

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 technology, delivering capabilities up to 22 amps at 600 volts while handling wires from 24 to 12 AWG (0.5 to 1.5 mm²). The 30µ gold plated pins are available in 3 lengths, enabling sequenced contact mating options. These contacts sit inside a UV and flame resistant (per UL746C F1 and UL94 V0 respectively) shells that are touch safe (per UL 1977 sec 10.2) on both sides.

Features

Manual Release Latch

- Prevents accidental un-mating

Pin & Socket Contact Technology

- Proven, reliable & cost effective contact technology

3 Pin Lengths Available

- Offers sequencing capabilities

Touch Safe per UL 1977 Sec. 10.2

- Touch safe on both sides

Rugged & Environmentally Sealed Shells

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

Electrical

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

Materials

Shell	PC
Latch	PC
Flammability (UL 94)	Pass
Weatherability (UL 764C / 12mm)	Pass
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

Environmental Seal	
IP Rating	IP 68
UL 50E	Pass
Wire	
Size	24 to 12 AWG 0.25 to 2.10 mm ²
Sealing Options	
	Sealing Gland, Over-Moldable
Operating Temperature	
	-20 to 105°C -4 to 221°F
Mating Cycles (no load)	
	500
Contact Retention Force	
	10 lbf 44 N
Mating Force (nominal)	
	5 lb 22 N
Touch Safe (UL 1977 Sec 10.2)	
	Pass
Latch Strength (nominal)	
	24 lb 107 N



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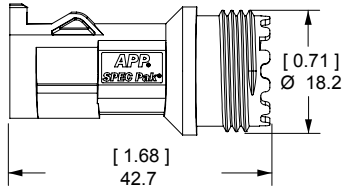
Product Selection Guide

SPEC Pak® Mini PL Series 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 your convenience, follow the steps below to determine the component or kit part number.

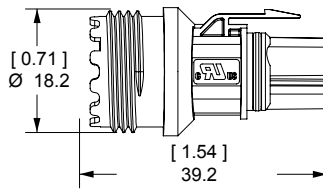
Step 1: Select Shell



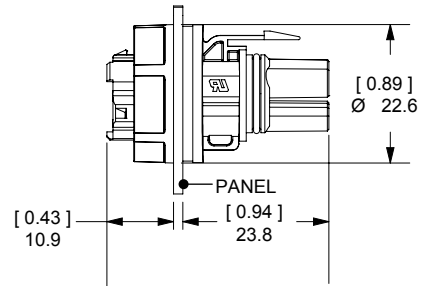
SK1-019M03



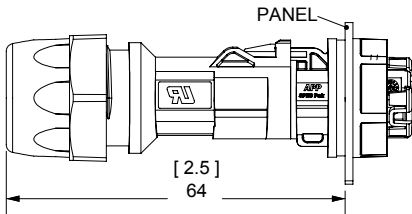
SK6-019M03



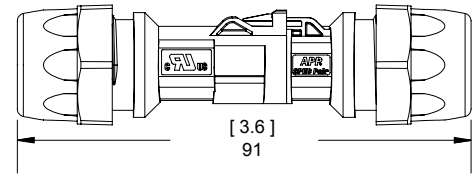
SK7-019M03



Mated Length



SK1-019M03 & SK7-019M03



SK1-019M03 & SK6-019M03

List Component Part Numbers Here:

Step 1

SPEC Pak® Series	Shell Color	Shell Style (Select One)	Dash	Shell Size	Insert Arrangement
S	K	1 = Inline Receptacle, Male 6 = Straight Plug, Female 7 = Jam Nut, Female 9F = Female cover 9M = Male Cover	-	019	M03

List Kit Part Number Here:

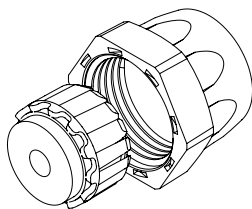
Female Kit Part Number:

S K - 019 M03

Male Kit Part Number:

S K - 019 M03

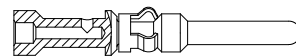
Step 2: Select Wire Protection



- * Define:

	<u>Number of Wires</u>	<u>Wire OD</u>
Wires		
- Discrete	_____	_____
- Bundled	_____	_____
- * Select wire protection that will accommodate the number of wires and outer diameter (OD) of the wires used in your application, (See page 4).
- * Wire protection is required for use with inline receptacles and plugs to obtain IP68 seal.
- * Optional wire protection is available for use with SK7-019M03. See "Wire Seal Accessories" on page 4.
- * Wire protection is not required in over molding applications.

