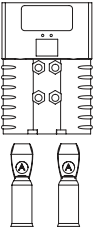


SBE® & SBX® Connectors

Assembly instruction for two pole battery connectors with option for auxiliary contacts.



FOR INSTALLATION BY A QUALIFIED ELECTRICIAN IN ACCORDANCE WITH NATIONAL AND LOCAL ELECTRICAL CODES AND THE FOLLOWING INSTRUCTIONS. THE SUITABILITY OF THIS TYPE OF TERMINATION MUST BE EVALUATED BY UNDERWRITERS' LABORATORIES, INC. AND CANADIAN STANDARDS. ASSOCIATION FOR THE END USE APPLICATION: Assemble contacts to the cables according to the equipment manufacturer's assembly instructions. The following instructions are supplied as a reference. Please note: instructions are included with each crimp tool for proper use.

Contains one (1) housing and two (2) contacts.

1. CONNECTOR RATINGS

Series	Amperes	Volts	Max Cable Size	
			AWG	mm ²
SBE160	160	150	1/0	50
SBE320	320	150	350 mcm	185
SBX175	175	600	1/0	50
SBX350	550	600	350 mcm	150

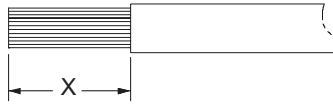
2. REDUCING BUSHING

Bushing Part Number	Wire Size AWG (mm ²)	For Use With	
		SBE160 / SBX175	SBE320 / SBX350
5687	1 (42.4)	6384G1 contact	6354 contact + 5918 bushing
5690	2 (33.6)	6384G1 contact	6354 contact + 5918 bushing
5693	4 (21.2)	6384G1 contact	6354 contact + 5918 bushing
5663	6 (13.3)	6384G1 contact	6354 contact + 5918 bushing
5648	10 (5.3)	6384G1 contact	6354 contact + 5918 bushing
5920	N/A (16)	6384G2 contact	6394 contact
5918	1/0 (53.5)	N/A	6354 contact

3. CABLE STRIPPING DIMENSIONS FOR PRIMARY POWER CONTACTS

Connector Series	Strip "X" To	
	Inches	mm
SBE350 / SBE320	1 3/8	35
SBEX350 / SBE320	1 1/8	29
SBEX350 / SBE320	2 1/2	64

With 350MCM Cable



CAUTION: When using cable with jacket diameter less than 0.423 inches (11mm) on the SBE160 / SBX175 and less than 0.709 inches (18mm) on the SBE320 / SBX350 thin wall heat shrink insulation should be evenly applied. For SBX350/SBE320 using a cable with a jacket diameter over 1.00 inches (28mm), it will not fit into the connector. Shrink tube should be applied.

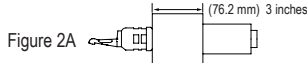
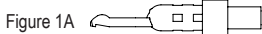
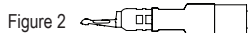
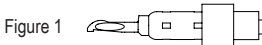
SHRINK WRAP USAGE

- For **SBE160 / SBX175** - When using a cable with a jacket diameter of (.420/11mm) or smaller the following Shrink tubing should be applied per instructions: to insure finger protection.
- For **SBE320 / SBX350** - When using a cable with a jacket diameter of (.700/18mm) or smaller the following Shrink tubing should be applied per instructions: to insure finger protection.
- For **SBE320/SBX350** - When using a cable with a jacket diameter over (1/25mm) or larger the following shrink tubing should be applied per instructions: to insure finger protection.

Use Shrink wrap with a diameter (A) with 2:1 shrink ratio

- Operating temp -30 to +105°C (or higher)
- min. shrink temperature 80°C
- Recovered wall thickness (B)
- Cut shrink wrap to (C)
- Place shrink wrap over crimped contact as shown (D).
- Align edge of shrink wrap tubing to the bottom of the last crimp as shown (D).
- Heat shrink wrap as required to form around the contact, cabling and the cable's insulation.

	SBE160/SBX175 0.420 / 11mm	SBE320/SBX350 0.700 / 18mm	SBE320/SBX350 1.00 / 25mm
A	0.71 / 18mm	0.95 / 24mm	1.57 / 40 mm
B	0.04 in / 1.1 mm	0.04 in / 1.1mm	0.051 / 1.3mm
C	0.5 in / 13mm	0.5 in / 13mm	3 in / 76 mm
D	1 & 1A	1 & 1A	2 & 2A



4. RECOMMENDED SOLDERING TECHNIQUES

(Use rosin flux solder only). Wrap cable strands, melt solder into well; heat and insert stripped cable. Continue heating well until solder flows into wire being careful not to over flow onto contact surfaces. DO NOT SOLDER DIP CONTACTS when contacts are soldered to unsupported lead. Underwriters' Laboratories, Inc. requires use of cable clamps, listed in table below.

