

# EV-T2HPCC-DC500A-3,0M50ECBK11 - DC charging cable



1148234

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CHARX connect professional, CCS type 2, HPC DC charging cable, up to 700 A in Boost mode, 500 A permanent, 1000 V DC, with cooled vehicle charging connector and cooled cable, cable: 3 m, black, straight, with replaceable mating face frame, with replaceable DC power contacts, without panel feed-through, with digital temperature sensors, Liquid cooling, PHOENIX CONTACT logo, IEC 62196-3-1, for charging electric vehicles (EV) with direct current (DC)

## 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

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1148234       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | EM01          |
| Product key                          | XWBLNI        |
| GTIN                                 | 4063151140137 |
| Weight per piece (including packing) | 16,850 g      |
| Weight per piece (excluding packing) | 16,850 g      |
| Customs tariff number                | 85444290      |
| Country of origin                    | PL            |

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## Technical data

### Product properties

|                   |  |
|-------------------|--|
| Product type      | DC charging cable  |
| Product family    | CHARX connect professional   |
| Type              | HPC DC charging cable<br>with cooled vehicle charging connector and cooled cable   |
| Design            | with replaceable mating face frame<br>with replaceable DC power contacts<br>without panel feed-through<br>with digital temperature sensors<br>Liquid cooling |
| Charging standard | CCS type 2   |
| Charging mode     | Mode 4   |
| Affixed logo      | PHOENIX CONTACT logo   |
| Label             | 8.9 mm x 28.9 mm (customer logo on request)  |

### Electrical properties

#### Charging power and current (DC charging)

|                          |          |
|--------------------------|----------|
| Type of charging current | DC       |
| Charging current         | 500 A DC |
| Charging power           | 500 kW   |
| Rated voltage            | 1000 V   |

#### Charging power and current (DC charging in Boost Mode)

|                          |   |
|--------------------------|---|
| Type of charging current | DC Boost Mode   |
| Charging current         | up to 700 A DC  |
| Charging power           | up to 700 kW  |
| Rated voltage            | 1000 V  |
| Note                     | The specifications refer to charging in Boost Mode and are dependent on ambient conditions. For further details, see the packing slip in the download area. |

#### Charging power and current (DC charging in the event of cooling unit failure)

|                  |  |
|------------------|--|
| Charging current | 150 A DC   |
| Charging power   | 150 W  |
| Rated voltage    | 1000 V   |
| Note             | The specifications refer to charging with a defective cooling unit and a short charging process. |

#### Pin assignment (Power contacts)

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

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## Pin assignment (Signal contacts)

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

## Temperature sensors (NTC)

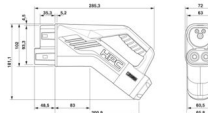
|                        |  |
|------------------------|--|
| Sensor type            | NTC  |
| Attachment point       | 2 sensors for the replaceable front DC contacts<br>2 sensors for the internal DC power wires<br>1 sensor on the PCB in the housing |
| Switch-off temperature | 90 °C  |

## Cooling system (Cooling unit)

|                              |   |
|------------------------------|---|
| Cooling                      | in the vehicle charging connector and in the cable  |
| Coolant                      | 50% water, 50% glycol (Glysofor N)  |
| Cooling hose diameter        | 1x 11.50 mm Supply hose<br>2x 8.80 mm Return hoses  |
| Cooling capacity             | 600 W (Cable length: 3 m)<br>800 W (Cable length: 4 m)<br>900 W (Cable length: 5 m)<br>1050 W (Cable length: 6 m) |
| 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-in temperature          | 15 °C   |

## 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   |

## Material specifications

|                 |              |
|-----------------|--------------|
| Color (Housing) | black (9005) |
|-----------------|--------------|

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|  |  |
|--|--|
| Color (Handle area)                    | black (9005)   |
| Color (Mating face)                    | black (9005)   |
| Color (Cable)                          | black (9005)   |
| Material (Vehicle charging connector)  | Plastic  |
| Material (Cable outer sheath)          | EVM-1 in accordance with EN 50620                                    |
| Material (Contact surface)             | Silver   |
| Note                                   | The color appearance and gloss level of the charging cable may vary. |
| Flammability rating according to UL 94 | V0 (Mating face)   |

