

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



1296467

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

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## 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 mm <sup>2</sup> ... 16 mm <sup>2</sup> 10 mm <sup>2</sup> (recommended)

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flexible	1.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>
	10 mm <sup>2</sup> (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 mm <sup>2</sup> ... 50 mm <sup>2</sup>
	25 mm <sup>2</sup> (recommended)
flexible	16 mm <sup>2</sup> ... 50 mm <sup>2</sup>
	25 mm <sup>2</sup> (recommended)
rigid (AWG)	8 ... 0 (Cu)
	4 (recommended)
AWG	3
Stripping length	20 mm (10 mm <sup>2</sup> ... 25 mm <sup>2</sup> = 18 mm, 35 mm <sup>2</sup> ... 50 mm <sup>2</sup> = 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

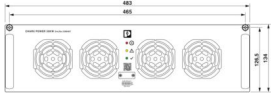
Product type	DC power module
Product family	CHARX power basic
MTBF (IEC 61709, SN 29500)	> 300000 h
Service life	90000 h (40 °C, electrolytic capacitors) 70000 h (40 °C, fan)
Internal fan	yes
Volumetric flow	360 m <sup>3</sup> /h (P <sub>Out</sub> = 100 %, 45 °C)
Flow direction	from front to back

## 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
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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 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)

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## 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 Safety 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

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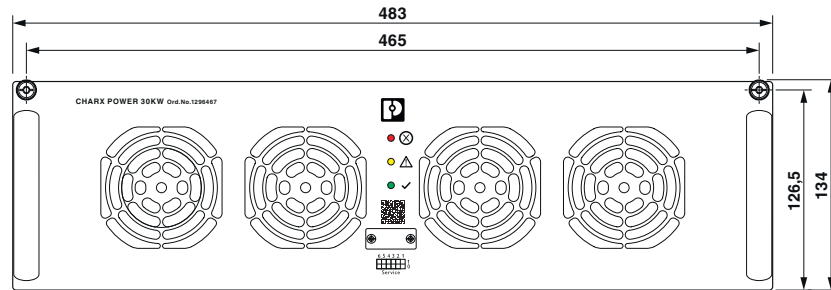


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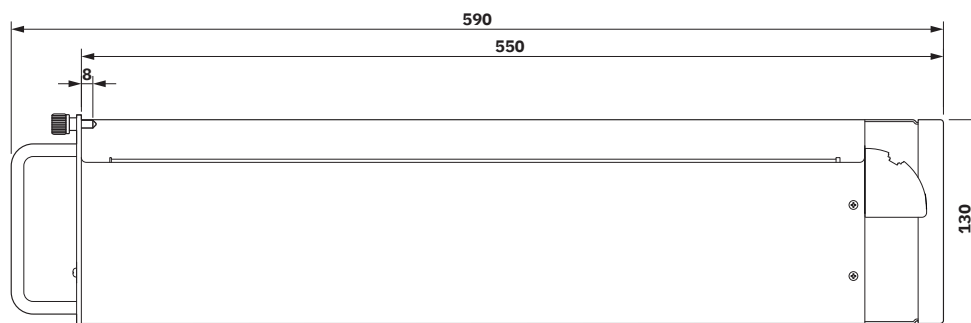
## Drawings

Dimensional drawing



Device dimensions (dimensions in mm)

Dimensional drawing



Device dimensions (dimensions in mm)

