 c 

**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

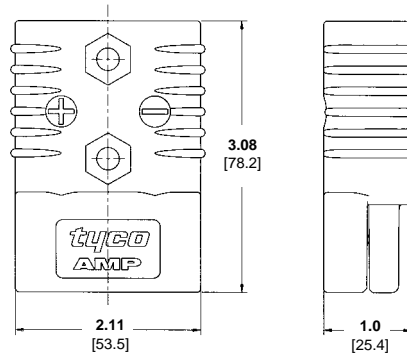
**Mechanical Characteristics**

**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 mm<sup>2</sup>]  
**Contact Retention**—300 lbs. [1,334.47 N]  
**Temperature Rating**—-4°F to 221°F [-20°C to 105°C]

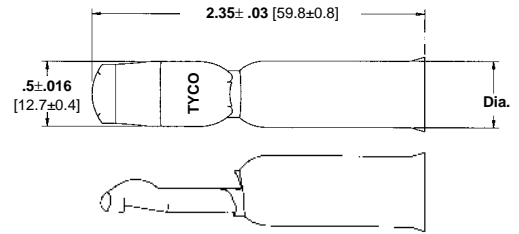
**Related Product Data**

**Accessories**—page 15  
**Application Tooling**—page 16  
**Technical Documents**—page 26

**2-Pole Housing**



**Cold-headed Contact**



**Inside Diameter** **.516±.005** [13.1±0.13] for 1/0 AWG  
**.512±.005** [13.0±0.13] for 1 AWG, 2 AWG, and 4 AWG

**Series 175 (2-Pole)**

Housing		Connector Kit Part Numbers <sup>1, 2</sup>			
Color	Part Number	4 AWG	2 AWG	1 AWG	1/0 AWG
Yellow	1604037-1	1604044-1	1604043-1	1604045-1	1604042-1
Orange	1604037-2	1604044-2	1604043-2	1604045-2	1604042-2
Red	1604037-3	1604044-3	1604043-3	1604045-3	1604042-3
Gray	1604037-4	1604044-4	1604043-4	1604045-4	1604042-4
Blue	1604037-5	1604044-5	1604043-5	1604045-5	1604042-5
Black <sup>3</sup>	1604037-6	1604044-6	1604043-6	1604045-6	1604042-6

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

**Contacts (Cold-headed)**

Wire Size	Part Number
4 AWG	1604040-1
2 AWG	1604039-1
1 AWG	1604041-1
1/0 AWG	1604038-1


**Voltage Key Color Chart**

Housing Color	Voltage
Yellow	12 V
Orange	18 V
Red	24 V
Gray	36 V
Blue	48 V
Black	80 V

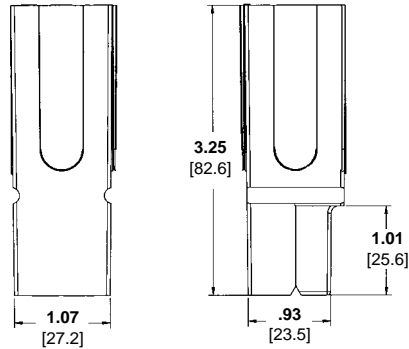
Color code given for various voltages is only a suggestion, other codes and keys available upon request.

**AMP Power Series 180 Connectors (Single-Pole)**

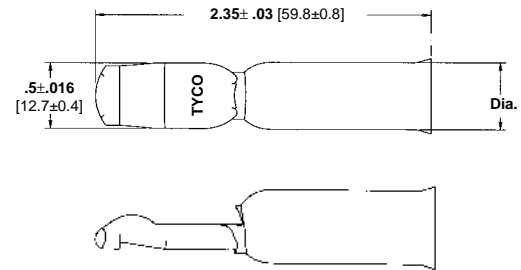
**Product Facts**

- 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 ©  us

**Single-Pole Housing**



**Cold-headed Contact**



**Inside Diameter** **.516±.005** [13.1±0.13] for 1/0 AWG  
**.512±.005** [13.0±0.13] for 1 AWG, 2 AWG, and 4 AWG

**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 mm<sup>2</sup>]
- Contact Retention**—170 lb. [756 N]
- Temperature Rating**—-4°F to 221°F [-20°C to 105°C]

**Related Product Data**

- Accessories**—page 15
- Application Tooling**—page 16
- Technical Documents**—page 26

**Series 180 (Single-Pole)**

Housing		Connector Kit Part Numbers <sup>1,2</sup>			
Color	Part Number	4 AWG	2 AWG	1 AWG	1/0 AWG
Blue	1604062-1	1604395-1	1604396-1	1604397-1	1604398-1
Black	1604062-2	1604395-2	1604396-2	1604397-2	1604398-2
White	1604062-3	1604395-3	1604396-3	1604397-3	1604398-3
Red	1604062-4	1604395-4	1604396-4	1604397-4	1604398-4
Green	1604062-5	1604395-5	1604396-5	1604397-5	1604398-5

<sup>1</sup> 1 Housing and 1 contact.  
<sup>2</sup> Housings and contacts are bulk packaged.

**Contacts (Cold-headed)**

Wire Size	Part Number
4 AWG	1604040-1
2 AWG	1604039-1
1 AWG	1604041-1
1/0 AWG	1604038-1

**AMP Power Series 350 Connectors (2-Pole)**

**Product Facts**

- Color-coded UL 94V-0 housings: yellow, orange, red, gray, blue, and green
- Keying feature helps prevent two different voltage color-coded housings from mating
- Genderless housings reduce inventory
- Contact wire range: 1/0, 2/0, 3/0, 4/0, 300 MCM
- Replaceable contacts
- Integral stainless steel locking spring in housing for contact retention
- File No. E28476 c us

**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

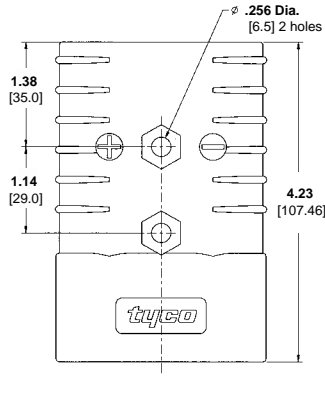
**Mechanical Characteristics**

**Contact Retention**—500 lbs. [2224.1 N]  
**Average Mating/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 mm<sup>2</sup>]

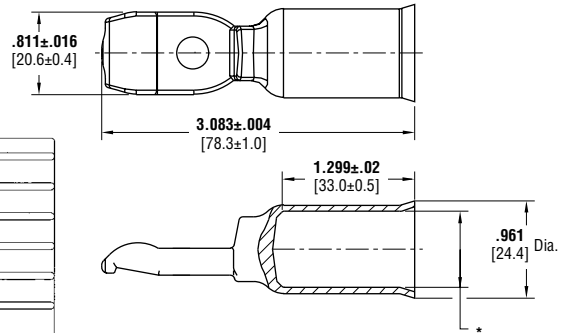
**Related Product Data**

**Accessories**—page 15  
**Application Tooling**—page 16  
**Technical Documents**—page 26  
**Reducing Bushing**—(1/0 to 2/0 AWG)  
**Part No.** 1604121-6  
**Cable Clamp**—Part No. 647688-1

**2-Pole Housing**



**Cold-headed Contact**



\*Inside Diameter .437±0.004 [11.10 +/- 0.10] for 1/0 AWG  
 .488±0.004 [12.40 +/- 0.10] for 2/0 AWG  
 .579±0.004 [14.70 +/- 0.10] for 3/0 AWG  
 .642±0.004 [16.30 +/- 0.10] for 4/0 AWG  
 .752±0.004 [19.10 +/- 0.10] for 300 MCM

