

# SB120<sup>®</sup> Connectors

## - up to 240 Amps



Like the other Multipole connectors, the SB<sup>®</sup>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 (5.3 mm<sup>2</sup>) to #1 (42.4 mm<sup>2</sup>) are held in the second smallest SB<sup>®</sup> 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*

SECTION 3  
SB<sup>®</sup> 120

### | SB<sup>®</sup>120 ORDERING INFORMATION |

#### SB<sup>®</sup>120 Standard Housings

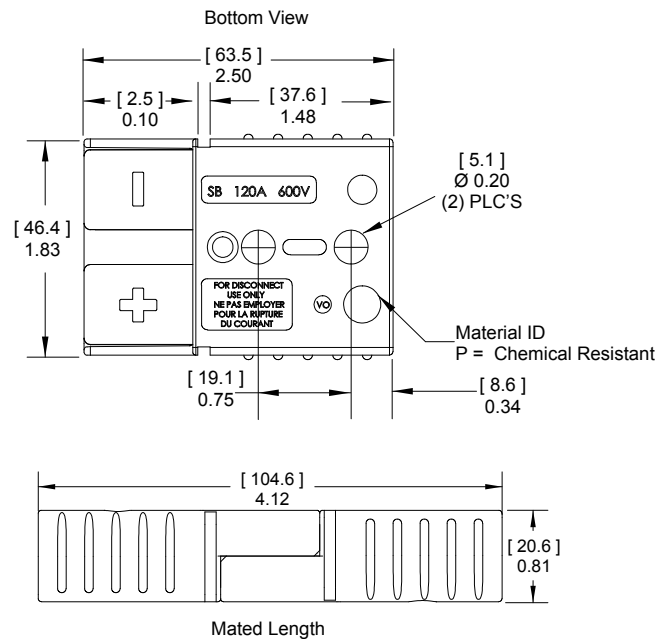
The second to smallest SB<sup>®</sup> housings work with wire contacts up to 1 AWG [35 mm<sup>2</sup>] as well as busbar contacts. Genderless design mates with itself. Mechanical keys are color coded.

Description	Voltage	Color	Code	----- Part Numbers -----
Minimum Quantity .....				250      50 .....
Red	24V		6810G3-BK	6810G3
Gray	36V		6810G1-BK	6810G1
Blue	48V		6810G2-BK	6810G2

#### SB<sup>®</sup>120 Chemical Resistant (CR) Housings

Same features as the Standard SB<sup>®</sup>120 but molded in a chemical resistant PBT/ PC blend. Suitable for use to -40°C.

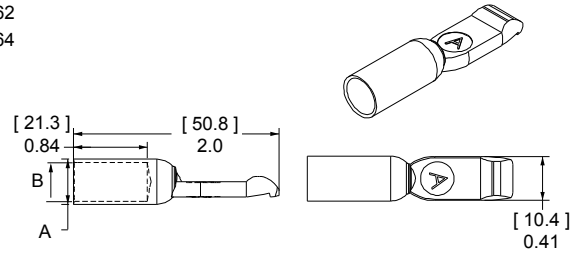
Description	Voltage	Color	Code	----- Part Numbers -----
Minimum Quantity .....				250      50 .....
Red	24V		P6810G3-BK	P6810G3
Gray	36V		P6810G1-BK	P6810G1



### 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 -	
Minimum Quantity			600	500	50	inches	mm	inches	mm
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	0.22	5.59
4	21.1	High	-	1319G4-BK	1319G4	0.44	11.18	0.30	7.62
6	13.3	High	-	1319G6-BK	1319G6	0.44	11.18	0.34	8.64

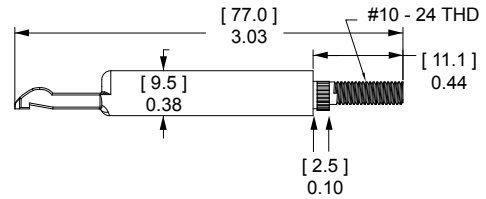


### SB®120 Silver Plated Busbar Contacts

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			1,000	300	20	10 ...
Busbar	#10-24	High	-	B01997P1	-	120BBS
Lock Nut	#10-24	-	H1216P8	-	110G54	-

See Busbar contact drawing on website for further detail.



# | SB®120 CONNECTOR SPECIFICATIONS |

## Electrical

Current Rating Amperes <sup>1</sup>	UL 1977	CSA
Wire to Wire (1 AWG)	240	130
Wire to Busbar (2 AWG)	120	
<b>Voltage Rating AC/DC</b>		
UL 1977	600	
<b>Dielectric Withstanding Voltage</b>		
Volts AC	2,200	
<b>Avg. Mated Contact Resistance Milliohms<sup>1</sup></b>		
5 1/2" of #2 AWG wire	0.136	
<b>Hot Plug Current Rating Amperes - Wire &amp; Busbar</b>		
250 cycles at 120V DC	60A	

