

# CHARX T2HBI24-1AC32DC250-2,0M2 - Vehicle charging inlet



1211206

<https://www.phoenixcontact.com/us/products/1211206>

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CHARX connect universal, Vehicle charging inlet, for charging with alternating current (AC) and with direct current (DC), CCS type 2, IEC 62196-2, IEC 62196-3, 250 A / 1000 V (DC), 32 A / 250 V (AC), Single wires, length: 2 m, locking actuator: 24 V, 4-pos., Front and rear mounting, M6, housing: black, A protective cap is supplied as standard for the DC and AC contacts.

## Product Description

Vehicle charging inlet for charging with direct current (DC), compatible with type 2 CCS vehicle charging connectors (EVSE), for installation in electric vehicles (EV).

## Your advantages

- Complete product range
- Uniform, space-saving dimensions for the installation space and the screw connection points of all Phoenix Contact vehicle charging inlets
- Developed and produced in accordance with the IATF 16949 automotive standard and ISO 9001
- Integrated interlock during charging
- Manual emergency release of the locking actuator
- Protected and sealed against dirt and water with a high degree of protection

## Commercial Data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1211206       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales Key                            | EM01          |
| Product Key                          | XWCAID        |
| GTIN                                 | 4063151284169 |
| Weight per Piece (including packing) | 7.105 kg      |
| Weight per Piece (excluding packing) | 6.97 kg       |
| Customs tariff number                | 85444290      |
| Country of origin                    | PL            |

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## Technical Data

### Notes

|         |  |
|---------|--|
| General | A protective cap is supplied as standard for the DC and AC contacts. |
|---------|--|

### Product properties

|                   |   |
|-------------------|---|
| Product type      | Vehicle charging inlet  |
| Product family    | CHARX connect universal   |
| Application       | for charging with alternating current (AC) and with direct current (DC)<br>for installation in electric vehicles (EV)<br>Combined Charging System |
| Locking type      | Locking in the inserted state with a locking mechanism  |
| Charging standard | CCS type 2  |
| Charging mode     | Mode 2, 3, 4  |

### 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   |
| Insulation resistance         | > 200 MΩ   |
| Coding                        | 4.7 kΩ (between PE and PP)   |
| Temperature measurement       | DC contacts: 2x PT1000 (DIN EN 60751)  |
| Temperature monitoring        | AC contacts: PTC chain (DIN EN 60738-1)  |
| Type of charging current      | AC single-phase  |
| Charging power                | 8 kW   |
| Charging current              | 32 A   |
| Type of charging current      | DC   |
| Charging power                | 250 kW   |
| Charging current              | 250 A  |
| Type of charging current      | DC Boost Mode  |
| Charging power                | up to 500 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 500 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        | 5 (L1, N, PE, DC+, DC-) |
| Rated voltage | 250 V AC<br>1000 V DC   |
| Rated current | 32 A AC<br>250 A DC     |

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## Signal contact

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

## Temperature sensors (PTC chain)

|                              |   |
|------------------------------|---|
| Sensor type                  | PTC chain   |
| Standards/regulations        | DIN EN 60738-1                                    |
| Attachment point             | Sensor for the AC contacts                        |
| Messbereich_Widerstand       | 790 $\Omega$ ... 1420 $\Omega$                    |
| Resistance                   | max. 1280 $\Omega$ $\pm$ 5 K                      |
| Recommended measured current | $\leq$ 1 mA ( $U_{\max}$ = 16 V DC)               |
| Ambient temperature          | -40 $^{\circ}$ C ... 130 $^{\circ}$ C (Operation) |

## Temperature sensors (Pt 1000)

|                       |                               |
|-----------------------|-------------------------------|
| Sensor type           | Pt 1000                       |
| Standards/regulations | DIN EN 60751                  |
| Attachment point      | 2 sensors for the DC contacts |

## Locking actuator

|                                  |            |
|----------------------------------|------------|
| Operating voltage                | 24 V       |
| Note number of positions         | 4-pos.     |
| Position of the locking actuator | right-side |