**Series 350 (2-Pole)**

Housing		Connector Kit Part Numbers <sup>1,2</sup>				
Color	Part Number	1/0 AWG	2/0 AWG	3/0 AWG	4/0 AWG	300 MCM
Yellow	1604050-1	1604060-1	1604059-1	1604058-1	1604057-1	1604056-1
Orange	1604050-2	1604060-2	1604059-2	1604058-2	1604057-2	1604056-2
Red	1604050-3	1604060-3	1604059-3	1604058-3	1604057-3	1604056-3
Gray	1604050-4	1604060-4	1604059-4	1604058-4	1604057-4	1604056-4
Blue	1604050-5	1604060-5	1604059-5	1604058-5	1604057-5	1604056-5
Green	1604050-6	1604060-6	1604059-6	1604058-6	1604057-6	1604056-6

<sup>1</sup> 1 Housing and 2 contacts.  
<sup>2</sup> Housings and contacts are bulk packaged.

**Contacts (Cold-headed)**

Wire Size	Part Number
1/0 AWG	1604055-1
2/0 AWG	1604054-1
3/0 AWG	1604053-1
4/0 AWG	1604052-1
300 MCM	1604051-1

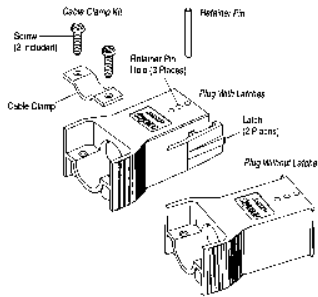
**Voltage Key Color Chart**

Housing Color	Voltage
Yellow	12V
Orange	18V
Red	24V
Gray	36V
Blue	48V
Green	72V

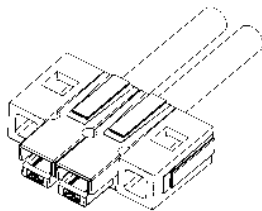
Color code given for various voltages is only a suggestion, other codes and keys available upon request.

**AMP Power Series Accessories**

**Series 15/30/45 Hardware Kits**



**Series 15/30/45 Mounting Wings**



**Series 15/30/45 Accessories**

Part Number	Description
<b>Mounting Wings</b>	
1445960-1	Red, UL 94V-0
<b>Spacers</b>	
1445959-1	Red, UL 94V-0, Short
1445959-2	Red, UL 94V-0, Long
<b>Retaining Pins for use with 15 A/30 A/45 A</b>	
1445886-4	.25 [6.35] length
1445886-5	.44 [11.18] length
1445886-6	.85 [21.6] length

Part Number	Description
<b>Plug and Receptacle Housings</b>	
1604077-1	Receptacle, 2, 3, 4 pole
1604078-1	Receptacle, 5, 6 pole
1604079-1	Receptacle, 7, 8 pole
1604080-1	Plug Frame without Latch, 2, 3, 4 pole
1604081-1	Plug Frame without Latch, 5, 6 pole
1604082-1	Plug Frame without Latch, 7, 8 pole
1604083-1	Plug Frame with Latch, 2, 3, 4 pole
1604084-1	Plug Frame with Latch, 5, 6 pole
1604085-1	Plug Frame with Latch, 7, 8 pole

Part Number	Description
<b>Hardware Kits</b> (Cable clamp, screws & retaining pins)	
647747-3	4 pole
647747-2	6 pole
647747-1	8 pole

**Series 50 Accessories**

Part Number	Description
647746-1	Plastic Handle & Screw Kit, Red
1744077-1	Dust Cover, Black
647745-1	Strain Relief Cable Clamp Kit, #6 & #8 AWG
647743-1	Strain Relief Cable Clamp Kit, #10 & #12 AWG
647765-1	Strain Relief Cable Clamp Kit, Single Conductor #6

Please contact Product Engineering or Product Management for availability.

Reducing Bushings	
Wire Size (AWG)	Part Number
6 to 8	1445762-1
6 to 10-12	647840-1
6 to 14-16	1445763-1

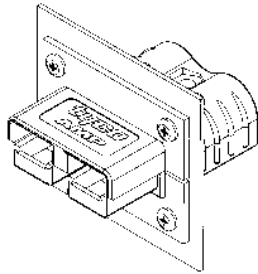
(permits use of smaller wires with 6 AWG contact Part Number 647877-1)

**Series 75 Accessories**

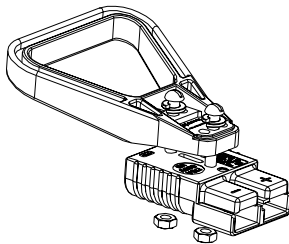
Part Number	Description
<b>Mounting Wings</b>	
1445729-1	Blue, oval mounting hole
1445729-2	Blue, round mounting hole
<b>Retaining Pins for use with 75 A/120 A/180 A</b>	
1445886-1	75 A/120 A/180 A hsgs, 1 high block
1445886-2	75 A/120 A/180 A hsgs, 2 high block
1445886-3	75 A/120 A/180 A hsgs, 3 high block
<b>Reducing Bushings for Series 50 A and 75 A</b>	
1445762-1	6 to 8 AWG
647840-1	6 to 10-12 AWG
1445763-1	6 to 14-16 AWG

Mounting clamp set part numbers available.

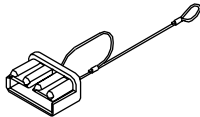
**Series 120  
Panel Mounting Clamp**



**Series 175 & 350  
Handle Kit**



**Series 175  
Dust Cover Assembly**



**AMP Power Series Accessories (Continued)**

**Series 120 Accessories**

Part Number	Type	Description
<b>Retaining Pins for use with 75A/120A/180A</b>		
1445886-1	Single-Pole	1 high block
1445886-2	Single-Pole	2 high block
<b>Reducing Bushings</b>		
1604072-3	Single/2-Pole	2 to 4 AWG
1604072-2	Single/2-Pole	2 to 6 AWG
1604072-1	Single/2-Pole	2 to 8 AWG
<b>Mounting Clamp Sets</b>		
647721-1	Single-Pole	2- & 4- pole configuration
647722-1	Single-Pole	3-pole configuration
<b>Panel Mounting Clamp</b>		
1744090-1	2-Pole	—

**Series 175, 180 & 350 Accessories**

Part Number	Type	Description
<b>Reducing Bushings</b>		
1604121-1	175/180	10 to 1/0 AWG
1604121-2	175/180	6 to 1/0 AWG
1604121-5	175/180	4 to 1/0 AWG
1604121-4	175/180	2 to 1/0 AWG
1604121-3	175/180	1 to 1/0 AWG
1604121-6	350	1/0 to 2/0 AWG
<b>Handle Kit</b>		
647737-1	175 2-Pole	Red
647737-2	175 2-Pole	Gray
1-647737-1	350 2-Pole	Red
1-647737-2	350 2-Pole	Gray

**Series 175 & 180 Accessories**

Part Number	Type	Description
<b>Cable Clamps</b>		
647700-1	Clamp	Single Conductor
647703-1	Clamp	2 Single Conductors
647697-1	Clamp	Twin Conductor Cable
647688-1	350	Cable Clamp
647695-1	180	Single pole version
647720-1	180	2 pole version
647719-1	180	3 pole version
<b>Dust Cover</b>		
647691-1	175	Dust Cover Assembly (Shown)
647692-1	175	Dust Cover Housing

**AMP Power Series Tooling**

**AMP-O-LECTRIC Model "G" Terminating Machines, Part Nos. 354500-1, -9, -11 (408-5842)**



Semiautomatic bench machines for crimping reeled terminals and contacts, featuring a quiet and reliable direct motor drive, microprocessor controls for ease of setup and operation, and guarding designed for operator convenience and safety. All models are equipped with either manual or automatic precision adjustment of crimp height. Machine-mounted sensors are available for crimp quality monitoring using conventional miniature-style applicators.

