

SB[®] 175 Connectors

Up to 280 Amps



Wires sizes from 10 to 1/0 AWG (5.3 to 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

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: SB[®] 175 black housing 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 | - |

SB[®] 175 Chemical Resistant Housings

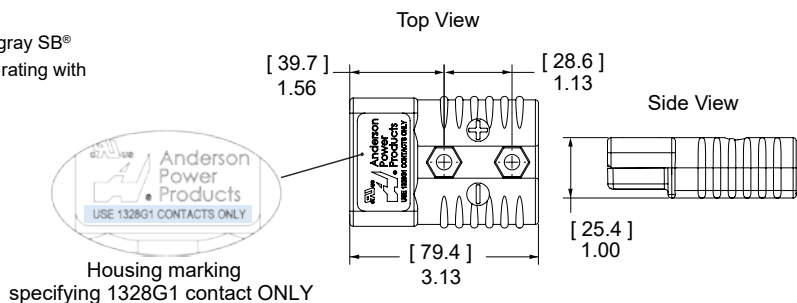
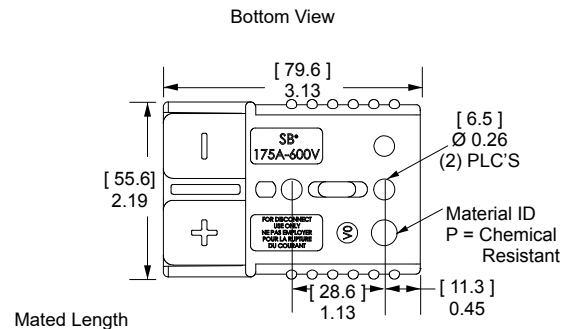
Same features as the Standard SB[®] 175 but molded in a chemical resistant PBT/ PC blend. Suitable for use to -40°C.

| Description | Part Numbers | |
|------------------|--------------|------|
| Minimum Quantity | 200 | 50 |
| Red | P949-BK | P949 |
| Gray | P940-BK | P940 |

SB[®] 175 2/0 Housing

Genderless design mates with itself. Can be cross mated with gray SB[®] 175 housing, but amperage capability is limited to the SB[®] 175 rating with the wire and contact used.

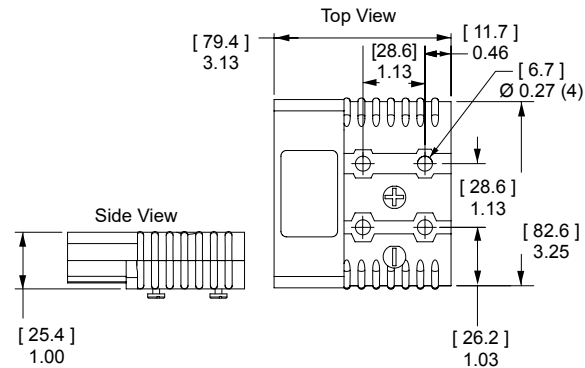
| Description | Voltage | Part Number |
|------------------|------------|-------------|
| Minimum Quantity | Color-Code | 100 |
| Gray | 36V | 115107G1 |



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 |

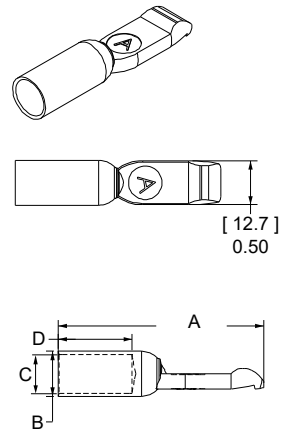


SB® 175 Silver Plated Wire Contacts

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 | mm ² | Mating Force | Loose Piece Part Numbers | Dimensions | | | | | | | |
|------------------|-----------------|--------------|--------------------------|------------|-------|--------|-------|--------|-------|--------|-------|
| | | | | - A - | | - B - | | - C - | | - D - | |
| | | | | 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 | 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

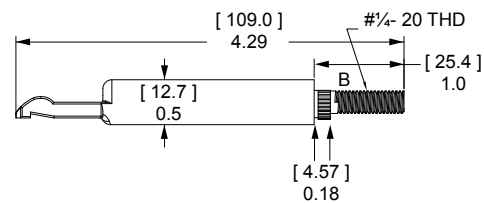


SB® 175 Silver Plated Busbar Contacts

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 |

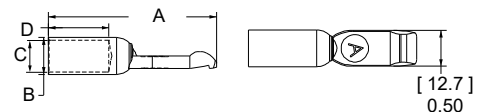
See Busbar contact drawing on website for further detail.



