

## SBS®X-75A Assembly Instructions

*Note: For easiest construction do not strip or crimp wires or cable until after step 1.*

- Slide grommet over power wire and signal cable (if present) (Figure 1). Slide down far enough for wires to be fully inserted into housing; approximately 3.0" [118mm]. It is recommended to have the signal cable cut 0.200" to 0.300" [5.1 to 7.6mm] longer than the power wire to eliminate strain on the signal positions should the wires go under tension. For panel mount assemblies place panel gasket over back of housing prior to assembly.



Figure 1

- Strip power wires and signal cable/wires (if present). Ensure wires are stripped enough for completed insertion into contact crimp barrels. (Table A and Figures 2 & 3).



**Table A: Cable Stripping Dimensions**

Connector Series	Contact Type	"X"		NOTE
		Inches	mm	
SBS®X-75A	Power	0.56	14.0	< 0.380" (9.65 mm) Outer Diameter Wire (figure 2)
	Power	1.10	27.9	≥ 0.380" (9.65 mm) Outer Diameter Wire (figure 3)
	Aux Cable	1.10	27.9	All cable jackets
	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	



Figure 2 (0.56" [14.2mm] Strip Length)



Figure 3 (1.10" [28.0mm] Strip Length)

3. Crimp both power and signal contacts onto wires using the appropriate crimping tooling (see tables B and C).
  - a. Make sure to crimp signal contacts in the same orientation that your signal housing will be. Signal Housing is intended for use with two pin contacts to be on top and two socket contacts on bottom.
  - b. Refer to crimp document 1S6848 as reference to determine crimp quality.

**Table B: Power Contacts Listed for Use with SBS®X-75A Series**

Contact Part Number	Wire Size		Crimp Tool
	AWG	mm <sup>2</sup>	
1339G4	4	25	1387G1 pneumatic tool + 1388G7 die + 1389G9 locator
1339G2	6	16	1309G4 hand tool <b>or</b> 1387G1 pneumatic tool + 1388G6 die + 1389G9 locator
1339G5	8	10	1309G4 hand tool <b>or</b> 1387G1 pneumatic tool + 1388G6 die + 1389G9 locator
1339G3	10 to 12	2.5 - 6	1309G4 hand tool <b>or</b> 1387G1 pneumatic tool + 1388G7 die + 1389G9 locator

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

Contact Part Number	Wire Size		Crimp Tool	Insertion Tool	Extraction Tool	Inspection Tool
	AWG	mm <sup>2</sup>				
PM16P1416C30	16 to	14 Post-Mate Pin, 6.6mm	PM1000G1 (hand tool & locator)	11103G3	PM1003G1	PM1003GX
PM16P1416A30	16 to 14	Pre-Mate Pin, 9.3mm				
PM16P1416S30	16 to 14	Standard Length Pin, 7.7mm				
<b>PM16S1416S32</b>	16 to 14	Socket				
PM16P1620C30	20 to 16	Post-Mate Pin, 6.6mm	TM0001 + TL0001 Pin + TL0002 Sockets (Mil Standard hand tool & locators)			
PM16P1620A30	20 to 16	Pre-Mate Pin, 9.3mm				
PM16P1620S30	20 to 16	Standard Length Pin, 7.7mm				
<b>PM16S1620S32</b>	20 to 16	Socket	TP0001 + TL0001 (pins) + TL0002 Sockets (pneumatic tool & locators)			
PM16P2024C30	24 to 20	Post-Mate Pin, 6.6mm				
PM16P2024A30	24 to 20 AWG	Pre-Mate Pin, 9.3mm				
PM16P2024S30	24 to 20 AWG	Standard Length Pin, 7.7mm				
<b>PM16S2024S32</b>	24 to 20 AWG	Socket				

4. Orient signal cable so the two pin contacts are in line with the top of the signal housing (arrow symbol up) and the two socket contacts on the bottom. Load signal contacts into signal housing by inserting all contacts into rear of signal housing simultaneously. Press each contact forward using insertion tool #111038G3. Use inspection tool #PM1003GX to ensure the auxiliary contacts are properly seated in the connector housing (Figure 4).



Figure 4

5. Load both power contacts and signal housing into the main connector body starting with the signal housing and then the power contacts (Figure 5). Ensure both power contacts are fully seated on their respective springs and the signal housing is completely latched into place. Signal Housing should be flush with front of the connector as shown in Figure 6.

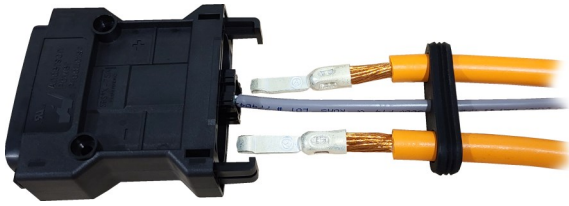


Figure 5



Figure 6

- a. There are four keying positions the signal housing can be placed in as noted by hood position and direction of arrow on rear of housing (Up, Down, Left, and Right). Each position will key the connector so it will only mate with other connectors with the same signal housing orientation.
- b. Note that signal housings must be in the same orientation when placed vertically (either up or down) , or placed opposite when placed horizontally (left & right) in order to mate properly.
- c. If the center signal housing is inserted incorrectly, when trying to mate, you may use the Signal Housing Extraction Tool #116081P1 to remove the housing. To remove the signal housing, start by training the signal cable down or up so it is out of the way. Using Signal Housing Extraction Tool, compress the tool and place prongs into the grooves on either side of the signal holder. Push the tool forward until a positive stop is reached, the tool will have wedged beneath the internal latches (Figure 7). Release compression to allow the tool to lift the internal latches. Gently push on the front of the signal housing to extract the housing (Figure 8).



