

# 3 POLE MINI PL SPEC Pak®

Sealed Power For Environmental Connections

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

3 Position Mini PL SPEC Pak® is a rugged and environmentally sealed (IP68) connector with a manually operated release latch. The 3 Position Mini PL leverages PowerMod® pin and socket contact technology, delivering capabilities up to 22 amps at 600 volts while handling wires from 24 to 12 AWG (0.5 to 2.5 mm<sup>2</sup>). The 30µ gold plated pins are available in 3 lengths, enabling sequenced contact mating options. These contacts sit inside a UV and flame resistant shells that are touch safe on both sides.

## Features

### Manual Release Latch

- Prevents accidental un-mating

### Pin & Socket Contact Technology

- Gold plated for greater conductivity

### 3 Pin Lengths Available

- Offers sequencing capabilities

### Touch Safe per UL 1977 Sec. 10.2

- Touch safe on both pin & socket sides

### Rugged & Environmentally Sealed Shells

- F1 weatherability rating per UL 746C
- V0 flammability rating per UL 94
- IP68, exceeds industry standards



### Materials

Shell	PC
Latch	PC
Flammability	UL 94 V-0
Weatherability	UL764C / 12 mm, F1
Contacts	
Socket Body	Copper Alloy, 200 µ inch Sn over Ni
Socket Contact	Copper Alloy, 30 µ inch Au over Ni
Pin	Copper Alloy, 30 µ inch Au over Ni

NOTE: Sn = tin Ni = nickel Au = Gold

### Mechanical

<b>Environmental Seal</b>	
IEC	IP 68
UL	50E
<b>Wire</b>	
Size	24 to 12 AWG 0.5 to 2.5 mm <sup>2</sup>
<b>Sealing Options</b>	Sealing Gland
<b>Operating Temperature</b>	-20 to 105°C -4 to 221°F
<b>Mating Cycles (no load)</b>	500
<b>Contact Retention Force</b>	10 lbf 44 N
<b>Mating Force (nominal)</b>	5 lb 22 N
<b>Touch Safe (UL 1977 Sec 10.2)</b>	Pass
<b>Latch Strength (nominal)</b>	24 lb 107 N

### Electrical

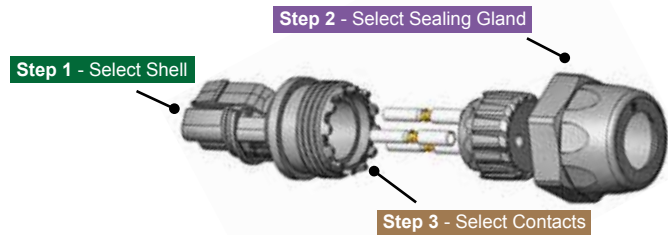
<b>Current Rating (Amperes)</b>	
UL 1977	22
CSA (30°C Rise)	16
<b>Voltage Rating</b>	
UL 1977 (AC/DC)	600
<b>Dielectric Withstanding (AC)</b>	2200
<b>Contact Resistance (average)</b>	3 Milliohms

UL US File No. E26226

CSA Certified File No. LR25154

# ORDERING INFORMATION

SPEC Pak® Mini PL Series is a highly configurable environmentally sealed connector that can be purchased as component in bulk for volume production, or pre-packaged as a kit. Configuring a connector is an easy three step process.



## Step 1: Select Shell

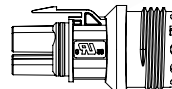
### SPEC Pak® Shell Kits (sealing glands & contacts sold separately)

Description	- Part Numbers -
Minimum Quantity .....	25
Male, Receptacle Shell	SK1-019M03
Female, Plug	SK6-019M03
Female, Jam Nut	SK7-019M03
Female, Cover	SK9F-019
Male, Cover	SK9M-019



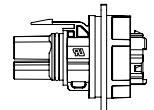
**SK1-019M03**  
Male Receptacle

Mates With:



**SK6-019M03**  
Female Plug

OR

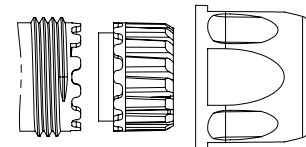


**SK7-019M03**  
Female Panel, Jam Nut

## Step 2: Select Sealing Gland

- FAQ**
- Q: Do I need a sealing gland?  
 A: For IP68 rating, sealing glands are required with SK1-019M03 & SK6-019M03.  
 A: For splash resistance in the unmated condition, use optional wire sealing grommets with SK7-019M03. (See accessories on page 4).

