# SBS®X-75A



# Sealed Connector

- Industrial / Commercial Power Equipment Material Handling / Automation
- Agricultural / Construction Lawn / Garden Equipment Marine





#### SBS<sup>®</sup>X-75A

The SBS®X-75A sealed waterproof connectors come with (2) power contacts rated up to 135A, along with up to (4) auxiliaries rated to 10A offering durability of up to 5,000 mating cycles. Positive metal latches help safeguard against accidental disconnects that may be caused by vibration, while the built-in cable clamp allows for strain relief on wires.

The compact sleek high-power design of these environmentally rugged connectors makes them ideal for outdoor applications. The IP68 weatherproof rating ensures that the connector will be free of water for full protection up to 30 minutes at 6 feet in the mated conditions, or with the use of covers in unmated condition.











600 Volts / 135A (with Signals) 5,000 Mating Cycles

Operating Temperature -20°C to 105°C / -4 °F to 221°F

Dust - Water - Shock

#### **SPECIFICATIONS**

ELECTRICAL						
Current Rating A	mperes <sup>1</sup>					
Wire to Wire		No Signa	als	Signa	ıls Energized	
AWG	mm²	UL	CSA	UL	CSA	
4 AWG	25	140	85	135	80	
6 AWG	16	100	65	95	60	
8 AWG	10	95	58	93	53	
10 AWG	6	75	45	75	45	
Wire Plug to Pan	el Mount Receptacle					
4 AWG (25 mm	<sup>2</sup> ) Wire	145	90	140	85	
Panel Mount Plu	g to Panel Mount Receptacle					
4 AWG (25 mm²) Wire		140	85	135	80	
Voltage Rating A	C/DC					
UL 1977		600V				
Dielectric Withst	tanding Voltage					
Volts AC		2,200				
Average Mated (	Contact Resistance Milliohms <sup>1</sup>					
Power 1/4 in. of 4 AWG (25 mm²) Wire		0.16m Ω	!			
Auxiliary 14 AWG (1.0 to 1.5 mm²) Wire		2.50m Ω	$2.50$ m $\Omega$			
UL Hot Plug Curr	ent Rating Amperes	250 cycle	250 cycles at 120V DC			
4 AWG (25 mm²) Wire		50A				
Touch Safe		Per UL 6	0950-1, UL 62	368-1 & IEC	C 60529 <sup>3</sup>	

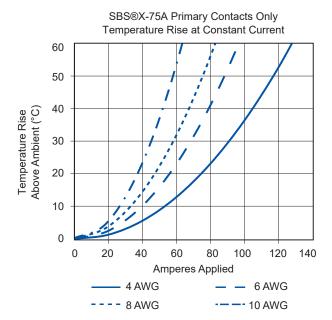
MECHANICAL			
Wire Size Range			
Power Contacts	10 to 4 AWG (2.5 to 25.0 mm²)		
Auxiliary Contacts	14 to 24 AWG (0.50 to	1.5 mm²)	
Maximum Wire Insulation Diameter			
Power	0.44 AWG (11.18 mm <sup>2</sup>	?)	
Auxiliary	0.44 AWG (11.18 mm²	?)	
Operating Temperature <sup>2</sup>	-20° to 105°C (-4 to 22	1°F)	
Mating Cycles No Load by Plating	5,000		
Average Mating / Unmating Force			
Wire	4 AWG (25 mm²)		
Lbs / Kg	6.5 Lbs (2.95 Kg)		
Minimum Creepage / Clearance Distance			
	Creepage	Clearance	
Power to Power	1.50 in. (38.1 mm)	0.900 in. (22.86 mm	
Power to Signal	1.12 in. (28.4 mm)	0.640 in. (16.26 mm	
Pin to Pin	0.097 in. (2.46 mm)	0.097 in. (2.46 mm]	
Socket to Socket	0.352 in. (8.94 mm)	0.352 in. (8.94 mm)	
Pin to Socket	1.15 in. (29.21 mm)	0.485 in. (12.3 mm)	
Pull Out Force with Cable Clamp	60 lb.		
Retention Force Auxiliary Housing	35 lb.		
Drop Test	Per UL 486A-486B		
IP68	Per UL50E⁴		
MATERIALS			
Housing, Cable Clamps, Covers	PC/PBT		
Signal Housing	PC		
Latches, Spring, Screws	Stainless Steel		
O-Rings, Grommets	Silicone		

