

# CHARX T1HBI12-1AC80DC375-2,0C1 - Vehicle charging inlet



1720092

<https://www.phoenixcontact.com/us/products/1720092>

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CHARX connect universal, Vehicle charging inlet, for charging with alternating current (AC) and with direct current (DC), CCS type 1, IEC 62196-1, IEC 62196-2, 375 A / 1000 V (DC), 80 A / 250 V (AC), Single wires, length: 2 m, locking actuator: 12 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 alternating current (AC) and direct current (DC), compatible with type 1 AC and 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	1720092
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	EM01
Product key	XWCAIB
GTIN	4067923271357
Weight per piece (including packing)	8,800 g
Weight per piece (excluding packing)	8,800 g
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.
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### Product properties

Product type	Vehicle charging inlet
Product family	CHARX connect universal
Application	for charging with alternating current (AC) and with direct current (DC) for installation in electric vehicles (EV)
Charging standard	CCS type 1
Charging mode	Mode 2, 3, 4

### Data management status

Article revision	01
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### 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	2.7 kΩ (between PE and CS)
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	20 kW
Charging current	80 A
Type of charging current	DC
Charging power	325 kW
Charging current	325 A
Type of charging current	DC Boost Mode
Charging power	> 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	> 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
	1000 V DC
Rated current	80 A AC
	375 A DC

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1720092

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## Signal contact

Number	2 (CP, CS)
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
Measuring range_resistance	790.00 Ω ... 1420.00 Ω
Resistance	max. 1200 Ω ±5 K
Ambient temperature	-40 °C ... 130 °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	12 V
Note number of positions	4-pos.
Position of the locking actuator	top center

## Locking actuator

Operating voltage	12 V
Note number of positions	4-pos.
Position of the locking actuator	top center
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
Lock recognition	available
Mechanical emergency release	available
Ambient temperature (operation)	-40 °C ... 80 °C

## Material specifications

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

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1720092

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## Cable/line

Cable length	2 m
Cable type	Single wires
Single wire, cross section	120.00 mm <sup>2</sup>

### Single-core wires for AC

Cable length	2 m
Cable structure	2 x 16 mm <sup>2</sup>
Single wire, material	Silicone
Single wire, color	OG
External cable diameter	9.90 mm ±0.3 mm
Cable resistance	≤ 1.16 Ω/km

### Single-core wires for DC

Cable length	2 m
Cable structure	2 x 120 mm <sup>2</sup>
Single wire, material	Silicone
Single wire, color	OG
External cable diameter	23.00 mm -0.8 mm

### 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	8.60 mm ±0.1 mm
Cable resistance	≤ 0.743 Ω/km

### Single-core wires for locking actuator

Cable length	1.5 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	1.60 mm ±0.20 mm
Cable resistance	≤ 37.1 Ω/m

### Single-core wires for PTC temperature sensors

Cable length	1 m
Cable structure	2 x 0.5 mm <sup>2</sup>
Single wire, color	BN/GY
	BN/YE/GN
External cable diameter	1.60 mm ±0.20 mm
Cable resistance	≤ 37.1 Ω/m

### Single-core wires for Pt 1000 temperature sensors

Cable length	1 m
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Cable structure	3 x 0.5 mm <sup>2</sup>
Single wire, material	PVC
Single wire, color	BN
	GN
	YE
External cable diameter	1.60 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
	WH
External cable diameter	1.60 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)	IP67 (Inner area of vehicle charging inlet)
Ambient temperature (operation)	-40 °C ... 40 °C (60°C, maximum (current reduction required, observe the DC contact temperature limit value of 90°C))
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	4000 m (above sea level)

## Standards and regulations

### Standards

Standards/regulations	IEC 62196-1
	IEC 62196-2
	IEC 62196-3
	SAE J1772

## Mounting

Mounting type	Front and rear mounting (0 to 90 degree frontal inclination possible)
Mounting hole diameter	6.70 mm (Ø)
Fixing screws	M6
Screws included in the scope of delivery	none

