

CHARX PS-M2/3AC/1000DC/30KW - DC power module



1232243

<https://www.phoenixcontact.com/us/products/1232243>

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CHARX power basic, Fast charging module for setting up DC charging stations, 19" rack mounting, CAN bus, input: 3-phase, output: 150 V DC...1000 V DC / 0 A...100 A



Product description

The highly efficient power electronics system for rack mounting from Phoenix Contact features a high degree of investment security. It enables the cost-effective operation of your DC charging infrastructure for the fast charging of electric vehicles. The modular and scalable system is optimized for DC charging with high voltages and currents. Each system cabinet can provide a charging power of up to 360 kW.

Your advantages

- Low installation costs with Plug and Play and efficient operation due to the high degree of efficiency
- Save space with the innovative design and high power density
- Fast repair due to hot swappable power modules
- Scalable power for each charging point with the flexible assembly of system cabinets and connection of power modules
- The operation of large charging parks in the megawatt range is made possible by connecting multiple system cabinets together

Commercial data

Item number	1232243
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CM28
Product key	CMER3E
GTIN	4063151333171
Weight per piece (including packing)	36,000 g
Weight per piece (excluding packing)	31,000 g
Customs tariff number	85044083
Country of origin	CN

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Technical data

Input data

AC operation

Input voltage range	3x 320 V AC ... 530 V AC
Nominal input voltage range	3x 400 V AC ... 480 V AC -20 % / +10 %
Input frequency	3x 50 Hz 60 Hz \pm 10 %
Input current	3x 54 A (340 V AC) 3x 35 A (530 V AC)
Inrush current limitation	< 60 A
Power factor (cos phi)	0.99
Total distortion (THDi)	< 5 % (50% ... 100% output load)
Insulation resistance	> 10 M Ω
Supply system configuration	Star network (TN, TT, IT (PE))

Output data

Efficiency	> 95 % ($P_{Out} > 50\%$)
Output voltage range	150 V DC ... 1000 V DC
Output current range	0 A ... 100 A
Output current residual ripple	\leq 1 %
Nominal power	30 kW
Power dissipation standby	< 14 W
Protection against overvoltage at the output (OVP)	> 1040 V DC
Derating	> 45 °C ... 55 °C (1.2 A/K) > 55 °C (3.2 A/K) > 55 °C (1 kW/K)
Control deviation	< 0.5 % (Voltage deviation static load change 20% ... 100%) < 1 % (Current deviation Static load change 20 % ... 100 %) \pm 0.2 % (Input voltage change \pm 20 %)
Switch-on delay	< 8 s
Overshoot behavior	\pm 3 % (Switch-on procedure)

Connection data

Input

Designation	Input
Identification	AC IN: L1 / L2 / L3 / PE

Conductor connection

Connection method	Push-lock connection
rigid	2.5 mm ² ... 10 mm ²
flexible	2.5 mm ² ... 25 mm ²
rigid (AWG)	12 ... 6 (Cu)
Stripping length	18 mm (rigid/flexible)

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Output

Designation	Output
Identification	DC OUT: + / -

Conductor connection

Connection method	T-LOX knee lever connection
rigid	10 mm ² ... 50 mm ²
	25 mm ² (recommended)
flexible	16 mm ² ... 50 mm ²
	25 mm ² (recommended)
rigid (AWG)	4 ... 1 (Cu)
Stripping length	18 mm (10 mm ² ... 25 mm ²)
	20 mm (35 mm ² ... 50 mm ²)

Interfaces

Interface	CAN bus
Number of interfaces	1
Connection method	2x RJ45 (pin assignment, CANopen standard)
Locking	Locking clip
Transmission physics	Twisted-Pair
Topology	Line (daisy-chain connection)
Transmission speed	125 kbps
Transmission length	max. 20 m
Supported protocols	CAN 2.0B
Electrical isolation	yes (primary/secondary)
	no (PE)
Number of power modules as CAN bus devices	max. 48 (within one CHARX control controller)
Termination resistor	120 Ω (Terminating the end device)

