

The new APP 1 x 4 Auxiliary connector is designed to mount into standard APP SBE160 / 320 and SBX175 / 350 connector housings. The 4 circuits support the transmission of battery status, charge and discharge information for traction battery, fast charge and opportunity charge applications.

Similar to the SBE and SBX connector series, the 1x4 Auxiliary connector is robust and rated for 10,000 mating cycles, more than twice DIN 43589-1 products. A new retaining clip is available for ease of assembly and rapid field maintenance.

The genderless housing accepts PowerMod pin and socket contacts with standard wire range from #12 to #20 AWG (2.5 to 0.5 mm²). Contacts for smaller wire sizes are available by special order. PowerMod contacts are produced in high volumes and offer considerable savings versus auxiliary contacts for DIN 43589-1 products.

Features

- **Last make / First break Contacts**

Turns power on after power contacts are engaged, eliminating arcing during mating and unmating.

- **Multiple Contact Lengths**

Four male pin lengths are available to enable sequential mating / unmating of auxiliary contacts.

- **Gold Plated Mating Surfaces**

Minimizes signal degradation.

- **Hot Plug Rated to 5 Amps**

Allows for repair and maintenance of components without the need to power down equipment.

- **PBT Housing**

Provides superior resistance to hydrocarbons, solvents and resists damage from rough treatment.



1x4 auxiliary housing in an SBE160 / SBX175 housing

SPECIFICATIONS

1 x 4 Auxiliary Connector Specifications

Electrical

Current Rating - Amperes	#12 AWG	#14/16 AWG	#16/20 AWG
(UL)**	25A	20A	15A
(CSA)**	20A	15A	10A

Voltage Rating (AC/DC)	600*
Dielectric Withstanding Voltage (AC)	2,200
Average Contact Resistance (micro-ohms)*	300
Contact Wire Range (AWG)	#20 to #12 ***
(mm ²)	0.50 to 2.5 ***
Operating Temperature (°C)	-20° to 105°
(°F)	-4° to 221°
Flammability Rating of Housing Material	UL94 V-0

Materials

Housing Material	PBT
Pin	Copper alloy, 10 μ inch Au over 50 Ni
Socket	BeCu, 30 μ inch Au over Ni
Socket Body	Copper alloy, 200 μ inch Sn Bright over Ni
Retention Clip	Stainless steel

* Based on fully loaded connector (auxiliary contacts) ** Ratings based on largest wire or cable
*** Stranding, IEC class 5 or lower

Mechanical

Life	
a. Mating Cycle (no load)	10,000
b. Under Load (Hot Plug 250 mating cycles @ 120V)	5A
Average Contact Retention Force *	
(lbf)*	10
(N)	44.5
Average Connect / Disconnect	
• Per 1x4 connector	
(lbf)	2.7
(N)	12
• Per contact	
(lbf)	0.7
(N)	3

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ORDERING INFORMATION

Auxiliary Pin Contacts Dimensions - (see figure 1)

Part Number	- Wire -		- Ø B -		- Ø C -		- L1 -		- L -	
	AWG	mm ² (1)	in.	mm	in.	mm	in.	mm	in.	mm
Standard Length 7.7mm (2)										
PM16P1620S30	#16/20	1.5 / 0.50	0.07	1.7	0.11	2.8	0.30	7.7	0.77	19.6
PM16P1416S30	#14/16	2.5 / 1.5	0.08	2.1	0.11	2.8	0.30	7.7	0.77	19.6
PM16P12S30	#12	2.5	0.10	2.6	0.12	3.1	0.30	7.7	0.77	19.6
Pre-Mate 9.3mm										
PM16P1620A30	#16/20	1.5 / 0.50	0.07	1.7	0.11	2.8	0.37	9.3	0.83	21.2
PM16P1416A30	#14/16	2.5 / 1.5	0.08	2.1	0.11	2.8	0.37	9.3	0.83	21.2
PM16P12A30	#12	2.5	0.10	2.6	0.12	3.1	0.37	9.3	0.83	21.2
Pre-Mate 8.5mm										
PM16P1620B30	#16/20	1.5 / 0.50	0.07	1.7	0.11	2.8	0.33	8.5	0.80	20.4
PM16P1416B30	#14/16	2.5 / 1.5	0.08	2.1	0.11	2.8	0.33	8.5	0.80	20.4
PM16P12B30	#12	2.5	0.10	2.6	0.12	3.1	0.33	8.5	0.80	20.4
Post-Mate 6.6mm										
PM16P1620C30	#16/20	1.5 / 0.50	0.07	1.7	0.11	2.8	0.25	6.4	0.72	18.3
PM16P1416C30	#14/16	2.5 / 1.5	0.08	2.1	0.11	2.8	0.25	6.4	0.72	18.3
PM16P12C30	#12	2.5	0.10	2.6	0.12	3.1	0.25	6.4	0.72	18.3

SBE160 / SBX175 Auxiliary Kits (3)

Kit includes: (1) auxiliary housing, (4) auxiliary contacts (2 male pins standard length and 2 female sockets), (1) retention clip and (2) retaining pins.