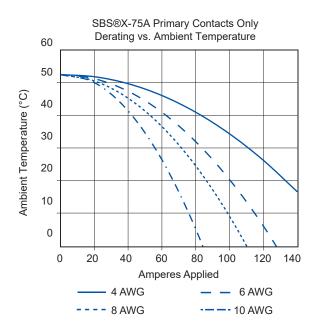
MATERIALS	
Housing, Cable Clamps, Covers	PC/PBT
Signal Housing	PC
Latches, Spring, Screws	Stainless Steel
O-Rings, Grommets	Silicone
Panel Mount Gasket	NBR
Housing Flammability Rating	UL94 V0
Glow Wire (1.0 mm)	960°C per 60695-2-12
Wire Power Contact	Silver Plated Copper Alloy
SBS® 75X Auxiliary Contacts	
Pin	Copper Alloy, Au over Ni
Socket	Be Cu, Au over Ni
Socket Body	Copper Alloy, Tin Bright over Ni
Retention Clip	Stainless Steel

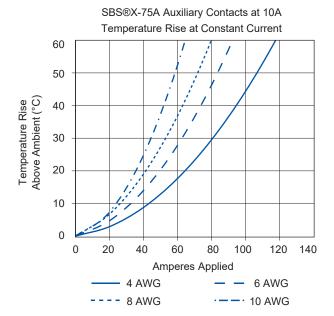
#### NOTES:

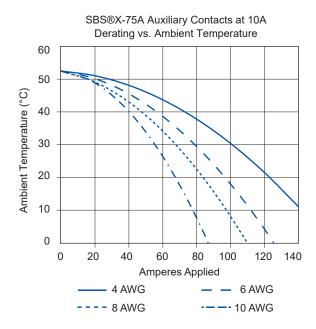
- 1 Current amperage ratings are based on 105°C rated or better cable of the largest wire size using properly calibrated APP® recommended tooling, and a 25°C ambient temperature, or CSA rating below a 30°C temperature rise. UL rating not to exceed the maximum operating temperature. Connector to be assembled and installed according to the manufacturer's instructions.
- 2 Operating Temperatures are limited by the thermal properties of the connector's plastic housing.
- 3 Sealed Connector Series offers protection against electric shock for finger safety both in mated and unmated condition. The Sealed SBS®X-75A Connector Series was tested for IP Code 1X-2X per clause 12- & 13 of IEC 60529, Edition 2.2, issued 2013-8 + Corr. 1:2013-10 + Corr. 2:2015-01. The connector was tested for IP1X and IP2 in mated and unmated condition, which is representative of protection against access to energized parts contained in UL 60950-1 2nd Edition, 2011-12-19 and UL 62368-1 3rd Edition, 2021-10-22.
- 4 The Sealed SBS®X-75A Connector Series was subjected to submersion test, covered by UL 50E Standard for Enclosures for Electrical Equipment Environmental Considerations, 3rd Edition, with a pressure equivalent to 6 feet of water and for a duration of 30 minutes for the equivalent IP68 compliance. Note panel mount-to-panel mount configuration has not been tested for ingress protection rating: contact manufacturer to determine if it will work for your application.

