EV PRODUCT PORTFOLIO
AMPHENOL INDUSTRIAL OFFERS A COMPLETE SOLUTION FOR ANY EV APPLICATION
CONNECTIONS AROUND THE POWER DISTRIBUTION UNIT (PDU)

- HVG 2, 3, 4, 6
- HVGL280/630
- POWERLOK 40 & 60
- EPOWER-LITE
- HVBI
- HVBI
- EPOWER
- HVSL600
- MSD Mini MSD
- HVSL1000/800
- HVSP
- POWERLOK
- UPC
- SURLOK PLUS
- HVSP
CONNECTIONS AROUND THE BATTERY PACK

- RADLOK
- BUSBAR
- UPC
- EPOWER
- HVSL1000/800
- POWERLOK
- HVBI
- BSM
- HC 32POS
- BUSBAR
- TEMPERATURE/VOLTAGE FLEX
- HV SLS600
- EPOWER
- SURLOK PLUS
- PDU
- MCU
- MOTOR
- CHARGER

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CONNECTION BETWEEN THE MOTOR AND THE MOTOR CONTROL UNIT (MCU)
CHARGING CONNECTIONS

- HVC0 IEC & IEC COMBO
- HVSL1000/800
- UPC
- POWERLOK
- GB/T AC
- CHARGER
- BATTERY
- PDU
- MCU
- DC/DC
- MOTOR

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HOW IS A RADSOK® CONTACT MADE?

DEVELOPED FROM FLAT STAMPED GRID
TWISTED INTO A HYPERBOLIC GEOMETRY
TO FORM A SOCKET CONTACT WITH
UNIQUE CHARACTERISTICS

KEY BENEFITS OF RADSOK® TECHNOLOGY

- HIGHER AMPERAGES WITHIN SMALLER ENVELOPES
- HIGH RELIABILITY
- HIGH CURRENT RATINGS
- LOW MATING FORCE
- HIGH DURABILITY
# NON-EMI PRODUCTS FOR EV APPLICATIONS

<table>
<thead>
<tr>
<th>PRODUCT SERIES</th>
<th>RADLOK</th>
<th>SURLOK PLUS</th>
<th>HVSP</th>
<th>POWERLOK-E</th>
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<tr>
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<td><img src="image2.png" alt="Image" /></td>
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<td>UP TO 650AMP</td>
<td>UP TO 400AMP</td>
<td>UP TO 330AMP</td>
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<tr>
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<td>HVIL</td>
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<td>IP40</td>
<td>IP67</td>
<td>IP67 / IP69K</td>
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<td>WIRE SIZE</td>
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<td>FROM 16MM2 TO 95MM2</td>
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<tr>
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<td>PLASTIC</td>
<td>PLASTIC</td>
<td>PLASTIC</td>
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<tr>
<td>TOUCH PROOF (IP2x)</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>

*OPERATING CURRENT MEASURED AT 25C WITH MAXIMUM WIRE SIZE AVAILABLE
RADLOK

KEY FEATURES

- CURRENT RATING UP TO 650AMP*
- VOLTAGE RATING 1000V
- QUICK AUDIBLE LOCKING CLIP
- FROM 10MM2 TO 150MM2 CABLE SIZE
- 3 COLORS OPTIONS (RED, BLACK & ORANGE)
- FIELD CRIMPABLE OR OVERMOLDED
- RADSOK ® CONTACTS FROM 3.6MM TO 14MM

*OPERATING CURRENT MEASURED AT 25C WITH MAXIMUM WIRE SIZE AVAILABLE
SURLOK PLUS

AVAILABLE CONTACT SIZES*

**5.7MM:** UP TO 160AMP FOR CABLE SIZE 16 AND 25MM²
**8.0MM:** UP TO 300AMP FOR CABLE SIZE 35 AND 50MM²
**10.3MM:** UP TO 400AMP FOR CABLE SIZE 50, 70 AND 95MM²

