

Power supply unit - UNO2-PS/1AC/48DC/240W



1110155

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Primary-switched power supply unit, UNO POWER, Screw connection, DIN rail mounting, input: 1-phase, output: 48 V DC / 5 A

Your advantages

- Save space in the control cabinet with an extremely narrow overall width of just 45 mm
- Save energy, thanks to a high degree of efficiency
- Outdoor installation possible, with a wide temperature range of -25°C ... +70°C
- Simple output voltage monitoring, thanks to the floating DC OK relay contact

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Commercial Data

Order Key	1110155
Packing unit	1 pc
Minimum order quantity	1 pc
Product Key	CMPV14
GTIN	4063151024840
Weight per Piece (including packing)	857 g
Weight per Piece (excluding packing)	855 g
Customs tariff number	85044030
Country of origin	TH

Technical Data

Input data

Supply system configuration	Star network (TN, TT, IT (PE))
Nominal input voltage range	100 V AC ... 240 V AC
Input voltage range	100 V AC ... 240 V AC -15 % ... +10 %
Derating	< 90 V AC (1 %/V)
Typical national grid voltage	120 V AC
	230 V AC
Voltage type of supply voltage	AC
Inrush current	10 A
Inrush current integral (I^2t)	< 0.05 A ² s
Inrush current limitation	< 20 A (at 25 °C)
Frequency range (f_N)	50 Hz ... 60 Hz \pm 10 %
Mains buffering time	typ. 20 ms (120 V AC)
	typ. 20 ms (230 V AC)
Current consumption	2.6 A (100 V AC)
	2.2 A (120 V AC)
	1.16 A (230 V AC)
	1.2 A (240 V AC)
Protective circuit	Transient surge protection; Varistor, gas-filled surge arrester
Switch-on time	typ. 530 ms
Device mains fuse	5 A internal (device protection), fast-blow
Recommended breaker for input protection	10 A ... 16 A (Characteristic B, C, D, K or comparable)
Discharge current to PE	< 3.5 mA

Output data

Efficiency	typ. 91.5 % (120 V AC)
	typ. 93 % (230 V AC)
Nominal output voltage	48 V DC
Setting range of the output voltage (U_{Set})	42 V DC ... 56 V DC (\geq 48 V DC, constant capacity restricted < 48 V DC, constant current restricted)
Nominal output current (I_N)	5 A
Short-circuit-proof	yes
No-load proof	yes
Crest factor	typ. 1.637 (120 V AC)
	typ. 1.54 (230 V AC)
Output power (P_N)	240 W
Connection in parallel	yes, for increased efficiency and redundancy
Connection in series	yes, for increased output voltage
Feedback voltage resistance	\leq 60 V DC
Protection against overvoltage at the output (OVP)	\leq 60 V DC
Residual ripple	typ. 50 mV _{pp} (with nominal values)

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Control deviation	< 1 % (change in load, static 10 % ... 90 %)
	< 3 % (change in load, dynamic 10 % ... 90 %)
	< 0.1 % (change in input voltage ± 10 %)
Rise time	< 1 s ($U_{OUT} = 10$ % ... 90 %)
Minimum no-load power dissipation	< 2.9 W (120 V AC)
Maximum no-load power dissipation	< 3 W (230 V AC)
Minimum nominal load power dissipation	< 37 W (120 V AC)
Power loss nominal load max.	< 28 W (230 V AC)

Signal relay 13/14

Connection level	3.x
Connection labeling	3.1 (13), 3.2 (14)
Switch contact (floating)	OptoMOS
Switching voltage	max. 30 V AC/DC
	max. 60 V DC
Current carrying capacity	max. 50 mA
State condition	$U_{OUT} \geq 42$ V DC (Contact closed)
	$U_{OUT} < 42$ V DC (Contact open)

Connection data

Input

Position	1.x
Identification	1.1 (\square), 1.2 (L), 1.3 (N)

Conductor connection

Connection method	Screw connection
rigid	0.2 mm ² ... 2.5 mm ²
flexible	0.2 mm ² ... 2.5 mm ²
flexible with ferrule without plastic sleeve	0.25 mm ² ... 2.5 mm ²
flexible with ferrule with plastic sleeve	0.25 mm ² ... 2.5 mm ²
rigid (AWG)	24 ... 14 (Cu)
Stripping length	6.5 mm
Torque	0.5 Nm ... 0.6 Nm
	4 lb _F -in. ... 5 lb _F -in.

