

# CHARX T2HBI12-DC250-2,0M2 - Vehicle charging inlet



1211222

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CHARX connect universal, DC CCS Typ 2, Vehicle charging inlet, up to 500 A in Boost mode, 250 A permanent, 1000 V DC, Single wires, length: 2 m, locking actuator: 12 V, 4-pos., Front and rear mounting, M6, housing: black, for charging with direct current (DC), IEC 62196-2, IEC 62196-3, A protective cap is supplied as standard for the DC 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	1211222
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	EM01
Product key	XWCAID
GTIN	4063151284428
Weight per piece (including packing)	6.541 g
Weight per piece (excluding packing)	103 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 contacts.
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### Product properties

Product type	Vehicle charging inlet
Product family	CHARX connect universal
Technology	Combined Charging System
Application	for charging with direct current (DC) for installation in electric vehicles (EV)
Charging standard	DC CCS Typ 2
Charging mode	Mode 4
Customer variations	On request

### Electrical properties

Note on the connection method	Crimp connection, cannot be disconnected
Temperature measurement	DC contacts: 2x PT1000 (DIN EN 60751)

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

Type of charging current	DC
Charging current	250 A DC
Charging power	250 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 500 A DC
Charging power	up to 500 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.

#### Pin assignment (Leistungskontakte)

Number	3 (PE, DC+, DC-)
Rated voltage	1000 V DC
Rated current	250 A DC

#### Pin assignment (Signalkontakte)

Type of signal transmission	Pulse width modulation with modulated Powerline communication in accordance with ISO/IEC 15118 / DIN SPEC 70121
Number	2 (CP, PP)
Rated voltage	30 V AC
Rated current	2 A

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Coding	4.7 kΩ (between PE and PP)
Insulation resistance	> 200 MΩ

## Locking actuator

Locking actuator	12 V, 4-pos.
	Right position
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 ... 40 °C

## Temperature sensors (Pt 1000)

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

## Dimensions

### Vehicle charging inlet

Width	108 mm
Height	140.25 mm
Depth	133.5 mm

### Bore dimensions

Width	117.65 mm
Height	90 mm
Depth	117.65 mm

## Material specifications

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

## Cable/line

Cable length	2 m
Cable type	Single wires

### Single-core wires for DC

Cable length	2 m
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Cable structure	2 x 95 mm <sup>2</sup>
Single wire, material	Silicone
Single wire, color	OG
External cable diameter	20.60 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	8.60 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 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
	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
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

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	WH
External cable diameter	1.60 mm $\pm 0.20$ mm
Cable resistance	$\leq 37.1 \Omega/m$

## 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 ensured if both plug-in components are original products from Phoenix Contact or suitable standard-compliant products)
Ambient temperature (operation)	IP67 (Inner area of vehicle charging inlet)
Ambient temperature (storage/transport)	-40 °C ... 40 °C (60°C, maximum (current reduction required, observe the DC contact temperature limit value of 90°C))
Altitude	-40 °C ... 85 °C
	4000 m (above sea level)

