

# MID POWER SPEC Pak®

Sealed Power For Environmental Connections



Marine | Wind Power | Lighting | Transportation | Pumps | Ground Support  
Machine Tool | Industrial Automation | Motor | Solar Power | Harsh Environments

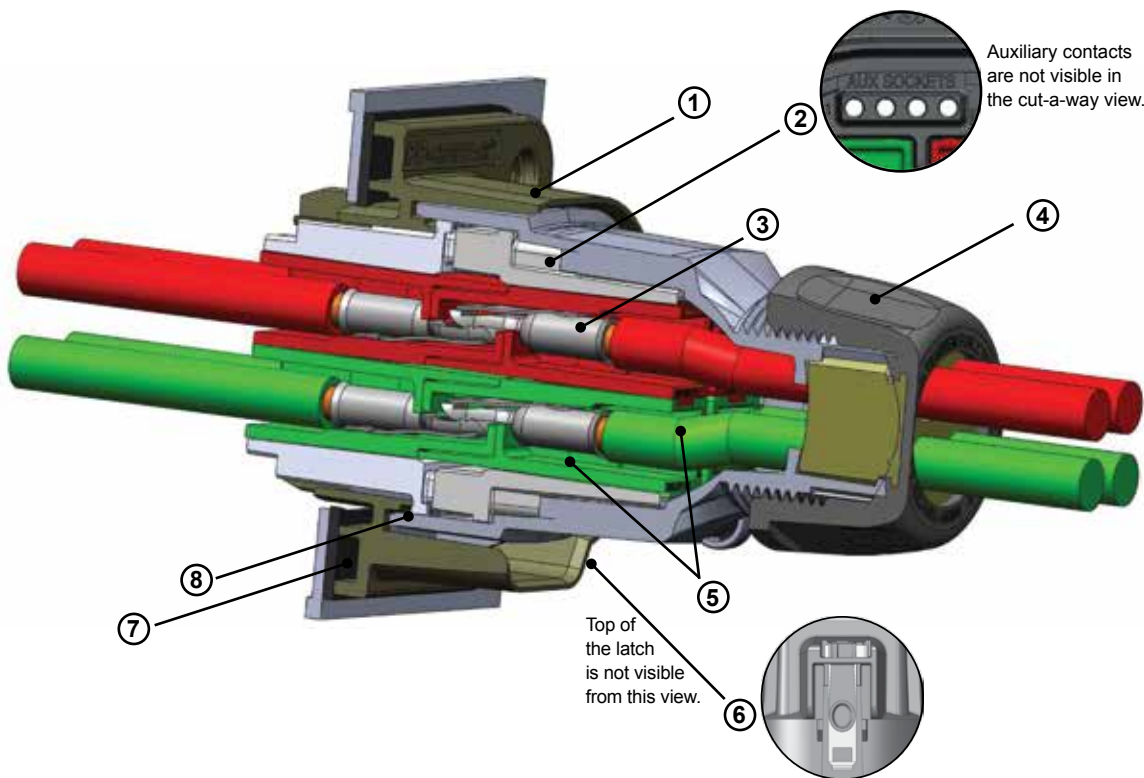


**APP**  
Anderson Power Products®

# Rugged and Sealed (IP68) Plugs and Receptacles

The SPEC Pak® Mid Power is rugged and environmentally sealed (IP68). It leverages APP's core Powerpole® flat wiping contact technology, offering power handling capabilities up to 80 amps at 600 volts with signal.

The SPEC Pak® Mid Power shells are highly configurable. They accept up to four Powerpole® 75 (PP75) contacts and housings. They also accept up to 8 pin and socket auxiliary contacts providing the user signal and/or sequencing options. Assembly is made easy through the use of colored Powerpole® housings which can be matched to wire colors. They will accept wire sizes ranging from 12 to 6 AWG [3.3 to 13.3 mm²]. SPEC Pak® Mid Power is highly configurable providing users with a multitude of flexible design solutions in a single interconnect.



