Powerpole® & Multipole

Connectors | 10A up to 550A

- *Battery Charging* • *Material Handling* • *E-Mobility*
- *Telecommunications* • *Industrial* • *Commercial Applications*



APP®
Anderson Power Products®

An IDEAL Company

PP15/45 Tin Plated Power Contacts

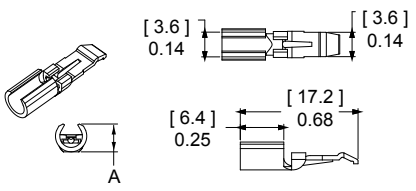
Offer cost effective performance up to 1,500 mating cycles. See specifications and temperature charts for amperage ratings by wire size.

Barrel	AWG	mm²	Mating Force	Loose Piece Part Numbers	Reeled Part Numbers	Dimensions - A - inches	Dimensions - A - mm
Minimum Quantity				200	5,000		
Open	14 to 10 K *	2.1 to 5.3	High	269G3-LPBK	269G3	0.21	5.33
Open	14 to 10 K *	2.1 to 5.3	Low	261G2-LPBK	261G2	0.20	5.08
Open	14 to 10 SF *	2.1 to 6.0	High	201G1H-LPBK	201G1H	0.24	6.10
Open	14 to 10 SF *	2.1 to 6.0	Low	200G1L-LPBK	200G1L	0.24	6.10
Open	16 to 12	1.3 to 3.3	High	269G1-LPBK	269G1	0.18	4.57
Open	16 to 12	1.3 to 3.3	Low	261G1-LPBK	261G1	0.18	4.57
Open	20 to 16	0.52 to 1.3	High	269G2-LPBK	269G2	0.16	4.06
Open	20 to 16	0.52 to 1.3	Low	262G1-LPBK	262G1	0.16	4.06

K * - For #10 AWG class K stranded wire or smaller. For larger wires use superflex contacts.

SF*- Indicates wires with high stranding such as Super Flex.

Open Barrel Contact



PP15/45 Silver Plated Power Contacts

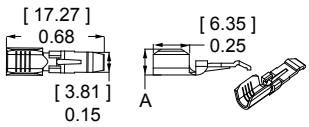
Maximize performance by offering up to 10,000 mating cycles and are recommended for circuit interrupt or hot plug applications. See specifications and temperature charts for amperage ratings by wire size. Only closed barrel contacts are suitable for soldering.

Barrel	AWG	mm²	Mating Force	Loose Piece Part Numbers	Reeled Part Numbers	Dimensions - A - inches	Dimensions - A - mm	Dimensions - B - inches	Dimensions - B - mm
Minimum Quantity				5,000 200	5,000				
Open	14 to 10 K *	2.1 to 5.3	Low	- 261G3-LPBK	261G3	0.20	5.08	-	-
Open	14 to 10 SF *	2.1 to 6.0	Low	- 200G3L-LPBK	200G3L	0.24	6.10	-	-
Open	20 to 16	0.52 to 1.3	Low	- 262G2-LPBK	262G2	0.16	4.06	-	-
Closed	16 to 12	1.3 to 3.3	Low	1331-BK 1331	-	0.15	3.81	0.10	2.54
Closed	20 to 16	0.52 to 1.3	Low	1332-BK 1332	-	0.12	3.05	0.07	1.78

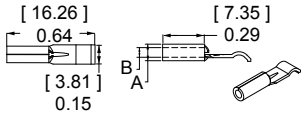
K * - For #10 AWG class K stranded wire or smaller. For larger wires use superflex contacts.

SF*- Indicates wires with high stranding such as Super Flex.

Open Barrel Contact



Closed Barrel Contact

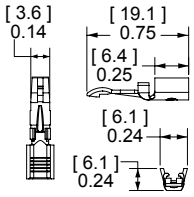


45A Premate Ground Wire Contacts - for use with ground housing only

Tin or silver plated contacts are rated for ground or power. Hand tools are available for loose piece contacts. Reeled contacts can be used with high volume press and applicator tooling. Tin contacts are rated for up to 1,500 mating cycles. Silver contacts are rated up to 10,000 mating cycles.

Type	AWG	mm²	Mating Force	Loose Piece Part Numbers	Reeled Part Numbers
Minimum Quantity				200	2,500
Open, Tin	14 to 10	2.1 to 6.0	Low	1830G1-LPBK	1830G1
Open, Silver	14 to 10	2.1 to 6.0	Low	1830G2-LPBK	1830G2

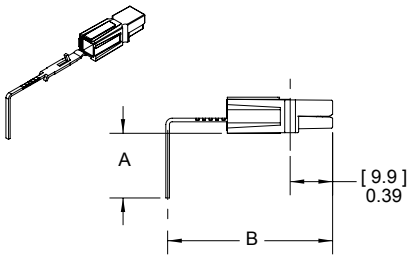
Open Barrel Premate Contact



25A Right Angle PCB Contacts Tin Plated

Suitable for right angle applications up to 25A per pole. Tin plating enhances solderability. Cannot be mixed with 45A PCB contacts. For mating with wire contacts only.

Row	Mating Force	Loose Piece Part Numbers		Dimensions - A - inches	Dimensions - A - mm	Dimensions - B - inches	Dimensions - B - mm
Minimum Quantity		1,000	100				
Top	Low	1377G1-BK	1377G1	0.58	14.80	1.52	38.60
	High	1317G1-BK	1317G1				
Bottom	Low	1377G2-BK	1377G2	0.29	7.20	1.36	34.50
	High	1317G2-BK	1317G2				
Top	Low	1377G11-BK	1377G11	0.58	14.80	1.21	30.70
	High	1317G11-BK	1317G11				
Bottom	Low	1377G12-BK	1377G12	0.29	7.20	1.01	25.70
	High	1317G12-BK	1317G12				

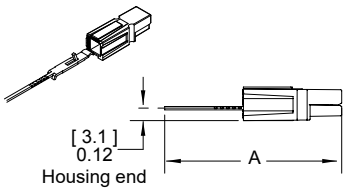


- Use mounting staples with right angle contacts (see accessories).
- See website for PCB layout drawing.

25A Vertical PCB Contacts Tin Plated

For mating with wire contacts only. Suitable for vertical applications up to 25A per pole, tin plating enhances solderability.

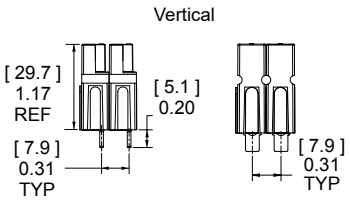
Mating Force	Loose Piece Part Numbers		Dimensions - A - inches	Dimensions - A - mm
Minimum Quantity	1,000	100		
Low	1377G3-BK	1377G3	2.22	56.40
High	1317G3-BK	1317G3	2.22	56.40
Low	1377G4-BK	1377G4	1.76	44.70
High	1317G4-BK	1317G4	1.76	44.70
Low	1377G13-BK	1377G13	1.17	29.70
High	1317G13-BK	1317G13	1.17	29.70



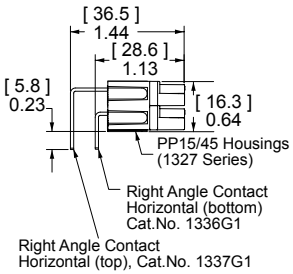
45A Right Angle and Vertical PCB Contacts Tin Plated

Suitable for right angle or vertical applications up to 45A per pole. Tin plating enhances solderability. Right angle contacts cannot be mixed with 25A PCB contacts. For mating with wire contacts only.

Description	Loose Piece Part Numbers	
Minimum Quantity	1,000	100
Vertical	3-5911P1	1335G1
Right Angle Bottom Row	3-5912P1	1336G1
Right Angle Top Row	3-5913P1	1337G1



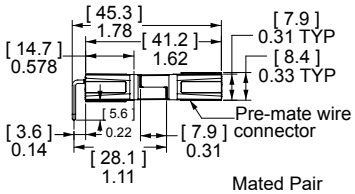
Use mounting staples with right angle contacts (see accessories).



45A Premate Ground PCB Contacts

Right angle contacts are suitable for power or ground. Use to mate with 45A ground wire contacts. Tin plated contacts are rated up to 1,500 mating cycles. Can be used with other 45A PCB connectors in the bottom row.

	Mating Force	Loose Piece Part Numbers	
Minimum Quantity		1000	100
PCB, Bottom Row	Low	3-5952P1	1836G1



PP15/45 ULTRASONICALLY BONDED ASSEMBLIES

Assemblies feature housings that are ultrasonically welded to create a one piece connector unit using an APP® special process. After welding, retaining pins are no longer required to secure the stacked housings to each other. This allows Powerpole® 15/45 connectors to be used as a durable one piece connector header. Contact customer service for configurations not shown below.

Single Row 1x2 Assemblies

Circuit Description	Housings Only	Housings with 45A Vertical PCB Contacts	Housings with 45A Right Angle PCB Contacts	Color & Type Position Matrix	
Minimum Quantity	500	500	500	1	2
DC 2 Wire Standard Housings	ASMPP30-1X2-RK	ASMPV45-1X2-RK	ASMPR45-1X2-RK	RED / STD	BLK / STD
DC 2 Wire Reverse Standard Housings	ASMPP30-1X2-KR	ASMPV45-1X2-KR	ASMPR45-1X2-KR	BLK / STD	RED / STD
DC 2 Wire Finger Proof	ASMFP30-1X2-RK	ASMFV45-1X2-RK	ASMFR45-1X2-RK	RED / FP	BLK / FP
DC 2 Wire Finger Proof Reverse	ASMFP30-1X2-KR	ASMFV45-1X2-KR	ASMFR45-1X2-KR	BLK / FP	RED / FP

Single Row 1x3 Assemblies

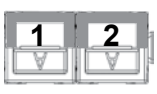
Circuit Description	Housings Only	Housings with 45A Right Angle PCB Contacts	Color & Type Position Matrix		
Minimum Quantity	500	500	1	2	3
DC 2 Wire Finger Proof with Ground	ASMFP30-1X3-KER	ASMFR45-1X3-KER	BLK / FP	GRN / GND	RED / FP
AC Single Phase Finger Proof	ASMFP30-1X3-KEW	ASMFR45-1X3-KEW	BLK / FP	GRN / GND	WHT / FP

Two Row 2x1 Assemblies

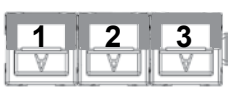
Circuit Description	Housings Only	Housings with 45A Vertical PCB Contacts	Housings with 45A Right Angle PCB Contacts	Color & Type Position Matrix	
Minimum Quantity	500	500	500	1	2
DC 2 Wire Finger Proof	ASMFP30-2X1-KR	ASMFV45-2X1-KR	ASMFR45-2X1-KR	BLK / FP	RED / FP
DC 2 Wire Finger Proof Mate	ASMFP30-2X1-RK	ASMFV45-2X1-RK	ASMFR45-2X1-RK	RED / FP	BLK / FP

Two Row 2x2 Assemblies

Circuit Description	Housings Only	Housings with 45A Vertical PCB Contacts	Housings with 45A Right Angle PCB Contacts	Color & Type Position Matrix			
Minimum Quantity	500	500	500	1	2	3	4
AC 3 Phase, 3 Wire Finger Proof	ASMFP30-2X2-KRWE	N/A	N/A	BLK / FP	RED / FP	WHT / FP	GRN / GND
AC 3 Phase, 3 Wire Finger Proof Mate	ASMFP30-2X2-WEKR	N/A	ASMFR45-2X2-WEKR	WHT / FP	GRN / GND	BLK / FP	RED / FP



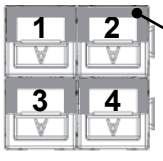
Single Row 1x2 Assembly



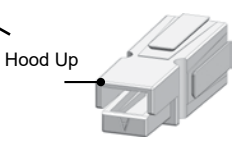
Single Row 1x3 Assembly



Two Row 2x1 Assembly



Two Row 2x2 Assembly



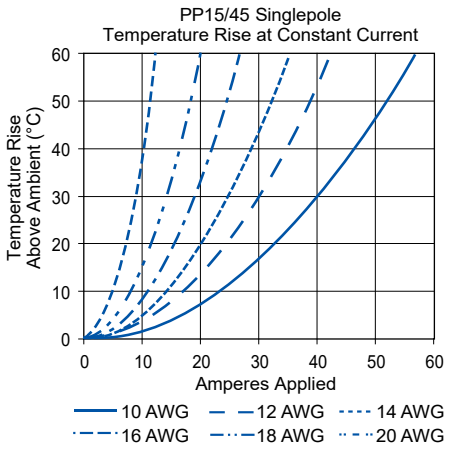
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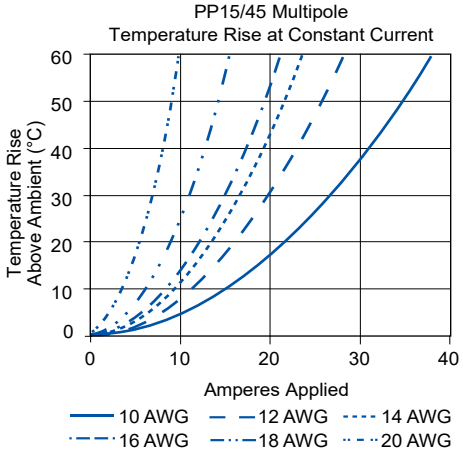
STD = Standard Housing FP = Finger Proof Housing GND = Ground Housing

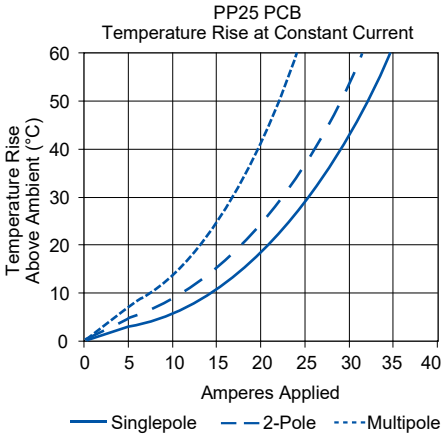
All Data Subject To Change Without Notice

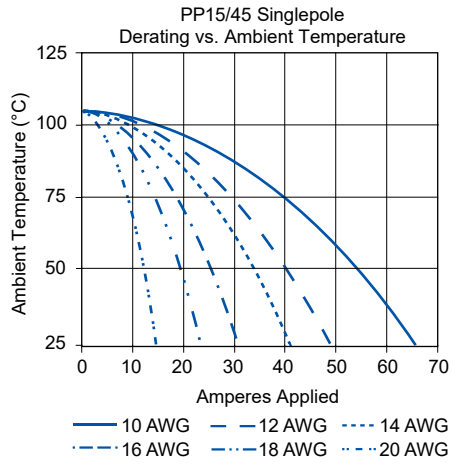
PP15/45 CONNECTOR TEMPERATURE CHARTS - Temperature rise charts are based on a 25°C ambient temperature.