Electrical properties

Number of phases	3
Electrical isolation between input and output	yes
Insulation voltage input/output	2121 V DC
Insulation voltage input, output / housing	2121 V DC
Insulation voltage input, output/signal, communication	4242 V DC
Insulation voltage signal, communication/housing	707 V DC

Product properties

Product type	DC power module
Product family	CHARX power basic
MTBF (IEC 61709, SN 29500)	> 300000 h
Service life	40000 h (40 °C)
	70000 h (Fan)
Hot PLUG connection	No

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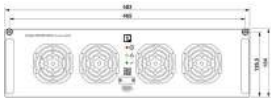
Ventilation	No
Internal fan	yes
Flow direction	from front to back

Insulation characteristics

Protection class	I
Pollution degree	2

Dimensions

Item dimensions

Width	483 mm
Height	134 mm
Depth	550 mm
Dimensional drawing	
Rack unit	3 U

Mounting

Mounting type	19" rack mounting
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Material specifications

Housing material	Zn-Al alloy
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Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Overtemperature protection (OTP)	> 75 °C
Maximum altitude	≤ 4000 m (Derating >2000 m: 10% / 1000 m)
Permissible humidity (operation)	≤ 95 % (non-condensing)
Noise level	< 60 dB (1 m)

Standards and regulations

Overvoltage category

IEC 60664-1	II
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Electric vehicle conductive charging system - Part 1: General requirements

Standard designation	Electric vehicle conductive charging system - Part 1: General requirements
Standards/specifications	IEC 61851-1

Electric vehicle conductive charging system – Part 23: DC electric vehicle charging station

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Standard designation	Conductive charging systems for electric vehicles – Part 23: DC supply equipment for electric vehicles
Standards/specifications	IEC 61851-23

Standard for Safety for Electric Vehicle (EV) Charging System Equipment

Standard designation	Standard for Safety for Electric Vehicle (EV) Charging System Equipment
Standards/specifications	ANIS/UL 2202

Approvals

Identification	IEC
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EMC data

EMC requirements for noise emission	EN 61000-6-3
EMC requirements for noise immunity	EN 61000-6-1

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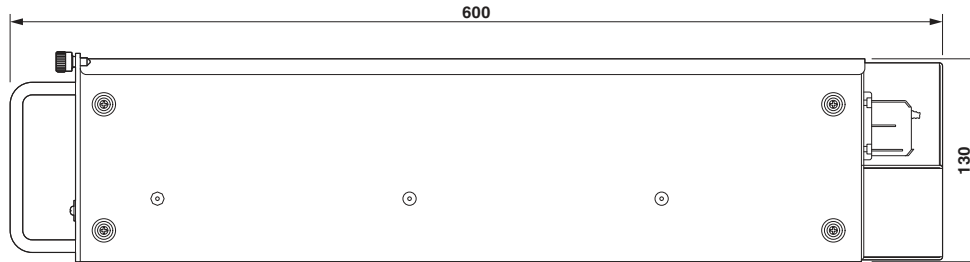


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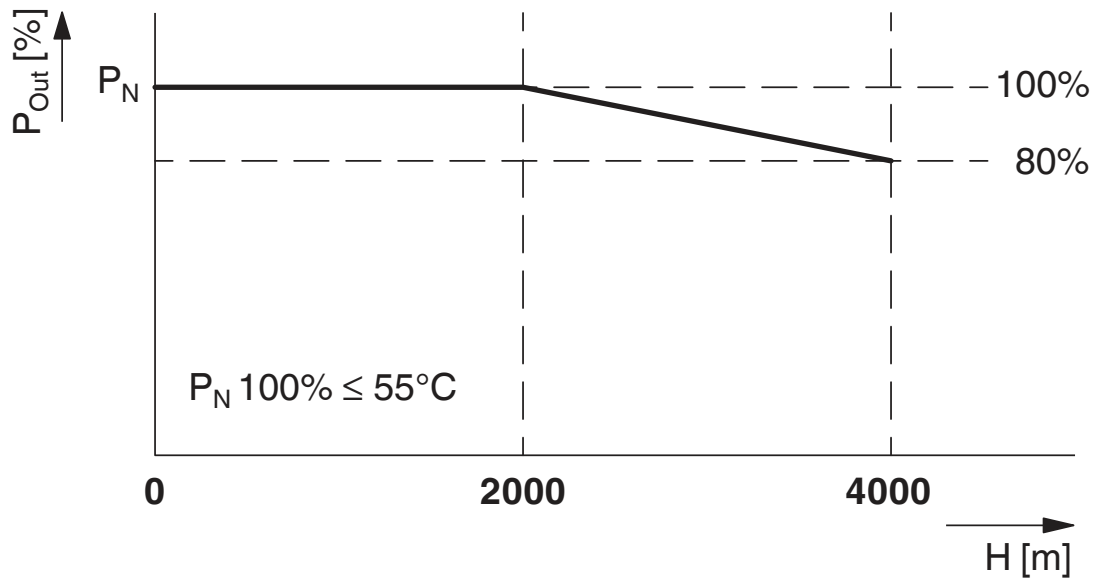
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Drawings