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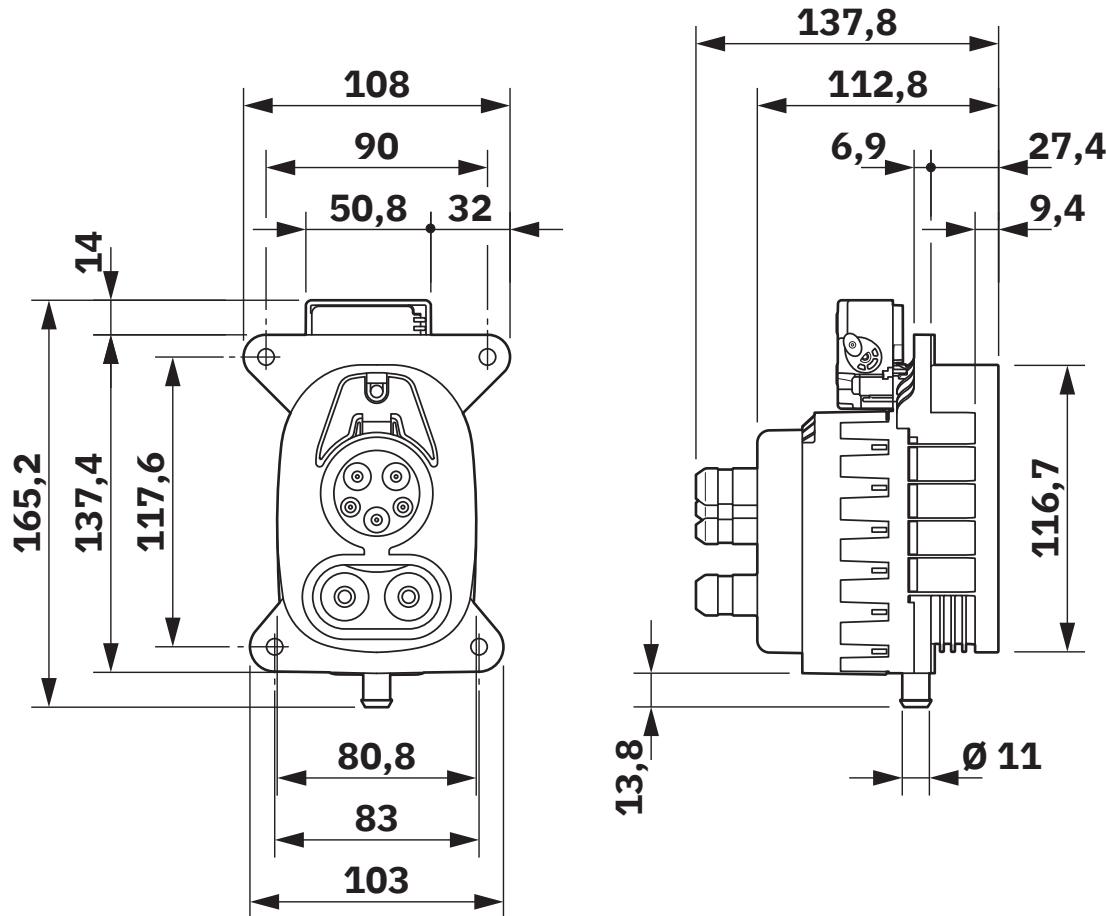


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## Drawings

Dimensional drawing



Dimensional drawing

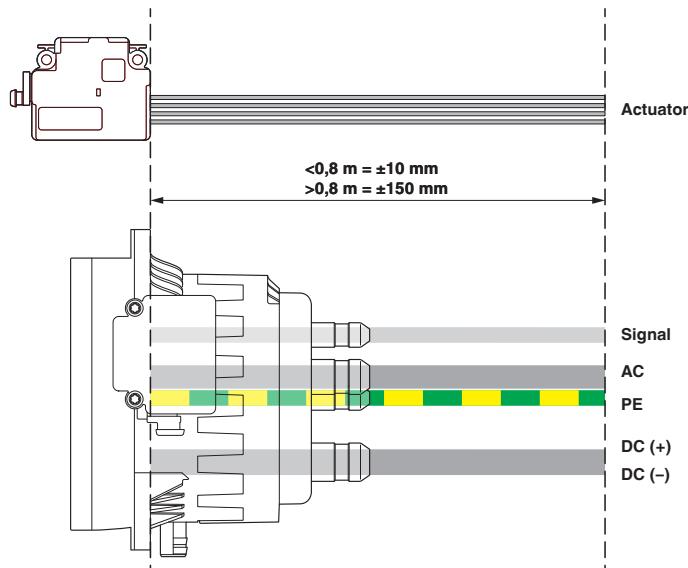
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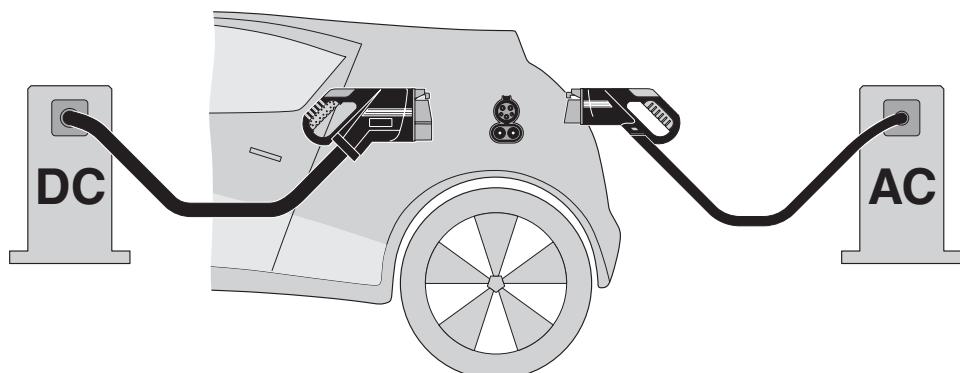
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Dimensional drawing



