

EV-T2HPCC-DC500A-3,0M50ECBK11R - DC charging cable



1369289

<https://www.phoenixcontact.com/us/products/1369289>

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CHARX connect professional, HPC DC charging cable, with cooled vehicle charging connector and cooled cable, for charging electric vehicles (EV) with direct current (DC), with replaceable mating face frame, with replaceable DC power contacts, with right-hand angled panel feed-through, with variable-speed fan, with digital temperature sensors, HPC CCS type 2, IEC 62196-3-1, 500 A / 1000 V (DC), PHOENIX CONTACT logo, cable: 3 m, black, straight

Product description

DC charging cable with vehicle charging connector and free cable end for fast charging of electric vehicles (EV) with direct current (DC) via CCS type 2 vehicle charging inlets, for installation at charging stations for e-mobility (EVSE)

Your advantages

- Complete product range
- The right charging cable for every application, from the carport to the charging park
- Ultra-fast HPC charging, with temporary power up to 500 kW
- Convenient handling due to the ergonomic design
- Available with your logo on request – for consistent branding of your charging station
- Developed and produced in accordance with the IATF 16949 automotive standard and ISO 9001
- Additional safety thanks to integrated leakage sensors and a wear indicator in the cable sheath
- Convenient communication interfaces via CAN bus and digital output
- Maintenance-friendly replacement of the mating face frame without draining the coolant
- Integrated strain relief of single-core wires directly in the panel feed-through
- Pre-assembled busbar screw connection for straightforward connection of the customer's busbars or cable lug solutions

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 1369289 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | EM01 |
| Product key | XWBALD |
| GTIN | 4063151723446 |
| Weight per piece (including packing) | 23 g |
| Weight per piece (excluding packing) | 23 g |
| Customs tariff number | 85444290 |
| Country of origin | DE |

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Technical data

Product properties

| | |
|-------------------|--|
| Product type | DC charging cable |
| Product family | CHARX connect professional |
| Application | for charging electric vehicles (EV) with direct current (DC) for installation at charging stations for electromobility (EVSE) |
| Type | HPC DC charging cable with cooled vehicle charging connector and cooled cable |
| Design | with replaceable mating face frame with replaceable DC power contacts with right-hand angled panel feed-through with variable-speed fan with digital temperature sensors |
| Technology | Combined Charging System High Power Charging |
| Affixed logo | PHOENIX CONTACT logo |
| Label | 8.9 mm x 28.9 mm (customer logo on request) |
| Charging standard | HPC CCS type 2 |
| Charging mode | Mode 4 |

Cooling system

| | |
|------------------------------|--|
| Cooling | in the vehicle charging connector and in the cable |
| Coolant | 50% water, 50% glycol (Glysofor N) |
| Cooling capacity | 600 W (Cable length: 3 m) 800 W (Cable length: 4 m) 900 W (Cable length: 5 m) 1050 W (Cable length: 6 m) |
| Cooling hose diameter | 1x 11.5 mm Supply hose 2x 8.8 mm Return hoses |
| Flow rate | 2 l/min |
| Operating pressure | 1.00 bar ... 2.00 bar |
| Relief pressure | 2.00 bar |
| Maximum permissible pressure | 4.00 bar |
| Flow temperature | 15 °C |
| Communication interface | CAN bus for reading the temperature and leakage sensor data Digital output for determining the functional status of the vehicle connector |

Fan

| | |
|-----------------|--|
| Cooling | The fan provides additional cooling inside the panel feed-through to increase the charging current. The fan can be attached to the panel feed-through as an option. |
| Cable structure | 2 x AWG 26 |

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| | |
|-------------------------|---------------------|
| Nominal voltage U_N | 24 V |
| Nominal voltage range | 18 V AC ... 24 V AC |
| Fan speed indication | 4400 min-1 |
| Mechanical service life | 70.000 h (at 40 °C) |
| Ambient temperature | -20 °C ... 40 °C |

Electrical properties

| | |
|-------------------------------|--|
| Type of signal transmission | Pulse width modulation with modulated Powerline communication in accordance with ISO/IEC 15118 / DIN SPEC 70121 |
| Note on the connection method | Crimp connection, cannot be disconnected |
| Coding | 1500 Ω (between PE and PP) |
| Temperature monitoring | 2x NTC (replaceable, front DC contacts) |
| | 2x NTC (DC power wires inside) |
| | Pt 1000 |
| Type of charging current | DC |
| Charging power | 500 kW |
| Charging current | 500 A |
| Type of charging current | DC Boost Mode |
| Charging power | up to 700 kW (Boost Mode, depending on the ambient conditions. For detailed information, see the packing slip in the download area for this item.) |
| Charging current | up to 700 A (Boost Mode, depending on the ambient conditions. For detailed information, see the packing slip in the download area for this item.) |

Power contact

| | |
|---------------|---------------------|
| Number | 3 (PE, DC+, DC-) |
| Rated voltage | 1000 V DC |
| Rated current | 500 A (up to 40 °C) |

Signal contact

| | |
|---------------|------------|
| Number | 2 (CP, PP) |
| Rated voltage | 30 V AC |
| Rated current | 2 A |

Temperature sensors (NTC)

| | |
|------------------------|---|
| Sensor type | NTC |
| Attachment point | 2 sensors for the replaceable front DC contacts |
| | 2 sensors for the internal DC power wires |
| Switch-off temperature | 90 °C |

Temperature sensors (Pt 1000)

| | |
|------------------------|---|
| Sensor type | Pt 1000 |
| Standards/regulations | DIN EN 60751 |
| Attachment point | Sensor in the panel feed-through |
| Switch-off temperature | 90 °C \pm 1 K (equivalent to a Pt 1000 value of 1346.5 Ω) |
| Long-term stability | 0.06 % (after 1000 hours at 130 °C) |

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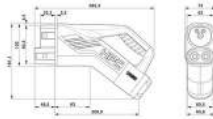
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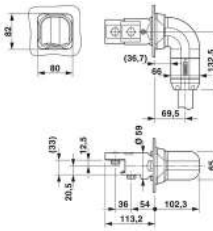
| | |
|------------------------------|-------------------------------|
| Recommended measured current | 1 mA (1 V at 0°C) |
| Coefficient | 3850 ppm/K |
| Ambient temperature | -50 °C ... 130 °C (Operation) |