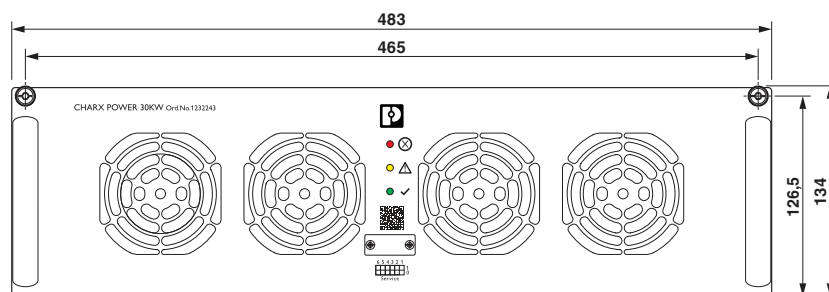
Dimensional drawing



Diagram



Dimensional drawing



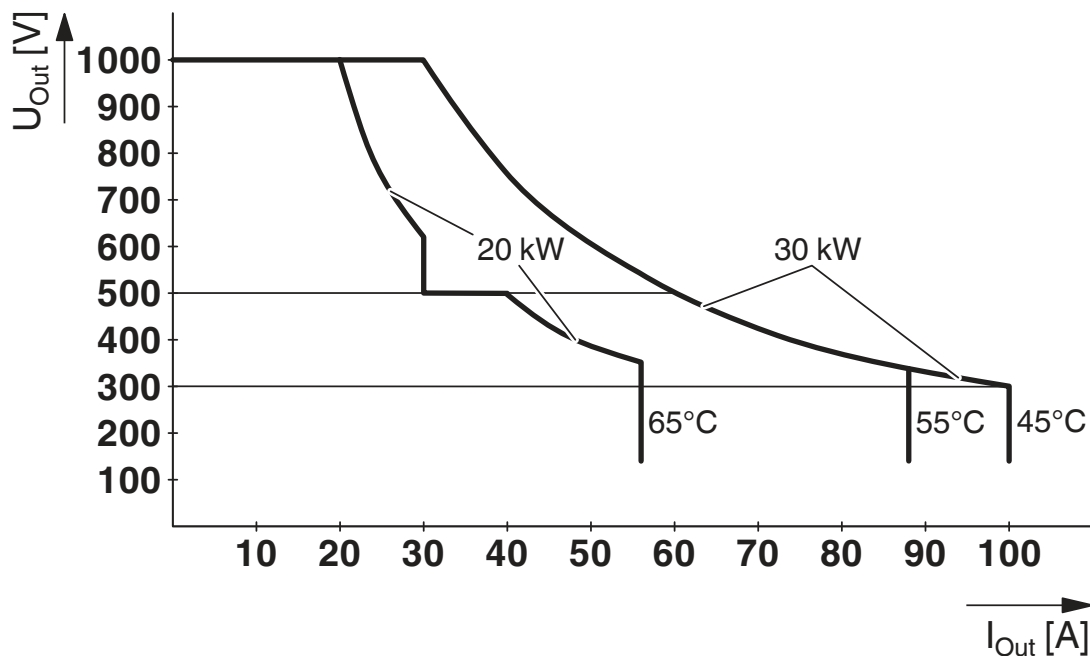
