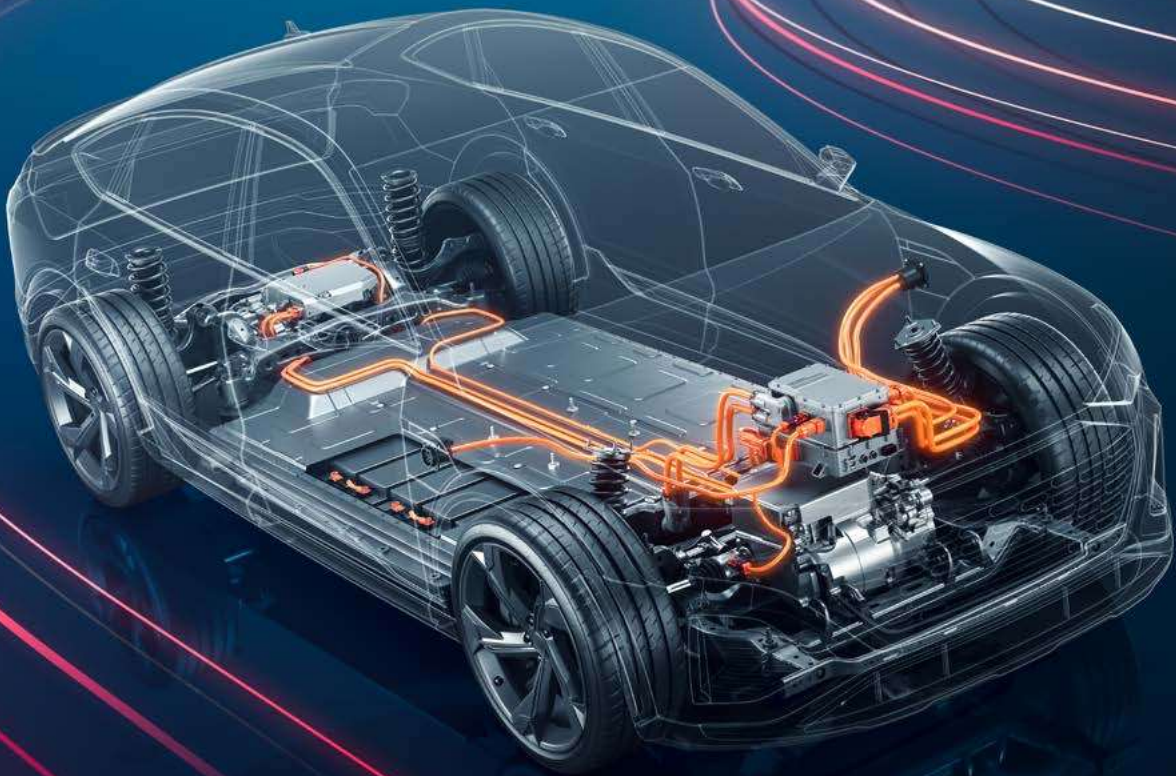


High-Voltage and Low-Voltage Products

## Connector Systems for E-Mobility

AUTOMOTIVE







## Rosenberger Automotive – a Synonym for Quality and Innovation

On the following pages we present the high-quality Rosenberg high-voltage connector systems developed in our automotive business area. They fulfill the tough requirements of the automotive industry.





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The Rosenberger online catalog contains the current power connector systems for e-mobility with specific details, including data sheets, assembly instructions and panel piercings.



[www.rosenberger.com/ok/hv](http://www.rosenberger.com/ok/hv)

# Rosenberger Automotive

At Rosenberger, we firmly believe in developing technology for the future. We are currently working on products and solutions that will shape our lives in the future.

We want to get faster and smarter in what we do and how we do it. Advanced driver assistance systems, connected car technology, electric mobility, infotainment systems – Rosenberger is extremely committed to designing innovative connector systems for future automotive electronics.

## Rosenberger Automotive Data Connector Systems

In 2000, Rosenberger started working in the automotive sector, designing and producing customized and standard products for these specific markets.