Dimensions

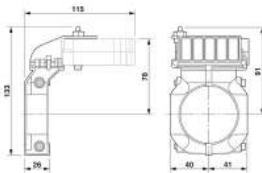
Vehicle charging connector

| | |
|---------------------|--|
| Dimensional drawing |  <p>Make sure that the vehicle charging connector is placed in an appropriate charging connector holder, which ensures a minimum protection rating of IP24 in accordance with IEC 61851-1, for the entire time between charging. To create this charging connector holder, use the dimensions of the vehicle charging connector. Detailed dimensions can also be found in the Download area.</p> |
| Width | 72 mm |
| Height | 181.1 mm |
| Depth | 285.3 mm |

Panel feed-through

| | |
|---------------------|--|
| Dimensional drawing |  |
| Width | 80 mm |
| Height | 82 mm |
| Depth | 215.5 mm |

Cooling fan

| | |
|---------------------|--|
| Dimensional drawing |  |
| Width | 81 mm |
| Height | 133 mm |
| Depth | 115 mm |

Bore dimensions

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| | |
|---------------------|---------------------------|
| Dimensional drawing | <p>Drill hole spacing</p> |
| Width | 55 mm |
| Height | 55 mm |
| Diameter | 60 mm |

Material specifications

| | |
|--|-----------------------------------|
| Color (Housing) | black (9005) |
| Color (Handle area) | black (9005) |
| Color (Mating face) | black (9005) |
| Color (Cable) | black (9005) |
| Color (Panel feed-through) | black (9005) |
| Material (Vehicle charging connector) | Plastic |
| Material (Cable outer sheath) | EVM-1 in accordance with EN 50620 |
| Material (Panel feed-through) | Plastic |
| Material (Contact surface) | Silver |
| Flammability rating according to UL 94 | V0 (Mating face) |

Cable/line

| | |
|------------------------------|--|
| Cable length | 3 m ±45 mm |
| Wiring standards/regulations | Based on UL 62 (File E515623, Vol 1) Based on IEC 62893 |
| Cable weight | max. 1938 kg/km |
| Cable type | straight |
| Cable structure | 5 x 25 mm ² + 7 x 0.75 mm ² |
| External cable diameter | 35.7 mm ±0.4 mm |
| Outer sheath, material | TPE-U in accordance with IEC 62893-1 |
| Cable resistance | ≤ 0.00078 Ω/m (based on a power core, at an ambient temperature of 20°C) |
| Bending radius | min. 357 mm (10x diameter) |

Mechanical properties

Mechanical data

| | |
|-----------------------------|---------|
| Insertion/withdrawal cycles | > 10000 |
| Insertion force | < 100 N |
| Withdrawal force | < 100 N |

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Environmental and real-life conditions

Ambient conditions

| | |
|---|--|
| Degree of protection (Vehicle charging connector) | IP54 (plugged in; when plugged in and ready to operate, the degree of protection is only ensued if both plug-in components are original products from Phoenix Contact or suitable standard-compliant products) |
| Degree of protection (Panel feed-through) | IP54 |
| Ambient temperature (operation) | -30 °C ... 40 °C max. 55 °C (Current reduction required, observe the DC contact temperature limit value of 90°C) |
| Ambient temperature (storage/transport) | -40 °C ... 80 °C |
| Altitude | 5000 m (above sea level) |

Standards and regulations

Standards

| | |
|-----------------------|---------------|
| Standards/regulations | IEC 62196-3-1 |
|-----------------------|---------------|

Mounting

| | |
|----------------------------------|--|
| Mounting type Panel feed-through | Rear panel mounting |
| Mounting type Fans | Rear panel mounting (optional for increasing the charging current up to 500 A) |
| Max. wall thickness | max. 5 mm |
| Fixing screws | M5x16 |

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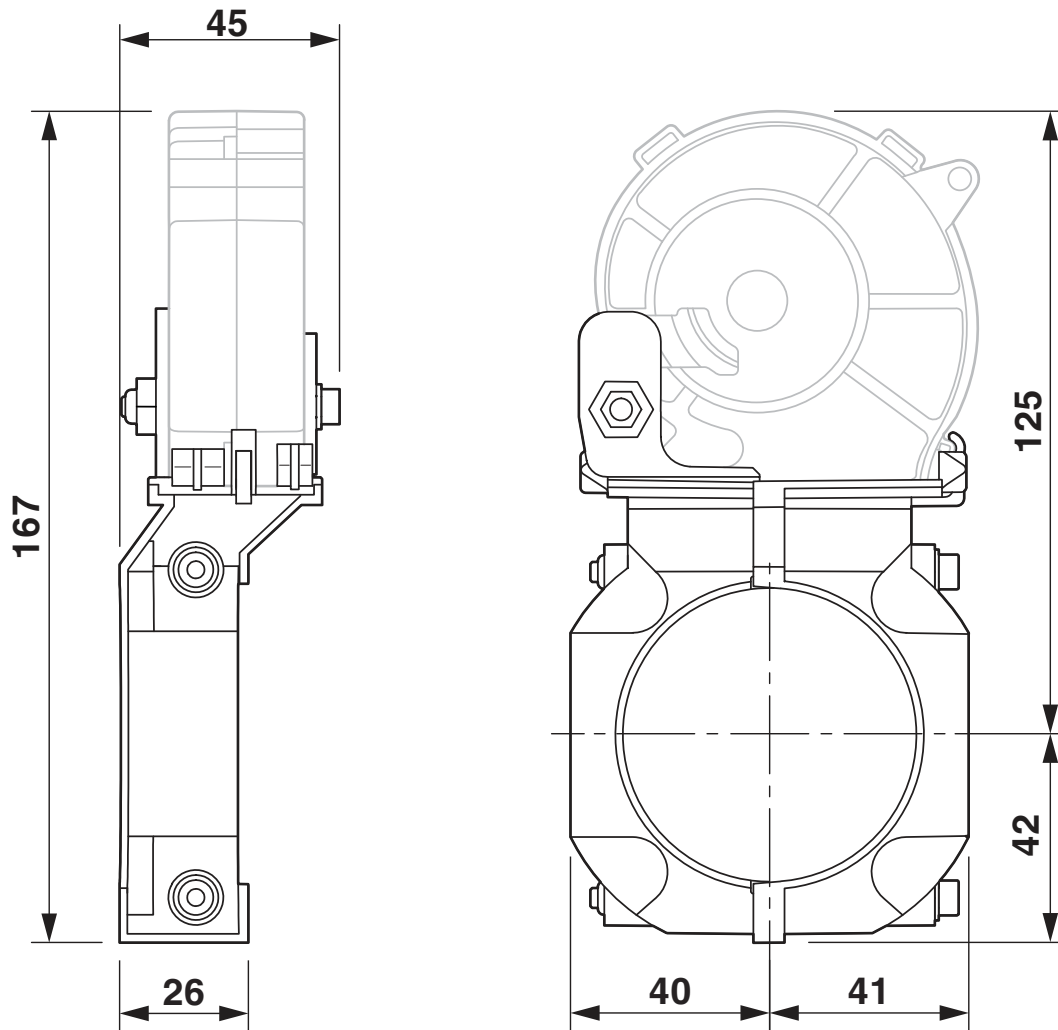