## Locking actuator

|  |                                      |
|--|--------------------------------------|
| Operating voltage                        | 24 V                                 |
| Note number of positions                 | 4-pos.                               |
| Position of the locking actuator         | right-side                           |
| Possible power supply range at the motor | 22 V ... 26 V                        |
| Maximum voltage for locking detection    | 30 V                                 |
| Typical motor current for locking        | 0.05 A                               |
| Reverse current of the motor             | max. 0.5 A                           |
| Max. dwell time with reverse current     | 1 s                                  |
| Recommended adaptation time              | 600 ms                               |
| Pause time after entry or exit path      | 3 s                                  |
| Service life insertion cycles            | > 10000 load cycles                  |
| Lock recognition                         | available                            |
| Mechanical emergency release             | available                            |
| Ambient temperature (operation)          | -30 $^{\circ}$ C ... 50 $^{\circ}$ C |

## Material specifications

|                            |              |
|----------------------------|--------------|
| Color (Housing)            | black (9005) |
| Color (Mating face)        | black (9005) |
| Material (Housing)         | Plastic      |
| Material (Contact surface) | Silver       |

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## Cable/line

|                            |                       |
|----------------------------|-----------------------|
| Cable length               | 2 m                   |
| Cable type                 | Single wires          |
| Single wire, cross section | 95.00 mm <sup>2</sup> |

### Single-core wires for AC

|                         |                       |
|-------------------------|-----------------------|
| Cable length            | 2 m                   |
| Cable structure         | 2 x 6 mm <sup>2</sup> |
| Single wire, material   | Silicone              |
| Single wire, color      | OG                    |
| External cable diameter | 12.6 mm ±0.2 mm       |
| Cable resistance        | ≤ 3.2 Ω/km            |

### Single-core wires for DC

|                         |                        |
|-------------------------|------------------------|
| Cable length            | 2 m                    |
| Cable structure         | 2 x 95 mm <sup>2</sup> |
| Single wire, material   | Silicone               |
| Single wire, color      | OG                     |
| External cable diameter | 20.6 mm ±0.3 mm        |
| Cable resistance        | ≤ 0.196 Ω/km           |

### Single-core wire for PE

|                         |                        |
|-------------------------|------------------------|
| Cable length            | 2 m                    |
| Cable structure         | 1 x 25 mm <sup>2</sup> |
| Single wire, material   | Silicone               |
| Single wire, color      | GN/YE                  |
| External cable diameter | 8.6 mm ±0.1 mm         |
| Cable resistance        | ≤ 0.743 Ω/km           |

### Single-core wires for locking actuator

|                         |                            |
|-------------------------|----------------------------|
| Cable length            | 0.5 m                      |
| Cable structure         | 4 x 0.5 mm <sup>2</sup>    |
| Single wire, material   | PVC                        |
| Single wire, color      | BU/RD, BU/GN, BU/YE, BU/BN |
| External cable diameter | 1.6 mm ±0.20 mm            |
| Cable resistance        | ≤ 37.1 Ω/m                 |

### Single-core wires for PTC temperature sensors

|                         |                         |
|-------------------------|-------------------------|
| Cable length            | 1 m                     |
| Cable structure         | 5 x 0,5 mm <sup>2</sup> |
| Single wire, material   | PVC                     |
| Single wire, color      | BN/GY<br>BN/YE/GN       |
| External cable diameter | 1.6 mm ±0.20 mm         |
| Cable resistance        | ≤ 37.1 Ω/m              |

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## Single-core wires for Pt 1000 temperature sensors

|                         |                         |
|-------------------------|-------------------------|
| Cable length            | 1 m                     |
| Cable structure         | 3 x 0.5 mm <sup>2</sup> |
| Single wire, material   | PVC                     |
| Single wire, color      | BN<br>GN<br>YE          |
| External cable diameter | 1.6 mm ±0.20 mm         |
| Cable resistance        | ≤ 37.1 Ω/m              |

## Single-core wires for communication

|                         |                         |
|-------------------------|-------------------------|
| Cable length            | 1 m                     |
| Cable structure         | 2 x 0.5 mm <sup>2</sup> |
| Single wire, material   | PVC                     |
| Single wire, color      | BK<br>WH                |
| External cable diameter | 1.6 mm ±0.20 mm         |
| Cable resistance        | ≤ 37.1 Ω/m              |

## Mechanical properties

### Mechanical data

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

## Environmental and real-life conditions

### Ambient conditions

|   |   |
|---|---|
| Degree of protection (Vehicle charging inlet) | IP55 (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)<br>IP67 (Inner area of vehicle charging inlet) |
| Ambient temperature (operation)               | -40 °C ... 60 °C  |
| Ambient temperature (storage/transport)       | -40 °C ... 85 °C  |
| Altitude                                      | 4000 m (above sea level)  |