## 1 - Chemical & UV Resistant Ruggedized Shells

- Wire to Wire Configurations
- Wire to Panel Configurations

## 2 - Auxiliary Contacts for Signal and/or Sequencing (up to 8)

## 3 - Power Contacts (up to 4)

## 4 - Sealing Gland to Ensures (IP68) Environmental Seal

## 5 - Color Coded Powerpole® Housings to Match Wire Colors

## 6 - Stainless Steel Latches to Prevent Accidental Unmating

## 7 - IP68 Panel Mount Receptacle Gasket

## 8 - Sealing O-Ring Ensures (IP68) Environmental Seal

# Specifications

## ..... SPEC Pak® Shells Used With .....

	SPEC Pak® Shell	Powerpole® Power Contacts & Housings	Auxiliary Contacts <sup>[1]</sup> (PowerMod® Series)
<b>Electrical</b>			
Current Rating (Amperes)			
UL 1977	-	80 <sup>[2]</sup>	5
CSA (30° C Rise)	-	50 <sup>[2]</sup>	5
Voltage Rating			
UL 1977 (AC/DC)	-	600	600
Dielectric Withstanding (AC)	-	3,000	-
Contact Resistance Milliohms (average)	-	0.200 <sup>[3]</sup>	2.000 <sup>[4]</sup>
Hot Plug Amp Rating (UL 1977)			
250 Cycles at 120V	-	50 <sup>[5]</sup>	
<b>Mechanical</b>			
Environmental Seal			
IP rating	IP68	-	-
Submersion (UL 50E)	Pass	-	-
Wire Size	-	12 to 6 AWG	24 to 12 AWG
	-	3.3 to 13.3 mm <sup>2</sup>	0.50 to 2.5 mm <sup>2</sup>
Operating Temperature	-40° to 105° C	-20° to 105° C	-40° to 105° C
	-40° to 221° F	-4° to 221° F	-40° to 221° F
Mating Cycles (no load)			
Silver Plated Contacts	-	1,500	-
Gold Plated Contacts	-	-	1,500
Contact Retention Force	-	> 50 lbf / 222 N	-
Insertion Force	-	28 lbf	-
Touch Safe (IEC 60529)	-	IP10	-
Drop Test (UL50E)	Pass	-	-
Panel Break Off (EIA 394-97)	Pass	-	-
Crush Test (EIA 364-40B)	Pass	-	-
<b>Materials</b>			
Shell / Housing	PC/PBT	PC	PC/PBT
Powerpole® Holder	PC/PBT	-	-
Latch	Stainless Steel	-	-
Flammability (UL 94)	V0	V0	V0
Weatherability (UL 764C)	F1	F1	F1
Contacts			
Base	-	Copper Alloy	Copper Alloy
Plating	-	Silver	Gold over Nickel

### NOTES:

1. Integral signal holders that holds up to 8 pins and 8 sockets.
2. Based on 6 AWG.
3. Based on 6 AWG 1-1/4" distance between probes.
4. Based on 20 AWG.
5. Hot Plug testing completed using individual Powerpole® housings and contacts, not installed in SPEC Pak® shells.



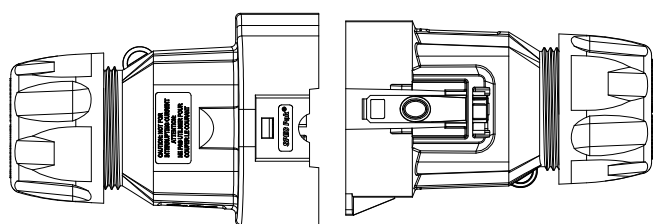
For other industry tests and/or agency approvals, contact customer service.

Product Selection Guide

SPEC Pak® is a highly configurable environmentally sealed connector, that can be purchased as components in bulk for volume production, or pre-packaged as a kit. For convenience, follow the steps below to determine component or kit part numbers.

| COMPONENT PART NUMBER GUIDE (FOR COMPONENT BULK PURCHASE) |

Step 1: Select Shell



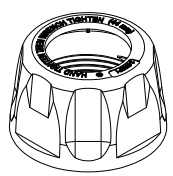
SK6-076C04 Plug

SK1-076C04 Inline Receptacle

SK2-076C04 Panel Mount Receptacle

\* Select Shell Style, from page 6.

Step 2: Select Wire Protection



\* Define:

	Number of Wires	Wire OD
Wires		
- Discrete		
- Bundled		

- \* Select wire protection that will accommodate the number of wires and outer diameter (OD) of the wire used in your application, from page 6.
- \* Wire protection is required for use with inline receptacles and plugs to obtain IP68 seal.

