

Automotive products

RADOX® cables and system solutions

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HUBER+SUHNER

Automotive cable systems



The quality of the cabling throughout a vehicle plays a crucial role in transmitting and protecting power as it is stored in the vehicle. The cables need to be able to resist mechanical abrasion, harsh environmental conditions, moisture, temperature, aggressive fluids, as well as handle voltages up to 1000VAC/1500VDC. HUBER+SUHNER wires & cables and cable systems are designed with these challenges in mind.

When it comes to EV cable systems in the automotive sector, the main considerations are: high level of safety, reasonable costs and the correct approvals. Our in-house engineers are well experienced in the EV sector and never lose sight of the bigger picture. As a result, HUBER+SUHNER delivers complete cable system solutions that meet required automotive standards, whilst also optimising the installation processes.

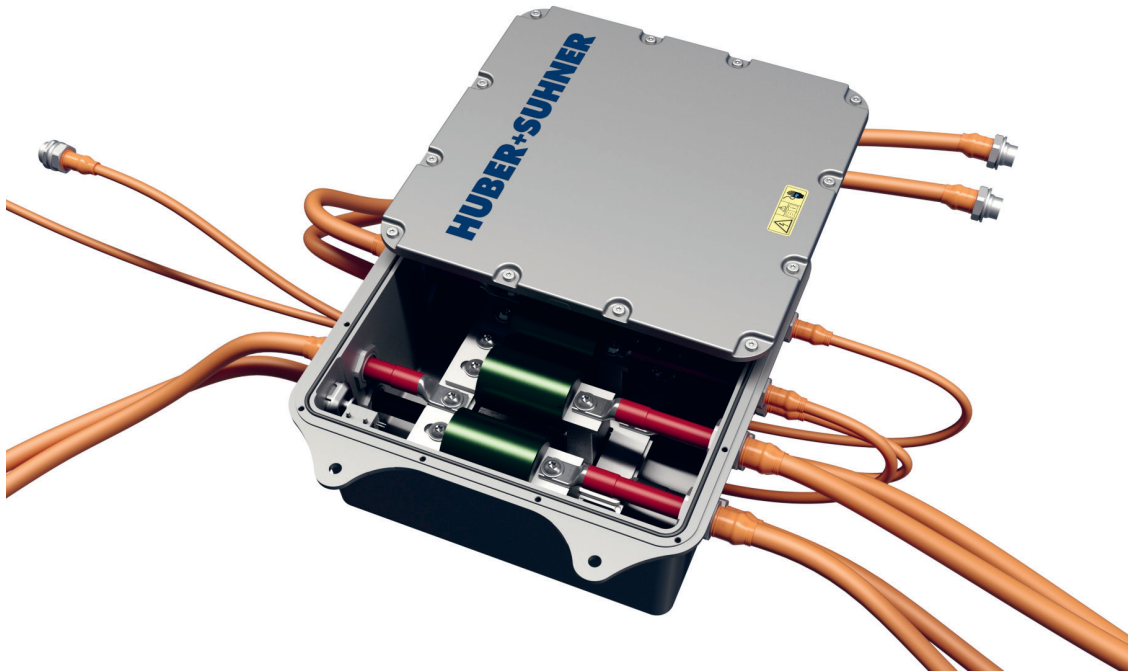
Engineers work closely with our customers, always taking the latest market requirements as a starting point. A wide variety of parts in our automotive product range e.g. 3-pole connector, are tailored to specific customers and specific applications. With our global presence and many years of high voltage experience, we support new products a smooth entry into the EV market.

Benefits of using HUBER+SUHNER cable systems:

- Safe and reliable connection
- Easy assembly, saving time and money
- A smooth and effective integration with HVDU solutions
- High current carrying capacity for higher loads
- High Ingress Protection (IP) for both solid objects and liquids
- High voltage testing & validation services, both internal and external – to guarantee high product quality
- Possibility of joint development projects, allowing access to specialised engineering resources as well as RADOX technology

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Cable assembly	53
3 pole connector	54

mHVDU – standard modular HVDU



Applications

- Standard product solution
- Finalized and available
- Composed of standardized components

Benefits

- Scalability of in- and outputs and fuses (variant configurator)
- Standardized process and short lead times
- Ideal for prototypes/samples in harsh environments
- Space, weight and cost saving
- Fully validated
- Harmonized with H+S product portfolio (AWC + ACS)

mHVDU – standard modular HVDU

Technical data

Electrial specifications	Modular High Voltage Distribution Unit
Voltage rating	500 V dc / 800 V dc
Current rating	up to 650 A
Test voltage	2,15 kV dc
Screen resistance	< 9 mΩ (H+S EV-C connection)
Insulation resistance (1000 Vdc, 60 sec., 85 °C)	> 50 MΩ
EMC protection	ECE-R10 (E1 certificate) acc. CISPR25 - 2016 6.3-5
Channels (outputs fused only)	Input 2+1 / Output 6
HVIL	(passive) HV-interlock
Degree of customization	Scheme based configuration of fuses

Mechanical data	Modular
Vibration and shock resistance	ISO 16750-3 (Profile VII.)
Housing material	Aluminium die-cast
Max. dimensions (length, width, height)	325 mm × 325 mm × 144 mm
Cable connection position	in line from side-to-side
Waterproof pressure equalizing valve	yes

Environmental Data	Modular
Temperature range (ambient)	-40 to +85 °C
relative humidity	0% – 95%
Altitude	4.000 m above sea level
Ingress Protection	IP6K9K / IP67
Corrosion resistance	ISO 16750-4 (incl. VDA 233-102)

Available for	Modular
H+S cable cross section	4 mm ² to 95 mm ²
Application (multifunctional)	commercial-, special- and industrial electric vehicles (incl. passenger cars)
APQP process step	A-, B-, C-, (D-) sample, series