## Standards and regulations

### Standards

Standards/regulations	IEC 62196-2
	IEC 62196-3

## Mounting

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

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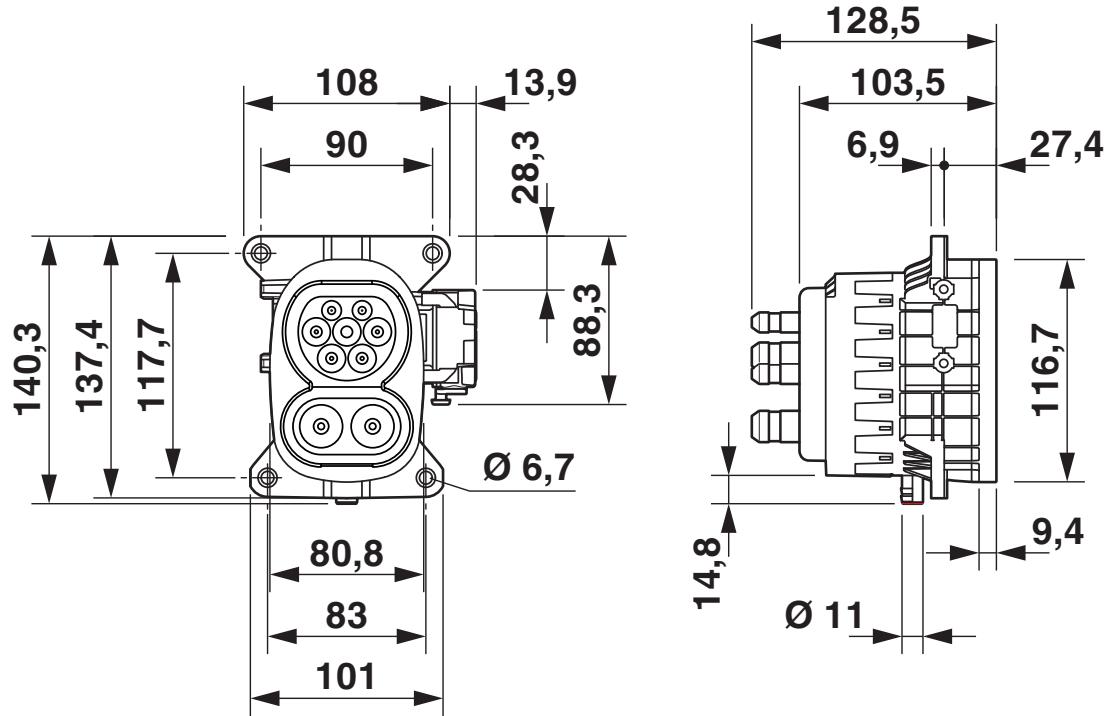


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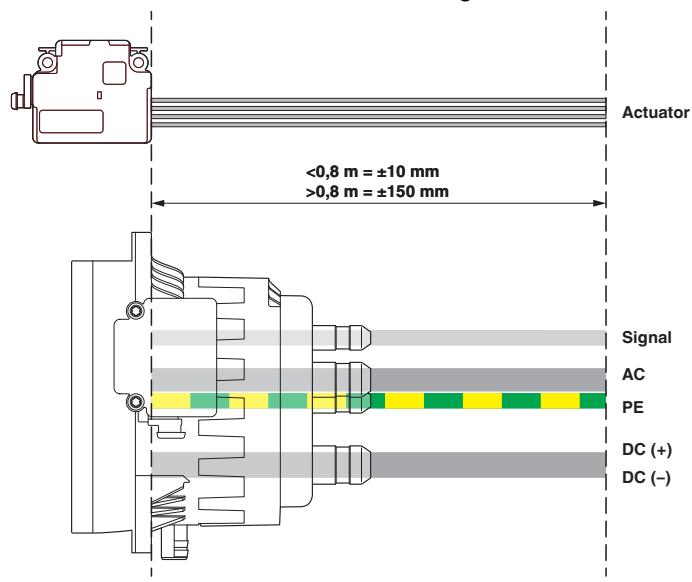
## Drawings

