

## SBS® Connector Assembly Instruction



SBS®50

SBS®75X

SBS®75G

The following instructions are supplied as a reference. For installation by a qualified electrician in accordance with national and local electrical codes and the equipment manufacturer's assembly instruction. The suitability of this type of termination must be evaluated by the Underwriter's Laboratories, Inc. and Canadian Standard Association for the end use application.

SBS® crimp contacts are for use with stranded Copper (Cu) wire only. Crimp tools recommended by APP® are required to achieve the designed performance of the connector. Use of solid wires, alternate conductor materials, or tools not recommended by Anderson can affect safety agency approvals of the connector and may produce unpredictable or health threatening results.

Verify that you are using the appropriate power, ground and/or auxiliary contacts and recommended tooling from Tables A, B and C:

**Table A: Power Contacts Listed for Use with SBS®50, SBS®75X and SBS®75G Series**

Contact Part Number	Wire Size	Crimp Tool
1339G2	#6 AWG - (16mm <sup>2</sup> )	1309G4 hand tool <b>or</b> 1387G1 pneumatic tool + 1388G6 die + 1389G9 locator
1339G5	#8 AWG - (10mm <sup>2</sup> )	1309G4 hand tool <b>or</b> 1387G1 pneumatic tool + 1388G6 die + 1389G9 locator
1339G3	#10 - 12 AWG - (2.5 - 6mm <sup>2</sup> )	1309G4 hand tool <b>or</b> 1387G1 pneumatic tool + 1388G7 die + 1389G9 locator

**NOTE:** Use one of the following reducer bushings with contact # 1339G2 for smaller cable sizes. Electrical capability is derated with smaller wire sizes.

Bushing Number	Wire Size
5912	#8 AWG - (8.4mm <sup>2</sup> )
5910	#12 - 10 AWG - (3.3 - 5.3mm <sup>2</sup> )
5913	#16 - 14 AWG - (1.3 - 2.1mm <sup>2</sup> )

**Table B: Ground Contacts Listed for Use with SBS®75G Series**

Contact Part Number	Wire Size	Crimp Tool
1340G1	#6AWG - (16mm <sup>2</sup> )	1309G4 hand tool or 1387G1 pneumatic tool + 1388G6 die + 1389G20 locator
1340G2	#8AWG - (10mm <sup>2</sup> )	1309G4 hand tool or 1387G1 pneumatic tool + 1388G6 die + 1389G20 locator
1340G3	#10 - 12 AWG - (2.5 - 6mm <sup>2</sup> )	1309G4 hand tool or 1387G1 pneumatic tool + 1388G7 die + 1389G20 locator

**NOTE:** Use one of the following reducer bushings with contact #1340G1 for smaller cable sizes. Electrical capability is derated with smaller wire sizes.

Bushing Number	Wire Size
5912	#8 AWG - (8.4mm <sup>2</sup> )
5910	#12 - 10 AWG - (3.3 - 5.3mm <sup>2</sup> )
5913	#16 - 14 AWG - (1.3 - 2.1mm <sup>2</sup> )