Reference points for measuring the line length

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.

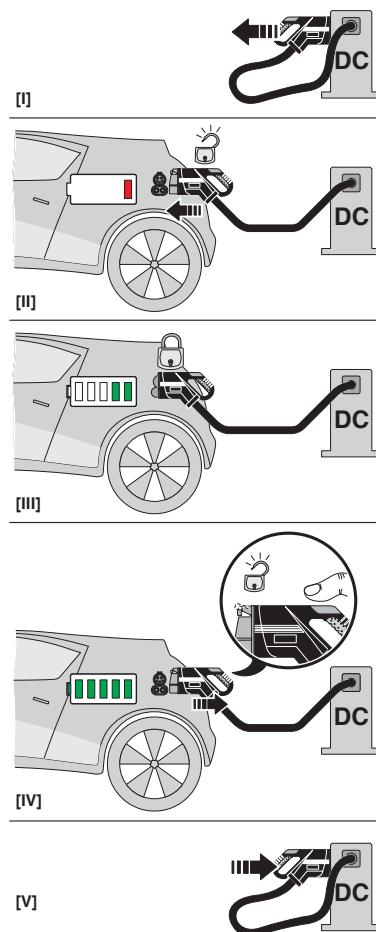
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Schematic diagram



Operating instructions

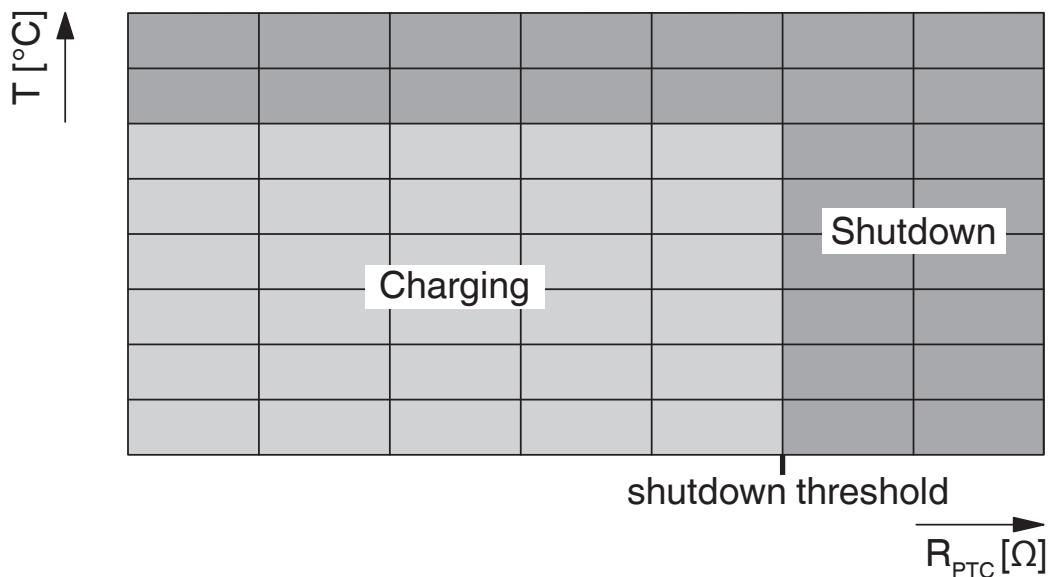
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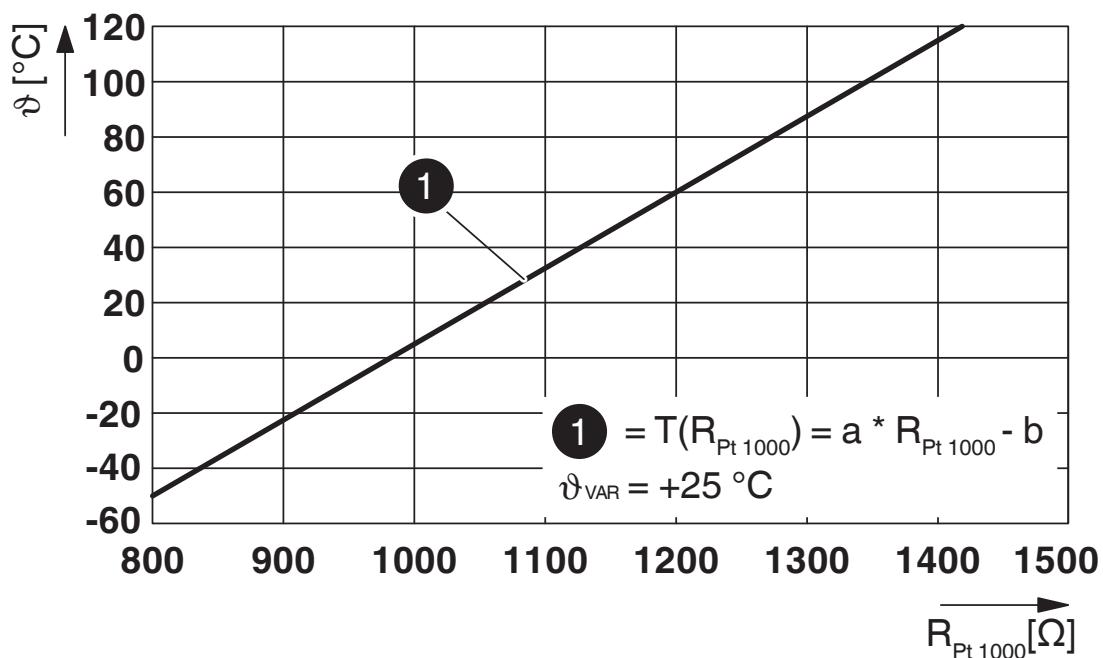
