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Amphenol

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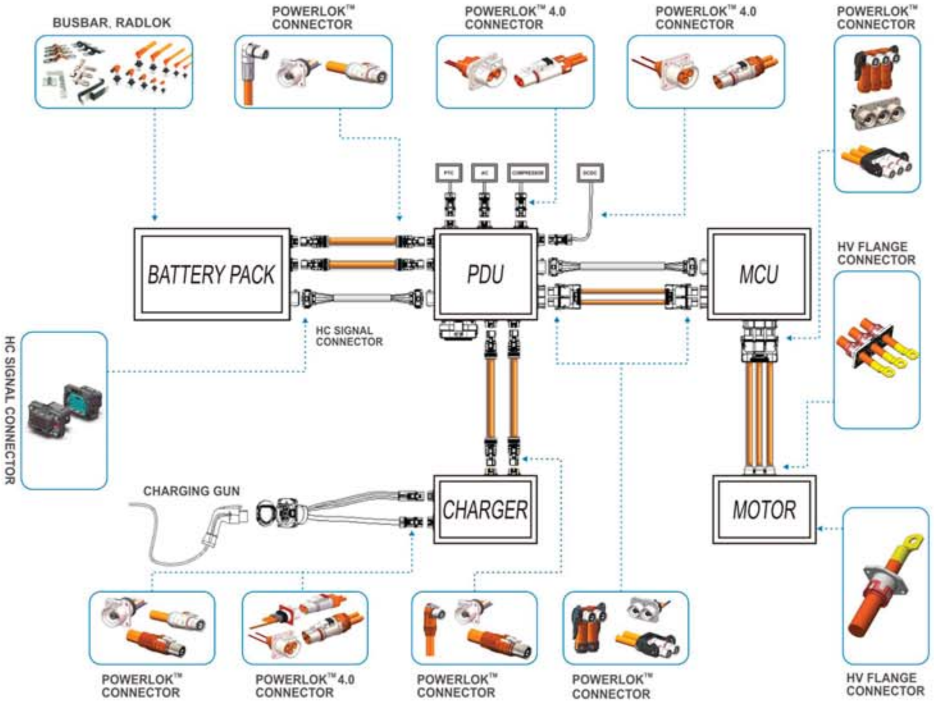
SYSTEM CONNECTION SKETCH



CONTENTS

POWERLOK™ CONNECTOR

Application

POWERLOK™ series is a low cost, compact, metal-shell interconnect solution utilizing RADSOK® contact technology for EV and Hybrid transportation application. Up to 1000V ranging from 90A-500A with HVIL, 360° shielding, environmental sealing, keying, straight and right angle configurations, and up to 3 power circuits. Accommodates cable size from 16mm² to 150mm² with and without shielding. Available in assembled and overmolded versions.

POWERLOK™ series connectors are engineered for diverse applications as its wide power range coverage, including electirc powertrains of automotive, trucks, bus, agricultural and construction machines, and off-road vehicles. Forthermore, POWERLOK™ series are also widely employed in stationary energy storage systems.

Key Features

- High Voltage Inter Lock
- 360° shielding
- 1POS, 2POS, 3POS Positions Available
- 90D(Right angle) and 180D(Straight)
- Multiple keys available
  1POS (X, Y, U, V, W, T keys)
  2POS & 3POS (X, Y keys)
- RADSOK® contact technology
- RoHS/REACH Compliant

- Mating Cycle: 100Min
- Mating Force: 75N MAX.
- Voltage Rating: 1000VDC
- DC Current Rating: 120A,200A,300A,400A,500A
- Insulation Resistance: 500MΩ
- IP rating: IP67(mated) IP2X(unmated)
- Salt Spray: 48h
- Temperature range: -40℃-+125℃

PowerLok™ Recommended Cable Size & Current Rating

Series	Accepted Cable Size	Current Rating
120 Series	16mm²	90A
	25mm²	120A
200 Series	25mm²	120A
	35mm²	150A
	50mm²	200A
300 Series	35mm²	150A
	50mm²	200A
	70mm²	250A
	95mm²	300A
400 Series	70mm²	250A
	95mm²	300A
	120mm²	400A
	135mm²	450A
500 Series	95mm²	300A
	120mm²	400A
	135mm²	450A
	150mm²	500A

*Customization is allowed if above sizes are not what you need.

PowerLok™ Receptacle

180 Degree Busbar Lug

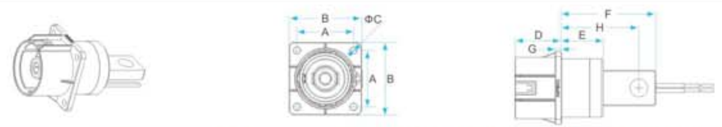
Thread Pin

Tubular Lug

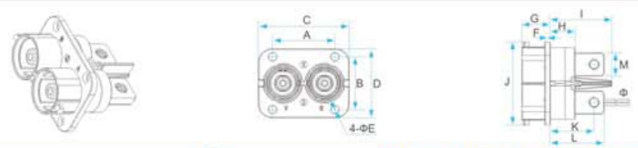
90 Degree BusbarLug

Series	180 Degree BusBar Lug						Thread Pin						Tubular Lug						90 Degree Busbar Lug	
	1POS		2POS		3POS		1POS		2POS		3POS		1POS		2POS		3POS		1POS	
	With HVIL	W/O HVIL	With HVIL	W/O HVIL	With HVIL	W/O HVIL	With HVIL	W/O HVIL	With HVIL	W/O HVIL	With HVIL	W/O HVIL	With HVIL	W/O HVIL	With HVIL	W/O HVIL	With HVIL	W/O HVIL	With HVIL	W/O HVIL
120A	•	•	•	•				•						•						
200A	•	•																		
300A	•	•	•	•	•	•		•	•	•	•	•		•	•	•	•	•	•	
400A	•	•																	•	
500A	•	•						•						•					•	

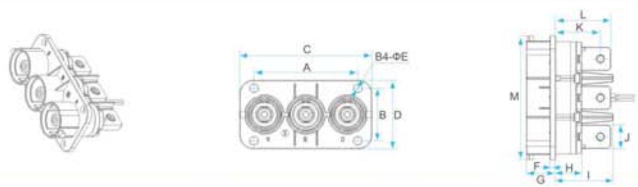
180 Degree Busbar Lug Receptacle



Product	180 Degree Busbar Lug 1POS Dimensions(mm)								
	Series	A	B	C	D	E	F	G	H
PowerLok™ 1POS 180 Degree Busbar Lug Receptacle	120A	20.0	28.0	Φ3.6	18.0	13.0	31.5	3.0	24.5
	200A	25.0	33.0	Φ4.2	20.7	19.3	39.5	3.0	32.3
	300A	27.0	35.0	Φ4.2	20.7	21.3	49.3	3.0	39.3
	400A	33.5	43.0	Φ4.3	27.2	25.0	55.2	3.5	45.2
	500A	33.5	43.0	Φ4.3	27.2	25.0	56.0	3.5	46.0

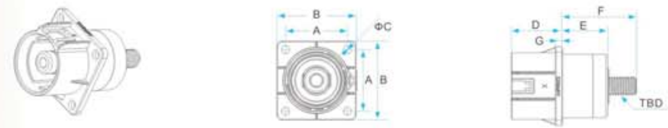


Product	180 Degree Busbar Lug 2POS Dimensions(mm)													
	Series	A	B	C	D	E	F	G	H	I	J	K	L	M
PowerLok™ 2POS 180 Degree Busbar Lug Receptacle	120A	35.0	25.5	48.0	34.0	Φ3.6	3.0	18.5	14.5	29.5	49.0	23.5	33.0	9.8
	300A	45.0	38.0	65.6	49.6	Φ6.2	4.0	22.0	20.0	49.0	65.4	35.0	43.0	18.2

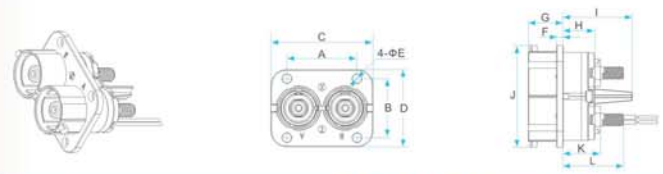


Product	180 Degree Busbar Lug 3POS Dimensions(mm)													
	Series	A	B	C	D	E	F	G	H	I	J	K	L	M
PowerLok™ 3POS 180 Degree Busbar Lug Receptacle	300A	75.0	38.0	95.6	49.6	Φ10.0	4.0	22.0	20.7+1.0	44.7+0.1	18.2	35.0+0.1	43.0+0.1	95.6