## Standards and regulations

### Standards

|                       |                            |
|-----------------------|----------------------------|
| Standards/regulations | IEC 62196-2<br>IEC 62196-3 |
|-----------------------|----------------------------|

## Mounting

|               |   |
|---------------|---|
| Mounting type | Front and rear mounting (0 to 90 degree frontal inclination possible) |
|---------------|---|

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|  |             |
|--|-------------|
| Mounting hole diameter                   | 6.70 mm (ø) |
| Fixing screws                            | M6          |
| Screws included in the scope of delivery | none        |

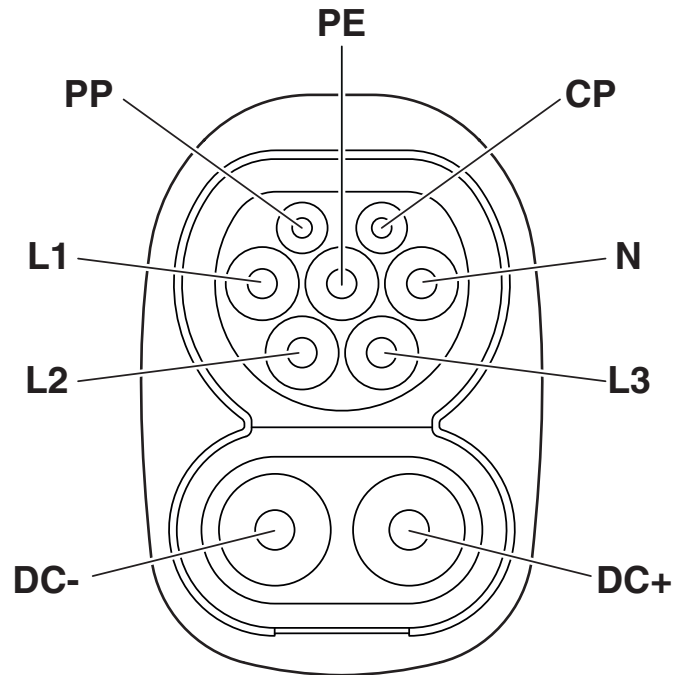
# CHARX T2HBI24-1AC32DC250-2,0M2 - Vehicle charging inlet

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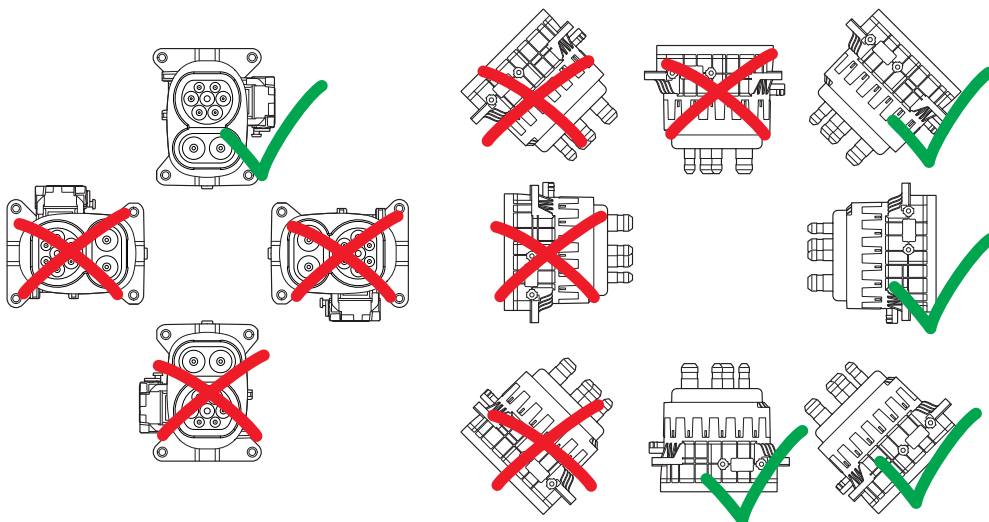
## Drawings

