

Vehicle charging inlet - CHARX T1HCI12-1AC48-2,0M1 - 1271960

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CHARX connect, Vehicle charging inlet, Locking actuator top, For charging electric vehicles with alternating current (AC), For installation in electric vehicles (EV), AC type 1, IEC 62196-2, SAE J1772, 48 A / 250 V (AC), length: 2 m, Locking actuator: 12 V, 4-position, M6, Generation 4, A protective cap is supplied as standard for the AC contacts.

The figure shows a version of the product

Product Description

Vehicle charging inlet for charging with alternating current (AC), compatible with type 1 AC vehicle charging connectors (EVSE), for installation in electric vehicles for e-mobility (EV).

Your advantages

- Uniform, space-saving dimensions and screw connection points for all Phoenix Contact AC vehicle charging inlets
- Silver-plated surface of the power and signal contacts
- Developed and produced in accordance with the IATF 16949 automotive standard and ISO 9001
- Material data available in the IMDS (International Material Data System of the automotive industry)
- Tested in accordance with selected tests of automotive standards LV124, LV214, LV215-2
- Manual emergency release of the locking actuator
- Integrated interlock during charging
- Integrated temperature sensors for monitoring the temperature at the power contacts



Key Commercial Data

| | |
|----------------------|---------------------------------------------------------------------------------------------------------|
| Packing unit | 1 pc |
| GTIN |  4 063151 463229 |
| GTIN | 4063151463229 |
| Custom tariff number | 85444290 |
| Country of origin | Germany |

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Technical data

Product definition

| | |
|-------------------------------|---------------------------------------------------------------|
| Type | Locking actuator top |
| Application | For charging electric vehicles with alternating current (AC) |
| | For installation in electric vehicles (EV) |
| Design | Generation 4 |
| Standards/regulations | IEC 62196-2 |
| | SAE J1772 |
| Charging standard | AC type 1 |
| Charging mode | Mode 2, 3 |
| Note | A protective cap is supplied as standard for the AC contacts. |
| Note on the connection method | Crimp connection, cannot be disconnected |

Dimensions

| | |
|------------------|----------------------------------|
| Height | 90 mm |
| Width | 90 mm |
| Depth | 112.2 mm |
| Bore dimensions | 73 mm x 73 mm, 73 mm x 73 mm |
| Conductor length | 2 m (AC sheathed cable) |
| | 1 m (Locking actuator cables) |
| | 1 m (Temperature sensors cables) |
| | 1 m (Communications cables) |

Ambient conditions

| | |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ambient temperature (operation) | -40 °C ... 60 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Max. altitude | 4000 m (above sea level) |
| Degree of protection | 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) |
| | IP67 (Inner area of vehicle charging inlet) |

Electrical properties

| | |
|------------------------------------|-----------------|
| Charging power (nominal operation) | 12 kW |
| Type of charging current | AC single-phase |
| Number of phases | 1 |
| Number of power contacts | 3 (L1, N, PE) |
| Rated current of power contacts | 48 A AC |
| Rated voltage for power contacts | 250 V AC |
| Number of signal contacts | 2 (CP, CS) |
| Rated current for signal contacts | 2 A |

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Electrical properties

| | |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Rated voltage for signal contacts | 30 V AC |
| Type of signal transmission | Pulse width modulation with modulated Powerline communication according to ISO/IEC 15118 / DIN SPEC 70121 |
| Note on the connection method | Crimp connection, cannot be disconnected |
| Insulation resistance of neighboring contacts | > 200 MΩ |
| Resistor coding | 2.7 kΩ (between PE and CS) |
| Temperature monitoring | AC contacts: PTC chain (DIN#EN#60738-1) |

Mechanical properties

| | |
|-----------------------------|---------|
| Insertion/withdrawal cycles | > 10000 |
| Insertion force | < 75 N |
| Withdrawal force | < 75 N |

Mounting

| | |
|-------------------------------------------|--------------------------------------------------------------|
| Restrictions to mounting position | Only 0 to 90 degree frontal inclination possible, see figure |
| Mounting position of the locking actuator | Top center |
| Mounting hole diameter | 6.70 mm (ø) |
| Required mounting screws | M6 |
| Screws included in the scope of delivery | none |