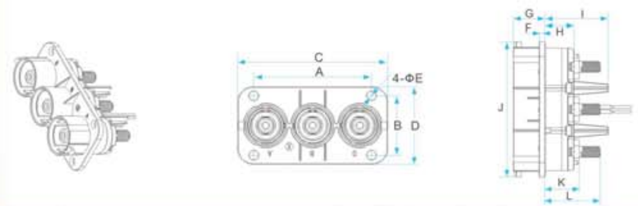
Thread Pin Receptacle



Product	Thread Pin 1POS Dimensions(mm)							
	Series	A	B	C	D	E	F	G
PowerLok™ 1POS Thread Pin Receptacle	120A	20.0	28.0	Φ3.6	18.0	13.0	32.0	3.0
	300A	27.0	35.0	Φ4.2	20.7	21.3	38.1	3.0
	500A	33.5	43.0	Φ4.3	27.2	25.0	40.5	3.5

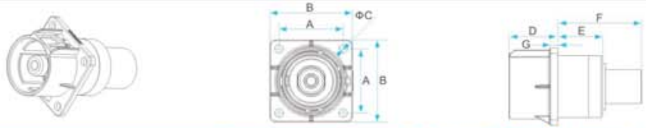


Product	Thread Pin 2POS Dimensions(mm)											
	Series	A	B	C	D	E	F	G	H	I	J	K	L
PowerLok™ 2POS Thread Pin Receptacle	300A	45.0	38.0	65.6	49.6	Φ6.2	4.0	22.0	20.7±0.1	44.7±0.1	65.4	24.2±0.1	39.2±0.1



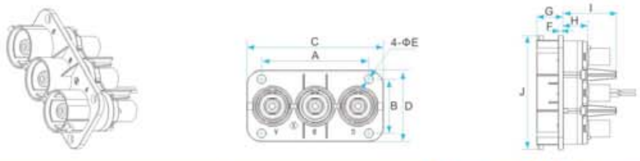
Product	Thread Pin 3POS Dimensions(mm)											
	Series	A	B	C	D	E	F	G	H	I	J	K	L
PowerLok™ 3POS Thread Pin Receptacle	300A	75.0	38.0	95.6	49.6	Φ6.2	4.0	22.0	20.7±0.1	44.7±0.1	95.1	24.2±0.1	39.2±0.1

Tubular Lug Receptacle



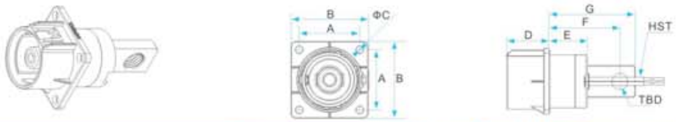
Product	Tubular Lug 1POS Dimensions(mm)							
	Series	A	B	C	D	E	F	G
PowerLok™ 1POS Tubular Lug Receptacle	120A	20.0	28.0	φ3.6	18.0	13.0	27.5	3.0
	300A	27.0	35.0	φ4.2	20.7	21.3	TBD	3.0
	500A	33.5	43.0	φ4.3	27.2	25.0	46.5	4.5

Product	Tubular Lug 2POS Dimensions(mm)										
	Series	A	B	C	D	E	F	G	H	I	J
PowerLok™ 2POS Tubular Lug Receptacle	300A	45.0	38.0	65.6	49.6	φ6.2	4.0	22.0	20.7	44.7	65.4



Product	Tubular Lug 3POS Dimensions(mm)										
	Series	A	B	C	D	E	F	G	H	I	J
PowerLok™ 3POS Tubular Lug Receptacle	300A	75.0	38.0	95.6	49.6	φ6.2	4.0	22.0	20.7	44.7	95.1

90 Degree Busbar Lug Receptacle

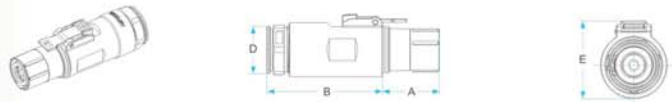


Product	90 Degree Busebar 1POS Dimensions(mm)								
	Series	A	B	C	D	E	F	G	H
PowerLok™ 1POS 90 Degree Busbar Receptacle	300A	27.0	35.0	φ4.2	20.7	24.1	49.3	3.0	39.3
	400A	33.5	43.0	φ4.3	27.2	25.0	55.2	3.5	45.2
	500A	33.5	43.0	φ4.3	20.7	25.0	56.0	3.5	46.0

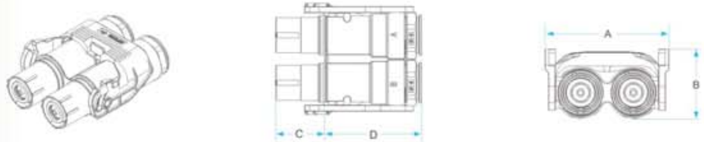
PowerLok™ Plug

Series	1POS				2POS				3POS			
	Assembly		Overmolded		Assembly		Overmolded		Assembly		Overmolded	
	Straight	Right Angle	Straight	Right Angle	Straight	Right Angle	Straight	Right Angle	Straight	Right Angle	Straight	Right Angle
120A			•	•			•	•				
200A	•	•										
300A	•	•	•	•	•	•			•	•		
400A			•	•								
500A			•	•								

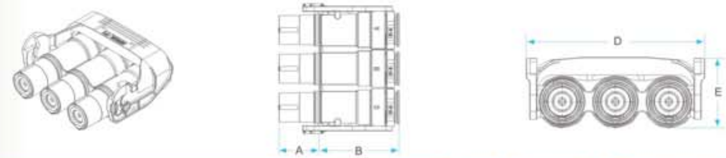
Straight Assembly Plug



Product	1POS Straight Assembly Plug Dimensions(mm)				
	Series	A	B	D	E(REF)
PowerLok™ 1POS Straight Assembly Plug	200A	29.8	54.3	Φ25.9	30.9
	300A	31.0	63.1	Φ29.5	34.4

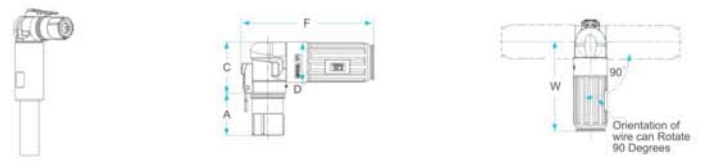


Product	2POS Straight Assembly Plug Dimensions(mm)				
	Series	A	B	C	D
PowerLok™ 2POS Straight Assembly Plug	300A	70.5	38.8	31.0	59.6



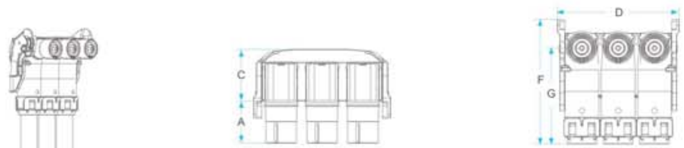
Product	3POS Straight Assembly Plug Dimensions(mm)				
	Series	A	B	D	E
PowerLok™ 3POS Straight Assembly Plug	300A	31.0	59.6	100.5	38.0

Right Angle Assembly Plug	



Product	1POS Right Angle Assembly Plug Dimensions(mm)					
	Series	A	C	D	F(REF)	W
PowerLok™ 1POS Right Angle Assembly Plug	200A	29.8	34.7	Φ25.9	30.9	68.8
	300A	31.0	37.6	Φ25.9	34.4	78.1

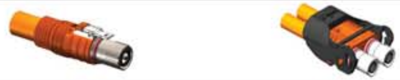
Product	2POS Right Angle Assembly Plug Dimensions(mm)					
	Series	A	D	E	F	G
PowerLok™ 2POS Right Angle Assembly Plug	300A	31.0	70.5	34.8	103.3	79.4

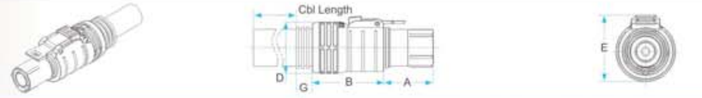


Product	3POS Right Angle Assembly Plug Dimensions(mm)					
	Series	A	C	D	F	G
PowerLok™ 3POS Right Angle Assembly Plug	300A	31.0	38.0	100.5	103.3	79.4

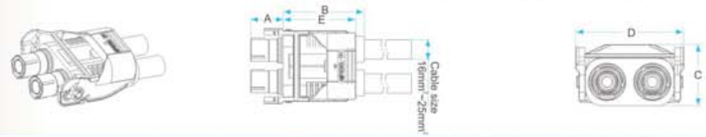
Note

Amphenol TPI can provide customized solutions based on customer's installation space. If you need to order or ask questions, please contact your sales representative for additional information!

