

# Amphenol®



## ePower-Lite Series



# ABOUT US

## Amphenol Industrial Operations

Amphenol Industrial Operations, headquartered in Endicott, New York with global manufacturing, sales and marketing locations, specializes in delivering a comprehensive range of high-reliability power and signal connectors along with interconnection systems designed specifically for industrial applications. Our solutions cater to diverse industrial sectors such as alternative energy, power generation and storage, rail and mass transit, process control, automotive manufacturing, heavy equipment, wireless base stations, and petrochemical industries.

Our product portfolio encompasses power interconnects utilizing RADSOK® contact technology, ruggedized military derivative commercial cylindrical connectors such as AC Threaded (SAE AS50151 style), PT (MIL-DTL-26482 style) and GT reverse bayonet style, assemblies and harnesses using these and other industry standard interconnect. With a dedicated team of over 900 skilled professionals and certifications including ISO9001 and IATF 16949, Amphenol Industrial Operations consistently meets the highest standards of quality and performance.

Amphenol Industrial Operations proudly operates as a division of Amphenol Corporation, headquartered in Wallingford, Connecticut.



Endicott Factory

## Amphenol is one of the largest manufacturers of interconnect products in the world

The company designs, manufactures and markets electrical, electronic and fiber optic connectors, coaxial and flatribbon cable, and interconnect systems. Amphenol has long been the accepted leader in providing quality connectors and interconnect systems to the Industrial, Military and Telecommunication markets.

### Amphenol Technology (Zhuhai) Co., Ltd.

Established in 2007, Amphenol Technology (Zhuhai) Co., Ltd. is a manufacturing facility for Amphenol Industrial Operations, which serves a number of industrial markets. Included but not limited to Factory Automation, Transportation, Heavy Equipment, Alternative Energy, Energy Storage. Server/Data Comm and Power Distribution.

Amphenol Technology (Zhuhai) Co., Ltd. covers an area of 276,000 ft<sup>2</sup> and is equipped with CNC, plating, injection molding and assembly workshops. This plant specializes in the design and manufacturing of industrial connectors featuring high power, high density, medium to high voltage electrical properties, and harsh environment applications.

With industry leading engineering, design and manufacturing expertise, Amphenol Technology(Zhuhai) Co., Ltd. has earned more than 60 utility patents on its innovative interconnects. Many of the products produced have been certified by independent standards including UL, IEC/TUV, ATEX, IECEx and MA. The facility is also certified to ISO 9001, ISO 14001 and IATF 16949.



Zhuhai Factory 1



Zhuhai Factory 2

## Catalog Overview



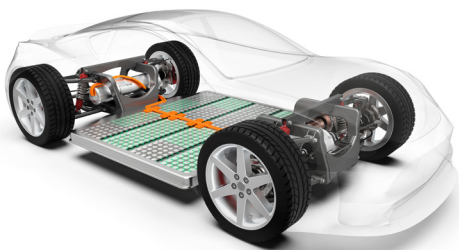
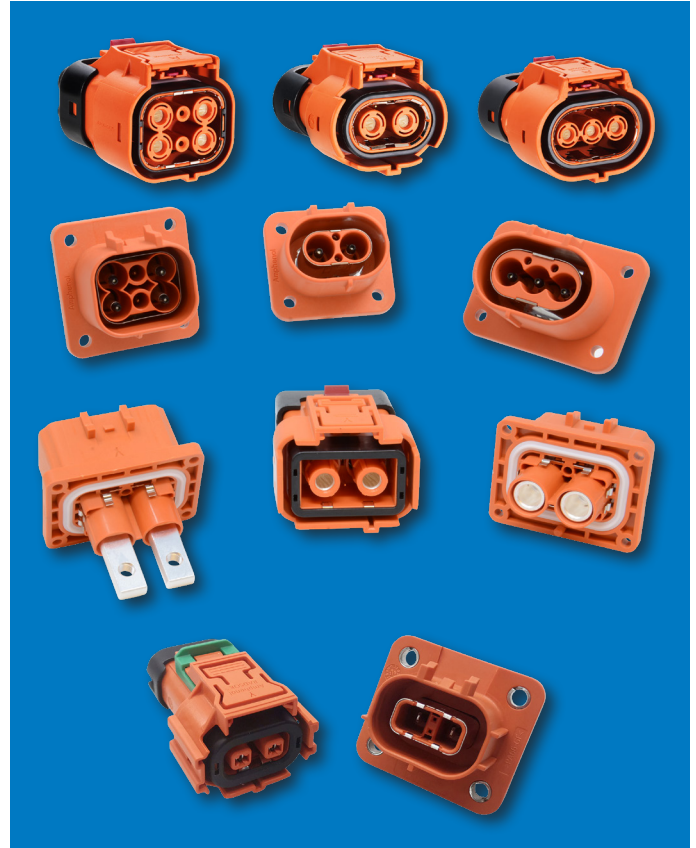
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## ePower-Lite Connector