Output

Position	2.x
Identification	2.1, 2.2 (+), 2.3, 2.4 (-)

Conductor connection

Connection method	Screw connection
rigid	0.2 mm ² ... 2.5 mm ²
flexible	0.2 mm ² ... 2.5 mm ²
flexible with ferrule without plastic sleeve	0.25 mm ² ... 2.5 mm ²
flexible with ferrule with plastic sleeve	0.25 mm ² ... 2.5 mm ²

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1110155

<https://www.phoenixcontact.com/it/products/1110155>

rigid (AWG)	24 ... 14 (Cu)
Stripping length	6.5 mm
Torque	0.5 Nm ... 0.6 Nm 4 lb _f -in. ... 5 lb _f -in.

Signal

Position	3.x
Identification	3.1 (13), 3.2 (14)

Conductor connection

Connection method	Screw connection
rigid	0.2 mm ² ... 2.5 mm ²
flexible	0.2 mm ² ... 2.5 mm ²
flexible with ferrule without plastic sleeve	0.25 mm ² ... 2.5 mm ²
flexible with ferrule with plastic sleeve	0.25 mm ² ... 2.5 mm ²
rigid (AWG)	24 ... 14 (Cu)
Stripping length	6.5 mm
Torque	0.5 Nm ... 0.6 Nm 4 lb _f -in. ... 5 lb _f -in.

LED signaling

Types of signaling	DC OK LED - signal state operation ($U_N = 48 \text{ V DC}$, $I_{Out} = I_N$)
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Electrical properties

Number of phases	1.00
Insulation voltage input/output	4 kV AC (type test) 3 kV AC (routine test)
Insulation voltage input / PE	3.5 kV AC (type test) 2.4 kV AC (routine test)

Product properties

Product type	Power supply
MTBF (IEC 61709, SN 29500)	> 1000000 h (25 °C) > 550000 h (40 °C) > 280000 h (55 °C)
Environmental protection directive	RoHS Directive 2011/65/EU WEEE Reach

Insulation characteristics

Protection class	I
Degree of pollution	2

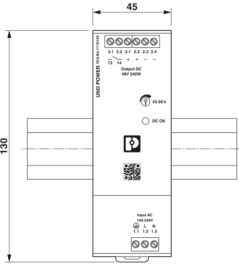
Dimensions

Power supply unit - UNO2-PS/1AC/48DC/240W



1110155

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Dimensional drawing	
Width	45 mm
Height	130 mm
Depth	125 mm (Device depth (DIN rail mounting))
Depth	129 mm

Installation dimensions	
Installation distance right/left (active, passive)	0 mm / 0 mm ($P_{Out} \geq 50\%$)
Installation distance top/bottom (active, passive)	30 mm / 30 mm ($P_{Out} \geq 50\%$)

Mounting

Mounting type	DIN rail mounting
Assembly instructions	alignable: 0 mm horizontally, 30 mm vertically
Mounting position	horizontal DIN rail NS 35, EN 60715

Material specifications

Flammability rating according to UL 94	V0 (Housing, terminal blocks)
Hood version	Stainless steel
Side element version	Aluminum
Foot latch material	Sheet steel, zinc-plated
Housing material	Aluminum (AlMg3) / sheet steel, zinc-plated

Environmental and real-life conditions

Ambient conditions	
Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C (> 55 °C Derating: 2.5 %/K)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Ambient temperature (start-up type tested)	-40 °C
Maximum altitude	≤ 3000 m (> 2000 m, Derating: 10 %/1000 m)
Climatic class	3K3 (in acc. with EN 60721)
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Shock (operation)	18 ms, 30g, per spatial direction (IEC 60068-2-27)
Vibration (operation)	10 Hz ... 50 Hz, amplitude ±0.2 mm 50 Hz to 150 Hz, 2.3 g, 90 min.