List Component Part Numbers Here:

| KIT PART NUMBER GUIDE (FOR KITTED CONNECTOR PURCHASE) |

Step 1 - (see page 6)

SPEC Pak® Series		Shell Color	Shell Style (Select One)	Dash	Shell Size	Insert Arrangement
S	K		1 = Inline Receptacle 2 = Panel Mount Receptacle 6 = Straight Plug 9 = Receptacle Cover 9P = Plug Cover	-	076	C04

List Kit Part Number Here:

Receptacle Kit Part Number:

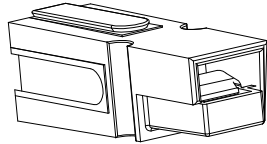
S	K		-	076	C04
---	---	--	---	-----	-----

Plug Kit Part Number:

S	K		-	076	C04
---	---	--	---	-----	-----



### Step 3: Select Housing Arrangement

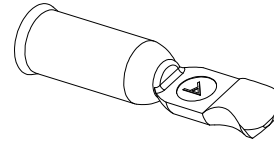


\* Define:

	<u>Number of Wires</u>	<u>Number of Auxiliaries</u>
Housing Arrangement		
- AC Single Phase	_____	_____
- AC 3 Phase	_____	_____
- DC	_____	_____
- Other	_____	_____

\* Select housing arrangement colors appropriate for your AC or DC application, from page 7.

### Step 4: Select Contacts



Power Contact



Pin Auxiliary Contact



Socket Auxiliary Contact

\* Define:

	<u>Number of Circuits</u>	<u>Wire Gauge</u>
Contacts		
- Power	_____	_____
- Auxiliary	_____	_____
- Other	_____	_____

Amps (continuous): \_\_\_\_\_ Max amps at \_\_\_\_\_ volts

\* Select power and/or auxiliary contacts appropriate for your wire size (AWG or mm<sup>2</sup>), from page 7.

List Component Part Numbers Here:

### Step 2 - (see page 6)

..... Wire Protection .....  
Number of Holes Cable Sealing Range  
(Select Two)

00 = None  
PS = Plastic Single-hole  
PM = Plastic Multi-hole

00 = None  
01 - 99 = Various Gland Types  
(See Page 6)

NOTE: Panel Mount Receptacle is always "00 00".

Dash

-

### Step 3 - (see page 7)

.. Housing Arrangement ..

(Select One)

0 = Custom Configuration  
A = AC Single Phase  
B = AC 3 Phase, 3 Wire  
C = DC Circuit, 4 Wire  
Z = All Black

### Step 4 - (see page 7)

..... Contacts .....

(Select One)

Dash

-

### Custom

.... APP Content ....

Contact the factory  
Custom Configuration

0 = Custom Configuration

70 = 1307 Contact for #6 AWG (13.3 mm<sup>2</sup>)

71 = Please inquire for #8 AWG (8.4 mm<sup>2</sup>)

72 = 5953 Contact for #10/12 AWG (3.3 to 5.3 mm<sup>2</sup>)

\_\_\_\_\_-\_\_\_\_\_  
\_\_\_\_\_-\_\_\_\_\_

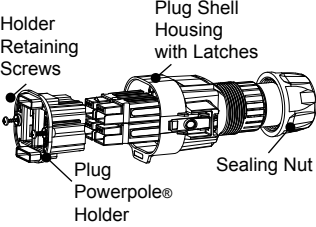
Ordering Information

PLUG  
SHELL KIT

Part Number & Description

**SK6-076C04**

- Plug shell
- Powerpole® holder - plug
- Powerpole® holder retaining screws M3.5 x 15mm
- Sealing Gland Nut (Sealing grommet sold separately)

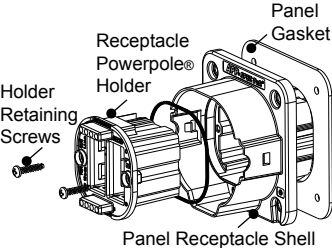


PANEL MOUNT  
RECEPTACLE KIT

Part Number & Description

**SK2-076C04**

- Panel mount receptacle shell
- Powerpole® holder - receptacle
- Panel mount receptacle gasket
- Powerpole® holder retaining screws M3.5 x 15mm

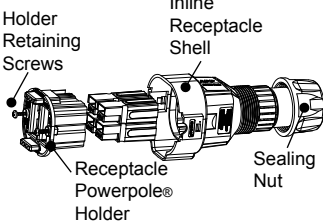


INLINE  
RECEPTACLE KIT

Part Number & Description

**SK1-076C04**

- Inline receptacle shell
- Powerpole® holder - receptacle
- Powerpole® holder retaining screws M3.5 x 15mm
- Sealing Gland Nut (Sealing grommet sold separately)