ePower-Lite is a plastic power connector series designed to be used in the hybrid electric vehicle and heavy equipment markets. The 2-pole, 3-pole and 4-pole connectors incorporate patented RADSOK® technology which provides higher amperage, lower T-rise and voltage drop, and less resistance. RADSOK's twisted grid configuration allows for up to 50% more current to pass through the same size pin, while providing increased reliability and cycle durability, as well as lower mating forces.

The compact plastic shell structure is light weight with a small footprint. There is a 3.6mm and 5.7mm version which can carry current up to 25A DC to 120A DC, field installable and repairable. We also offer a low cost alternative as our ePower-Lite Mini version which is a fit for low speed markets and low cost requirements. These attributes make the ePower-Lite robust and the interconnect of choice for the EV and Fuel Cell Vehicle markets.



## Market and Applications

- Hybrid/Electric Vehicle
- Heavy Equipment
- Battery Pack
- PDU
- Air Compressor Controller (Fuel Cell Application)

## Product Overview

- 3.6mm, 5.7mm, Mini Version:  
25A to 120A application
- 2-Way, 3- Way, 4-Way
- Ingress Protection: IP67 & IP6K9K when mated
- RADSOK® R4 Technology
- Flammability: UL 94 V-0
- EMI Shielding and HVIL: Optional



### TECHNICAL DATA

Description		Contact Size	RADSOK® Size				
		2.8mm	3.6mm			5.7mm	
		2-pole	2-pole	3-pole	4-pole	2-pole	3-pole
Rating voltage	1000V DC	√	√	√	√	850V DC	√
Current Rating (DC)	/	30A max	25A~70A	25A~70A	25A~70A	100A~120A	100A~120A
Operating Temperature	- 40°C ~ 125°C	√	√	√	√	√	√
Sealing	IP67(Mated)	√	√	√	√	√	√
Flammability	UL 94 V-0	√	√	√	√	√	√
Locking	Secondary Locking	√	√	√	√		
	CPA	√	√	√	√	√	√
RoHS Compliant	Yes	√	√	√	√	√	√
EMI Shielding	EMI Option	√	√	√	√	√	√
HVIL Function	HVIL Option	√	√	√	√	√	√
Protection	IPXXB	√	√	√	√	√	√
Durability	>=100 cycles	√	√	√	√	√	√

## 3.6mm ePower-Lite

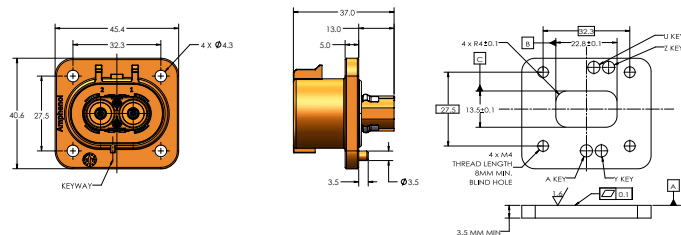
- Plastic shell, light weight
- Compact design for space considerations with EVs
- Wide amperage range up to 70A DC
- Low mating/un-mating force
- Durability: 100 min. cycles
- Touch-proof: IP XXB (IEC 60529)
- Flammability: UL 94V-0
- HVIL (High Voltage Interlock Loop)
- EMI shielding
- IP67 & IP6K9K when mated
- RoHS compliant
- 2-pole, 3-pole, 4-pole version