#### **TEMPERATURE CHARTS**



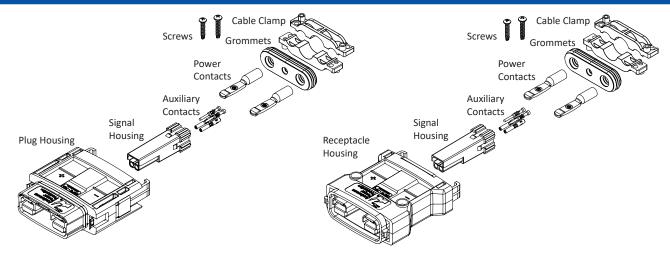




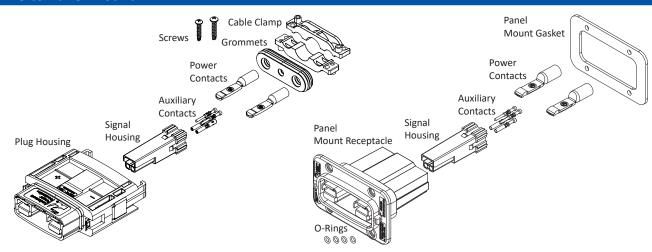


#### **COMPONENTS**

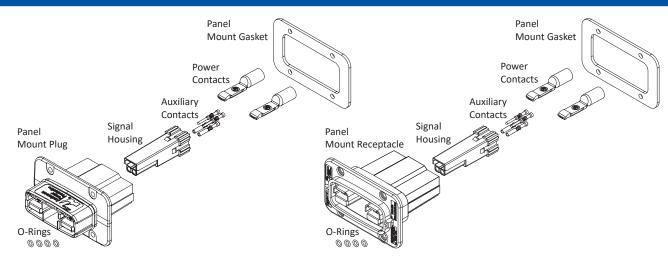
# Wire-to-Wire



## **Wire-to-Panel Mount**



#### **Panel Mount-to-Panel Mount**



# **ORDERING INFORMATION -** Color denotes signal housing only. All other housings are black.

# Step 1: Select the Housing Kit - Packaged as Individual Kits. Contacts and Grommets Sold Separately, See Step 2 & 3

Image	Part Number	Description - Sealed SBS®X-75A	Kit Includes- Housing, Signal Housing and Below Parts
	Minimum Quantity		1
	SBSX75A-PLUG-KIT-RED	Male Plug - Red	Latches, Cable Clamp, Hardware & Front O-Rings
	SBSX75A-PLUG-KIT-BLU	Male Plug - Blue	Latches, Cable Clamp, Hardware & Front O-Rings
X	SBSX75A-PLUG-KIT-GRA	Male Plug - Gray	Latches, Cable Clamp, Hardware & Front O-Rings
	SBSX75A-PLUG-KIT-BLK	Male Plug - Black	Latches, Cable Clamp, Hardware & Front O-Rings
	SBSX75A-REC-KIT-RED	Female Receptacle - Red	Cable Clamp, Hardware
	SBSX75A-REC-KIT-BLU	Female Receptacle - Blue	Cable Clamp, Hardware
	SBSX75A-REC-KIT-GRA	Female Receptacle - Gray	Cable Clamp, Hardware
J	SBSX75A-REC-KIT-BLK	Female Receptacle - Black	Cable Clamp, Hardware
	SBSX75A-PMREC-KIT-RED	Panel Mount Receptacle - Red *	Panel Gasket, Mounting O-Rings
	SBSX75A-PMREC-KIT-BLU	Panel Mount Receptacle - Blue *	Panel Gasket, Mounting O-Rings
	SBSX75A-PMREC-KIT-GRA	Panel Mount Receptacle - Gray *	Panel Gasket, Mounting O-Rings
<b>%</b>	SBSX75A-PMREC-KIT-BLK	Panel Mount Receptacle - Black *	Panel Gasket, Mounting O-Rings
	SBSX75A-PMPLUG-KIT-RED	Panel Mount Plug - Red *	Front O-Ring, Panel Gasket, Mounting O-Rings
	SBSX75A-PMPLUG-KIT-BLU	Panel Mount Plug - Blue *	Front O-Ring, Panel Gasket, Mounting O-Rings
	SBSX75A-PMPLUG-KIT-GRA	Panel Mount Plug - Gray *	Front O-Ring, Panel Gasket, Mounting O-Rings
- %	SBSX75A-PMPLUG-KIT-BLK	Panel Mount Plug - Black *	Front O-Ring, Panel Gasket, Mounting O-Rings

# Bulk Component Ordering Information - All components sold separately. For grommets and contacts, see step 2 & 3.

Image	Part Number Description- Sealed SBS®X-75A		Includes
	Minimum Quantity		100
	SBSX75A-PLUG-BLK	Male Plug Housing	Housing, Latches & O-Rings
	SBSX75A-REC-BLK	Female Receptacle Housing	Housing
	SBSX75A-PMREC-BLK	Panel Mount Receptacle Housing	Housing
	SBSX75A-PMPLUG-BLK	Panel Mount Plug Housing *	Housing, Front O-Ring

<sup>\*</sup> Panel Mount Plug mates with Panel Mount Receptacle for Panel-to-Panel applications. Please note that this configuration has not been tested for Ingress protection ratings, please contact the manufacturer for further details on this requirement to see if it will work for your application needs. Panel Mount hardware not included.

