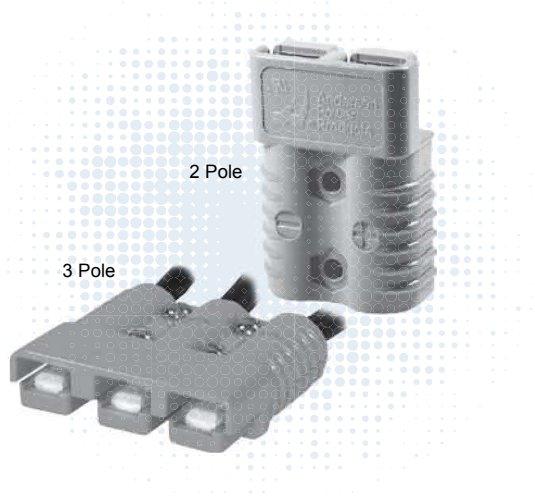
SB®175 Connectors - up to 280 Amps



Wires sizes from #12 (3.3 mm²) to 1/0 (50 mm²) fit in the second to largest connector in the SB® series. The 3 pole SB®175 adds an additional position for power or grounding. All Multipole wire connector housings are genderless and mate to themselves minimizing inventory and assembly complexity.

- **Silver Plated Wire Contacts up to 1/0 (50 mm²)**
  Allows UL rated currents up to 280 amps
- **Chemical Resistant Housing Option**
  Extends temperature range down to -40°C, while offering enhanced UV and chemical resistance
- **UL Rated for Hot Plugging up to 100 Amps**
  Great for battery or other applications where the ability to interrupt circuits is required

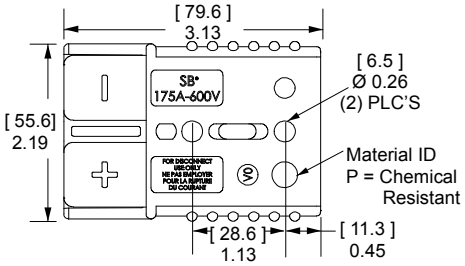
| SB®175 ORDERING INFORMATION |

SB®175 Standard Housings

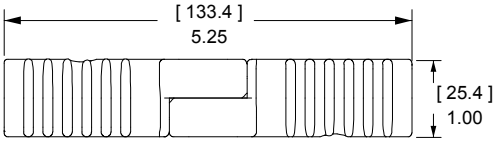
The second to largest SB® housings work with wire contacts up to 1/0 AWG [50 mm²] as well as busbar contacts. Genderless design mates with itself. Mechanical keys are color coded. NOTE: SB175 black is keyless and can be mated with all other colors.

Description	Voltage Color Code	--- Part Numbers ---	
Minimum Quantity		200	50 ...
Yellow	12V	943-BK	943
Orange	18V	942-BK	942
Red	24V	949-BK	949
Gray	36V	940-BK	940
Blue	48V	941-BK	941
Black (Keyless)	80V	2-7252G11	-
Brown	96V	950-BK	950

Bottom View



Mated Length



SB®175 Chemical Resistant Housings

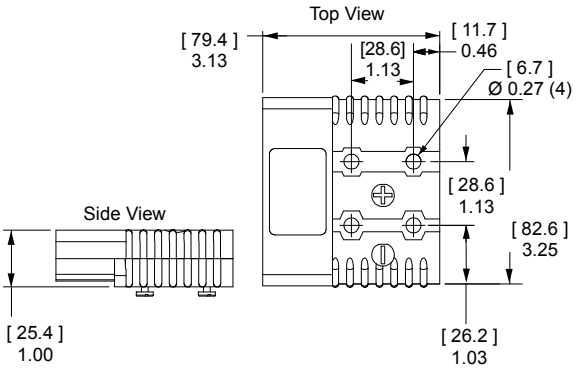
Same features as the Standard SB®175 but molded in a chemical resistant PBT/ PC blend. Suitable for use to -40°C.

Description	Voltage Color Code	---- Part Numbers ----	
Minimum Quantity		200	50 ...
Red	24V	P949-BK	P949
Gray	36V	P940-BK	P940

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.