## Dimensional drawing



## Dimensional drawing

## Dimensional drawing



## Reference points for measuring the line length

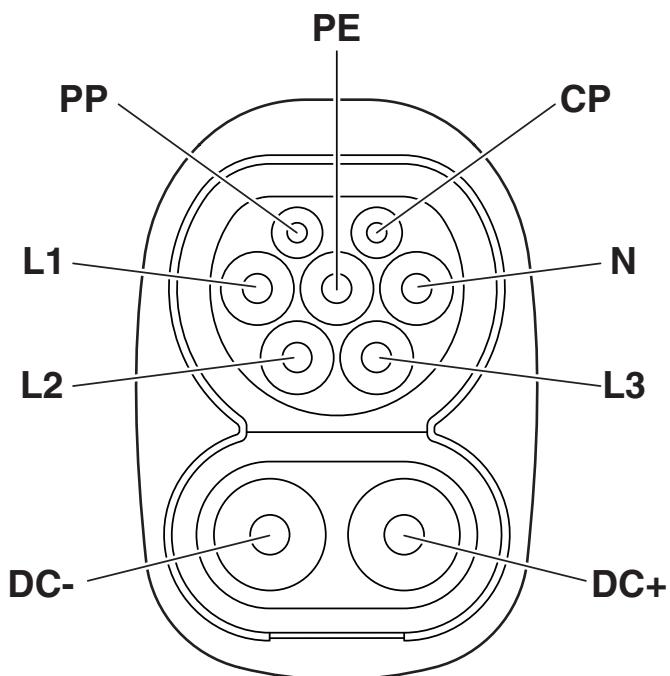
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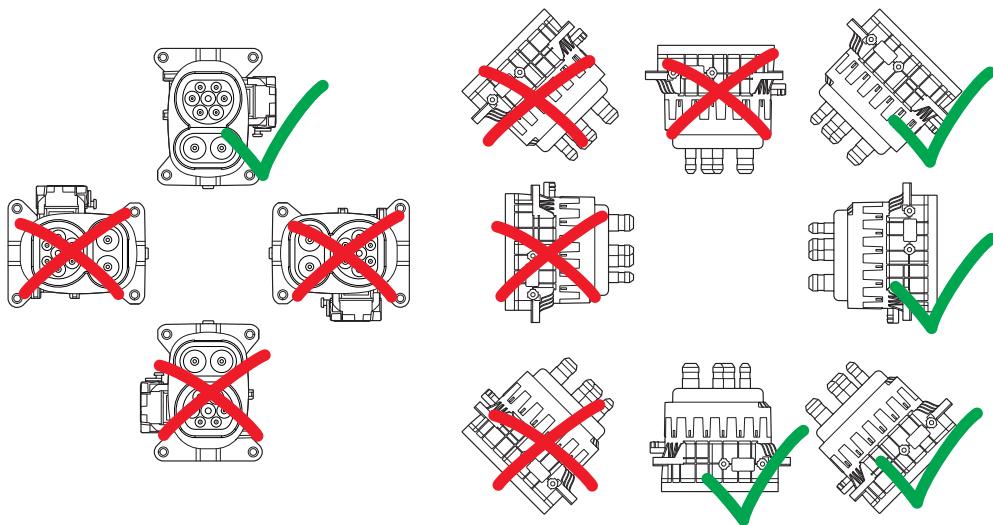
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Connection diagram