Straight Overmolded Plug	

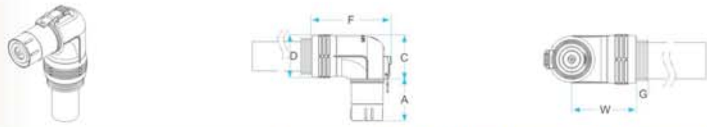


Product	1POS Straight Overmolded Plug Dimensions(mm)					
	Series	A	B	D	E	G
PowerLok™ 1POS Straight Overmolded Plug	120A	22.5	39.0	Φ24.6	28.5	9.9
	300A	31.0	45.0	Φ32.0	35.6	9.9
	400A	41.1	52.0	Φ42.0	43.6	9.9
	500A	41.1	52.0	Φ42.0	43.6	9.9



Product	2POS Straight Overmolded Plug Dimensions(mm)					
	Series	A	B	C	D	E
PowerLok™ 2POS Straight Overmolded Plug	120A	22.5	57.0	29.7	52.5	51.0

Right Angle Overmolded Plug	



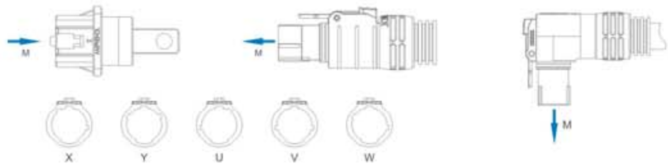
Product	1POS Right Angle Overmolded Plug Dimensions(mm)						
	Series	A	C	D	F(PEF)	W	G
PowerLok™ 1POS Right Angle Overmolded Plug	120A	22.5	25.3	Φ24.6	55.8	40.0	9.9
	300A	31.0	32.5	Φ32.0	69.6	50.0	9.9
	400A	41.1	43.0	Φ42.0	78.6	55.0	9.9
	500A	41.1	43.0	Φ42.0	78.6	55.0	9.9

Product	2POS Right Angle Overmolded Plug Dimensions(mm)					
	Series	A	B	C	D	E
PowerLok™ 2POS Right Angle Overmolded Plug	120A	22.5	31.2	70.0	52.5	53.0

POWERLOK CONNECTOR

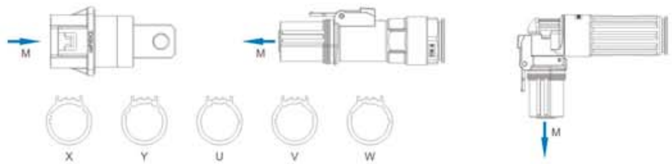
PowerLok™ Connector Key Map

1POS-120A



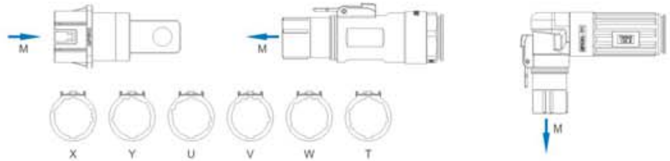
M direction schematic

1POS-200A



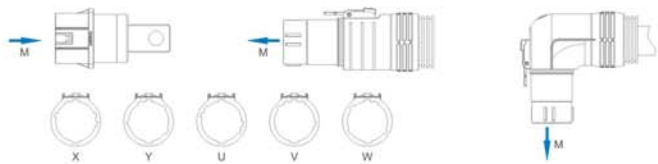
M direction schematic

1POS-300A



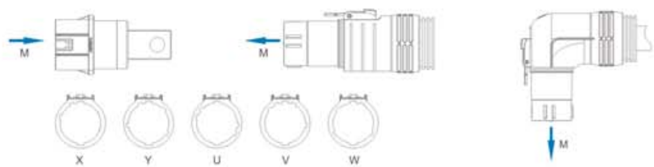
M direction schematic

1POS-400A



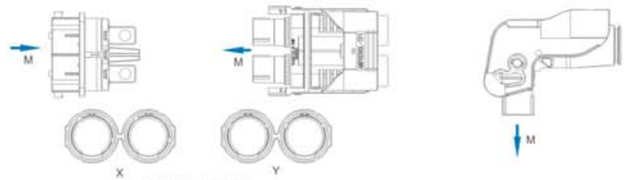
M direction schematic

1POS-500A



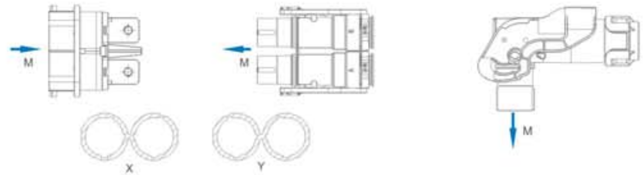
M direction schematic

2POS-120A



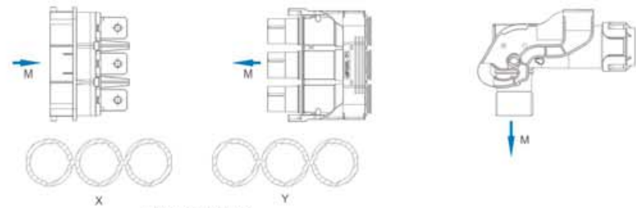
M direction schematic

2POS-300A



M direction schematic

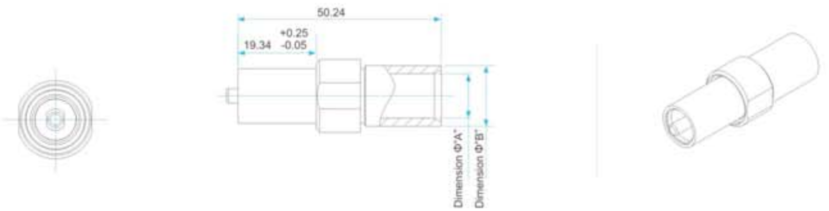
3POS-300A



M direction schematic

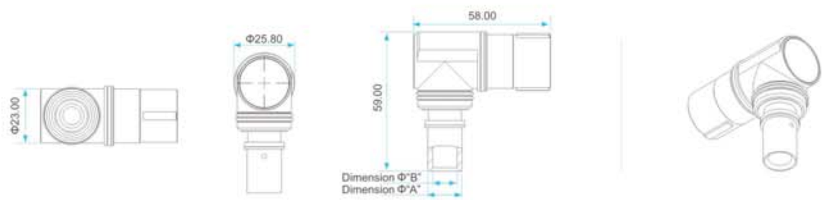
PowerLok™ Terminal

300A 1POS&2POS&3POS Straight



Part Number	Dimension "A"	Dimension "B"	Cable Size
AC-CP001017	7.50	10.00	25mm^2
AC-CP000872	8.80	11.80	35mm^2
AC-CP000689	9.00	12.00	35mm^2
AC-CP001018	10.30	14.50	50mm^2
AC-CP000876	11.00	15.00	50mm^2
AC-CP000871	12.50	16.50	70mm^2
AC-CP000878	12.50	16.80	70mm^2

300A 2POS&3POS Right Angle



Part Number	Dimension "A"	Dimension "B"	Cable Size
AC-CP000994	14.5	10.3	50mm^2
AC-CP000995	14.5	10.3	50mm^2
AC-CP000996	16.5	12.5	70mm^2

Ordering Information-PowerLok™ 1POS Receptacle W/O HVIL

PL 00 X - 300 - 10 M10

Product Type	Connector Type	Key (Touch Proof Cover Color)		Current & HVIL		Terimination Type		Termination Size
PowerLok™	00 1POS Receptacle	X	Orange	120	120A W/O HVIL	10	180 DegreeBusbar Lug	D[1]+Stud Size
		Y	Black	200	200A W/O HVIL			M[2]+Stud Size
		U	Yellow	300	300A W/O HVIL	20	Thread Pin	M+Thread Size
		V	Green	400	400A W/O HVIL	30	Tubular Lug	D+Cable Size
		W	Red	500	500A W/O HVIL	90	90 Degree Busbar Lug	D+Stud Size
		T	Blue					M+Stud Size

Ordering Information-PowerLok™ 1POS Receptacle With HVIL

PL 00 X - 301 - 10 M10

Product Type	Connector Type	Key (Touch Proof Cover Color)		Current & HVIL		Terimination Type		Termination Size
PowerLok™	00 1POS Receptacle	X	Orange	121	120A With HVIL	10	180 Degree Busbar Lug	D+Stud Size
		Y	Black	201	200A With HVIL			M+Stud Size
		U	Yellow	301	300A With HVIL	90	90 Degree Busbar Lug	D+Stud Size
		V	Green	401	400A With HVIL			M+Stud Size
		W	Red	501	500A With HVIL			
		T	Blue					