KEY FEATURES

- VOLTAGE RATING 1000V AC/DC
- INTEGRATED SLIDE LOCKING SYSTEM
- EMI SHIELDING
- FIELD CRIMPABLE OR OVERMOLDED
- RADSOK® CONTACTS
- PLASTIC MOLDED HOUSING
- IP67 MATED – IP2X UNMATED
- CRIMP / LUG / BUSBAR TERMINATION
- MECHANICAL KEYS AND COLOR CODING (ORANGE, RED & BLACK)

*OPERATING CURRENT MEASURED AT 25°C WITH MAXIMUM WIRE SIZE AVAILABLE

Sealed FEED-THRU (IP67-IP6K9K TOWARDS INSIDE PANEL)

FIELD CRIMPABLE

SEALING gasket

LOCKING feature

BOARD mount

FIELD INSTALLABLE (IP67-IP6K9K IN MATED CONDITION)
HVSP

KEY FEATURES

- MECHANICAL KEYWAYS
- IP67 & IP6K9K MATED – IP2X UNMATED
- UP TO 1000V VOLTAGE RATING
- UP TO 70MM2 CABLE
- UP TO 330AMP CURRENT RATING*
- SINGLE POLE
- THREAD / BUSBAR / CRIMP TERMINATION
- SECONDARY LOCKING

*OPERATING CURRENT MEASURED AT 25C WITH MAXIMUM WIRE SIZE AVAILABLE
POWERLOK – E

**KEY FEATURES**

- **CURRENT RATING UP TO 300AMP**
- **VOLTAGE RATING 1000V**
- **QUICK AUDIBLE LOCKING CLIP**
- **FROM 25MM2 TO 50MM2 CABLE SIZE**
- **FIELD CRIMPABLE**
- **RADSOK ® 8MM CONTACT**
- **PLASTIC VERSION**
- **5 MECHANICAL KEYS & COLOR CODING**
- **STRAIGHT AND RIGHT ANGLE VERSION**
- **IP6K9K MATED – IP2X UNMATED**

*OPERATING CURRENT MEASURED AT 25C WITH MAXIMUM WIRE SIZE AVAILABLE*
# EMI PRODUCTS FOR EV APPLICATIONS

<table>
<thead>
<tr>
<th>PRODUCT SERIES</th>
<th>HVSL</th>
<th>POWERLOK</th>
<th>UPC</th>
<th>EPOWER</th>
<th>EPOWER LITE</th>
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<td>RADSOK CONTACT SIZE</td>
<td>FROM 2.8MM TO 10MM</td>
<td>FROM 4MM TO 14MM</td>
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<td>8MM / 11.1MM</td>
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<td>YES</td>
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</tbody>
</table>

*Operating current measured at 25C with maximum wire size available
HVBI SERIES

KEY FEATURES

- PUSH-PULL WITH HVIL
- SHIELDED
- IP67 & IP6K9K MATED
- IP2X TOUCH PROOF
- UP TO 1000V VOLTAGE RATING
- UP TO 70MM2 CABLE

AVAILABLE CONTACT SIZES*

6MM: UP TO 160AMP FOR CABLE SIZE 16 AND 25MM2
8MM: UP TO 300AMP FOR CABLE SIZE 35 AND 50MM2
10MM: UP TO 400AMP FOR CABLE SIZE 50 AND 70MM2

*OPERATING CURRENT MEASURED AT 25C WITH MAXIMUM WIRE SIZE AVAILABLE
HVG SERIES

KEY FEATURES

- PUSH-PULL WITH AUDIBLE CLICK
- EMI SHIELDING
- IP67 MATED
- IP2X TOUCH PROOF
- UP TO 50A CURRENT RATING*
- UP TO 400VAC / 690VDC VOLTAGE RATING
- FROM 2.5MM2 TO 10MM2 CABLE

AVAILABLE CONFIGURATIONS

2 X (40A) + 2 X 7.5A
3 X (40A) + 2 X 7.5A
2 X (50A) + 2 X 7.5A

*OPERATING CURRENT MEASURED AT 25°C WITH MAXIMUM WIRE SIZE AVAILABLE
HVSL

KEY FEATURES

- EMI & RFI SHIELDING
- INTERLOCK
- IP67 & IP6K9K MATED – IP2X UNMATED
- 1, 2 AND 3 POLES
- LATCHING STYLE (FINGER ACTUATED, 2 STAGE LEVER ASSIST)
- UP TO 330AMP CURRENT RATING*
- UP TO 1000V VOLTAGE RATING
- STRAIGHT AND RIGHT ANGLE
- MECHANICAL CODING