Pin assignment of vehicle charging inlets

Connection diagram



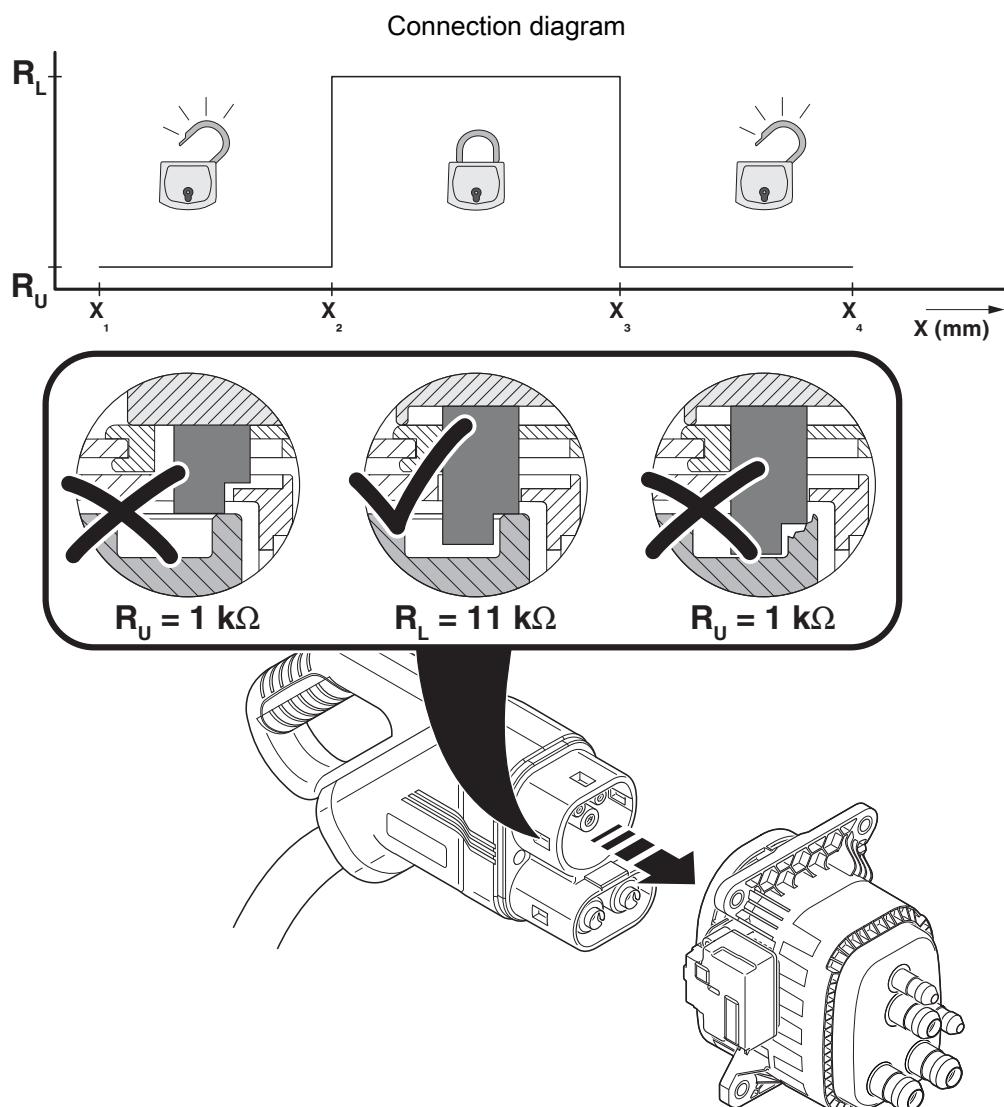
Installation positions

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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.

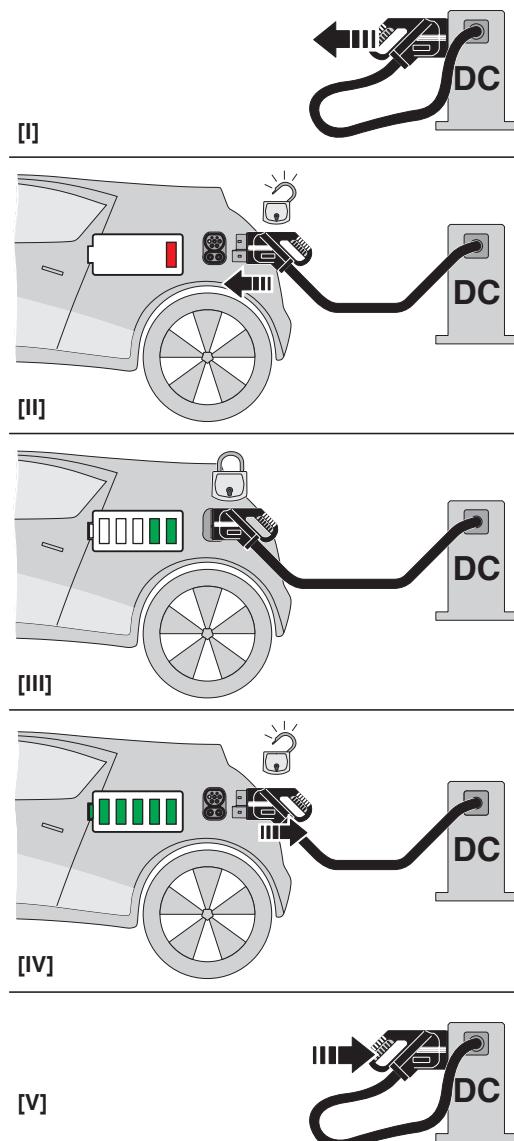
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Schematic diagram