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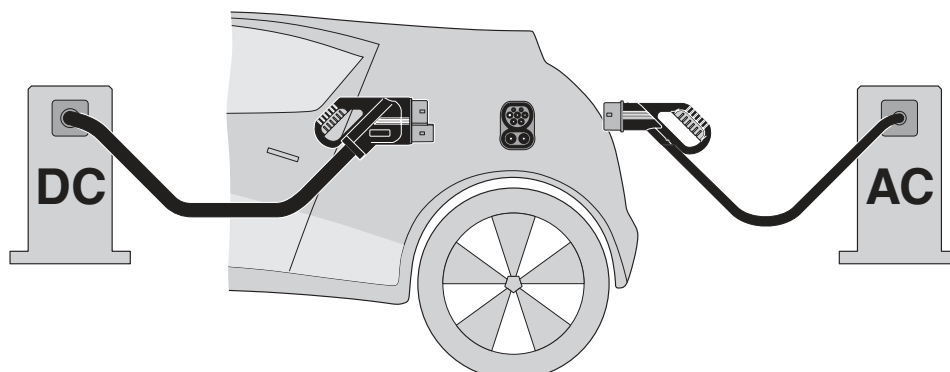
Drawings

Dimensional drawing



Fan for vertical attachment to the panel feed-through

Schematic diagram



The Combined Charging System (CCS) principle - standard-compliant charging system for electric vehicles, which supports both conventional AC charging and fast DC charging. Both Vehicle Connectors fit into the CCS Vehicle Inlet.

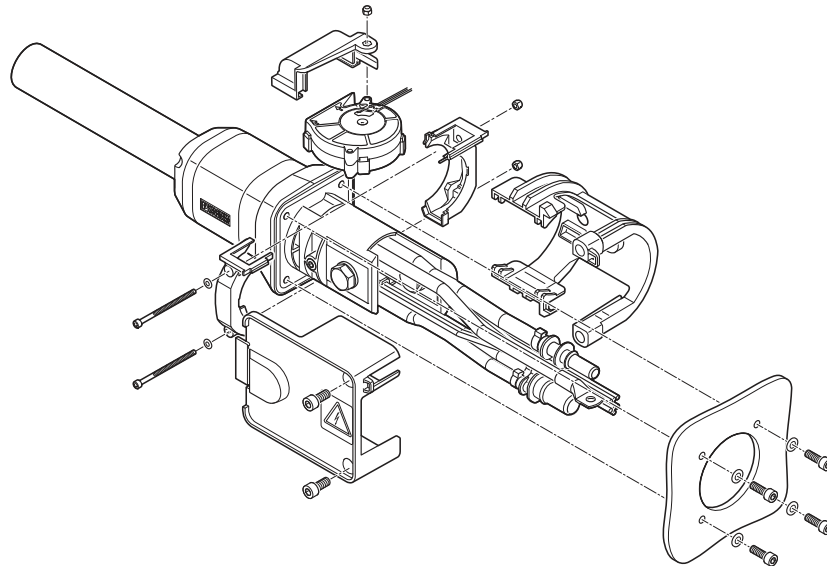
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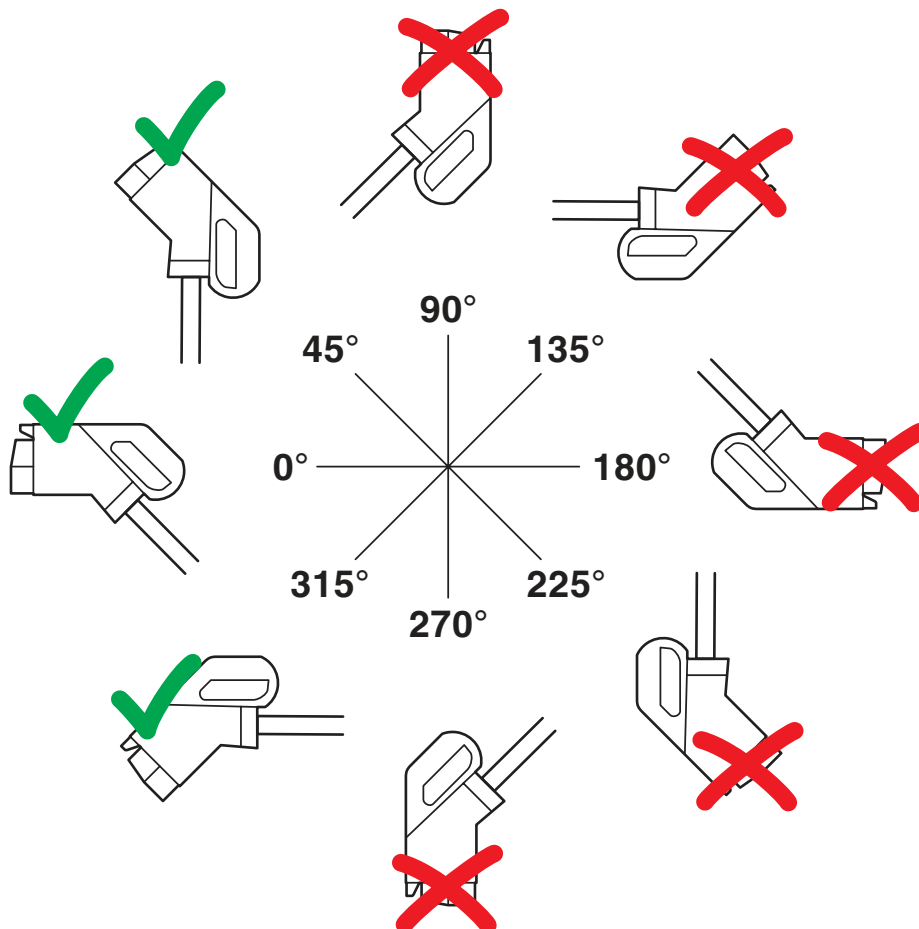
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Schematic diagram



