

# Amphenol®



## ePower Connectors

[www.amphenol-industrial.com](http://www.amphenol-industrial.com)



## Company Overview

Amphenol Industrial Operations (AIO), a division of the Amphenol Corporation, is a prominent manufacturer of cylindrical connectors known around the world. Amphenol Industrial's product lines consist of rectangular, standard miniature, fiber optic, EMI/EMP filter, and a variety of special application connectors.

Manufacturing connectors since 1932, we take pride that Amphenol Industrial Operations is the undisputed leader in interconnect systems for harsh environment applications. Innovations like our RADSOK® contact technology can provide roughly 50% more current through the same size pin. Connectors utilizing this RADSOK® technology will outperform similar products in the market hands down.

The Sidney, NY facility, nestled at the foothills of the Catskill Mountains, is over 307,000 square feet (28,521m<sup>2</sup>). This complex houses over 1,000+ employees incorporating state-of-the-art manufacturing technologies. The facility is both ISO9001 certified and qualified to MIL-STD-790 requirements.

Our global manufacturing facilities include locations in Sidney, NY, Shenzhen and Zhuhai, China, and Nogales, Mexico.

## The ePower Connector Series

This series of connectors is designed for the demanding requirements of hybrid, electric vehicles, and utility truck electrical systems, operating at 500VDC to 1000VDC with a 200A to 700A continuous current rating. The product incorporates patented RADSOK® technology for higher amperage, lower T-rise, less resistance and mating force. Meantime, it offers a 40% smaller footprint than three EMI shielding cable glands and easier operation of termination with shielded cable by a washer compressing the shield to the inside surface of the shell. The connector series covers 2 or 3 power contacts. As an example, one ePower 700A connector can replace three conventional connectors, saving space and cost.

The markets and applications for the ePower Series include but are not limited to the following found in both the Military Aerospace and Industrial segments:

- Power converters
- Hybrid electric vehicles
- Heavy equipment electrification
- Two and three phase motors
- Starter generators

### RADSOK® Technology Advantages

RADSOK'S twisted grid configuration allows for 50% more current to pass through the same size pin, while providing increased reliability, ampacity and cycle durability as well as lower insertion force, T-rise and voltage drop.

#### • HIGH RELIABILITY

Unique RADSOK® design and construction technology create an electrical contact interface that exceeds typical interconnect requirements. Applications in aerospace, medical, industrial, automotive, mining, offshore, and other harsh environments depend on the high reliability of Amphenol's RADSOK® technology.

#### • LOW CONTACT ENGAGEMENT/SEPARATION FORCES

The hyperbolic lamella socket contact construction distributes normal forces over a high percentage of the mating pin surface. This creates a smooth, even engagement effort. This force distribution also contributes to excellent performance in vibration applications with resistance to typical fretting corrosion.

#### • LOW CONTACT RESISTANCE

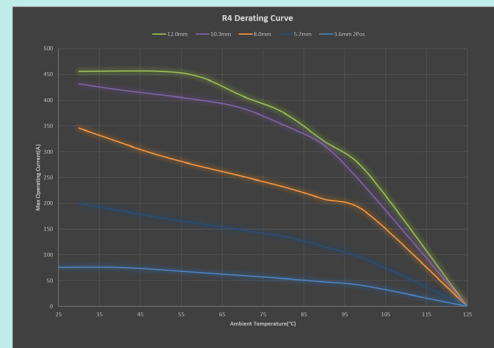
The large interface area between the socket lamella and pin surface result in very low contact resistance, enabling the RADSOK® contacts' high current ratings compared to traditional power contact designs.

#### • HIGH MATING CYCLE DURABILITY

RADSOK® contacts with typical silver plating finishes have demonstrated survival of 20,000 mating cycles. Specialized plating and contact lubricants can extend cycle life to 200,000 matings or higher. Even with continuous exposure to harsh environmental abuse (salt, sand, and high humidity), RADSOK® contacts have been tested to maintain low contact resistance beyond 10,000 mating cycles.

### RADSOK® Derating Chart – Temperature vs. Current

Based on single conductors in free air. Wire cross-section same size as pin contact cross-sectional area.