- Q: How do I select the appropriate sealing gland?  
 A: Identify the number of wires that will be used. Number of wires: \_\_\_\_\_  
 Identify the outer diameter (OD) of those wire(s). OD of the wires: \_\_\_\_\_



Material	
Shell	PC
Sealing Grommet	EPDM
Flammability	UL94 V0
Color	Black

Torque Requirements	
Hand tighten until snug, using a wrench tighten an additional 1/4 to 1/2 turn.	
Wrench Size	22

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

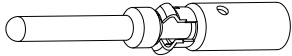
Bundled Cable				
Number of Wires	Cable Range Wire Outer Diameter (OD) mm (in)	Part - Numbers -	Connector Kit Designation	
Minimum Quantity .....		25		
1	3.0 to 4.5 (0.12 to 0.18)	PS1T20-5X	PS	01
1	4.5 to 6.5 (0.18 to 0.26)	PS1T20-7X	PS	02
1	6.5 to 8.5 (0.26 to 0.33)	PS1T20-9X	PS	03
1	8.5 to 10.0 (0.33 to 0.39)	PS1T20-10X	PS	04
1	10.0 to 11.5 (0.39 to 0.45)	PS1T20-12X	PS	05

Discrete Wires				
Number of Wires	Cable Range Wire Outer Diameter (OD) mm (in)	Part - Numbers -	Connector Kit Designation	
Minimum Quantity .....		25		
2	0.75 to 1.5 (0.03 to 0.06)	PS2T20-2X	PM	21
2	1.5 to 2.6 (0.06 to 0.10)	PS2T20-3X	PM	22
3	0.75 to 1.5 (0.03 to 0.06)	PS3T20-2X	PM	31
3	1.6 to 2.6 (0.06 to 0.10)	PS3T20-3X	PM	32
3	4.0 to 4.8 (0.16 to 0.19)	PS3T20-5X	PM	35

## Step 3: Select Contacts

- FAQ**
- Q: What should I consider when selecting the contacts?  
 A: Determine the number of amps (continuous and peak). See temperature charts.  
 Amps (continuous) \_\_\_\_\_ at \_\_\_\_\_ volts & Peak Amps \_\_\_\_\_ for \_\_\_\_\_ seconds
- Q: Which contacts are used in each shell?  
 A: Pins are used in SK1-019M03 (male receptacle).  
 Sockets are used in SK6-019M03 (female plug) & SK7-019M03 (female panel mount, jam nut)

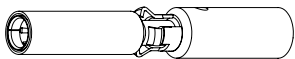
### Pin Contacts (PowerMod® Series) - (For pre-mate and post-mate contacts for sequencing, contact the factory)



Type	AWG	mm <sup>2</sup>	----- Part Numbers -----		Connector Kit Designation
Minimum Quantity .....			500	50	
Standard Length 7.7					
Pin	24 to 20	0.25 to 0.50	PM16P2024S30	PM16P2024S30-50	P46
Pin	20 to 16	0.50 to 1.30	PM16P1620S30	PM16P1620S30-50	P45
Pin	16 to 14	1.30 to 2.10	PM16P1416S30	PM16P1416S30-50	P44
Pin	12	2.5	PM16P12S30	PM16P12S30-50	P47

Hand Tool	Pneumatic Tool			Insertion Tool	Extraction Tool
	Tool	Die	Locator		
PM1000G1	TM0001	N/A	TL0001	PM1002G1	PM1003G1

### Socket Contacts (PowerMod® Series)

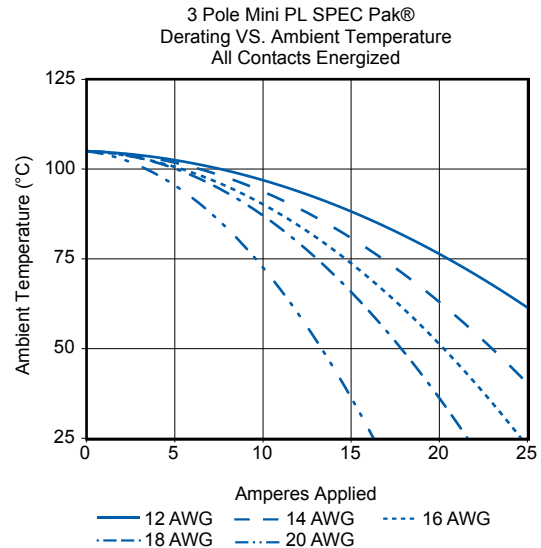
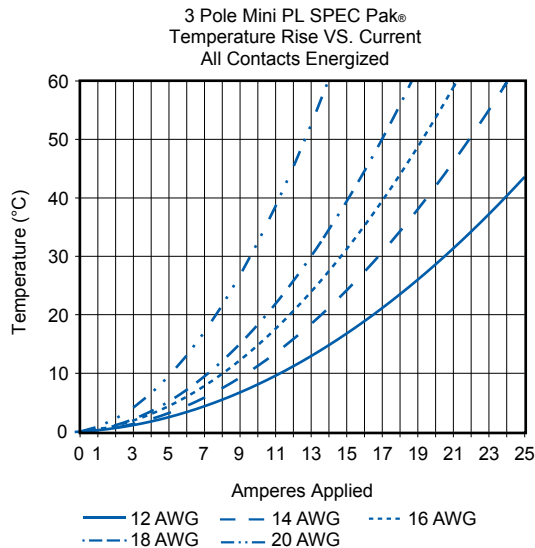