Standards and regulations

Overvoltage category	
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EN 61010-1	II (≤ 3000 m)
Overvoltage category	
EN 62477-1	III (≤ 3000 m)
Safety of power supply units up to 1100 V (insulation distances)	
Standards/specifications	DIN EN 61558-2-16
Electrical safety	
Standards/specifications	IEC 61010-2-201 (SELV)
Electronic equipment for use in power installations	
Standards/specifications	EN 50178/VDE 0160 (PELV)
Safety for measurement, control, and laboratory equipment	
Standards/specifications	IEC 61010-1
Protective extra-low voltage	
Standards/specifications	IEC 61010-1 (SELV)
	IEC 61010-2-201 (PELV)
Safe isolation	
Standards/specifications	IEC 61558-2-16
	IEC 61010-2-201
Limitation of harmonic line currents	
Standards/specifications	EN 61000-3-2
Mains voltage dips	
Standards/specifications	SEMI F47 - 0706 (185 V AC)

Approval data

UL	
Identification	UL/C-UL Listed UL 61010-1
UL	
Identification	UL/C-UL Listed UL 61010-2-201
UL	
Identification	UL/C-UL Listed ANSI/UL 121201 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
SIQ	
Identification	CB scheme (IEC 61010-1, IEC 61010-2-201)

EMC data

Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
EMC requirements for noise immunity	EN 61000-6-2
Conducted noise emission	EN 55016

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1110155

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	EN 61000-6-3 (Class B)
Interference emission	Noise emission according to EN 61000-6-3 (residential and commercial) and EN 61000-6-4 (industrial)
Noise emission	EN 55016
	EN 61000-6-3 (Class B)
Noise immunity	EN 61000-6-2:2005

Harmonic currents

Standards/regulations	EN 61000-3-2
	EN 61000-3-2 (Class A)
Frequency range	0 kHz ... 2 kHz

Electrostatic discharge

Standards/regulations	EN 61000-4-2
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Electrostatic discharge

Contact discharge	6 kV (Test Level 3)
Discharge in air	8 kV (Test Level 3)
Comments	Criterion A

Electromagnetic HF field

Standards/regulations	EN 61000-4-3
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Electromagnetic HF field

Frequency range	80 MHz ... 1 GHz
Test field strength	10 V/m (Test Level 3)
Frequency range	1 GHz ... 2 GHz
Test field strength	10 V/m (Test Level 3)
Frequency range	2 GHz ... 3 GHz
Test field strength	10 V/m (Test Level 3)
Comments	Criterion A

Fast transients (burst)

Standards/regulations	EN 61000-4-4
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Fast transients (burst)

Input	4 kV (Test Level 4 - asymmetrical)
Output	2 kV (Test Level 3 - asymmetrical)
Comments	Criterion A

Surge voltage load (surge)

Standards/regulations	EN 61000-4-5
Input	2 kV (Test Level 3 - symmetrical)
	4 kV (Test Level 4 - asymmetrical)
Output	1 kV (Test Level 2 - symmetrical)
	2 kV (Test Level 3 - asymmetrical)
Comments	Criterion A

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Conducted interference

Standards/regulations	EN 61000-4-6
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Conducted interference