# **Step 1 Continued - Bulk Components Continued**

	Minimum Quantity		200
	2-8840P1	Signal Housing - Red	Housing
	2 00401 1	Signal Flousing Tica	Trousing
	2-8840P2	Signal Housing - Blue	Housing
	2-8840P3	Signal Housing - Gray	Housing
	2-8840P4	Signal Housing - Black	Housing
	2-8841P1	Cable Clamp	Cable Clamp (set of two)
Comple	H1120P62	#4 to 20 5/8" (15.88mm) Plastite Head Screws - Cable Clamp	Screws
· · · · · · · · · · · · · · · · · · ·	108G1	Panel Mount Hardware Kit	Panel Mount Gasket, Mounting O-Rings

Image	Part Number	Description - Sealed SBS®X-75A	Includes
	Minimum Quantity		1
Silve Ancierant Power Power			
	SBSX75A-PLUG-COVER	Plug Cover *	Housing, Lanyard
	SBSX75A-REC-COVER	Receptacle Cover	Housing, Latches, O-Ring, Lanyard
- seem ( )	6		
	SBSX75A-PMREC-COVER	Panel Mount Receptacle Cover	Housing, Latches, O-Ring, Lanyard

<sup>\*</sup> Inquire with Manufacturer or Sales Representative regarding panel mount plug covers

#### **Step 2: Grommets Sold Separately**

To select proper grommet size, you will need to know the outer diameter of jacketed cable for each of the Power and Signal cables. Find your overall power size, then determine appropriate outer dimension for both Power and Signal cables. Not using signal, then select NS grommet that matches your power only size. Panel mount housings do not require grommets.

#### **Discrete Wires**



Part Number	Wire Size AWG	Wire Size mm²	Power Wire Diameter Range (mm²)	Signal Cable / Wire Size Diameter Range (mm²)
D-150-060	10 to 12	2.5 to 6	0.15 to 0.18 (3.81 to 4.57)	0.08 to 0.10 (2.03 to 2.54)
D-310-060	6 to 4	16	0.31 to 0.34 (7.87 to 8.64)	0.08 to 0.10 (2.03 to 2.54)