Type	AWG	mm <sup>2</sup>	----- Part Numbers -----		Connector Kit Designation
Minimum Quantity .....			500	50	
Socket	24 to 20	0.25 to 0.50	PM16S2024S32	PM16S2024S32-50	S46
Socket	20 to 16	0.50 to 1.30	PM16S1620S32	PM16S1620S32-50	S45
Socket	16 to 14	1.30 to 2.10	PM16S1416S32	PM16S1416S32-50	S44
Socket	12	2.5	PM16S12S32	PM16S12S32-50	S47

Hand Tool	Pneumatic Tool			Insertion Tool	Extraction Tool
	Tool	Die	Locator		
PM1000G1	TM0001	N/A	TL0002	PM1002G1	PM1003G1

NOTE: APP tooling is required for UL & CSA compliance. Use of unapproved tools will void the connectors warranty.

## | TEMPERATURE CHARTS |



# | CONNECTOR KIT - PART NUMBER CONFIGURATOR |

Step 1 Select Shell				Step 2 Select Sealing Gland		Step 3 Select contact	
Series	Color	Shell Style <sup>1</sup>	Shell Size	Insert Arrangement	Wire Protection <sup>1</sup>		Housing & Contacts Arrangement <sup>2</sup>
<b>S</b>	<b>K</b>	<b>1</b>	<b>- 019</b>	<b>M03</b>	<b>PS</b>	<b>01</b>	<b>- P46</b>
1 = Male, Receptacle (Pins) 6 = Female Plug (Sockets) 7 = Female Panel Mount Jam Nut (Sockets)						P46 = 20 - 24 AWG Pin P45 = 16 - 20 AWG Pin P44 = 14 - 16 AWG Pin P47 = 12 AWG Pin	
019							
M03							
00 = No Wire Protection						S46 = 20 - 24 AWG Socket	
PS = Plastic Single Hole						S45 = 16 - 20 AWG Socket	
PM = Plastic Multi-Hole						S44 = 14 - 16 AWG Socket	
00 = No Wire Protection						S47 = 12 AWG Socket	
01 thru 99 = See page 3 for selection							

<sup>1</sup> See page 2 for more information | <sup>2</sup> See page 3 for more information

## | ACCESSORIES (optional) |

### Wire Seal Accessories for use with SK7-021M03

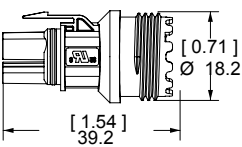
Description	----- Part Numbers -----	
Minimum Quantity	1	50
Wire Seal Retainer	2-8702P1	-
Grommet, wire range 1.2 - 1.9mm (0.047" - 0.075") OD, Orange	114916P1	114916P1-50
Grommet, wire range 1.9 - 2.4mm (0.75" - 0.090") OD, Yellow	114916P2	114916P2-50
Grommet, wire range 2.5 - 3.2mm (0.100" - 0.130") OD, Tan	114916P3	114916P3-50
Sealing Plug	114916P4	114916P4-50

### Covers

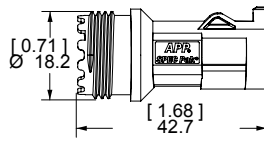
Description	- Part Numbers -
Minimum Quantity .....	25
Female Cover	SK9F-019
Male Cover	SK9M-019

## | DIMENSIONS |

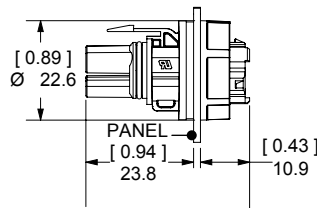
**Male Receptacle  
SK1-019M03**



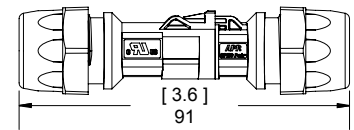
**Female Plug  
SK6-019M03**



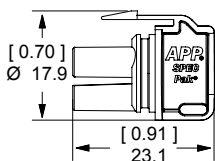
**Female Panel Mount  
SK7-019M03**



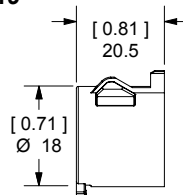
**SK1-019M03 & SK6-019M03 (mated)**



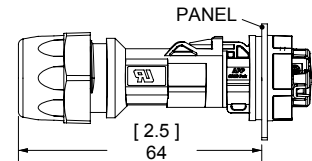
**Male Cover  
SK9M-019**



**Female Cover  
SK9F-019**



**SK1-019M03 & SK7-019M03 (mated)**



All Data Subject To Change Without Notice

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