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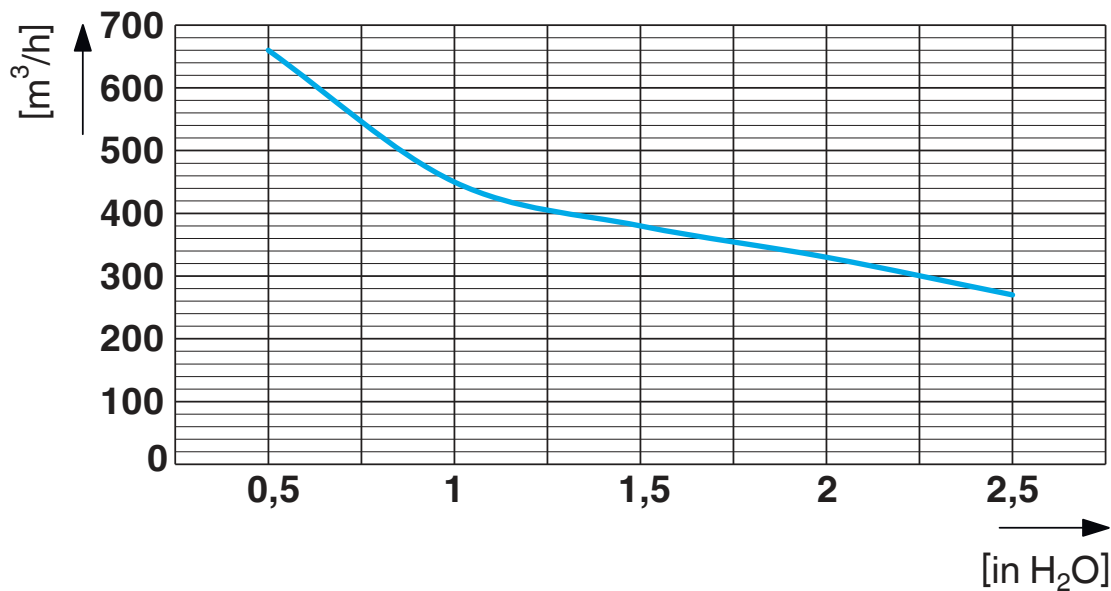
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Diagram



