

# 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 mm<sup>2</sup>) are held in the second smallest SB® housing.

- **New Extended Range Contacts Expand Wire Size up to 1 AWG (42.4 mm<sup>2</sup>)**

*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

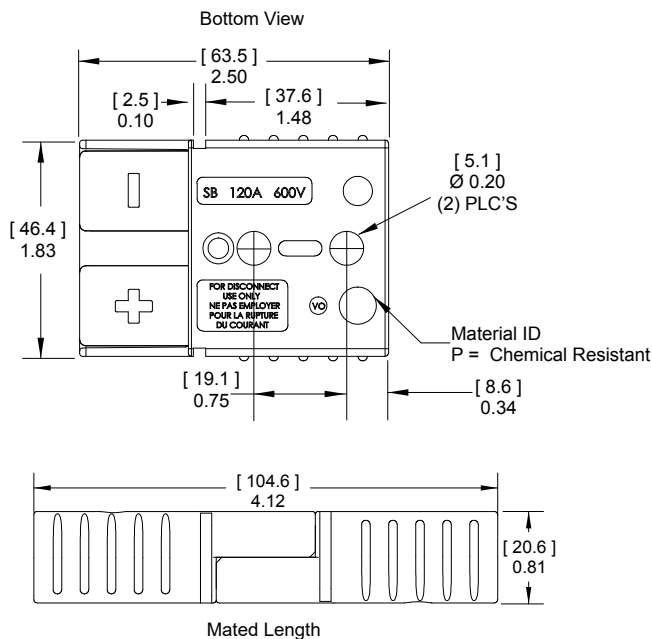
The second to smallest SB® housings work with wire contacts up to 1 AWG (35 mm<sup>2</sup>) as well as busbar contacts. Genderless design mates with itself. Mechanical keys are color-coded.

| 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.

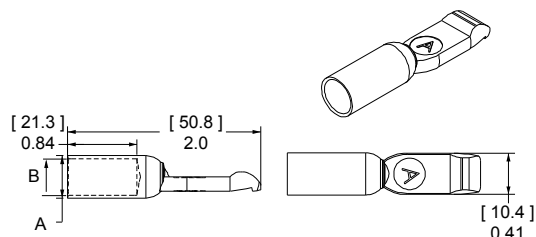
| Description      | Part Numbers |         |
|------------------|--------------|---------|
| Minimum Quantity | 250          | 50      |
| Red              | P6810G3-BK   | P6810G3 |
| Gray             | P6810G1-BK   | P6810G1 |



### 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 <sup>2</sup> | Mating Force | Loose Piece Part Numbers                        |           |        | Dimensions |       |        |      |  |
|------------------|-----------------|--------------|---|-----------|--------|------------|-------|--------|------|--|
|                  |                 |              | - A -   | - B -     | - C -  | 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 |  |

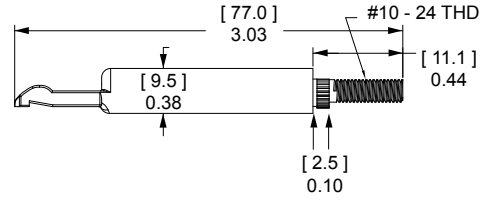


## SB® 120 Silver Plated Busbar Contacts

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.

