CHARX PS-M2/825DC/1000DC/30KW - DC power module

1296467

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CHARX power basic, Fast charging module for setting up DC charging stations, 19" rack mounting, output: 30 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
- 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
- Optimum integration into photovoltaic systems, thanks to maximum power point tracking

Commercial data

Item number	1296467
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CM28
Product key	CMER3E
GTIN	4063151531973
Weight per piece (including packing)	32,000 g
Weight per piece (excluding packing)	27,000 g
Customs tariff number	85044095
Country of origin	CN

Technical data

Input data

DC operation

Input voltage range	300 V DC ... 825 V DC
Derating	< 650 V DC ... 300 V DC (46 W/V)
Nominal input voltage range	650 V DC ... 825 V DC
Input current	48 A (650 V DC)
	38 A (825 V DC)
Inrush current limitation	< 60 A
Insulation resistance	> 10 MΩ
Supply system configuration	DC grid (DC±, PE)

MPPT mode

Input voltage range	300 V DC ... 740 V DC
Nominal input voltage range	650 V DC ... 740 V DC
Start-up voltage	min. 375 V DC
Current consumption	< 50 A (650 V DC)

Output data

Efficiency	> 95 % (P_{Out} >50%)
Output voltage range	30 V DC ... 1000 V DC
Output current range	0 A ... 100 A
Nominal power	30 kW
Power dissipation standby	< 14 W
Protection against overvoltage at the output (OVP)	> 1040 V DC
Derating	> 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 %)
	± 0.2 % (Input voltage change ±20 %)
Switch-on delay	< 8 s
Overshoot behavior	± 3 % (Switch-on procedure)

Connection data

Input

Designation	Input
Identification	DC IN: + / - / PE

Conductor connection

Connection method	Push-in connection
rigid	1.5 mm² ... 16 mm²
	10 mm² (recommended)

flexible	1.5 mm² ... 16 mm²
	10 mm² (recommended)
rigid (AWG)	15 ... 5 (Cu)
	7 (recommended)
AWG	7
Stripping length	18 mm (rigid/flexible)

Output

Designation	Output
Identification	DC OUT: + / -

Conductor connection

Connection method	T-LOX knee lever connection
rigid	10 mm² ... 50 mm²
	25 mm² (recommended)
flexible	16 mm² ... 50 mm²
	25 mm² (recommended)
rigid (AWG)	8 ... 0 (Cu)
	4 (recommended)
AWG	3
Stripping length	20 mm (10 mm² ... 25 mm² = 18 mm, 35 mm² ... 50 mm² = 20 mm)

Interfaces

CAN-Bus

Interface	CAN bus
Number of interfaces	1
Connection method	2x RJ45
Supported protocols	CAN 2.0B
Locking	Locking clip
Transmission physics	wired
Topology	Daisy Chain
Transmission speed	125 kbps (Default)
	500 kbps
Transmission length	max. 20 m
Termination resistor	120 Ω (Terminating the end device)
Number of power modules as CAN bus devices	max. 48

Electrical properties

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

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Product properties

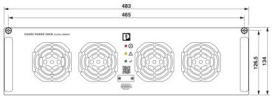
Product type	DC power module
Product family	CHARX power basic
MTBF (IEC 61709, SN 29500)	> 300000 h
Service life	90000 h (40°C, electrolytic capacitators)
	70000 h (40 °C, fan)
Internal fan	yes
Volumetric flow	360 m³/h (P_{Out} = 100 %, 45 °C)
Flow direction	from front to back

Insulation characteristics

Protection class	I
Overvoltage category (IEC 60664-1)	II
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

Material specifications

Housing material	Zn-Al alloy

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
Over temperature protection	> 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

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 21-2: EMC requirements for off board electric vehicle charging systems

Standard designation	Electric vehicle conductive charging system - Part 21-2: EMC requirements for off board electric vehicle charging systems
Standards/specifications	IEC 61851-21-2 (Class B)