Connector Ampere Rating	For Two Single Conductor Cables
SBE320 / SBX350	911G2
SBE160 / SBX175	945G2

5. CABLE / CONTACT & HOUSING ASSEMBLY

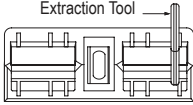
Observing polarity of markings, push each contact into rear of housing until notched side snaps over spring, tug on cable to make sure contact is locked into place.

DISASSEMBLING CONNECTORS (see illustration)

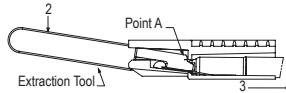
Switch off power first. Remove contact by inserting extraction tool (cat. no. SBE160 / SBX175 - 969P1, SBE320 / SBX350 - 970P1) as shown below (steps 1, 2, & 3).

CAUTION: Replace contacts individually on battery leads to reduce potential danger of shorting.

1. Insert extraction tool as shown between contact and housing to point A.



2. Press down to release contact from spring.



3. Pull cable to remove contact.

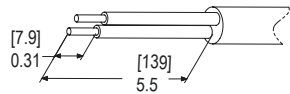
ASSEMBLY INSTRUCTIONS

NOTE: These assembly instructions apply only to the catalog numbers listed below (SBE®, SBX®, SBO®).

Catalog Number	Application	Contact	Wire Size AWG	Retaining Pin Length
6344	SBE80, SBE160, SBO60, SBX175	1331	12 to 16	0.85
6305G1	SBE320, SBX350	1331	12 to 16	1.00
6310G1	SBE320, SBX350	1332	16 to 20	1.00



Figure 1



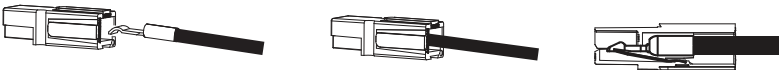
Contains two each of : housings, contacts, retaining pins & cable ties.

1. Single conductors use 12 to 18 AWG wire only. Strip to 0.31 inch (7.9 mm) off end of insulation.

Crimp Tool	Catalog Number
Manual - cycle controlled	1309G2
Pneumatic - cycle controlled	1367G1

2. Twin conductor cable 12 to 18 AWG. Strip back outer jacket 5.50 inches (139 mm). (See illustration). Then strip conductor insulation as in (figure 1).

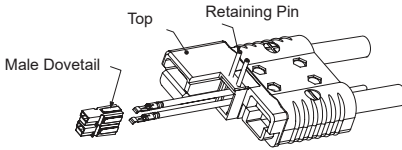
3a. To crimp: use the recommended tool. Crimping by other means may disturb contact position in housing and or produce high resistance joints.



3b. To Solder: Not recommended.

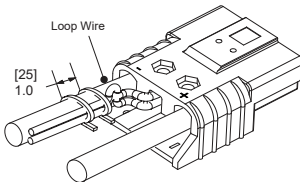
4. Thread or push one or two auxiliary contacts and wires through the rear of the connector before inserting into auxiliary housings. Push into auxiliary housings through rear until notched side of contact tip snaps over spring. Tug wires to make sure wires are secure.

Figure 1



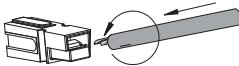
5. Slide two auxiliary Powerpole® housings together by dovetails to stack vertically. They cannot be inserted separately into SBE / SBX housing. The rear of each of the Powerpole housings must be flush.
6. Slide stacked auxiliaries back into connector housing until seated. The male dovetail should be on top as shown in (figure 1). Make sure side grooves of auxiliaries are aligned for retaining pins and insert tubular pins. Tap pins in holes from top, as shown in (figure 1).
7. Cable ties are supplied to secure the auxiliary leads or cable to one of the main power cables. Leave slack or loop in leads to Powerpole® contacts when applying cable ties. Wraps to be placed approximately 1 inch (25.4 mm) apart as shown in (figure 2).

Figure 2



8. To remove auxiliary housings, punch out retaining pins from bottom of the connector housing with a 0.06 inch (1.5 mm) diameter steel rod or pin driver. Pull auxiliary housings out of the SBE®/SBX® connector housing. Use contact insertion-extraction tool kit (part number 111038G2), to remove contacts from auxiliary housings see (figure 3). Pull cable to remove contact.

Figure 3



WARNING: CONNECTORS SHOULD NEVER BE ASSEMBLED OR DISASSEMBLED WHILE ENERGIZED

UL and CSA Reference - These connectors are recognized under the component program of Underwriters' Laboratories, File E26226, as well as Canadian Standards Association, Report LR25154.

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