

# Vehicle charging inlet - CHARX T2HCI24-3AC32-2,0M2 - 1271965

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CHARX connect, Vehicle charging inlet, Locking actuator right, For charging electric vehicles (EV) with alternating current (AC), For installation in electric vehicles (EV), AC type 2, IEC 62196-2, length: 2 m, Locking actuator: 24 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 2 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 464004
GTIN	4063151464004
Custom tariff number	85444290
Country of origin	Germany

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## Technical data

### Product definition

Type	Locking actuator right
Application	For charging electric vehicles (EV) with alternating current (AC)
	For installation in electric vehicles (EV)
Design	Generation 4
Standards/regulations	IEC 62196-2
Charging standard	AC type 2
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	111.4 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)
	IP55 (Inner area of vehicle charging inlet)

### Electrical properties

Charging power (nominal operation)	26 kW
Type of charging current	AC 3-phase
Number of power contacts	5 (L1, L2, L3, N, PE)
Rated current of power contacts	32 A AC
Rated voltage for power contacts	480 V AC
Number of signal contacts	2 (CP, PP)
Rated current for signal contacts	2 A
Rated voltage for signal contacts	30 V AC

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### Electrical properties

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	4.7 kΩ (between PE and PP)
Temperature monitoring	AC contacts: PTC chain (DIN#EN#60738-1)

### Mechanical properties

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

### Mounting

Restrictions to mounting position	Only 0 to 90 degree frontal inclination possible, see figure
Mounting position of the locking actuator	Right-side
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
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### AC cable

Cable structure	5 x 6 mm <sup>2</sup>
External cable diameter	15.9 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. 532 kg/km

### Locking actuator cable

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## Technical data

### Locking actuator cable

Cable structure	4 x 0.5 mm <sup>2</sup>
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 <sup>2</sup>
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 <sup>2</sup> + 0.5 mm <sup>2</sup>
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	24 V (Typical power supply at the motor)
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
Ambient temperature (operation)	-30 °C ... 50 °C

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## Technical data

### Locking actuator

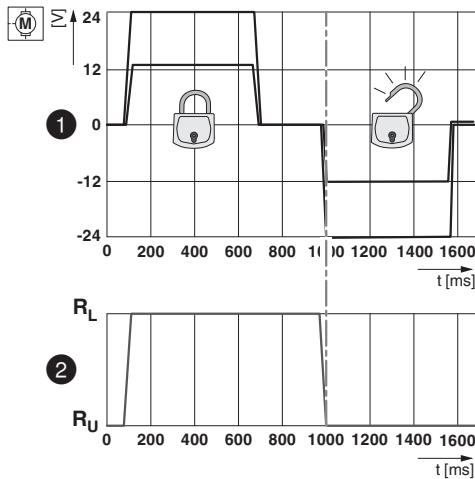
Cable length	0.5 m
Cable structure	4 x 0.5 mm <sup>2</sup>
Lock recognition	available
Mechanical emergency release	available

### Temperature monitoring, AC contacts

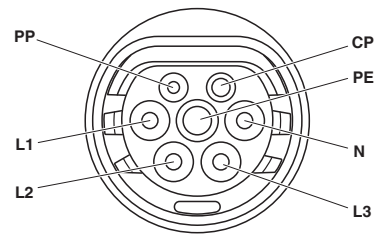
Type of sensor	PTC chain
Standards/regulations	DIN#EN 60738-1
Recommended measured current	≤ 1 mA (U <sub>max</sub> = 16 V DC)
Tolerance at the sensor with the recommended measured current	±5K
Temperature range	-40 °C ... 130 °C

## Drawings

Diagram



Connection diagram

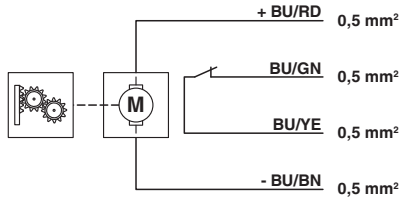


Pin assignment of Vehicle Inlet

### Locking states of the locking actuator

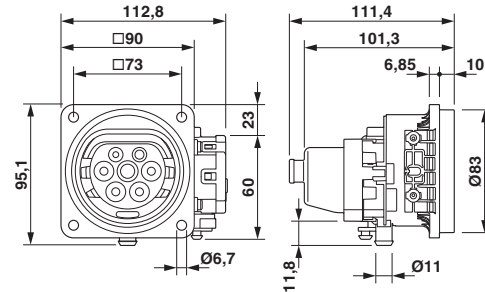
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Block diagram