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

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

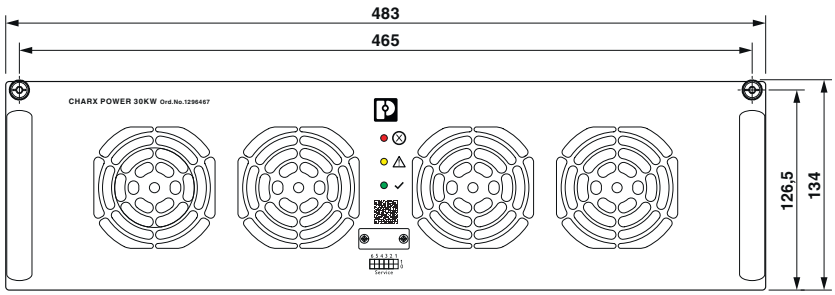
Standard designation	Standard for Safefy for Electric Vehicle (EV) Charging System Equipment
Standards/specifications	ANSI/UL 2202

EMC data

EMC requirements for noise emission	EN IEC 61000-6-3
EMC requirements for noise immunity	EN IEC 61000-6-2

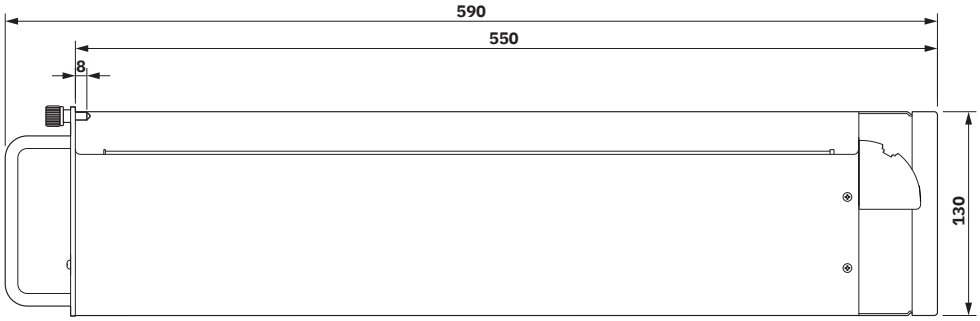
Drawings

Dimensional drawing



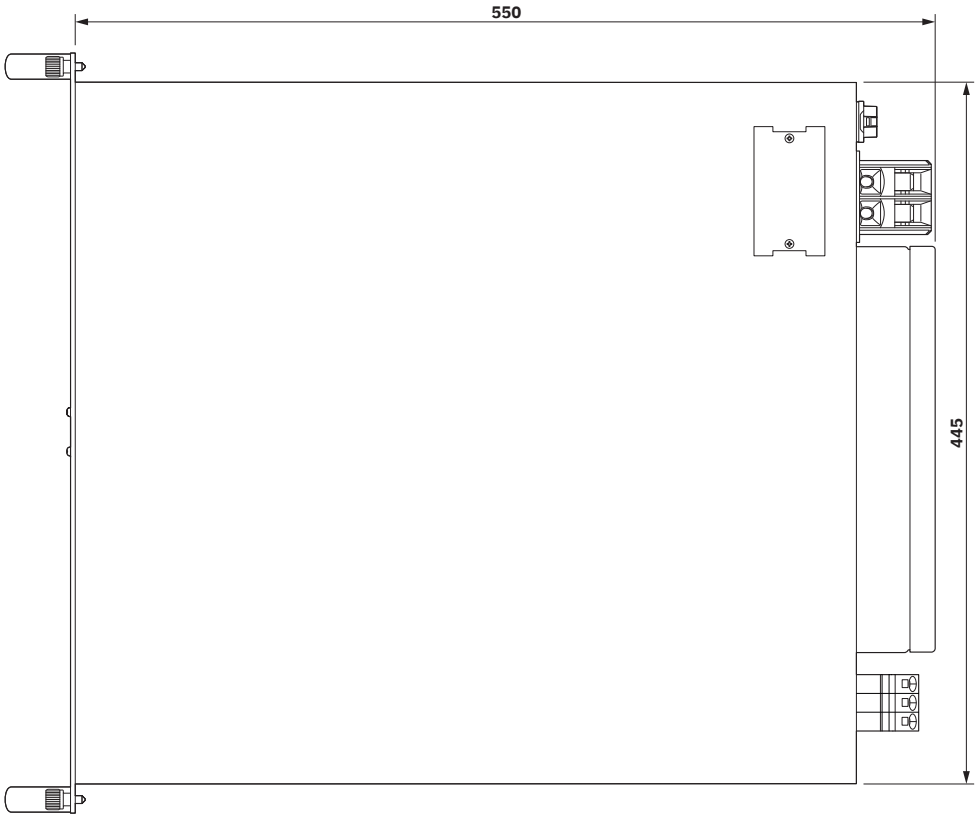
Device dimensions (dimensions in mm)

