# SB175® 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*



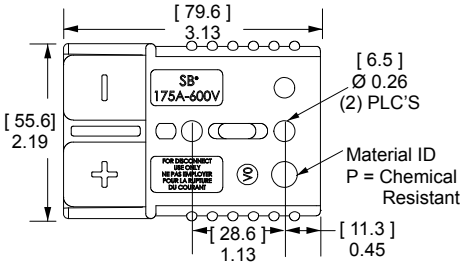
## | SB®175 ORDERING INFORMATION |

### SB®175 Standard Housings

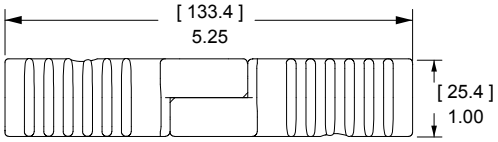
The second to largest SB® housings work with wire contacts up to 1/0 AWG [50 mm²] as well as busbar contacts. Genderless design mates with itself. Mechanical keys are color coded. NOTE: SB175 black is keyless and can be mated with all other colors.

| Description | --- Part Numbers --- | |
|---|---|---|
| Minimum Quantity ..... | 200 | 50 ... |
| Yellow | 943-BK | 943 |
| Orange | 942-BK | 942 |
| Red | 949-BK | 949 |
| Gray | 940-BK | 940 |
| Blue | 941-BK | 941 |
| Black (Keyless) | 2-7252G11 | - |
| Brown | 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 | --- Part Numbers --- | |
|---|---|---|
| Minimum Quantity .... | 200 | 50 .. |
| Red | P949-BK | P949 |
| Gray | P940-BK | P940 |



*All Data Subject To Change Without Notice*

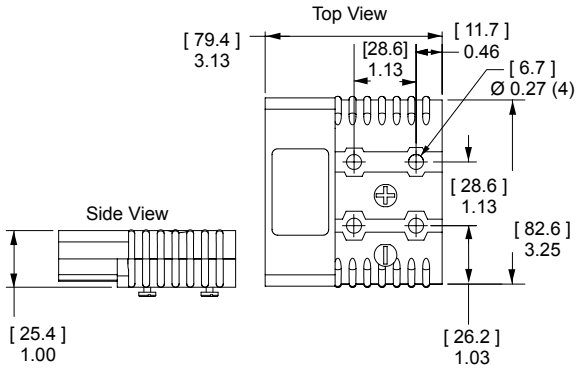
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## SB®175 3 Pole Housings & Hardware

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 |

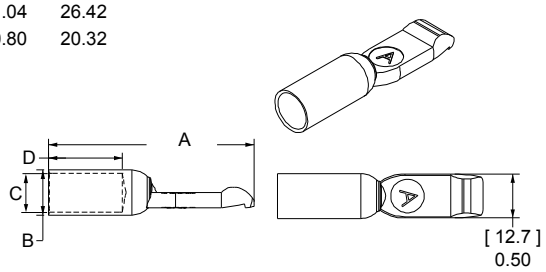
* 902 includes (3) 1/0 contacts.




## 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.

| | | | | | Dimensions | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mating | Loose Piece | | - A - | | - B - | | - C - | | - D - | |
| AWG | mm² | Force | - Part Numbers - | | inches | mm | inches | mm | inches | mm | inches | 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 |

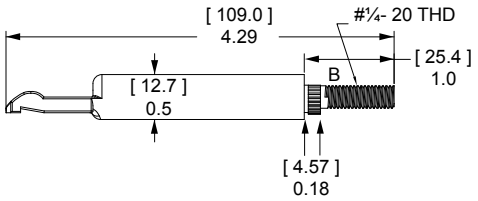



## SB®175 Silver Plated Busbar Contacts

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.








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# | 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.

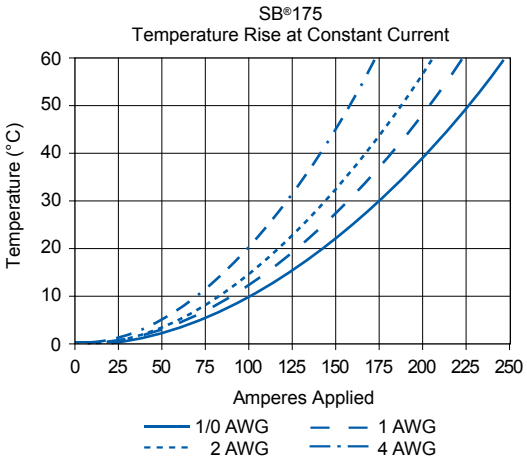
[2] Limited by the thermal properties of the connector plastic housing.

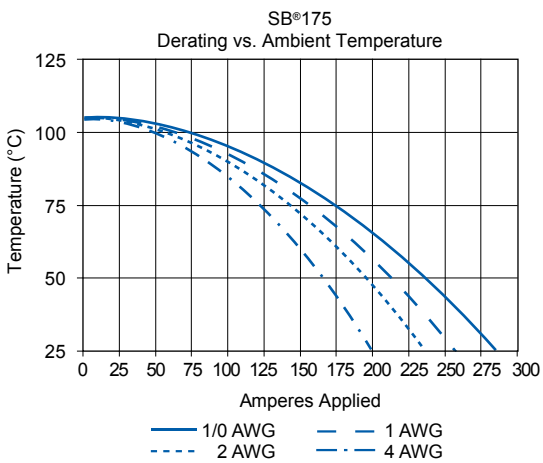
[3] Use APP® recommended tooling only. Alternate tools may adversely affect the performance of our connectors along with UL and CSA recognition.