Connection diagram



Pin assignment of vehicle charging inlets

Connection diagram



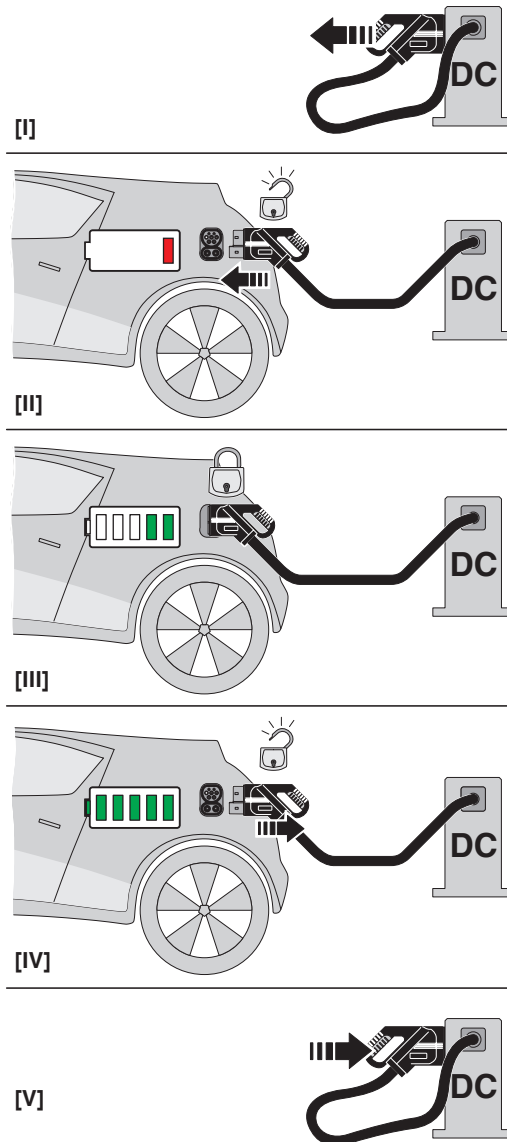
Installation positions

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Schematic diagram



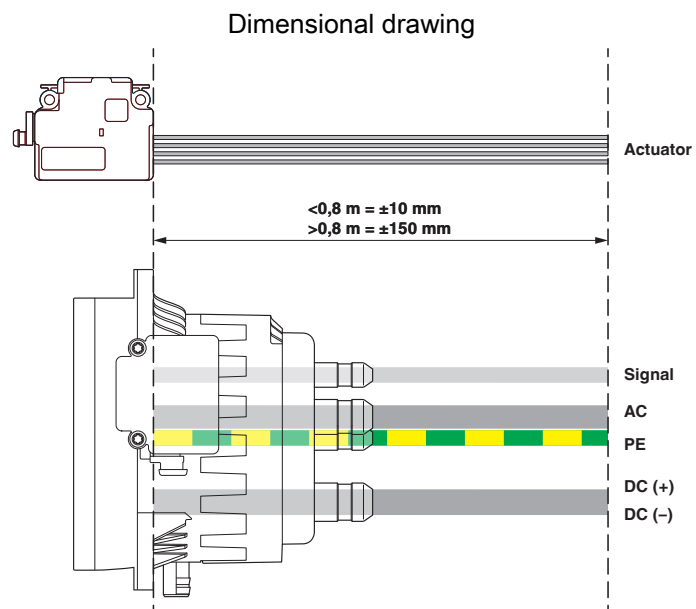
Operating instructions