For more information, request Catalog **65828**, Video **198116**, Catalog **82275 [Crimp Quality Monitor (CQM)]**, Video **198094**.

**AMP 3K/40 and AMP 5K/40 Terminating Machines (409-10047)**

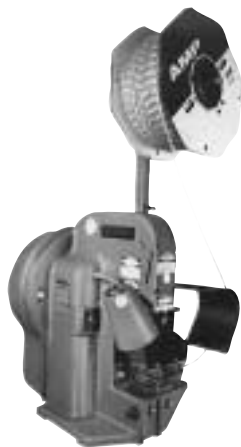


The AMP 3K/40 and AMP 5K/40 Terminators are designed for customers that require the increased output and quality of a semiautomatic machine at a competitive price. By incorporating the most commonly requested features as standard and offering a long list of optional equipment, these terminators offer flexibility to meet the specific needs of various applications at the lowest possible cost.

- 3,000 lb [1361 kg] max. crimp force (AMP 3K/40); 5,000 lb [2268 kg] max. crimp force (AMP 5K/40)
- Toolless removal of applicators and guards
- Jog capability
- Quiet, fast operation — 80/76 dBA and cycle time less than 0.400 seconds
- Accepts Heavy Duty Mini style applicators
- Wide range of optional equipment such as toolless precision crimp height adjust, batch counter, CQM capability and work light

For more information, request Catalog **1654856**.

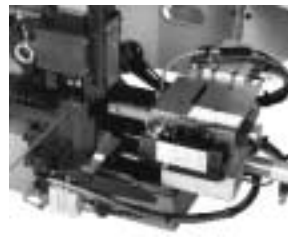
**AMP-O-LECTRIC Model "K" Terminating Machine Part No. 1-471273-3 (409-5128)**



AMP-O-LECTRIC Model "K" Terminating Machine with a permanently-mounted applicator that accepts interchangeable die sets to apply a variety of tape-mounted terminals and splices. Many of the die sets can also be used in AMP-O-LECTRIC Terminating Machines with a tape applicator.

For more information, contact Tyco Electronics.

**Stripping Module (for the AMP 3K/40 and AMP 5K/40 Terminating Machines and AMP-O-LECTRIC Model "G" Terminator)**



The combination of the Stripping Module with the AMP 3K/40 and AMP 5K/40 Terminating Machines or the AMP-O-LECTRIC Model "G" Terminator provides an economic and proficient method of stripping the wire and crimping terminals on the same machine. The module accepts End- and Side-Feed HDM Applicators (32-14 AWG) and operates in three modes: crimp only, strip only, or strip and crimp. It can be installed on existing machines in the field or purchased as one unit from the factory.

For more information, request Catalog **1309085**.



*Electronics*

**AMP Power Series Tooling** (Continued)

**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.

For limited applications the BANTAM ROTA-CRIMP Hand Tool produces the same uniform crimp.

**BANTAM ROTA-CRIMP**  
**Hand Tool**  
**Part Number 68321-1**  
 (Instruction Sheet 408-2681)



**500 MCM Heavy Duty Cable Cutter**  
**Part No. 605742-1**  
 (408-4557)



- Heavy duty cutter designed to cut aluminum or copper cable up to 500 MCM.
- Light weight tubular steel handles with vinyl hand grips
- Both blades made from high grade alloy steel
- 21" overall length
- Not for steel or ACSR cable

**Cable Insulation Stripper/Slitter**  
**Part No. 606700-1**  
 (408-9688)





- Round cable tool can be used on single or multiple conductor cable up to 1.75" in diameter

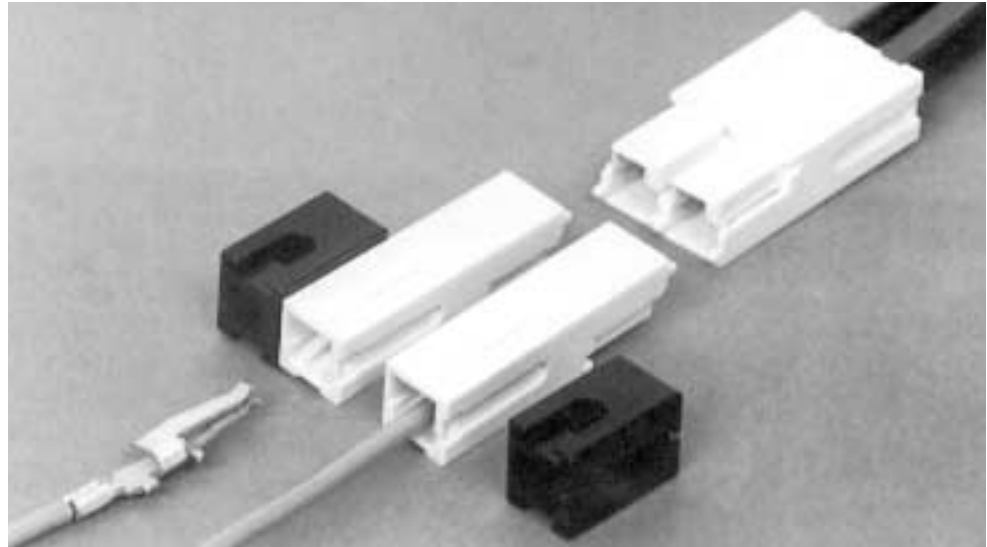
**Hand Tools for Cold-headed Contacts**

Tyco Electronics Manual Hand Tool (Single-Indent Crimp)		PICO Corporation Pneumatic Hand Tool (Dual-Indent Crimp)				
Crimp Tool 1526955-1	American Electrical Terminal (AET) Hand Tool T-406	Series	Die Set	Locator	Die Closure for Contact Size	
					6 and 8	10-12
Adapter 1527508-1 (Marking A)	Adapter 5992	400	414DA-4583	4582-1	0.152	—
			414DA-8NIT-B	9616-1		
			414DA-4582	4582-1	—	0.134
			414DA-8N	9616-1		
		500	514DA-7033	7033-1	0.152	—
			514DA-8NIT-B	7034-1		
			514DA-7034	7033-1	—	0.134
			514DA-8N	7034-1		

**AMPINERGY Wire-To-Wire Connectors**

**Product Facts**

- Rated to 600 VAC (RMS)
- Flame retardant housings 94V-0
- Housings, adapters, and power terminals keyed for proper assembly
- Stackable housings provide easy wire routing and neat wire dressing
- Built-in interlocking features better resist shock and vibration
- Usable as in-line connector, or as panel and surface mount connector
- Available in six different colors for circuit coding and identification
- Choice of two power terminals accommodates 10-12 AWG and 14-16-18 AWG conductors
- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476 
- CSA Certified, File No. LR7189 
- VDE Registered #5133



AMPINERGY 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. Customer supplied 8-32 screws and nuts may be used to secure the connectors configured with the mounting adapters to printed circuit boards or distribution panels. The same hardware may be used to secure the connectors to pre-cut openings in the panels.