[4] Tested with contact part number 1382.

SECTION 3
SB® 175

# | SB®175 CONNECTOR TEMPERATURE CHARTS |




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



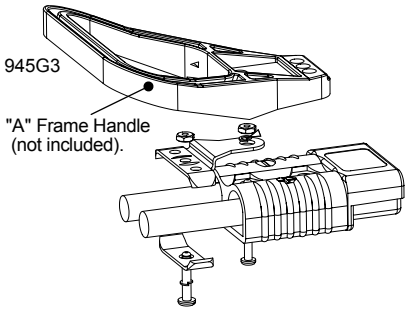
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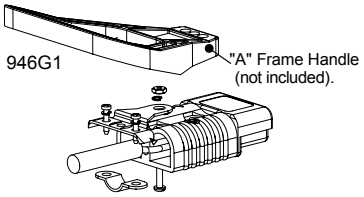
# | SB® 175 Accessories |

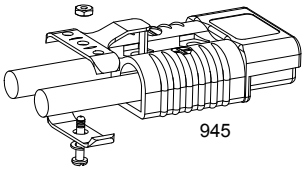
## Cable Clamps

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 |



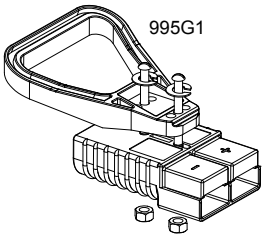




The given wire O.D. information is an estimate. Cable clamps should be evaluated for performance with the actual wire to be used.

## 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.

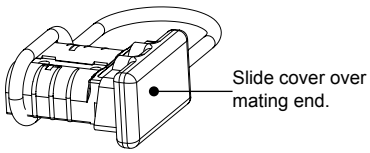
| Description | ----- Part Numbers ----- | |
|---|---|---|
| Minimum Quantity .... | 100 | 25 ... |
| Gray Handle Kit | - | 995G1 |
| Red Handle Kit | - | 995G3 |
| Handle Only, Gray | 3-5074P1 | - |
| Handle Only, Red | 3-5074P3 | - |
| Handle Only, Black | 3-5074P5 | - |
| Hardware Bag | - | 105G8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




## 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 |



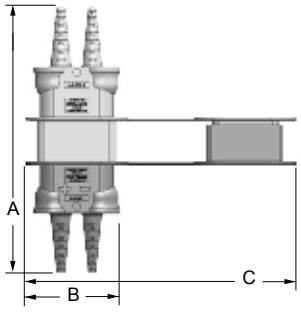

## SB® Environmental Boots - Coming Soon

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 Numbers ---------- | |
|---|---|---|
| Minimum Quantity ..... | 200 | 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 |




SECTION 3
SB® 175

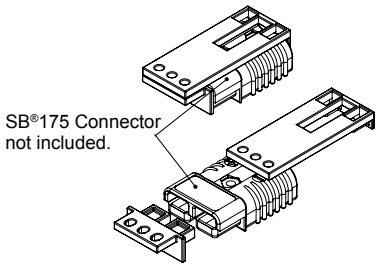


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## SB®175 Lockout

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.

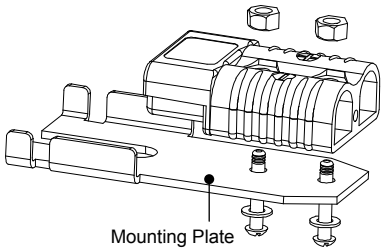
| Description | ---- Part Numbers ---- |
|---|---|
| Minimum Quantity ..... | 25 .... |
| Red Lockout - Tagout Kit | SB175-LOCKOUT |




## 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 |



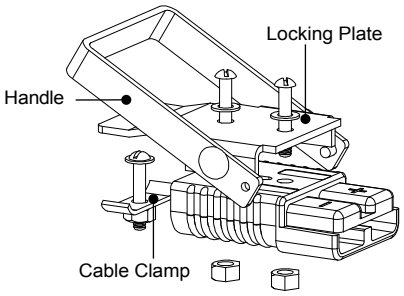

NOTE: Product may appear different then above image.

## 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 | 923G1 |

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

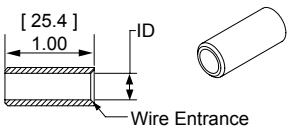



NOTE: Product may appear different then above image.

## 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 |






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# 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 | | | Single |
| 4/0 | 107.2 | 908 | | 1387G2 | 1303G3 | 1304G31 | Double |
| 3/0 | 85 | 916 | | | 1303G12 | | |
| 2/0 | 67.4 | 907 | | | | | |
| 1/0 | 53.5 | 917 | | | | | |

NOTE: See website for the most current information.





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