

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

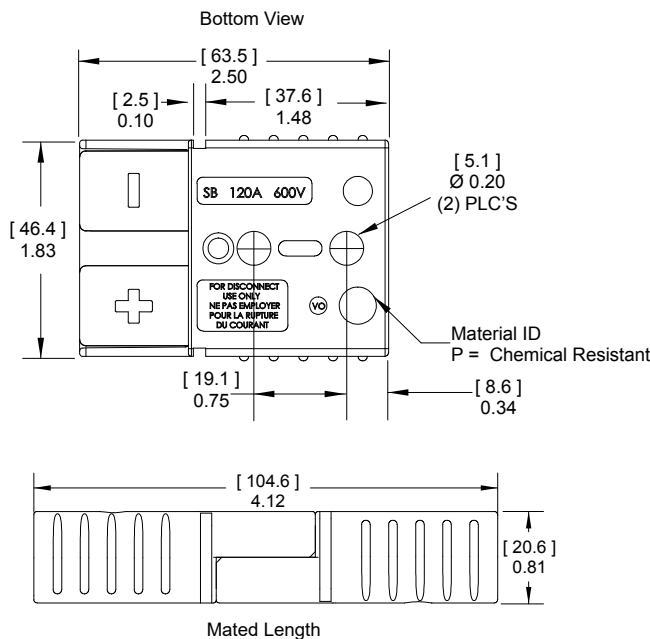
The second to smallest SB[®] housings work with wire contacts up to 1 AWG (35 mm²) as well as busbar contacts. Genderless design mates with itself. Mechanical keys are color-coded.

| 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.

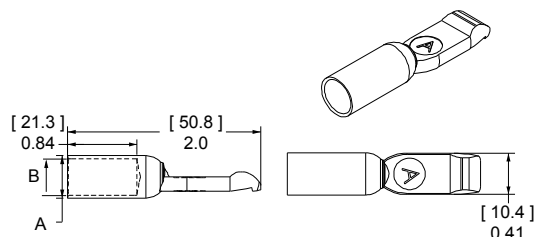
| Description | Part Numbers | |
|------------------|--------------|---------|
| Minimum Quantity | 250 | 50 |
| Red | P6810G3-BK | P6810G3 |
| Gray | P6810G1-BK | P6810G1 |



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

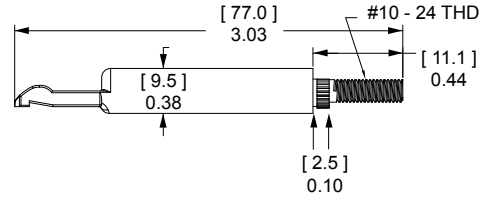


SB® 120 Silver Plated Busbar Contacts

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.

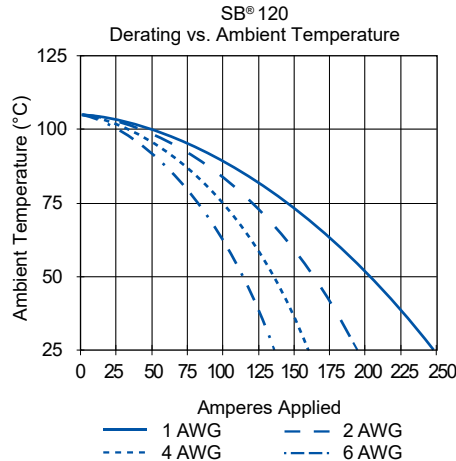
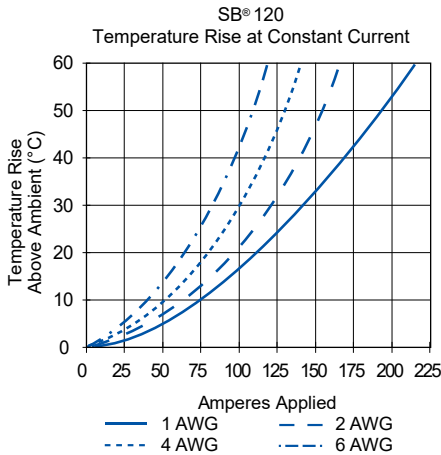
| Type | Thread | Mating Force | Loose Piece Part Numbers | | |
|-------------------------|----------|--------------|--------------------------|----------|--------|
| Minimum Quantity | | | | | |
| Busbar | 10 to 24 | High | - | B01997P1 | 120BBS |
| Lock Nut | 10 to 24 | - | H1216P8 | - | 110G54 |