COVER  
KIT

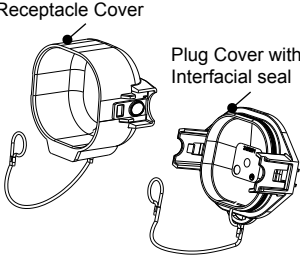
Part Number & Description

**SK9-076**  
Receptacle Cover Kit

- Cover (IP68) with lanyard

**SK9P-076**  
Plug Cover Kit

- Cover (IP68) with lanyard



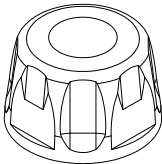
Component Replacement Parts

Part Number	Description
115129P1	Panel Mount Receptacle Gasket
H1120P53	Powerpole holder retaining screws M3.5 x 15mm

**NOTE:**  
Mounting Hardware (4 each M4 or #8 screws) not included.  
Recommended torque for mounting hardware is 7-10 in-lbs.

WIRE PROTECTION - CABLE GLAND

Material		Mechanical		Torque Requirements	
Shell	PBT/PC	IP Rating	IP68	Hand tighten. Using a 44 mm wrench or strap wrench, tighten an additional 3/4 - 1 turn.	
Sealing Grommet	EPDM	Operating Temperature (UL 1977)	-40° to 105° C		
Flammability (UL 94)	V0		-40° to 221° F		
Weatherability (UL 764C)	F1	Thread Type	Integrated into inline receptacle & plug shells		
Color	Black				



Wire Protection

Straight Plastic Single & Multi Hole Cable Gland

Number of Holes	Cable Range Wire Outer Diameter mm (in)	Wrench Size Sealing Nut	Protection Designation		Sealing Grommet Only		Sealing Glands (includes sealing grommet & wire protection nut)	
					Part Numbers		Part Numbers	
Minimum Quantity					10	For use with SK1-076C04 & SK6-076C04	10	For use with shell kit components purchased in bulk.
1	18.0 - 24.0 mm (0.79" - 0.85")	44	PS	01	B02130P7		PS1T40-24X	
2	3.8 - 5.0mm (0.15" - 0.20")	44	PM	21	B02130P12		PS2T40-5X	
2	6.0 - 7.2mm (0.24" - 0.28")	44	PM	22	B02130P11		PS2T40-7X	
2	7.0 - 9.0mm (0.28" - 0.35")	44	PM	23	B02130P10		PS2T40-9X	
3	3.8 - 5.0mm (0.15" - 0.20")	44	PM	31	B02130P6		PS3T40-5X	
3	6.0 - 7.2mm (0.24" - 0.28")	44	PM	32	B02130P5		PS3T40-7X	
3	7.0 - 9.0mm (0.28" - 0.35")	44	PM	33	B02130P4		PS3T40-9X	
4	3.8 - 5.0mm (0.15" - 0.20")	44	PM	41	B02130P3		PS4T40-5X	
4	6.0 - 7.2mm (0.24" - 0.28")	44	PM	42	B02130P2		PS4T40-7X	
4	7.0 - 9.0mm (0.28" - 0.35")	44	PM	43	B02130P1		PS4T40-9X	

# C04 Housing Arrangement

Configured with up to 4 PP75 Contacts - Up to 80 Amps

## | Standard Housing Arrangements |

E = Empty

### 0 Custom Configuration

#### AC Single Phase

<b>A</b>	<b>5916G4</b>	<b>5916G5</b>
	<b>5916G6</b>	<b>E</b>

#### AC 3 Phase, 3 Wire

<b>B</b>	<b>5916G4</b>	<b>5916G5</b>
	<b>5916G7</b>	<b>E</b>

#### DC 2 Circuit, 4 Wire

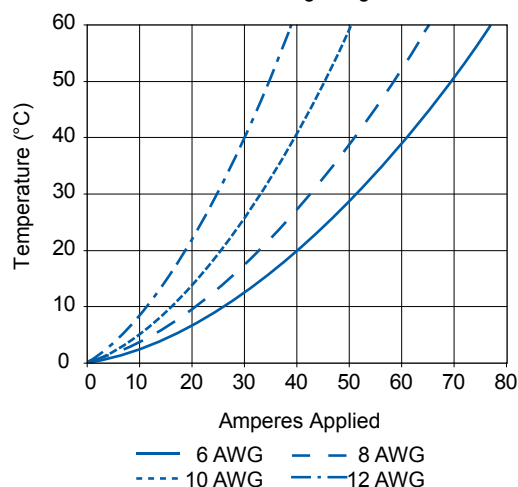
<b>C</b>	<b>5916G4</b>	<b>5916G4</b>
	<b>5916G7</b>	<b>5916G7</b>