Part Number	Description
441G1	Kit #14 - #16 AWG contacts
441G2	KIT #16 - #20 AWG contacts
441G3	Kit #12 AWG contacts

SBE320 / SBX350 Auxiliary Kits (3)

Kit includes: (1) auxiliary housing, (4) auxiliary contacts (2 male pins standard length and 2 female sockets), (1) retention clip and (2) retaining pins.

Part Number	Description
440G1	KIT #14 - #16 AWG contacts
440G2	KIT #16 - #20 AWG contacts
440G3	Kit #12 AWG contacts

Auxiliary Socket Contacts Dimensions - (see figure 2)

Part Number	- Wire -		- Ø B -		- Ø C -		- L1 -		- L -	
	AWG	mm ² (1)	in.	mm	in.	mm	in.	mm	in.	mm
PM16S1620S32	#16/20	1.5 / 0.50	1.7	0.07	2.8	0.11	N/A	N/A	N/A	N/A
PM16S1416S32	#14/16	2.5 / 1.5	2.1	0.08	2.8	0.11	N/A	N/A	N/A	N/A
PM16S12S32	#12	2.5	2.6	0.10	3.1	0.12	N/A	N/A	N/A	N/A

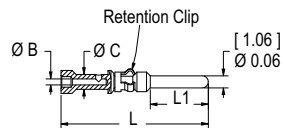


Figure 1

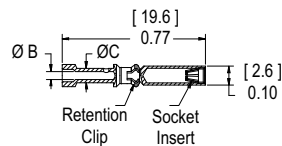


Figure 2

Housing & Retention Clip

Part Number	Description
444G1	1x4 auxiliary housing
445G1	Retention Clip SBE320 / SBX350
445G2	Retention Clip SBE160 / SBX175
110G9	Retaining pins SBE160 / SBX175
110G59	Retaining pins SBE320 / SBX350

Tooling for Contacts

Part Number	Mil-Standard	Description	- Wire -	
			AWG	mm ²
Auxiliary Contacts				
TM0001	M22520/1-01	AF8 hand tool	#20 / #12	0.5 / 2.5
TP0001	N/A	WA27F pneumatic crimp tool	#20 / #12	0.5 / 2.5
TL0004	M22520/1-03	Turret & locator for TM0001 & TP0001	#20 / #12	0.5 / 2.5
PM1000G1	N/A	Four Indent Hand Tool	#20 / #12	0.5 / 2.5
PM1001G1	N/A	Semi automatic loose piece crimp machine	#20 / #12	0.5 / 2.5
PM1002G1	N/A	Contact insertion tool		
PM1003G1	N/A	Contact extraction tool		

(1) Stranding, IEC class 5 or lower

(2) Provided in standard kits

(3) Retaining pins are to be used instead of retention clip when handle with latch is being used

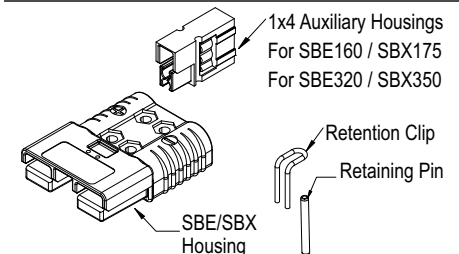
NOTE: All auxiliary contacts are last make / first break, in relation to power contacts.



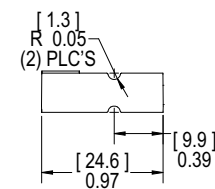
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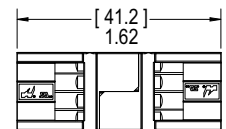
DIMENSIONS - in. [mm]



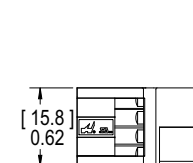
Top View



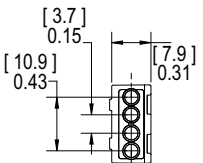
Mated View



Side View



Front View



14755 DS-1X4 REV02

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