**Table C: Auxiliary Contacts Listed for Use with SBS®75X Series**

Contact Part Number	Wire Size	Crimp Tool	Insertion Tool	Extraction Tool	Inspection Tool
PM16P12C30	#12 AWG Post-Mate Pin, 6.6mm	PM1000G1 (hand tool & locator)	11038G3	PM1003G1	PM1003GX
PM16P12A30	#12 AWG Pre-Mate Pin, 9.3mm				
PM16P12B30	#12 AWG Pre-Mate Pin, 8.5mm				
PM16P12S30	#12 AWG Standard Length Pin, 7.7mm				
<b>PM16S12S32</b>	#12 AWG Socket				
PM16P1416C30	#16 - 14 AWG Post-Mate Pin, 6.6mm	TM0001 + TL0001 Pin + TL0002 Sockets (Mil Standard hand tool & locator)	PM1002G1	PM1003G1	PM1003GX
PM16P1416B30	#16 - 14 AWG Pre-Mate Pin, 8.5mm				
PM16P1416A30	#16 - 14 AWG Pre-Mate Pin, 9.3mm				
PM16P1416S30	#16 - 14 AWG Standard Length Pin, 7.7mm				
<b>PM16S1416S32</b>	#16 - 14 AWG Socket				
PM16P1620C30	#20 - 16 AWG Post-Mate Pin, 6.6mm	TP0001 +TL0001 (pneumatic tool & locator)	PM1002G1	PM1003G1	PM1003GX
PM16P1620B30	#20 - 16 AWG Pre-Mate Pin, 8.5mm				
PM16P1620A30	#20 - 16 AWG Pre-Mate Pin, 9.3mm				
PM16P1620S30	#20 - 16 AWG Standard Length Pin, 7.7mm				
<b>PM16S1620S32</b>	#20 - 16 AWG Socket				
PM16P2024C30	#24 - 20 AWG Post-Mate Pin, 6.6mm				
PM16P2024B30	#24 - 20 AWG Pre-Mate Pin, 8.5mm				
PM16P2024A30	#24 - 20 AWG Pre-Mate Pin, 9.3mm				
PM16P2024S30	#24 - 20 AWG Standard Length Pin, 7.7mm				
<b>PM16S2024S32</b>	#24 - 20 AWG Socket				

**NOTES:**

1. Instructions are included with each crimp tool for proper operation.
2. Use of non-Anderson Power crimp tools can affect UL & CSA approval.
3. Use appropriate reducing bushings for smaller cable sizes.
4. For appropriate crimping die set, see APP® catalog or website, or contact Technical Support at 978-422-3642.
5. TP0001 and TM0001 tools require locator TL0001 for pins and locator TL0002 for sockets.
6. Contact APP® Technical Support for the most current information and assistance with product selection.
7. PLEASE CONSULT WITH AN AUTHORIZED ANDERSON REPRESENTATIVE FOR RECOMMENDED TERMINATION TOOLING.

**1. Wire Preparation - Strip cable to dimensions shown in Table D.**



**Table D: Cable Stripping Dimensions**

Connector Series	Contact Type	"X"		NOTE
		Inches	mm	
SBS®75G	Power/Ground	0.56	14.0	-
SBS®50	Power	0.56	14.0	-
SBS®75X	Power	0.56	14.0	-
	Aux Pin	0.18	4.6	For use when wire insulation OD is <b>SMALLER</b> than crimp barrel ID
	Aux Socket	0.21	5.3	
	Aux Pin	0.24	6.1	For use when wire insulation OD is <b>LARGER</b> than crimp barrel ID
Aux Socket	0.28	7.1		

**NOTES:** For SBS®75X - if using bundled cable, strip outer jacket to 2.05 inches (52mm). Cut power conductor 0.733 inches (18.62mm) shorter than socket signal conductors. Cut pin signal conductors 0.51 inches (12.95mm) shorter than socket signal conductors.

## 2. Crimp or Solder Contact to Cable Following Recommended Techniques

- Crimp power and ground contacts using 1309G4 hand tool or 1387G1 pneumatic tool (with appropriate die and locator, as noted in Tables A and B), following all crimp tool instructions.
- Crimp auxiliary contacts using PM1000G1 hand tool, TM0001 Mil standard hand tool or TP0001 pneumatic tool (with appropriate locator, as noted in Table C), following all crimp tool instructions.
- Soldering is recommended for cables with solid or minimal conductor stranding, ex. THHN type wire. 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 overflow onto contact surface. Do not solder-dip contacts. Cable clamps are required for solder connections (per Underwriter's Laboratories, Inc.), refer to Table E.