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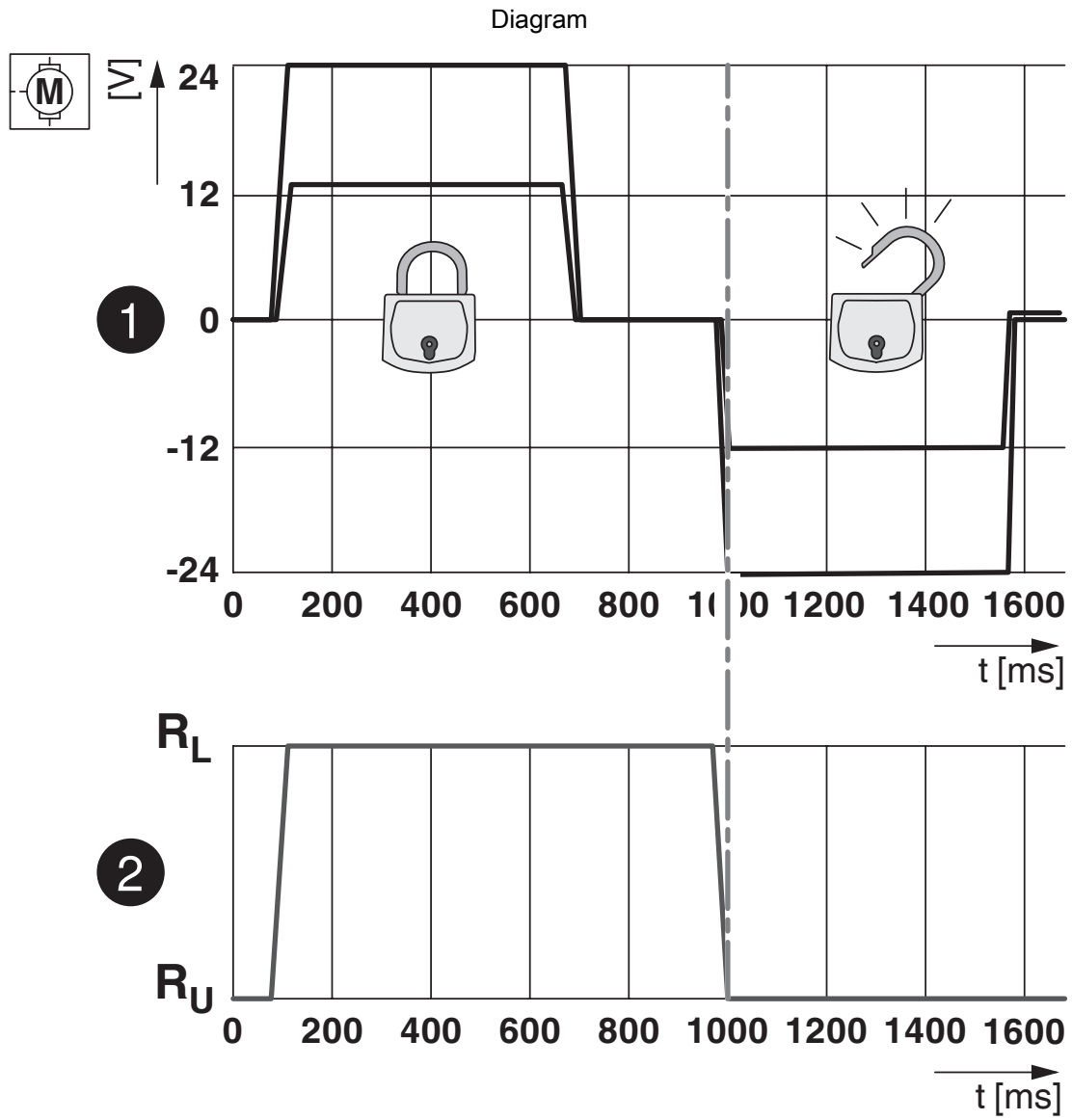
Reference points for measuring the line length

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Locking states of the locking actuator

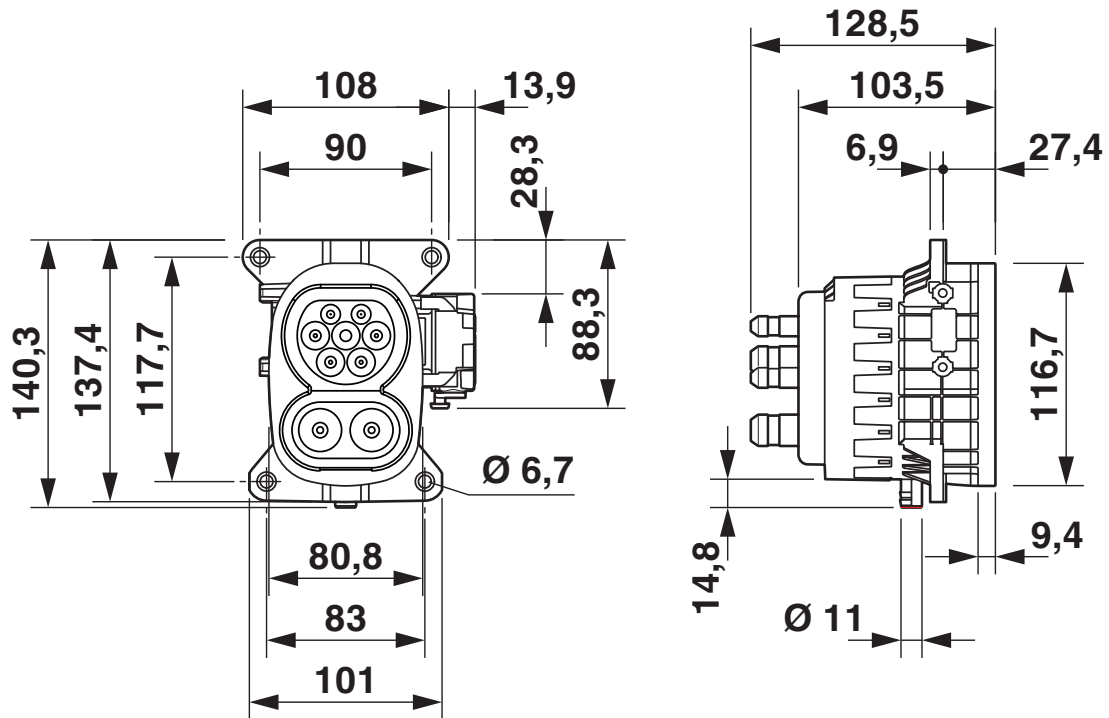
# CHARX T2HBI24-1AC32DC250-2,0M2 - Vehicle charging inlet