*OPERATING CURRENT MEASURED AT 25C WITH MAXIMUM WIRE SIZE AVAILABLE
POWERLOK

HVIL contacts
MECHANICAL keying
SECONDARY locking
EMI shielding

KEY FEATURES

- CURRENT RATING UP TO 650AMP*
- VOLTAGE RATING 1000V
- QUICK AUDIBLE LOCKING CLIP
- FROM 2.5MM2 TO 150MM2 CABLE SIZE
- EMI SHIELDING
- FIELD CRIMPABLE OR OVERMOLDED
- RADSO® CONTACTS
- METAL & PLASTIC VERSION
- 5 MECHANICAL KEYS & COLOR CODING
- IP6K9K MATED – IP2X UNMATED
- 1 TO 4 POLES

*OPERATING CURRENT MEASURED AT 25C WITH MAXIMUM WIRE SIZE AVAILABLE
UPC

KEY FEATURES
- TOUCH PROOF UL 2251
- +500 MATING CYCLES
- 1000V OPERATING VOLTAGE
- IP67 MATED
- EMI SHIELDING
- HVIL (HIGH VOLTAGE INTERLOCK)
- FLAMMABILITY UL 94V-0

AVAILABLE CONTACT SIZES*

**9.1MM:** UP TO 400AMP FOR CABLE SIZE 35 AND 50 MM2

**12.0MM:** UP TO 600AMP FOR CABLE SIZE 70 AND 95MM2

*OPERATING CURRENT MEASURED AT 25C WITH MAXIMUM WIRE SIZE AVAILABLE*
EPOWER

KEY FEATURES

- Voltage rating 1000V
- 2 & 3 poles
- Crimp / lug / busbar termination
- EMI shielding
- RADSOK® contacts
- 2 HVIL circuits
- IP67
- Aluminium shell

AVAILABLE CONTACT SIZES*

- **8.0MM**: up to 300amp for cable size 25, 35 and 50mm²
- **11.0MM**: up to 600amp for cable size 50, 70 and 95mm²

*Operating current measured at 25°C with maximum wire size available.
EPOWER LITE

KEY FEATURES

- 2, 3 AND 4 POLES
- EMI SHIELDING
- FIELD CRIMPABLE OR OVERMOLDED
- RADSOK® CONTACTS SIZE 3.6MM
- PLASTIC HOUSING
- IP67 MATED
- TOUCH PROOF
- HIGH VOLTAGE INTERLOCK (HVIL)
- SECONDARY LOCKING
- MECHANICAL KEYWAYS

AVAILABLE CONTACT SIZES*

3.6MM: UP TO 120AMP FOR CABLE SIZE 2.5, 4, 6 AND 10MM2

*OPERATING CURRENT MEASURED AT 25°C WITH MAXIMUM WIRE SIZE AVAILABLE
# FEEDTHRU SOLUTIONS

<table>
<thead>
<tr>
<th>PRODUCT SERIES</th>
<th>HVPT</th>
<th>HV FLANGE</th>
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<tbody>
<tr>
<td>PICTURE</td>
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<td>VOLTAGE</td>
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<td>UP TO 1000V</td>
</tr>
<tr>
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<td>FROM -40C TO +125C</td>
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<td>RADSOK CONTACT SIZE</td>
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<tr>
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<tr>
<td>TOUCH PROOF (IP2x)</td>
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</tbody>
</table>
HVPT & HV FLANGE

HVPT KEY FEATURES:

- EMI SHIELDING
- PLASTIC MATERIAL
- IP67 & IP6K9K MATED
- 1 TO 3 POLES
- UP TO 1000V VOLTAGE RATING
- UP TO 50MM2 CABLE

HV FLANGE KEY FEATURES:

- EMI SHIELDING
- METAL MATERIAL
- IP67 & IP6K9K MATED
- 1 TO 3 POLES
- UP TO 1000V VOLTAGE RATING
- CUSTOMIZED MOLDED SOLUTION AVAILABLE

1 POSITION PASS-THROUGH
ADDITIONAL EV PRODUCTS
HC SERIES (32 WAYS)

KEY FEATURES
- CONTACT SIZE 16 & 20
- IP67
- PLASTIC SHELL
- 32 WAY
- SEALED REAR PANEL MOUNT
- CURRENT RATING 13AMP (POWER) & 5AMP (SIGNAL)
- CABLE SIZE 14-18AWG (POWER) & 20-22AWG (SIGNAL)
- OPERATING TEMPERATURE: -40C UP TO 125C
BSM (BATTERY SWAPPING MODULE)

KEY FEATURES

- QUICK MATING
- IP67 MATED
- IP2X UNMATED
- FOR BLIND MATING WITH TOLERANCE
  ADJUSTMENT OF +/-5MM IN X,Y AND Z DIRECTION

<table>
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<tr>
<th>Type</th>
<th>Operating Voltage</th>
<th>Operating Current</th>
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<tr>
<td>BMS-100A</td>
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<td>BMS-400A</td>
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MSD (MANUAL SERVICE DISCONNECT) & MINI MSD

MSD KEY FEATURES

- LATCHING STYLE: FINGER ACTUATED, 2 STAGE LEVER ASSIST
- 50+ MATING CYCLES
- IPX7, IP69K (MATED) - IP2XB (UNMATED)
- HIGH VOLTAGE INTERLOCK
- FUSE RATING: UP TO 630A
- VOLTAGE RATING: 1000 DC WITHOUT FUSE
- CURRENT RATING: UP TO 230A WITHOUT FUSE

MINI MSD KEY FEATURES

- LATCHING STYLE: FINGER ACTUATED, 2 STAGE LEVER ASSIST
- 50+ MATING CYCLES
- IPX7, IP69K (MATED) - IP2XB (UNMATED)
- HIGH VOLTAGE INTERLOCK
- FUSE RATING: UP TO 400A
- VOLTAGE RATING: 1500 DC WITHOUT FUSE
- CURRENT RATING: UP TO 170A WITHOUT FUSE
HVCO CHARGER

KEY FEATURES

- INTERCHANGEABLE WITH ALL SUPPLIER INTERFACE
- DRIVE – OVER PERFORMANCE
- IP55 MATED
- WATER DRAINAGE
- TEMPERATURE SENSOR FOR OVER HEAT PROTECTION
- ERGONOMIC DESIGNED PLUG

IEC COMBO

IEC 62196-2
**BATTERY FLEX**

**KEY FEATURES**

- SENSES CELL VOLTAGE
- SENSES CELL TEMPERATURE
- SAVES SPACE
- SAVES WEIGHT
- IMPROVES EASE OF INSTALLATION
- ELIMINATES WIRING ERRORS (REPEATABLE)
- OPERATING TEMPERATURE: -45C UP TO 200C
CLICK-FIT

- POWER / PE CONNECTIONS
- 3.6 MM, 6 MM AND 8MM CONTACTS
- WORKING CURRENT UP TO 260A
- CAN BE USED ALSO FOR GROUNDING
- PLASTIC HOUSINGS AS OPTION AVAILABLE
- CAN ALSO BRING POWER TO BOARD

ACTIVE PIN-LOCK

- RADSOK CONTACTS 3.6 / 6.0 / 8.0 MM UP TO 300A
- BLIND MATING POSSIBLE – AUTOMATIC CENTERING
- CORROSION RESISTANT
- VIBRATION PROOF

WALL - BUSHING

- UP TO 250A
- IP67 FEEDTHROUGH SOLUTION TO BE USED WITH CLICKFIT
- NO SPECIAL TOOLING REQUIRED
- IP65/IP67

*OPERATING CURRENT MEASURED AT 25C WITH MAXIMUM WIRE SIZE AVAILABLE*