Furthermore, WTW Connector housings, mounting adapters and power terminals are all provided with alignment or keying features that make it difficult to improperly assemble and apply the connector. Alignment slots and tabs on the plastic connector housings provide for easy mating of the housings, even in the dark! Mounting adapters have a keyway on one side and a key on the other side providing for easy assembly to the connector by touch alone if necessary. And the power terminals have a side tab that helps prevent the incorrect insertion of the terminated conductor into the housing.

Once inserted, the contacts firmly latch within the connector housing.

The WTW Connector system is available in six different and distinctive 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 amperes to 55 amperes.

**Technical Documents**

**Product Specification**  
108-1373 AMPINERGY WTW Connectors

**Application Specification**  
114-6051

**Instruction Sheets**  
408-3277 AMPINERGY Wire-To-Wire Stackable Connectors  
408-3198 Inspection of AMPINERGY System Power Contacts

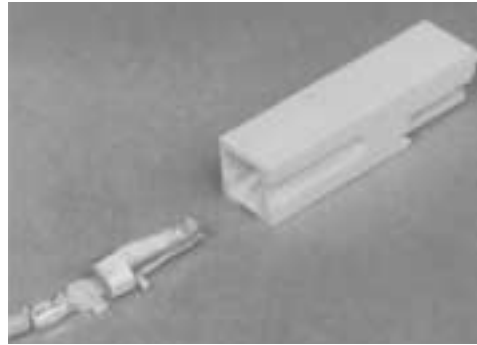
**AMPINNERGY Wire-To-Wire Connectors** (Continued)

**Housings**

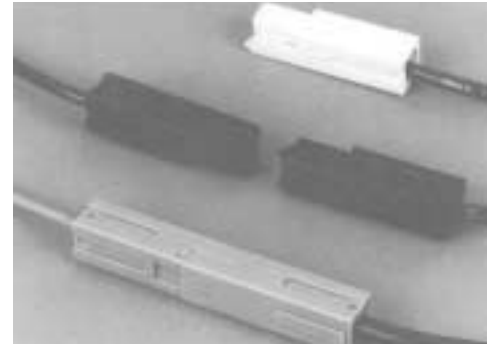
**Material and Finish**

Housing — Polycarbonate, 94V-0

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

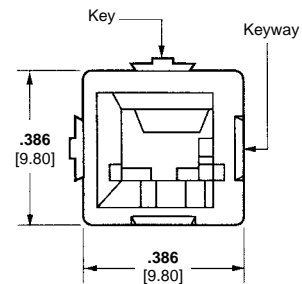
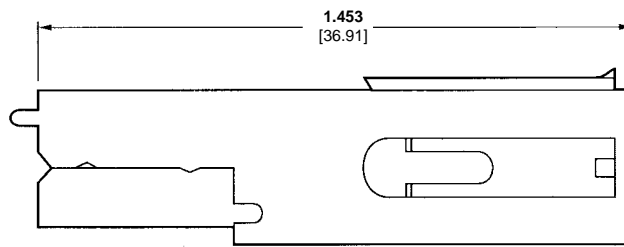


Customer terminated power contacts are inserted into housings



Free Hanging Interconnections

Color	Housing Part Numbers
White	556137-1
Black	556137-2
Green	556137-3
Red	556137-4
Blue	556137-6
Gray	556137-8



Wire-To-Wire Connector Housing

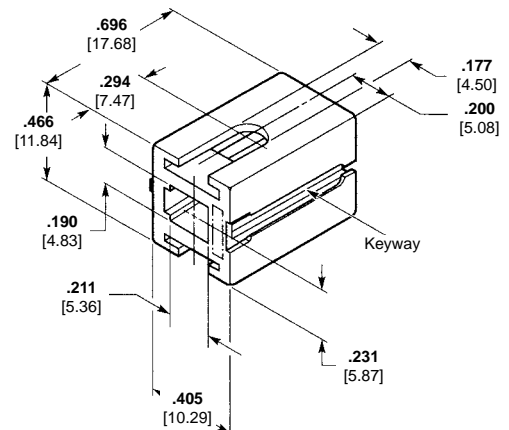
**Mounting Adapters**

Part Number 557313-1

**Material and Finish:**

Housing — Polycarbonate, Black

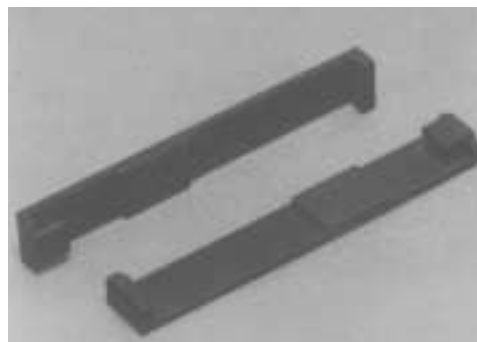
Two mounting adapters can be used with one or more connector housings to provide thru-panel or horizontal surface mounting capability of the completed assembly.



**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.



AMPINNERGY Wire-To-Wire Clips  
Part Number 557640-1



AMPINNERGY Wire-To-Wire Clips (Installed)  
Part Number 557640-1

**AMPINNERGY Wire-To-Wire Connectors (Continued)**

**Power Terminals**

**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.

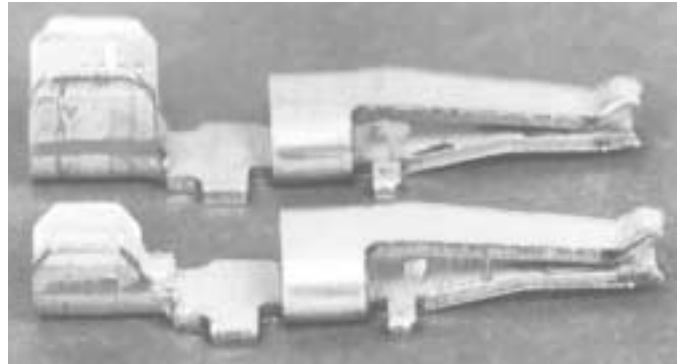
Contacts in strip form are terminated on continuous feed type terminators and the loose piece contacts are terminated with the hand tool or pneumatic tool.