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Schematic diagram



Temperature sensor technology resistance range at AC contacts

Diagram



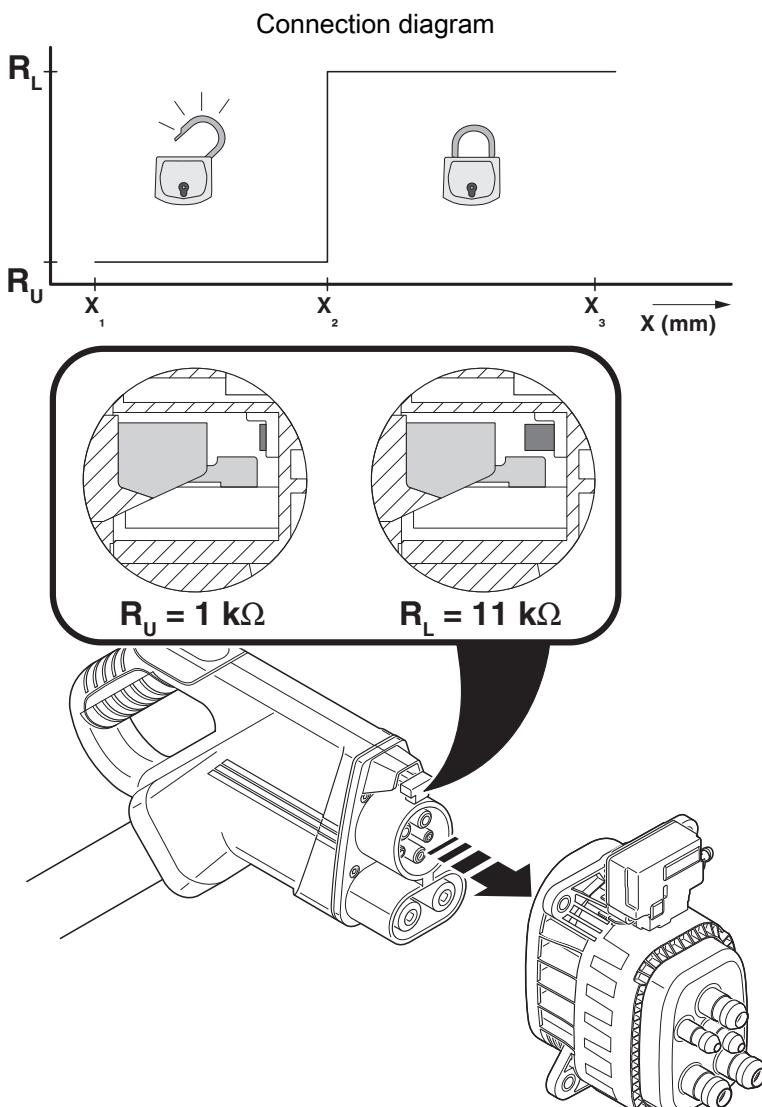
Pt 1000 characteristic curve at an ambient temperature of  $25^{\circ}\text{C}$  for temperature measurement at the DC contacts

