CHARX EVC-100 - Vehicle charging controller

1722154

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CHARX control vehicle, Vehicle charging controller, Can be parameterized, in housing, For autonomous control of the DC charging process in electric vehicles (EV) with CCS charging inlets, DIN SPEC 70121, ISO 15118-2, ISO 15118-20, operating mode: Stand-Alone

Product description

Vehicle charging controller (EVCC) for DC charging with high-level communication (TCP/IP) between DC charging station and electric vehicle (EV) via PLC (Powerline) and CAN protocol, compatible with CCS vehicle charging connectors (EVSE).

Your advantages

- Universal use for all electric vehicles with CCS charging inlet
- Fast setup, thanks to pre-parameterization for our CCS charging inlets
- Vehicle-to-grid-capable for bidirectional charging in accordance with ISO 15118-20
- Compliance with high safety standards of the automotive industry
- Immediately ready to operate, thanks to the short startup time of the operating system
- E1 approval for road vehicles

Commercial data

Item number	1722154
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	XWCAIB
GTIN	4067923275720
Weight per piece (including packing)	400 g
Weight per piece (excluding packing)	400 g
Country of origin	DE

Technical data

Product properties

Application	For autonomous control of the DC charging process in electric vehicles (EV) with CCS charging inlets
	for installation in electric vehicles (EV)
Control	CCS charging inlet (CP, PP, PE, locking actuator, temperature sensors)
	LED status indicator
	Cancel charging button
	2 HV contactors
Compatibility	CCS
Operating mode	Stand-Alone

System properties

Operating system	Real-time operating system with start times of 100 ms ... 200 ms
Programming tool	UDS Service Tool
Security	Prepared for cybersecurity in accordance with UNECE R155 and R156
	Processing of safety functions up to ISO 26262 ASIL B

Functionality

Communication	DC charging communication from PLC to CAN in accordance with DIN 70121 and ISO 15118
	AC charging communication in conjunction with VCU-controlled OBC

Electrical properties

CL30 power supply

Supply voltage range	9 V ... 16 V (12 V system)
	9 V ... 32 V (24 V system)
Quiescent current	300 µA
Operating current	nom. 0.5 A (In normal operation, CL30 does not exceed 0.5 A. Other loads on CL30 include LockMotor+, LockMotor-, LED1, LED2, LED3, LED4, HMI Supply, and Sens Supply.)
	typ. 0.3 A (The two CL30 pins can be operated up to 10 A in total. They are bridged internally.)
	max. 9 mA
Inrush current	typ. 0.5 A
	max. 0.7 A
Switch conditions (HVSW Supply)	max. 6 A
Supply voltage of switch (HVSW Supply)	32 V (depending on the HV switches used, e.g., 12 V and 1.5 A per switch, which are the only two loads on HVSW Supply)

Connection data

Conductor connection

Conductor cross-section rigid	as of 1.5 mm² (with ferrule)
Conductor cross-section flexible	to 1.5 mm² (without ferrule)

Dimensions

Width	153.2 mm
Height	56 mm
Depth	146 mm

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP6K9K (In accordance with ISO 20653)
Ambient temperature (operation)	-40 °C ... 85 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	0 % ... 85 %
Permissible humidity (storage/transport)	0 % ... 85 %
Air pressure (operation)	79 kPa ... 106 kPa (up to 2000 m above sea level)
Air pressure (storage/transport)	58 kPa ... 108 kPa (up to 4500 m above mean sea level)