## Cable/line

|                                |  |
|--------------------------------|--|
| Cable length                   | 3 m ±45 mm   |
| Wiring standards/regulations   | according to UL 62 (File E515623, Vol 1)<br>according to IEC 62893       |
| Cable weight                   | max. 1938.00 kg/km   |
| Cable type                     | straight   |
| Cable structure                | 5 x 25 mm <sup>2</sup> + 7 x 0.75 mm <sup>2</sup>                        |
| External cable diameter        | 35.70 mm ±0.4 mm   |
| Outer sheath, material         | TPE-U in accordance with IEC 62893-1                                     |
| Stripping length of the sheath | 250 mm ±5 mm   |
| Stripping length               | 250 mm ±5 mm   |
| Cable resistance               | ≤ 0.00078 Ω/m (based on a power core, at an ambient temperature of 20°C) |
| Bending radius                 | min. 357 mm (10x Ø)  |

## Mechanical properties

|         |                                    |
|---------|------------------------------------|
| Coolant | 50% water, 50% glycol (Glysofor N) |
|---------|------------------------------------|

### Mechanical data

|                             |                                |
|-----------------------------|--------------------------------|
| Insertion/withdrawal cycles | > 10000 (based on IEC 62196-1) |
| Insertion force             | < 100 N                        |
| Withdrawal force            | < 100 N                        |

## 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) |
| Ambient temperature (operation)                   | -30 °C ... 40 °C<br>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

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|                          |                                   |
|--------------------------|-----------------------------------|
| Standards/specifications | IEC 62196-3-1                     |
| Note                     | Compliant with AFIR - EU 2025/656 |

# EV-T2HPCC-DC500A-3,0M50ECBK11 - DC charging cable

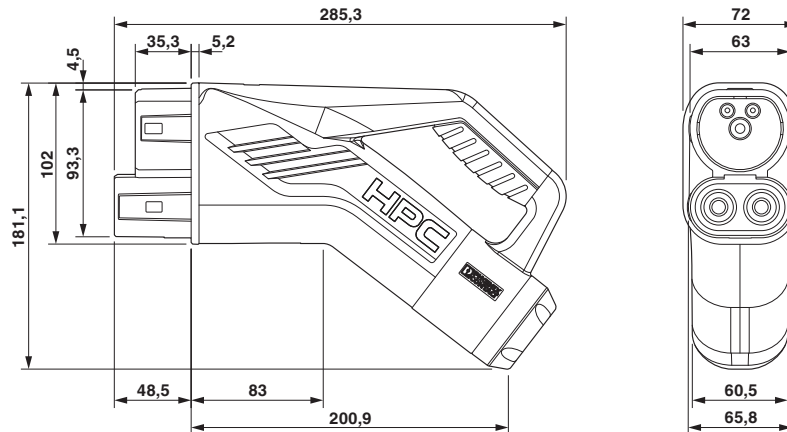


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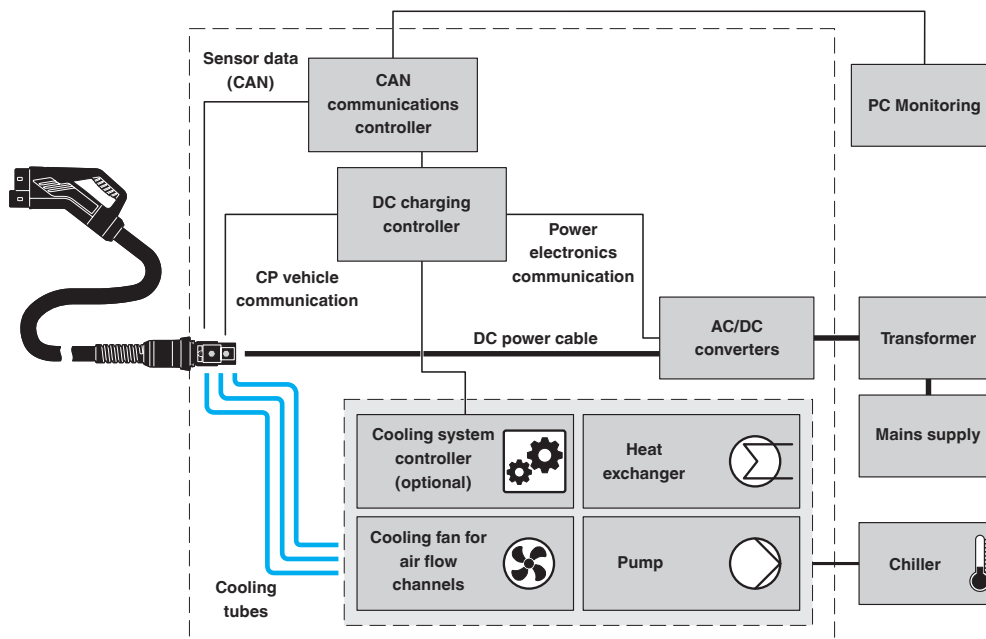
## Drawings