Dimensional drawing



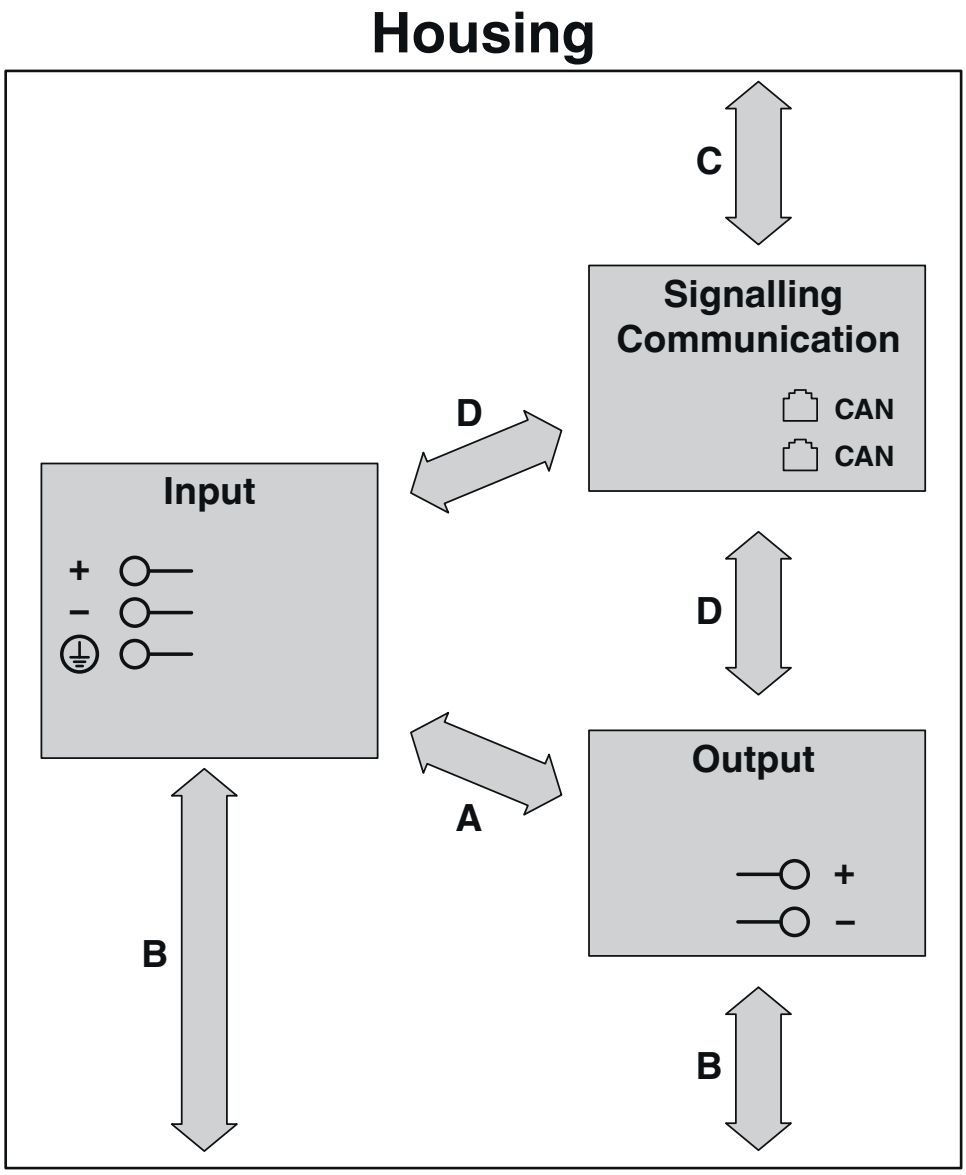
Device dimensions (dimensions in mm)