Ordering Information-PowerLok™ 2POS Receptacle

PL 08 2X - 300 - 10 M10

Product Type	Connector Type	Key (Touch Proof Cover Color)		Current & HVIL		Terimination Type		Termination Size
PowerLok™	08 2POS Receptacle	2X	Orange	120	120A W/O HVIL	10	Busbar Lug	D+Stud Size
				121	120A With HVIL			M+Stud Size
		2Y	Black	300	120A W/O HVIL	20	Thread Pin	M+Thread Size
				301	120A With HVIL	30	Tubular Lug	D+Cable Size

Ordering Information-PowerLok™ 3POS Receptacle

PL 08 3X - 300 - 10 M10

Product Type	Connector Type	Key (Touch Proof Cover Color)		Current & HVIL		Terimination Type		Termination Size
PowerLok™	08 3POS Receptacle	3X	Orange	300	300A W/O HVIL	10	Busbar Lug	D+Stud Size
								M+Stud Size
		3Y	Black	301	300A With HVIL	20	Thread Pin	M+Thread Size
						30	Tubular Lug	D+Cable Size

(1) D=Through hole
(2) M=Screw hole

Ordering Information-PowerLok™ 1POS Assembled Plug W/O HVIL

PL 18 X - 300 - 70

Product Type	Connector Type		Key (Touch Proof Cover Color)		Current & HVIL		Accepted Cable Size(mm²)	Current Rating (A)
PowerLok™	18	Plug Connector, Straight, Shield	X	Orange			25	120
	28	Plug Connector, Right Angle, Shield	Y	Black	200	200A W/O HVIL	35	150
			U	Yellow			50	200
	48	Plug Connector, Straight, Un-Shield	V	Green			35	150
	58	Plug Connector, Right Angle, Un-Shield	W	Red	300	300A W/O HVIL	50	200
			T	Blue			70	250

Ordering Information-PowerLok™ 1POS Assembled Plug With HVIL

PL 18 X - 301 - 70

Product Type	Connector Type		Key (Touch Proof Cover Color)		Current & HVIL		Accepted Cable Size(mm²)	Current Rating (A)
PowerLok™	18	Plug Connector, Straight, Shield	X	Orange			25	120
	28	Plug Connector, Right Angle, Shield	Y	Black	201	200A With HVIL	35	150
			U	Yellow			50	200
	48	Plug Connector, Straight, Un-Shield	V	Green			35	150
	58	Plug Connector, Right Angle, Un-Shield	W	Red	301	300A With HVIL	50	200
			T	Blue			70	250

Ordering Information-PowerLok™ 2POS Assembled Plug

PL 48 2X - 300 - 70

Product Type	Connector Type		Key (Touch Proof Cover Color)		Current & HVIL		Accepted Cable Size(mm²)	Current Rating (A)
PowerLok™	18	Plug Connector, Straight, Shield					35	150
	28	Plug Connector, Right Angle, Shield	2X	Orange	300	300A W/O HVIL	50	200
							70	250
	48	Plug Connector, Straight, Un-Shield					35	150
	58	Plug Connector, Right Angle, Un-Shield	2Y	Black	301	300A With HVIL	50	200
							70	250

Ordering Information-PowerLok™ 3POS Assembled Plug

PL 28 3X - 301 - 70

Product Type	Connector Type		Key (Touch Proof Cover Color)		Current & HVIL		Accepted Cable Size(mm²)	Current Rating (A)
PowerLok™	18	Plug Connector, Straight, Shield					35	150
	28	Plug Connector, Right Angle, Shield	3X	Orange	300	300A W/O HVIL	50	200
							70	250
	48	Plug Connector, Straight, Un-Shield					35	150
	58	Plug Connector, Right Angle, Un-Shield	3Y	Black	301	300A With HVIL	50	200
							70	250

Ordering Information-PowerLok™ 1POS Overmolded Plug

PL 10 X 300 - 50

Product Type	Connector Type		Key (Touch Proof Cover Color)		Current & HVIL		Accepted Cable Size(mm²)	Current Rating(A)
PowerLok™	10	1POS Plug Straight	X	Orange	120	120A W/O HVIL	16	90
					121	120A With HVIL	25	120
			Y	Black	300	300A W/O HVIL	35	150
							50	200
			U	Yellow	301	300A With HVIL	70	250
							95	300
	20	1POS Plug Right Angle	V	Green	400	400A W/O HVIL	70	250
							95	300
			W	Red	401	400A With HVIL	120	400
							135	450
			T	Blue	500	500A W/O HVIL	95	300
							120	400
					501	500A With HVIL	135	450
							150	500

Ordering Information-PowerLok™ 2POS Overmolded Plug

PL 10 2X 120 - 25

Product Type	Connector Type		Key (Touch Proof Cover Color)		Current & HVIL		Accepted Cable Size(mm²)	Current Rating(A)
PowerLok™	10	2POS Plug Straight	2X	Orange	120	120A W/O HVIL	16	90
	20	2POS Plug Right Angle	2Y	Black	121	120A With HVIL	25	120

POWERLOK™ 4.0 CONNECTOR

PowerLok™ 4.0 series is a low cost compact metal-shell interconnect solution for accessory power and signal connections for EV and Hybrid transportation applications. Up to space 1000V ranging from 5A-60A with HVIL, 360° shielding, environmental sealing, and keying. Accommodates up to 4 signal circuits and up to 4 power circuits with cable sizes from 2.5mm² to 10mm². Available in assembled versions.

Key Features

- Operating voltage: 1000VDC
- Mating cycle: 100Min
- Current rating: 5A-60A
- Operating temperature: -40℃-+125℃
- Protection Class: IP67(mated)
- Flammability: UL94V-0
- Dielectric withstanding voltage: 5000VDC
- Available in 2,3,4 POS and 2Power+4Signal
- 360° shielding
- Automatic secondary lock

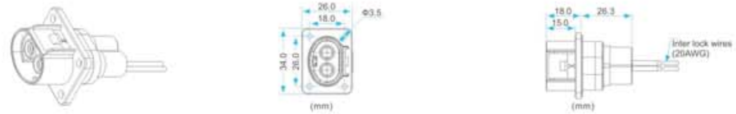
PowerLok™ 4.0 Recommended Cable Size & Current Rating

Series	Accepted Cable Size	Current Rating
40 Series	2. 5mm²	25A
	4.0mm²	40A
	6.0mm²	45A
60 Series	2. 5mm²	25A
	4.0mm²	40A
	6.0mm²	45A
	10.0mm²	60A

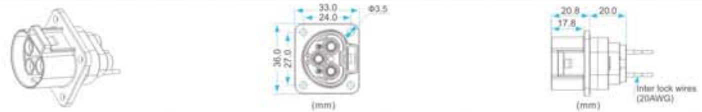
PowerLok™ 4.0 Receptacle

PowerLok™ 4.0 Receptacle

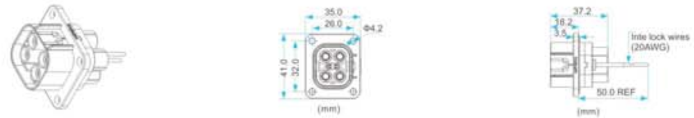
2pos



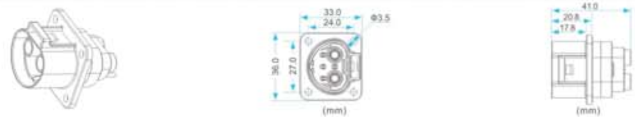
3pos



4pos



2Power+4Signal



PowerLok™ 4.0 Plug

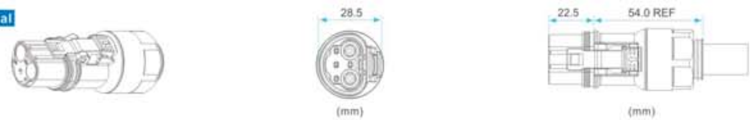
PowerLok™ 4.0 Plug

2pos

3pos

4pos

2Power+4Signal



PowerLok™ 4.0 Key Map

2POS				3POS				4POS				2Power+4Signal		
Series	60A			Series	40A			Series	40A			Series	40A	
Key	X	Y	U	Key	X	Y	U	Key	X	Y	U	Key	X	Y
Color	Orange	Black	Yellow	Color	Orange	Black	Yellow	Color	Orange	Black	Yellow	Color	Orange	Black

CPA(connector position assurance) color for keying identification.