Operating instructions

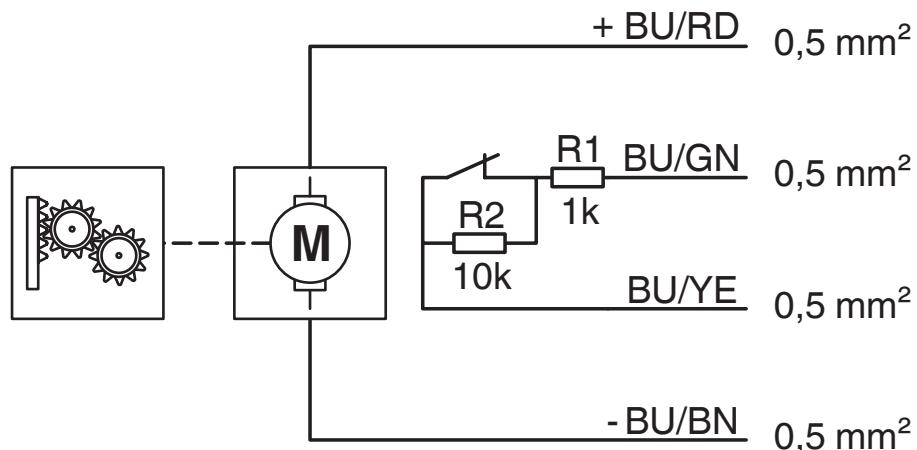
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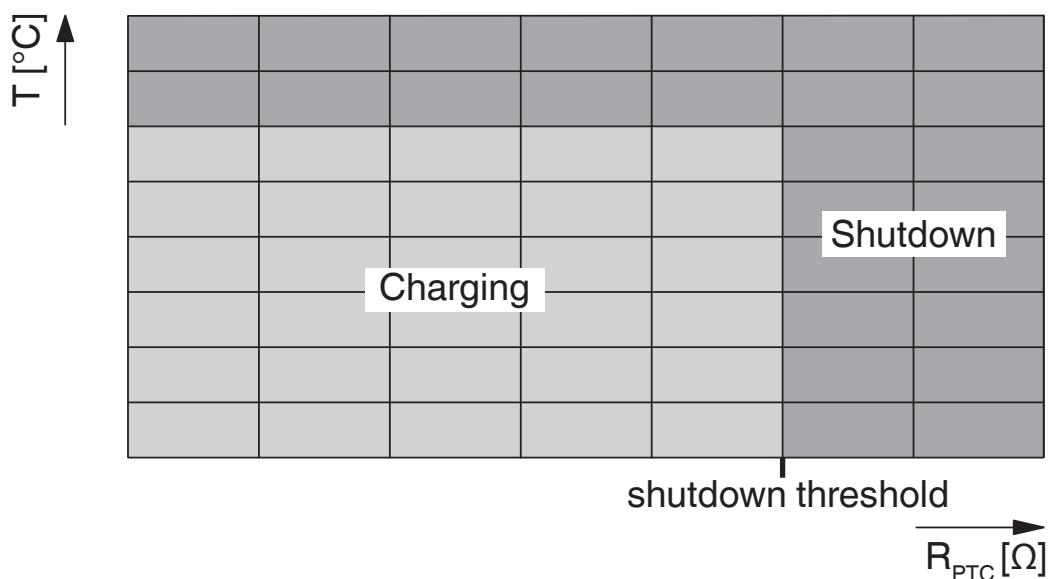
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Schematic diagram