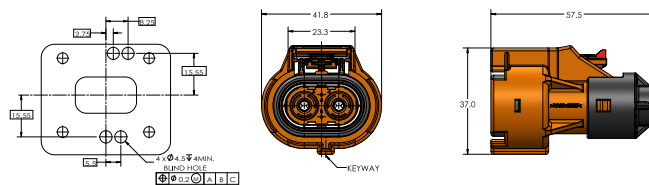
### TECHNICAL DATA

Current Rating (DC)	25A (2.5mm <sup>2</sup> ) 35A (4mm <sup>2</sup> ) 50A (6mm <sup>2</sup> ) 70A (10mm <sup>2</sup> )	Test Voltage (Sea Level)	3000V AC (RMS)	Ingress Protection	IP67 & IP6K9K (Mated)	Touch-Proof	Yes
Contact Size	3.6mm	Operating Temperature	-40°C to 125°C	EMI	360°	HVIL	Yes
Operating Voltage	860V AC (Max.) 1000V DC (Max.)	Durability	100(Min.) Mating Cycles	Flammability	UL94V-0	Recommended Torque	Receptacle assembly to panel: 0.5-0.7N.M

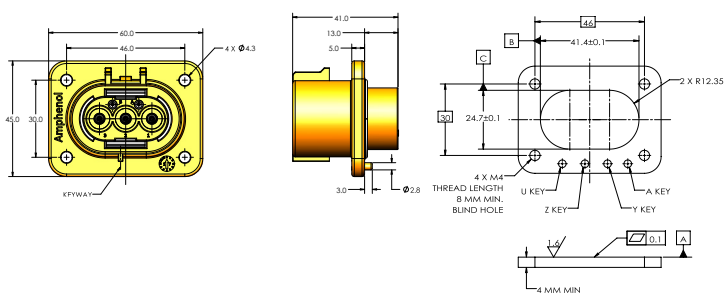
2-Pole Electrical Receptacle with HVIL & Shielding Shell



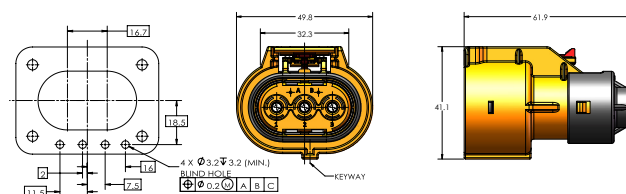
2-Pole Electrical Plug with HVIL & Shielding Shell



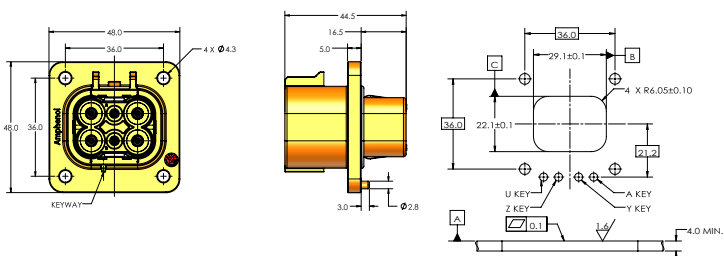
3-Pole Electrical Receptacle with HVIL & Shielding Shell



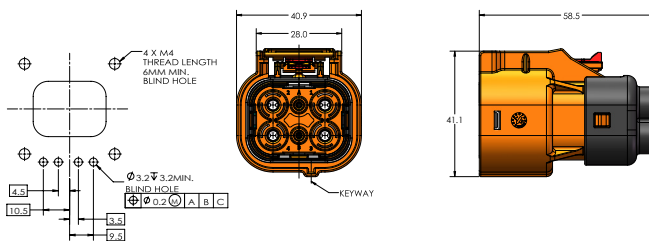
3-Pole Electrical Plug with HVIL & Shielding Shell