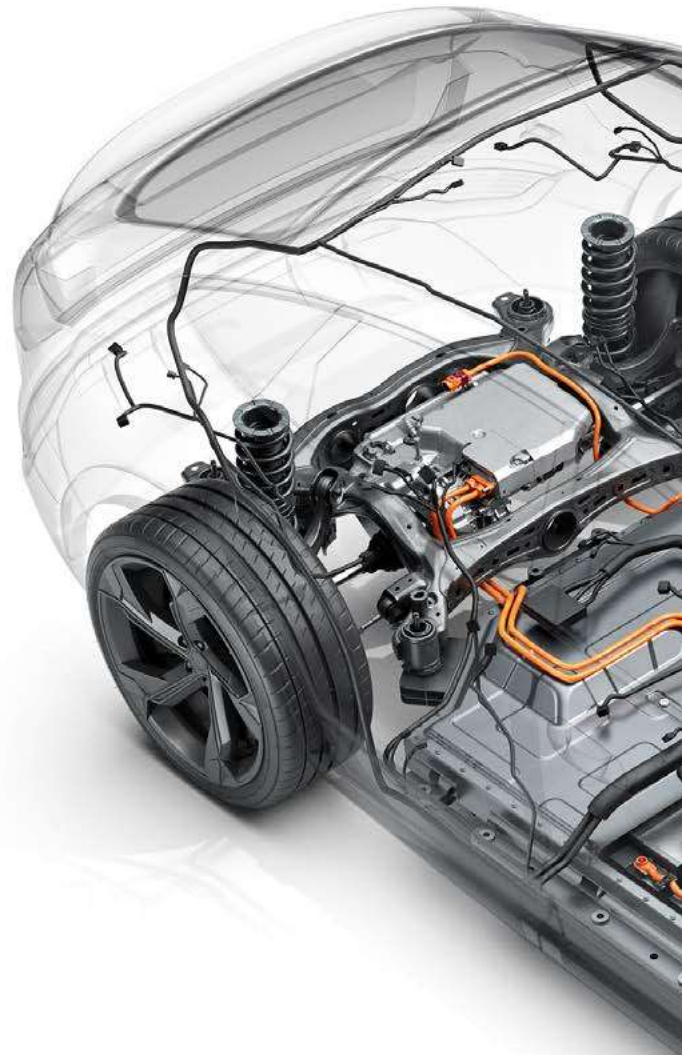
Rosenberger Automotive is a specialist development partner when it comes to integrating connector designs and customer-specific solutions with the highest quality and best performance – while continuing to meet customer price targets.

The contact systems have been specially designed to fulfill the tough requirements of the automotive industry. From the beginning, Rosenberger has developed a close and open relationship with its customers.

The priority in the most automotive applications, such as autonomous driving and driver assistance systems, is to ensure safety. It is necessary to determine exact positions, continuously calculate routes, and detect and classify objects. High data volumes from several cameras, various sensors, and navigation sources must be combined and transported for this purpose – in real time.

### Application Areas

- Autonomous driving
- Driver assistance systems
- Navigation
- Infotainment
- Rear entertainment
- Internet and mobile communication
- “WiGig” (Wireless Gigabit)