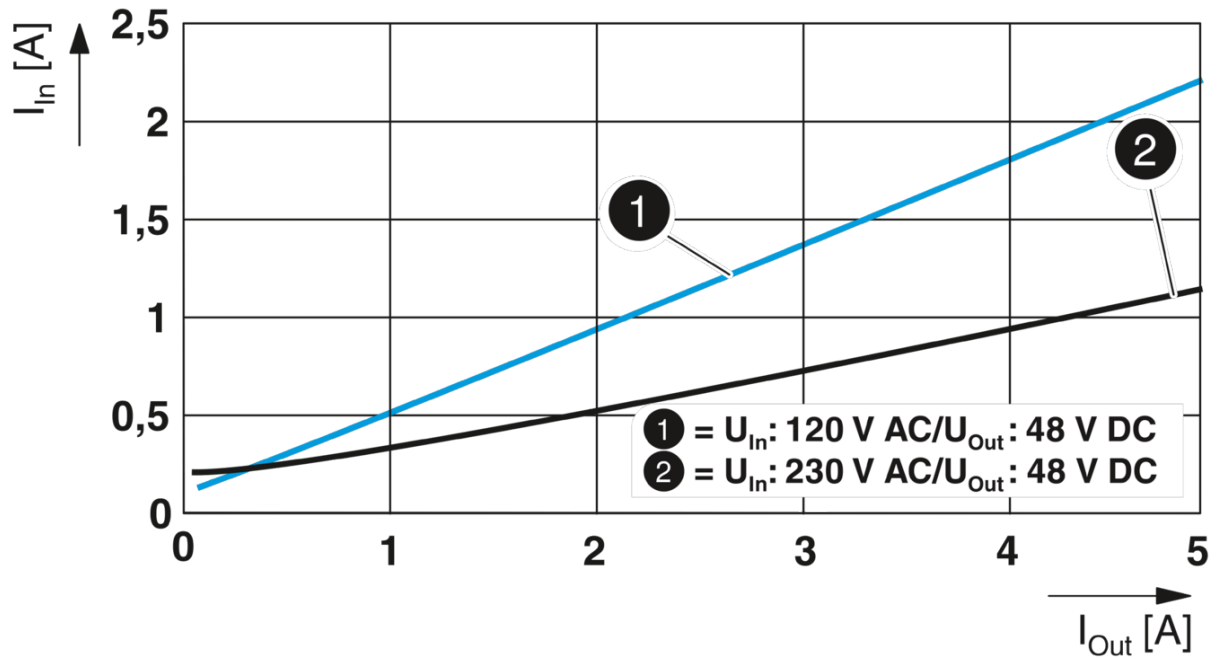
Input/Output	asymmetrical
Frequency range	0.15 MHz ... 80 MHz
Comments	Criterion A
Voltage	10 V (Test Level 3)

Voltage dips

Standards/regulations	EN 61000-4-11
Voltage	230 V AC
Frequency	50 Hz
Voltage dip	70 %
Number of periods	25 / 30 periods
Comments	Criterion A
Voltage dip	40 %
Number of periods	12 periods
Additional text	Test Level 2
Comments	Criterion A
Voltage dip	0 %
Number of periods	1 period
Additional text	Test Level 2
Comments	Criterion B
Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.

Drawings

Diagram



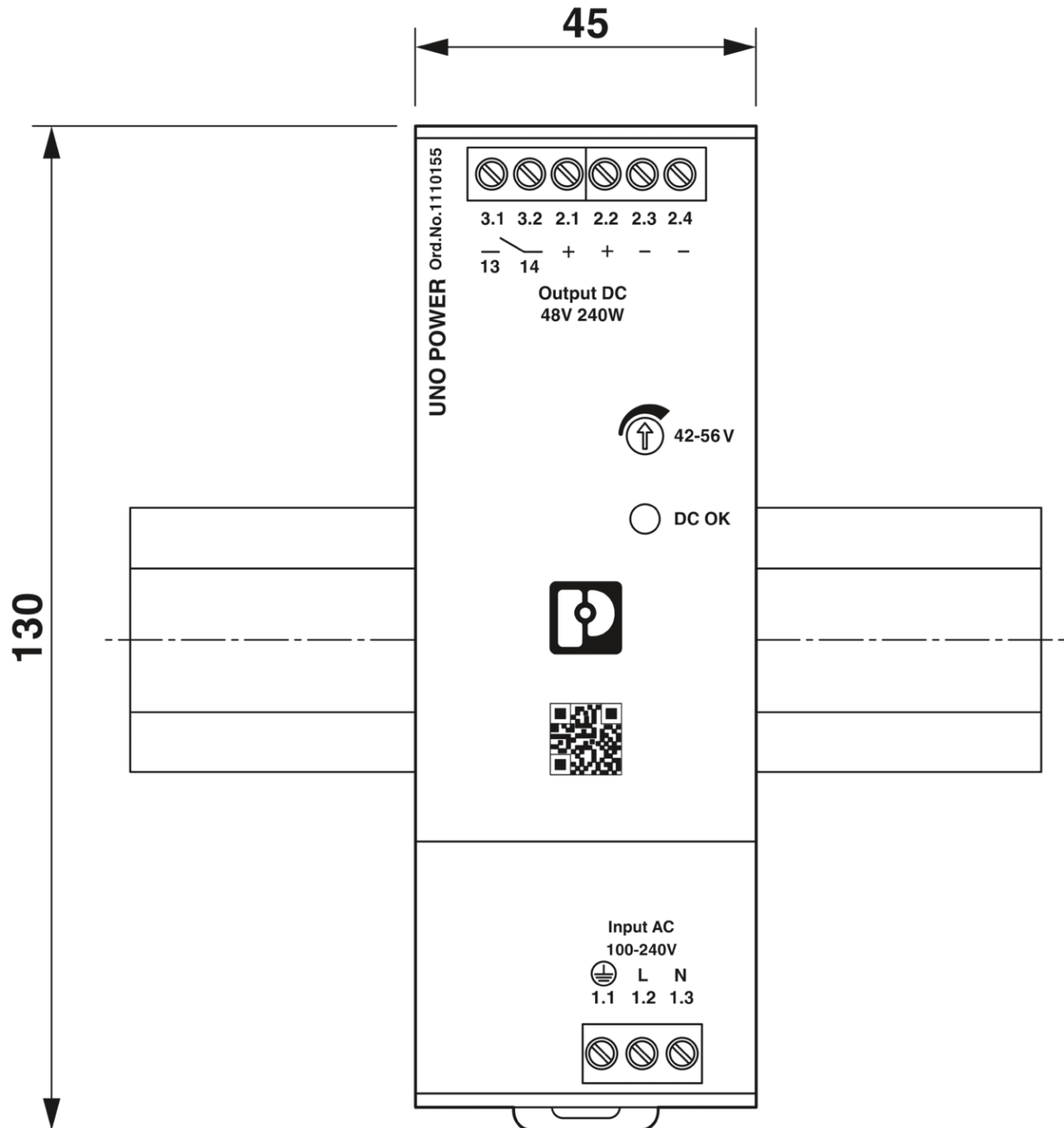
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1110155