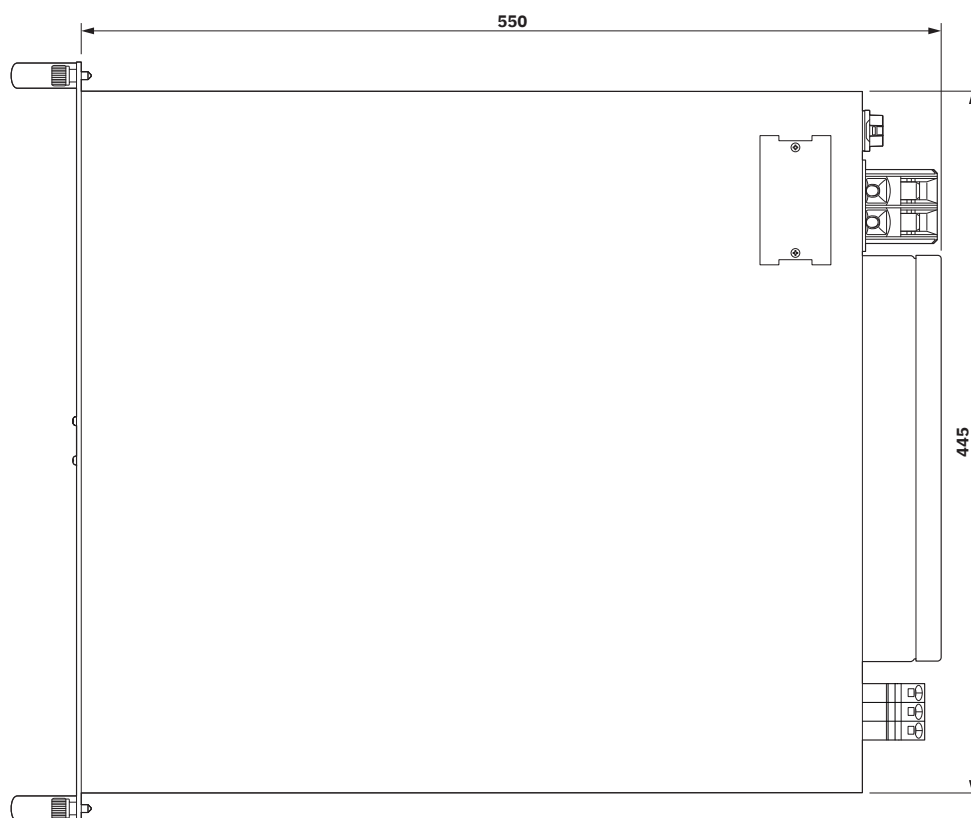
# CHARX PS-M2/825DC/1000DC/30KW - DC power module



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Dimensional drawing



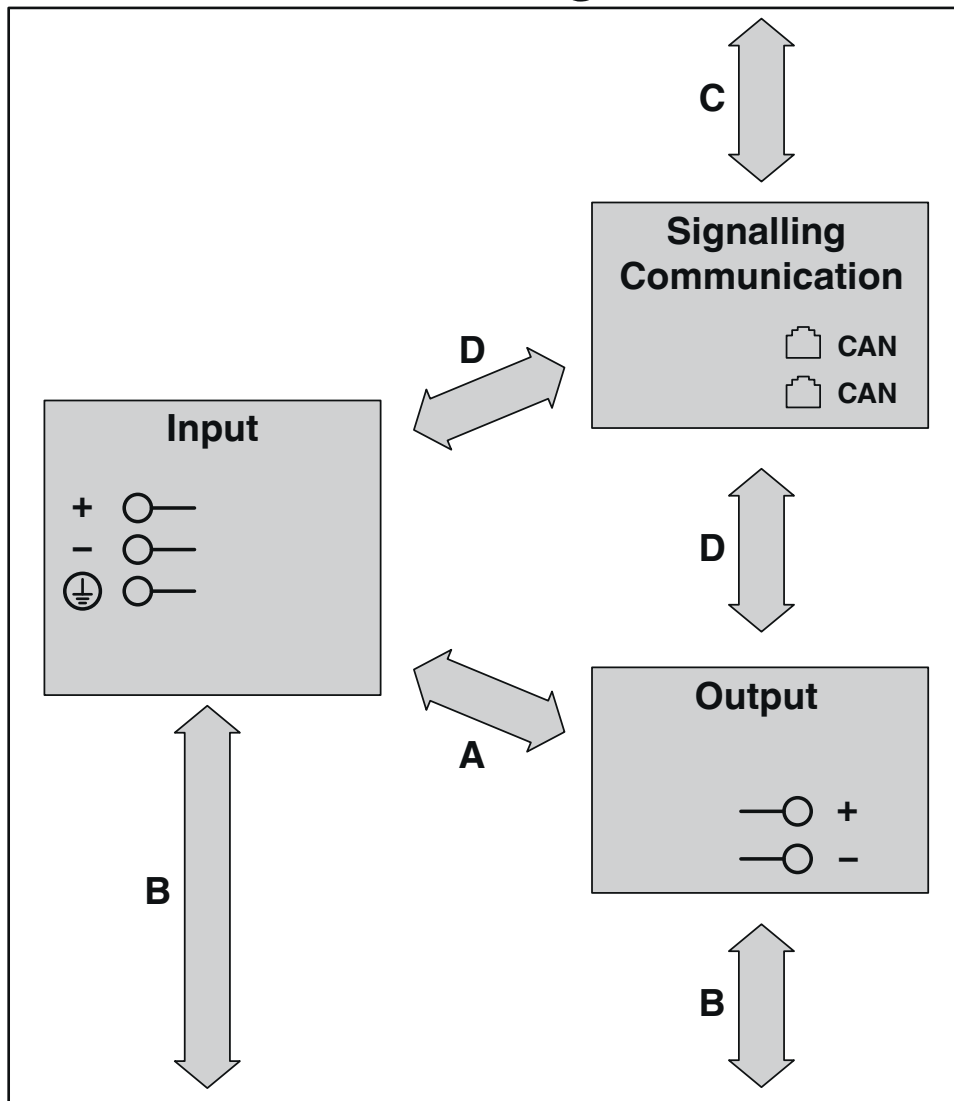
Device dimensions (dimensions in mm)