Assembly instructions for attaching the touch protection using straight panel feed-through as an example

Schematic diagram



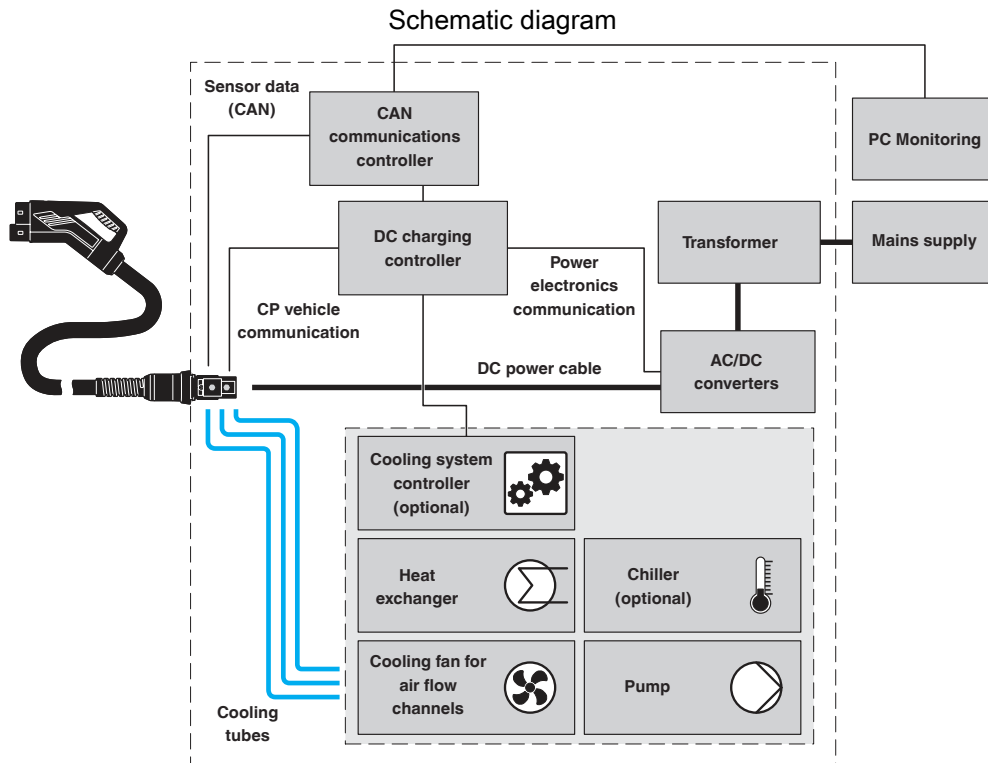
The resting position must be installed in the charging station such that the user cannot hang up the vehicle connector upside down (90° to 270°). However, positions rotated upward (45°) or downward (315°) are options for a resting position.

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Standalone, decentralized system: cooling unit and controller are integrated into the charging station. The choice of cooling unit can be passive or active (i.e., with or without chiller).

