

Table of Contents

AMP Power Series Connectors	
Selection Guide and Overview	3,4
Series 15/30/45 (Single-Pole)	5
Series 50 (2-Pole Battery)	6
Series 50 Finger Probe Resistant (FPR)	7
Series 75 (Single-Pole)	8
Series 120 (Single-Pole)	9
Series 120 (2-Pole Battery)	10
Series 175 (2-Pole Battery)	11
Series 180 (Single-Pole)	12
Series 350 (2-Pole Battery)	13
Accessories	14,15
Application Tooling	16,17
AMPINNERGY Connectors	
Wire-To-Wire	
Introduction and Technical Documents	18
1-Pole Housing and Accessories	19
Contacts and Application Tooling	20
Wire-To-Board	
Introduction and Technical Documents	21
PC Board Receptacles	22,23
Plug Housings (2- to 8-Position)	24
Contacts and Application Tooling	25
Technical Documents	26
Part Number Index	27
Related Product Catalogs	28,29
Engineering Notes	30
Global Contacts	31

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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: 600V 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 semi-automatic 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, 600V 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)

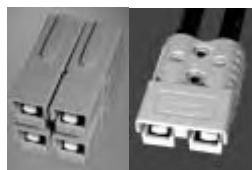
This new, 2-pole, FPR version helps prevent finger access, which allows it to be more safely used at elevated voltages and in user access areas.



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 (1.0-300 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

Electronics

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

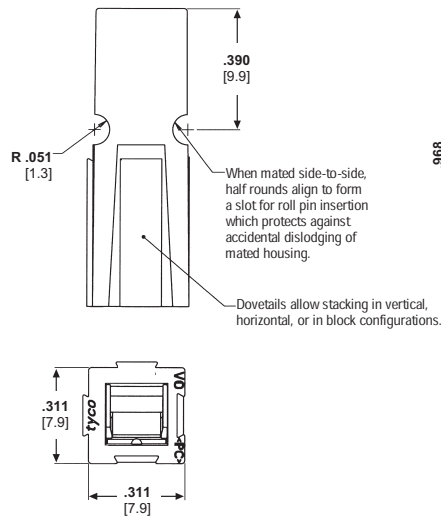
Mechanical Characteristics

- Contact Retention**—25lbs. [111.2N]
- Average Mating/Unmating Force**—4.7 [209N]
- Max. Wire Insulation Diameter**—175 [1816]
- Wire Size Range**—10-20AWG [5.05mm²]

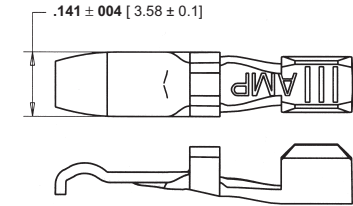
Related Product Data

Accessories—page 14

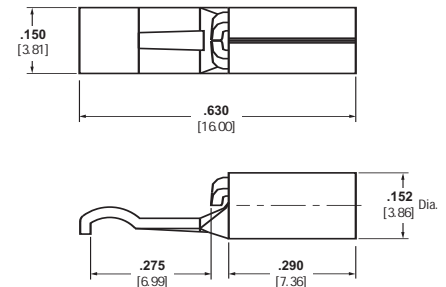
Single-Pole Housing



Stamped and Formed Contact (Strip)



Closed Barrel Contact (Loose Piece)



AMP Power Series 15

Housing ¹		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) ²	1744042-1
Red	1445957-5	1604113-2 (tin) ²	
Yellow	1445957-6		
Orange	1445957-7		
Gray	1445957-8		

AMP Power Series 30

Housing ¹		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) ³	1744041-1 Dimensions shown above.
Red	1445957-5	1604112-2 (tin) ³	
Yellow	1445957-6		
Orange	1445957-7		
Gray	1445957-8		

AMP Power Series 45

Housing ¹		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) ⁴	
Red	1445957-5	1445962-2 (tin) ⁴	
Yellow	1445957-6		
Orange	1445957-7		
Gray	1445957-8		

¹ Housings are bulk packaged.

² Use Applicator Part No. 1385450-3

³ Use Applicator Part No. 1385468-3

⁴ Use Applicator Part No. 1385469-3

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