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Schematic diagram

# Housing



Insulation electric strength

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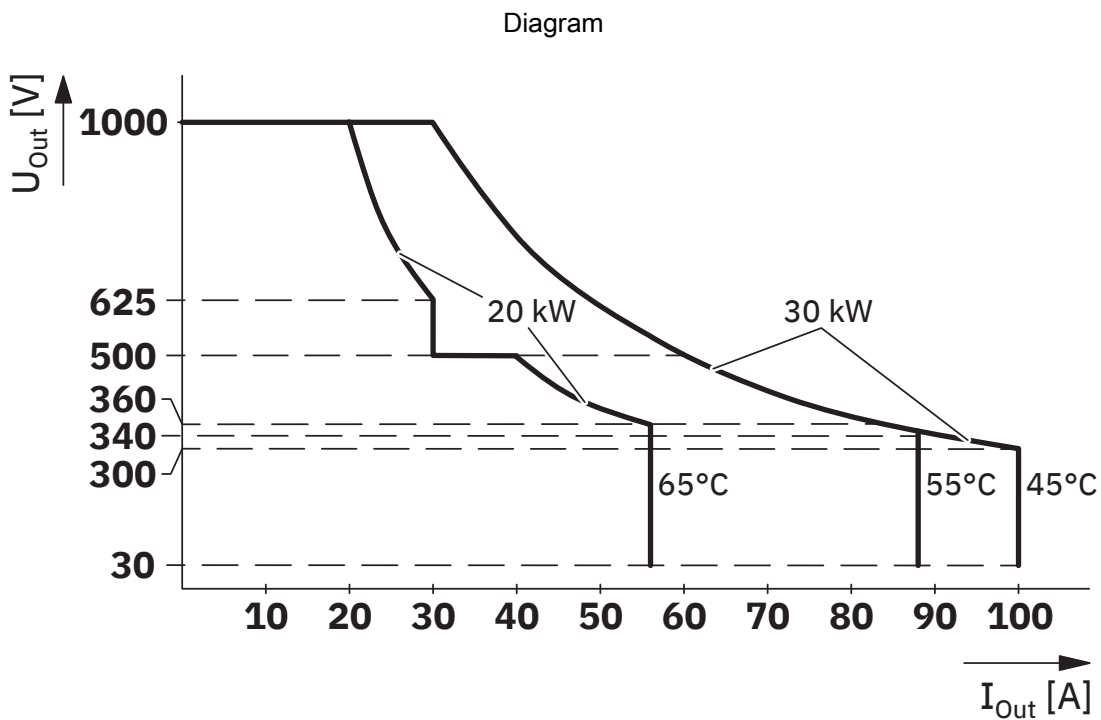
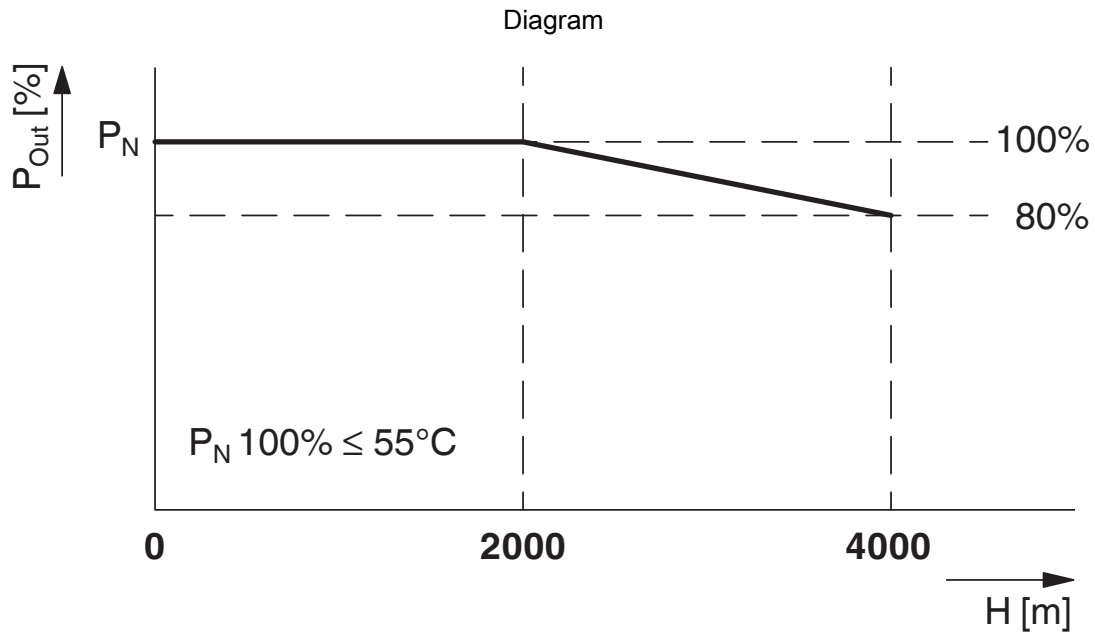