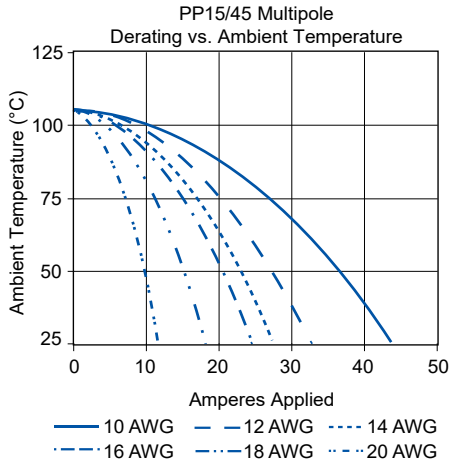
Current - Temperature Derating per IEC 60512-5-2 Test 5B

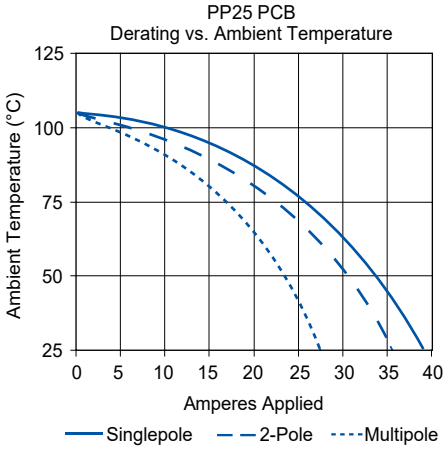


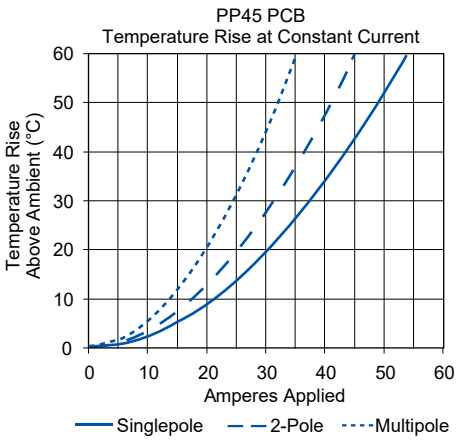


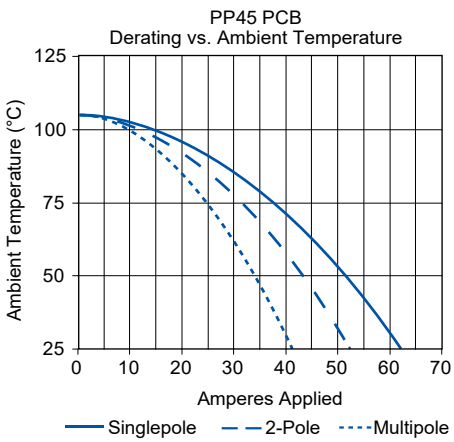












NOTE: PP25 PCB charts based on 0.002 in² foil on board side, mated to 12 AWG conductor on wire side. PP45 PCB charts based on 10 AWG equivalent copper foil on board side, mated to 10 AWG conductor on wire side.

PP15/45 & POWERPOLE® PAK SPECIFICATIONS

ELECTRICAL

Current Rating Amperes [1]	UL 1977	CSA / TUV
Singlepole Wire-to-Wire (10 AWG)	55	40
Singlepole Ground Wire-to-Wire or PCB (10 AWG)	45	35
3x3 Block Wire-to-Wire (10 AWG)	40	27
Singlepole 25A PCB-to-Wire (12 AWG)	25	-
2x3 Block 25A PCB-to-Wire (12 AWG)	25	22 *
Singlepole 45A PCB-to-Wire (10 AWG)	45	40 *
2x3 Block 45A PCB-to-Wire (10 AWG)	45	25 *
Voltage Rating AC/DC		
UL 1977	600	
Dielectric Withstanding Voltage		
Volts AC	2,200	
Avg. Mated Contact Resistance Milliohms [1]		
15A Wire Contact with 5/8" of 16 AWG	0.875	
30A Wire Contact with 5/8" of 12 AWG	0.600	
45A Wire Contact with 5/8" of 10 AWG	0.525	
45A PCB Contact to Contact	0.500	
25A PCB Contact to Contact	0.600	
UL Hot Plug Current Rating Amperes [5]		
250 Cycles at 72V DC	45A	
250 Cycles at 120V DC	30A	
UL Ground Short Time Current Test - 45A Premate Ground		
750 Amps, 10 AWG Wire	4 Seconds	
470 Amps, 12 AWG Wire	4 Seconds	

MATERIAL

Housing	
Plastic Resin	Polycarbonate
Contact Retention Spring	Stainless Steel
Housing Flammability Rating	
UL94	V-0
Glow Wire	825°C (GWFI) / 800°C (GWIT)
Contact	
Base	Copper Alloy
Plating	Tin or Silver
Contact Termination Methods	
Crimp [3]	Wire Contacts
Hand Solder	1331, 1332 & PCB Contacts
Solder Dip	PCB Contacts
Wave Solder	PCB Contacts

MECHANICAL

Wire Size Range	**AWG**	**mm²**
	20 to 10	0.75 to 6.0
Max. Wire Insulation Diameter	**in.**	**mm**
	0.175	4.450
Operating Temperature [2]	**°F**	**°C**
Powerpole® Housings & Powerpole® Pak Shells	-4° to 221°	-20° to 105°
Mating Cycles No Load by Plating	**Silver (Ag)**	**Tin (Sn)**
PCB-to-Wire	-	1,500
Wire-to-Wire	10,000	1,500
Avg. Mating / Unmating Force	**Lbf.**	**N**
Low Force Wire, High Force PCB, & Ground	3	13
High Force Wire	5	22
Low Force PCB	2	9
Min. Contact / Spring Retention Force	**Lbf.**	**N**
	20	90
Powerpole® Pak Latch Avg. Defeat Force	**Lbf.**	**N**
	150	667
PCB Specifications		
Mounting Style	Plated Through Hole	
PCB Thickness - in. (mm)	0.090 to 0.150	2.3 to 3.8
25A PCB Recommended Traces	12 AWG Cross Section	
45A PCB Recommended Traces	10 AWG Cross Section	
Mechanical Shock [4]		
MIL-STD-202	213 Condition A	50g's
Vibration High Frequency [4]		
MIL-STD-202	204 Condition A	10g's

NOTE 1: See IEC 60664-1 for working voltage.
NOTE 2: Amp ratings are stated per position and based on all positions being fully loaded.
** No TUV Recognition*
1 - Based on: 105°C rated or better cable of the largest size, Properly calibrated APP® recommended tooling, and a 25°C ambient temperature. UL rating not to exceed the maximum operating temperature. CSA rating below a 30°C temperature rise.
2 - Limited by the thermal properties of the connector plastic housing.
3 - Use APP® recommended tooling only. Alternate tools may adversely affect the performance of our connectors along with UL and CSA recognition.
4 - Tested with contact part number 261G2.
5 - Based on 2 housings blocked together.

c UL us File No. E26226 © CSA Certified File No. LR25154 RoHS COMPLIANT APP REACH COMPLIANCE APP

Powerpole® Connectors

PP75 - Up to 120 Amps



PP75 with Mounting Wings

PP75 series Powerpole® housings can be used for wire-to-wire, wire-to-board, and wire-to-busbar applications. Wire sizes from 16 to 6 AWG (1.3 to 13.3 mm²) offer power capabilities up to 120 amps per pole. Locking housings offer the capability to secure Powerpole® housings to each other and to mounting pads. Housings made from chemical resistant (CR) resin withstand industrial solvents better than standard housings.

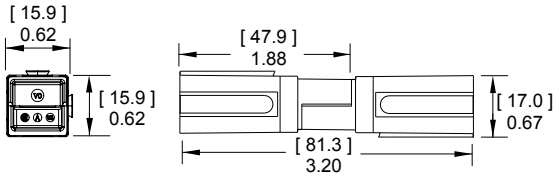
- **Large Wire Range Accommodates up to 6 (10 mm²) Wire**
  Reducing bushings allow as small as 16 AWG (1.5 mm²) wire to be used
- **Wire, PCB, and Busbar Contacts**
  Allows one connection system to meet multiple needs
- **Mini-Powerclaw PCB Contacts Minimize PCB Footprint**
  Removes the PP75 housing from the board side

PP75 ORDERING INFORMATION

PP75 Standard Housings

The second smallest Powerpole® housing can be used with wire contacts up to 6 AWG (10 mm²) as well as PCB and busbar contacts.

Description	Part Numbers	
Minimum Quantity	1,000	100
Red	5916G7-BK	5916G7
Green	5916G6-BK	5916G6
Black	5916G4-BK	5916G4
White	5916G5-BK	5916G5
Blue	5916-BK	5916
Yellow	5916G15-BK	5916G15
Orange	5916G14-BK	5916G14
Gray	5916G16-BK	5916G16

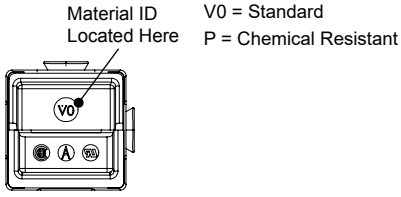


Front View Mated Length

PP75 Chemical Resistant (CR) Housings

Has the same form and dimensions of the standard PP75 housing in a chemical resistant PBT / PC blend housing. Suitable for use to -40°C.

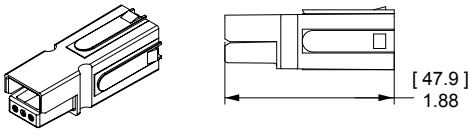
Description	Part Numbers
Minimum Quantity	1,000
Red	P5916G7-BK
Black	P5916G4-BK
White	P5916G5-BK
Blue	P5916-BK



PP75 Locking Dovetail Housings

Offers dovetails for stacking housings that have a locking feature to prevent housings separating. Can mate to standard and chemical resistant housings, but cannot be stacked with them.

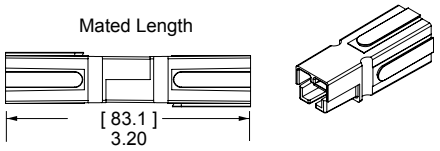
Description	Part Numbers	
Minimum Quantity	1,000	100
Red	75LOKRED-BK	75LOKRED
Green	75LOKGRN-BK	75LOKGRN
Black	75LOKBLK-BK	75LOKBLK
White	75LOKWHT-BK	75LOKWHT
Blue	75LOKBLU-BK	75LOKBLU
Gray	75LOKGRA-BK	75LOKGRA



PP75 Premate Ground Housings

Offers a first-mate, last-break connection when stacked together with PP75 housings. Stacks together with PP75 standard and chemical resistant housings. Housings are mechanically keyed to prevent cross mating with power positions.

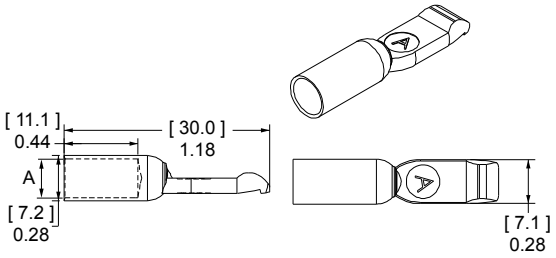
Description	Part Numbers	
Minimum Quantity	1,000	100
Green	5927G6-BK	5927G6



PP75 Silver Plated Wire Contacts

Silver plated contacts offer the best electrical performance and durability up to 10,000 mating cycles. See reducing bushings in accessory section for smaller wires.

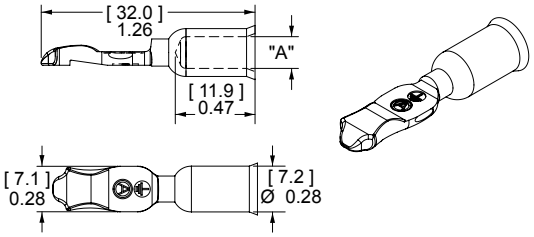
AWG	mm²	Mating Force	Loose Piece Part Numbers		Dimensions - A - inches	mm
Minimum Quantity			1,000	100		
6	13.3	Low	1307-BK	1307	0.22	5.59
6	13.3	High	5900-BK	5900	0.22	5.59
8	8.4	High	5952-BK	5952	0.19	4.83
12 to 10	3.3 to 5.3	Low	5953-BK	5953	0.14	3.56
12 to 10	3.3 to 5.3	High	5915-BK	5915	0.14	3.56



PP75 Premate Ground Wire Contacts

Silver plated contacts for use with the PP75 Premate Ground Housing. Rated to 10,000 mating cycles.

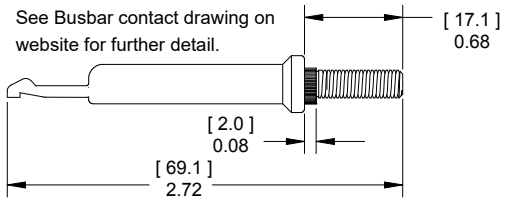
Type	AWG	mm²	Loose Piece Part Numbers		Dimensions - A - inches	mm
Minimum Quantity			1,000	100		
Individual	6	13.3	1875G1-BK	1875G1	0.22	5.59
Individual	8	8.4	1875G2-BK	1875G2	0.19	4.83
Individual	12 to 10	3.3 to 5.3	1875G3-BK	1875G3	0.14	3.56



PP75 Silver Plated Busbar Contacts

Provide a quick disconnect input or output busbar connection. Busbar contacts are for mating with wire contacts only. Part number 75BBS includes lock nuts. Locknuts must be ordered separately for B01915P1.

Type	Thread	Mating Force	Part Numbers		
Minimum Quantity			1,000	20	10
Busbar	10-24	High	B01915P1	-	75BBS
Lock Nut	10-24	-	H1216P8	110G54	-

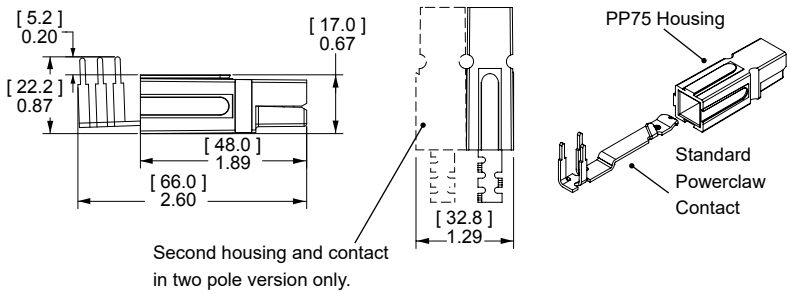


55A Right Angle Standard Powerclaw PCB Contacts

Standard Powerclaw contacts are for use inside a PP75 housing and provide a color-coded right angle connection to the PCB.

Description	Loose Piece Part Numbers	
Minimum Quantity	500	100
Tin Plated	PC5930T-BK	PC5930T
Silver Plated	PC5930S-BK	PC5930S

See PCB contact drawing on website for further detail.