Figure 7

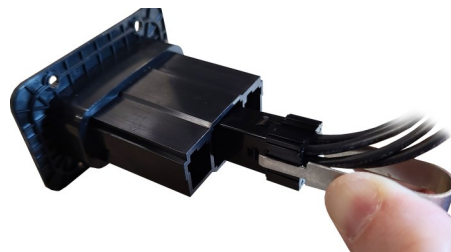


Figure 8

6. For in-line assemblies slide the grommet up the wires to the rear of the connector housing (Figure 9). Apply even pressure to the grommet to push grommet until it is seated fully into the sealing cavity. Note that grommet will be a tight fit to ensure proper sealing. Check to ensure the grommet is completely inserted evenly all around with the grommet being flush or sub-flush to the rear of the housing (Figure 10). If you feel the pressure required is too high, apply additional silicone-safe lubrication to the grommet.

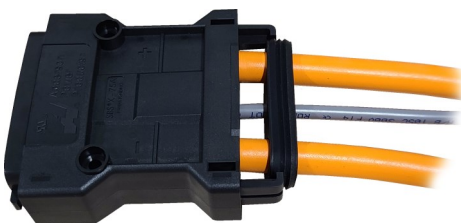


Figure 9



Figure 10

7. Fasten cable clamps onto wires by alternating evenly to alleviate skewing. Screws are torqued to 6 in-lb [0.68 N-m]. Ensure cable clamps are snug to the power wire jackets (Figure 11).

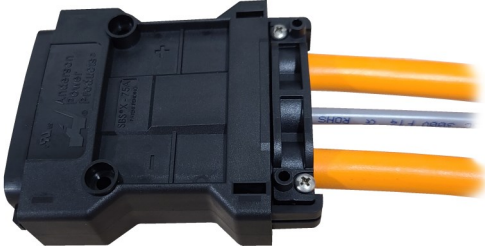


Figure 11

8. For Panel Mount assemblies, Panel Mount Gasket should be flush with the back of the panel (Figure 12). When attaching Panel Mount assemblies, ensure mounting hardware has O-rings under bolt heads before assembling (Figure 13).
9. Bolts to be torqued to 6 in-lb [0.68 N-m] to ensure O-ring and panel mount gasket have compression. Minor gasket extrusion beyond panel flange is to be expected (Figure 14.) Note that mounting screw hardware is not included. To ensure proper installation, Bolt head is to be 0.270" [6.8mm] MAX and should not be beveled or tapered so O-rings correctly seat in hardware. Bolt thread max diameter to be 0.140" [3.5mm] and hex nuts to be 0.305" [7.7mm] MAX flat-to-flat.



Figure 12



Figure 13



Figure 14

10. Check the assembly to ensure signal housings are oriented correctly. Mate the connector up to 5 times to check all components are seated correctly and do not move around within the connectors.

## IP68 Protection – Unmated

Anderson strongly recommends the usage of covers when connectors are not mated to maintain IP68 protection.

To tether connector covers to the housings, first pull through geometry on the housings. Then pull cover through loop on end of cord. Finally, pull tight to secure cord loop around connector. See Figure series 15 & 16 for example process. For panel mount assemblies, simply replace a mounting O-ring with tethered grommet. See Figure Series 17 for example process.

Figure Series 15

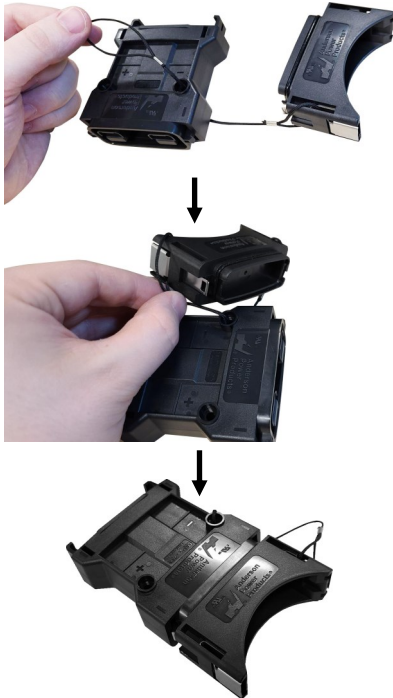
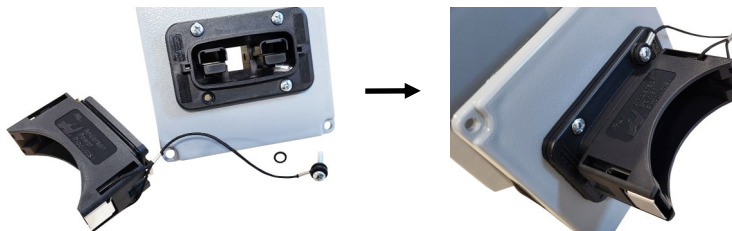


Figure Series 16



Figure Series 17



All Data Subject to Change Without Notice

1S6859 Rev 0

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