Chart (output power)

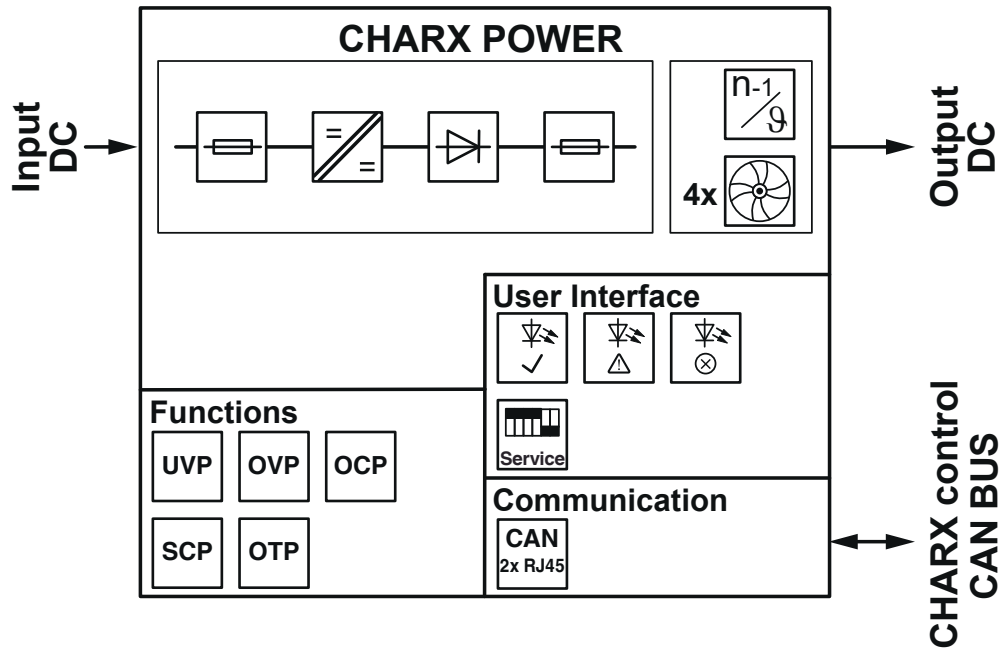
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Block diagram



Block diagram

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## 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



**TÜV Rheinland**

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

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**TÜV SÜD Type tested**  
Approval ID: B 029429 0024

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## Classifications

### ECLASS

ECLASS-13.0	27040701
ECLASS-15.0	27040701

### ETIM

ETIM 10.0	EC002540
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## 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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