PP75 SPECIFICATIONS

ELECTRICAL

Current Rating Amperes [1]	UL 1977	CSA
Wire-to-Wire (6 AWG)	120	70
Wire-to-PCB (6 AWG)	55	50
Wire-to-Busbar (6 AWG)	75	
Voltage Rating AC/DC		
UL 1977	600	
PCB Connector Recommended Voltage [3] per IEC 60950-1 Table 2L Pollution Degree [2]		
Mini Vert. Contact Adjacent Poles	220	
Mini Horiz. Contact Adjacent Poles	200	
Standard Contact Adjacent Poles	635	
Dielectric Withstanding Voltage		
Volts AC	2,200	
Avg. Mated Contact Resistance Milliohms [1]		
Wire Contact with 1 1/4" of 6 AWG	0.200	
PCB Contact to Contact	0.500	
UL Hot Plug Current Rating Amperes - 250 Cycles at 120V DC [6]		
Wire-to-Wire	50A	
PCB to Wire (Vertical Mini Powerclaw)	40A	
UL Ground Short Time Current Test - 75A Premate Ground		
1530 Amps, 6 AWG Wire	6 Seconds	

MATERIAL

Housing	
Standard Plastic Resin	Polycarbonate
Chem. Resistant Resin	Polycarbonate / PBT blend
Contact Retention Spring	Stainless Steel
Housing Flammability Rating	
UL94	V-0
Glow Wire	960°C (GWFI) / 800°C (GWIT)
Contact	
Base	Copper Alloy
Wire Plating	Silver
PCB Plating	Sn or Ag over Ni
Contact Termination Methods	
Crimp [4]	Wire Contacts
Hand Solder	Wire and PCB Contacts
Solder Dip	PCB Contacts
Wave Solder	PCB Contacts
Wrench / Socket	Busbar Contacts

MECHANICAL

Wire Size Range	AWG	mm²
Wire Contacts with Bushings	16 to 6	1.3 to 13.3
Max. Wire Insulation Diameter	**in.**	**mm**
	0.437	11.100
Operating Temperature [2]	**°F**	**°C**
Standard & Ground	-4° to 221°	-20° to 105°
Chemical Resistant*	-40 to 221°	-40° to 105°
*Chemical resistant material not available for PCB guide housings		
Mating Cycles No Load by Plating	**Silver (Ag)**	**Tin (Sn)**
Wire and PCB Contacts	10,000	1,500
Avg. Mating / Unmating Force	**Lbf.**	**N**
Wire to Wire Low Force Contacts	5	22
Wire to Wire High Force Contacts	7	31
Standard Powerclaw to Wire	7	31
Mini Powerclaw to Wire	4	17
PCB Specifications		
Mounting Style	Plated Through Hole	
Max PCB Thickness - in. (mm)	Standard: 0.15 (0.381) Mini: 0.25 (0.635)	
Recommended Traces	8 AWG Cross Section	
Min. Contact / Spring Retention Force	**Lbf.**	**N**
Wire Housing	50	222
Min. Creepage / Clearance Distance PCB	**in.**	**mm**
Standard Powerclaw Adjacent Poles	0.260	6.6
Mini Vert. Powerclaw Adjacent Poles	0.087	2.2
Mini Horz. Powerclaw Adjacent Poles	0.079	2.0
Mechanical Shock [5]		
MIL-STD-202	213 Condition A	50g's
Vibration High Frequency [5] MIL-STD-202	204 Condition A	10g's

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NOTE 1: See IEC 60664-1 for working voltage.

NOTE 2: Amp ratings are stated per position and based on all positions being fully loaded.

1 - Based on: 105°C rated or better cable of the largest size. Properly calibrated APP® recommended tooling, and a 25°C ambient temperature. UL rating not to exceed the maximum operating temperature. CSA rating below a 30°C temperature rise.

2 - Limited by the thermal properties of the connector plastic housing.

3 - Without use of spacers to increase creepage and clearance distances.

4 - Use APP® recommended tooling only. Alternate tools may adversely affect the performance of our connectors along with UL and CSA recognition.

5 - Tested with contact part number 5900.

6 - Based on 2 housings blocked together.

All Data Subject To Change Without Notice

Powerpole® Connectors

PP120 - Up to 240 Amps



PP120 series Powerpole® housings are designed to accommodate up to 1/0 AWG (50 mm²) wires and handle high currents up to 240 amps. Reducing bushings allow PP120 to accept down to 8 AWG (10 mm²) wires. Multiple colors of stackable housings combine with low resistance flat wiping technology to offer powerful connection capability.

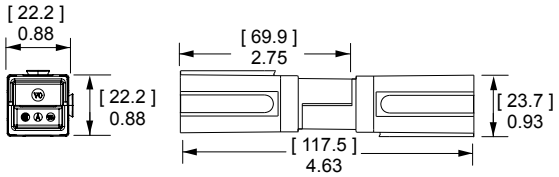
- **Large Wire Range Accommodates up to 1/0 (50 mm²) Wire**
  Reducing bushings allow as small as 8 (10 mm²) wire to be used
- **Low Resistance Silver Plated Copper Contacts**
  Allows currents up to 240 amps
- **UL Rated for Hot Plugging up to 60 Amps**
  Great for battery or other applications where the ability to interrupt circuits is required

PP120 ORDERING INFORMATION

PP120 Housings

The second to largest Powerpole® housing can be used with wire contacts for up to 1/0 AWG (50 mm²) or busbar contacts.

Description	Part Numbers	
Minimum Quantity	500	50
Blue	1321-BK	1321
Black	1321G1-BK	1321G1
White	1321G2-BK	1321G2
Red	1321G3-BK	1321G3
Green	1321G4-BK	1321G4
Orange	1321G5-BK	1321G5
Brown	1321G6-BK	1321G6
Yellow	1321G7-BK	1321G7
Gray	1321G8-BK	1321G8

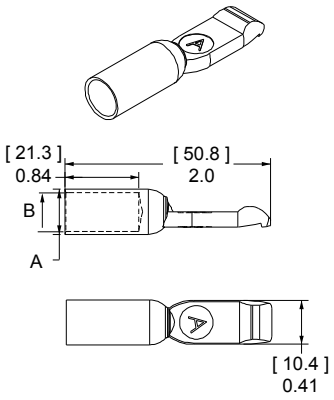


PP120 Silver Plated Wire Contacts

Silver plated contacts offer superior electrical performance and durability up to 10,000 mating cycles. New contacts for 1 to 1/0 AWG (35 to 50 mm²) offer extended capability in the same housings. See reducing bushings in accessory section for smaller wires.

AWG	mm²	Mating Force	Loose Piece Part Numbers			- A - inches	- A - mm	- B - inches	- B - mm
Minimum Quantity			600	500	50				
1/0	53.5	Low	1323G2-BK	-	1323G2 *	0.52	13.21	0.44	11.18
1	42.4	Low	1323G1-BK	-	1323G1 *	0.47	11.94	0.39	9.91
2	33.6	High	-	1319-BK	1319	0.44	11.18	0.34	8.64
4	21.1	High	-	1319G4-BK	1319G4	0.44	11.18	0.29	7.37
6	13.3	High	-	1319G6-BK	1319G6	0.44	11.18	0.22	5.59

* Extended range



All Data Subject To Change Without Notice

PP120 SPECIFICATIONS

ELECTRICAL		
Current Rating Amperes [1]	**UL 1977**	**CSA**
Singlepole UL 1977 (1/0 AWG)	240	155
2x2 Block UL 1977 (1/0 AWG)	200	110
Voltage Rating AC/DC		
UL 1977	600	
Dielectric Withstanding Voltage		
Volts AC	2,200	
Avg. Mated Contact Resistance Milliohms [1]		
5 1/2" of 2 AWG Wire	0.136	
UL Hot Plug Current Rating Amperes [4]		
250 Cycles at 120V DC	60A	

MECHANICAL		
Wire Size Range	**AWG**	**mm²**
Wire Contacts with Bushings	10 to 1/0	5.3 to 53.5
Max. Wire Insulation Diameter	**in.**	**mm**
	0.600	15.240
Operating Temperature [2]	**°F**	**°C**
	-4° to 221°	-20° to 105°
Mating Cycles No Load by Plating	**Silver (Ag)**	
Wire Contacts	10,000	
Avg. Mating / Unmating Force	**Lbf.**	**N**
	8	36
Min. Contact / Spring Retention Force	**Lbf.**	**N**
	60	267

MATERIALS	
Housing	
Plastic Resin	Polycarbonate
Contact Retention Spring	Stainless Steel
Housing Flammability Rating	
UL94	V-0
Glow Wire	960°C (GWFI) / 850°C (GWIT)
Contact	
Base	Copper Alloy
Plating	Silver
Contact Termination Methods	
Crimp [3]	Wire Contacts
Hand Solder	Wire Contacts

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NOTE 1: See IEC 60664-1 for working voltage.
NOTE 2: Amp ratings are stated per position and based on all positions being fully loaded.
1 - Based on: 105°C rated or better cable of the largest size. Properly calibrated APP® recommended tooling, and a 25°C ambient temperature. UL rating not to exceed the maximum operating temperature. CSA rating below a 30°C temperature rise.
2 - Limited by the thermal properties of the connector plastic housing.
3 - Use APP® recommended tooling only. Alternate tools may adversely affect the performance of our connectors along with UL and CSA recognition.
4 - Based on 2 housings blocked together.

IEC INFORMATION

Connector Series	Configurations		Creepage / Clearance per IEC 60950-1	Material Group
PP120	**Single Pole**	Unmated	4.36 mm	IIIa
		Mated	4.36 mm	
	Stacked Powerpole®	Unmated	4.36 mm	
		Mated	4.36 mm	

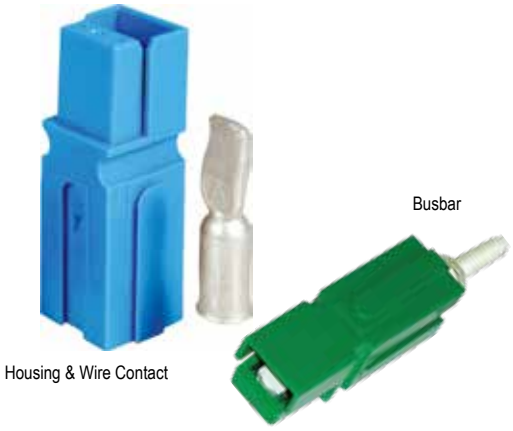
PROTECTION	
Touch Safety with Wire Contacts	
IEC 60529	IP10

ATTRIBUTES	PP120
AMP Rating AC/DC	120
Voltage Rating AC/DC (Steady State)	400 V AC/DC (Operational)
Breaking Capacity - AMP Rating / Cycles	120 Amp / 10 Cycles
Voltage Rating (Breaking Capacity)	220 VDC
FINGER Safety - Mated Only	IEC 60529- IP20
Wire Size Tested	50 mm²
Contact Series Tested	1323G2
Climatic Testing (Cold, Heat & MFG)	IEC 60512 Test- 11j, 11i & 11g
Cycle Life	IEC 60512 Test 9a- 5,000 Cycles
Mechanical Strength Impact	IEC 60512-5 @ 29.5 Inches- Dropped 8 times
Temperature Range	-20°C to 105°C -4°F to 221°F

All Data Subject To Change Without Notice

Powerpole® Connector

PP180 - Up to 350 Amps



PP180 are the largest of the Powerpole® series housings. They are designed to accommodate up to 3/0 (70 mm²) wires and handle high currents up to 350 amps. Busbar contacts are also available for power inputs and takeoffs. Color-coded housings minimize user confusion and the potential of cross mating circuits.

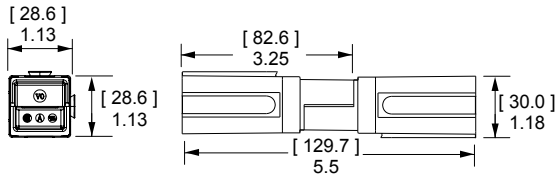
- **Low Resistance Silver Plated Copper Contacts**
  Allows currents up to 350 amps
- **UL Rated for Hot Plugging up to 75 Amps**
  Great for battery or other applications where the ability to interrupt circuits is required
- **Busbar Contacts Work with Standard Housings**
  Provides a hot swappable quick disconnect system for busbar power distribution

PP180 ORDERING INFORMATION

PP180 Housings

The largest Powerpole® housing can be used with wire contacts for up to 3/0 AWG (85 mm²) or busbar contacts.

Description	Part Numbers	
Minimum Quantity	250	50
Red	1381G3-BK	1381G3
Green	1381G4-BK	1381G4
Black	1381G1-BK	1381G1
White	1381G2-BK	1381G2
Blue	1381-BK	1381

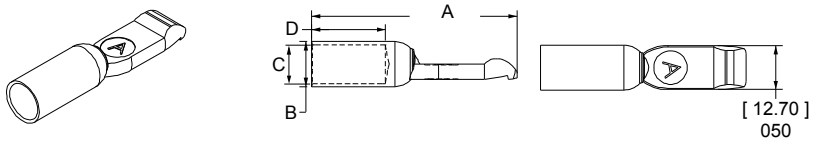


PP180 Silver Plated Wire Contacts

Silver plated contacts offer superior electrical performance and durability up to 10,000 mating cycles. New contacts for 2/0 to 3/0 AWG (70 to 85 mm²) offer extended capability in the same housings. See Reducing bushings in accessory section for smaller wires.

AWG	mm²	Mating Force	Loose Piece Part Numbers				Dimensions - A - inches	A mm	- B - inches	B mm	- C - inches	C mm	- D - inches	D mm
Minimum Quantity			500	300	250	50								
3/0	85	Low	-	-	1328G2-BK	1328G2 *	2.35	59.69	0.70	17.78	0.58	14.73	1.04	26.42
2/0	67.4	Low	-	1328G1-BK	-	1328G1 *	2.35	59.69	0.64	16.26	0.49	12.45	1.04	26.42
1/0	53.5	High	1382-BK	-	-	1382	2.35	59.69	0.52	13.21	0.44	11.18	1.04	26.42
1	42.4	High	1347-BK	-	-	1347	2.35	59.69	0.52	13.21	0.39	9.91	1.04	26.42
2	33.6	High	1383-BK	-	-	1383	2.35	59.69	0.52	13.21	0.35	8.89	1.04	26.42
4	21.1	High	1384-BK	-	-	1384	2.35	59.69	0.52	13.21	0.30	7.62	1.04	26.42
6	13.3	High	1348-BK	-	-	1348	2.10	53.34	0.37	9.40	0.22	5.59	0.80	20.32

* Extended range



PP180 SPECIFICATIONS

ELECTRICAL		
Current Rating Amperes [1]	**UL 1977**	**CSA**
Singlepole (Wire-to-Wire) (3/0 AWG)	350	230
2x2 Block (Wire-to-Wire) (3/0 AWG)	350	
Singlepole (Wire-to-Busbar) (1/0 AWG)	180	
Voltage Rating AC/DC		
UL 1977	600	
Dielectric Withstanding Voltage		
Volts AC	2,200	
Avg. Mated Contact Resistance Milliohms [1]	0.100	
6" of 1/0 AWG Wire		
UL Hot Plug Current Rating Amperes [4]		
250 Cycles at 120V DC	75A	

MECHANICAL		
Wire Size Range	**AWG**	**mm²**
Wire Contacts with Bushings	10 to 3/0	5.3 to 85
Max. Wire Insulation Diameter	**in.**	**mm**
	0.900	22.860
Operating Temperature [2]	**°F**	**°C**
	-4° to 221°	-20° to 105°
Mating Cycles No Load by Plating	**Silver (Ag)**	**N**
Wire and Busbar Contacts	10,000	44
Avg. Mating / Unmating Force	**Lbf.**	**N**
Wire & Busbar Contacts	10	44
Min. Contact / Spring Retention Force	**Lbf.**	**N**
	120	534

MATERIALS	
Housing	
Plastic Resin	Polycarbonate
Contact Retention Spring	Stainless Steel
Housing Flammability Rating	
UL94	V-0
Glow Wire	960°C (GWFI) / 850°C (GWIT)
Contact	
Base	Copper Alloy
Plating	Silver
Contact Termination Methods	
Crimp [3]	
Hand Solder	
Wrench / Socket *	

* Busbar Contacts Only

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NOTE 1: See IEC 60664-1 for working voltage.
NOTE 2: Amp ratings are stated per position and based on all positions being fully loaded.
1 - Based on: 105°C rated or better cable of the largest size, Properly calibrated APP® recommended tooling, and a 25°C ambient temperature. UL rating not to exceed the maximum operating temperature. CSA rating below a 30°C temperature rise.
2 - Limited by the thermal properties of the connector plastic housing.
3 - Use APP® recommended tooling only. Alternate tools may adversely affect the performance of our connectors along with UL and CSA recognition.
4 - Based on 2 housings blocked together.