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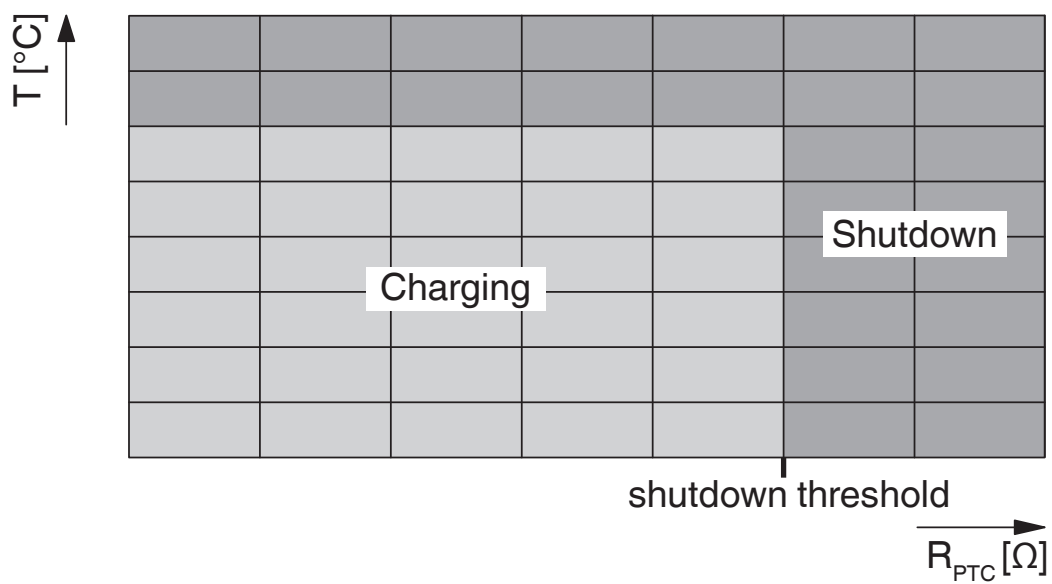
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Dimensional drawing