2POS

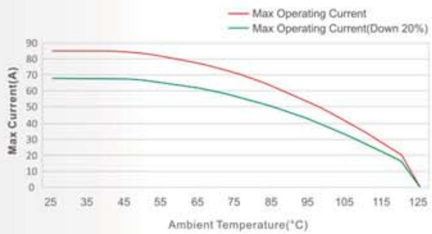
3POS

4POS

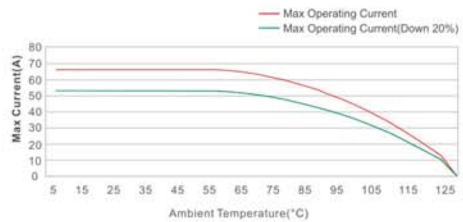
2Power+4Signal

PowerLok™ 4.0 Test Curve

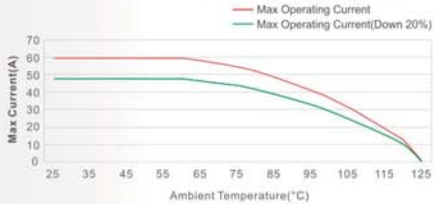
PowerLok™ 60 Series 2 poles with 10mm² cable



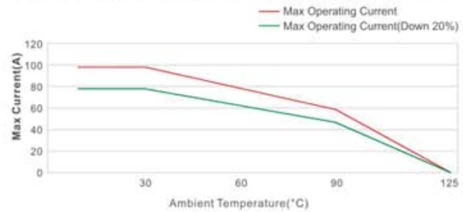
PowerLok™ 40 Series 3 poles with 6mm² cable



PowerLok™ 40 Series 4 poles with 6mm² cable



PowerLok™ 40 Series 2Power+4Signal poles with 10mm² cable



These curves were tested with conformance to

- All poles are energized in series
- Length of cables are greater than 1400mm
- Measurement were carried out in an enclosure without external movement of air
- The measuring point is terminal surface

Ordering Information-Powerlok™ 4.0 2POS

PL 082 X - 60 - 4

Product Type		Connector Type		Polarization	Current & HVIL		Accepted Cable Size	
PL	PowerLok™ 4.0	082	2POS Receptacle	X	60	60A W/O HVIL	2.5	2.5mm²
		182	2POS Plug Connector, Straight	Y			4	4mm²
		482	2POS Plug Connector, Straight, Un-Shielding	U	61	60A With HVIL	6	6mm²
							10	10mm²

Ordering Information-Powerlok™ 4.0 3POS & 4POS

PL 183 X - 40 - 4

Product Type		Connector Type		Polarization	Current & HVIL		Accepted Cable Size	
PL	PowerLok™ 4.0	083	3POS Receptacle	X	40	40A W/O HVIL	2.5	2.5mm²
		084	4POS Receptacle					
		183	3POS Plug Connector, Straight	Y			4	4mm²
		184	4POS Plug Connector, Straight	U	41	40A With HVIL	6	6mm²

Ordering Information-Powerlok™ 4.0 2Power+4Signal

PL 0824 U - 40 - 6

Product Type		Connector Type		Polarization	Current & HVIL		Accepted Cable Size	
PL	PowerLok™ 4.0	0824	2Power+4Signal Receptacle	X	40	40A W/O HVIL	6	6mm²
				Y				
		1824	2Power+4Signal Plug Connector, Straight	U	41	40A With HVIL	10	10mm²

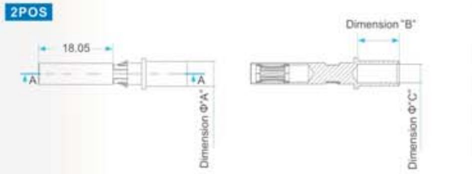
PowerLok™ 4.0 Terminal

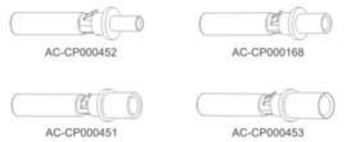
Important Note:

1、The standard packages of PowerLok™ 4.0 include the terminals needed for assembly.

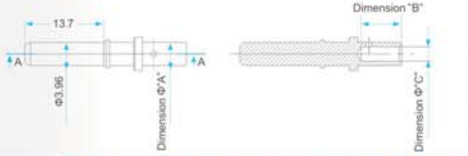
2、Extra terminals are accepted to be ordered alone, please refer to the details in the according page.3. As for 2Power+4Singal product, extra signal terminals for the wire crimping use are supposed to be ordered.

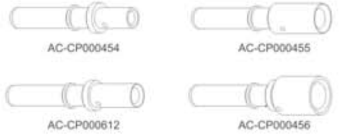
2POS





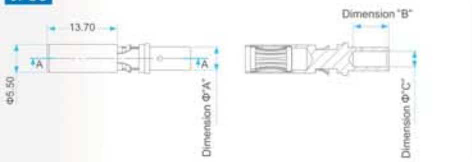
	Description	Part Number	Dimension"A"	Dimension"B"	Dimension"C"	Product Description
Socket Pin	PL082-61-2.5	AC-CP000452	3.50	7.7	2.30	4mm Soc, 2POS, Cable 2.5mm²
	PL082-61-4	AC-CP000168	4.60	7.7	3.00	4mm Soc, 2POS, Cable 4.0mm²
	PL082-61-6	AC-CP000451	6.00	7.7	3.80	4mm Soc, 2POS, Cable 6.0mm²
	PL082-61-10	AC-CP000453	6.00	10.2	4.50	4mm Soc, 2POS, Cable 10.0mm²

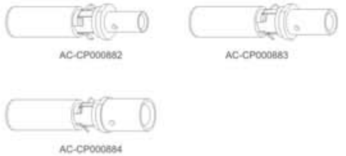




	Description	Part Number	Dimension"A"	Dimension"B"	Dimension"C"	Product Description
Plug Pin	PL182-61-2.5	AC-CP000454	3.70	6.95	2.50	4mm Pin, 2POS, Cable 2.5mm²
	PL182-61-4	AC-CP000612	4.57	9.0	3.05	4mm Pin, 2POS, Cable 4.0mm²
	PL182-61-6	AC-CP000455	5.80	9.0	3.80	4mm Pin, 2POS, Cable 6.0mm²
	PL182-61-10	AC-CP000456	7.40	9.0	5.20	4mm Pin, 2POS, Cable 10.0mm²

3POS

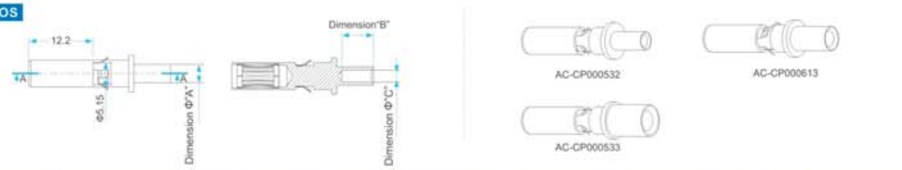




	Description	Part Number	Dimension"A"	Dimension"B"	Dimension"C"	Product Description
Socket Pin	PL083-41-2.5	AC-CP000882	3.70	6.0	2.50	4mm Soc, 3POS, Cable 2.5mm²
	PL083-41-4	AC-CP000883	4.57	7.0	3.05	4mm Soc, 3POS, Cable 4.0mm²
	PL083-41-6	AC-CP000884	5.80	7.0	3.80	4mm Soc, 3POS, Cable 6.0mm²

Description		Part Number	Dimension"A"	Dimension"B"	Dimension"C"	Product Description
Plug Pin	PL183-41-2.5	AC-CP000879	3.70	8.0	2.50	4mm Pin, 3POS, Cable 2.5mm²
	PL183-41-4	AC-CP000880	4.57	9.0	3.05	4mm Pin, 3POS, Cable 4.0mm²
	PL183-41-6	AC-CP000881	5.80	9.0	3.80	4mm Pin, 3POS, Cable 6.0mm²

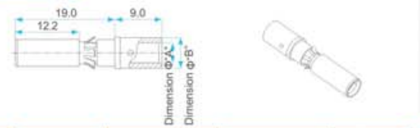
4POS

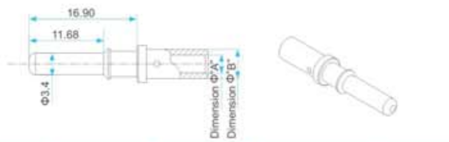


Description		Part Number	Dimension"A"	Dimension"B"	Dimension"C"	Product Description
Socket Pin	PL084-41-2.5	AC-CP000532	3.70	8.0	2.50	4mm Soc, 4POS, Cable 2.5mm²
	PL084-41-4	AC-CP000613	4.57	9.0	3.05	4mm Soc, 4POS, Cable 4.0mm²
	PL084-41-6	AC-CP000533	5.80	9.0	3.80	4mm Soc, 4POS, Cable 6.0mm²

Description		Part Number	Dimension"A"	Dimension"B"	Dimension"C"	Product Description
Plug Pin	PL184-41-2.5	AC-CP000530	3.70	8.0	2.50	4mm Pin, 4POS, Cable 2.5mm²
	PL184-41-4	AC-CP000614	4.57	9.0	3.05	4mm Pin, 4POS, Cable 4.0mm²
	PL184-41-6	AC-CP000531	5.80	9.0	3.80	4mm Pin, 4POS, Cable 6.0mm²