#### **Jacket Cable**

Power & Signal



Jacket Cable Power & Signal



Power Only

				1
Part Number	Wire Size AWG	Wire Size mm <sup>2</sup>	Power Wire Diameter Range (mm²)	Signal Cable / Wire Size Diameter Range (mm²)
Minimum Quantity 1				
J-150-150	10 to 12	2.5 to 6	0.15 to 0.18 (3.81 to 4.57)	0.15 to 0.18 (3.81 to 4.57)
J-150-180	10 to 12	2.5 to 6	0.15 to 0.18 (3.81 to 4.57)	0.18 to 0.21 (4.57 to 5.33)
J-150-320	10 to 12	2.5 to 6	0.15 to 0.18 (3.81 to 4.57)	0.32 to 0.35 (8.13 to 8.89)
J-150-350	10 to 12	2.5 to 6	0.15 to 0.18 (3.81 to 4.57)	0.35 to 0.38 (8.89 to 9.65)
J-150-380	10 to 12	2.5 to 6	0.15 to 0.18 (3.81 to 4.57)	0.38 to 0.41 (9.65 to 10.41)
J-150-410	10 to 12	2.5 to 6	0.15 to 0.18 (3.81 to 4.57)	0.41 to 0.44 (10.41 to 11.18)
NS-150	10 to 12	2.5 to 6	0.15 to 0.18 (3.81 to 4.57)	Power Cable
J-240-150	8	10	0.24 to 0.27 (6.10 to 6.86)	0.15 to 0.18 (3.81 to 4.57)
J-240-180	8	10	0.24 to 0.27 (6.10 to 6.86)	0.18 to 0.21 (4.57 to 5.33)
J-240-320	8	10	0.24 to 0.27 (6.10 to 6.86)	0.32 to 0.35 (8.13 to 8.89)
J-240-350	8	10	0.24 to 0.27 (6.10 to 6.86)	0.35 to 0.38 (8.89 to 9.65)
J-240-380	8	10	0.24 to 0.27 (6.10 to 6.86)	0.38 to 0.41 (9.65 to 10.41)
J-240-410	8	10	0.24 to 0.27 (6.10 to 6.86)	0.41 to 0.44 (10.41 to 11.18)
NS-240	8	10	0.24 to 0.27 (6.10 to 6.86)	No Signal
J-310-150	6	16	0.31 to 0.34 (7.87 to 8.64)	0.15 to 0.18 (3.81 to 4.57)
J-310-180	6	16	0.31 to 0.34 (7.87 to 8.64)	0.18 to 0.21 (4.57 to 5.33)
J-310-320	6	16	0.31 to 0.34 (7.87 to 8.64)	0.32 to 0.35 (8.13 to 8.89)
J-310-350	6	16	0.31 to 0.34 (7.87 to 8.64)	0.35 to 0.38 (8.89 to 9.65)
J-310-380	6	16	0.31 to 0.34 (7.87 to 8.64)	0.38 to 0.41 (9.65 to 10.41)
J-310-410	6	16	0.31 to 0.34 (7.87 to 8.64)	0.41 to 0.44 (10.41 to 11.18)
NS-310	6	16	0.31 to 0.34 (7.87 to 8.64)	No Signal
J-410-150	4	25	0.41 to 0.44 (10.41 to 11.18)	0.15 to 0.18 (3.81 to 4.57)
J-410-180	4	25	0.41 to 0.44 (10.41 to 11.18)	0.18 to 0.21 (4.57 to 5.33)
J-410-320	4	25	0.41 to 0.44 (10.41 to 11.18)	0.32 to 0.35 (8.13 to 8.89)
J-410-350	4	25	0.41 to 0.44 (10.41 to 11.18)	0.35 to 0.38 (8.89 to 9.65)
J-410-380	4	25	0.41 to 0.44 (10.41 to 11.18)	0.38 to 0.41 (9.65 to 10.41)
J-410-410	4	25	0.41 to 0.44 (10.41 to 11.18)	0.41 to 0.44 (10.41 to 11.18)
NS-410	4	25	0.41 to 0.44 (10.41 to 11.18)	No Signal

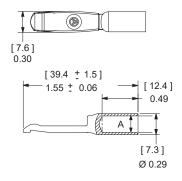
NOTE: Don't see your cable size requirements? Speak to Manufacturer or your local Representative about other options regarding custom grommets.

# **Step 3: Contacts Sold Separately for Power and Signal**

#### **Silver Plated Primary Power Wire Contacts**

SBS®X-75A housings use two silver plated contacts per housing for the best electrical performance and durability up to 10,000 mating cycles.

					Diam - A	
Description	AWG	mm²	Part Number	s- Loose Piece	inches	mm
Minimum Quantity			1,000	100		
Standard	4	25	1339G4-BK	1339G4 *	0.28	7.11
	6	16	1339G2-BK	1339G2 *	0.22	5.60
	8	10	1339G5-BK	1339G5 *	0.19	4.70
	12 to 10	2.5 to 6	1339G3-BK	1339G3 *	0.14	3.50



#### Pin Contacts for Auxiliary (4)

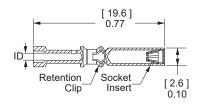
Gold plated contacts are available in 3 lengths to allow sequencing of circuits.