Design

| | |
|---------------------|--------------|
| Design line | Generation 4 |
| Housing color | black |
| Customer variations | On request |

Material

| | |
|------------------------------|---------|
| Material | Plastic |
| Flammability rating | V0 |
| Material surface of contacts | Ag |

Locking

| | |
|--------------|--------------------------------------------------------|
| Locking type | Locking in the inserted state with a locking mechanism |
|--------------|--------------------------------------------------------|

AC cable

| | |
|-------------------------|-----------------------|
| Cable structure | 3 x 6 mm ² |
| External cable diameter | 13.8 mm ±0.3 mm |
| Cable resistance | ≤ 3.2 Ω/km |
| Outer sheath, material | Silicone |
| External sheath, color | orange |
| Minimum bending radius | 3 x D |
| Cable weight | approx. 385 kg/km |

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Locking actuator cable

| | |
|-------------------------|----------------------------|
| Cable structure | 4 x 0.5 mm ² |
| External cable diameter | 1.6 mm -0.2 mm |
| Cable resistance | ≤ 37.1 Ω/km |
| Outer sheath, material | PVC |
| Single wire, color | BU/RD, BU/GN, BU/YE, BU/BN |
| Minimum bending radius | 15 mm |
| Cable weight | 7 kg/km |

Temperature sensor cable

| | |
|-------------------------|-------------------------|
| Cable structure | 2 x 0.5 mm ² |
| External cable diameter | 1.6 mm -0.2 mm |
| Cable resistance | ≤ 37.1 Ω/km |
| Outer sheath, material | PVC |
| Single wire, color | brown, gray |
| Minimum bending radius | 15 mm |
| Cable weight | 7 kg/km |

Cable communication

| | |
|-------------------------|-------------------------------------------|
| Cable structure | 0.5 mm ² + 0.5 mm ² |
| External cable diameter | 1.6 mm -0.2 mm |
| Cable resistance | ≤ 37.1 Ω/km |
| Outer sheath, material | PVC |
| Single wire, color | black PP/CS white CP |
| Minimum bending radius | 15 mm |
| Cable weight | 7 kg/km |

Locking actuator

| | |
|------------------------------------------|------------------------------------------|
| Number of positions of the connectors | 4 |
| Operating voltage | 12 V (Typical power supply at the motor) |
| Possible power supply range at the motor | 9 V ... 16 V |
| Maximum voltage for locking detection | 12 V |
| Typical motor current for locking | 0.25 A |
| Reverse current of the motor | max. 1.5 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 |
| Ambient temperature (operation) | -40 °C ... 80 °C |

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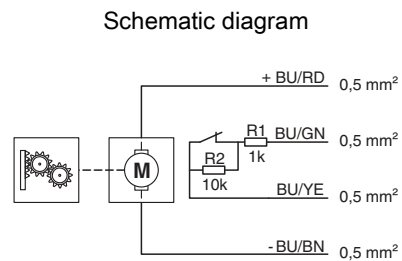
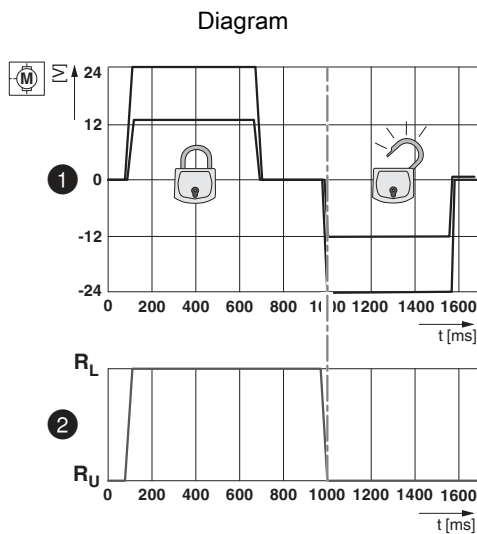
Locking actuator

| | |
|------------------------------|-------------------------|
| Cable length | 1 m |
| Cable structure | 4 x 0.5 mm ² |
| Lock recognition | available |
| Mechanical emergency release | available |