4-Pole Electrical Receptacle with HVIL & Shielding Shell



4-Pole Electrical Plug with HVIL & Shielding Shell



HOW TO ORDER

Product Series	Connector Type		RADSOK® Size	Pole Number		Keyway		Crimped Wire Size		EMI & HVIL (Omit for EMI & HVIL options)	
EL	P	Plug	3.6mm	2	2-Pole	A	Key A	01	2.5mm <sup>2</sup>		Yes EMI & Yes HVIL
				3	3-Pole	Y	Key Y	02	4mm <sup>2</sup>	01	Yes EMI & No HVIL
	R	Receptacle		4	4-Pole	Z	Key Z	03	6mm <sup>2</sup>	10	No EMI & Yes HVIL
						U	Key U	04	10mm <sup>2</sup>	11	No EMI & No HVIL



## 5.7mm ePower-Lite

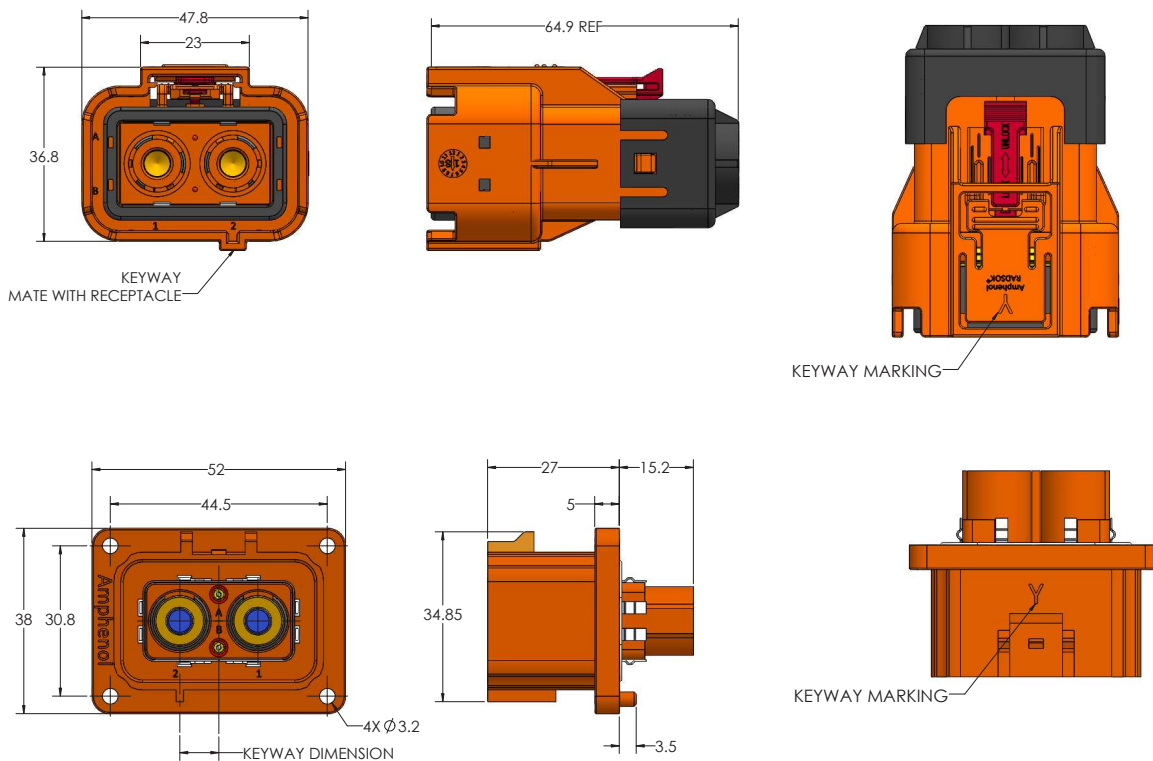


- High current, 120A max. rated current
- EMI shielding
- HVIL (High Voltage Interlock Loop)
- R4 RADSOK® technology
- IP67 & IP6K9K when mated
- Quick lock and push to release design
- Keyway design to prevent incorrect mating
- Compact robust design
- UL94 V-0 (self extinguishing)
- Wide operating temperature range (-40°C to 125°C)