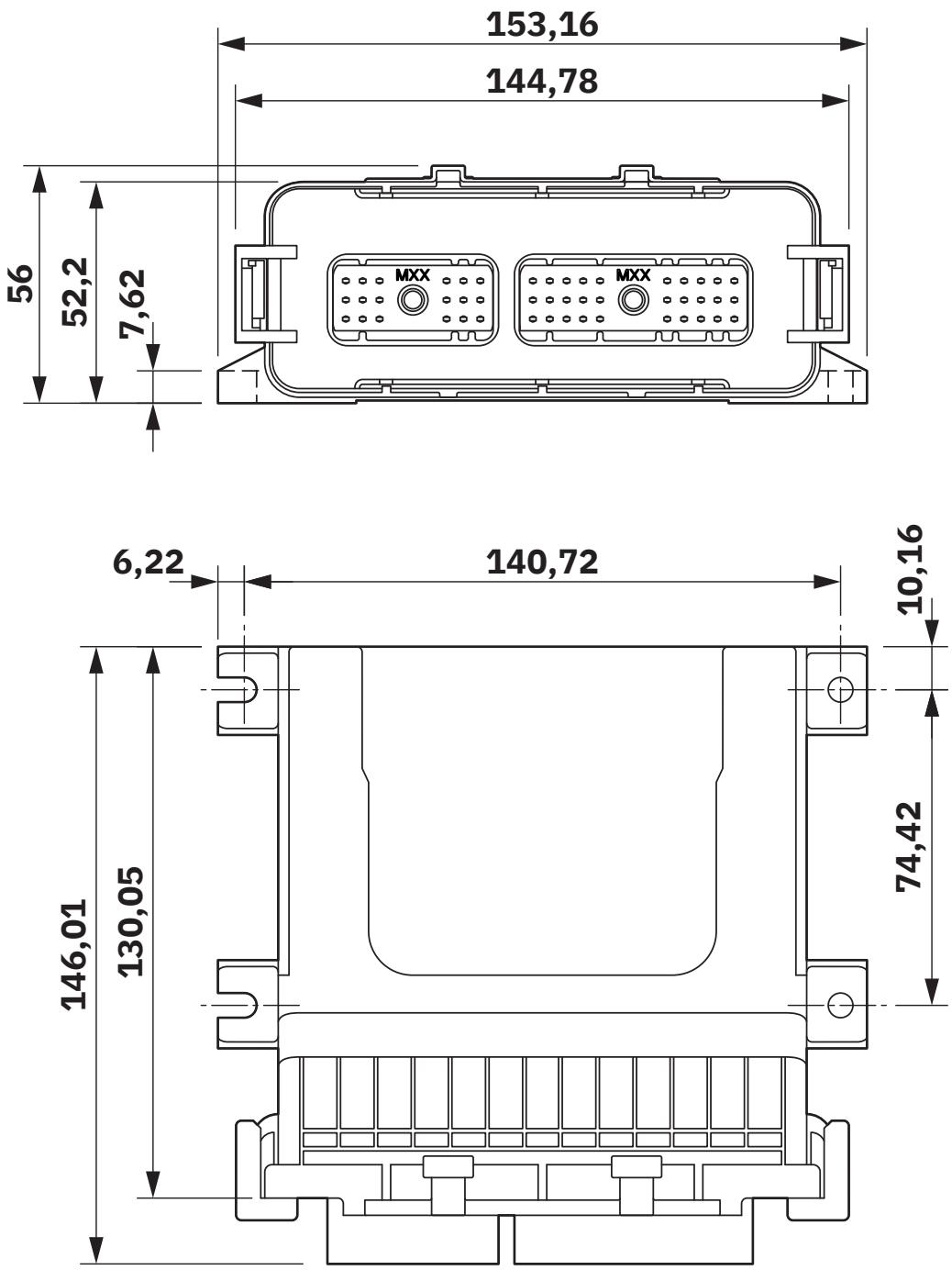
Standards and regulations

Standards

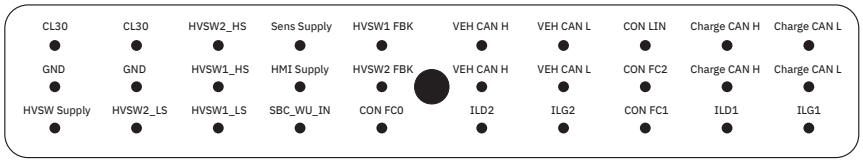
Standards/regulations	DIN SPEC 70121
	ISO 15118-2
	ISO 15118-20