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

**Loose Piece**

**Part Number** 556136-2

**Part Number** 556135-2

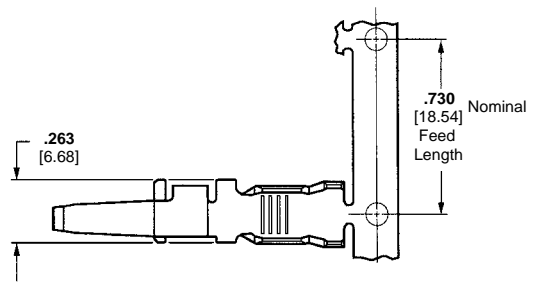
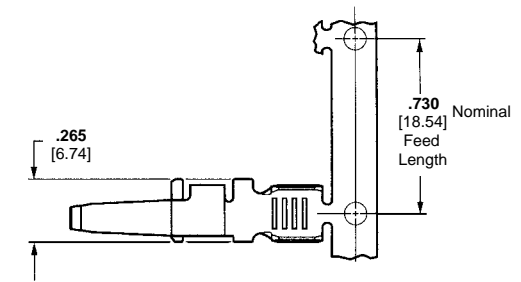
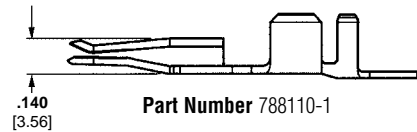
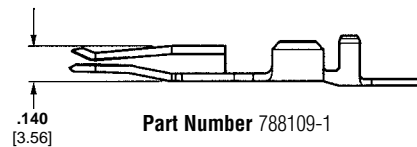
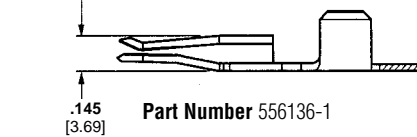
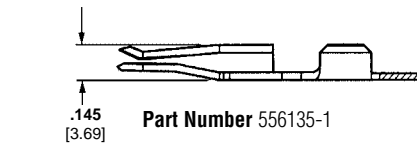


Contact Part Numbers	Wire Size (AWG)	Hand Tool Part Number	Pneumatic Tool Part Numbers	Die Set Part Numbers
556135-2 (loose piece)	18-16	69710-1	189721-2*	58493-1
	14			58492-1
556136-2 (loose piece)	12			58490-1
	10			58491-1

\*Requires "C" Head Adapter Part No. 318161-1 and Adapter Holder Part No. 189928-1. See Catalog 124208 for more information.

**Note:** The same Hand Tool or Pneumatic Tool and Die Sets may be used to apply the Wire-To-Board Connector Terminals.

**Strip Form**



Contact Part Numbers	Wire Size (AWG)	AMP-O-LECTRIC Model G Terminating Machine	Applicator Part Numbers
556135-1 (strip)	18-16-14	354500-1	567403-3
556136-1 (strip)	10-12	354500-1	567256-6
788109-1 (strip)	18-14	354500-1	680447-3
788110-1 (strip)	10-12	354500-1	680449-3

**AMPINNERGY Wire-To-Board Connectors**

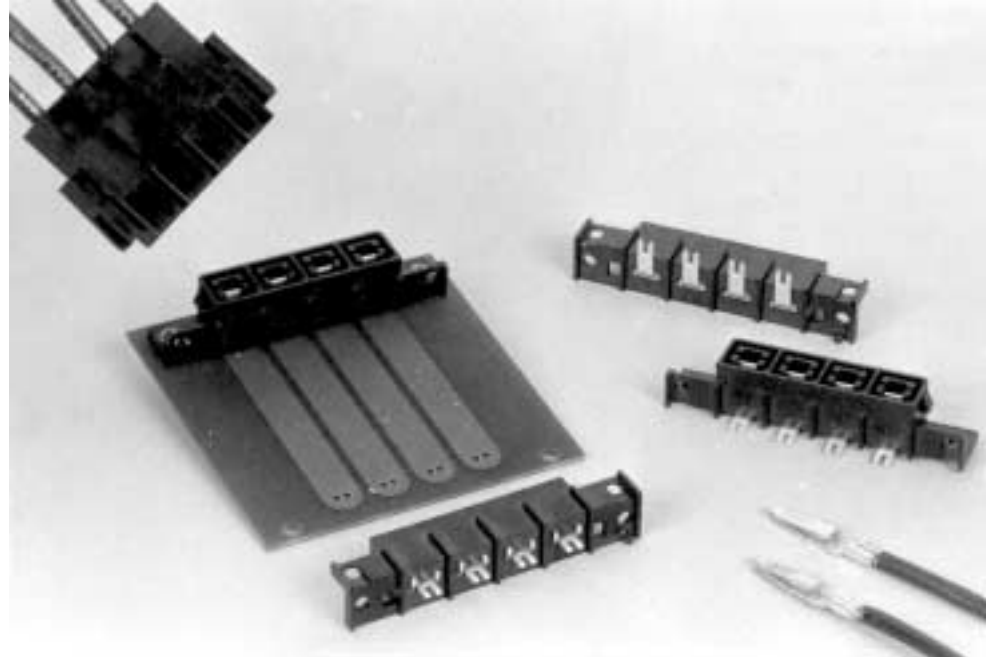
**Product Facts**

- **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**

■ **UL Recognized, File No. E28476**



■ **CSA Certified, 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

**AMPINERGY Wire-To-Board Connectors (Continued)**

**Vertical PCB Receptacles**

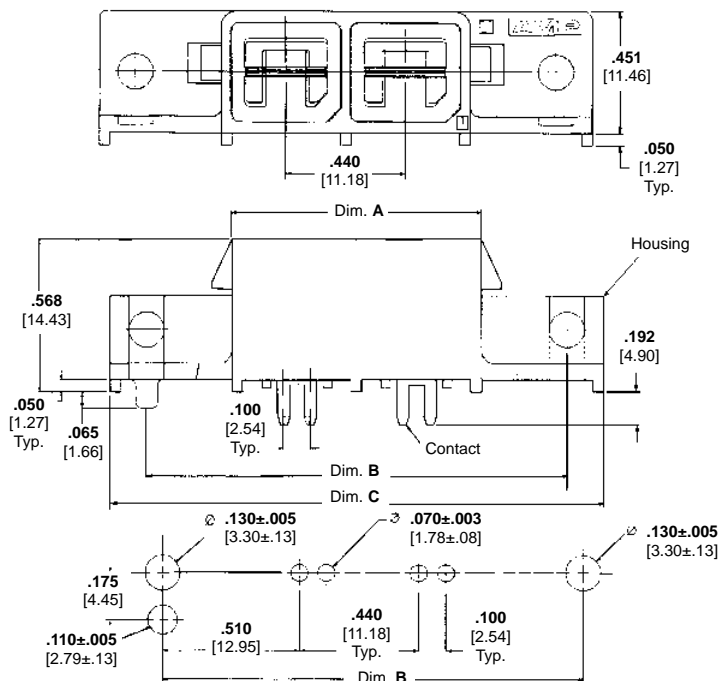
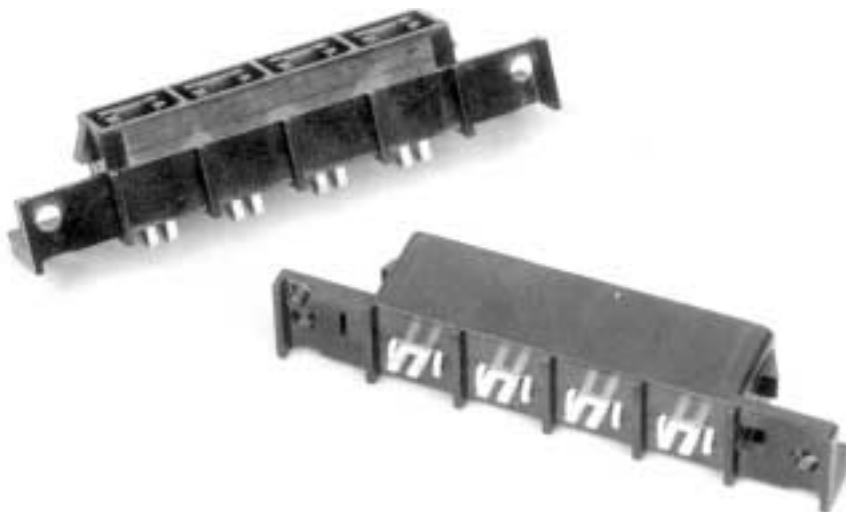
**Product Facts**