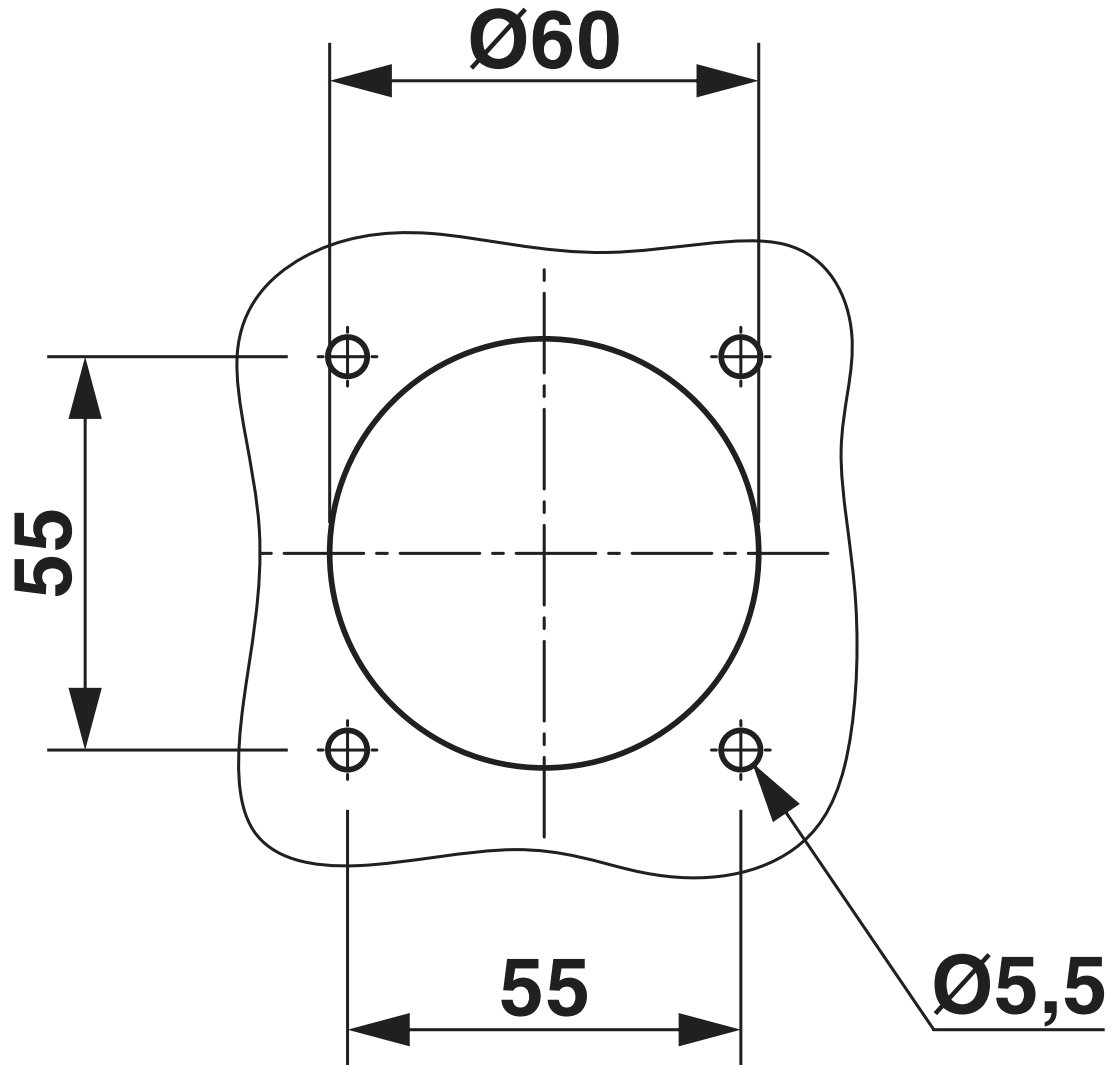
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Dimensional drawing



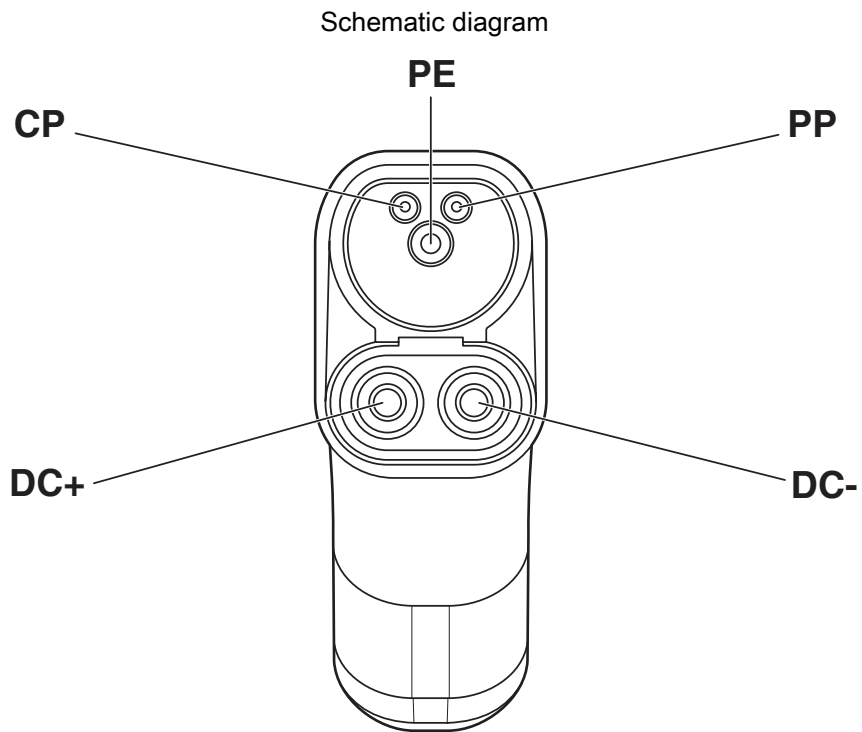
Drill hole spacing

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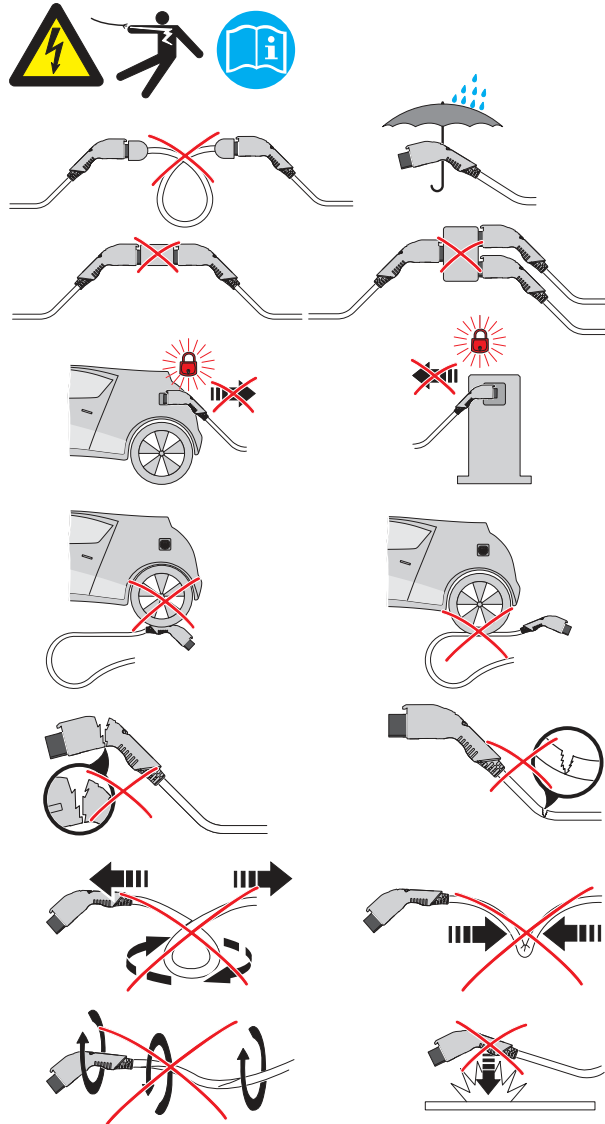
Pin assignment of the Vehicle Connector