Drawings

Dimensional drawing

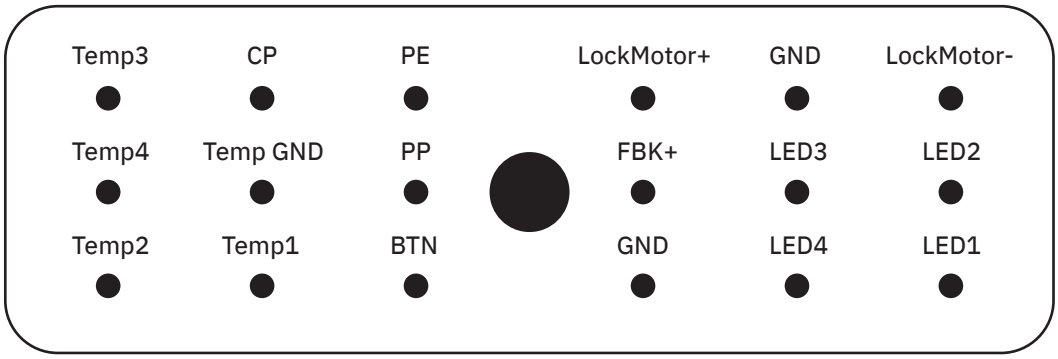


Connection diagram



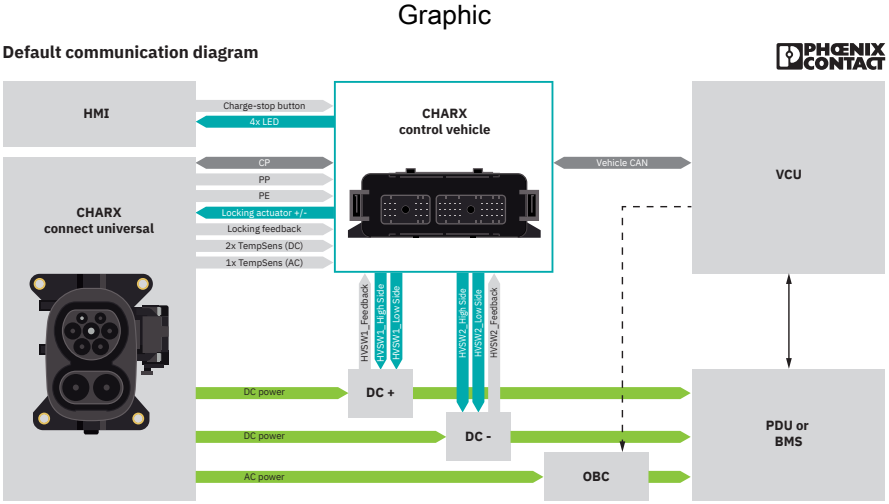
Pin assignment of the 30-pos. connector, for communication with the electric vehicle via CAN protocol

Connection diagram



Pin assignment of the 18-pos. connector, for communication with the charging station via PLC protocol

Graphic



The vehicle charging controller CHARX control vehicle is integrated in the LV on-board power supply (LV = low voltage) between the vehicle charging inlet and vehicle.
The interface to the CHARX connect universal vehicle charging inlet consists of standardized CP, PP, PE connections as well as actuator and temperature sensor connections. Start/stop and LED signals are communicated directly to the charging station (HMI = Human Machine Interface).
The exchange with the vehicle control unit (VCU) takes place via a CAN or CAN-FD protocol. The VCU in turn communicates with the power distribution unit (PDU) or the battery management system (BMS).
The HV switches (HV = high voltage) can be controlled directly or optionally connected to a control box via CAN.
An optional on-board charger (OBC) can be connected to the same bus or controlled directly by the vehicle.

Classifications

ECLASS

ECLASS-13.0	27144703
ECLASS-15.0	27144703

ETIM

ETIM 9.0	EC002889

UNSPSC

UNSPSC 21.0	39121800

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 7(a), 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.)	Lead(CAS: 7439-92-1)

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