Step 3: Select Contacts



Pin Auxiliary Contact



Socket Auxiliary Contact

- * Define:

	<u>Number of Circuits</u>	<u>Wire Gauge</u>
Contacts		
- Power	_____	_____
- Pre-Mate	_____	_____
- Post-Mate	_____	_____

Amps (continuous): ____ Max amps at ____ volts
- * Select contact appropriate for your wire size (AWG or mm²) (See page 4).

Step 2

..... 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 4)

Dash



Step 3

..... Contacts

(Select One)

- P00 = Custom Configuration
- P47 = 3 each #12 (PM16P12S30 Pin)
- P44 = 3 each #16 to #14 (PM16P1416S30 Pin)
- P45 = 3 each # 20 to #16 (PM16P1620S30 Pin)
- P46 = 3 each # 24 to #20 (PM16P2024S30 Pin)
- S00 = Custom Configuration
- S47 = 3 each #12 (PM16S12S32 Socket)
- S44 = 3 each #16 to #14 (PM16S1416S32 Socket)
- S45 = 3 each # 20 to #16 (PM16S1620S32 Socket)
- S46 = 3 each # 24 to #20 (PM16S2024S32 Socket)

Custom

.. APP Content ..

Dash



Contact factory for custom configurations.

ORDERING INFORMATION

Step 1 - Select Shell

SPEC Pak® Shell Kits

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



Wire Seal Accessories for use with Jam Nut Shell (optional)

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, Orange	114916P3	114916P3-50

Step 2 - Select Wire Protection

Material	
Shell	PC
Sealing Grommet	EPDM
Flammability (UL 94)	V0
Color	Black

IP Rating	
Operating Temperature (UL 1977)	-20° to 105°C -4° to 221°F

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



Wire Protection - Cable Gland

- Part Numbers -	Number of Holes	Wire Protection Designation		Cable Range Wire Outer Diameter (OD) mm (in)	Wrench Size
PS1T20-5X	1	PS	01	3.0 to 4.5 (0.12 to 0.18)	22
PS1T20-7X	1	PS	02	4.5 to 6.5 (0.18 to 0.26)	
PS1T20-9X	1	PS	03	6.5 to 8.5 (0.26 to 0.33)	
PS1T20-10X	1	PS	04	8.5 to 10.0 (0.33 to 0.39)	
PS1T20-12X	1	PS	05	10.0 to 11.5 (0.39 to 0.45)	
PS2T20-2X	2	PM	21	0.75 to 1.5 (0.03 to 0.06)	
PS2T20-3X	2	PM	22	1.5 to 2.6 (0.06 to 0.10)	
PS3T20-2X	3	PM	31	0.75 to 1.5 (0.03 to 0.06)	
PS3T20-3X	3	PM	32	1.6 to 2.6 (0.06 to 0.10)	

Step 3 - Select Contacts

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

Pin Contacts (PowerMod® Series)

Type	AWG	mm²	----- Part Numbers -----	
Minimum Quantity			500	50
Standard Length 7.7				
Pin	24 to 20	0.25 to 0.50	PM16P2024S30	PM16P2024S30-50
Pin	20 to 16	0.50 to 1.30	PM16P1620S30	PM16P1620S30-50
Pin	16 to 14	1.30 to 2.10	PM16P1416S30	PM16P1416S30-50
Pin	12	3.30	PM16P12S30	PM16P12S30-50

Contact Designation
P46
P45
P44
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	mm²	----- Part Numbers -----	
Minimum Quantity			500	50
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	3.30	PM16S12S32	PM16S12S32-50

Contact Designation
S46
S45
S44
S47

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

NOTE: For pre-mate and post-mate contacts, contact the factory.