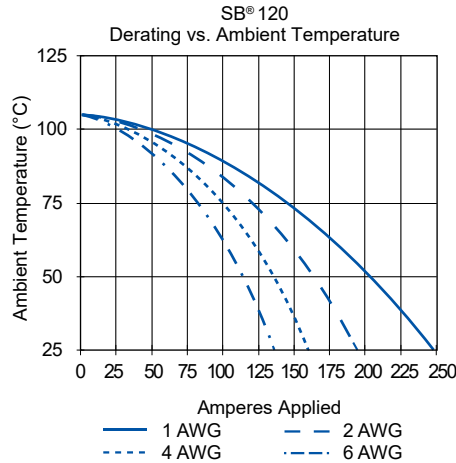
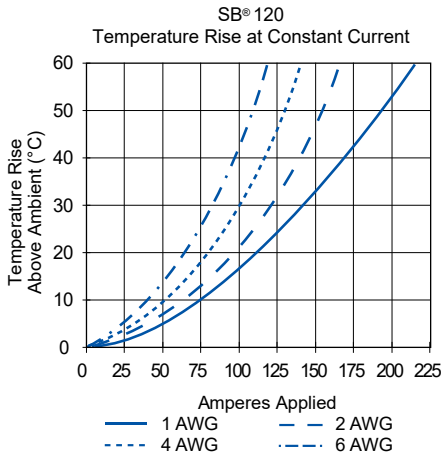
| Type                    | Thread   | Mating Force | Loose Piece Part Numbers |          |        |
|-------------------------|----------|--------------|--------------------------|----------|--------|
| <b>Minimum Quantity</b> |          |              |                          |          |        |
| 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

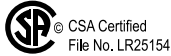
| MECHANICAL                                   |                    |                       |
|--|--------------------|-----------------------|
| <b>Wire Size Range</b>                       | <b>AWG</b>         | <b>mm<sup>2</sup></b> |
| Wire Contacts with Bushings                  | 10 to 1      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

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

Specifications continued on next page

## ELECTRICAL

| Current Rating Amperes <sup>1</sup>                  | 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 <sup>1</sup> |         |     |
| 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.

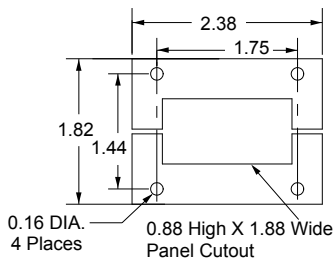
3 - Use APP® recommended tooling only. Alternate tools may adversely affect the performance of our connectors along with UL and CSA recognition.

## 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 <sup>2</sup>                          |
| 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<br>-4°F to 221°F             |

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

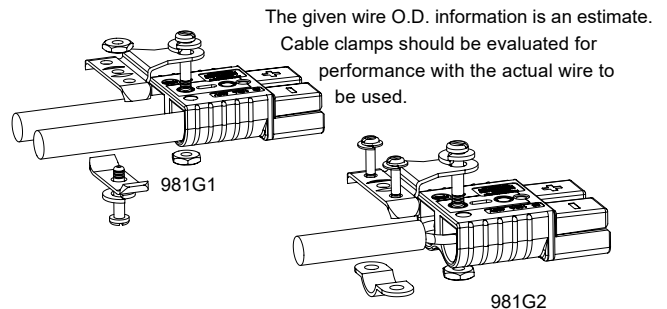
## PROTECTION

### Touch Safety with Wire Contacts

IEC 60529 IP10 unmated

### Environmental Sealing with Boots

IEC 60529 IP64



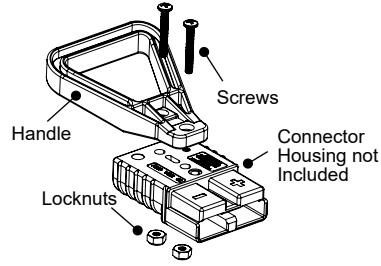
### “A” Frame Handle for SB® 120 \*

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



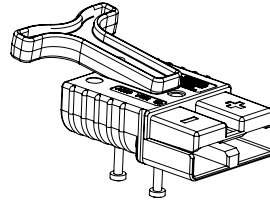
### “T” Handle \*

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)

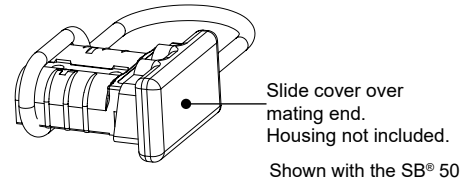
NOTE: For assembly of clamp to housing only