IEC INFORMATION

Connector Series	Configurations		Creepage / Clearance per IEC 60950-1	Material Group
PP180	Single Pole	Unmated	6.02 mm	IIIa
		Mated	6.02 mm	
	Stacked Powerpole®	Unmated	6.02 mm	
		Mated	6.02 mm	

PROTECTION	
Touch Safety with Wire Contacts	
IEC 60529	IP10

ATTRIBUTES	PP180
AMP Rating AC/DC	180
Voltage Rating AC/DC (Steady State)	500 V AC/DC (Operational)
Breaking Capacity - AMP Rating / Cycles	180 Amp / 10 Cycles
Voltage Rating (Breaking Capacity)	220 VDC
FINGER Safety - Mated Only	IEC 60529 - IP20
Wire Size Tested	70 mm²
Contact Series Tested	1382G2
Climatic Testing (Cold, Heat & MFG)	IEC 60512 Test-11j, 11i & 11g
Cycle Life	IEC 60512 Test 9a - 5,000 Cycles
Mechanical Strength Impact	IEC 60512-5 @ 29.5 Inches-Dropped 8 times
Temperature Range	-20°C to 105°C -4°F to 221°F

All Data Subject To Change Without Notice

SBS® Mini Connectors
Up to 52 amps



SBS® Mini Connector series is our smallest DC power connector in the SBS® group. The SBS® Mini securely holds two crimp and poke contacts with sacrificial tips to enable hot swap capabilities on DC circuits. The low resistance contacts accept 20 to 10 AWG (0.52 to 5.3 mm²) wires allowing up to 52 amps of UL rated performance per position.

- **Touch Safe Housing**
  Minimizes potential contact with live circuits
- **Color-Coded Mechanical Key**
  Prevents accidental mating of connectors operating at different voltage levels
- **Compact & Ergonomic Housing**
  Is "user friendly" during connection and disconnection of the system
- **UL Hot Plug Rated to 45 Amps @ 72 Volts**
  Good for applications where the ability to interrupt circuits is required

SBS® MINI ORDERING INFORMATION

SBS® Mini Housing

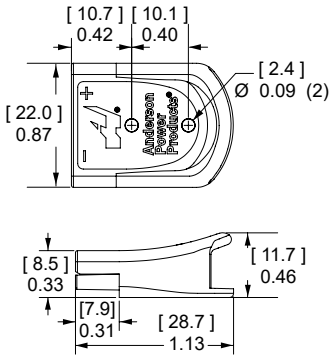
The smallest SBS® connector has 2 finger proof positions in a polycarbonate housing with an ergonomic grip. The housing securely holds crimp and poke contacts from the popular Powerpole® 15/45 series connectors.

Description	Part Numbers
Minimum Quantity	100
Red	B02265G1
Black	B02265G2
Blue	B02265G3
Gray	B02265G4



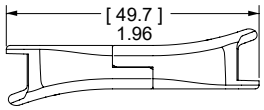


Actual Size



Top View

Side View



Mated Side View

SBS® Mini Cable Clamp Assembly Kit

Insert Cable Clamp into middle position of housing, securing with pins and using a wire tie to secure wires. Kit includes clamp and 2 pins only. Wire ties sold separately.

Description	Part Numbers	in.	mm
Minimum Quantity	1,000		
Gray Clamp Kit, Gray	B02597G4	1.15 x 0.34	29.1 x 8.60
Cable Wire Tie	H1835P11	4 x 0.10	100 x 2.50



SBS® Mini Cable Clamp Assembly Kit



Assembled Wire Tie

SBS® Connectors

Up to 110 amps



SBS® 75G



SBS® 50



SBS® 75X

The patented SBS® connector family is designed to provide high power in a compact ergonomic housing with protection against accidental contact with live circuits. This is of particular importance in applications where DC voltages exceed 30 volts and can be health threatening.

Wire-to-wire and wire-to-board configurations both provide power contacts rated up to 110 amps. The SBS® 75X offers up to 4 mate-last break-first auxiliary power / signal contacts rated up to 20 amps. The SBS® 75G features a third first-mate last-break ground or power contact. All contact positions are rated for circuit interruption (hot plugging).

- **Touch Safe Interface**
  Can safely be used in through panel applications
  Minimizes potential contact with live circuits per IEC 60950
- **Wire-to-Wire and Wire-to-Board Configurations**
  Allows one connector to meet multiple needs
- **Ground or Auxiliary Positions Integrated into the One Piece Housing**
  Meets all connection requirements in one compact connector housing

SBS® ORDERING INFORMATION

SBS® 50 Standard Housings

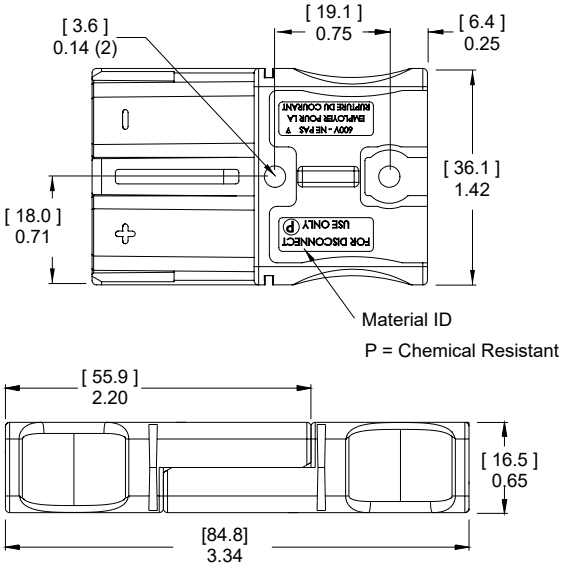
Polycarbonate housings feature 2 positions all finger proof. Genderless design mates with itself. Mechanical keys are color coded.

Description	Part Numbers	
Minimum Quantity	500	50
Red	SBS50RED-BK	SBS50RED
Gray	SBS50GRA-BK	SBS50GRA
Blue	SBS50BLU-BK	SBS50BLU
Black	SBS50BLK-BK	SBS50BLK
Brown	SBS50BRN-BK	SBS50BRN
White	SBS50WHT-BK	SBS50WHT

SBS® 50 Chemical Resistant (CR) Housings

Same features as the standard housings, but molded out of a chemical resistant PBT / PC blend. Suitable for use to -40°C.

Description	Part Numbers	
Minimum Quantity	500	50
Gray	PSBS50GRA-BK	PSBS50GRA
Blue	PSBS50BLU-BK	PSBS50BLU
Green	PSBS50GRN-BK	PSBS50GRN
Black	PSBS50BLK-BK	PSBS50BLK
Red	PSBS50RED-BK	-
Brown	PSBS50BRN-BK	-

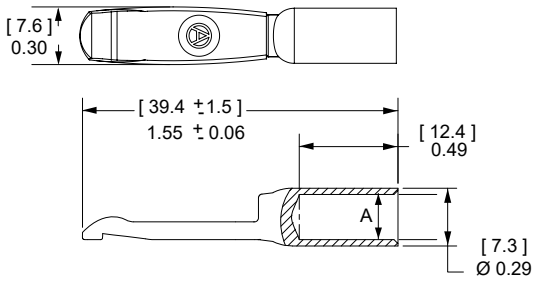


SBS® Silver Plated Primary Power Wire Contacts

Use two silver plated contacts per housing for the best electrical performance and durability up to 10,000 mating cycles. Standard contacts are for use in all primary power positions for SBS® 50, 75X, & 75G wire housings. See reducing bushings in accessory section for smaller wires.

Type	AWG	mm²	Loose Piece Part Numbers		Dimensions - A - inches	mm
Minimum Quantity			1,000	100		
Standard	6	16	1339G2-BK	1339G2 *	0.22	5.60
Standard	8	10	1339G5-BK	1339G5 *	0.19	4.70
Standard	12 to 10	2.5 to 6	1339G3-BK	1339G3 *	0.14	3.50

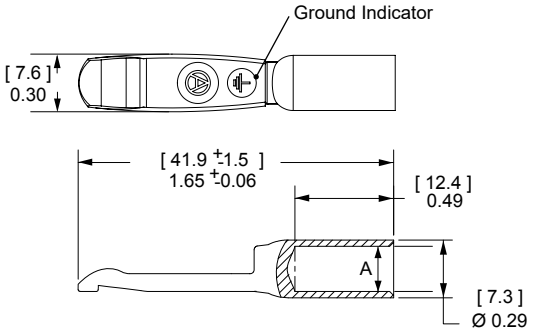
* Are sold as pairs. 2 contacts ship for every 1 ordered.



SBS® 75G Silver Plated Pre-Mate Wire Contacts

Pre-Mate contacts used for power or ground are for the center Pre-Mate position on the SBS®75G wire housings. See reducing bushings in accessory section for smaller wires.

Type	AWG	mm²	Loose Piece Part Numbers		Dimensions - A - inches	mm
Minimum Quantity			500	50		
Pre-Mate	6	16	1340G1-BK	1340G1	0.22	5.60
Pre-Mate	8	10	1340G2-BK	1340G2	0.19	4.70
Pre-Mate	12 to 10	2.5 to 6	1340G3-BK	1340G3	0.14	3.50



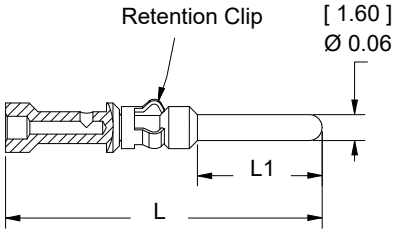
Pin Contacts for SBS® 75X Auxiliary

Gold plated contacts are available in 3 lengths to allow sequencing of circuits.

Description	AWG	mm²	Part Numbers	
Minimum Quantity			500	50
Standard Length 7.7 mm	12	2.5	PM16P12S30	PM16P12S30-50
	16 to 14	1.0 to 1.5	PM16P1416S30	PM16P1416S30-50
	20 to 16	0.75 to 1.0	PM16P1620S30	PM16P1620S30-50
	24 to 20	0.50 to 0.75	PM16P2024S30	PM16P2024S30-50
Pre-Mate 9.3 mm	12	2.5	PM16P12A30	-
	16 to 14	1.0 to 1.5	PM16P1416A30	-
	20 to 16	0.75 to 1.0	PM16P1620A30	-
	24 to 20	0.50 to 0.75	PM16P2024A30	-
Post-Mate 6.4 mm	12	2.5	PM16P12C30	-
	16 to 14	1.0 to 1.5	PM16P1416C30	-
	20 to 16	0.75 to 1.0	PM16P1620C30	-
	24 to 20	0.50 to 0.75	PM16P2024C30	-

Auxiliary Pin **Contact Lengths**	- L -		- L1 -	
	in.	**mm**	**in.**	**mm**
Standard Length 7.7 mm	0.77	19.6	0.30	7.7
Pre-Mate 9.3 mm	0.83	21.2	0.37	9.3
Post-Mate 6.4 mm	0.72	18.3	0.25	6.4

See drawings on website for further details



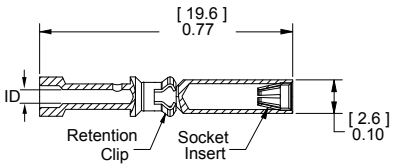
Socket Contacts for SBS® 75X Auxiliary

Selectively gold plated contacts offer low resistance and durability up to 10,000 mating cycles.

Description	AWG	mm²	Part Numbers	
Minimum Quantity			500	50
Socket Contact	12	2.5	PM16S12S32	PM16S12S32-50
	16 to 14	1.0 to 1.5	PM16S1416S32	PM16S1416S32-50
	20 to 16	0.75 to 1.0	PM16S1620S32	PM16S1620S32-50
	24 to 20	0.50 to 0.75	PM16S2024S32	PM16S2024S32-50

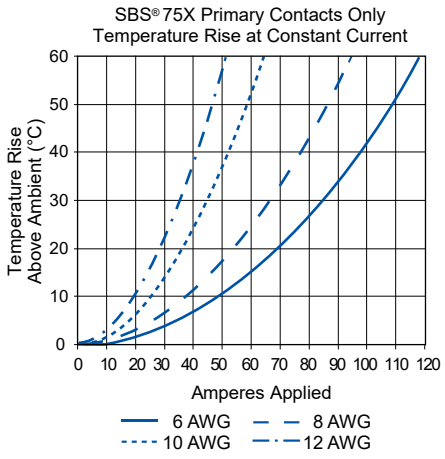
Auxiliary Socket Contacts Crimp Barrel ID		
Wire Gauge	**in.**	**mm.**
24 to 20	0.04	1.1
20 to 16	0.07	1.7
16 to 14	0.08	2.1
12	0.10	2.6

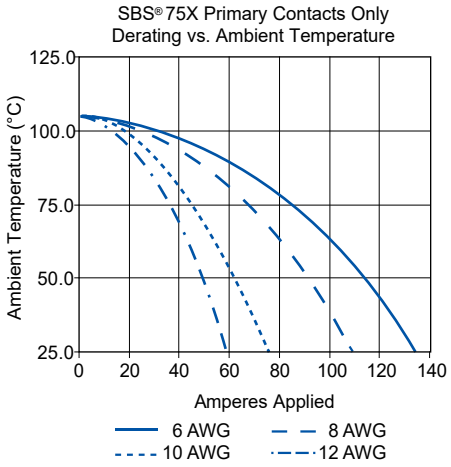
See drawings on website for further details

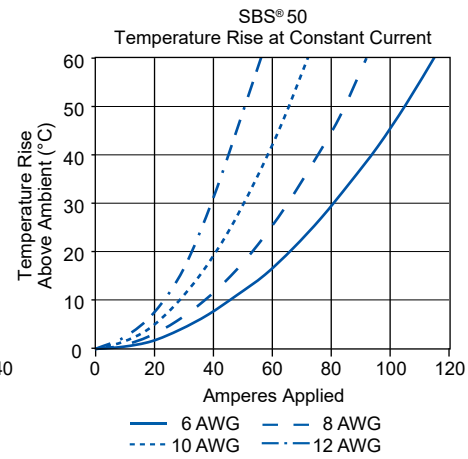


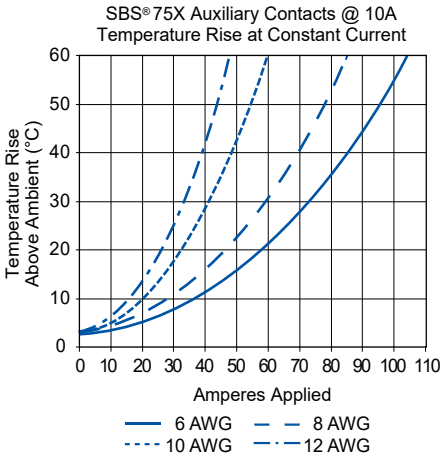
SBS® CONNECTOR TEMPERATURE CHARTS - Temperature rise charts are based on a 25°C ambient temperature.