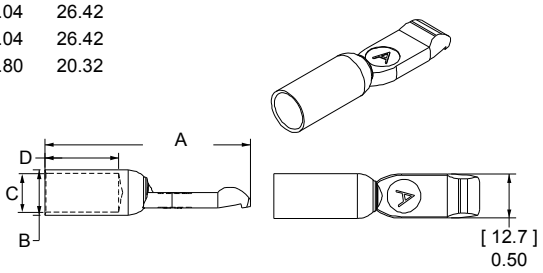
Description	Voltage Color Code	--- Part Numbers ---	
Minimum Quantity		100	25 ....
Gray Housing and Hardware Kit	36V	-	902
Gray Housing Top Half	-	2-5048	-
Gray Housing Bottom Half	-	2-5049	-
Hardware Kit	-	-	110G34



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	20.32

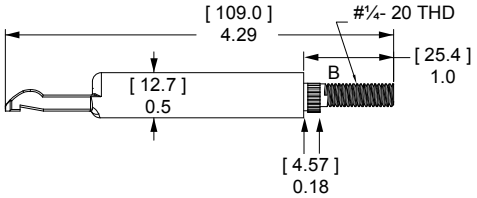


SB®175 Silver Plated Busbar Contacts

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.



All Data Subject To Change Without Notice

| 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	
UL Hot Plug Current Rating Amperes - Wire & Busbar		
250 cycles at 120V DC 1/0 wire	100A	

Materials

Housing	
Standard Plastic Resin	Polycarbonate
Chem. Resistant Resin	Polycarbonate / PBT blend
Contact Retention Spring	Stainless Steel
Housing Flammability Rating	
UL94	V-0
Wire & Busbar Contacts	
Base	Copper Alloy
Plating	Silver
Contact Termination Methods	
Crimp[3]	Wire Contacts
Hand Solder	Wire Contacts
Wrench / Socket	Busbar Contacts

Mechanical

Wire Size Range	AWG	mm²
Wire Contacts with Bushings	12 to 1/0	3.3 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	150	
N	667	
Mechanical Shock [4]		
MIL-STD-202	213 Condition A	50g's
Vibration High Frequency [4]		
MIL-STD-202	204 Condition A	10g's

Protection

Touch Safety with Wire Contacts	
IEC 60529	IP10
Environmental Sealing with Boots	
IEC 60529	IP64

RoHS COMPLIANT APP · REACH COMPLIANCE APP

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

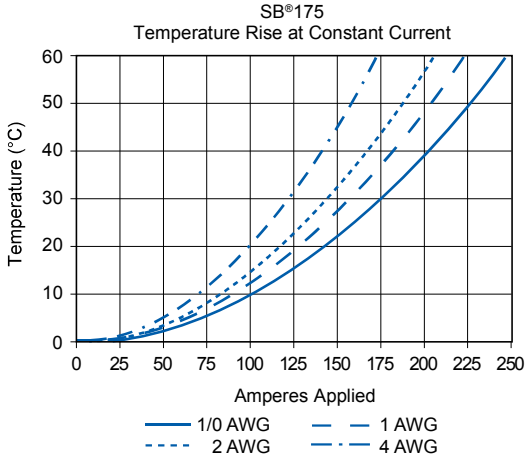
[1] Based on: 105°C rated or better cable of the largest size, Properly calibrated APP® recommended tooling, and a 25°C ambient temperature. UL rating not to exceed the maximum operating temperature. CSA rating below a 30°C temperature rise.

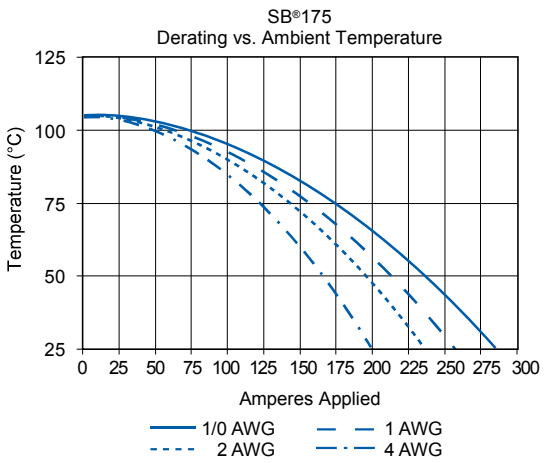
[2] Limited by the thermal properties of the connector plastic housing.

[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®175 CONNECTOR TEMPERATURE CHARTS |





NOTE: Temperature rise charts are based on a 25°C ambient temperature.

