

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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RADOX® EV-C cable system



High Voltage cables in hybrid and electric vehicles move power to and from the battery and various systems throughout the vehicle. Managing and keeping these cables in place over the life of the vehicle and through a range of driving conditions is very critical.

High voltage automotive connection systems must stand up to wide temperature fluctuations, vibration and mechanical impact to secure and protect high voltage cables and components running throughout the vehicle. High performance electrical insulation, EMI protection and corrosion resistance are also important properties for this critical application.

Merging RADOX cable technology with a reputation for legendary reliability with innovative connectivity solution RADOX EV-C, HUBER+SUHNER is able to provide customers with an end-to-end offering.

The RADOX EV-C cable feed-cable gland, provides a barrier to moisture and debris, as well as retains cables in place. The connection is designed for high current carrying capability in harsh environments and with minimal space requirements. This robust solution, validated internally and externally for automotive high voltage applications, brings added reliability and durability, great performance and ease of assembling.

RADOX® EV-C Single-Core



Benefits

- High ampacity of conductor and shielding
- Compact design with reliable connections and seals
- True 360° screen connection
- Wide shock and vibration resistance
- High temperature range (-40 °C to 140 °C)
- Proven protection against environmental factors IP67 and IP6K9K
- Wide range of cable cross sections — from 16 to 120 mm²

Technical data

Electrical Data	
Voltage rating	1000 V DC
Current carrying capacity	450A (95 mm ²) at 85°C
Screen resistance	< 7 mΩ

Mechanical data	
Cross section	Single-Core: 16, 25, 35, 50, 70, 95, 120 mm ²

Environmental data	
Ambient temperature	-40°C to +140°C
IP Rating	IP6K9K / IP67

RADOX® EV-C Multi-Core



Benefits

- The same interface as single-core version
- Compact design with reliable connections and seals
- High shock and vibration resistance
- Wide temperature range (-40 to 140°C)
- Proven protection against environmental factors IP67 and IP6K9K
- Available cable cross sections – 2x4 , 2x6 and 4x10 mm² (other sizes upon request)

Technical data

Electrical Data	
Voltage rating	2 × 4 mm ² , 700V DC 2 × 6 mm ² , 800V DC 4 × 10 mm ² , 850V DC
Current carrying capacity	88 A / 105 A / 230 A @ 85°C
Screen resistance	< 7 mΩ

Mechanical data	
Cross section	Multi-Core: 2 × 4, 2 × 6 and 4 × 10 mm ²

Environmental data	
Ambient temperature	-40°C to +140°C
IP Rating	IP6K9K / IP67