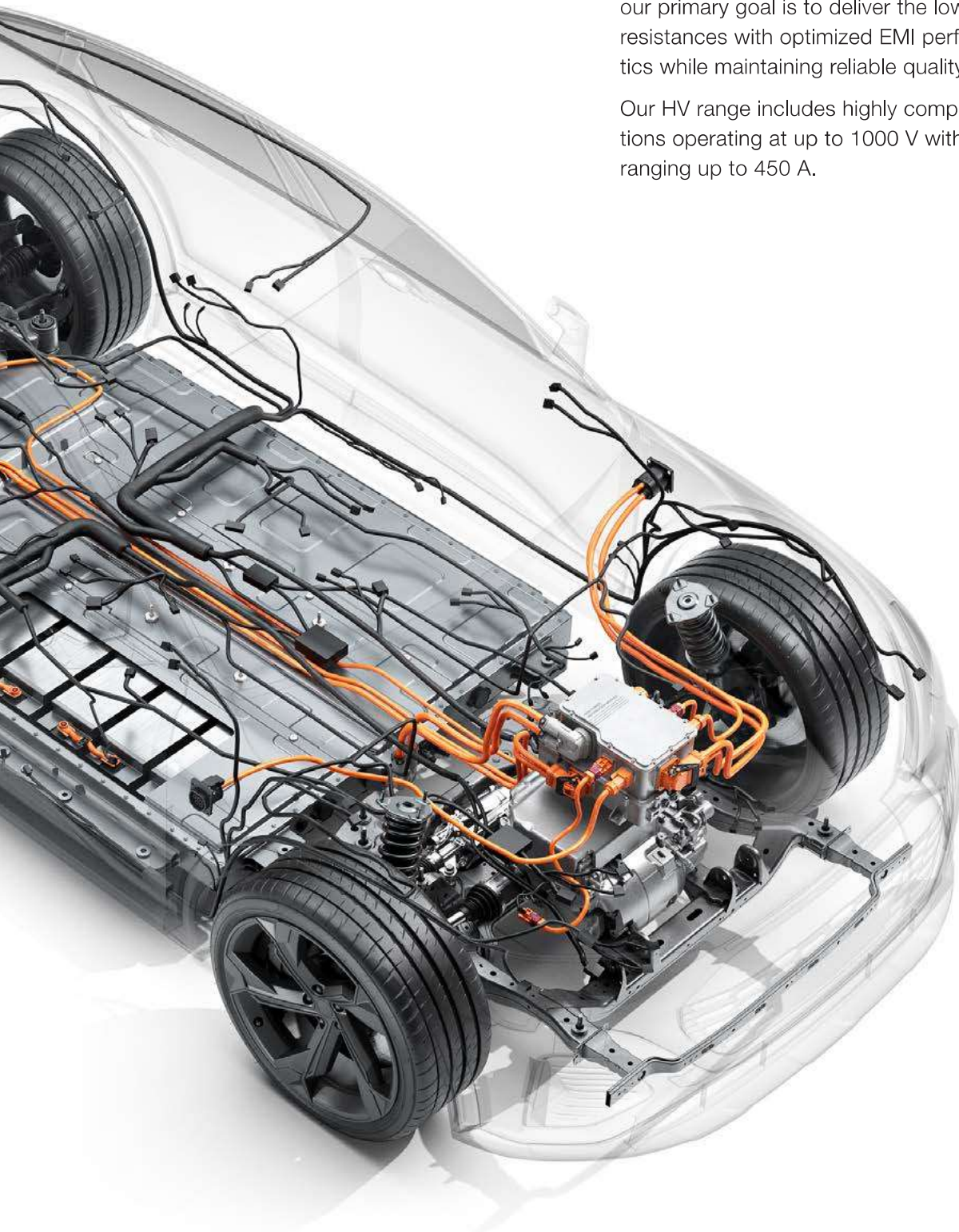


## Rosenberger Power Connector Systems for E-Mobility

The ongoing shift from combustion engines towards hybrid and electric motors in vehicles calls for continuous innovation in connector technology.

Electrical components must not only be robust and as space-saving as possible, but also capable of safe operation at high voltages and extreme currents. Therefore, our primary goal is to deliver the lowest possible contact resistances with optimized EMI performance characteristics while maintaining reliable quality standards.

Our HV range includes highly compact connection solutions operating at up to 1000 V with continuous currents ranging up to 450 A.