- Withstands vapor phase, infrared and wave soldering processes
- .040 minimum standoff to PCB
- Polarized to PCB; to plug
- Contact centerline spacing: .440
- Overall height on PCB: .600
- Fits PCB thickness .062 through .125
- 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**

No. of Positions	Dimensions			Receptacle Part Numbers
	A	B	C	
2	.93 23.50	1.56 39.62	1.84 46.61	556881-2
3	1.37 34.68	2.00 50.80	2.28 57.79	556881-3
4	1.81 45.85	2.44 61.98	2.72 68.97	556881-4
5	2.25 57.03	2.88 73.15	3.16 80.14	556881-5
6	2.69 68.20	3.32 84.33	3.60 91.32	556881-6
7	3.13 79.38	3.76 95.50	4.04 102.49	556881-7
8	3.57 90.56	4.20 106.68	4.48 113.67	556881-8

**PCB Thickness — .250**

No. of Positions	Receptacle Part Numbers
4	558574-1
6	558084-1

**AMPINERGY Wire-To-Board Connectors (Continued)**

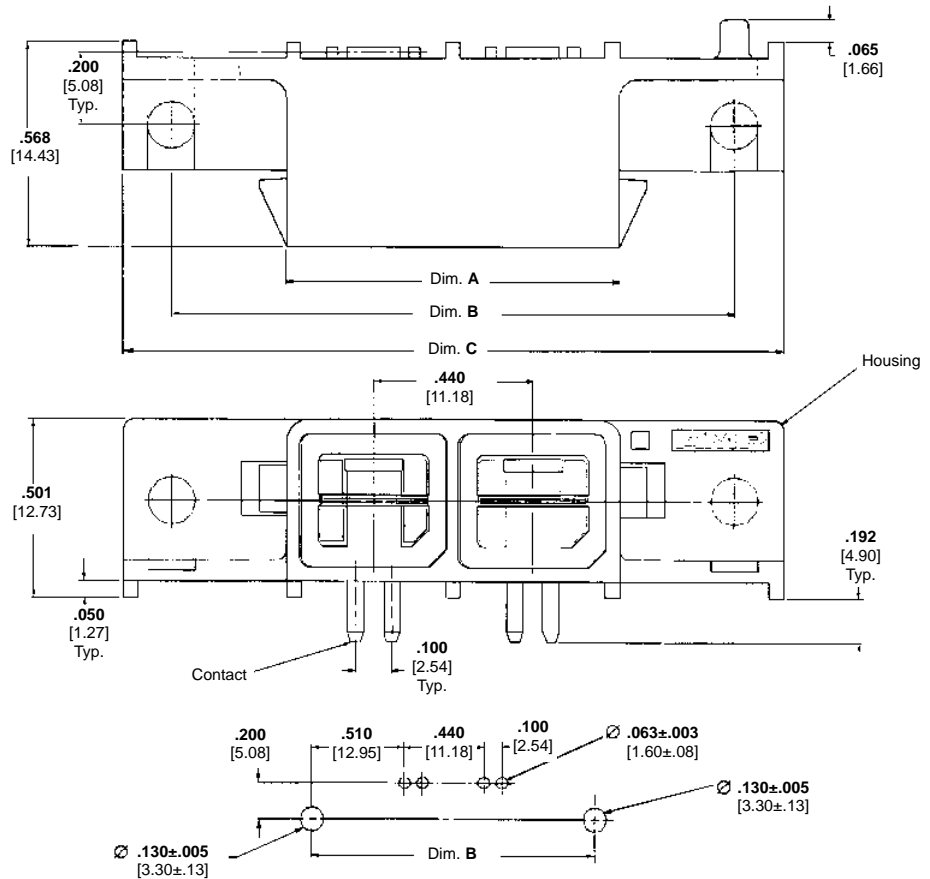
**Right-Angle  
PCB Receptacles**

**Product Facts**

- Withstands vapor phase, infrared and wave soldering processes
- .040 minimum standoff to PCB
- Receptacles polarized to plug
- Contact centerline spacing: .440
- Overall height on PCB: .600
- Fits PCB thickness .062 through .125
- 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**

No. of Positions	Dimensions			Receptacle Part Numbers
	A	B	C	
2	.93 23.50	1.56 39.62	1.84 46.61	556882-2
3	1.37 34.68	2.00 50.80	2.28 57.79	556882-3
4	1.81 45.85	2.44 61.98	2.72 68.97	556882-4
5	2.25 57.03	2.88 73.15	3.16 80.14	556882-5
6	2.69 68.20	3.32 84.33	3.60 91.32	556882-6
7	3.13 79.38	3.76 95.50	4.04 102.49	556882-7
8	3.57 90.56	4.20 106.68	4.48 113.67	556882-8

**AMPINERGY Wire-To-Board Connectors** (Continued)

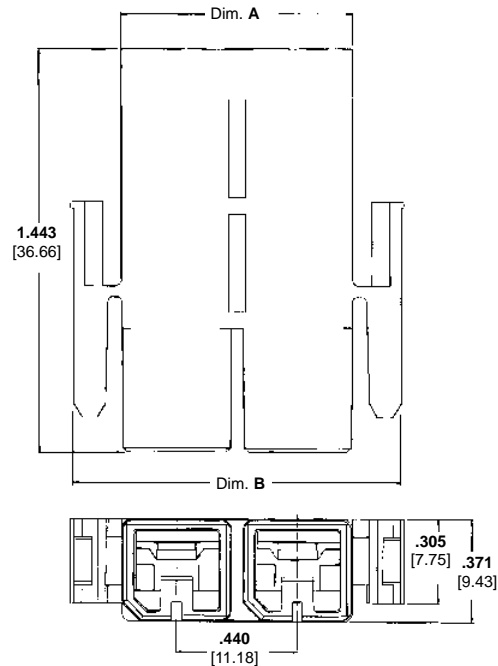
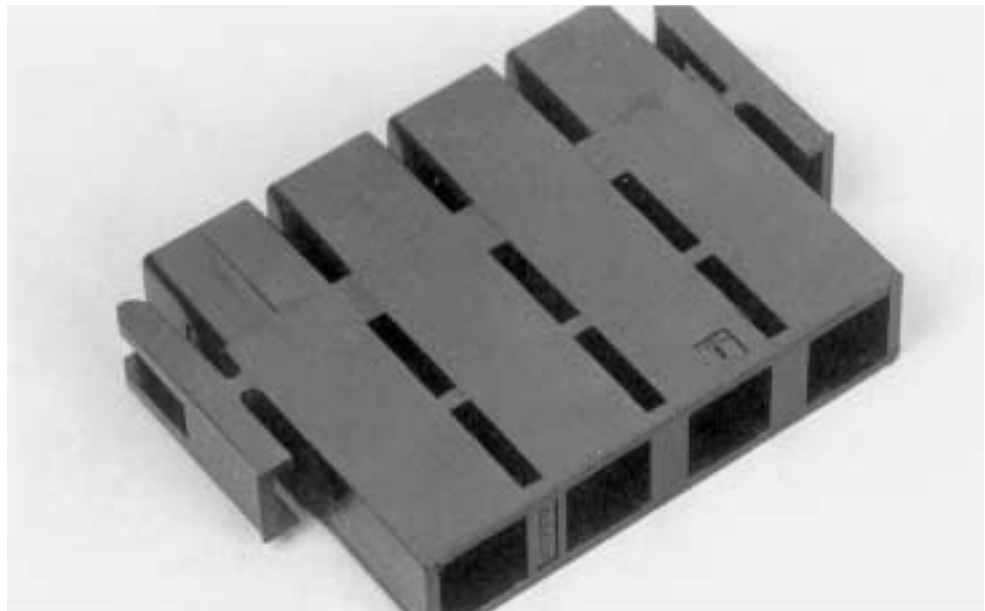
**Plug Housings**