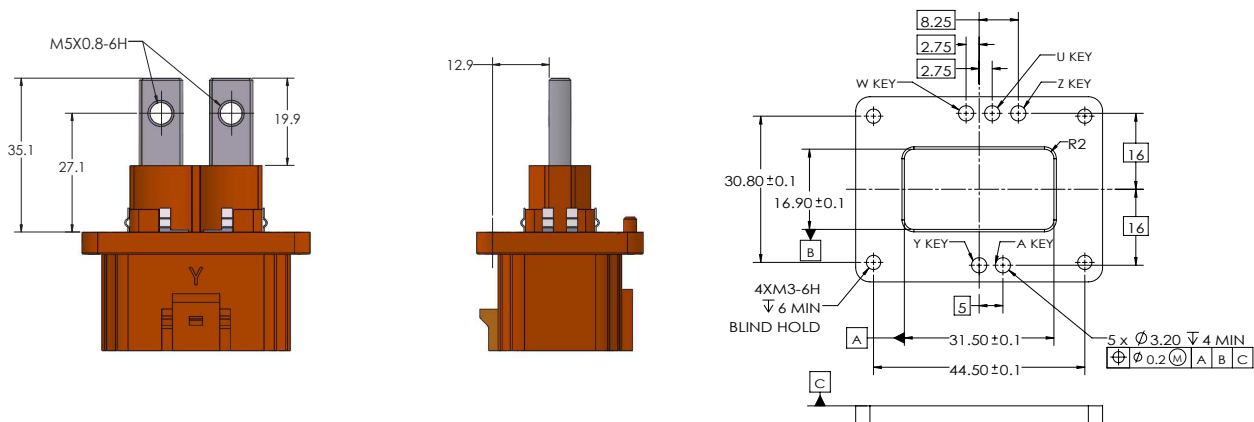
TECHNICAL DATA			
Contact Test Current	16mm <sup>2</sup> (Max. 100A) 25mm <sup>2</sup> (Max. 120A)	Test Voltage (Sea Level)	2-Pole   2500V AC (RMS) 3-Pole   3000V AC (RMS)
		Operating Temperature	-40° to 125°
		Operating Voltage	2-Pole   850V DC 3-Pole   1000V DC
Number of Poles	2-Pole, 3-Pole	Touch-Proof	IPXXB
		Durability	100 (Min.) Mating Cycles
Contact Size	5.7mm	Salt Spray	96H
		HVIL	Yes
		Recommended Torque	M3: 0.7 ~ 0.9N.m M4: 2.2 ~ 2.5N.m

# Termination Type

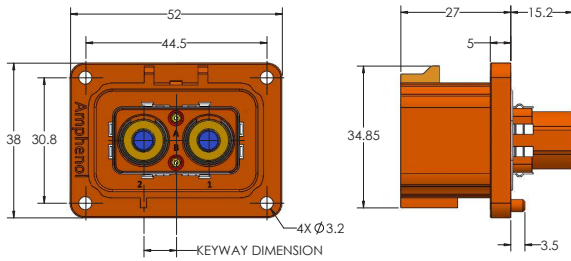
## Crimp Type



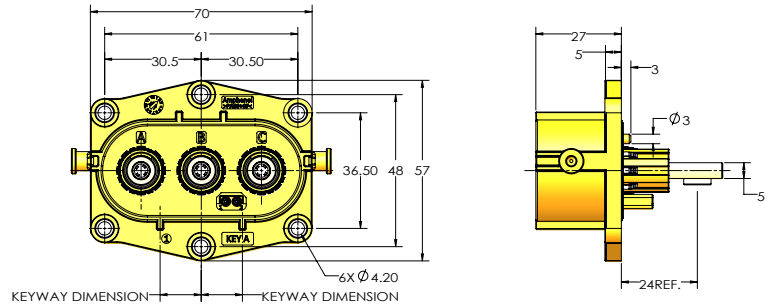
## Busbar Type



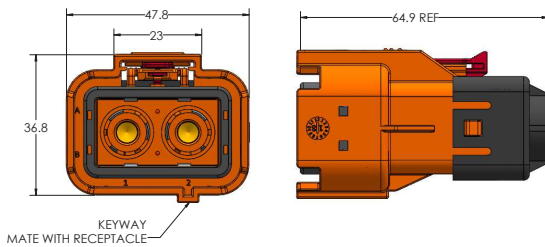
2-Pole Electrical Receptacle with HVIL & Shielding Shell