Block diagram of the locking actuator

Schematic diagram



Temperature sensor technology resistance range at AC contacts

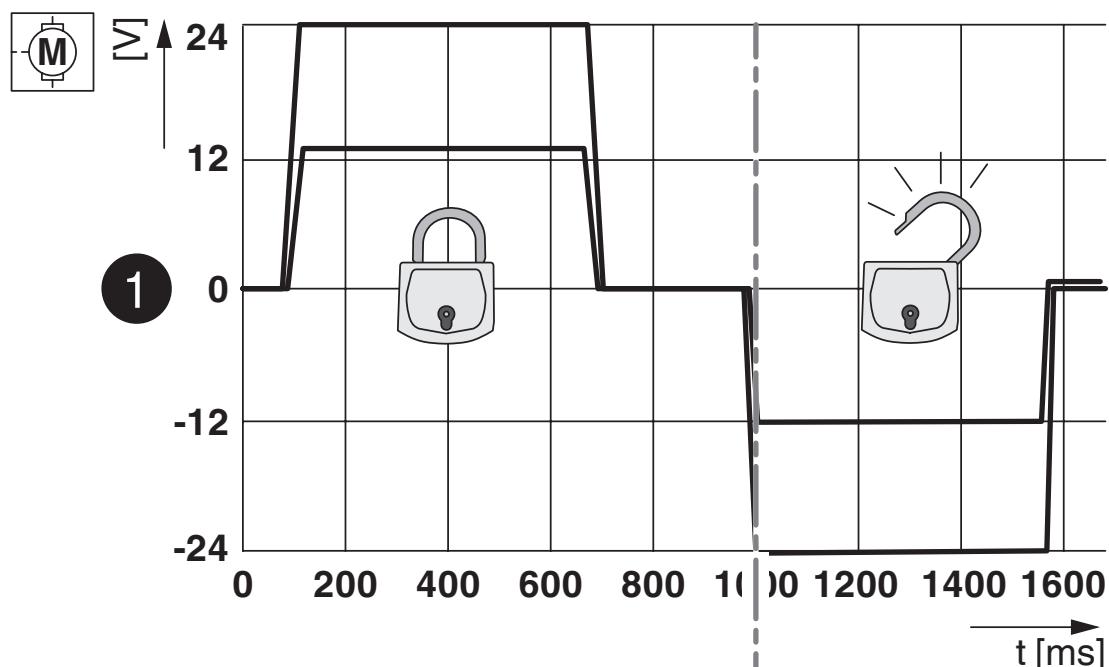
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Diagram



Locking states of the locking actuator

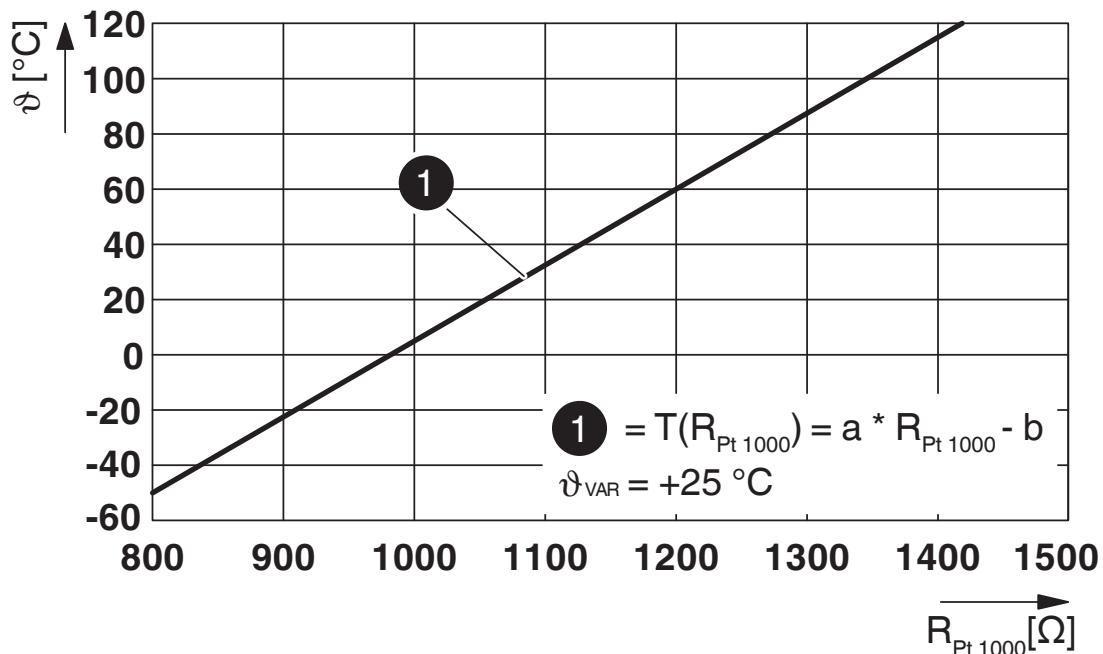
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Diagram



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

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## Classifications

### ECLASS

ECLASS-13.0	27144706
ECLASS-15.0	27144706

### ETIM

ETIM 9.0	EC002898
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### UNSPSC

UNSPSC 21.0	39121800
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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.)	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)
SCIP	6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol(CAS: 119-47-1) 78adbf22-b307-4c33-9aae-9c0085885bea

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