**Product Facts**

- One-piece housing
- Polarized to mating receptacles
- Positive latching to mating receptacles
- Accepts crimp contacts P/N 556880-2 and 556883-1
- Internal latching of crimp contact

**Material**

**Housing** — Polycarbonate, Black, 94V-0



No. of Positions	Dimensions		Plug Part Numbers
	A	B	
2	.85 21.42	1.20 30.31	556879-2
3	1.29 32.59	1.64 41.48	556879-3
4	1.73 43.77	2.08 52.66	556879-4
5	2.17 54.94	2.52 63.83	556879-5
6	2.61 77.30	2.96 75.01	556879-6
7	3.05 77.30	3.40 86.19	556879-7
8	3.49 88.47	3.84 97.36	556879-8



**AMPINNERGY Wire-To-Board Connectors** (Continued)

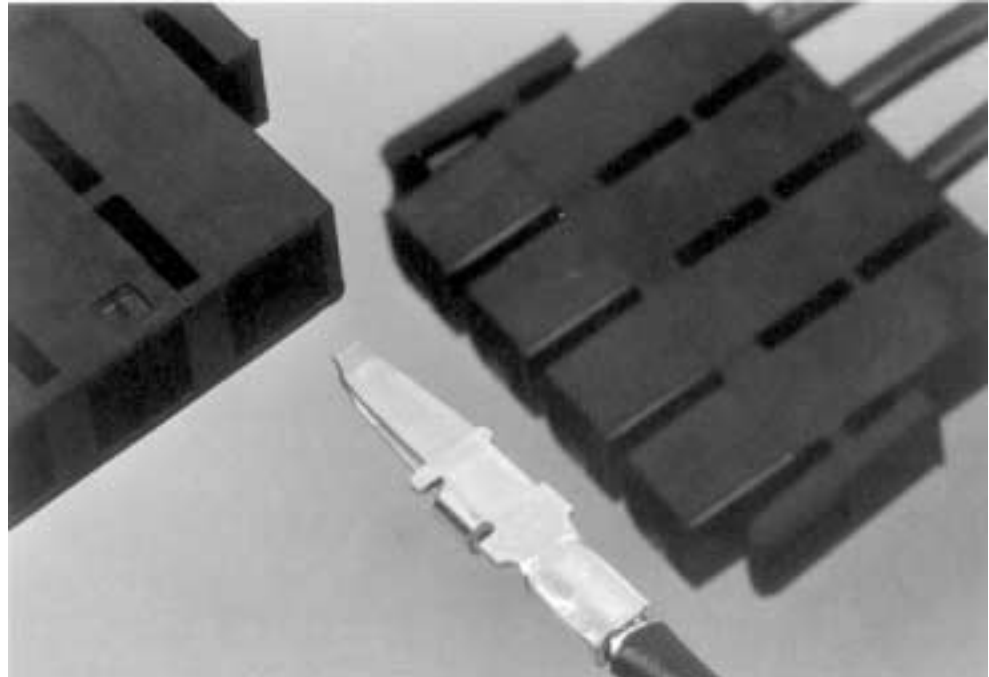
**Crimp Contacts**

**Product Facts**

- Contacts are dual beam design

**Material and Finish**

**Contacts**—Tin Plated Copper Alloy

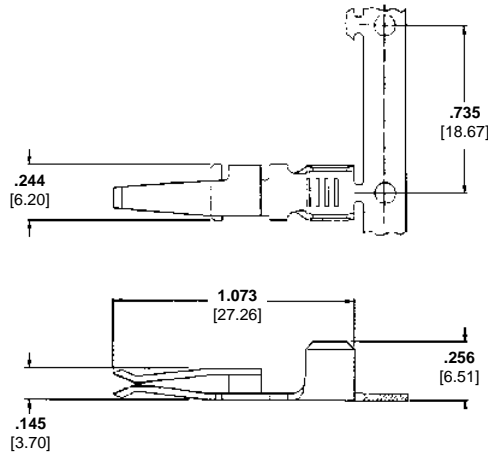


**Wire barrel accepts one  
10 or 12 AWG stranded  
copper conductor**

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

**Application Tooling  
Applicator Part No.**

- 567256-3 (for Lead Makers)
- 567256-4 (for AMP-O-LECTRIC Model K Machine)
- 567256-6 (for AMP-O-LECTRIC Model G Machine)

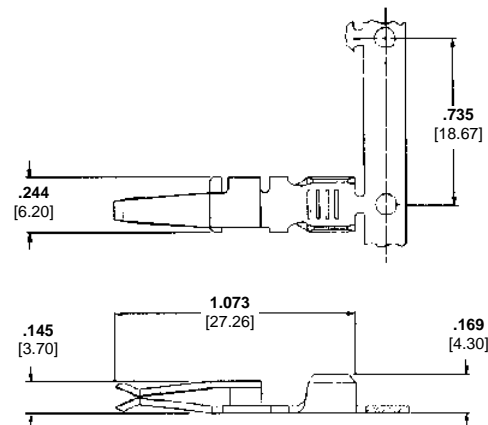


**Wire barrel accepts one  
14, 16 or 18 AWG stranded  
copper conductor**

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

**Application Tooling Part No.**

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



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**Technical Documents**

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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.

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

<b>114-6044</b>	AMPINNERGY WTB Connectors
<b>114-6051</b>	AMPINNERGY WTW Connectors
<b>114-13071</b>	AMP Power Series 50 (Double-Pole) and 75 (Single Pole) Connector Assemblies
<b>114-13107</b>	AMP Power Series 120 (Single- and Double-Pole) Connector Assemblies
<b>114-13118</b>	AMP Power Series 175 (Double-Pole) and 180 (Single-Pole) Connector Assemblies
<b>114-13119</b>	AMP Power Series 350 (Double-Pole) Connector Assemblies
<b>114-13127</b>	AMP Power Series 15, 30 and 45 (Single-Pole) Connector Assemblies
<b>114-13149</b>	AMP Power Series 180 (Single-Pole) Connector Assemblies

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

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

**Test Summary**

<b>502-1136</b>	50/75 Product Evaluation
<b>502-1160</b>	15/30/45 Product Evaluation
<b>502-1166</b>	120 Product Evaluation
<b>502-1167</b>	120 Competitive Evaluation
<b>502-1172</b>	AMP Power Series 175/180 Product Evaluation
<b>502-1173</b>	AMP Power Series 350 Product Evaluation

**Customer Manual**

<b>409-5128</b>	AMP-O-LECTRIC Model K Terminator Machine 1-471273-2
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**Note:** This numerical index lists all cataloged parts by base no. only. Complete part nos. (with prefixes and/or suffixes) are shown on the page(s) indicated.

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**Related Product Catalogs**



**Heavy Duty Seamless Terminals and Splices Catalog 1308674**

The Heavy Duty Seamless and Copper Compression Lug and Splice line provides a robust terminal line for applications in the many industries. The product is used in applications including industrial and welding equipment, transportation/marine cable harness, and general-purpose harnesses. The Heavy Duty Seamless line utilizes deep-draw stamping technology to create a robust terminal without butted seams along the wire barrel or along the outer edge of the ring tongue. The

Heavy Duty Splice line offers butt splice versions with either flared or chamfered wire barrels for ease of wire entry and dimpled wire stops to assist in proper wire placement.