Description	AWG	mm²	Part Numbers
Minimum Quantity			500
Standard Length 7.7 mm	16 to 14	1.0 to 1.5	PM16P1416S30
	20 to 16	0.75 to 1.0	PM16P1620S30
	24 to 20	0.50 to 0.75	PM16P2024S30
Pre-Mate 9.3 mm	16 to 14	1.0 to 1.5	PM16P1416A30
	20 to 16	0.75 to 1.0	PM16P1620A30
	24 to 20	0.50 to 0.75	PM16P2024A30
Post-Mate 6.4 mm	16 to 14	1.0 to 1.5	PM16P1416C30
	20 to 16	0.75 to 1.0	PM16P1620C30
	24 to 20	0.50 to 0.75	PM16P2024C30

## **Auxiliary Pin Contact Lengths**

	- L-		- L1-	
	in.	mm	in.	mm
Standard Length 7.7 mm	0.77	19.6	0.30	7.7
Pre-Mate 9.3 mm	0.83	21.2	0.37	9.3
Post-Mate 6.4 mm	0.72	18.3	0.25	6.4

See drawings on website for further details.



#### Socket Contacts for SBS<sup>®</sup>X-75A Auxiliary

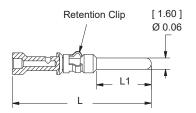
Selective gold plated contacts offer low resistance and durability up to 10,000 mating cycles.

Description	AWG	mm²	Part Numbers		
Minimum Quantit	:y		500		
Socket Contacts 16 to 14		1.0 to 1.5	PM16S1416S32		
	20 to 16	0.75 to 1.0	PM16S1620S32		
	24 to 20	0.50 to 0.75	PM16S2024S32		

See drawings on website for further details.

# **Auxiliary Socket Contacts Crimp Barrel ID**

AWG	in.	mm.		
16 to 14	0.08	2.1		
20 to 16	0.07	1.7		
24 to 20	0.04	1.1		



<sup>\*</sup> Are sold as pairs. 2 contacts ship for every 1 ordered.

## SBS® TOOLING INFORMATION 5

Wii	e Size	Power / Ground Contacts								
AWG	mm²	Power Contact Part Number	Pnenumatic Bench Tool	+	Die	+	Locator	Number of Crimps	OR	Hand Tool
4	25.0	1339G4	1387G1		1388G7		1389G9	Single		N/A
6	13.3	1339G2			1388G6					
8	8.4	1339G5	1387G1		130000		1389G9	Single		1309G4
10 to 12	5.3 to 3.3	1339G3			1388G7					

Wir	e Size	Auxilia				tacts				
AWG	mm²	Auxiliary Contact Part Number	APP® Hand Tool w/ Integral Locator	OR	Mil Std. Hand Tool <sup>6</sup> M22520/1-01	OR	Pneumatic Tool <sup>6</sup>	Number of Crimps	+	Locator for: TM0001 & TP0001
12 to 24 2.5 to 0.25	All Crimp Pins	DN41000C1		TM0001		TP0001	Single		TL0001	
	2.5 (0 0.25	All Crimp Sockets	PM1000G1		TM0001				TL0002	

Auxiliary Contact Insertion Tool: 111038G3

Auxiliary Contact Extraction Tool: PM1003G1

Auxiliary Contact Insertion Inspection Tool: PM1003GX

Single Housing Extraction Tool: 116081P1



#### NOTES:

- 5 The use of APP° recommended tooling is strongly recommended. The use of alternate tools may adversely affect the performance of our connectors along with UL and CSA recognition.
- 6 TP001 and TM0001 tools require locators TL001 for Pins and TL002 for Sockets. The Auxiliary contacts used with wire sizes 16 to 24 AWG (1.5 to 0.50) cannot be properly inserted without the insertion tool. Properly installed Auxiliary contacts of all wire gauges cannot be removed from the housing without the extraction tool. It is highly recommended that inspection tool be used to ensure the auxiliary contacts are seated properly in the housing.
- 7 The Signal Housing Extraction Tool must be used in order to remove the signal housing from the main housing should position be inserted incorrectly for mating. See assembly instructions for further information.

# **BUILD YOUR PART NUMBER**

Step 1	Step 2
Housings (including signals)	Grommets
	Step 3
Cable Clamp	Power Contacts
Screw	
	Signal Contacts
Panel Mount Kit	
Covers	Tooling

All Data Subject to Change Without Notice DS-SBSX75A REV 0 Your Best Connection™

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