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Detection for Vehicle Connector

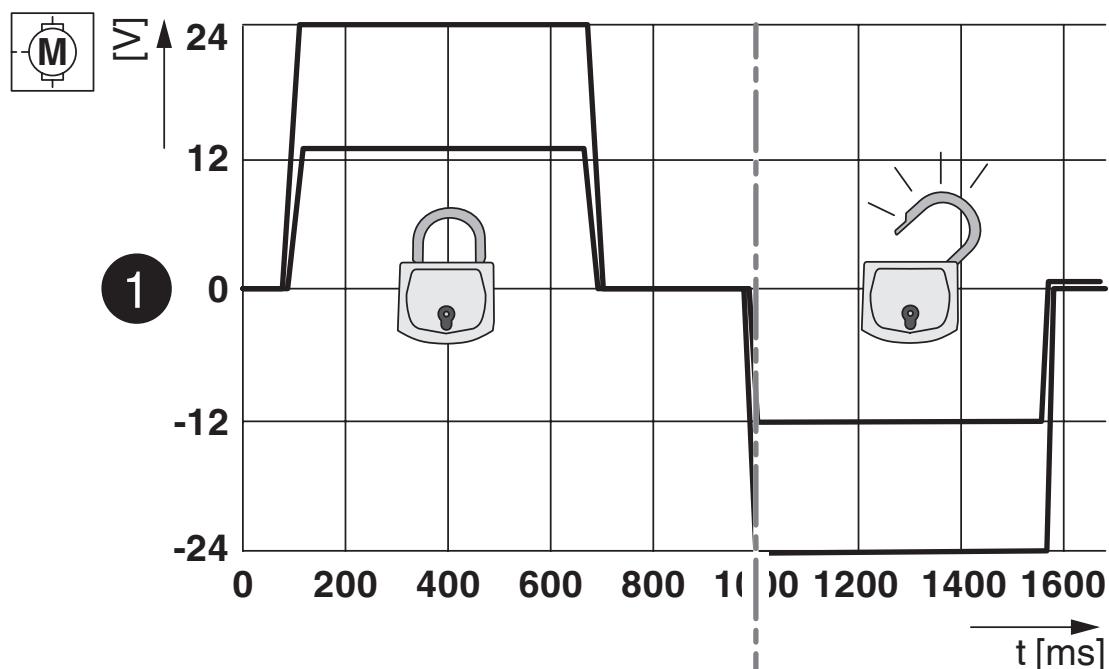
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Diagram