## ePower Features

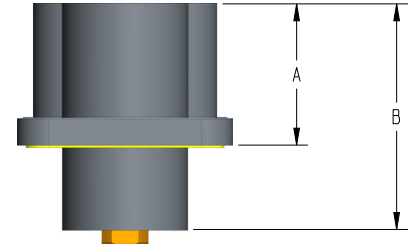
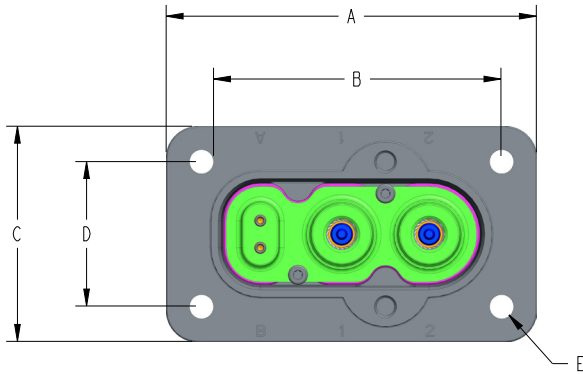
- Two or three circuit power
- Crimp, lug or busbar termination
- IP2X on pin and socket
- Environmental IP67 rating
- Two HVIL circuits
- 500VDC ~ 1,000VDC rating
- Integrated EMI shielding
- 8.0mm - 11.1mm RADSOK® technology for 200 to 700A continuous current capability
- Strain relief for jacketed cable incorporated into shell
- Excellent vibration resistance
- All aluminum shell

Technical Data			
<b>Contact Size</b>	8.0mm (200A Max.) 11.1mm (400A Max.) 18.0mm (700A Max.)	<b>Ingress Protection</b>	IP67
<b>Current Rating</b>	200A - 700A	<b>Touch-Proof</b>	Yes
<b>Operating Voltage</b>	500 - 1000V AC/DC	<b>Flammability</b>	UL 94V-0
<b>Operating Temperature</b>	-40°C to 125°C		

## How to Order

1	2	3	4	5	6	7									
e	P	2	2	25	1	1									
Product Line	Connector	Current Rating	Number of Poles	Wire Size	Key Position	Plating									
e	ePower	P	Plug	2	200A	2	2 Pole		BB	Busbar (Receptacle Only)	1	Available in 2 & 3 Pole	200A or 400A	1	Electroless Nickel
		R	Receptacle	4	400A	3	3 Pole	200A & 400A (Only)	25	25mm <sup>2</sup> (200A Only)	2	Available in 2 & 3 Pole		FG	Tin over Nickel
				7	700A				35	35mm <sup>2</sup> (200A Only)	3	Available in 2 & 3 Pole		FL	Zinc Nickel
									50	50mm <sup>2</sup> (200A or 400A)	4	Available in 2 & 3 Pole		B	No Plating
									70	70mm <sup>2</sup> (400A Only)	5	Available in 3 Pole Only			
									95	95mm <sup>2</sup> (400A Only)	6	Available in 3 Pole Only			
									240	240mm <sup>2</sup> (700A Only)	7	Available in 3 Pole Only			
									300	300mm <sup>2</sup> (700A Only)	8	Available in 3 Pole Only			
											9	No Keyway	700A Only		

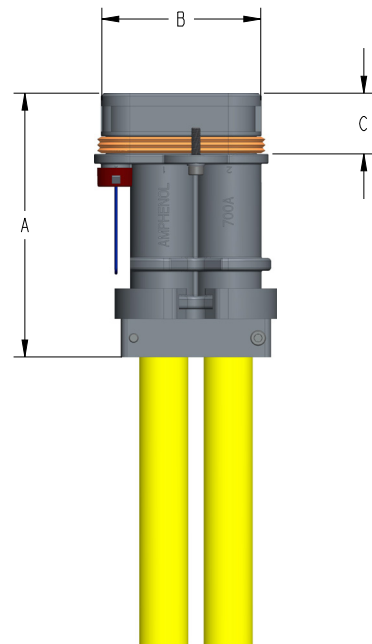
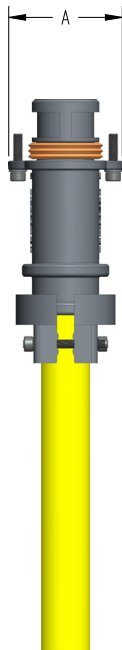
## 2-Pole Receptacle



Size (Inches)	2-Pole Receptacle Dimensions				
	A	B	C	D	E
ePower 200A	4.102	3.318	2.384	1.6	0.266
ePower 400A	5.03	4.23	2.93	2.13	0.266
ePower 700A	7.78	6.42	4.682	3.322	0.266

Size (Inches)	2-Pole Receptacle Dimensions	
	A	B
ePower 200A	1.565	2.5
ePower 400A	1.565	2.5
ePower 700A	2.59	3.97