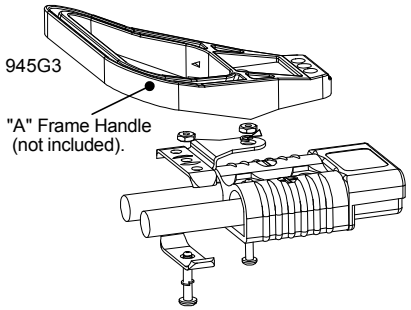
SECTION 3
SB® 175

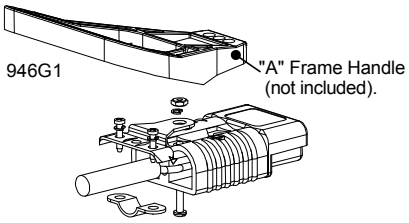
| SB® 175 Accessories |

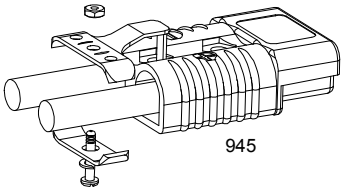
Cable Clamps

Durable metal cable clamps securely hold cables to prevent accidental strain or pulls from dislodging wire or contacts from the housing. Only Bolt On type clamps can be used with the handles. Cable clamps are recommended for solder terminated wires. Not for use with 3 pole housing.

Description	Cable Size Max / Min In. Inches O.D.	Max / Min mm mm O.D.	---- Part Numbers ----	
Minimum Quantity			100	50 ....
Self Attaching for Discrete Conductor	0.55 to 0.24	14 to 6	105G3	945
Bolt On for Discrete Conductor	0.66 to 0.24	16.7 to 6.2	945G3-BK	945G3
Bolt On for Bundled Conductor	0.75 to 0.29	18.3 to 7.3	946G1-BK	946G1





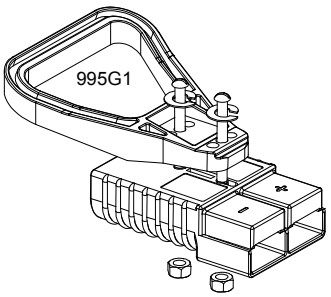


The given wire O.D. information is an estimate. Cable clamps should be evaluated for performance with the actual wire to be used.

Handles

Handles are made out of durable PC plastic. Hardware to attach to connector body included in kits. Not for use with 3 pole housing.

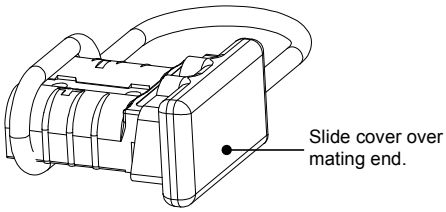
Description	----- Part Numbers -----	
Minimum Quantity	100	25 ...
Gray Handle Kit	-	995G1
Red Handle Kit	-	995G3
Handle Only, Gray	3-5074P1	-
Handle Only, Red	3-5074P3	-
Handle Only, Black	3-5074P5	-
Hardware Bag	-	105G8



Dust Cover

Prevents dust and dirt from entering the mating interface of the connector when unmated. NOTE: Not a Hermetic Seal. Not for use with 3 pole housing.

Description	----- Part Numbers ----	
Minimum Quantity	500	50 ...
Dust Cover with Lanyard Strap, Red	113890P2	134G2



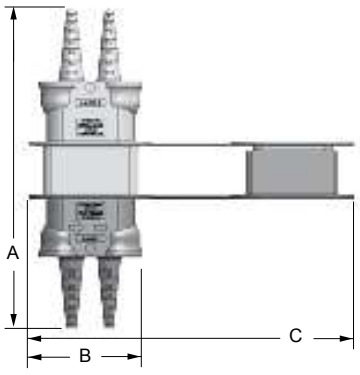
NEW SB® Environmental Boots

SB® Environmental Boots provide water, dirt, chemical and UV protection for SB® 175 connectors. The durable boots shield the connectors from water and dirt to IP64* in both the mated and unmated condition.

Description	---------- Part Number ----------	
Minimum Quantity	250	25 ...
SB® 175 Environmental Boot, Load	3-6037P1-BK	3-6037P1
SB® 175 Environmental Boot, Source	3-6036P1-BK	3-6036P1

*IP64 test pending

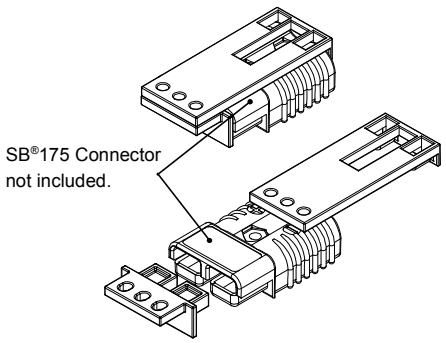
Dimensions					
- A -		- B -		- C -	
in	mm	in	mm	in	mm
9.5	241	3.2	80	9.3	236



SB®175 Lockout

Works with standard lockout - tagout equipment to prevent access to the mating interface of the connector. Made from durable PC plastic. Can be used with 3 pole housing to lockout positive and negative positions only.

