SBS®X-75A 6 Position Assembly Instructions

Notes:

The Use of tooling not recommended by Anderson Power can affect performance and may void product warranty, invalidate safety agency approvals or certifications.

For easiest construction it is recommended to not strip or crimp wires onto cable until after step 1. Should customer choose to crimp contacts and insert contacts on wires through grommet during installation, grommet should be inspected for any damage that may have occurred during installation to both external and internal ribs. Silicone debris left on wire and external tears or cracks on the grommet are clear indicators of damage. Damaged grommets should be discarded and replaced as a water-tight seal cannot be ensured if damage to grommet has occurred.

Step 1

Strip 2.85” of the outer jacket exposing inner jacket wires for power and signal (see figure 1). Slip grommet over the inner wire cables for both power and signal wires. The 6 signal cable should go through the middle hole in the grommet, with power cables on either side. Slide down far enough for wires to be fully inserted into housing; approximately 3.0” [118 mm]. It is recommended to have the signal cable cut 0.200” to 0.300” [5.1 to 7.6 mm] longer than the power wire to eliminate strain on the signal positions should the wires go under tension.

Figure 1

Step 2

Cut 0.33” off the power wires. Strip power wires and signal cable/wires. Ensure wires are stripped enough for completed insertion into contact crimp barrels (see table A, figure 2).

Table A: Cable Stripping Dimensions

		"X"		
Connector Series	**Contact Type**	**Inches**	**mm**	**NOTE**
SBS®X-75A 6-AUX	Outer Jacket	2.85	72.4	
	Power	0.56	14.0	< .380” Outer Diameter Wire
	Power	1.1	27.9	≥ .380 Outer Diameter Wire
	Aux Cable	1.38	35.1	All cable jackets
	Aux Pin	0.24	6.1	
	Aux Socket	0.24	6.1	

Figure 2

Step 3
Crimp both power and signal contacts onto wires using the appropriate crimping tooling (see table B & C, figure 3).

a. Make sure to crimp signal contacts in the same orientation that your signal housing will be. Signal housing is intended for use with three pin contacts on top and three socket contacts on bottom.

b. Refer to crimp document 1S6848, SBS®X-75A Crimp Specification as reference to determine crimp quality for power contacts. Reference 1S6543, Assembly Instructions for PPMX Specification.

Table B: Power Contacts Listed for Use with Connector Series

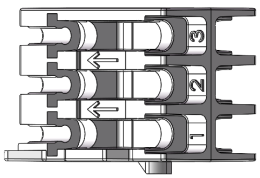
Contact Part	Wire Size	Crimp Tool
1339G4	4 AWG - (25 mm ²)	1387G1 pneumatic tool + 1388G6 die + 1389G9 locator
1339G2	6 AWG - (16 mm ²)	1309G4 hand tool ***or*** *1387G1 pneumatic tool + 1388G6 die + 1389G9 locator*
1339G5	8 AWG - (10 mm ²)	1309G4 hand tool ***or*** *1387G1 pneumatic tool + 1388G6 die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

Table C: Auxiliary Contacts Listed for Use with Connector Series

Contact Part Number	Wire Size	Crimp Tool
4803G3	24 to 20AWG – (0.5 to 0.25 mm^2)	PM1000G1 hand tool ***or*** *TP0001 pneumatic tool + TL0005 locator*
4802G3	24 to 20AWG – (0.5 to 0.25 mm^2)	PM1000G1 hand tool ***or*** *TP0001 pneumatic tool + TL0005 locator*

Figure 3

Step 4
Orient cable so the three pin contacts are in line with the top of the connector with arrows facing outward (see positions 1,2,3) and the three socket contacts are on the bottom (see positions 4,5,6). Take 3 pins and place them in their appropriate slots on top of the signal holder (see figures 4a, 4b, 4c). Take 3 sockets and place them in their appropriate slots on bottom of the signal holder (see figures 5a, 5b). Contacts once installed should appear as shown in Figure 6.