### 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 |

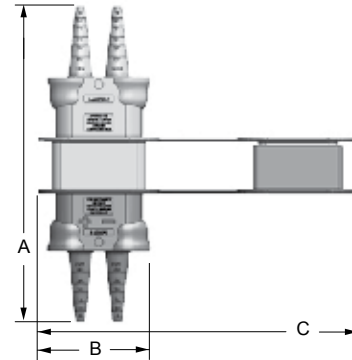


### SB® 120 Environmental Boots

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 |

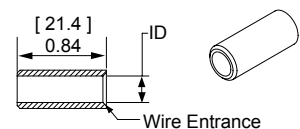
| Dimensions |     |       |    |       |     |
|------------|-----|-------|----|-------|-----|
| - A -      |     | - B - |    | - C - |     |
| in.        | mm  | in.   | mm | in.   | mm  |
| 7.9        | 201 | 2.8   | 71 | 8.0   | 203 |



### 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 <sup>2</sup> | Silver Plating          | Hand Tool                       | OR | Pneumatic Tool | + | Die     | + | Locator | Number of Crimps |
| <b>SB® 50</b>  |                 |                         |                                 |    |                |   |         |   |         |                  |
| 6              | 13.3            | 1307                    | 1309G4                          |    | 1387G1         |   | 1388G6  |   | 1389G6  | Single           |
|                |                 | 5900                    |                                 |    |                |   |         |   |         |                  |
| 8              | 8.4             | 5952                    |                                 |    |                |   |         |   |         |                  |
| 10 to 12       | 5.3 to 3.3      | 5953                    |                                 |    |                |   |         |   |         |                  |
|                |                 | 5915                    |                                 |    |                |   |         |   |         |                  |
| <b>SB® 120</b> |                 |                         |                                 |    |                |   |         |   |         |                  |
| 1              | 42.4            | 1323G1                  | 1368 Series                     |    | 1387G1         |   | 1388G3  |   | 1389G4  | Single           |
| 2              | 33.6            | 1319                    |                                 |    |                |   |         |   |         |                  |
| 4              | 21.2            | 1319G4                  |                                 |    |                |   |         |   |         |                  |
| 6              | 13.3            | 1319G6                  |                                 |    |                |   | 1388G4  |   |         |                  |
| <b>SB® 175</b> |                 |                         |                                 |    |                |   |         |   |         |                  |
| 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                    |                                 |    |                |   |         |   |         |                  |
| <b>SB® 350</b> |                 |                         |                                 |    |                |   |         |   |         |                  |
| 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 <sup>2</sup> | 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

Anderson™ will use reasonable efforts to include accurate and up-to-date content in the data sheet. All product information contained in the data sheet including ordering information, illustrations, specifications, and dimensions, are believed to be reliable as of the date of publishing, but is subject to change without notice. Anderson™ makes no warranty or representation as to its accuracy. Content in the data sheet may contain technical inaccuracies, typographical errors and may be changed or updated without notice. Anderson™ may also make improvements and/or changes to the products and/or to the programs described in the content at any time without notice. Current sales drawings and specifications are available upon request.

©2020 Anderson Power Products, Inc. All rights reserved. APP®, A®, Anderson Power Products®, SB® and the APP Logo are registered trademarks of Anderson Power Products, Inc. Anderson™ and Your Best Connection™ are trademarks of Anderson Power Products, Inc.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## Anderson Power Products:

[120BBS](#) [1319](#) [1323G1](#) [1323G1-BK](#) [5919](#) [5920](#) [5920-BK](#) [113899P1](#) [134G4](#) [1467G1](#) [6810G1](#) [6810G1-BK](#)  
[6810G2](#) [6810G2-BK](#) [6810g3](#) [6810G3-BK](#) [981G1](#) [981G2](#) [P6810G1](#) [P6810G1-BK](#) [P6810G3](#) [P6810G3-BK](#) [SB120-](#)  
[HDL-RED](#) [1388G3](#) [1389G4](#) [B02019P1](#) [3-6034P1](#) [3-6035P1](#) [3-6034P1-BK](#) [3-6035P1-BK](#) [B01997P1](#) [H1216P8](#)  
[H1120P43](#)