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.

Schematic diagram



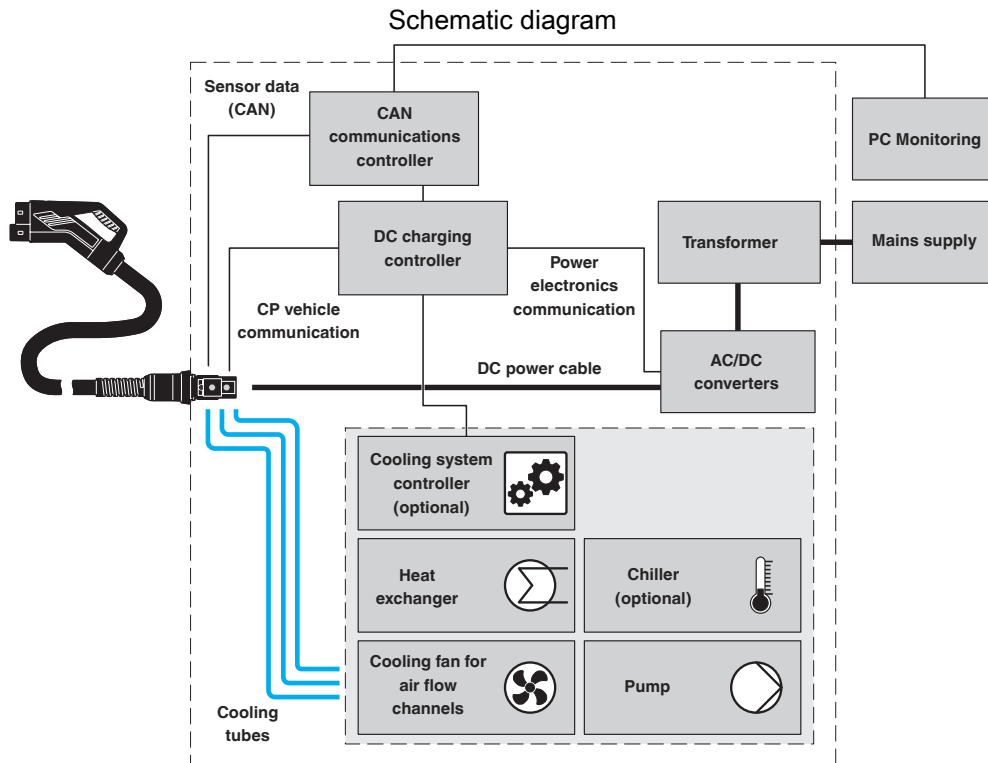
Central system: cooling unit and controller are positioned externally and supply multiple charging stations, each of which is equipped with a heat exchanger. The cooling is done actively using a chiller.