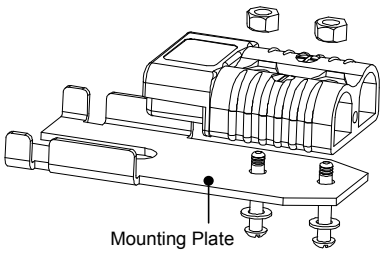
Description	---- Part Number ----
Minimum Quantity	25 ...
Red Lockout - Tagout Kit	SB175-LOCKOUT



Manual Release Bracket - Mounting Side

Works with the Locking Side to ease mating and unmating connectors. Not for use with 3 pole housing.

Description	- Part Number -
Minimum Quantity	10 ...
Bracket and Hardware Kit	924G1

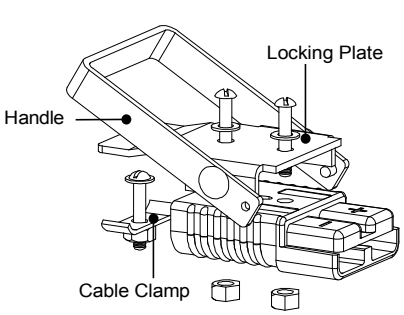


Manual Release Bracket - Locking Side

Works with the Mounting Side to ease mating and unmating connectors. Not for use with 3 pole housing.

	Cable Size		
	Max / Min	Max / Min	
Description	Inches O.D.	mm O.D.	- Part Number -
Minimum Quantity			10 ....
Bracket and Hardware Kit w/ Clamp	0.50 to 0.21	12.6 to 5.4	923

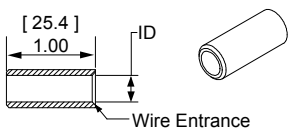
The given wire O.D. information is an estimate. Cable clamps should be evaluated for performance with the actual wire to be used.



Reducing Bushings: for Use with Contact # 1382

Use with contact part number 1382-BK to allow a smaller wire to be used with the connector. Electrical capability is derated with smaller wire.

		---------- Part Numbers ----------				Dimensions - ID -	
Contact Barrel Size	Wire Size					inches	mm
Minimum Quantity		1,500	1,000	500	100	.....	
1/0 AWG [53.5 mm²]	#1 AWG [42.4 mm²]	-	-	5687-BK	5687	0.39	9.91
1/0 AWG [53.5 mm²]	#2 AWG [33.6 mm²]	5690-BK	-	-	5690	0.34	8.64
1/0 AWG [53.5 mm²]	#4 AWG [21.2 mm²]	-	5693-BK	-	5693	0.27	6.86
1/0 AWG [53.5 mm²]	#6 AWG [13.3 mm²]	-	5663-BK	-	5663	0.22	5.59
1/0 AWG [53.5 mm²]	#10 - 8 AWG [5.3 - 8.4 mm²]	5648-BK	-	-	5648	0.19	4.83



SB®
- Tooling Information

Wire Size		Loose Piece Part Numbers	Loose Piece Contact Crimp Tools				
AWG	mm²	Silver Plating	Hand Tool	or Pneumatic Bench Tool	+ Die	+ Locator	Number of Crimps
SB50							
#6	13.3	1307	1309G4	1387G1	1388G6	1389G6	Single
		5900					
#8	8.4	5952					
#10 / 12	5.3 / 3.3	5953			1388G7		
		5915					
SB120							
#1	42.4	1323G1	1368 Series	1387G1	1388G3	1389G4	Single
#2	33.6	1319			1388G4		
#4	21.2	1319G4					
#6	13.3	1319G6					
SB175							
1/0	53.5	1382	1368 Series	1387G2	1303G13	1304G32	Double
#1	42.4	1347					
#2	33.6	1383					
#4	21.1	1384					
#6	13.3	1348		1387G1	1388G4	1389G3	Single
SB350							
300mcm	152	910	1368 Series	N/A			Double
4/0	107.2	908		1387G2	1303G3	1304G31	
3/0	85	916			1303G12		
2/0	67.4	907					
1/0	53.5	917					

NOTE: See website for the most current information.