# Rosenberger Connector Systems for E-Mobility

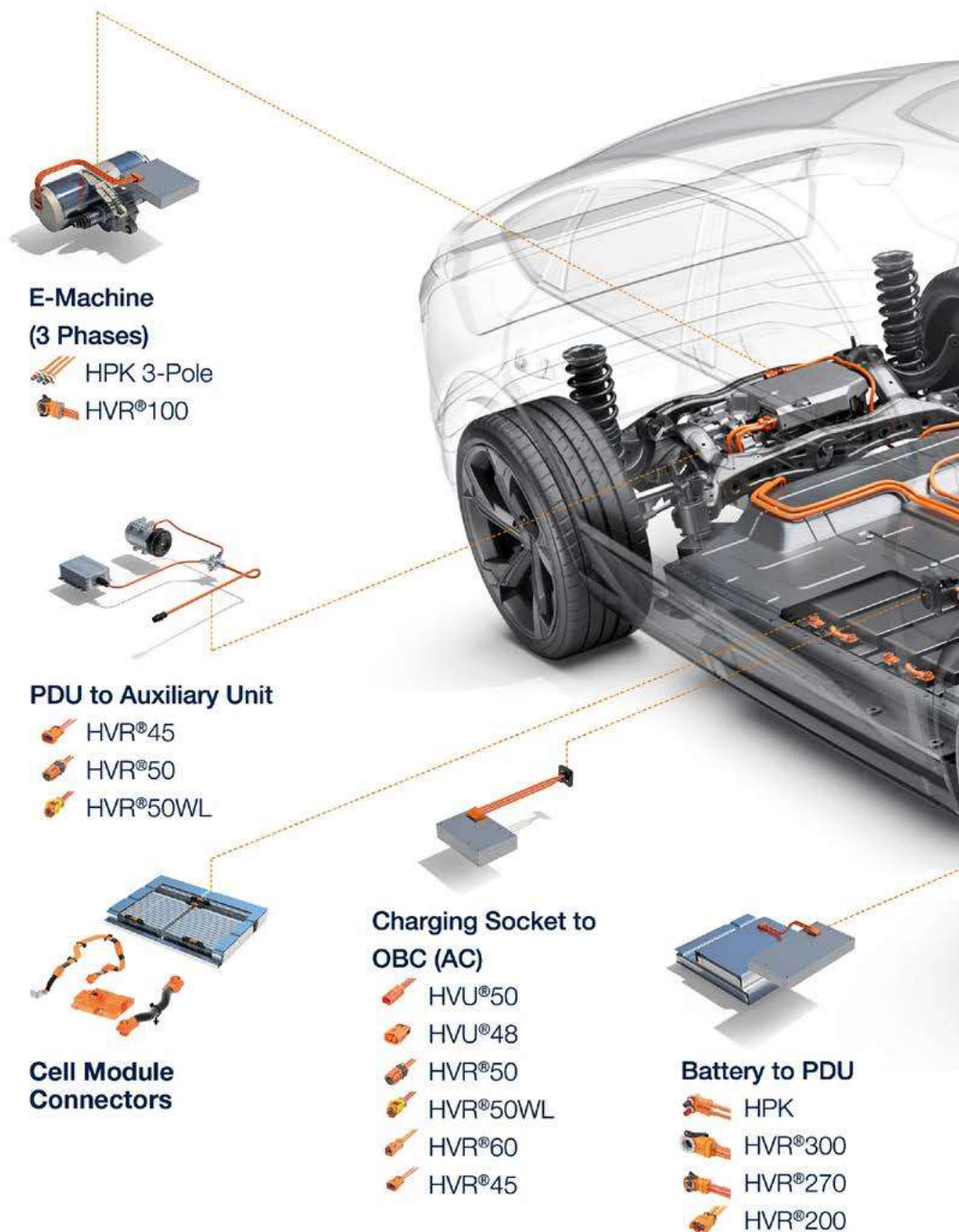
Developed especially for optimized power transmission in electric and hybrid vehicles, the extensive portfolio of Rosenberger power connectors is designed to meet customer requirements for maximum quality, reliability, performance, at best costs.

Maximum currents ranging from 50 A to 450 A and cable cross sections from 3 mm<sup>2</sup> to 120 mm<sup>2</sup> are covered, as well as power distribution units for customer-specific assemblies.

When electrical power transmission performance really counts Rosenberger has the perfect connection.