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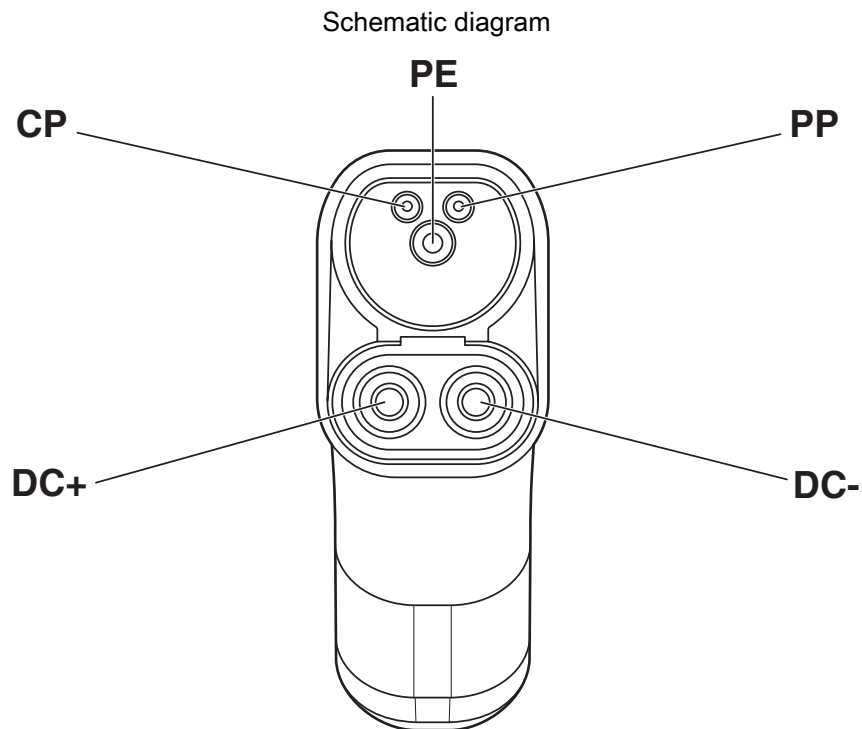


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Standalone, decentralized system: cooling unit and controller are integrated into the charging station. The choice of cooling unit can be passive or active (i.e., with or without chiller).



Pin assignment of the Vehicle Connector

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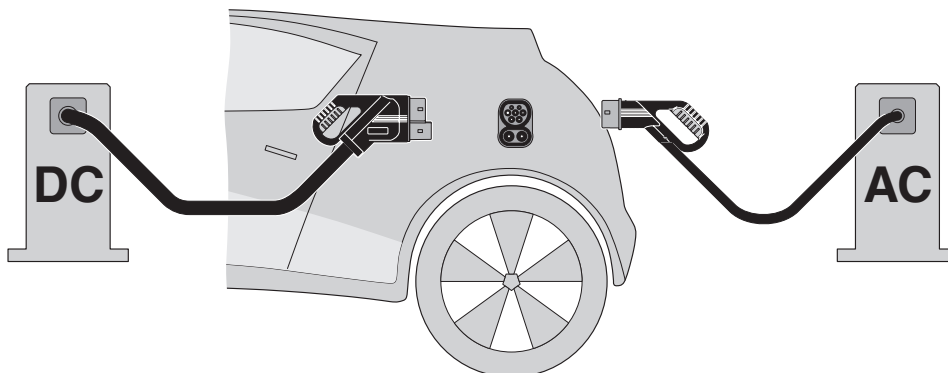
<https://www.phoenixcontact.com/us/products/1148234>

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.

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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## Schematic diagram



Operating instructions



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1148234>

|  <b>IECEE CB Scheme</b><br>Approval ID: JPTUV-161807 |  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|---|--|-----------------------|-----------------------|-------------------|-----------------------------|
| keine   |  |                       |                       |                   |                             |
|   |  | 1000 V                | 500 A                 | -                 | -                           |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27144705 |
| ECLASS-15.0 | 27144705 |

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | EC002897 |
|-----------|----------|

### UNSPSC

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

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## Environmental product compliance

### EU RoHS

|   |              |
|---|--------------|
| Fulfills EU RoHS substance requirements | Yes          |
| Exemption                               | 6(c), 7(c)-I |

### China RoHS

|  |   |
|--|---|
| Environment friendly use period (EFUP) | EFUP-50   |
|  | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

### EU REACH SVHC

|                                     |                                      |
|-------------------------------------|--------------------------------------|
| REACH candidate substance (CAS No.) | Lead(CAS: 7439-92-1)                 |
| SCIP                                | f99e40ba-34d1-4b12-9d62-2e8d15026cb6 |

### EF3.1 Climate Change

|         |              |
|---------|--------------|
| CO2e kg | 95.8 kg CO2e |
|---------|--------------|

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