Temperature monitoring, AC contacts

| | |
|---------------------------------------------------------------|-------------------------------------|
| Type of sensor | PTC chain |
| Standards/regulations | DIN#EN 60738-1 |
| Recommended measured current | ≤ 1 mA (U _{max} = 16 V DC) |
| Tolerance at the sensor with the recommended measured current | ±5K |
| Temperature range | -40 °C ... 130 °C |

Drawings

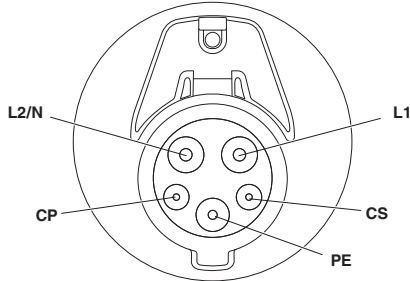


Block diagram of the locking actuator

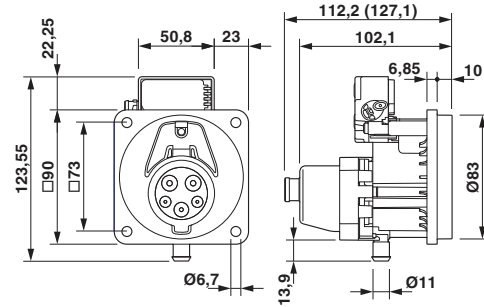
Locking states of the locking actuator