#### All Black

<b>Z</b>	<b>5916G4</b>	<b>5916G4</b>
	<b>5916G4</b>	<b>5916G4</b>

## | TEMPERATURE CHART |

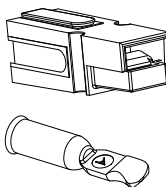
Mid Power SPEC Pak®  
Four Power Contacts / Eight Signal Contacts 5A



## Ordering Information

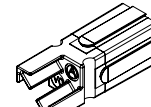
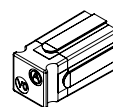
### PP75 Standard Power Contacts, Signal Contacts & Housings

Description	Part Number	Part Number
Minimum Quantity ..	1000	100
Red	5916G7-BK	5916G7
Green	5916G6-BK	5916G6
Black	5916G4-BK	5916G4
White	5916G5-BK	5916G5
Blue	5916-BK	5916
Yellow	5916G15-BK	5916G15
Orange	5916G14-BK	5916G14
Gray	5916G16-BK	5916G16



### Spacer & Keying Accessory

Description	Part Number	Part Number
Minimum Quantity .....	1000	100
Red, Short	1399G23-BK	1399G23
Red, Long	1399G21-BK	1399G21



Short

Long

### PP75 Silver Plated Wire Contacts

Type	AWG	mm <sup>2</sup>	Mating Force	-- Part Numbers --		Contact Code Designation	Hand Tool	Pneumatic		
							Tool	Tool	Die	Locator
Minimum Quantity .....				1000	100	.....	For use with 6 AWG			
Individual 6	13.3	Low		1307-BK	1307	70 .....	1309G4	1387G1	1388G6	1389G6
Individual 8	8.4	Low		Please inquire		71 .....				
Individual 12 to 10	3.3 to 5.3	Low		5953-BK	5953	72 .....	For use with 12/10 AWG			
							1309G4	1387G1	1388G7	1389G6

### Auxiliary Contacts (PowerMod® series)

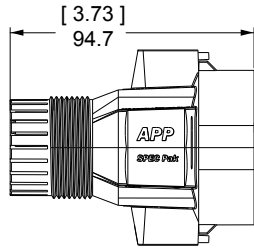
Type	AWG	mm²	---- Part Number ----	
Minimum Quantity.....			500	50
Standard Length 7.7mm				
Pin	24 to 20	0.50 to 0.75	PM16P2024S30	PM16P2024S30-50
Pin	20 to 18	0.75 to 1.00	PM16P1620S30	PM16P1620S30-50
Pin	16 to 14	1.00 to 1.5	PM16P1416S30	PM16P1416S30-50
Pin	12	2.50	PM16P12S30	PM16P12S30-50
Pre-Mate 9.3mm				
Pin	24 to 20	0.50 to 0.75	PM16P2024A30	PM16P2024A30-50
Pin	20 to 18	0.75 to 1.00	PM16P1620A30	PM16P1620A30-50
Pin	16 to 14	1.00 to 1.5	PM16P1416A30	PM16P1416A30-50
Pin	12	2.50	PM16P12A30	PM16P12A30-50
Post-Mate 6.4mm				
Pin	24 to 20	0.50 to 0.75	PM16P2024C30	PM16P2024C30-50
Pin	20 to 18	0.75 to 1.00	PM16P1620C30	PM16P1620C30-50
Pin	16 to 14	1.00 to 1.5	PM16P1416C30	PM16P1416C30-50
Pin	12	2.50	PM16P12C30	PM16P12C30-50
<hr/>				
Socket	24 to 20	0.25 to 0.50	PM16S2024S32	PM16S2024S32-50
Socket	20 to 16	0.50 to 1.30	PM16S1620S32	PM16S1620S32-50
Socket	16 to 14	1.30 to 2.10	PM16S1416S32	PM16S1416S32-50
Socket	12	2.5	PM16S12S32	PM16S12S32-50