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Schematic diagram



Warning signal note

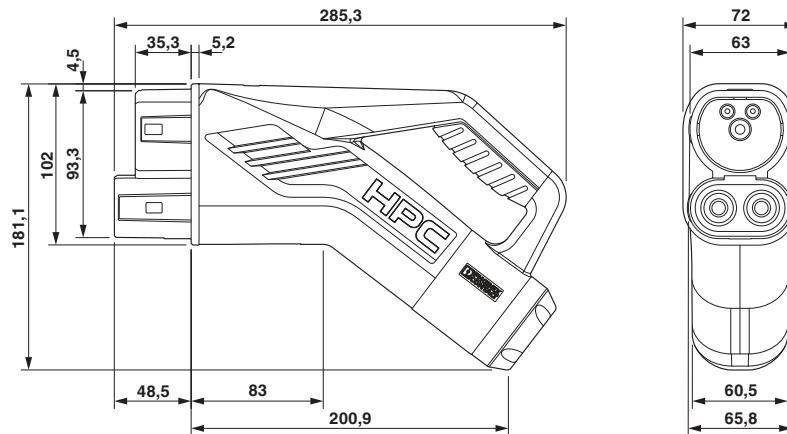
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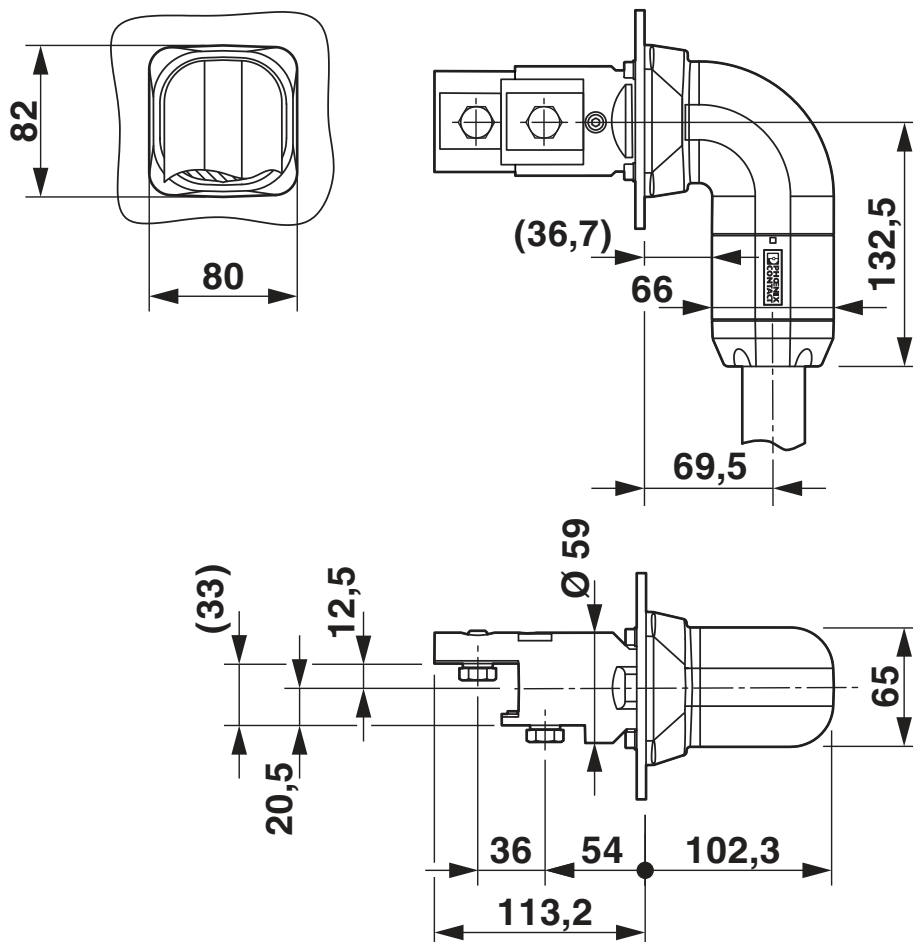
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Dimensional drawing



Make sure that the vehicle charging connector is placed in an appropriate charging connector holder, which ensures a minimum protection rating of IP24 in accordance with IEC 61851-1, for the entire time between charging. To create this charging connector holder, use the dimensions of the vehicle charging connector. Detailed dimensions can also be found in the Download area.