## Mechanical

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

Base	Copper Alloy
Plating	Silver

### Contact Termination Methods

Crimp <sup>3</sup>	Wire Contacts
Hand Solder	Wire Contacts
Wrench / Socket	Busbar Contacts Only

## Protection

### Touch Safety with Wire Contacts

IEC 60529	IP10
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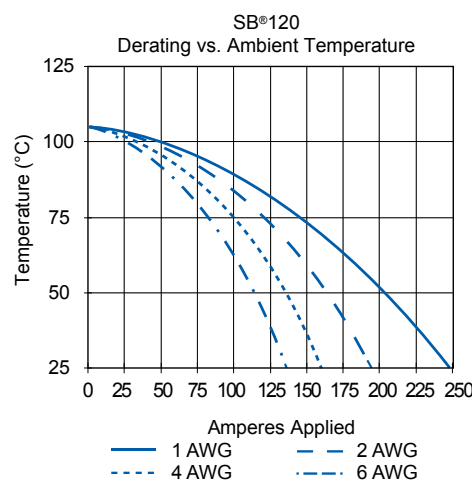
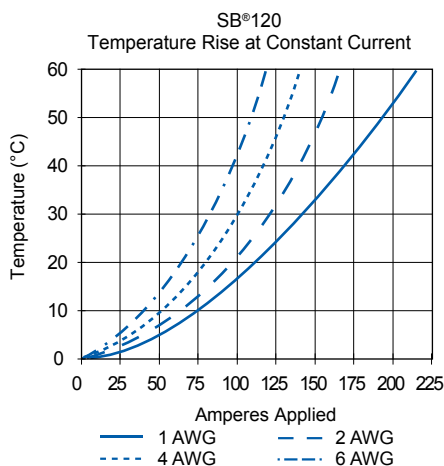


<sup>1</sup> Based on: 105°C rated or better cable of the largest size, Properly calibrated APP® recommended tooling, and a 25°C ambient temperature. UL rating not to exceed the maximum operating temperature. CSA rating below a 30°C temperature rise.

<sup>2</sup> Limited by the thermal properties of the connector plastic housing.

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

# | SB®120 CONNECTOR TEMPERATURE CHARTS |



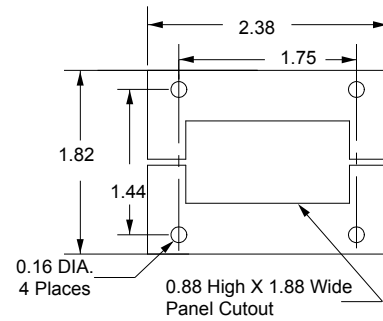
NOTE: Temperature rise charts are based on a 25°C ambient temperature.

# | 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 for SBS®50	1467G1

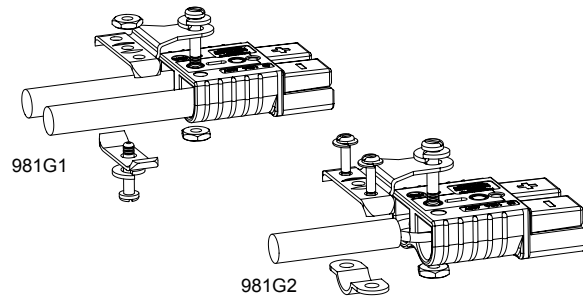


## Cable Clamps

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

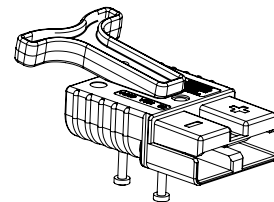
The given wire O.D. information is an estimate. Cable clamps should be evaluated for performance with the actual wire to be used.



## “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.

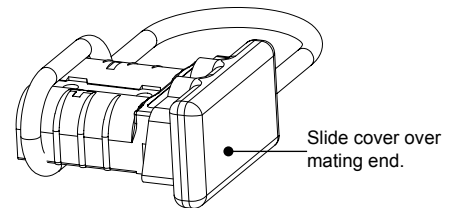
Description	----- Part Numbers -----	
Minimum Quantity .....	1,000	50 .....
Red “T” Handle + Hardware Bag	-	SB120-HDL-RED
Red “T” Handle Only	113899P1	-
#8 x 7/8” Screw (Order 2 Per Handle)	H1120P43	-



## Dust Cover

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

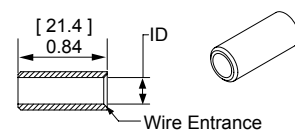
Description	----- Part Numbers -----	
Minimum Quantity .....	100	50 .....
Dust Cover with Lanyard Strap, Black	B02019P1	134G4



## 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 -	
					inches	mm
Minimum Quantity .....		2,000	1,000	100		
#2 AWG [33.6 mm²]	#4 AWG [21.2 mm²]	5919-BK	-	5919	0.28	7.11
#2 AWG [33.6 mm²]	#6 AWG [16 mm²]	-	5920-BK	5920	0.23	5.84
#2 AWG [33.6 mm²]	#10 - 8 AWG [5.3 - 8.4 mm²]	5921-BK		5921	0.18	4.57





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