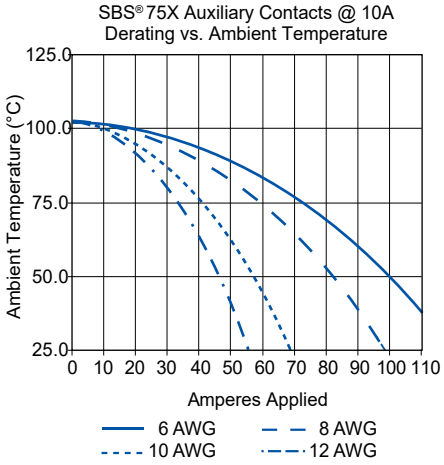
Current - Temperature Derating per IEC 60512-5-2 Test 5B

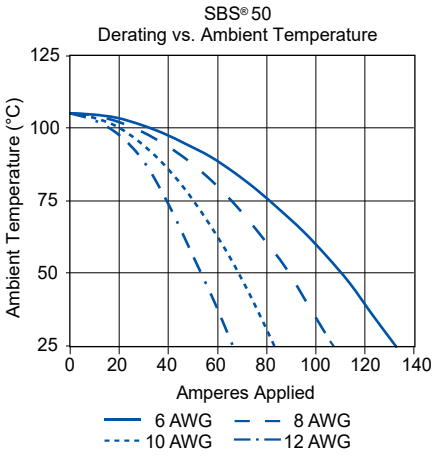


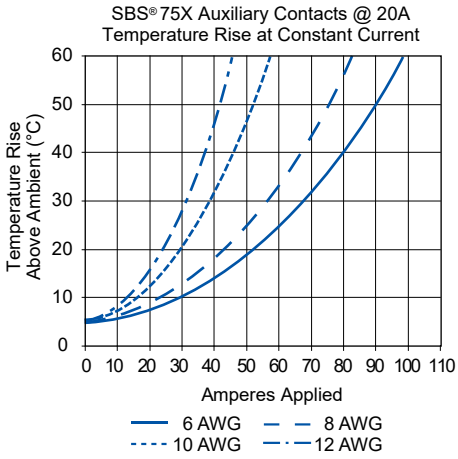


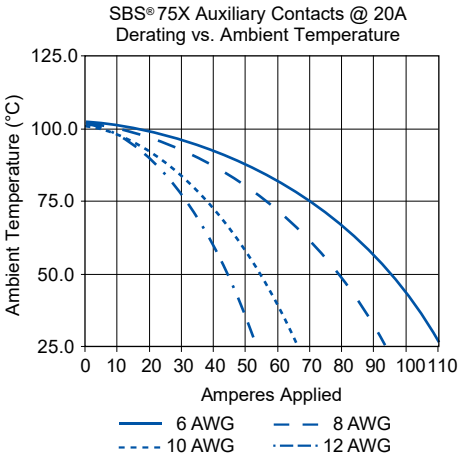












SBS® CONNECTOR SPECIFICATIONS

ELECTRICAL		
Current Rating Amperes [1]	**UL 1977**	**CSA / TUV**
Primary Power (6 AWG)	110	75
Auxiliary (12 AWG)	20	10
Voltage Rating AC/DC		
UL 1977	600	
Dielectric Withstanding Voltage		
Volts AC	2,200	
Avg. Mated Contact Resistance Milliohms [1]		
Power & Ground: 1 1/4" of 6 AWG wire	0.200	
Auxiliary: Wire & PCB	3.000	
UL Hot Plug Current Rating Amperes - 250 cycles at 120V DC		
Wire & PCB Power	50A	
Wire & PCB Auxiliary	5A	
UL Ground Short Time Current Test - SBS® 75G Wire & PCB		
1530 Amps, (6 AWG) Wire	6 Seconds	

MATERIALS	
Housing	
Standard Plastic Resin	Polycarbonate
Chem. Resistant Resin	Polycarbonate / PBT Blend
Contact Retention Spring	Stainless Steel
Housing Flammability Rating	
UL94	V-0
Glow Wire - SBS® 50	825°C (GWFI) / 800°C (GWIT)
- SBS® 75G	960°C (GWFI) / 800°C (GWIT)
- SBS® 75X	960°C (GWFI) / 800°C (GWIT)
Wire Power & Ground Contact	Silver Plated Copper Alloy
PCB Power & Ground Contact	Tin Plated Copper Alloy
SBS® 75X Auxiliary Contacts	
Pin	Copper Alloy, Au Over Ni
Socket	BeCu, Au over Ni
Socket Body	Copper Alloy, Sn Bright Over Ni
Retention Clip	Stainless Steel
PCB Press Fit Retainers	Brass - Tin Plated
Contact Termination Methods	
Crimp [3]	Wire Contacts
Hand Solder	Wire and PCB Contacts
Solder Dip	PCB Contacts
Wave Solder	PCB Contacts

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• Auxiliary contacts are available for SBS® 75X only.

• SBS® 75X and SBS® 75G PCB connectors are designed to mate only with the wire connector of the same series.

NOTE 1: See IEC 60664-1 for working voltage.

NOTE 2: Amp ratings are stated per position and based on all positions being fully loaded.

1 - Based on: 105°C rated or better cable of the largest size. Properly calibrated APP® recommended tooling, and a 25°C ambient temperature. UL rating not to exceed the maximum operating temperature. CSA rating below a 30°C temperature rise.

2 - Limited by the thermal properties of the connector plastic housing.

3 - Use APP® recommended tooling only. Alternate tools may adversely affect the performance of our connectors along with UL and CSA recognition.

All Data Subject To Change Without Notice

SB® 50 Connectors

Up to 120 amps



Based off the design pioneered by Anderson™ in 1953, the two pole SB® connectors set the standard for DC power distribution and battery connections. SB® 50 connectors feature a one piece plastic housing using stainless steel springs to hold low resistance contacts in place. Wires sizes from 16 to 6 AWG (1.5 to 13.3 mm²) are held in the smallest of the SB® series housings.

- **Low Resistance Silver or Tin Plated Copper Contacts**
  Allows UL rated currents up to 120 amps
- **UL Rated for Hot Plugging up to 50 Amps**
  Great for battery or other applications where the ability to interrupt circuits is required
- **Wire, PCB, and Busbar Contacts**
  Allows one connection system to meet multiple needs

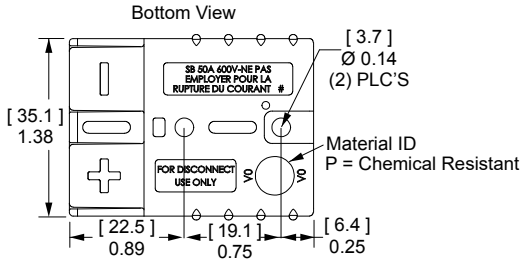
SB® 50 ORDERING INFORMATION

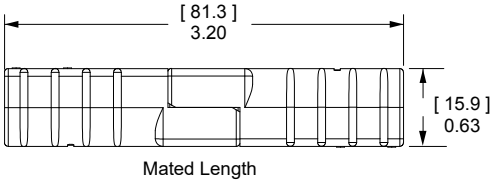
SB® 50 Standard Housings

The smallest SB® housings work with wire contacts up to 6 AWG (10 mm²) as well as PCB, and busbar contacts. Genderless design mates with itself. Mechanical keys are color-coded.

Description	Part Numbers	
Minimum Quantity	500	100
Yellow	992G5-BK	992G5
Orange	992G7-BK	992G7
Red	992G1-BK	992G1
Gray	992-BK	992
Blue	992G4-BK	992G4
Green	992G6-BK	992G6
Black	992G2-BK	992G2

NOTE: SB® 50 Black and Gray housings have the same keying features and can be intermated.





SB® 50 Chemical Resistant Housings

Same features as the Standard SB® 50 but molded in a chemical resistant PBT/PC blend. Suitable for use to -40°C.

Description	Part Numbers	
Minimum Quantity	500	100
Red	P992G1-BK	P992G1
Gray	P992-BK	P992
Black	P992G2-BK	P992G2

NOTE: SB® 50 Black and Gray housings have the same keying features and can be intermated.

All Data Subject To Change Without Notice

SB® 50 CONNECTOR SPECIFICATIONS

ELECTRICAL

Current Rating Amperes [1]	**UL 1977**	**CSA**
Wire-to-Wire UL 1977 (6 AWG)	120	50
Wire-to-PCB UL 1977 (6 AWG)	50	
Voltage Rating AC/DC		
UL 1977	600	
PCB Connector Recommended Voltage per IEC 60950-1 Table 2L Pollution Degree [2]		
Mini Vert. Contact	522	
Mini Horiz. Contact	504	
Standard Contact	950	
Dielectric Withstanding Voltage		
Volts AC	2,200	
Avg. Mated Contact Resistance Milliohms [1]		
1 1/4" of 6 AWG wire	0.200	
PCB Contact to Wire	0.500	
UL Hot Plug Current Rating Amperes - 250 Cycles at 120V DC		
Wire to Wire	50A	
PCB to Wire (Vertical Mini Powerclaw)	40A	

MATERIALS

Housing	
Standard Plastic Resin	Polycarbonate
Chem. Resistant Resin	Polycarbonate / PBT blend
Contact Retention Spring	Stainless Steel
Housing Flammability Rating	
UL94	V-0
Glow Wire	960°C (GWFI) / 800°C (GWIT)
Contact	
Base	Copper Alloy
Wire Plating	Silver
PCB Plating	Sn or Ag over Ni
Contact Termination Methods	
Crimp [3]	Wire Contacts
Hand Solder	Wire and PCB Contacts
Solder Dip	PCB Contacts
Wave Solder	PCB Contacts
Wrench / Socket	Busbar Contacts

MECHANICAL

Wire Size Range	**AWG**	**mm²**
Wire Contacts with Bushings	16 to 6	1.3 to 13.3
Max. Wire Insulation Diameter	**in.**	**mm**
	0.440	11.200
Operating Temperature [2]	**°F**	**°C**
Standard	-4° to 221°	-20° to 105°
Chemical Resistant*	-40 to 221°	-40° to 105°
*Chemical resistant material not available for PCB guide housings		
Mating Cycles No Load by Plating	**Silver (Ag)**	**Tin (Sn)**
Wire and PCB Contacts	10,000	1,500
Avg. Mating / Unmating Force	**Lbf.**	**N**
Wire to Wire Low Force Contacts	10	44
Wire to Wire High Force Contacts	15	67
Standard Powerclaw to Wire	15	66
Mini Powerclaw to Wire	8	36
PCB Specifications		
Mounting Style	Plated Through Hole	
Max PCB Thickness- in. (mm)	Standard: 0.15 (0.381)	
	Mini: 0.25 (0.635)	
Recommended Traces	8 AWG Cross Section	
Min. Contact / Spring Retention Force	**Lbf.**	**N**
Wire Housing	50	222
Min. Creepage / Clearance Distance	**in.**	**mm**
Standard Powerclaw	0.374	9.5
Mini Vert. Powerclaw	0.213	5.4
Mini Horz. Powerclaw	0.205	5.2
Mechanical Shock [4]		
MIL-STD-202	213 Condition A	50g's
Vibration High Frequency [4]		
MIL-STD-202	204 Condition A	10g's

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NOTE 1: See IEC 60664-1 for working voltage.

NOTE 2: Amp ratings are stated per position and based on all positions being fully loaded.

1 - Based on: 105°C rated or better cable of the largest size. Properly calibrated APP® recommended tooling, and a 25°C ambient temperature. UL rating not to exceed the maximum operating temperature. CSA rating below a 30°C temperature rise.

2 - Limited by the thermal properties of the connector plastic housing.

3 - Use APP® recommended tooling only. Alternate tools may adversely affect the performance of our connectors along with UL and CSA recognition.

4 - Tested with contact part number 5900.

** UL Rated for 65°C largest wire or cable size.*

SB® 120 Connectors

Up to 240 Amps



Like the other Multipole connectors, the SB® 120 offers color-coded mechanically keyed housings. Keys can be used to identify and separate different circuits, or prevent users from accidentally cross mating different voltages. Wires sizes from 10 to 1 AWG (5.3 to 42.4 mm²) are held in the second smallest SB® housing.

- **New Extended Range Contacts Expand Wire Size up to 1 AWG (42.4 mm²)**
  Allows UL rated currents up to 240 amps
- **Chemical Resistant Housing Option**
  Extends temperature range down to -40°C, while offering enhanced UV and chemical resistance
- **Panel Mounting Grooves**
  With use of mounting clamps, can be easily mounted through panels

SB® 120 ORDERING INFORMATION

SB® 120 Standard Housings

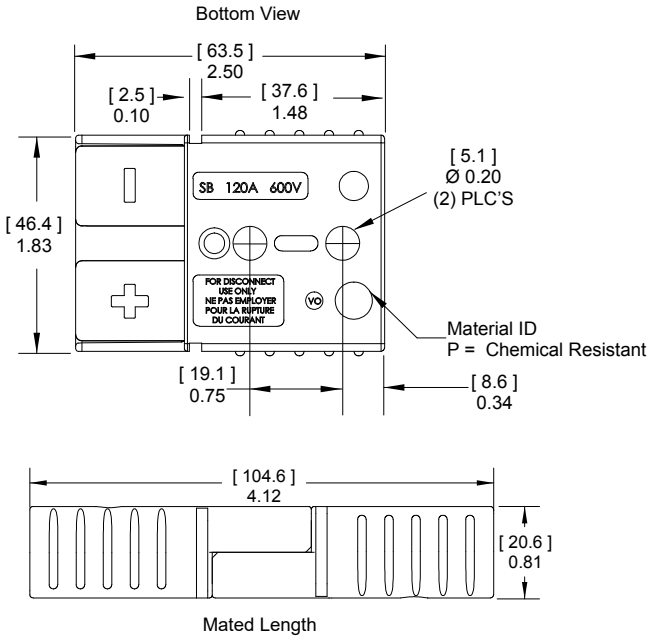
The second to smallest SB® housings work with wire contacts up to 1 AWG (35 mm²) as well as busbar contacts. Genderless design mates with itself. Mechanical keys are color-coded.

Description	Part Numbers	
Minimum Quantity	250	50
Red	6810G3-BK	6810G3
Gray	6810G1-BK	6810G1
Blue	6810G2-BK	6810G2

SB® 120 Chemical Resistant (CR) Housings

Same features as the Standard SB® 120 but molded in a chemical resistant PBT/PC blend. Suitable for use to -40°C.

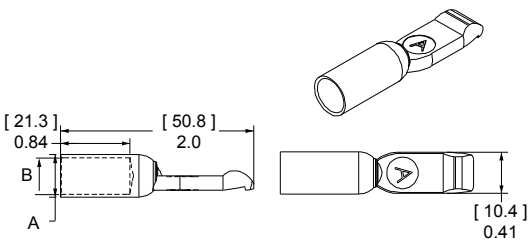
Description	Part Numbers	
Minimum Quantity	250	50
Red	P6810G3-BK	P6810G3
Gray	P6810G1-BK	P6810G1



SB® 120 Silver Plated Wire Contacts

Silver plated contacts offer superior electrical performance and durability up to 10,000 mating cycles.
See reducing bushings in accessory section for smaller wires.

AWG	mm²	Mating Force	Loose Piece Part Numbers			Dimensions - A - inches	Dimensions - A - mm	Dimensions - B - inches	Dimensions - B - mm
Minimum Quantity			600	500	50				
1	42.4	Low	1323G1-BK	-	1323G1	0.47	11.94	0.39	9.91
2	33.6	High	-	1319-BK	1319	0.44	11.18	0.34	8.64
4	21.1	High	-	1319G4-BK	1319G4	0.44	11.18	0.29	7.37
6	13.3	High	-	1319G6-BK	1319G6	0.44	11.18	0.22	5.59
1 (set)	42.4	Low	6811G7 (purchase as a set, no minimum quantity)			0.47	11.94	0.39	9.91

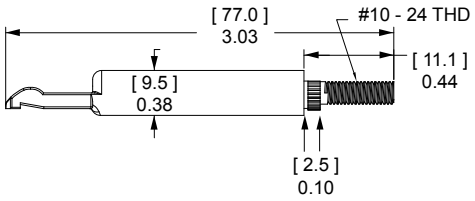


SB® 120 Silver Plated Busbar Contacts

Use 2 busbar contacts per housing to provide a quick disconnect input or output busbar connection. Busbar contacts are for mating with wire contacts only. Part number 120BBS includes lock nuts. Locknuts must be ordered separately for B01997P1.