Dimensional drawing



Right-hand angled panel feed-through

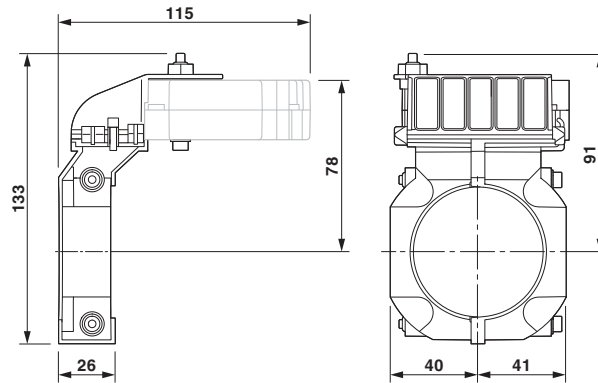
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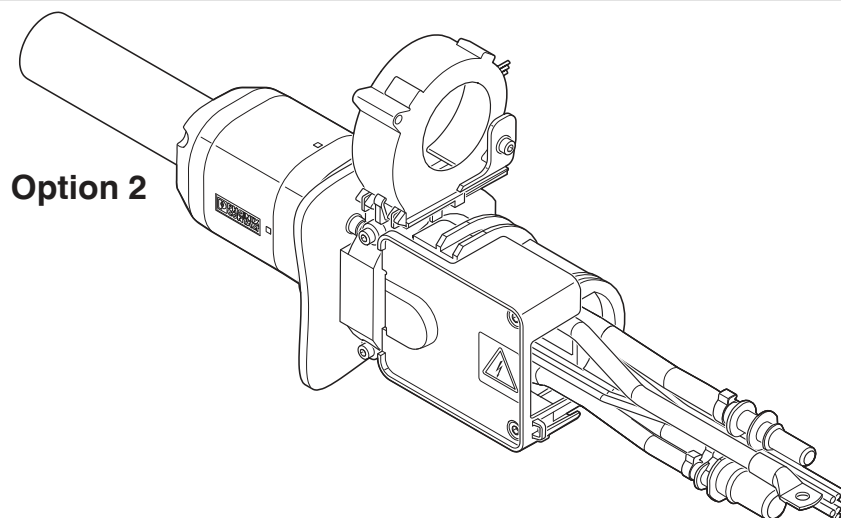
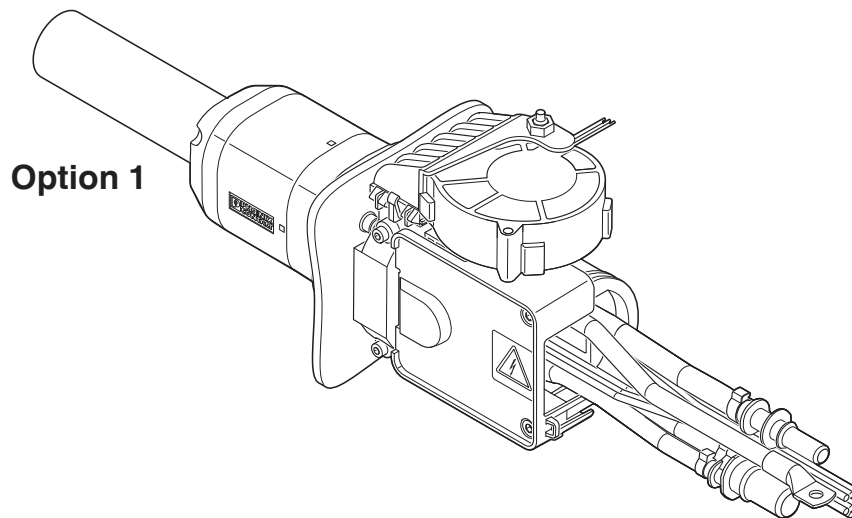
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Dimensional drawing



Fan for horizontal attachment to the panel feed-through

Schematic diagram



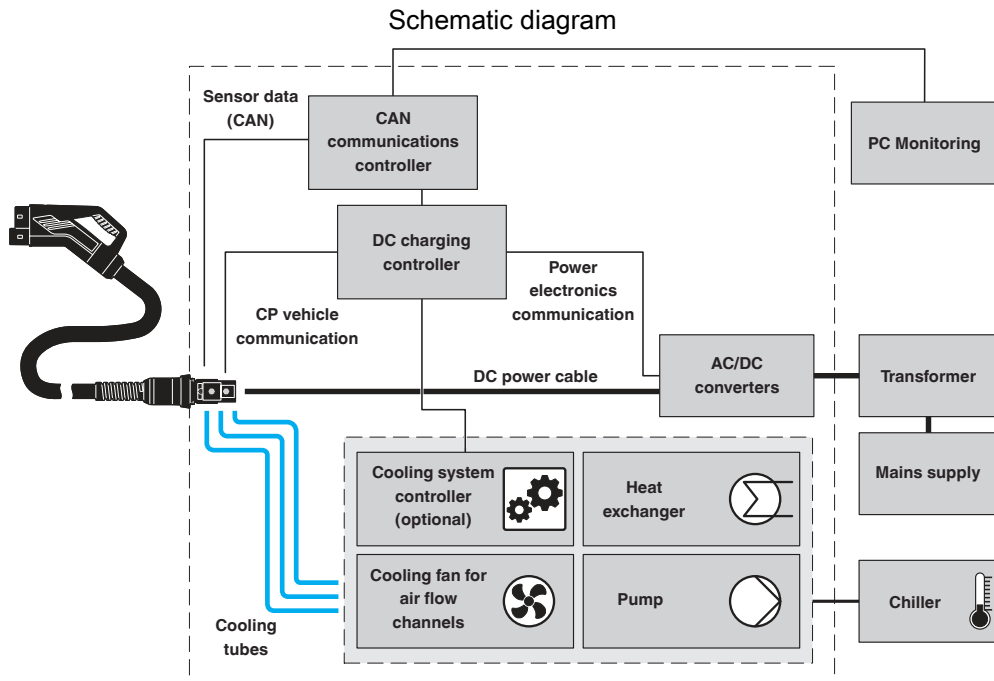
Select one option for mounting the fan. Illustrated using straight panel feed-through as an example.

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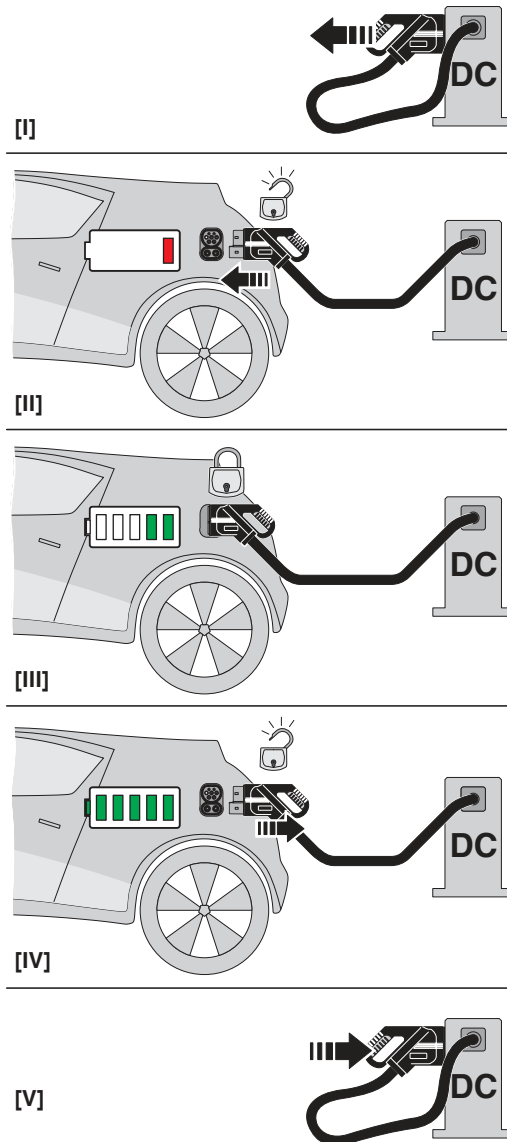
Central system: cooling unit and controller are positioned externally and supply multiple charging stations, each of which is equipped with a heat exchanger. The cooling is done actively using a chiller.