Diagram



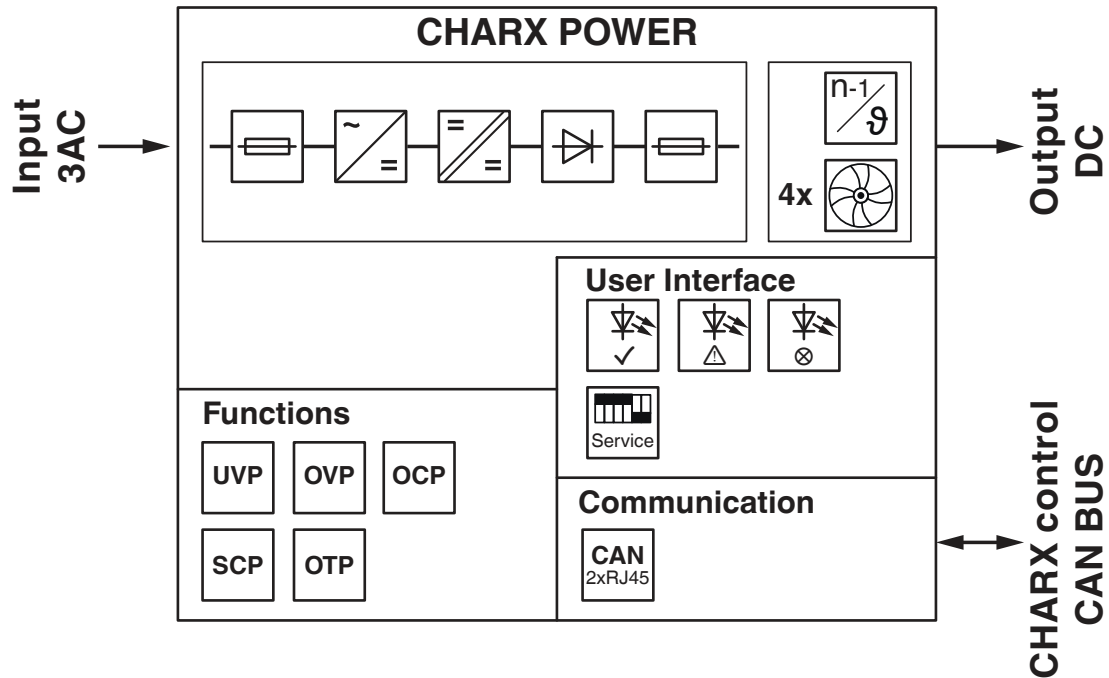
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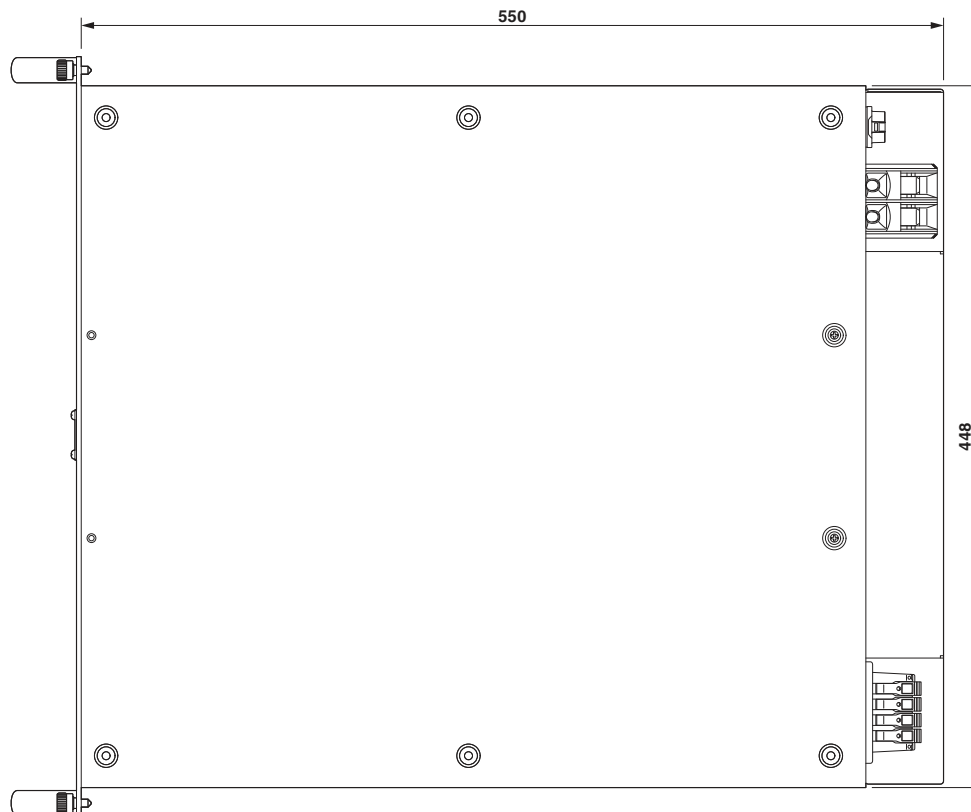
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Block diagram