The Copper Compression Lug and Splice line is a formed tubular line for use on cable assemblies in Commercial equipment and Industrial machinery. The thicker tongue and wire barrel of this line provide added strength and rigidity for more challenging applications.

The Battery Lug and Splice line offers the thickest material and strength for your industrial equipment and

transportation harness applications.

Tyco Electronics has extensive drawn sleeve capabilities to help meet your customized electrical sleeve needs. The company manufactures specialized sleeves used in general electrical application and electrical components. Tyco Electronics has the capability to manufacture sleeves in a range of copper alloys and has extensive post electroplating capabilities. Contact us to review your application and discuss the benefits we can provide.



**Standard Terminals and Splices Catalog 82042**

AMP solderless terminals and splices meet or exceed today's standards for reliable termination in applications ranging from control circuits to heavy duty power wiring.

The catalog describes only standard terminals and splices accommodating wire sizes from 26 AWG through 4/0 AWG

The terminals are pre-insulated and color coded by wire size for easy identification.

Funnel entry on many terminals allows for easy wire insertion for high speed production

Nylon or vinyl insulation provides high dielectric strength

The serration or dimple feature inside the terminal barrel provides maximum barrel contact and tensile strength

AMP's special plating process creates a high resistance to corrosion

Use of AMP application tooling is designed for uniform high quality terminations

UL, CSA, Military Approved



**AMPOWER Terminals and Splices Catalog 82025**

The AMPOWER product line is available in a variety of terminal and splice styles to suit your design requirements.

AMPOWER terminals and splices are ideally suited for power generation and distribution. This makes electrical equipment subject to continuous operation, such as generators, motors and welders,

a perfect application for AMPOWER products. In addition, other applications include interconnections of power supplies to computers and peripheral equipment.

**Related Product Catalogs** (Continued)**SOLISTRAND, Budget and DIAMOND GRIP Uninsulated Terminals and Splices Catalog 65505**

SOLISTRAND and Budget terminals and splices are specially designed to terminate solid and stranded wire, irregular shaped conductors, and combinations of these – retaining the superior performance characteristics of single-purpose terminals and splices.

Corrosion resistance, vibration resistance and tensile strength of these terminals and splices are well within the limits of commercial and military specifications.

The Budget terminal is primarily the same as the SOLISTRAND terminals without the brazed seam in the wire barrel. These terminals and splices fulfill the need for an economical and electrically superior

termination where extreme vibration and tension on the wires are not present.

DIAMOND GRIP utilizes a tin plated copper insulation support sleeve with "V" notches. The sleeve eliminates fraying of the insulation or breaking of the conductor. The "V" notches lock the wire insulation against vibration and pullout.

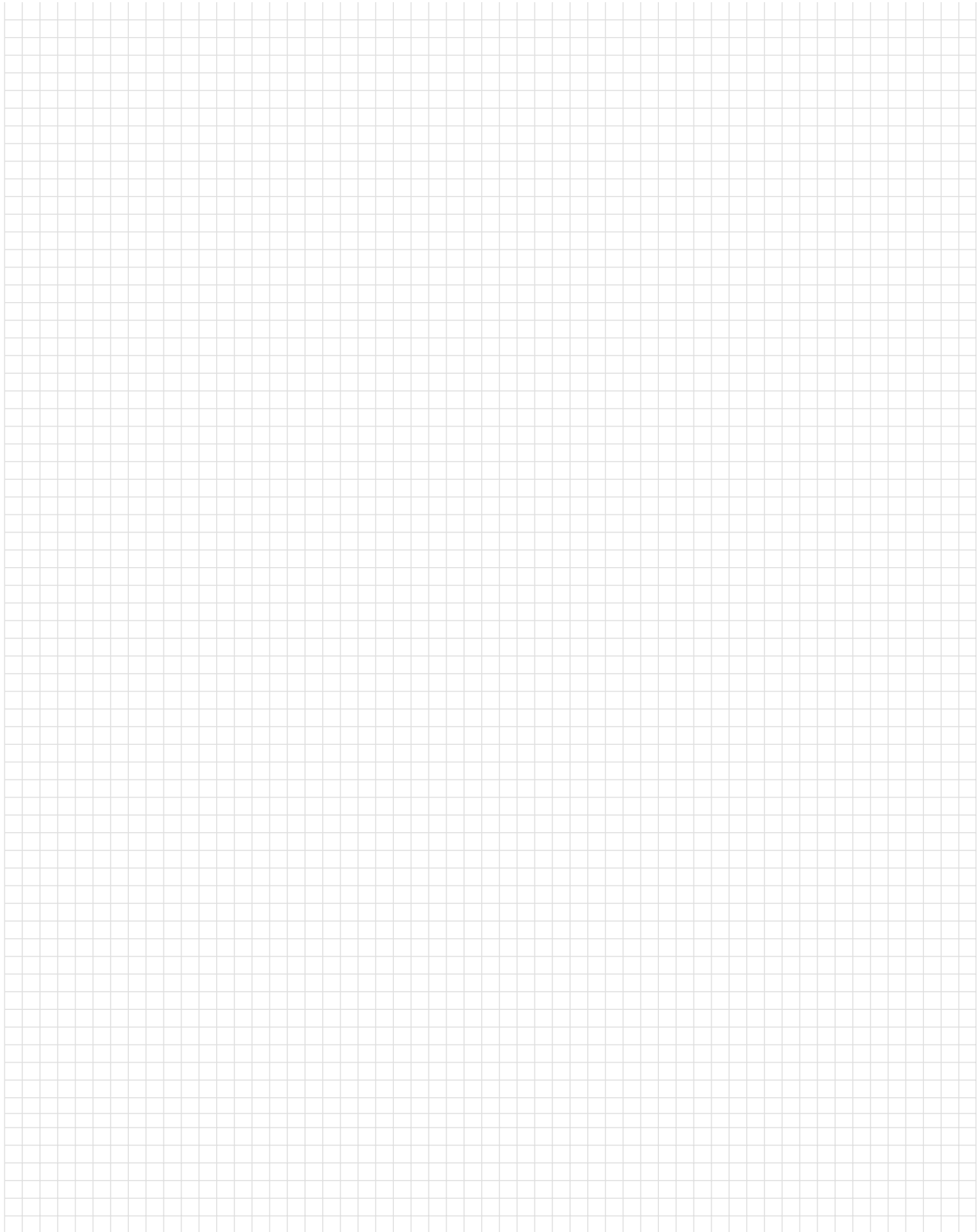
**Tyco Electronics Power Connectors and Interconnection Systems Catalog 1773096**

Tyco Electronics Power Connectors and Interconnection Systems Catalog 1773096 features the largest grouping of high performance power connectors from Tyco Electronics. Most of the products are geared specifically for the high-end

computer and telecommunications equipment markets, however, products for Industrial applications are included as well. The catalog includes power connectors mounted to printed circuit boards, discrete wires/cable assemblies and bus-bars. The "applications served" includes bulk power distribution from modular power supplies, low inductance con-

nectors designed for micro-processor power delivery, backplane power interconnects meeting today's latest industry standards, and more. The newest products sold under the AMP and ELCON brands are now combined into a single comprehensive catalog.

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