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

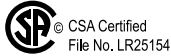
| MECHANICAL | | |
|--|--------------------|-----------------------|
| Wire Size Range | AWG | mm² |
| Wire Contacts with Bushings | 10 to 1 | 5.3 to 42.4 |
| Max. Wire Insulation Diameter | in. | mm |
| | 0.600 | 15.240 |
| Operating Temperature ² | °F | °C |
| Standard | -4° to 221° | -20° to 105° |
| 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

ELECTRICAL

| Current Rating Amperes ¹ | UL 1977 | CSA |
|--|---------|-----|
| Wire-to-Wire (1 AWG) | 240 | 130 |
| Wire-to-Busbar (2 AWG) | 120 | |
| 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 | |
| Hot Plug Current Rating Amperes - Wire & Busbar | | |
| 250 cycles at 120V DC | 60A | |



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.

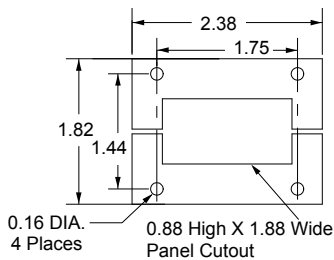
3 - Use APP® recommended tooling only. Alternate tools may adversely affect the performance of our connectors along with UL and CSA recognition.

SB® 120 ACCESSORIES

Mounting Clamp for SB® 120

Mounting clamps can be used for fastening a SB® 120 series housings to a panel. Fastening hardware not included.

| Description | Part Number |
|---------------------|--------------|
| Minimum Quantity | 20 sets of 2 |
| Panel Mount Bracket | 1467G1 |



Cable Clamps *

Durable metal cable clamps securely hold cables to prevent accidental strain or pulls from dislodging wire or contacts from the housing. Cable clamps are recommended for solder terminated wires.

| Description | Cable Size | | Part Numbers |
|--------------------------------|-----------------------|-------------------|--------------|
| | Min / Max Inches O.D. | Min / Max mm O.D. | |
| Minimum Quantity | | | 50 |
| Bolt on for Discrete Conductor | 0.70 to 0.23 | 17.7 to 5.8 | 981G1 |
| Bolt on for Bundled Conductor | 0.73 to 0.29 | 18.5 to 7.3 | 981G2 |

* Torque value 21 (in lbs) / 2.4 (Nm) NOTE: For assembly of clamp to housing only

IEC INFORMATION

| ATTRIBUTES | SB®120 |
|---|---|
| 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 mm ² |
| Contact Series Tested | 1323 |
| 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 |

| Connector Series | Configurations | Creepage / Clearance per IEC 60950-1 | Material Group |
|------------------|----------------|--------------------------------------|----------------|
| SB® 120 | Unmated | 4.10 mm | IIIa |
| | Mated | 4.10 mm | |

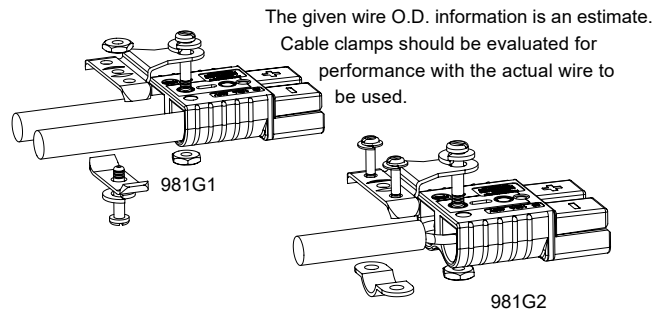
PROTECTION

Touch Safety with Wire Contacts

IEC 60529 IP10 unmated

Environmental Sealing with Boots

IEC 60529 IP64



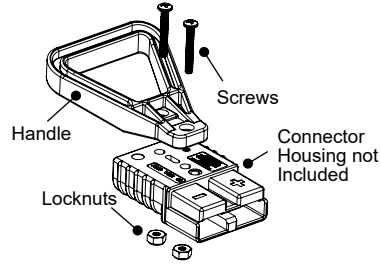
“A” Frame Handle for SB® 120 *

Handle makes mating and unmating the connector easier. The non-conductive gray plastic material is strong and safe. Machine screws and locknuts included.