Dimensional drawing

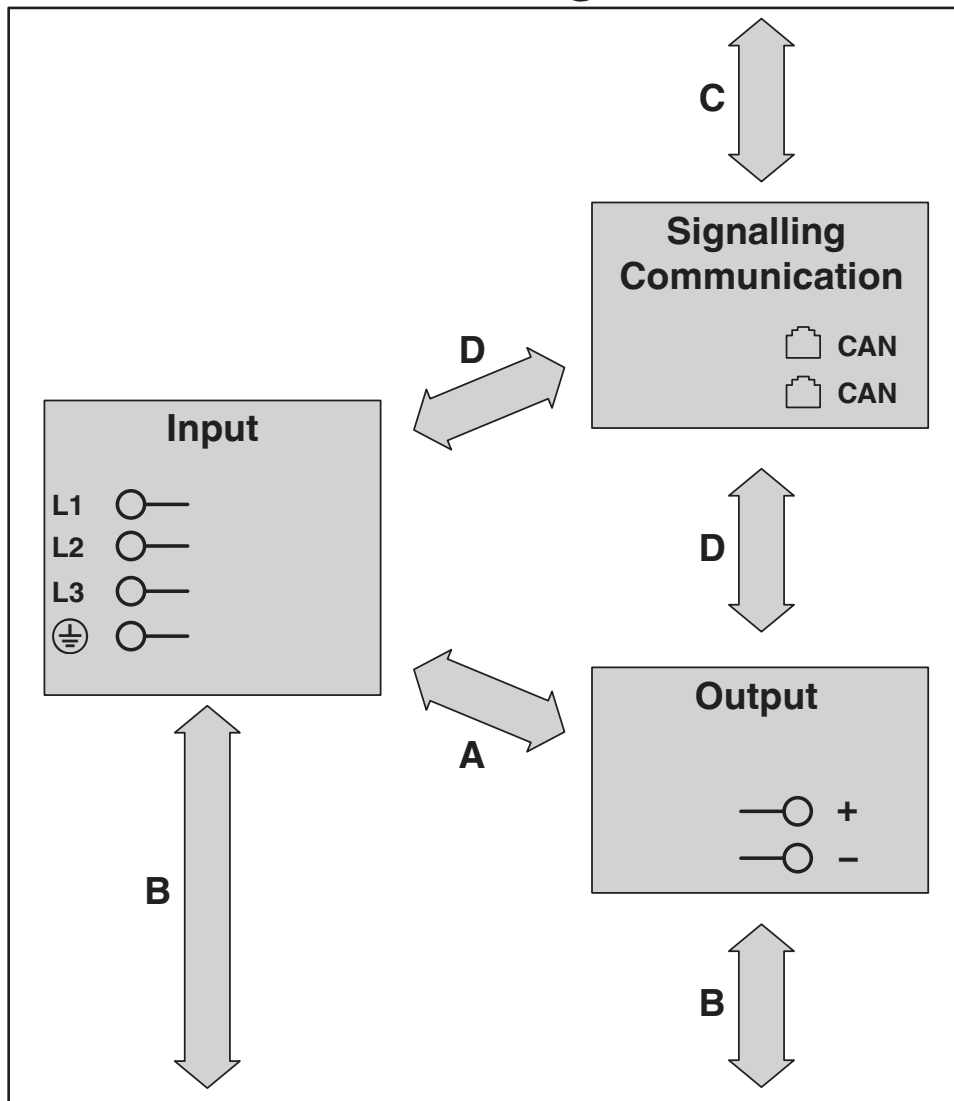


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Schematic diagram

Housing



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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1232243>



EAC

Approval ID: RU*DE*01.B.02076/21



TÜV SÜD Type tested

Approval ID: B 029429 0017

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	125 V	-	-	- 1.5



TÜV Rheinland

Approval ID: CU 72213032 01

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	500 V	21.4 A	-	- 6



EAC

Approval ID: RU*DE*01.B.85589/21

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Classifications

ECLASS

ECLASS-11.0	27040701
ECLASS-12.0	27040701
ECLASS-13.0	27040701

ETIM

ETIM 8.0	EC002540
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Environmental product compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 10;
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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Accessories

VS-IP20-OE-94F-LI/2,0 - Network cable

1415255

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Assembled Ethernet cable, CAT6, shielded, 4-pair, AWG 26 stranded (7-wire), RAL 5021 (water blue), RJ45 plug/IP20 on free conductor end, line, length 2 m

EV-PLCC-AC1-DC1 - DC charging controller

1624130

<https://www.phoenixcontact.com/us/products/1624130>



Programmable charging controller for DC and AC charging of electric vehicles in accordance with IEC 61851-1,-23, DIN SPEC 70121, and CHAdeMO, with integrated cellular modem

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