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

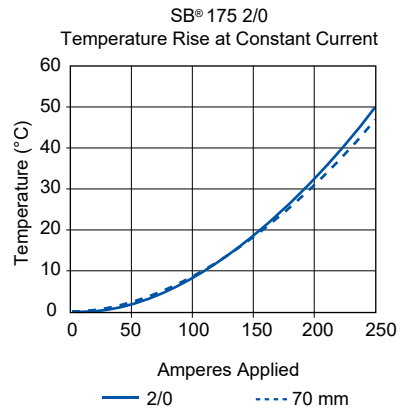
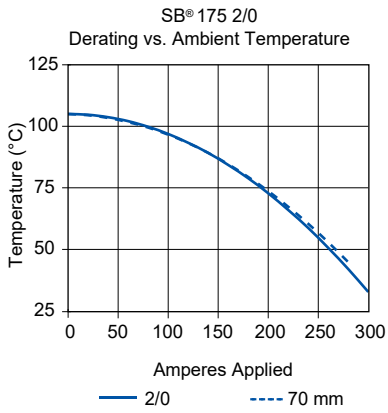
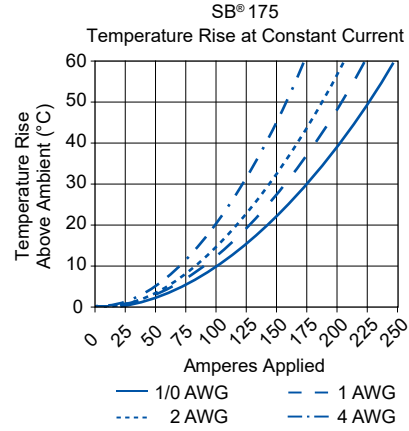
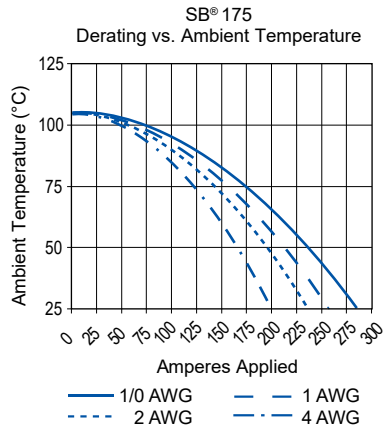
Silver plated contacts offer superior electrical performance and durability up to 5,000 mating cycles.

| Type | AWG | mm ² | Loose Piece Part Numbers | Dimensions | | | | | | | |
|------------------|-----|-----------------|--------------------------|------------|-------|--------|-------|--------|-------|--------|-------|
| | | | | - A - | | - B - | | - C - | | - D - | |
| | | | | inches | mm | inches | mm | inches | mm | inches | 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 TEMPERATURE CHARTS – Temperature rise charts are based on a 25°C ambient temperature.

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



SB® 175

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 | |

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 |

MECHANICAL

| Wire Size Range | AWG | mm ² |
|---------------------------------------|-----------------|-----------------|
| 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 |



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® 175 CONNECTOR IEC INFORMATION

| Connector Series | Configurations | Creepage / Clearance per IEC 60950-1 | Material Group |
|------------------|----------------|--------------------------------------|----------------|
| SB® 175 | Unmated | 5.73 mm | IIIa |
| | Mated | 5.73 mm | |

PROTECTION

Touch Safety with Wire Contacts

IEC 60529 IP10 unmated

Environmental Sealing with Boots

IEC 60529 IP64



| ATTRIBUTES | SB® 175 |
|---|---|
| AMP Rating AC/DC | 175 |
| Voltage Rating AC/DC (Steady State) | 500 V AC/DC (Operational) |
| Breaking Capacity - AMP Rating / Cycles | 175 Amp / 10 Cycles |
| Voltage Rating (Breaking Capacity) | 220 VDC |
| Finger Safety - Mated Only | IEC 60529 - IP20 |
| Wire Size Tested | 50 mm ² |
| Contact Series Tested | 1382 |
| Climatic Testing (Cold, Heat & MFG) | IEC 60512 Test-11j, 11i & 11g |
| Cycle Life | IEC 60512 Test 9a- 5000 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 |