### NOTES:

- Follow all crimp tool instructions. Contact APP® Technical Support 978-422-3642 if instructions are missing or for further assistance.
- SBS®75X: If using the cable clamp, secure the main clamp housing to the SBS®75X connector housing using the included screw and nut before installing/inserting power and auxiliary contacts (Recommended torque is 8 inches - lbs). If using bundle wires, make sure bundle is secured (not individual wires).

Table E: Cable Clamp Catalog Numbers

Connector Series	Clamp Number	Discrete Wire	Bundled
SBS®50	990	#8 - 6 AWG (10mm <sup>2</sup> )	-
	990G1	#12 - 6 AWG (4 - 10mm <sup>2</sup> )	-
	5905	-	0.32 - 0.45 in (4.27 - 11.43mm)
SBS®75X	PSBS75XCLP1	#12 - 6 AWG (4 - 10mm <sup>2</sup> )	0.39 - 0.60 in (9.91 - 15.24mm)
	PSBS75XCLP2	#12 - 6 AWG (4 - 10mm <sup>2</sup> )	0.35 - 0.55 in (8.89 - 13.97mm)

## 3. Insert Contacts into the SBS® Connector Housing

### a. Main Power Contacts

- Observing proper polarity as marked on the housing, insert terminated contact in rear of housing with notched side of tongue next to spring.
- Push terminated contact into housing until it snaps over end of spring; tug slightly to make sure contact is locked into place.

### b. Ground Contacts (SBS®75G only)

- Power/Ground contacts are marked with the ground symbol ( $\equiv$ ) and are used in the center location of the SBS®75G housing only.
- Observing proper polarity as marked on the housing, insert terminated contact in rear of housing with notched side of tongue next to spring.
- Push terminated contact into housing until it snaps over end of spring; tug slightly to make sure contact is locked into place.

### c. Optional Auxiliary Contacts (SBS®75x only)

- Insert terminated contacts into the rear side of the connector housing using insertion tool **#11038G3** for #12 AWG and #16 - 14 AWG contacts and using insertion tool **#PM1002G1** for #20 - 16 AWG and #24 - 20 AWG contacts.
- Use inspection tool **#PM1003GX** to ensure the auxiliary contact is properly seated in the connector housing.
- To remove an auxiliary contact from the connector housing, use the extraction tool **#PM1003G1** from the front side of the connector housing. Contact will release from the rear side of the connector housing.

### NOTES:

- With APP® logo facing up, the two UPPER holes are for PIN contacts, and the two LOWER holes are for SOCKET contacts.
- Use the recommended auxiliary contact insertion, extraction and inspection tools, as noted in Table C.
- Do not try to insert or extract the auxiliary contacts without the recommended insertion and extraction tools.

## Using the Cable Clamp

- Secure the auxiliary wires using the included cable tie. Loop the tie through the two slots in the clamp body so that the tie ratchet is outside the clamp body and tighten until fully snug.
- Screw the clamp to the main clamp body using the included self-tapping screws once the power and auxiliary contacts are properly inserted. Screws should be torqued in an even and opposite manner by alternating between screws through the tensioning process. The bottom of the clamp should be equidistant on both sides from the clamp body when the recommended torque value is achieved on both screws.
- Do not over tighten (Recommended torque is 5 in-lbs). If individual wires are being used, visually inspect to make sure all wires are secured.



## Disassembling Unmated SBS® Connector

- 1) Main Power and ground Contacts: Switch off power.
- 2) Remove contacts by depressing springs at the front end of the connector with an insulated screwdriver having a 1/8" blade.
- 3) Pull the contact lightly out of the housing.
- 4) Optional Aux Contacts: Contacts are released from the front side of the connector using extraction tool PM1003G1 and removed from the rear.

For more information or assistance, contact Anderson Tech Support at 978-422-3642, email at [ustechsupport@andersonpower.com](mailto:ustechsupport@andersonpower.com) or web chat at <http://www.andersonpower.com>.

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