2Power+4Signal

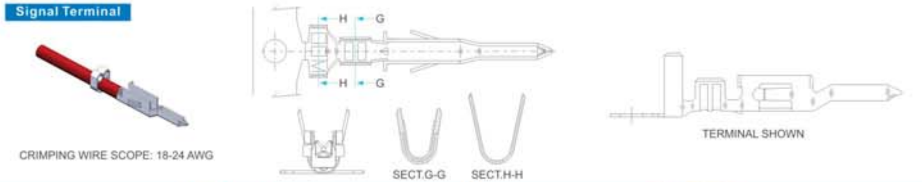




	Part Number	Dimension"A"	Dimension"B"	Product Description
Socket Pin	AC-HA010281-6	3.8mm	5.8mm	Cable 6mm²
	AC-HA010281-1	4.5mm	6.0mm	Cable 10mm²

	Part Number	Dimension"A"	Dimension"B"	Product Description
Plug Pin	AC-HA010282-6	3.8mm	5.8mm	Cable 6mm²
	AC-HA010282-1	4.5mm	6.0mm	Cable 10mm²

Signal Terminal



CRIMPING WIRE SCOPE: 18-24 AWG

Part Number	Description
AC-HA010280-B	Loose 1000 pcs per bag
AC-HA010280-R	Chain 4000 pcs per reel

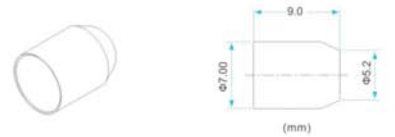
PowerLok™ 4.0 Shielding Ring

PowerLok™ 4.0 Shielding Ring: the choice of shielding rings highly depend on the cable size and the quantity is determined by the positions of connector selected. Shielding Ring components come with the standard items. No need to order separately.

2.5mm²

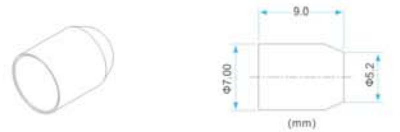
Cable Size	Shielding Ring Part Number	Description
2.5mm²	AC-CP000947	Applicable to 2.5mm² cable shieliding ring for all PowerLok 4.0 2POS/3POS/4POS connectors.

4mm²



Cable Size	Shielding Ring Part Number	Description
4mm²	AC-CP000948	Applicable to 4mm² cable shieliding ring for all PowerLok 4.0 2POS/3POS/4POS connectors.

6mm²



Cable Size	Shielding Ring Part Number	Description
6mm²	AC-CP000949	Applicable to 6mm² cable shieliding ring for all PowerLok 4.0 2POS/3POS/4POS connectors.

RADLOK™ CONNECTOR

Description

RADLOK™ is a 1000V low cost tool free power interconnect utilizing RADSOK® contact technology available with current ratings from 70A to 500A.RADLOK™ is designed for energy storage,battery,and device power interconnects.RADLOK's quick connect and single finger press to release lock function replaces tools and hardware associated with standard lug terminals in their assembly and maintenance.Mating pins and receptacles available for bus bar and panel mount configurations with lug,thread,or mating RADLOK™ pin terminations.Available in orange, red,and black as discrete connectors or as molded cable assemblies.

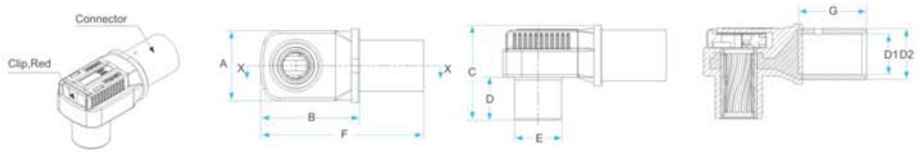
Key Features

- Mating Cycle: 100Min
- Inflammability: UL94V-0
- Current Rating: 70A-500A
- Tool-Free Mechanical Locking
- Operating Voltage: 1000VDC
- RoHS complaint
- Temperature Range: -40°C~+125°C
- Available in black, red, orange(contact us for customized color)
- Available in 3.6mm, 5.7mm, 8.0mm, 10.0mm, 12.0mm, 14.0mm pin size

RADLOK™ Plug

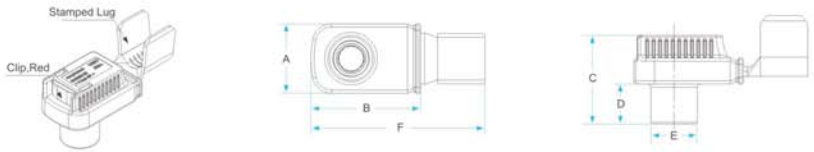
Plug	
Plug	

Tubular Version



RADSOK® Size(mm)	Recommended Cable Size(mm²)	Current(A)	Tubular Lug Version Dimensions(mm)								
			A	B	C	D	E	F	G	D1	D2
3.6	10	70	15.5	27.0	18.3	7.3	8.1	38.0	11.0	5.0	6.7
5.7	16	90	18.5	33.0	23.8	9.4	11.5	47.7	19.0	5.5	8.5
	25	120						47.7	19.0	7.2	9.5
8.0	35	150	21.7	39.6	27.7	11.8	14.6	56.0	22.0	9.2	11.5
	50	200						58.0	24.0	11.0	14.2
10.0	50	200	25.7	37.0	35.3	15.9	17.5	58.9	22.0	11.0	13.9
	70	250						60.9	24.0	12.0	15.5
	95	300						60.9	25.5	15.0	19.0
12.0	120	400	33.0	44.5	37.2	15.0	20.0	70.5	28.0	17.0	21.2
14.0	135	450	42.0	55.0	48.5	22.3	23.0	80.0	28.0	18.2	23.5
	150	500							28.0	19.0	24.0

Stamped Version

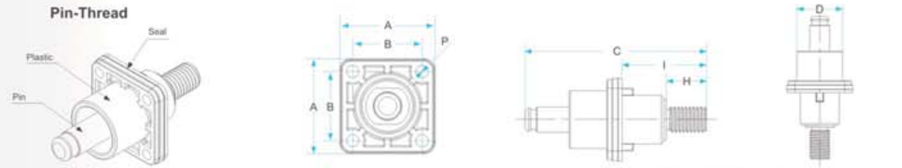


RADSOK® Size(mm)	Recommended Cable Size(mm²)	Current(A)	Tubular Lug Version Dimensions(mm)					
			A	B	C	D	E	F
3.6	10	70	15.5	27.0	18.0	7.3	8.1	38.8
5.7	16	90	18.5	30.0	21.9	9.2	11.2	43.6
	25	120						
8.0	35	150	21.7	34.3	27.7	12.5	14.5	50.1
	50	200						54.4
10.0	50	200	25.7	35.7	33.8	16.6	17.0	62.0
	70	250						
	95	300						
12.0	120	400	28.5	44.5	33.8	15.0	20.0	70.3

RADLOK™ Receptacle

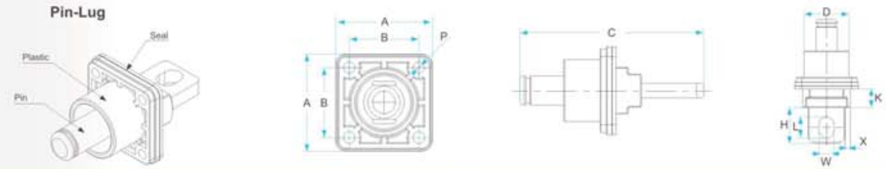
Receptacle	
Receptacle	

Pin-Thread



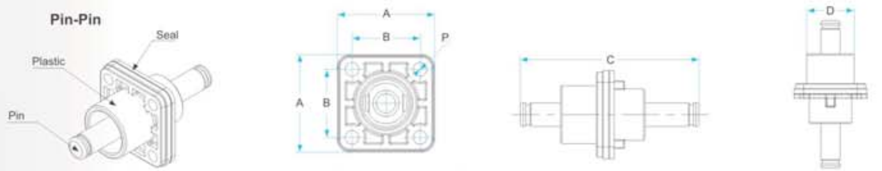
Pin End	RADSOK® Size(mm)	Current(A)	Pin-Thread Dimensions(mm)							
			A	B	C	D	H	I	Thread	P
Pin-Thread	3.6	70	21.0	14.0	43.9	11.9	8	22.2	M4*0.7-6g	M3
	5.7	120	25.0	17.0	49.6	15.2	10	24.2	M6*1.0-6g	M4
	8.0	200	30.0	21.0	56.4	19.6	12	25.0	M8*1.25-6g	
	10.0	300	33.0	24.0	67.0	23.0	16	29.0	M10*1.5-6g	
	12.0	400	36.0	26.0	72.0	25.5	20	33.0	M12*1.75-6g	
	14.0	500	37.0	27.0	83.0	28.0	23	36.0	M12*1.75-6g	