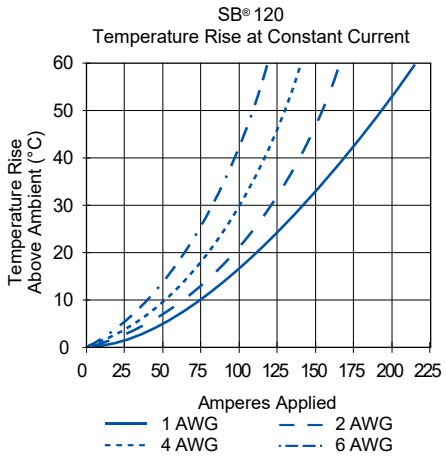
Type	Thread	Mating Force	Loose Piece Part Numbers		
Minimum Quantity			1,000	300	20
Busbar	10 to 24	High	-	B01997P1	120BBS
Lock Nut	10 to 24	-	H1216P8	-	110G54

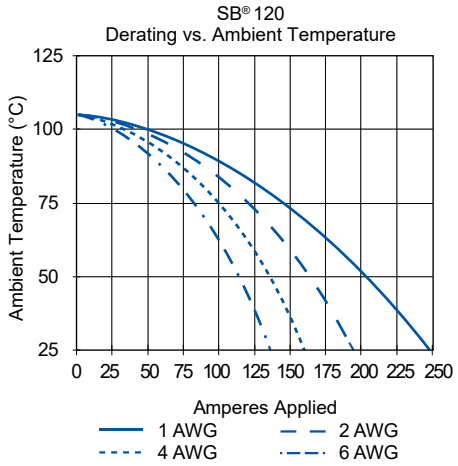
See Busbar contact drawing on website for further detail.



SB® 120 CONNECTOR TEMPERATURE CHARTS - Temperature rise charts are based on a 25°C ambient temperature.

Current - Temperature Derating per IEC 60512-5-2 Test 5B





SB® 120 CONNECTOR SPECIFICATIONS

MECHANICAL		
Wire Size Range	**AWG**	**mm²**
Wire Contacts with Bushings	10 to 1	5.3 to 42.4
Max. Wire Insulation Diameter	**in.**	**mm**
	0.600	15.240
Operating Temperature [2]	**°F**	**°C**
Standard	-4° to 221°	-20° to 105°
Chemical Resistant	-40 to 221°	-40° to 105°
Mating Cycles No Load by Plating	**Silver (Ag)**	
Wire and Busbar Contacts	10,000	
Avg. Mating / Unmating Force	**Lbf.**	**N**
Wire to Wire	20	89
Min. Contact / Spring Retention Force	**Lbf.**	**N**
	75	333.6

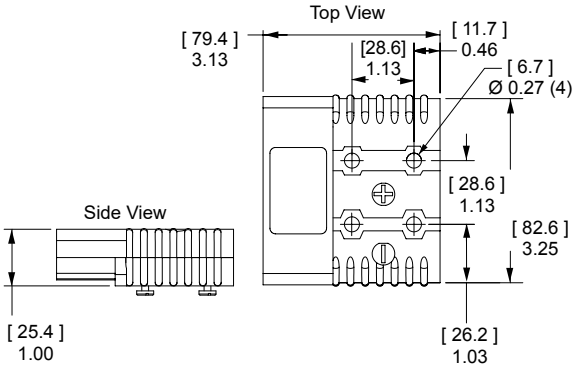
MATERIALS	
Housing	
Standard Plastic Resin	Polycarbonate
Chem. Resistant Resin	Polycarbonate / PBT blend
Contact Retention Spring	Stainless Steel
Housing Flammability Rating	
UL94	V-0
Glow Wire	960°C (GWFI) / 800°C (GWIT)
Wire & Busbar Contacts	
Base	Copper Alloy
Plating	Silver
Contact Termination Methods	
Crimp [3]	Wire Contacts
Hand Solder	Wire Contacts
Wrench / Socket	Busbar Contacts Only

Specifications continued on next page

SB® 175 3 Pole Housings & Hardware

A three pole version of the standard SB® 175 housing has a two piece housing with springs and hardware. Useful for DC 2 wire plus ground and AC single phase applications.

Description	Part Numbers	
Minimum Quantity	100	25
Gray Housing and Hardware Kit	-	902
Gray Housing Top Half	2-5048	-
Gray Housing Bottom Half	2-5049	-
Hardware Kit	-	110G34

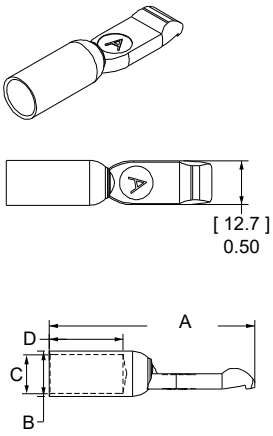


SB® 175 Silver Plated Wire Contacts

Silver plated contacts offer superior electrical performance and durability up to 10,000 mating cycles.
See reducing bushings in accessory section for smaller wires.

AWG	mm²	Mating Force	Loose Piece Part Numbers		Dimensions - A - inches	A - mm	- B - inches	B - mm	- C - inches	C - mm	- D - inches	D - mm
Minimum Quantity			500	50								
1/0	53.5	High	1382-BK	1382	2.35	59.69	0.52	13.21	0.44	11.18	1.04	26.42
1	42.4	High	1347-BK	1347	2.35	59.69	0.52	13.21	0.39	9.91	1.04	26.42
2	33.6	High	1383-BK	1383	2.35	59.69	0.52	13.21	0.35	8.89	1.04	26.42
4	21.1	High	1384-BK	1384	2.35	59.69	0.52	13.21	0.30	7.62	1.04	26.42
6	13.3	High	1348-BK	1348	2.10	53.34	0.37	9.40	0.22	5.59	0.80	26.42
2/0 *	70	Low	1328G1-BK	1328G1	2.35	59.69	0.64	16.26	0.49	12.45	1.04	26.42

* Use with 115107G1 only

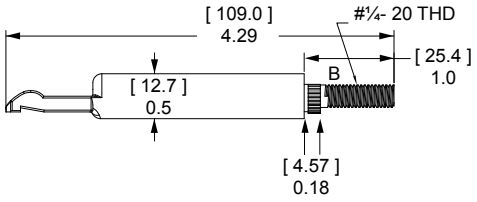


SB® 175 Silver Plated Busbar Contacts

Provides a quick disconnect input or output busbar connection. Busbar contacts are for mating with wire contacts only. Part number 180BBS includes lock nuts. Locknuts must be ordered separately for 180BBS-BK.

Type	Thread	Mating Force	Loose Piece Part Numbers		
Minimum Quantity			1,000	120	10
Busbar	1/4-20	High	-	180BBS-BK	180BBS
Lock Nut	1/4-20	-	H1216P7	110G56	110G55

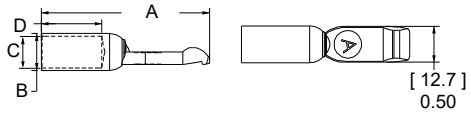
See Busbar contact drawing on website for further detail.



Silver Plated Wire Contacts - use with 2/0 Housing ONLY

Silver plated contacts offer superior electrical performance and durability up to 5,000 mating cycles.

Type	AWG	mm²	Loose Piece Part Numbers		Dimensions - A - inches	A - mm	- B - inches	B - mm	- C - inches	C - mm	- D - inches	D - mm
Minimum Quantity			300	50								
Individual	2/0	70	1328G1-BK	1328G1	2.35	59.69	0.64	16.26	0.49	12.45	1.04	26.42



SB® 175 CONNECTOR SPECIFICATIONS

ELECTRICAL		
Current Rating Amperes [1]	**UL 1977**	**CSA**
Wire-to-Wire (1/0 AWG)	280	175
Wire-to-Busbar (1/0 AWG)	200	
3 Pole Wire-to-Wire (1/0 AWG)	175	
Voltage Rating AC/DC		
UL 1977	600	
Dielectric Withstanding Voltage		
Volts AC	2,200	
Avg. Mated Contact Resistance Milliohms [1]		
6" of 1/0 AWG wire	0.100	
Hot Plug Current Rating Amperes - Wire & Busbar		
250 cycles at 120V DC 1/0 Wires	100A	

MECHANICAL		
Wire Size Range	**AWG**	**mm²**
Wire Contacts with Bushings	10 to 1/0	5.3 to 53.5
Max. Wire Insulation Diameter	**in.**	**mm**
	0.600	15.240
Operating Temperature [2]	**°F**	**°C**
Standard	-4° to 221°	-20° to 105°
Chemical Resistant	-40 to 221°	-40° to 105°
Mating Cycles No Load by Plating	**Silver (Ag)**	
Wire and Busbar Contacts	10,000	
Avg. Mating / Unmating Force	**Lbf.**	**N**
2 Pole	25	111
3 Pole	35	156
Min. Contact / Spring Retention Force	**Lbf.**	**N**
	150	667
Mechanical Shock [4]		
MIL-STD-202	213 Condition A	50g's
Vibration High Frequency [4]		
MIL-STD-202	204 Condition A	10g's

MATERIALS	
Housing	
Standard Plastic Resin	Polycarbonate
Chem. Resistant Resin	Polycarbonate / PBT blend
Contact Retention Spring	Stainless Steel
Housing Flammability Rating	
UL94	V-0
Glow Wire	960°C (GWFI) / 850°C (GWIT)
Wire & Busbar Contacts	
Base	Copper Alloy
Plating	Silver
Contact Termination Methods	
Crimp [3]	Wire Contacts
Hand Solder	Wire Contacts
Wrench / Socket	Busbar Contacts Only

c UL us File No. E26226 © CSA Certified File No. LR25154

NOTE 1: See IEC 60664-1 for working voltage.

NOTE 2: Amp ratings are stated per position and based on all positions being fully loaded.

1 - Based on: 105°C rated or better cable of the largest size. Properly calibrated APP® recommended tooling, and a 25°C ambient temperature. UL rating not to exceed the maximum operating temperature. CSA rating below a 30°C temperature rise.

2 - Limited by the thermal properties of the connector plastic housing.

3 - Use APP® recommended tooling only. Alternate tools may adversely affect the performance of our connectors along with UL and CSA recognition.

4 - Tested with contact part number 1382.

SB® 350 Connectors

Up to 500 Amps



The SB® 350 is the largest connector in the series with power capabilities up to 500 amps with a 350 mcm wire. Wires ranging from 1/0 to 350 mcm (53.5 to 185 mm²) fit into the one piece housing available in standard PC or a chemical resistant PBT/PC blend. Silver plated wire or busbar contacts minimize electrical resistance while offering supreme durability and reliability.

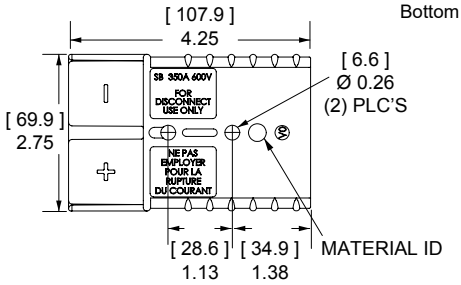
- **Up to 350 mcm (185 mm²) Wires**
  Allows UL rated currents up to 500 amps
- **Chemical Resistant Housing Option**
  Extends temperature range down to -40°C, while offering enhanced UV and chemical resistance
- **Same Housings Used for Wire and Busbar Contacts**
  Enables color-coded mechanically keyed wire to busbar connections

SB® 350 ORDERING INFORMATION

SB® 350 Standard Housings

The largest SB® housings work with wire contacts up to 350 mcm (150 mm²) as well as busbar contacts. Genderless design mates with itself. Mechanical keys are color-coded. *NOTE: SB® 350 Black and Blue Housings have the same keying features and can be intermated.*

Description	Part Numbers	
Minimum Quantity	50	25
Yellow	914-BK	914
Orange	932-BK	932
Red	913-BK	913
Gray	906-BK	906
Blue	912-BK	912
Green	931-BK	931
Black	2-7250G8	-

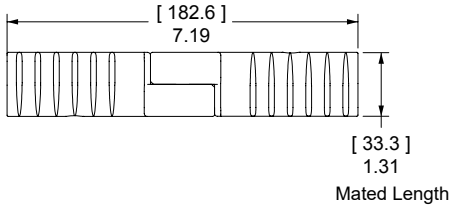


P = Chemical Resistant

SB® 350 Chemical Resistant Housings

Same features as the Standard SB® 350 but molded in a chemical resistant PBT/ PC blend. Suitable for use to -40°C.

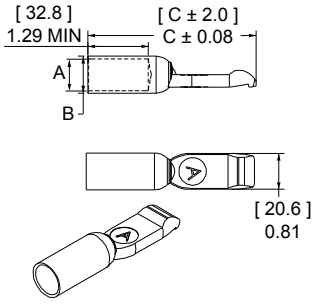
Description	Part Numbers	
Minimum Quantity	50	25
Red	P913-BK	P913
Gray	P906-BK	P906



SB® 350 Silver Plated Wire Contacts

Silver plated contacts offer superior electrical performance and durability up to 10,000 mating cycles. See reducing bushings in accessory section for smaller wires.

AWG	mm²	Mating Force	Loose Piece Part Numbers			Dimensions - A - inches	A - mm	- B - inches	B - mm	- C - inches	C - mm
Minimum Quantity			200	150	50						
350 mcm	185	High	-	910-BK	910 *	0.75	19.05	0.87	22.10	3.04	77.2
300 mcm	152	High	-	910-BK	910 *	0.75	19.05	0.87	22.10	3.04	77.2
4/0	107.2	High	908-BK	-	908 *	0.64	16.26	0.75	19.05	3.03	77.0
3/0	85	High	916-BK	-	916 *	0.58	14.73	0.70	17.78	3.00	76.2
2/0	67.4	High	907-BK	-	907 *	0.49	12.45	0.64	16.26	2.96	75.2
1/0	53.5	High	917-BK	-	917 *	0.44	11.18	0.51	12.95	2.91	73.9



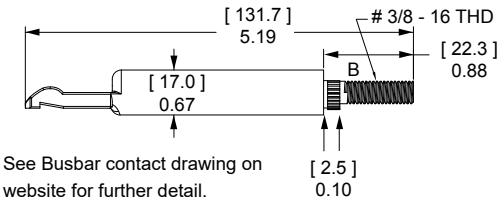
* Sold as pairs. 2 parts shipped for every 1 part ordered.

SB® 350 Silver Plated Busbar Contacts

Use 2 busbar contacts per housing to provide a quick disconnect input or output busbar connection. Busbar contacts are for mating with wire contacts only. Part number 350BBS includes lock nuts. Locknuts must be ordered separately for B01998P1.

Type	Thread	Mating Force	Loose Piece Part Numbers	
Minimum Quantity			50	10
Busbar	3/8-16	High	B01998P1	350BBS
Lock Nut	3/8-16	-	H1216P9	110G73

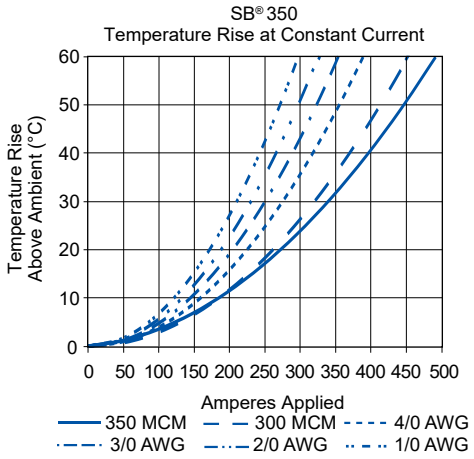
NOTE: Has not been tested by UL.

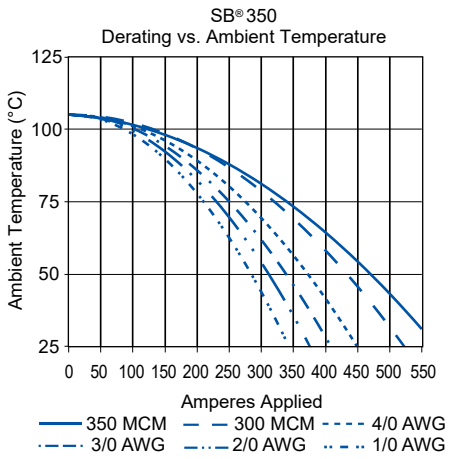


See Busbar contact drawing on website for further detail.