SB® 175

SB® 175 2/0 CONNECTOR SPECIFICATIONS

| ELECTRICAL | | |
|--|--------------------|---------|
| Current Rating (Amperes) ¹ | UL 1977 | CSA |
| | 2/0 AWG | 340 200 |
| | 70 mm ² | 315 185 |
| Voltage Rating (AC/DC) | 600 | |
| Dielectric Withstanding Voltage (AC) | 2,200 | |
| AVG Contact Resistance (milli-ohms) ¹ | 0.045 | |

| MATERIALS | |
|-----------------------------|----------------------------|
| Standard Housing | PC |
| Flammability Rating | UL94 V-0 |
| Wire Power Contact | Copper Alloy, Silver Plate |
| Contact Termination Methods | |
| Crimp ³ | |
| Hand Solder | |

| MECHANICAL | | |
|---|--------------------|--------------------------|
| Contact Wire Range (AWG) | 2/0 | |
| | (mm ²) | 70 |
| MAX Wire Insulation Diameter (in) | 0.67 | |
| | (mm) | 17.04 |
| Operating Temperature ² | °C | °F |
| | PC Housing | -20° to 105° -4° to 221° |
| AVG Contact Retention Force for Standard PC Housing | | |
| | (lbf) | 150 lbf |
| | (N) | 667 n |
| Mating Cycles (no load) | 5,000 | |
| Connector AVG Connect / Disconnect | (lbf) | 55 |
| | (N) | 245 |



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.

SB® 175 ACCESSORIES

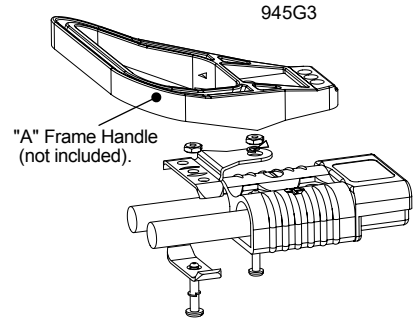
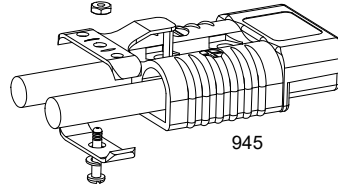
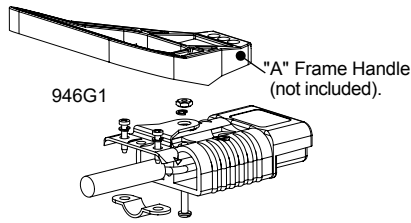
Cable Clamps

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 | | Part Numbers | |
|---------------------------------------|------------------------------|-------------------------|--------------|-------|
| | Max / Min In. Inches O.D. | Max / Min mm mm O.D. | 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 |

* Torque value 30 (in - lbs) / 3.4 (Nm)

NOTE: For assembly of clamp to housing only



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

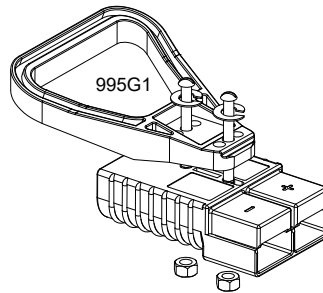
Handles

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 |

* Torque value 30 (in lbs) / 3.4 (Nm)

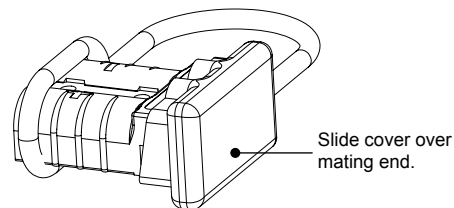
NOTE: For assembly of clamp to housing only



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 |

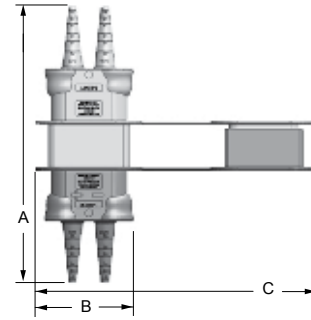


SB® Environmental Boots

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 | | Dimensions | | | | | |
|------------------------------------|--------------|----------|------------|-----|-------|----|-------|-----|
| | | | - A - | | - B - | | - C - | |
| | | | in. | mm | in. | mm | in. | mm |
| Minimum Quantity | 250 | 25 | | | | | | |
| SB® 175 Environmental Boot, Load | 3-6037P1-BK | 3-6037P1 | 9.5 | 241 | 3.2 | 80 | 9.3 | 236 |
| SB® 175 Environmental Boot, Source | 3-6036P1-BK | 3-6036P1 | 9.5 | 241 | 3.2 | 80 | 9.3 | 236 |

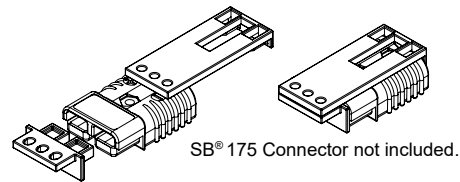
* IP64 test pending



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 |



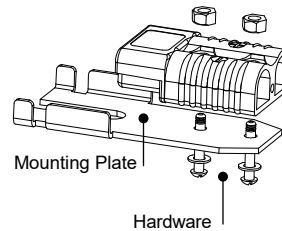
Manual Release Bracket - Mounting Side *