Positions 1,2,3

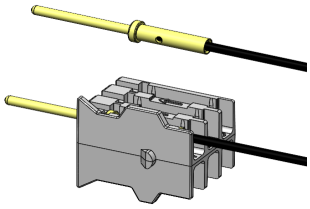


Figure 4a

Pin Shoulder Sits Inside Groove

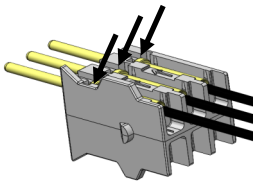


Figure 4b

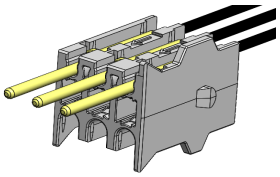
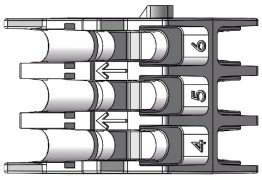


Figure 4c



Positions 4,5,6

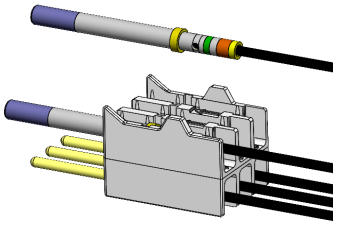


Figure 5a

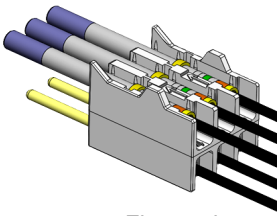


Figure 5b

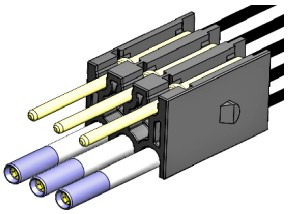


Figure 6

Step 5
Slide the signal holder assembly into the signal housing until it locks in place (see figures 8 & 9).

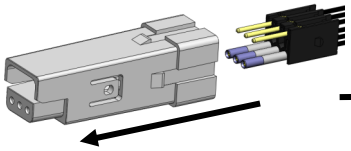


Figure 8

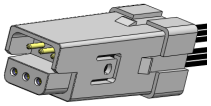


Figure 9

Step 6
Load both power contacts and signal housing into the main connector body, starting with signal housing and then the power contacts (see figure 10). Ensure both power contacts are fully seated on their respective springs and the signal housing is completely latched into place (see figure 11).

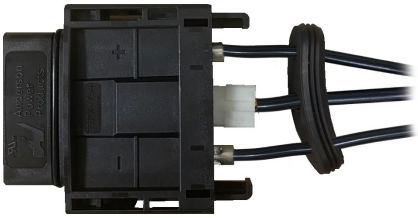


Figure 10

Figure 11

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 the signal housing must be in the same orientation when placed vertically (either up or down) or placed opposite when placed horizontally (left or right) to mate properly.

c. If the 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 the 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 (see figure 12). Release compression to allow the tool to lift the internal latches. Gently push on the front of the signal housing to extract the housing (see figure 13).

Figure 12

Figure 13

Step 7
For Inline assemblies, slide the grommet up the wires to the rear of the connector housing (see figure 14). Apply even pressure to the grommet to push grommet until it is seated fully into the sealing cavity. Note grommet will be tight fitting to ensure proper sealing, do not use sharp objects to seat grommet. 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 (see figure 15). If you feel the pressure required is too high, apply additional silicone-safe lubrication to the grommet.

Figure 14

Figure 15

Step 8
Fastened 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 (see figure 16).

Figure 16

Step 8b—Clamshell Cable Clamp
Place one half of the clamshell underneath the wire assembly (see figure 17). Ensure the power, signal and jacketed cable are set in their corresponding positions. Note that the inserts in the clamshell are specific to the select outer diameters of the wires. Place the other half on top of the wire assembly and fasten together using the (4) screws provided. (see figure 18). Ensure clamshell halves are flush and the four screws are torqued to 6 in-lb [0.68 N-m].

Figure 17

Figure 18

Step 9
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 connector.

IP68 Protection—Unmated

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

Tether connectors 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

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