SB® 350 CONNECTOR TEMPERATURE CHARTS - Temperature rise charts are based on a 25°C ambient temperature.

Current - Temperature Derating per IEC 60512-5-2 Test 5B





SB® 350 CONNECTOR SPECIFICATIONS

ELECTRICAL		
Current Rating Amperes [1]	**UL 1977**	**CSA**
Wire-to-Wire (350 mcm)	500	325
Voltage Rating AC/DC		
UL 1977	600	
Dielectric Withstanding Voltage		
Volts AC	2,200	
Avg. Mated Contact Resistance Milliohms [1]		
2 1/2" of 300 mcm Wire	0.050	
Hot Plug Current Rating Amperes - Wire & Busbar		
250 cycles at 120V DC	100A	

MECHANICAL		
Wire Size Range	**AWG**	**mm²**
Wire Contacts with Bushings	1/0 to 350 mcm	53.5 to 185
Max. Wire Insulation Diameter	**in.**	**mm**
	1.100	27.900
Operating Temperature [2]	**°F**	**°C**
Standard	-4° to 221°	-20° to 105°
Chemical Resistant	-40 to 221°	-40° to 105°
Mating Cycles No Load by Plating	**Silver (Ag)**	
Wire and Busbar Contacts	10,000	
Avg. Mating / Unmating Force	**Lbf.**	**N**
2 Pole	30	133
Min. Contact / Spring Retention Force	**Lbf.**	**N**
	150	667

Specifications continued on next page

SBE® 80 / SBO® 60 Connectors

Up to 80 Amps



SBE® and SBO® connectors build on the capability of the two pole SB® connectors by offering up to 8 auxiliary power / signal contacts along with an IEC 60950 touch safe housing. The center of the main connector features a connector holder for either: two PP15/45, two PPMX, or APP's innovative 1x4 auxiliary connector.

- **Touch Safe Interface**
  Minimizes potential contact with live circuits per IEC 60950
- **Up to 8 Last Mate / First Break Auxiliaries**
  Enables intelligent power switching, CAN and interlock loop circuitry, as well as power up to 20 amps per pole
- **Silver Plated Wire Contacts up to 4 (25 mm²)**
  Allows UL rated currents up to 80 amps per pole

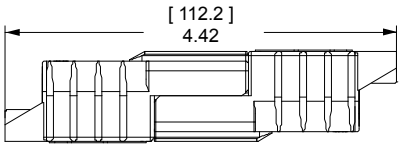
SBE® 80 / SBO® 60 ORDERING INFORMATION

SBE® 80 / SBO® 60 Housings

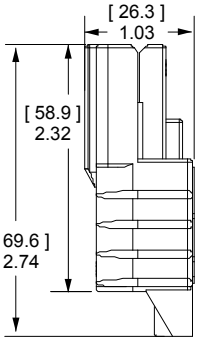
The smallest size of SBE®, X, O style housing. SBE® 80 and SBO® 60 housings of the same Voltage Color-Code can be mated but is not recommended as it invalidates UL approvals for SBO® 60. SBO® 60 housings do not meet EN1175-1 requirements for industrial trucks.

Description	SBE® 80 Part Numbers		SBO® 60 Part Numbers	
Minimum Quantity	400	25	400	25
Yellow	SBE80YEL-BK	SBE80YEL	SBO60YEL-BK	SBO60YEL
Orange	SBE80ORN-BK	SBE80ORN	SBO60ORN-BK	SBO60ORN
Red	SBE80RED-BK	SBE80RED	SBO60RED-BK	SBO60RED
Gray	SBE80GRA-BK	SBE80GRA	N/A	N/A
White	N/A	N/A	SBO60WHT-BK	SBO60WHT

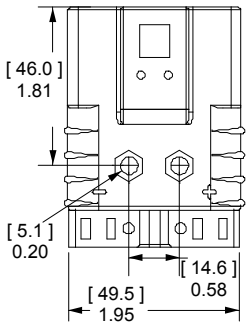
Mated Length



Side View



Top View

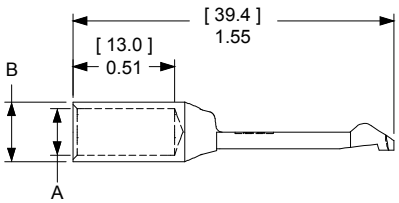


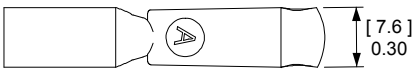
SBE® 80 / SBO® 60 Silver Plated Primary Power Wire Contacts

Use two silver plated contacts per housing for the best electrical performance and durability up to 10,000 mating cycles. See reducing bushings in accessory section for smaller wire size.

AWG	mm²	Mating Force	Loose Piece Part Numbers		Dimensions - A - inches	A mm	- B - inches	B mm
Minimum Quantity			1,000	100				
4	25	Low	1339G4-BK	1339G4 *	0.28	7.11	0.35	9.0
6	16	High	1339G1-BK	1339G1 *	0.22	5.59	0.29	7.3

* Sold as pairs. 2 parts shipped for every 1 part ordered.





MATERIALS

Housing	
SBE® / SBO® & 1x4 Auxiliary Housing	Polycarbonate / PBT blend
Powerpole® Plastic Resin	Polycarbonate
Contact Retention Spring	Stainless Steel
Housing Flammability Rating	
UL94	V-0
Glow Wire - SBE® 80 Only	960°C (GWFI) / 800°C (GWIT)
Power & Powerpole® Contact	Silver Plated Copper Alloy
1x4 Auxiliary Contacts	
Pin	Copper alloy, Au over Ni
Socket	BeCu, Au over Ni
Socket Body	Copper Alloy, Sn Bright Over Ni
Retention Clip	Stainless Steel
PPMX Contacts	Gold Plated Copper Alloy
Contact Termination Methods	
Crimp [3]	
Hand Solder	

c UL us File No. E26226 RoHS COMPLIANT APP © CSA Certified File No. LR25154 REACH COMPLIANCE APP

NOTE 1: See IEC 60664-1 for working voltage.
NOTE 2: Amp ratings are stated per position and based on all positions being fully loaded.
1 - Based on: 105°C rated or better cable of the largest size. Properly calibrated APP® recommended tooling, and a 25°C ambient temperature. UL rating not to exceed the maximum operating temperature. CSA rating below a 30°C temperature rise. Only SBO® 60 has UL recognition.
2 - Limited by the thermal properties of the connector plastic housing.
3 - Use APP® recommended tooling only. Alternate tools may adversely affect the performance of our connectors along with UL and CSA recognition.
4 - Voltage capability of SBE® housings is identical to SBO®, but derated to meet EN1175-1 requirements.

MECHANICAL

Wire Size Range	**AWG**	**mm²**
Power Contacts	6 to 4	16 to 25
Auxiliary Contacts	24 to 10	0.25 to 5.3
Max. Wire Insulation Diameter	**in.**	**mm**
Power Contacts	0.440	11.200
Powerpole® Auxiliary	0.175	4.450
1x4 Auxiliary	0.140	3.600
Operating Temperature [2]	**°F**	**°C**
SBO® and SBE® Housings	-4° to 221°	-20° to 105°
Mating Cycles No Load by Plating	**Silver (Ag)**	**Gold (Au)**
Power Contacts	10,000	
Powerpole® Auxiliary	10,000	
1x4 Auxiliary		10,000
PPMX Auxiliary		5,000
Avg. Mating / Unmating Force	**Lbf.**	**N**
Main Connector Housing	16	70
Per Powerpole® Connector	5	22
Per Contact in 1x4 Auxiliary	0.7	3.0
Per PPMX Housing	4.50	20.00
Min. Contact / Spring Retention Force	**Lbf.**	**N**
Power Standard Housing	50	222
Powerpole® Housing	25	111
1x4 Auxiliary Housing	10	44.5
PPMX Housing	12	53

IEC INFORMATION

Connector Series	Configurations	Creepage / Clearance per IEC 60950-1	Material Group
SBE® 80	Unmated	4.23 mm	IIIa
	Mated	7.9 mm	

PROTECTION

Touch Safety Main Connector Housing

IEC 60950	Pass
IEC 60529	IP20

TÜV Rheinland BAUART GEPRÜFT TYPE APPROVED

All Data Subject To Change Without Notice

SBE® 160 / SBX® 175 Connectors

Up to 175 Amps



SBX® and SBE® connectors can integrate up to 8 auxiliary power / signal contacts along with the two primary power circuits. SBE® connectors feature an IEC 60950 touch safe housing molded from a chemical resistant PBT / PC blend resin. SBX® are molded from a rugged PC resin and are rated IP20 per IEC 60529.

- **Touch Safe Interface**
  Minimizes potential contact with live circuits per IEC 60950 & IEC 60529
- **Up to 8 Last Mate / First Break Auxiliaries**
  Enables intelligent power switching, CAN and interlock loop circuitry, as well as power up to 20 amps per pole
- **Color-coded Mechanical Voltage Keys**
  Like all Multipole connectors, the SBE® and SBX® offer an easy way to identify circuits and protect against cross mating

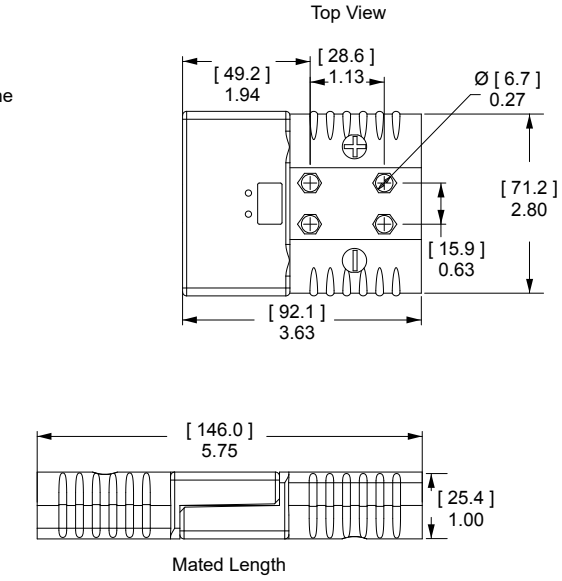
SBE® 160 / SBX® 175 ORDERING INFORMATION

SBE® 160 / SBX® 175 Housings

The middle size of SBE®, X, O style housing. SBE® housings are molded from a chemical resistant PBT. SBX® housings are molded from PC. SBE® 160 and SBX® 175 housings of the same Voltage Color-Code can be mated (except yellow) but is not recommended as it invalidates UL approvals. SBX® 175 housings do not meet EN1175-1 requirements for industrial trucks.

Description	SBE® 160 Part Numbers		SBX® 175 Part Numbers	
Minimum Quantity	100	25	100	25
Yellow	2-8170G4	E6383G1	2-7251G4	6383G1
Orange	2-8170G3	E6382G1	2-7251G3	6382G1
Red	2-8170G5	E6385G1	2-7251G5	6385G1
Gray	2-8170G1	E6380G1	2-7251G1	6380G1
Blue	2-8170G2	E6381G1	2-7251G2	6381G1
Green	2-8170G7	E6390G1	2-7251G7	6390G1
Black	2-8170G14	E6392G1	N/A	N/A

* Yellow SBE® 160 and SBX® 175 housings are NOT intermateable.

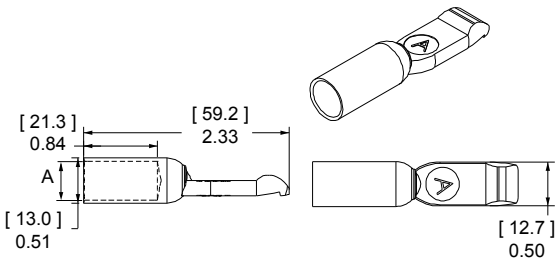


SBE® 160 / SBX® 175 Silver Plated Primary Power Wire Contacts

Use two silver plated contacts per housing for the best electrical performance and durability up to 10,000 mating cycles. See reducing bushings in accessory section for smaller wires.

AWG	mm²	Loose Piece Part Numbers		Dimensions - A - inches	mm
Minimum Quantity		500	50		
1/0	50	6384G1-BK	6384G1 *	0.44	11.1
2	35	6384G2-BK	6384G2 *	0.38	9.7

* Sold as pairs. 2 parts shipped for every 1 part ordered.



MATERIALS	
Housing	
SBX® and Powerpole® Plastic Resin	Polycarbonate
SBE® and 1x4 Auxiliary Housing	Polycarbonate / PBT Blend
Contact Retention Spring	Stainless Steel
Housing Flammability Rating	
UL94	V-0
Glow Wire- SBE® 160 Only	960°C (GWFI) / 850°C (GWIT)
Power & Powerpole® Contact	Silver Plated Copper Alloy
1x4 Auxiliary Contacts	
Pin	Copper Alloy, Au Over Ni
Socket	BeCu, Au Over Ni
Socket Body	Copper Alloy, Sn Bright Over Ni
Retention Clip	Stainless Steel
PPMX Contacts	Gold Plated Copper Alloy
Contact Termination Methods	
Crimp [3]	
Hand Solder	

c UL US File No. E26226 © CSA Certified File No. LR25154

NOTE 1: See IEC 60664-1 for working voltage.
NOTE 2: Amp ratings are stated per position and based on all positions being fully loaded.
1 - Based on: 105°C rated or better cable of the largest size. Properly calibrated APP® recommended tooling, and a 25°C ambient temperature. UL rating not to exceed the maximum operating temperature. CSA Rating below a 30°C temperature rise.
2 - Limited by the thermal properties of the connector plastic housing.
3 - Use APP® recommended tooling only. Alternate tools may adversely affect the performance of our connectors along with UL and CSA recognition.
4 - Voltage capability of SBE® housing is identical to SBX®, but derated to meet EN1175-1 requirements.

IEC INFORMATION

Connector Series	Configurations	Creepage / Clearance per IEC 60950-1	Material Group
SBE® 160	Unmated	6.1 mm	IIIa
	Mated	11.6 mm	

PROTECTION		
Touch Safety Main Connector Housing		
IEC 60950	SBE® 160 Only	Pass
IEC 60529	SBX® 175 Only	IP20 unmated

ATTRIBUTES	SBE® 160
AMP Rating AC/DC	160 Amp
Voltage Rating AC/DC (Steady State)	600 V AC/DC (Operational)
Breaking Capacity - AMP Rating / Cycles	160 Amp / 10 Cycles
Voltage Rating (Breaking Capacity)	220 VDC
FINGER Safety - Mated / Unmated	IEC 60529 - IP20
Wire Size Tested	50 mm²
Contact Series Tested	6384G1
Climatic Testing (Cold, Heat & MFG)	IEC 60512 Test -11j, 11i & 11g
Cycle Life	IEC 60512 Test 9a - 5,000 Cycles
Mechanical Strength Impact	IEC 60512-5 @ 29.5 Inches-dropped 8 times
Temperature Range	-20 °C to 105 °C -4 °F to 221 °F

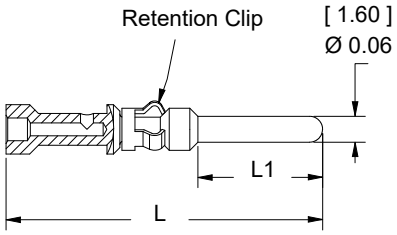
All Data Subject To Change Without Notice

Pin Contacts for 1x4 Auxiliary Connector

Gold plated contacts are available in 4 lengths to allow sequencing of circuits.