Pin-Lug



Pin End	RADSOK® Size(mm)	Current(A)	Pin-Lug Dimensions(mm)									
			A	B	C	D	H	L	W	X	K	P
Pin-Lug	3.6	70	21.0	14.0	46.7	11.9	13.5	5.0	4.2	1.9	11.3	M3
	5.7	120	25.0	17.0	53.6	15.2	16.0	7.0	6.3	2.0	12.0	M4
	8.0	200	30.0	21.0	62.5	19.6	22.5	10.0	8.5	2.7	8.0	
	10.0	300	33.0	24.0	70.0	23.0	22.5	12.5	10.5	3.55	9.5	
	12.0	400	36.0	26.0	77.5	25.5	27.5	14.0	13.0	3.0	10.5	
	14.0	500	37.0	27.0	90.0	28.0	29.0	15.5	14.5	2.3	13.0	

Pin-Pin



Pin End	RADSOK® Size(mm)	Current(A)	Pin-Pin Dimensions(mm)				
			A	B	C	D	P
Pin-Pin	3.6	70	21.0	14.0	41.3	11.9	M3
	5.7	120	25.0	17.0	50.0	15.2	M4
	8.0	200	30.0	21.0	60.8	19.6	
	10.0	300	33.0	24.0	74.5	23.0	
	12.0	400	36.0	26.0	78.0	25.5	
	14.0	500	37.0	27.0	96.0	28.0	

Ordering Information-RADLOK™ Plug

RL 0 080 1 - 35 BK

Product Type	Termination Type		RADSOK® Size		Lug Type	Cable Size(mm) / Current		Connector Color
RADLOK™	0	RADLOK™ Plug	036	3.6mm	1-Tubular 2-Stamped	10	70A	Blank: Orange BK: Black RE: Red
			057	5.7mm		16	90A	
						25	120A	
			080	8.0mm		35	150A	
						50	200A	
			100	10.0mm		50	200A	
						70	250A	
						95	300A	
			120	12.0mm		120	400A	
			140	14.0mm		135	450A	
						150	500A	

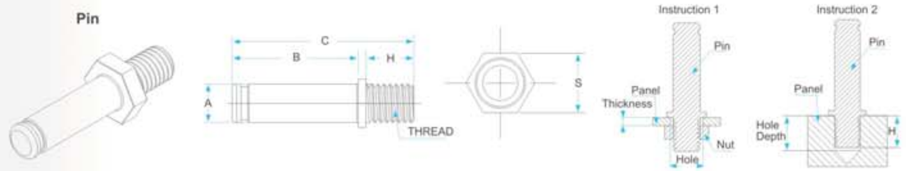
Ordering Information-RADLOK™ Receptacle

RL 9 120 - 20 1 - F1 M10 RE

Product Type	Termination Type		RADSOK® Size		Pin End	Plating Type	Receptacle Type	Hole Type	Connector Color
RADLOK™	9	RADLOK™ Receptacle	036	3.6mm	10: Thread 20: Lug 30: Pin	1: Silver	F1: Feed Thru Pin	H10: Oval Hole D10: Through Hole M10: Screw Hole PM10: Through Hole with PEM Nut	Blank: Black OR: Orange RE: Red
			057	5.7mm					
			080	8.0mm					
			100	10.0mm					
			120	12.0mm					
			140	14.0mm					

RADLOK™ Pin

Pin	



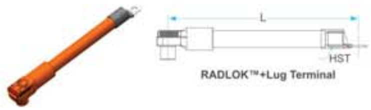
Pin End		RADSOK® Size(mm)	Current(A)	Pin Product Dimensions(mm)							
				A	B	C	H	S	Thickness	Thread	Torque Force
RADLOK™	Pin	3.6	70	3.6	17.5	28.0	8.0	7.0	1.0~2.5	M4*0.7-6g	2.5±0.2
		5.7	120	5.7	21.1	34.1	10.0	10.0	1.0~2.5	M6*1.0-6g	4.0±0.4
		8.0	200	8.0	26.4	42.4	12.0	13.0	1.0~3.5	M8*1.25-6g	7.5±0.5
		10.0	300	10.0	32.2	53.2	16.0	16.0	1.0~4.0	M10*1.5-6g	20.0±1.0
		12.0	400	12.0	32.6	58.6	20.0	18.0	1.0~4.5	M12*1.75-6g	24.0±1.0
		14.0	500	14.0	41.0	72.0	23.0	24.0	1.0~4.5	M12*1.75-6g	24.0±1.0

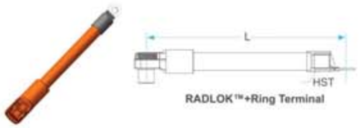
Ordering Information-RADLOK™ Pin

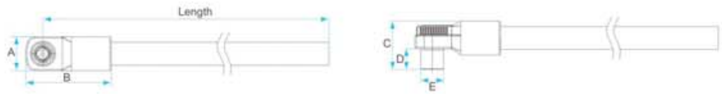
RL 9 036 - 101

Product Type	Termination Type		RADSOK® Size		Plating Type
RADLOK™	9	RADLOK™ Pin	036	3.6mm	101: Silver
			057	5.7mm	
			080	8.0mm	
			100	10.0mm	
			120	12.0mm	
			140	14.0mm	

RADLOK™ Cable Assembly







RADSOK® Size(mm)	Recommended Cbl Size(mm²)	Current(A)	Cable Assembly Dimensions(mm)				
			A	B	C	D	E
3.6	10	70	15.5	36.0	18.3	7.3	Φ8.1
5.7	16	90	18.5	47.0	21.9	9.4	Φ11.2
	25	120					
8.0	35	150	21.6	55.3	27.0	11.8	Φ14.6
	50	200					
10.0	50	200	26.0	53.0	33.8	15.9	Φ17.5
	70	250		63.2	34.3		
	95	300		65.5	37.0		
12.0	120	400	28.5	76.0	37.3	15.0	Φ20.0
14.0	135	450	31.0	77.0	46.3	22.3	Φ23.0
	150	500					

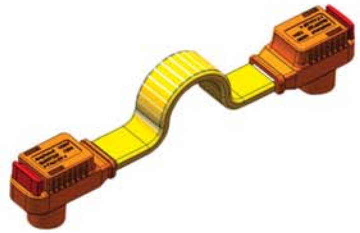
Ordering Information-Cable Assembly

RL 1 080 - 50 - L200 - OR - M8

Product Type	Termination Type		RADSOK® Size		Cable Size (mm²)	Current	Cable Length(mm)	Connector Color	Stud Size		
RADLOK™	1	RADLOK™+RADLOK™	036	3.6mm	10	70A	Min:120	OR: Orange BK: Black RE: Red	N/A		
			057	5.7mm	16	90A	Min:140		M/E+ Size eg: M6, M8,E6, E8	M[1]	E[2]
					25	120A				6	1/4
	4	RADLOK™+Lug Terminal	080	8.0mm	35	150A	Min:150			8	5/16
					50	200A					
	5	RADLOK™+Ring Terminal	100	10.0mm	50	200A	Min:170			10	3/8
					70	250A					
	6	RADLOK™+Blunt Cut			95	300A				12	1/2
			120	12.0mm	120	400A	Min:180		N/A		
	7	RADLOK™+Striped	140	14.0mm	135	450A	Min:180		Stripped Length(mm)		
					150	500A					

Please contact our regional sales for relevant product drawings.

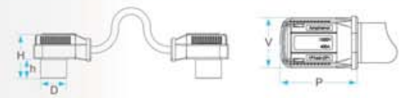
PowerFlex™



Product Description

PowerFlex™ features a high flex, multi-layer laminated structure, specifically engineered for high-current power distribution applications. Integrated with Amphenol's RADSOK® connectors on both extremities, PowerFlex™ is the best solution for power connection in a limited space. PowerFlex™ can be customized to adapt different kinds of applications. Amphenol TPI is always open to propose the right solution for customers worldwide. In case of any inquiry, please contact our sales representatives in your region.