## Product Portfolio

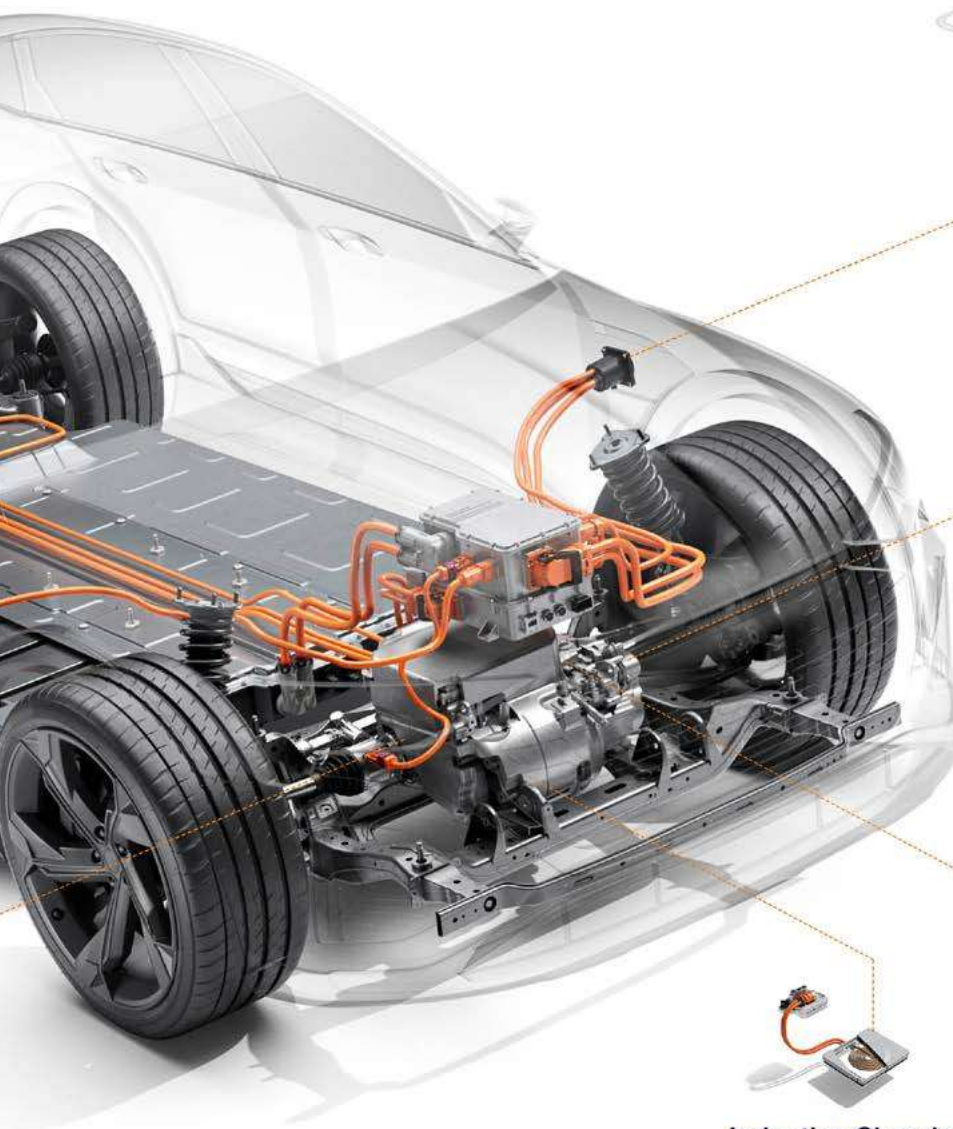
- High-voltage connectors shielded (HVR series)
- High-voltage connectors unshielded (HVU series)
- High-power connectors (HPK series)
- HV components (power distribution units, splitter, cell module connectors)
- Low-voltage connectors
- LEV connectors







## Features and Benefits

- High current performance
- Minimum installation space
- Highest vibration classes
- In-house thermal simulation
- Contact system and connecting technology
- Assembly
- Best EMI performance after aging due to silver plated contacts and special screw technology
- Detailed assembly instruction for cable-side and device-side
- Qualified to national and international standards (LV215, USCAR ...)



**Charging Socket to Battery (DC)**

-  HVR®420
-  HVR®300
-  HVVU®400

**PDU to E-Machine (2 Phases)**

-  HPK
-  HVR®300
-  HVR®270

**Inductive Charging**

-  HVR®50
-  HVR®50WL

**OBC to Battery**

-  HVR®45
-  HVR®50
-  HVR®50WL
-  HVR®200

# Rosenberger Number Code

## HV Connectors

H2	K	1	01-	W	2	A	035	B1	-A
									Coding
									Plating
									Cable size specified in mm <sup>2</sup>
									Cable group
									Number of center contacts
									Backend type
									0 screw version outer and center contact
									1 crimped outer and center contact
									2 mated outer contact – screwed center contact
									5 press-fitted outer contact – crimped center contact
									9 special types
									V crimped outer contact – crimp-welded center contact
									W crimped outer contact – welded center contact
									Successive number
									Configuration
									1 straight
									2 right angle
									Gender
									K jack
									S plug
Connector series									