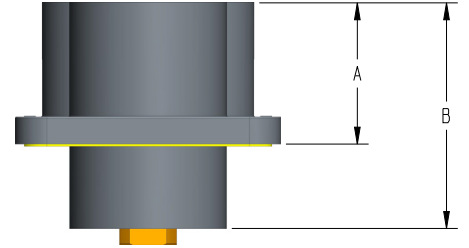
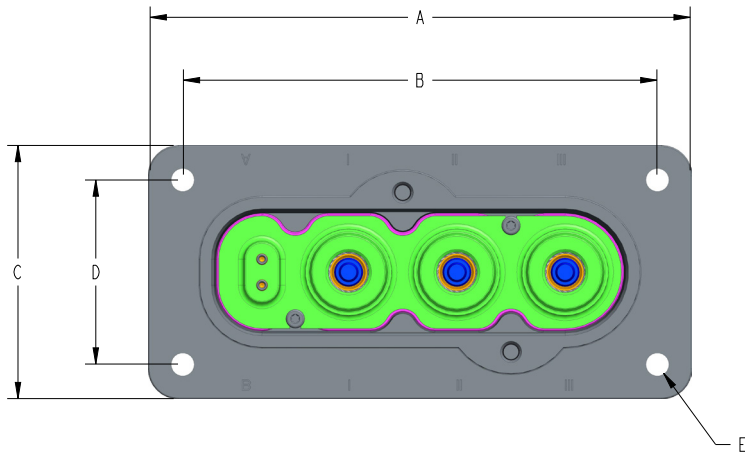
## 2-Pole Plug



Size (Inches)	2-Pole Plug Dimensions
	A
ePower 200A	2.034
ePower 400A	2.34
ePower 700A	3.776

Size (Inches)	2-Pole Plug Dimensions		
	A	B	C
ePower 200A	4.22	2.672	1.187
ePower 400A	4.22	3.2	1.187
ePower 700A	8.768	5.75	2.02

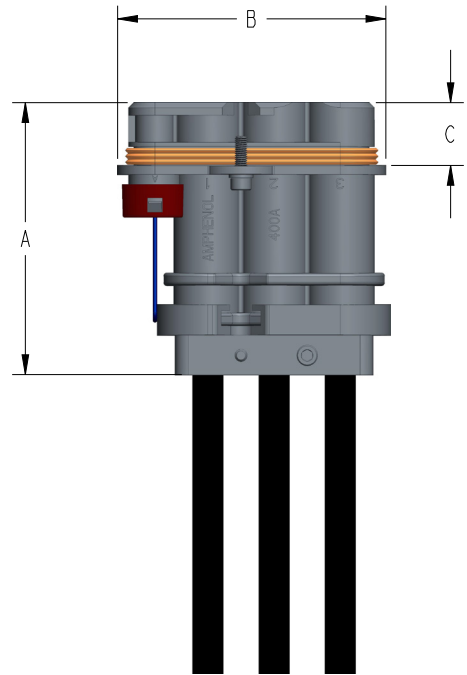
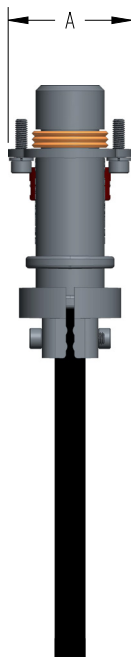
### 3-Pole Receptacle



Size (Inches)	3-Pole Receptacle Dimensions				
	A	B	C	D	E
ePower 200A	5.07	4.286	2.384	1.6	0.266
ePower 400A	6.28	5.48	2.93	2.13	0.266

Size (Inches)	3-Pole Receptacle Dimensions	
	A	B
ePower 200A	1.565	2.5
ePower 400A	1.565	2.5

### 3-Pole Plug



Size (Inches)	3-Pole Plug Dimensions
	A
ePower 200A	2.034
ePower 400A	2.34

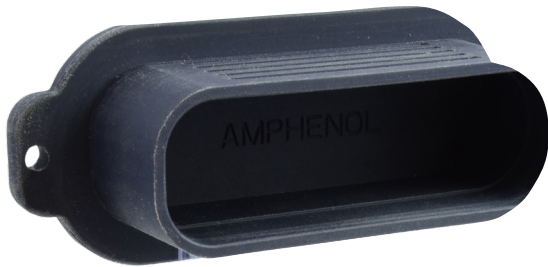
Size (Inches)	3-Pole Plug Dimensions		
	A	B	C
ePower 200A	5.19	3.64	1.187
ePower 400A	5.154	4.45	1.187