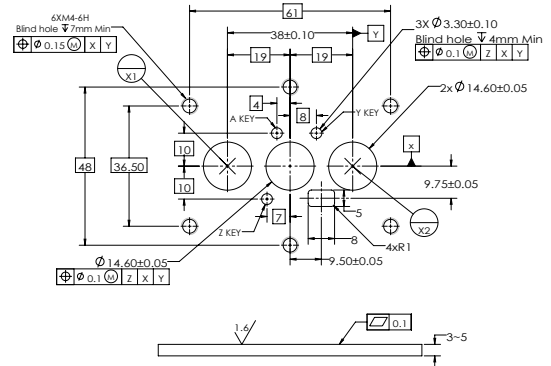
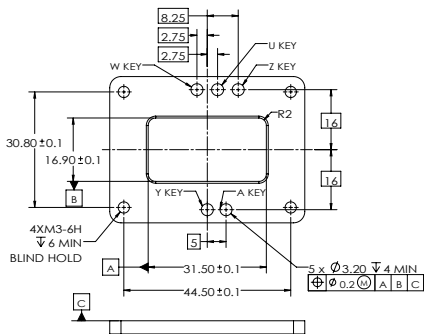
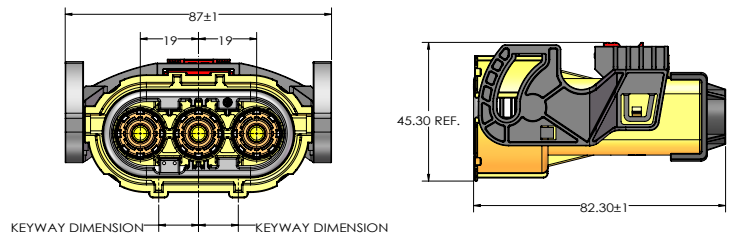
3-Pole Electrical Plug with HVIL & Shielding Shell



2-Pole Electrical Plug with HVIL & Shielding Shell



3-Pole Electrical Plug with HVIL & Shielding Shell



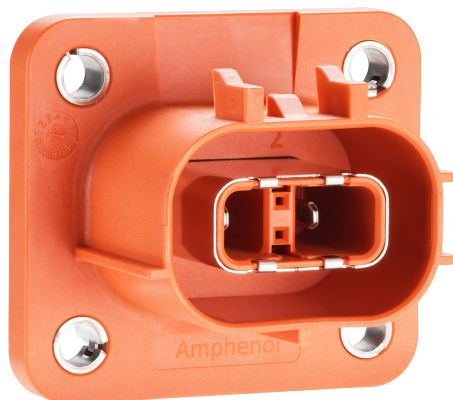
HOW TO ORDER

Product Series	Connector Type		RADSOX® Size		Pole Number		Keyway		Crimped Wire Size		EMI & HVIL (Omit for EMI & HVIL options)			
EL	P	Plug	A	5.7mm	2	2-Pole	A	Key A	16	16mm <sup>2</sup> (Plug & 2-pole receptacle only)		EMI & HVIL		
	R	Receptacle			3	3-Pole	Y	Key Y	25	25mm <sup>2</sup> (Plug & 2-pole receptacle only)	01	Yes EMI & No HVIL		
									Z	Key Z	03	Busbar (For receptacle)	10	No EMI & Yes HVIL
									U*	Key U			11	No EMI & No HVIL
									W*	Key W				