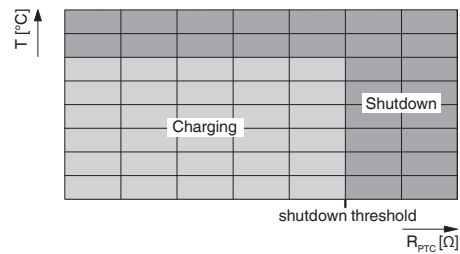
Block diagram of the locking actuator

Dimensional drawing



Dimensional drawing

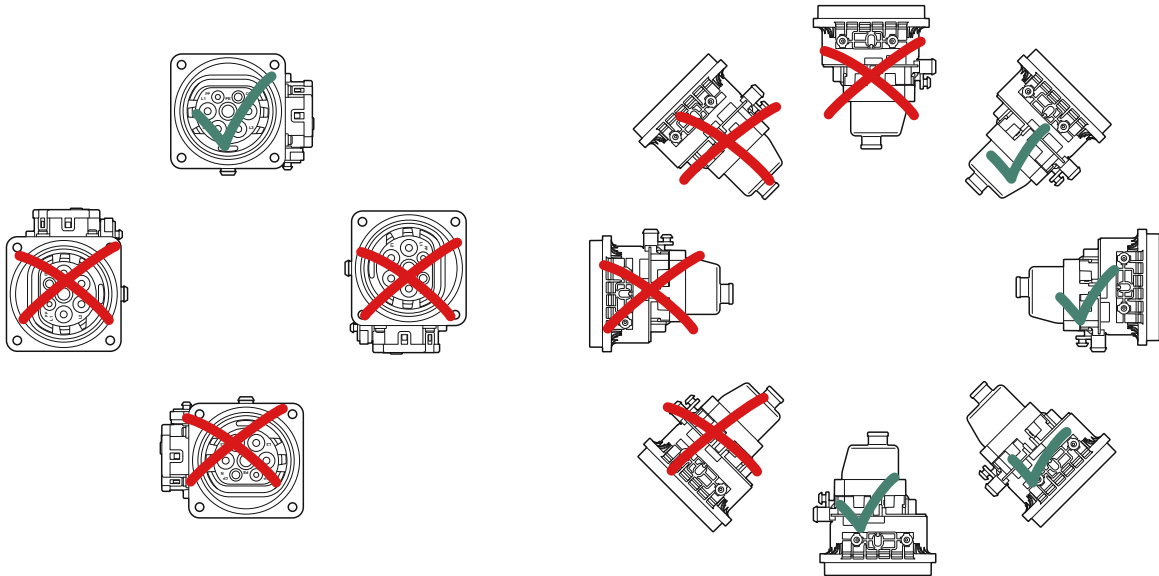
Schematic diagram



Temperature sensor technology resistance range at AC contacts

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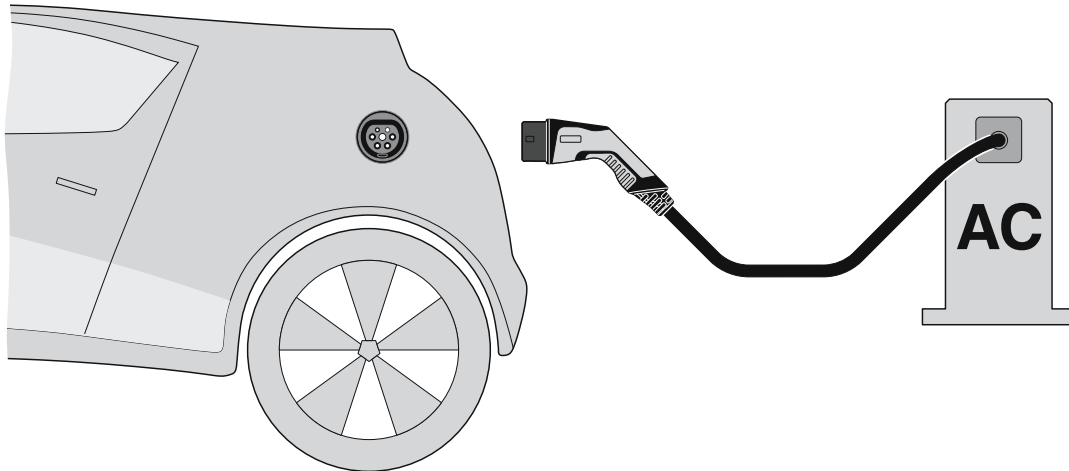
Connection diagram