RADLOK™ Connector (Stamped Version)



Drawing	RADSOK® Size(mm)	RADLOK Size(mm²)					
		W	H	h	D	P	Dimensions
(see drawing above)	3.6	15.5	18.0	7.3	Φ8.10	27.0	Busbar material used is soft laminated copper busbar, customized according to customer requirement.
	5.7	18.5	21.9	9.2	Φ11.2	30.0	
	8.0	21.7	27.7	12.5	Φ14.5	34.3	
	10.0	25.7	33.3	16.1	Φ17.0	35.7	
	12.0	28.5	33.8	15.0	Φ20.0	44.5	
	14.0	31.0	42.5	22.3	Φ23.0	45.0	

RADLOK CONNECTOR

HC SIGNAL CONNECTOR

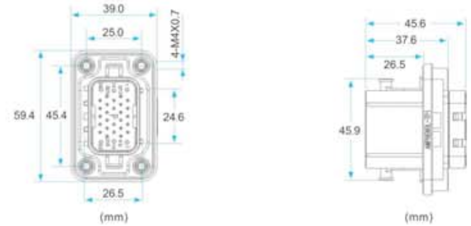
Amphenol HC Signal Series connectors are designed as a high-performance, cost-effective solution for the signal and power transmission for PDU in battery pack. The connector has integrated both signal and power transmission in one body.

Key Features	Technical Data	Typical Applications
○ Colored Body and Enhanced Rib for Blind Mating ○ Up to IP68 Protection(mated) ○ Scalable Pin Count Per Specific Requirement[1] ○ Available with Key A, B and C Option ○ Available with CPA Option	○ Pin Count: 32pin ○ Current Rating: Power: 13A MAX Signal: 5A MAX ○ Cable Size: Power: 14~18 AWG Signal: 20~22AWG ○ Dielectric Withstanding Voltage: 3000VDC ○ Operating Temperature: -40°C - +125°C ○ IP Rating: IP6K9K、IP68(mated, subersion in 1M depth water with 48 hours.) ○ Mating Cycle: 100Min ○ Air leakage: 60KPa ○ Fire Classification: UL94-V0	○ Signal and Power Transmission for PDU

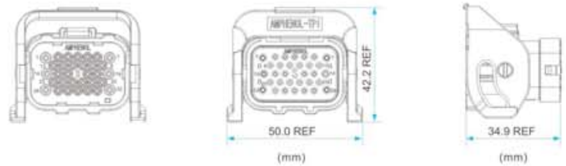
(1) Offer pin plug for unused pin seal

Dimensions

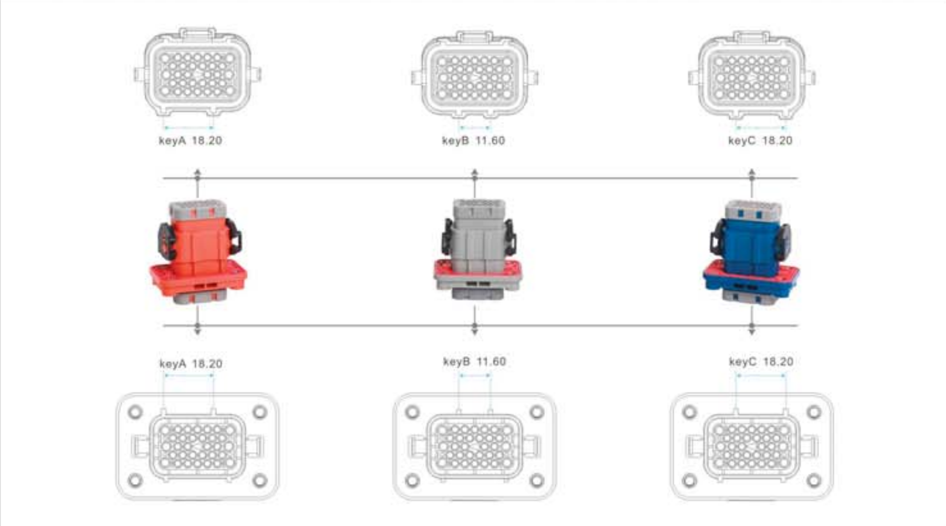
32POS Connector Receptacle



32POS Connector Plug



HC Signal Key Map



Ordering Information

HC 08 B - P32 - R

Product Type		Connector Type		Polarization	Series		Installation Type	
HC	HC Signal	08	Receptacle Connector	A B C	P32	32POS	R	Rear mounted

▶ **Terminal & Cable & Seal Plug Options**

Receptacle	Terminal Type	Terminal Part Number	Wire gauge	Wire OD range	Seal Type	Seal Part Number
HC08A-P32-R HC08B-P32-R HC08C-P32-R	16#(power)	HCTM215XX	16-18 AWG	2.24-3.00mm	16#(power)	AC-CP000383
	20#(signal)	HCTM121XX	20-22 AWG	1.35-2.50mm	20#(signal)	AC-CP000382

HC 18 B - S32 - 2

Product Type		Connector Type		Polarization	Series		CPA	
HC	HC Signal	18	Plug Connector	A B C	S32	32POS	Blank	Without CPA
							2	With CPA

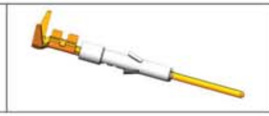
▶ **Terminal & Cable & Seal Plug Options**

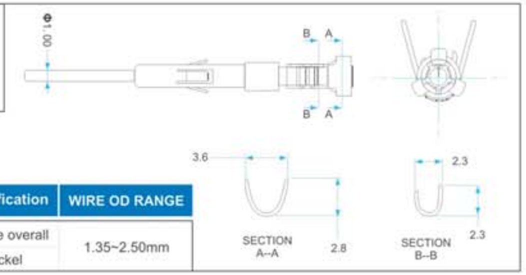
Plug		Terminal Type	Terminal Part Number	Wire gauge	Wire OD range	Seal Type	Seal Part Number
HC18A-S32 HC18B-S32 HC18C-S32	HC18A-S32-2 HC18B-S32-2 HC18C-S32-2	16#(power)	HCTF215XX	16-18 AWG	2.24-3.00mm	16#(power)	AC-CP000383
		20#(signal)	HCTF121XX	20-22 AWG	1.35-2.50mm	20#(signal)	AC-CP000382

(1)Terminal plating specification:
XX=01 gold flash plate overall
XX=04 Tin over nickel

HC Signal Terminal

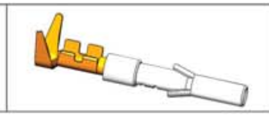
Signal Terminal

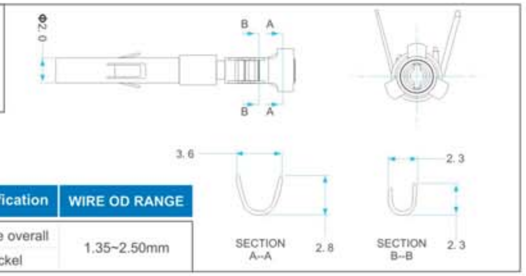




Part Number	Description	Plating specification	WIRE OD RANGE
HCTM12101	HC Contact 20#Pin AWG20~22	Gold flash plate overall	1.35~2.50mm
HCTM12104	HC Contact 20#Pin AWG20~22	Tin over nickel	

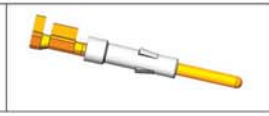
Signal Terminal

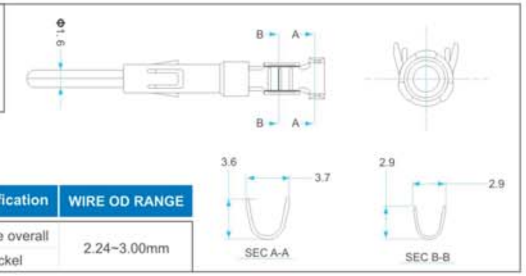




Part Number	Description	Plating specification	WIRE OD RANGE
HCTF12101	HC Contact 20#Socket AWG20~22	Gold flash plate overall	1.35~2.50mm
HCTF12104	HC Contact 20#Socket AWG20~22	Tin over nickel	

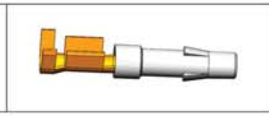
Power Terminal

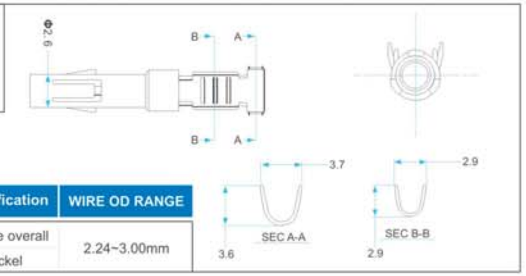




Part Number	Description	Plating specification	WIRE OD RANGE
HCTM21501	HC Contact 16#Pin AWG16~18	Gold flash plate overall	2.24~3.00mm
HCTM21504	HC Contact 16#Pin AWG16~18	Tin over nickel	

Power Terminal





Part Number	Description	Plating specification	WIRE OD RANGE
HCTF21501	HC Contact 16#Socket AWG16~18	Gold flash plate overall	2.24~3.00mm
HCTF21504	HC Contact 16#Socket AWG16~18	Tin over nickel	

HC SIGNAL CONNECTOR

⚠ The information contained in this data sheet is for reference only

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