\*Available for 2-pole only

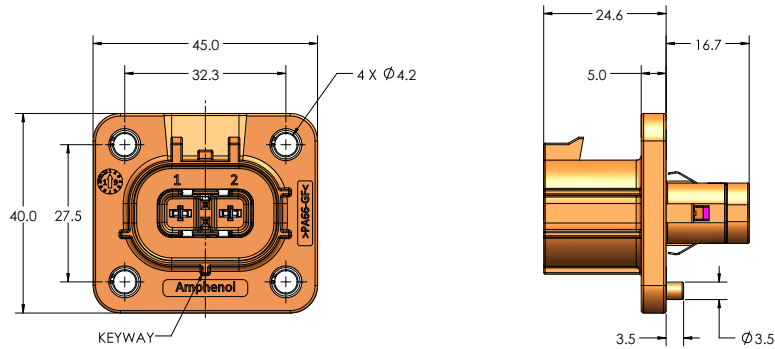
## ePower-Lite Mini

- Plastic shell, light weight
- Compact design for space considerations with EVs
- Wide amperage range up to 30A DC
- Low mating/un-mating force
- Durability: 100min. cycles
- Touch-proof: IP XXB (IEC 60529)
- Flammability: UL 94V-0
- HVIL (High Voltage Interlock Loop)
- EMI shielding
- IP67 & IP6K9K when mated
- RoHS compliant
- 2-pole version

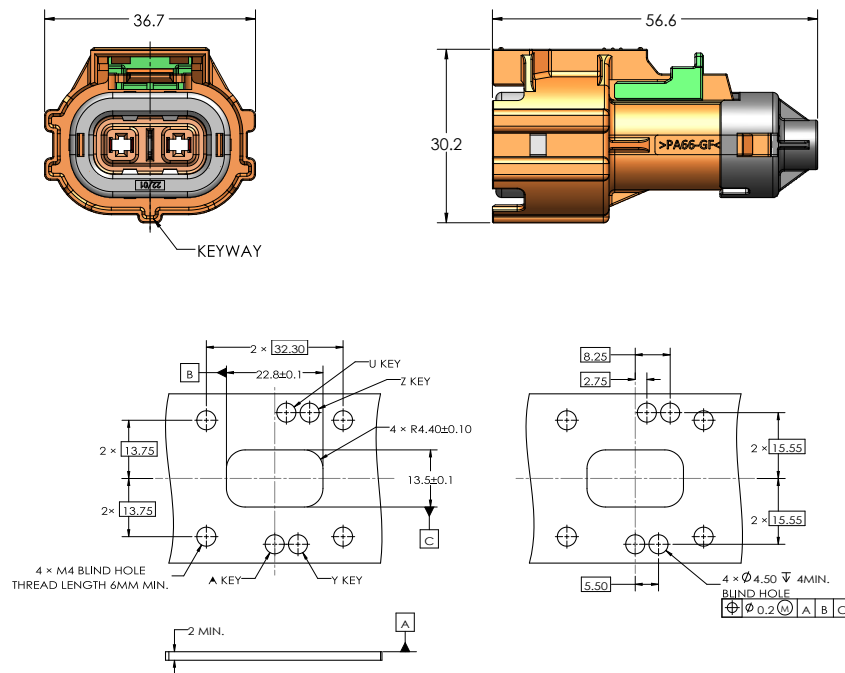


TECHNICAL DATA			
Contact Test Current (DC)	2.5mm <sup>2</sup> (20A) 4mm <sup>2</sup> (30A)	Test Voltage (Sea Level)	2200V AC (RMS)
		Operating Temperature	-40°C to 125°C
		Operating Voltage	1000V DC
Number of Pole	2-Pole	Touch-Proof	IEC 60529
		Durability	100 (Min.) Mating Cycles
		Ingress Protection	IP67 Mated
Contact Termination	Crimp	Salt Spray	96H
		EMI/HVIL	Yes
		Recommended Torque	M4:3N.M

2-Pole Electrical Receptacle with HVIL & Shielding Shell



2-Pole Electrical Plug with HVIL & Shielding Shell



HOW TO ORDER

Product Series	Connector Type		RADSOK® Size		Pole Number		Keyway		Crimped Wire Size		EMI & HVIL (Omit for EMI & HVIL options)	
	P	Plug	M	MCP 2.8mm	2	2-Pole	A	Key A	01	2.5mm <sup>2</sup>		EMI & HVIL
EL	P	Plug	M	MCP 2.8mm	2	2-Pole	Y	Key Y	02	4.0mm <sup>2</sup>	01	Yes EMI & No HVIL
							Z	Key Z			10	No EMI & Yes HVIL
	R	Receptacle					U	Key U			11	No EMI & No HVIL



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