| Description | Part Number |
|----------------------------|-------------|
| Minimum Quantity | 200 |
| Gray “A” Handle & Hardware | 997G1 |

* Torque value 21 (in - lbs) / 2.4 (Nm)

NOTE: For assembly of clamp to housing only



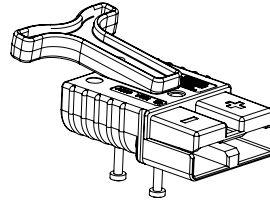
“T” Handle *

The “T” handle makes mating and unmating the connector easier. The non-conductive red plastic material is strong and safe. (2) Self tapping screws are used to secure the handle to the connector housing.

| Description | Part Numbers | |
|--------------------------------------|--------------|---------------|
| Minimum Quantity | 1,000 | 50 |
| Red “T” Handle + Hardware Bag | - | SB120-HDL-RED |
| Red “T” Handle Only | 113899P1 | - |
| #8 x 7/8” Screw (Order 2 Per Handle) | H1120P43 | - |

* Torque value 21 (in - lbs) / 2.4 (Nm)

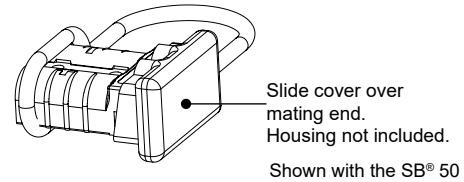
NOTE: For assembly of clamp to housing only



Dust Cover

Prevents dust and dirt from entering the mating interface of the connector when unmated. NOTE: Not a Hermetic Seal.

| Description | Part Numbers | |
|--------------------------------------|--------------|-------|
| Minimum Quantity | 100 | 50 |
| Dust Cover with Lanyard Strap, Black | B02019P1 | 134G4 |

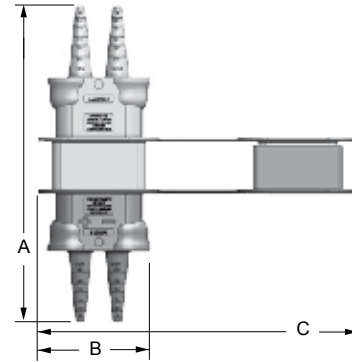


SB® 120 Environmental Boots

Environmental Boots provide water, dirt, chemical and UV protection for SB® 120 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 | 250 | 25 |
| SB® 120 Environmental Boot, Load | 3-6035P1-BK | 3-6035P1 |
| SB® 120 Environmental Boot, Source | 3-6034P1-BK | 3-6034P1 |

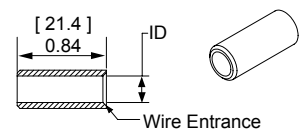
| Dimensions | | | | | |
|------------|-----|-------|----|-------|-----|
| - A - | | - B - | | - C - | |
| in. | mm | in. | mm | in. | mm |
| 7.9 | 201 | 2.8 | 71 | 8.0 | 203 |



Reducing Bushings

Use with contact part number 1319-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 | mm² | AWG | mm² | | | | inches | mm |
| Minimum Quantity | | 2,000 | 1,000 | 100 | | | | |
| 2 | 33.6 | 4 | 21.2 | 5919-BK | - | 5919 | 0.28 | 7.11 |
| 2 | 33.6 | 6 | 16 | - | 5920-BK | 5920 | 0.23 | 5.84 |
| 2 | 33.6 | 10 to 8 | 5.3 to 8.4 | 5921-BK | | 5921 | 0.18 | 4.57 |



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 | | | | | | | | |
| 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 | | | | | | | | |
| 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-SB120 REV C7

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