Dimensional drawing

Schematic diagram

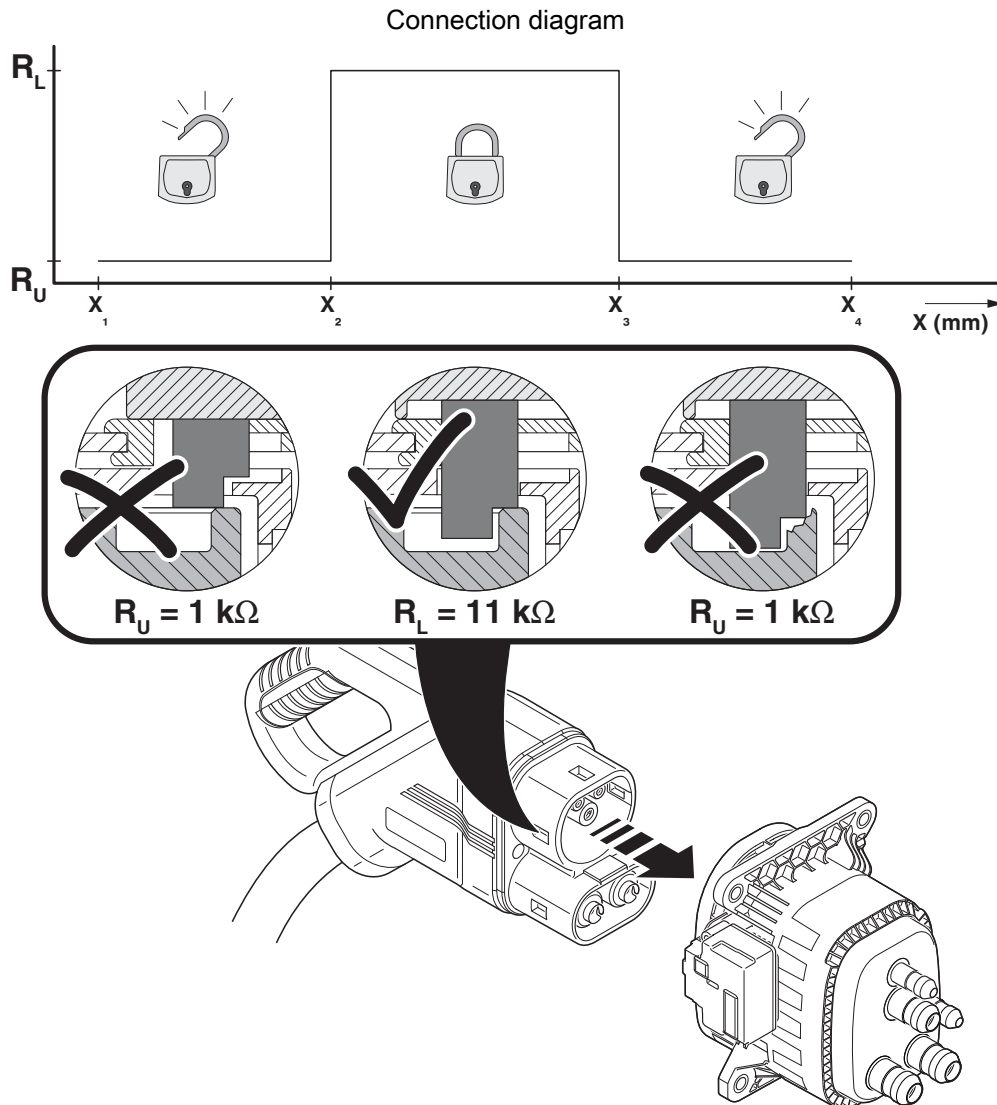


Temperature sensor technology resistance range at AC contacts

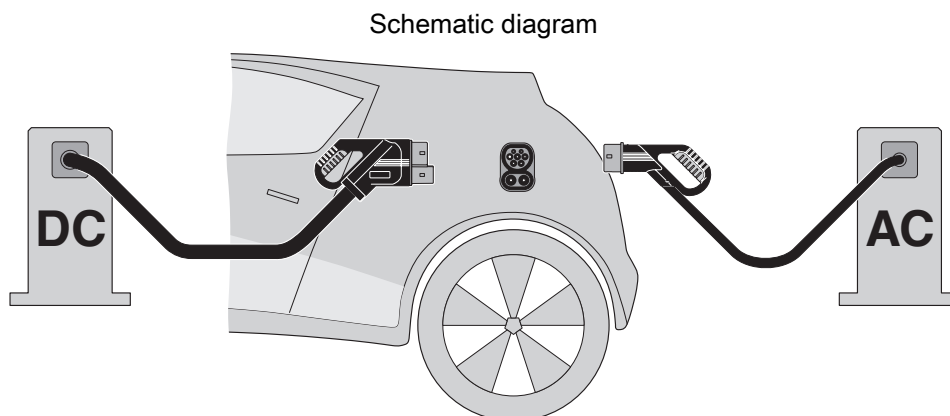
# CHARX T2HBI24-1AC32DC250-2,0M2 - Vehicle charging inlet

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Detection for Vehicle Connector



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.