### HV Device Socket (Header)

HV	L	1	02-	5	B-	002	B1	-A
								Coding
							Plating	
							Successive number	
							Cable dimension	
							0 no cable	
							A 2.5 mm <sup>2</sup>	
							B 4 mm <sup>2</sup>	
							C 6 mm <sup>2</sup>	
							D 16 mm <sup>2</sup>	
							E 25 mm <sup>2</sup>	
							F 35 mm <sup>2</sup>	
							G 50 mm <sup>2</sup>	
							H 70 mm <sup>2</sup>	
							J 90 mm <sup>2</sup>	
							Backend type	
							Successive number	
							Configuration	
							1 straight	
							2 right angle	
							L/S Header plug	
Connector series								

# HVR<sup>®</sup> High-Voltage Shielded Connectors

Rosenberger's extensive portfolio of shielded high-voltage connectors has been developed especially for optimized power transmission in electric vehicles.

For Rosenberger, the product development goal is clear: minimum contact resistance plus high power density coupled with excellent EMC performance properties.

They meet customer requirements in terms of quality, reliability, performance and price. The shielded HV product line includes extremely compact connection solutions up to 1000 V with continuous currents up to 450 A, that can be operated over entire product lifetimes.







# HVR<sup>®</sup>420

The Rosenberger HVR<sup>®</sup>420 compact connector system enables a maximum current capacity of 405 A at cable cross section 95 mm<sup>2</sup> and a working voltage of 1000 V DC. Furthermore, the slide locking mechanism prevents accidental disconnection. Typical applications include charging socket to vehicle batteries (DC).

## Product Portfolio

- Right angle cable connector
- Header
- Cable assemblies

## Features

- Shielded
- Current capacity (95 mm<sup>2</sup>) 405 A at 85 °C
- Working voltage 1000 V DC
- Test voltage 2500 V DC
- Creepage  $\geq 7.25$  mm
- Clearance  $\geq 5$  mm
- IP class mated according to IP6K9K/IPX8
- IP class unmated according to IPXXB
- Engine vibration Vib D + M05 according to LV 124
- Mating cycles  $\geq 50$
- Cross sections 70 mm<sup>2</sup>, 95 mm<sup>2</sup>
- Locking mechanism with slider

## Applications



Charging socket to battery (DC)

## Benefits

- Highest performance up to 405 A
- With HVIL (high-voltage interlock)

## Applicable Standards


- Rosenberger series code HA
- Interface according to RN\_113-01
- RoHS compliant







## Products

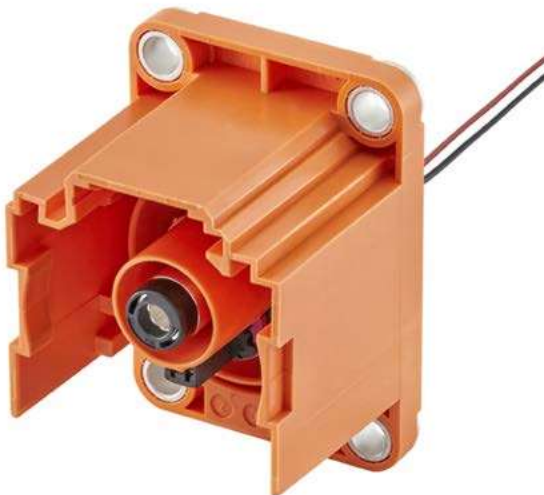
### HVR®420 Cable Jack

Rosenberger No.	Description	Cable Cross Section	Assembly Instruction	Product
HAK203-W10070B1-Y	Right angle jack Shielded	70 mm <sup>2</sup>	MA_HV0076	
HAK203-W10095B1-Y	Right angle jack Shielded	95 mm <sup>2</sup>	MA_HV0076	

### HVR®420 Header Plug

Rosenberger No.	Description	Assembly Instruction	Panel Piercing	Product
HAS105-21-000B1-Y	Straight plug Outgoing busbar straight 4-hole flange Shielded	MA_HV0061	MB_569	
HAS103-21-000B1-Y	Straight plug Outgoing busbar right angle 4-hole flange Shielded	MA_HV0061	MB_569	

-Y please fill in requested coding



For more information  
refer to our website:

[www.rosenberger.com/hvr420](http://www.rosenberger.com/hvr420)