Description	AWG	mm²	Part Numbers	
Minimum Quantity			500	50
Standard Length 7.7 mm	12	2.5	PM16P12S30	PM16P12S30-50
	16 to 14	1.0 to 1.5	PM16P1416S30	PM16P1416S30-50
	20 to 16	0.75 to 1.0	PM16P1620S30	PM16P1620S30-50
	24 to 20	0.50 to 0.75	PM16P2024S30	PM16P2024S30-50
Pre-Mate 9.3 mm	12	2.5	PM16P12A30	-
	16 to 14	1.0 to 1.5	PM16P1416A30	-
	20 to 16	0.75 to 1.0	PM16P1620A30	-
	24 to 20	0.50 to 0.75	PM16P2024A30	-
Post-Mate 6.4 mm	12	2.5	PM16P12C30	-
	16 to 14	1.0 to 1.5	PM16P1416C30	-
	20 to 16	0.75 to 1.0	PM16P1620C30	-
	24 to 20	0.50 to 0.75	PM16P2024C30	-

Auxiliary Pin Contact Lengths	- L -		- L1 -	
	in.	mm	in.	mm
Standard Length 7.7 mm	0.77	19.6	0.30	7.7
Pre-Mate 9.3 mm	0.83	21.2	0.37	9.3
Post-Mate 6.4 mm	0.72	18.3	0.25	6.4

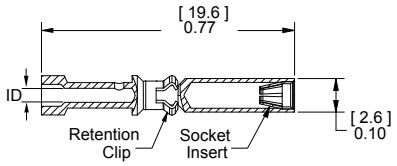


Socket Contacts for 1x4 Auxiliary Connector

Selectively gold plated contacts offer low resistance and durability up to 10,000 mating cycles.

Description	AWG	mm²	Part Numbers	
Minimum Quantity			500	50
Socket Contact	12	2.5	PM16S12S32	PM16S12S32-50
	16 to 14	1.0 to 1.5	PM16S1416S32	PM16S1416S32-50
	20 to 16	0.75 to 1.0	PM16S1620S32	PM16S1620S32-50
	24 to 20	0.50 to 0.75	PM16S2024S32	PM16S2024S32-50

Auxiliary Socket Contacts Crimp Barrel ID		
Wire Gauge	**in.**	**mm.**
24 to 20	0.04	1.1
20 to 16	0.07	1.7
16 to 14	0.08	2.1
12	0.10	2.6



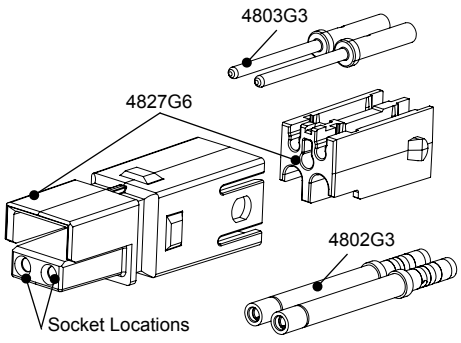
PPMX Auxiliary Connector

The PPMX auxiliary connector allows up to 8 auxiliary circuits to be used in the SBE®, SBO®, & SBX® housings. There are 4 auxiliary circuits per PPMX connector and two PPMX housings fit into the auxiliary port in the main connector housing. Rated up to 7 amps 300 volts per contact, the genderless design holds two each gold plated pin & Socket contacts. This innovation allows the very durable and cost effective design of SBE®, O, X connectors to be used for applications requiring up to 8 battery monitoring or equipment vehicle communication circuits. (2) Retaining pins or (1) Retaining clip is required to hold the auxiliary housing in place.

Auxiliary Kits includes: (1) Auxiliary Housing, (2) Pin Contacts, and (2) Socket Contacts.

Description	AWG	mm²	Part Numbers		
Minimum Quantity			1,000	100	25
PPMX Auxiliary Kit	24 to 20	0.50 to 0.25	-	4850G6	-
1x4 Auxiliary Housing	Contacts Sold Separately		4827G6-BK	-	4827G6

* No extraction tool required for contact removal.



SBE® 320 / SBX® 350 Connectors

Up to 550 Amps



SBE® and SBX® connectors can integrate up to 8 auxiliary power / signal contacts along with the two primary power circuits. Sequencing within auxiliary positions is possible using the 4 pin lengths available in the 1x4 auxiliary connector. SBE® and SBX® offer touch safe housings.

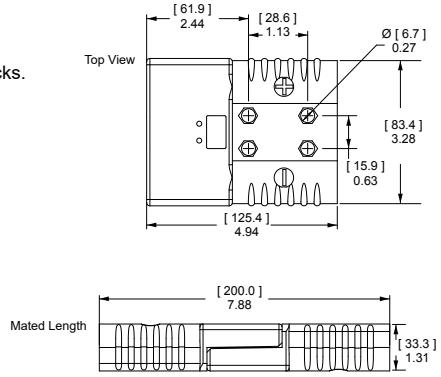
- **Silver Plated Wire Contacts up to 350 mcm (185 mm²)**
  Allows low resistance UL rated currents up to 550 amps per pole
- **Up to 8 Auxiliaries**
  Enables intelligent power switching, CAN and interlock loop circuitry, as well as power up to 20 amps per pole. Auxiliaries are all Last-mate/ First-break relative to power contacts.

SBE® 320 / SBX® 350 ORDERING INFORMATION

SBE® 320 / SBX® 350 Housings

The largest size of SBE®, X, O style housing. SBE® housings are molded from a chemical resistant PBT. SBX® housings are molded from PC. SBE® 320 and SBX® 350 housings of the same Voltage Color-Code cannot be mated. SBX® 350 housings do not meet EN1175-1 requirements for industrial trucks.

Description	SBE® 320 Part Numbers		SBX® 350 Part Numbers	
Minimum Quantity	100	25	100	25
Yellow	2-8171G6	E6362	2-7249G6	6362
Orange	2-8171G7	E6339	2-7249G7	6339
Red	2-8171G3	E6352	2-7249G3	6352
Gray	2-8171G1	E6350	2-7249G1	6350
Blue	2-8171G2	E6351	2-7249G2	6351
Green	2-8171G4	E6353	2-7249G4	6353
Black	2-8171G5	E6361	2-7249G5	6361
Brown	2-8171G8	E6336	N/A	N/A
Purple	2-8171G9	E6349	N/A	N/A

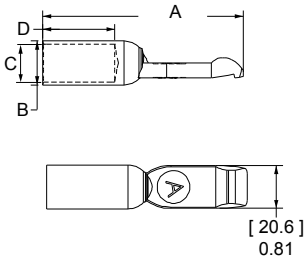


SBE® 320 / SBX® 350 Silver Plated Primary Power Wire Contacts

Silver plated contacts offer superior electrical performance and durability up to 10,000 mating cycles. See reducing bushings in accessory section for smaller wires.

AWG	mm²	Loose Piece Part Numbers			Dimensions - A - inches	mm	- B - inches	mm	- C - inches	mm	- D - inches	mm
Minimum Quantity		200	150	50								
300/350 mcm	150	-	6358-BK	6358 *	3.03	76.96	0.88	22.20	0.75	19.05	1.25	31.80
4/0	120	6356-BK	-	6356 *	3.10	78.74	0.75	19.05	0.64	16.26	1.25	31.80
3/0	95	6355-BK	-	6355 *	3.10	78.74	0.70	17.78	0.58	14.73	1.25	31.80
2/0	70	6354-BK	-	6354 *	3.10	78.74	0.64	16.26	0.49	12.45	1.25	31.80
2	35	6394-BK	-	6394 *	3.10	78.74	0.51	12.95	0.38	9.50	1.25	31.80

* Sold as pairs. 2 parts shipped for every 1 part ordered.

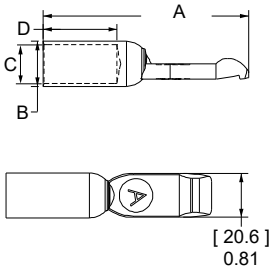


SBE® 320 DIN Standard Silver Plated Primary Power Wire Contacts

Crimp barrel O.D. are compliant with DIN standard tooling. Will also fit into SBX® 350 housings. Not recommended for cross mating with above typical contacts for SBE® & SBX®.

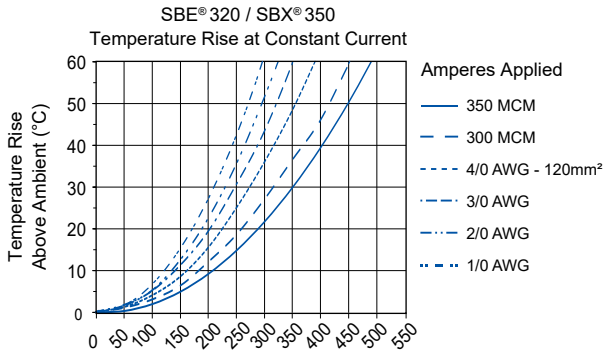
AWG	mm²	Loose Piece Part Numbers		Dimensions - A - inches	mm	- B - inches	mm	- C - inches	mm	- D - inches	mm
Minimum Quantity		200	50								
3/0	95	1341G3-BK	1341G3 *	2.89	73.41	0.78	19.81	0.59	14.99	0.94	23.88
2/0	70	1341G2-BK	1341G2 *	2.74	69.60	0.68	17.27	0.51	12.95	0.79	20.07
1/0	50	1341G1-BK	1341G1 *	2.65	67.31	0.57	14.48	0.43	10.92	0.79	20.07

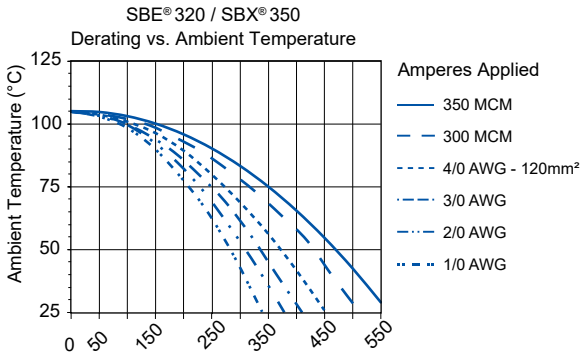
* Sold as pairs. 2 parts shipped for every 1 part ordered.



SBE® 320 / SBX® 350 CONNECTOR TEMPERATURE CHARTS - Temperature rise charts are based on a 25°C ambient temperature.

Current - Temperature Derating per IEC 60512-5-2 Test 5B





SBE® 320 / SBX® 350 CONNECTOR SPECIFICATIONS

ELECTRICAL	SBX® & SBE®		SBE® Only
Current Rating Amperes [1]	**UL**	**CSA**	**EN1175-1**
Primary Power (350 MCM)	550	350	320
Powerpole® Auxiliary (12 AWG)	20	20	N/A
1x4 Auxiliary (12 AWG)	20	20	N/A
PPMX (20 AWG)	5	5	N/A
Voltage Rating AC/DC			
Primary Power (350 MCM)	600		150 [4]
Powerpole® Auxiliary (12 AWG)	600		150 [4]
1x4 Auxiliary (12 AWG)	600		N/A
PPMX (20 AWG)	600		N/A
Dielectric Withstanding Voltage			
Volts AC	2,200		
* Average Mated Contact Resistance milliohms			
2 1/2 " 350 MCM	0.05		

MATERIALS		
Housings		
SBX® and Powerpole® Auxiliary Housings	Polycarbonate	
SBE®, PPMX and 1x4 Auxiliary Housings	Polycarbonate / PBT blend	
Housing Flammability Rating	**UL**	**IEC (SBE® Only)**
SBX® / SBE®	94 V-0	960°C (GWFI) 850°C (GWIT)
Contact Materials		
Power Contacts	Au Plated Copper	
Powerpole® Auxiliary	Au or Sn - Copper Alloy	
1x4 Auxiliary Contacts		
Pin	Au Over NI - Copper Allow	
Socket	Au Over NI - BeCu	
Socket Body	Sn Over Ni, Copper Alloy	
Retention Clip	Stainless Steel	
PPMX Contacts	Gold Plated Copper Alloy	

* Not UL rated

Contact Terminations [3]- Crimp or Hand Solder

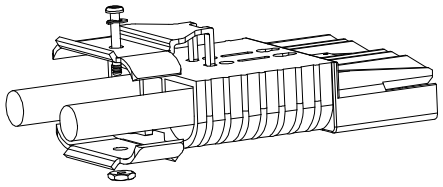
SBE® 320 / SBX® 350 ACCESSORIES

Cable Clamps

Durable metal clamps adapt to a wide range of cable sizes. Cable clamp kit includes clamp top and bottom as well as the hardware bag.

Description	Cable Size Min / Max Inches O.D.	Cable Size Min / Max mm O.D.	Part Number
Minimum Quantity			25
Cable Clamp Kit	0.85 to 0.67	21.6 to 17.1	911G2

The given wire O.D. information is an estimate. Cable clamps should be evaluated for performance with the actual wire to be used.



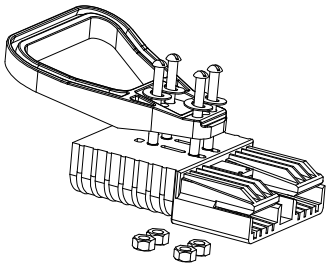
Handles *

Handles are made out of durable PC plastic. Hardware to attach to connector body included in kits.

Description	Part Numbers	
Minimum Quantity	100	25
Gray Handle Kit	995G2-APP	995G2
Red Handle Kit	995G4-APP	995G4
Handle Only, Gray	3-5074P1	-
Handle Only, Red	3-5074P3	-
Handle Only, Black	3-5074P5	-
Hardware Bag	-	106G7

* Torque value 50 (in - lbs) / 5.6 (Nm)

NOTE: For assembly of clamps to housing only

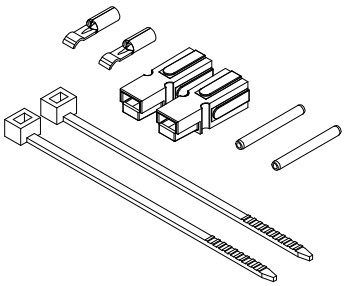


Powerpole® Auxiliary

Powerpole® auxiliary connectors are rated up to 30 amps 600 volts and can be used for auxiliary power, control or sensing. The auxiliary kit includes (1) each black and red standard Powerpole® housing, (2) Contacts, (2) Zip Cable Straps, and (2) Retaining Pins. (1) Retaining Clip can be substituted for (2) Retaining Pins.

Description	Part Numbers	
Minimum Quantity	200	25
Powerpole® Auxiliary Kit 16 to 12 AWG Contact	-	6305G1
Powerpole® Auxiliary Kit 20 to 16 AWG Contact	-	6310G1
Black Powerpole® Housing	1327G6	-
Red Powerpole® Housing	1327	-
16 to 12 AWG Contact	1331	-
20 to 16 AWG Contact	1332	-

NOTE: Finger proof PP15/45 housings should not be used for auxiliary contacts.



1x4 Auxiliary Connector

The unique 1x4 auxiliary connector allows up to 4 auxiliary circuits up to 20 amps 150 volts each in SBE®, SBO®, & SBX® housings. The genderless design holds two each of the gold plated pin & socket contacts. This innovation allows the very durable and cost effective design of SBE®,O, X connectors to substitute for DIN 43589-1 applications where 4 auxiliary contacts are required. Multiple pin lengths allow the further benefit of sequencing between circuits. (2) Retaining Pins or (1) Retaining Clip is required to hold the auxiliary housing in place. Auxiliary Kits include (1) Auxiliary Housing, (2) Standard Length Pin Contacts, (2) Socket Contacts, (2) Retaining Pins and (1) Retaining Clip.

Description	AWG	mm²	Part Numbers		
Minimum Quantity			1,000	250	25
1x4 Auxiliary Kit	12	4	-	-	440G3
1x4 Auxiliary Kit	16 to 14	1.5 to 2.5	-	-	440G1
1x4 Auxiliary Kit	20 to 16	0.75 to 1.5	-	-	440G2
1x4 Auxiliary Housing	Contacts Sold Separately		3-5956P1	444G1	-