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Connection diagram



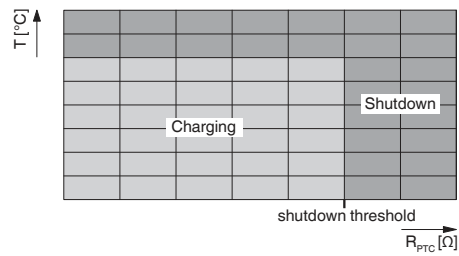
Dimensional drawing



Pin assignment of Vehicle Inlet

Dimensional drawing

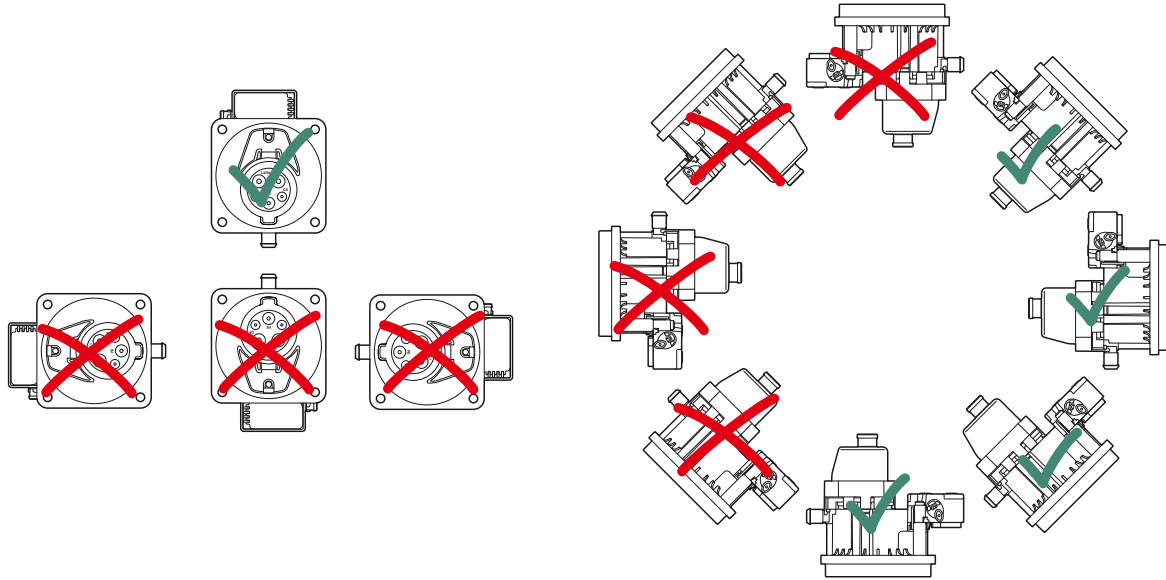
Schematic diagram



Temperature sensor technology resistance range at AC contacts

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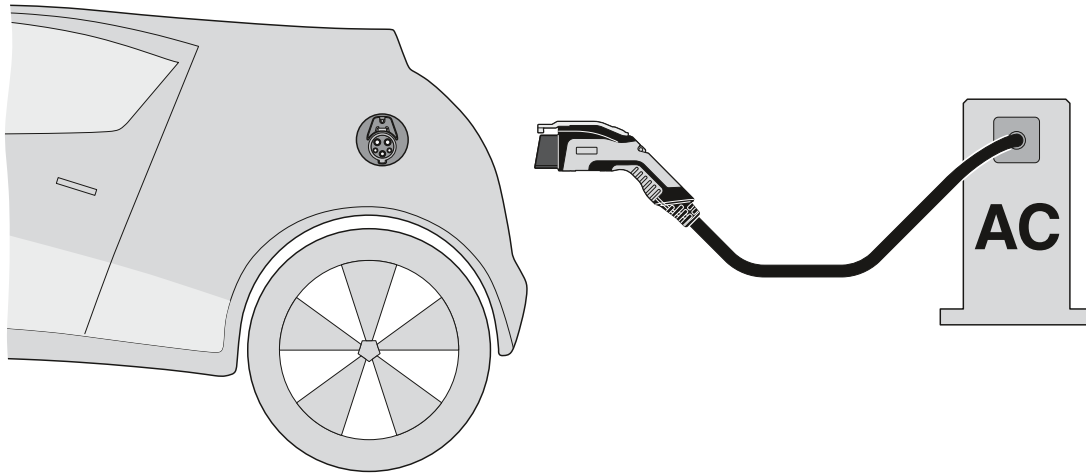
Connection diagram



Installation positions

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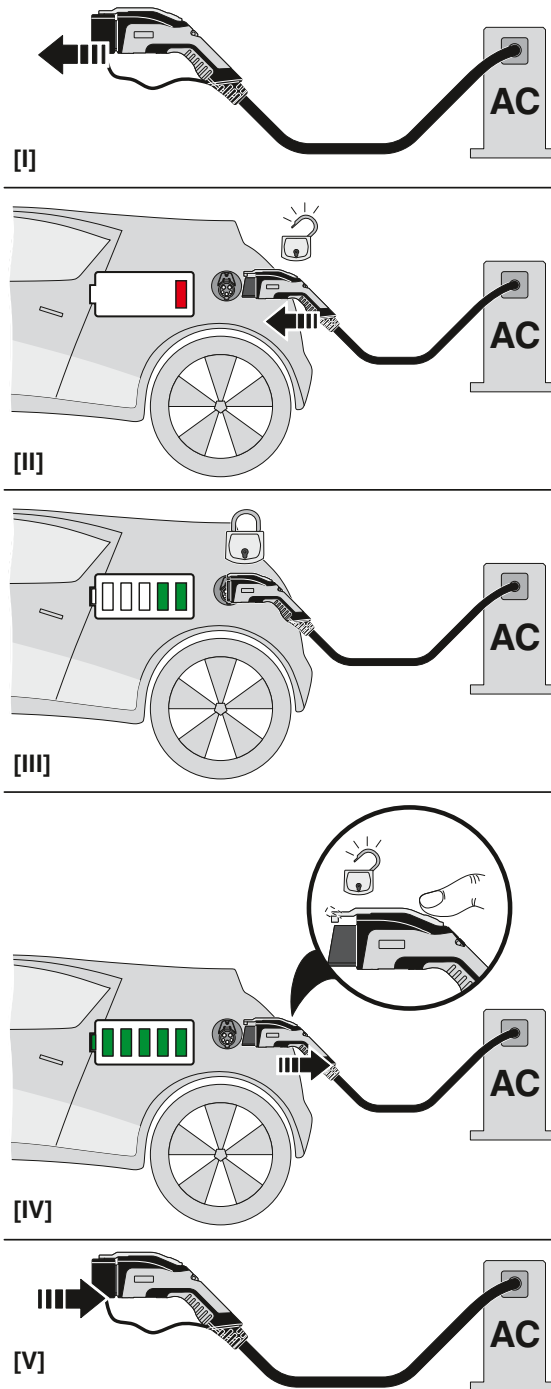
Connection diagram