Dimensional drawing



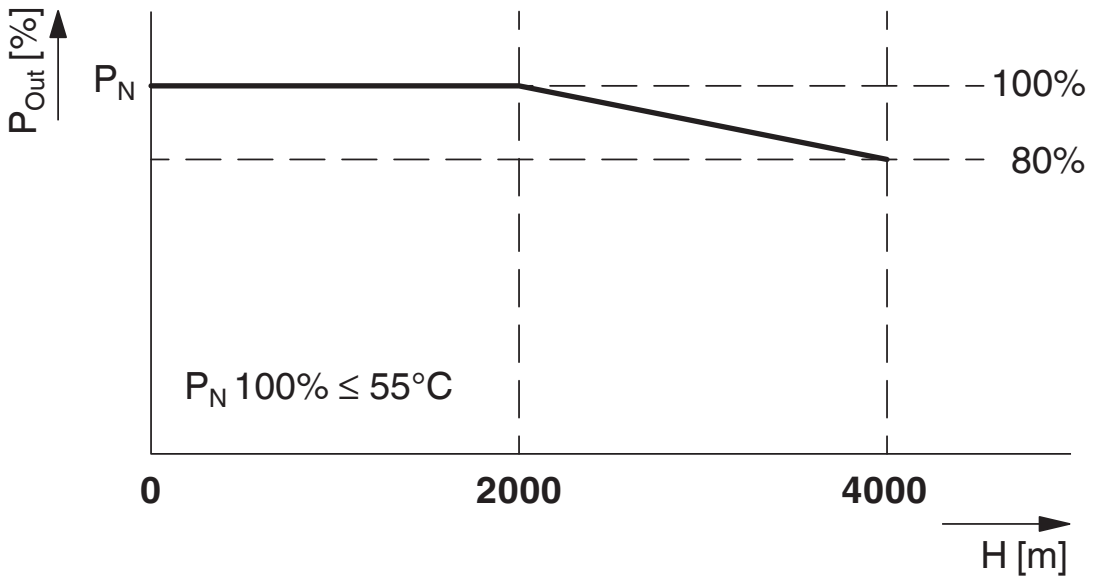
Device dimensions (dimensions in mm)