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Schematic diagram



Operating instructions

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-11.0 | 27144705 |
| ECLASS-12.0 | 27144705 |
| ECLASS-13.0 | 27144705 |

ETIM

| | |
|----------|----------|
| ETIM 8.0 | EC002897 |
|----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 39121500 |
|-------------|----------|

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Environmental product compliance

| | |
|------------|--|
| REACH SVHC | Lead 7439-92-1 |
| | Dechlorane Plus |
| China RoHS | Environmentally Friendly Use Period = 10; |
| | For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads" |

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Accessories

EV-T2CCS-MF-M4X10-BIT-CTS - Repair kit

1085799

<https://www.phoenixcontact.com/us/products/1085799>



CHARX connect, Repair kit, Accessories, with DC contact holder with integrated front part of the DC contacts, with replaceable mating face frame, with 5x M4X10 rounded head screws with Torx security drive, with special bit for insulated screwdriver, for replacement of the mating face frame of vehicle charging connectors, HPC CCS type 2, IEC 62196-3-1, housing: black, Replacement without draining the coolant

EV-T2CCS-MF-M4X10-CTS - Repair kit

1281249

<https://www.phoenixcontact.com/us/products/1281249>



CHARX connect, Repair kit, Accessories, with DC contact holder with integrated front part of the DC contacts, with replaceable mating face frame, with 5x M4X10 rounded head screws with Torx security drive, for replacement of the mating face frame of vehicle charging connectors, HPC CCS type 2, IEC 62196-3-1, housing: black, Replacement without draining the coolant

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EV-T2CCS-MF-M4X10-BIT - Repair kit

1085798

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CHARX connect, Repair kit, Accessories, with replaceable mating face frame, with 5x M4X10 rounded head screws with Torx security drive, with special bit for insulated screwdriver, for replacement of the mating face frame of vehicle charging connectors, HPC CCS type 2, IEC 62196-3-1, housing: black, Replacement without draining the coolant

EV-T2CCS-MF-M4X10 - Repair kit

1085797

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CHARX connect, Repair kit, Accessories, with replaceable mating face frame, with 5x M4X10 rounded head screws with Torx security drive, for replacement of the mating face frame of vehicle charging connectors, HPC CCS type 2, IEC 62196-3-1, housing: black, Replacement without draining the coolant

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EV-T2CCS-M4X20-BIT-CTS - Repair kit

1295670

<https://www.phoenixcontact.com/us/products/1295670>



CHARX connect, Repair kit, Accessories, with DC contact holder with integrated front part of the DC contacts, with special bit for insulated screwdriver, HPC CCS type 2, IEC 62196-3-1, housing: black, Replacement without draining the coolant

EV-T2CCS-M4X20-CTS - Repair kit

1295577

<https://www.phoenixcontact.com/us/products/1295577>



CHARX connect, Repair kit, Accessories, with DC contact holder with integrated front part of the DC contacts, HPC CCS type 2, IEC 62196-3-1, housing: black, Replacement without draining the coolant

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EV-GRIP-D35,7MM - Cable handle

1091431

<https://www.phoenixcontact.com/us/products/1091431>



CHARX connect, Cable handle, Accessories, For vehicle charging connector, HPC CCS type 2, HPC CCS type 1, IEC 62196-3-1, housing: black, Please note: The item can only be used with the outer cable diameter indicated.

EV-HPC-PCU-01 - Cooling unit

1237881

<https://www.phoenixcontact.com/us/products/1237881>



CHARX connect, Cooling unit, Accessories, with variable-speed fan, with variable-speed pump, for cooling the cooling liquid of a Phoenix Contact HPC DC charging cable, HPC CCS type 2, HPC CCS type 1, length: 1.5 m

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EV-HPC-QC - Quick coupling

1346562

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CHARX connect, Quick coupling, Accessories, Counterpart for connecting the coolant lines of a PHOENIX CONTACT HPC DC charging cable, HPC CCS type 2, HPC CCS type 1

EV-LABEL-K - Label

1309761

<https://www.phoenixcontact.com/us/products/1309761>



CHARX connect, Label, Accessories, for CCS type 2 vehicle charging connector, DIN EN 17186, adhesive

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EV-LABEL-L - Label

1309765

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CHARX connect, Label, Accessories, for CCS type 2 vehicle charging connector, DIN EN 17186, adhesive



CHARX PS/3AC/920DC/87.5KW - DC power module

1162690

<https://www.phoenixcontact.com/us/products/1162690>

CHARX power basic, Fast charging module for setting up DC charging stations, Rack mounting, input: 3-phase, output: 200 V DC...920 V DC / 125 A. The corresponding system control cabinet CHARX PS-CAB/4x87.5KW (Item No. 1165442) is necessary for operating the DC power module



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CHARX PS-M2/3AC/1000DC/30KW - DC power module

1232243

<https://www.phoenixcontact.com/us/products/1232243>

CHARX power basic, Fast charging module for setting up DC charging stations, 19" rack mounting, CAN bus, input: 3-phase, output: 150 V DC...1000 V DC / 0 A...100 A



CHARX PS-M2/825DC/1000DC/30KW - DC power module

1296467

<https://www.phoenixcontact.com/us/products/1296467>

CHARX power basic, Fast charging module for setting up DC charging stations, 19" rack mounting, CAN bus, output: 150 V DC...1000 V DC / 0 A...100 A



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