Locking states of the locking actuator

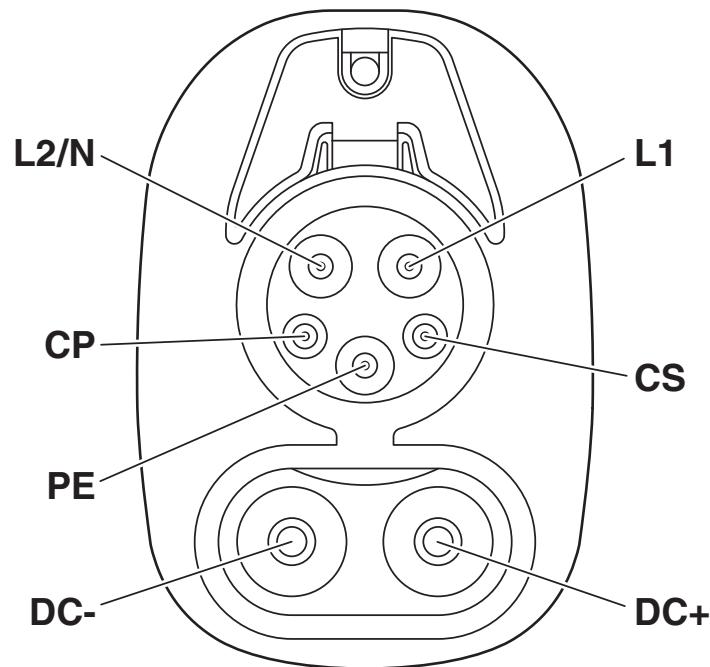
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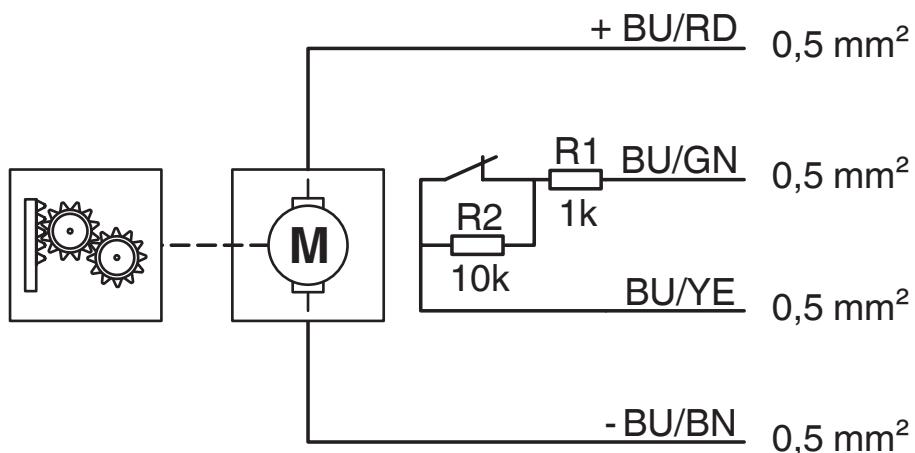
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Connection diagram



Pin assignment of vehicle charging inlets

Schematic diagram



Block diagram of the locking actuator

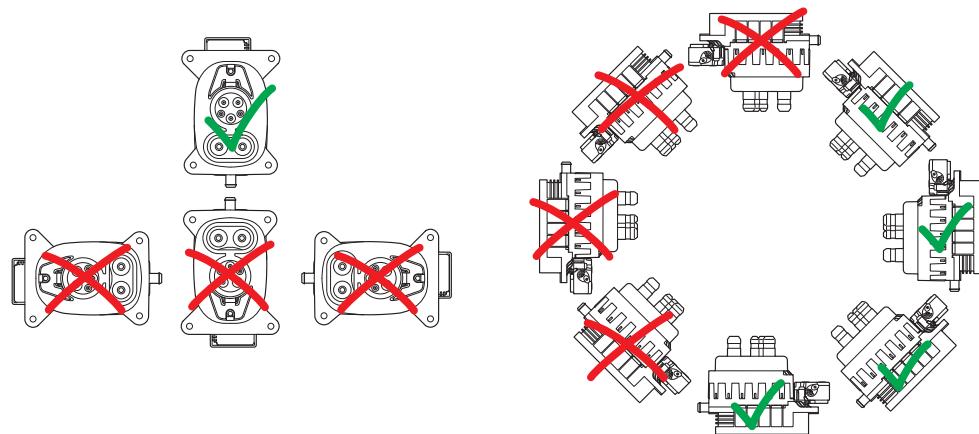
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Connection diagram



Installation positions

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## Classifications

### ECLASS

ECLASS-11.0	27144706
ECLASS-13.0	27144706

### ETIM

ETIM 9.0	EC002898
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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-10
	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.)	2-ethylhexyl 10-ethyl-4,4-diethyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)(CAS: 15571-58-1)
	Lead(CAS: 7439-92-1)
	6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol(CAS: 119-47-1)

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