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

| Description | Part Number |
|---------------------------------|-------------|
| Minimum Quantity | 10 |
| Mounting Plate and Hardware Kit | 924G1 |

* Torque value 30 (in - lbs) / 3.4 (Nm)

NOTE: For assembly of bracket to housing only



Manual Release Bracket - Locking Side *

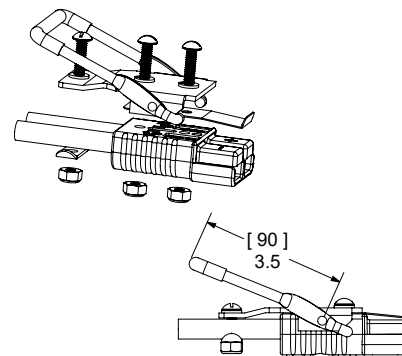
Works with the Mounting Side to ease mating and unmating connectors. Not for use with 3 pole housing.

| Description | Cable Size | | Part Number |
|--|-----------------------|-------------------|-------------|
| | Max / Min Inches O.D. | Max / Min mm O.D. | |
| Minimum Quantity | | | 10 |
| Locking plate, handle, clamp and hardware kit. | 0.50 to 0.21 | 12.6 to 5.4 | 923G1 |

* Torque value 30 (in - lbs) / 3.4 (Nm)

NOTE: For assembly of bracket to housing only

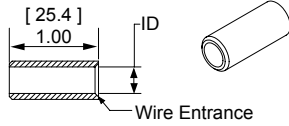
The given wire O.D. information is an estimate. Cable clamps should be evaluated for performance with the actual wire to be used.



Reducing Bushings: for Use with Contact Part Number 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.

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



SB® Tooling Information

| Wire Size | | Loose Piece Part Number | Loose Piece Contact Crimp Tools | | | | | | | |
|----------------|-----------------|-------------------------|---------------------------------|----|----------------|---|---------|---------|---------|------------------|
| AWG | mm ² | Silver Plating | Hand Tool | OR | Pneumatic Tool | + | Die | + | Locator | Number of Crimps |
| SB® 50 | | | | | | | | | | |
| 6 | 13.3 | 1307 | 1309G4 | | 1387G1 | | 1388G6 | | 1389G6 | Single |
| | | 5900 | | | | | | | | |
| 8 | 8.4 | 5952 | | | | | | | | |
| 10 to 12 | 5.3 to 3.3 | 5953 | | | | | | | | |
| | | 5915 | | | | | | | | |
| SB® 120 | | | | | | | | | | |
| 1 | 42.4 | 1323G1 | 1368 Series | | 1387G1 | | 1388G3 | | 1389G4 | Single |
| 2 | 33.6 | 1319 | | | | | | | | |
| 4 | 21.2 | 1319G4 | | | | | | | | |
| 6 | 13.3 | 1319G6 | | | | | 1388G4 | | | |
| SB® 175 | | | | | | | | | | |
| 1/0 | 53.5 | 1382 | 1368 Series | | 1387G2 | | 1303G13 | | 1304G32 | Double |
| 1 | 42.4 | 1347 | | | | | | | | |
| 2 | 33.6 | 1383 | | | | | | | | |
| 4 | 21.1 | 1384 | | | | | 1387G1 | 1388G4 | 1389G3 | Single |
| 6 | 13.3 | 1348 | | | | | | | | |
| SB® 350 | | | | | | | | | | |
| 350 mcm | 185 | 910 | 1368 Series | | N/A | | 1303G3 | | 1304G31 | Double |
| 300 mcm | 152 | 910 | | | | | | | | |
| 4/0 | 107.2 | 908 | | | | | | | | |
| 3/0 | 85 | 916 | | | | | 1387G2 | 1303G12 | | |
| 2/0 | 67.4 | 907 | | | | | | | | |
| 1/0 | 53.5 | 917 | | | | | | | | |

NOTE: See website for the most current information.

SB® 2/0 Tooling Information

| Wire Size | | Loose Piece Part Number | Loose Piece Contact Crimp Tools | | | | | | | |
|-----------|-----------------|-------------------------|---------------------------------|----|----------------|---|---------|---|---------|------------------|
| AWG | mm ² | Silver Plating | Hand Tool | OR | Pneumatic Tool | + | Die | + | Locator | Number of Crimps |
| 2/0 | 53.5 | 1328G1 | 1368 | | 1387G2 | | 1303G12 | | 1304G32 | Double |

NOTE: See website for the most current information.

Your Best Connection™

2020-0055 DS-SB175 REV C7

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