Terminology definition

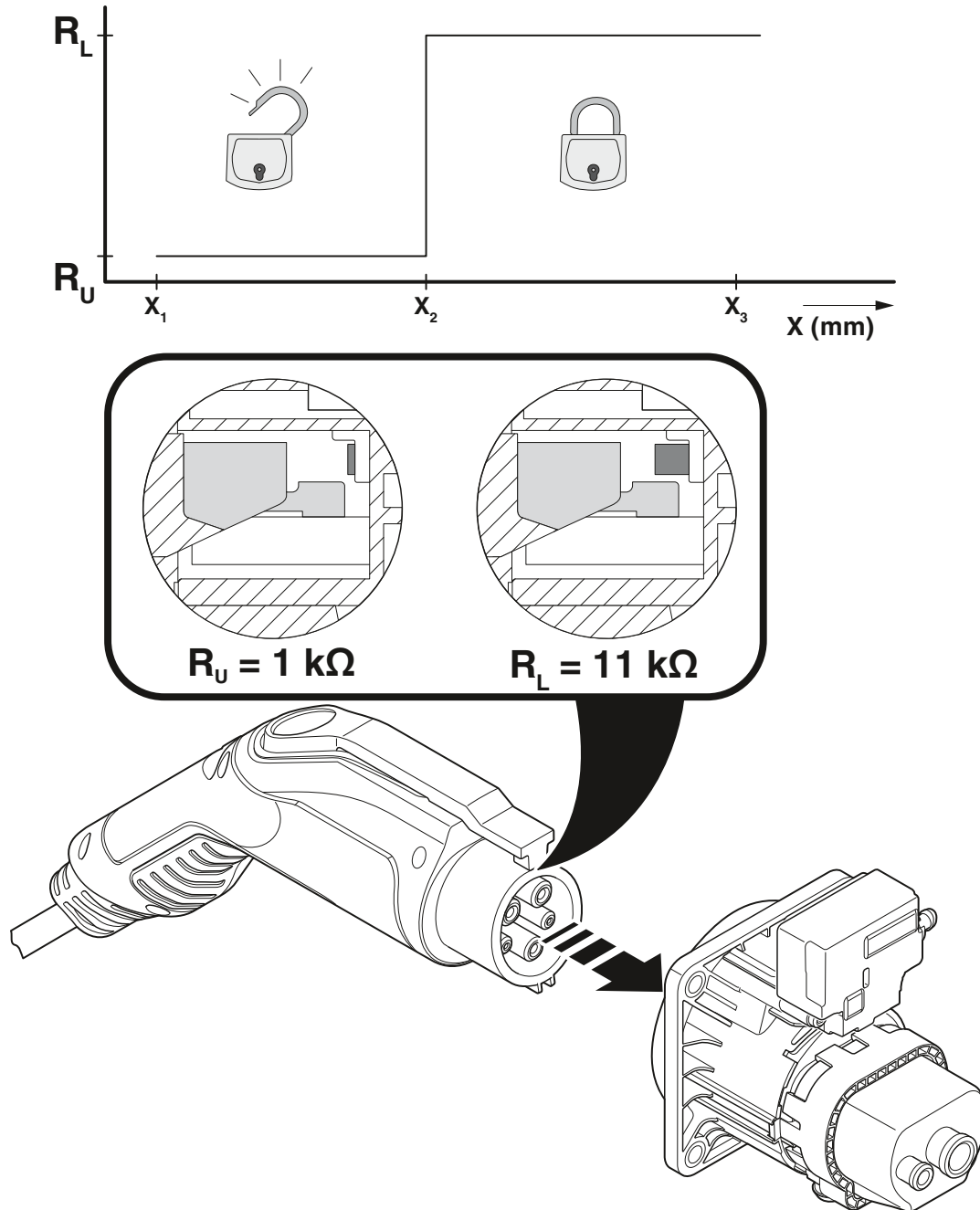
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Functional drawing



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Schematic diagram



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Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27144706 |
| eCl@ss 11.0 | 27144706 |

ETIM

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|----------|----------|
| ETIM 7.0 | EC002898 |
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