Schematic diagram



Insulation electric strength

Diagram



Diagram

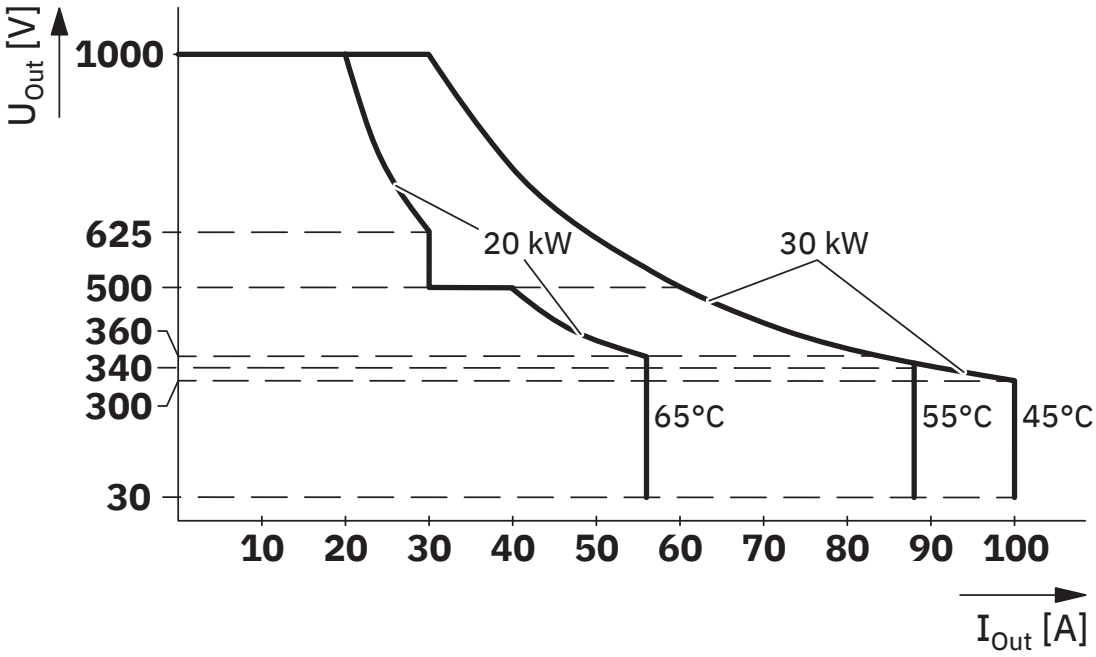
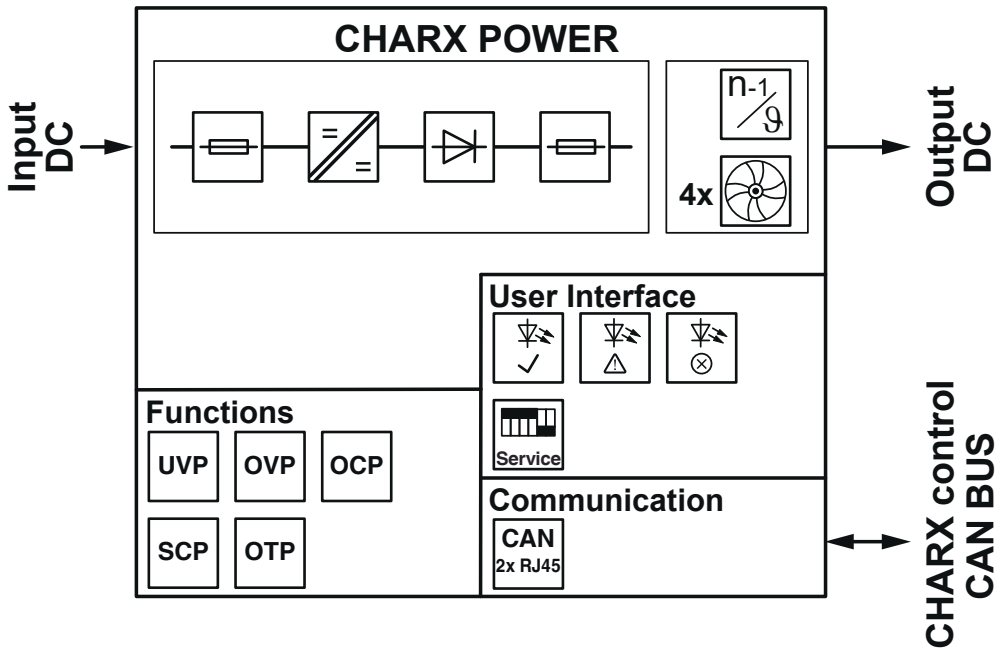


Chart (output power)

Block diagram



Block diagram

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1296467

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

TÜV SÜD Type tested
Approval ID: N8A 029429 0025

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

EU-Type Examination Certificate
Approval ID: E8A 029429 0046

TÜV SÜD Type tested
Approval ID: N8A 029429 0025

TÜV Rheinland
Approval ID: CU 72303251 01

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Approval ID: CU 72303251 01

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

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

TÜV SÜD Type tested
Approval ID: B 029429 0024

EU-Type Examination Certificate
Approval ID: E8A 029429 0046

TÜV SÜD Type tested
Approval ID: B 029429 0024

Classifications

ECLASS

ECLASS-13.0	27040701
ECLASS-15.0	27040701

ETIM

ETIM 10.0	EC002540

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 7(a)

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.)	Lead(CAS: 7439-92-1)
SCIP	8321781a-f66a-414d-92a4-df4f29a07c0d

EF3.1 Climate Change

CO2e kg	862.696 kg CO2e

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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com