Hand Tool	Hand Tool	Hand Locator	Pneumatic Tool	Pneumatic Locator
For use with pins				
PM1000G1	TM0001	TL0001	TP0001	TL0001
For use with sockets				
PM1000G1	TM0001	TL0002	TP0002	TL0002

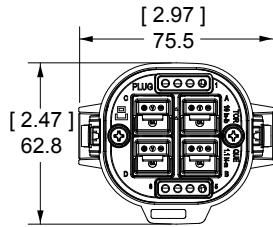
# Dimensions

## | PLUG MID POWER FOR PP75 HOUSINGS |

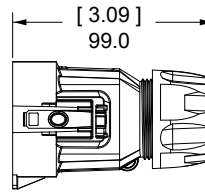
**Top View**



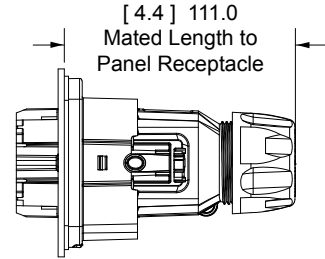
**Front View**



**Side View**

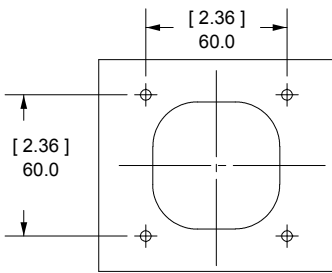


**Mated View**

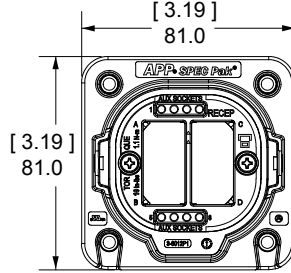


## | PANEL MOUNT RECEPTACLE MID-POWER FOR PP75 |

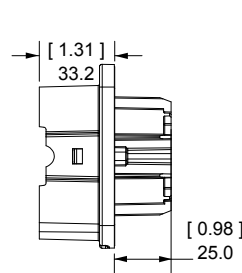
**Panel Cut Out**



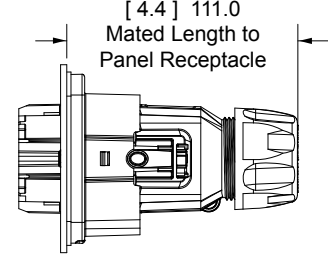
**Front View**



**Side View**

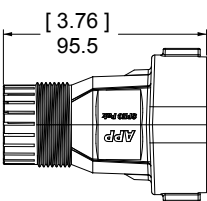


**Mated View**

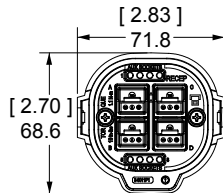


## | INLINE RECEPTACLE MID-POWER FOR PP75 |

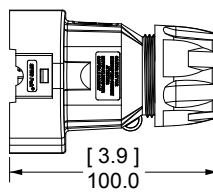
**Top View**



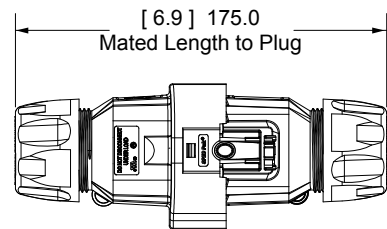
**Front View**



**Side View**

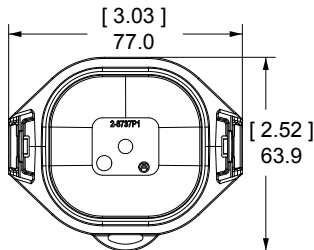


**Mated View**

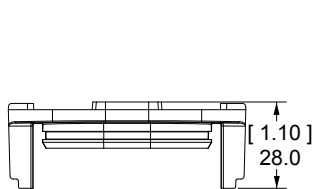


## | PLUG COVER KIT |

**Front View**

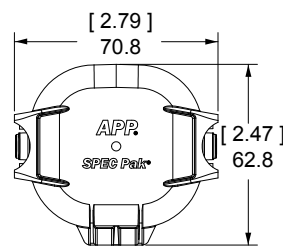


**Side View**

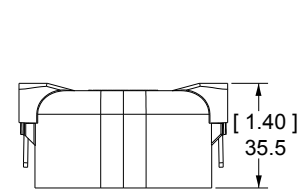


## | RECEPTACLE COVER KIT |

**Front View**



**Side View**



All Data Subject To Change Without Notice

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15374 DS-MPSPAK REV 02

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