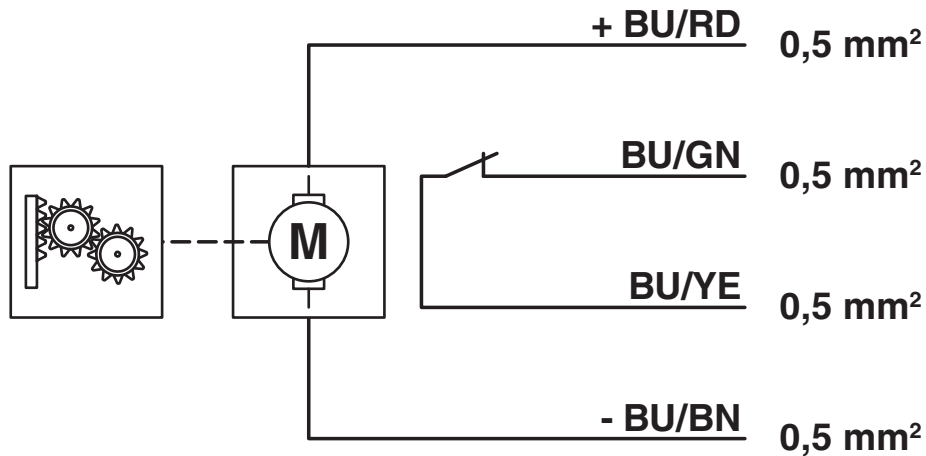
# CHARX T2HBI24-1AC32DC250-2,0M2 - Vehicle charging inlet



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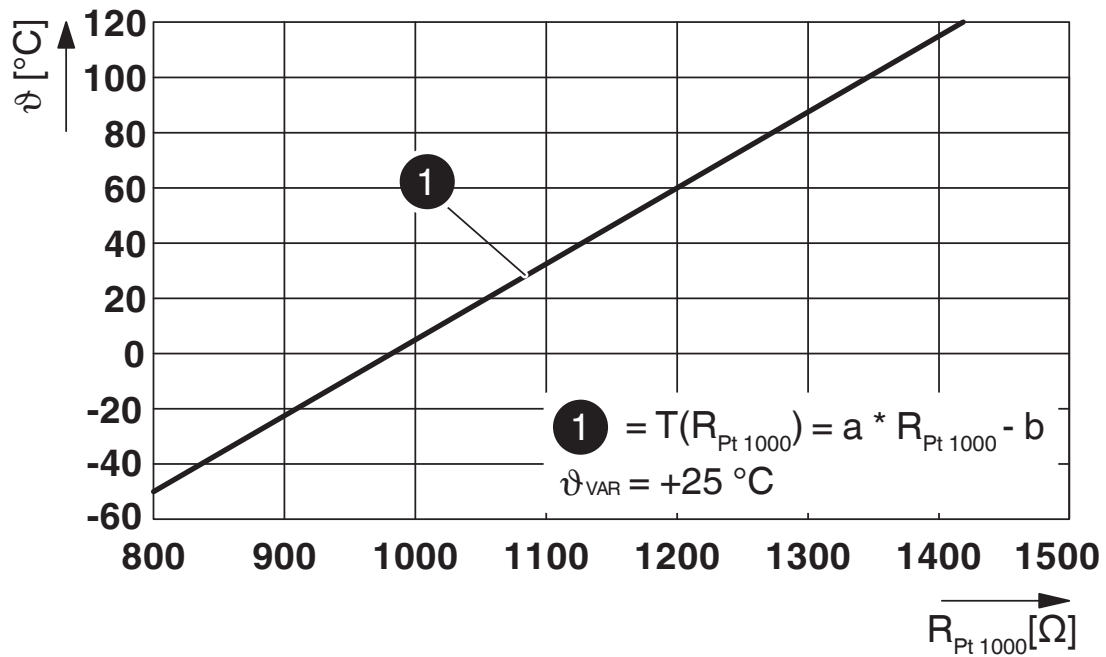
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Block diagram



Block diagram of the locking actuator

Diagram



Pt 1000 characteristic curve at an ambient temperature of 25°C for temperature measurement at the DC contacts

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27144706 |
| ECLASS-12.0 | 27144706 |
| ECLASS-13.0 | 27144706 |

### ETIM

|          |          |
|----------|----------|
| ETIM 8.0 | EC002898 |
|----------|----------|

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## Environmental Product Compliance

|            |  |
|------------|--|
| REACH SVHC | Lead 7439-92-1   |
|            | DOTe 15571-58-1  |
|            | 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

### CHARX T2HBI-DUST-COVER-SET - Protective cover

1305486

<https://www.phoenixcontact.com/us/products/1305486>



CHARX connect universal, Protective cover, Accessories, for vehicle charging inlet, CCS type 2, Plug-on assembly, housing: black

### CHARX T2HI-ELOCK24V - Locking

1331524

<https://www.phoenixcontact.com/us/products/1331524>



CHARX connect universal, Locking, Accessories, for mounting on vehicle charging inlets, Type 2, IEC 61851-1, Single wires, length: 1 m, locking actuator: 24 V, 4-pos.

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