Installation positions

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Connection diagram

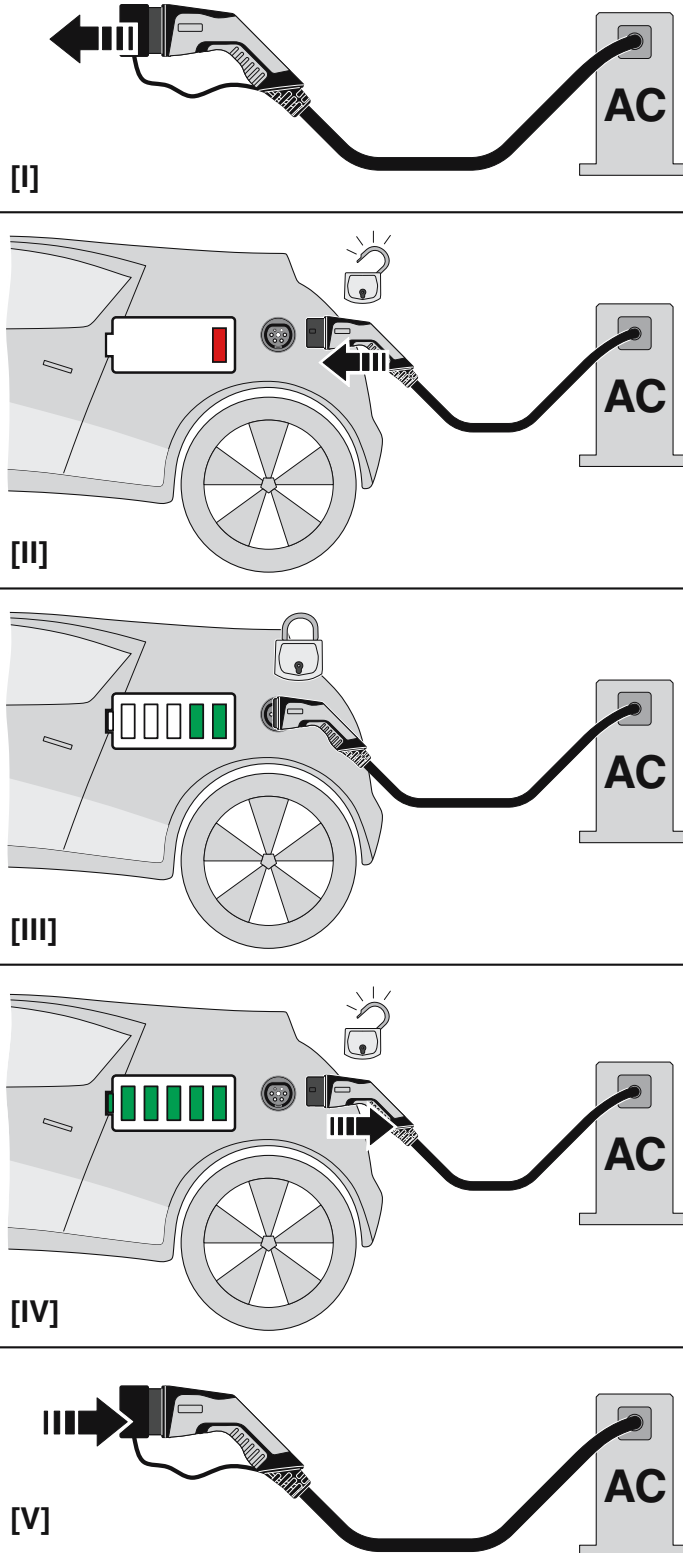


Terminology definition



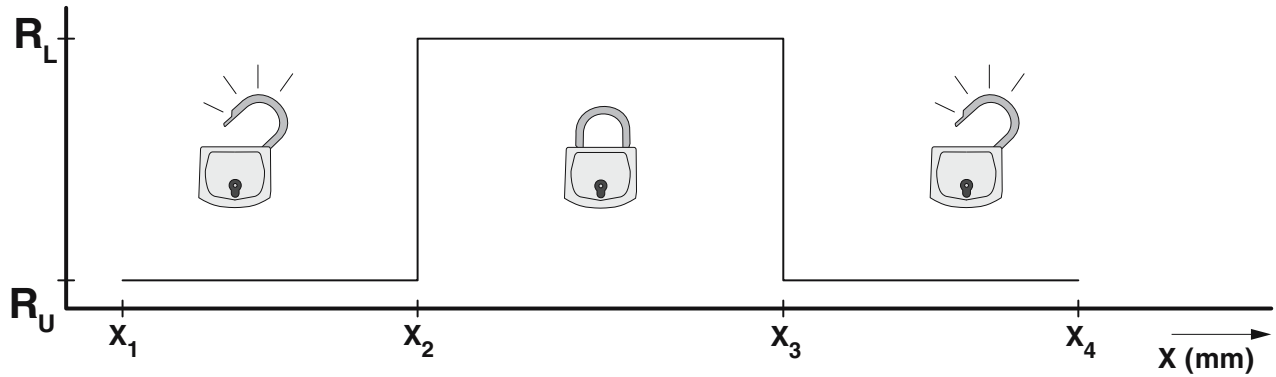
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Functional drawing

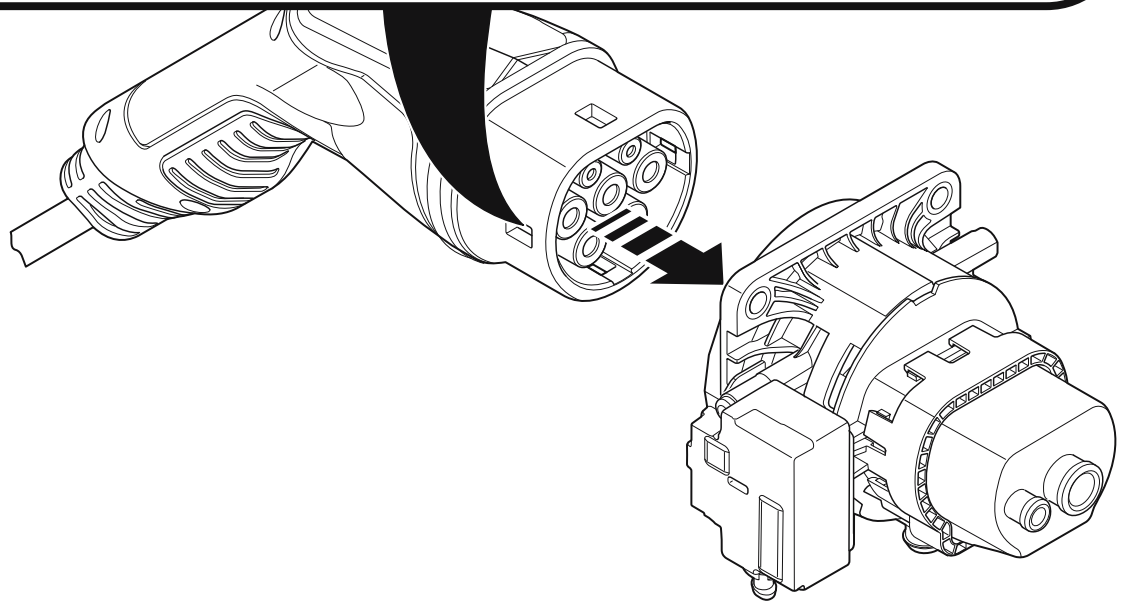


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Schematic diagram



<b>CHARX T2HCI12...: <math>R_U = 1 \text{ k}\Omega</math></b>	<b><math>R_L = 11 \text{ k}\Omega</math></b>	<b><math>R_U = 1 \text{ k}\Omega</math></b>
<b>CHARX T2HCI24...: <math>R_U = \infty \text{ k}\Omega</math></b>	<b><math>R_L = 0 \text{ k}\Omega</math></b>	<b><math>R_U = \infty \text{ k}\Omega</math></b>



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### Classifications

#### eCl@ss

eCl@ss 10.0.1	27144706
eCl@ss 11.0	27144706

#### ETIM

ETIM 7.0	EC002898
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