# ePower Accessories and Replacement Parts

## Receptacle Cap



## Plug Cap



## Cavity Plugs



CODED PN	DESCRIPTION
CVR-43R	Cover for 3-way 400A Receptacle
CVR-43P	Cover for 3-way 400A Plug
CVR-23R	Cover for 3-way 200A Receptacle
CVR-23P	Cover for 3-way 200A Plug
CVR-42R	Cover for 2-way 400A Receptacle
CVR-42P	Cover for 2-way 400A Plug
CVR-22R	Cover for 2-way 200A Receptacle
CVP-400	Cavity Plug for 400A
CVP-200	Cavity Plug for 200A
HVIL-P-KIT	HVIL Plug side kit (signal grommet cover 10-643757-000, signal grommet 10-643754-000, signal contacts 10-040557-000, signal insert 10-643738-000)
HVIL-R-SOC	HVIL Receptacle side socket terminals
PIN-11-50	11.1mm pin contact asm 50mm <sup>2</sup>
PIN-11-70	11.1mm pin contact asm 70mm <sup>2</sup>
PIN-11-95	11.1mm pin contact asm 95mm <sup>2</sup>
CBL-GROM-11-50	11.1mm power cable grommet 50mm <sup>2</sup>
CBL-GROM-11-70	11.1mm power cable grommet 70mm <sup>2</sup>
CBL-GROM-11-95	11.1mm power cable grommet 95mm <sup>2</sup>
CBL-CLMP-50-42	Cable clamp 50mm <sup>2</sup> , 2-way 400 AMP
CBL-CLMP-70-42	Cable clamp 70mm <sup>2</sup> , 2-way 400 AMP
CBL-CLMP-95-42	Cable clamp 95mm <sup>2</sup> , 2-way 400 AMP
CBL-CLMP-50-43	Cable clamp 50mm <sup>2</sup> , 3-way 400 AMP
CBL-CLMP-70-43	Cable clamp 70mm <sup>2</sup> , 3-way 400 AMP
CBL-CLMP-95-43	Cable clamp 95mm <sup>2</sup> , 3-way 400 AMP
CBL-CLMP-25-22	Cable clamp 25mm <sup>2</sup> , 2-way 200 AMP
CBL-CLMP-35-22	Cable clamp 35mm <sup>2</sup> , 2-way 200 AMP
CBL-CLMP-50-22	Cable clamp 50mm <sup>2</sup> , 2-way 200 AMP
CBL-CLMP-25-23	Cable clamp 25mm <sup>2</sup> , 3-way 200 AMP
CBL-CLMP-35-23	Cable clamp 35mm <sup>2</sup> , 3-way 200 AMP
CBL-CLMP-50-23	Cable clamp 50mm <sup>2</sup> , 3-way 200 AMP
PIN-08-25	8.0mm pin contact asm 25mm <sup>2</sup>
PIN-08-35	8.0mm pin contact asm 35mm <sup>2</sup>
PIN-08-50	8.0mm pin contact asm 50mm <sup>2</sup>
CBL-GROM-08-25	8.0mm power cable grommet 25mm <sup>2</sup>
CBL-GROM-08-35	8.0mm power cable grommet 35mm <sup>2</sup>
CBL-GROM-08-50	8.0mm power cable grommet 50mm <sup>2</sup>
PIN-INSL-11	11.1mm pin insulation
PIN-INSL-08	8.0mm pin insulation
FG-42R	Flange gasket 400amp 2-way receptacle
FG-43R	Flange gasket 400amp 3-way receptacle
FG-22R	Flange gasket 200amp 2-way receptacle
FG-23R	Flange gasket 200amp 3-way receptacle
RAD-11-BB	11.0mm RADSOK® contact assembly, BUSBAR
RAD-11-50	11.0mm RADSOK® contact assembly, 50mm <sup>2</sup>
RAD-11-75	11.0mm RADSOK® contact assembly, 75mm <sup>2</sup>
RAD-11-95	11.0mm RADSOK® contact assembly, 95mm <sup>2</sup>
RAD-08-BB	8.0mm RADSOK® contact assembly, BUSBAR
RAD-08-25	8.0mm RADSOK® contact assembly, 25mm <sup>2</sup>
RAD-08-35	8.0mm RADSOK® contact assembly, 35mm <sup>2</sup>
RAD-08-50	8.0mm RADSOK® contact assembly, 50mm <sup>2</sup>

Part numbers in GRAY are not tooled and will have to be machined, MOQ: 100pcs / PN

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