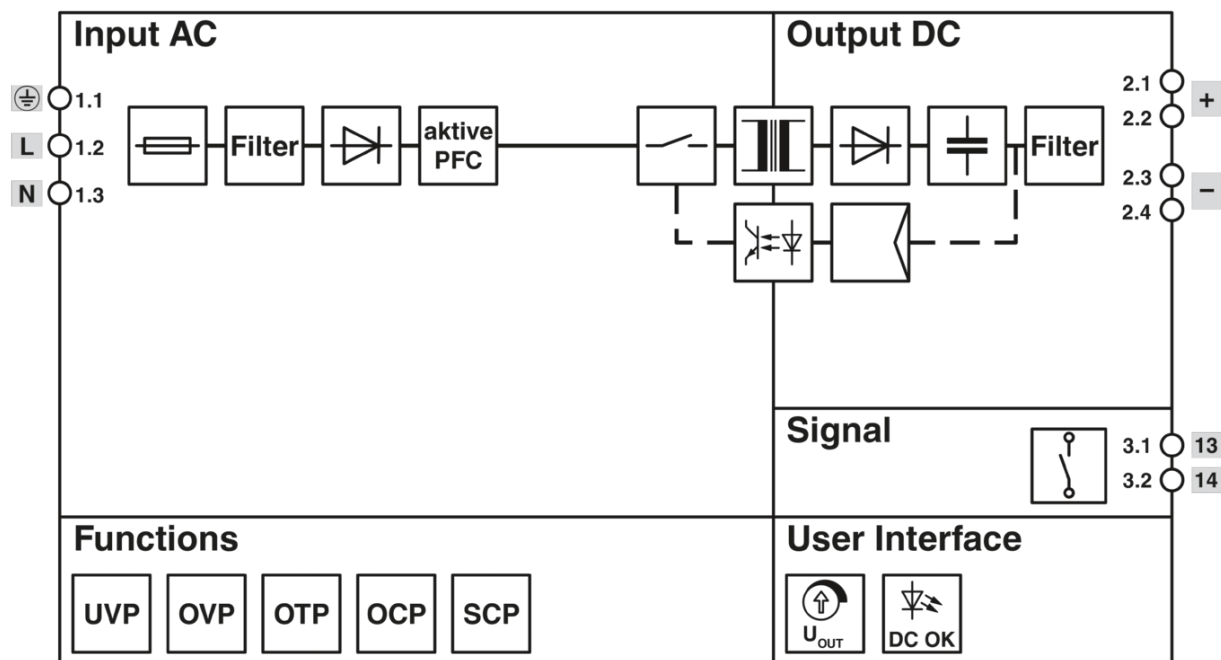
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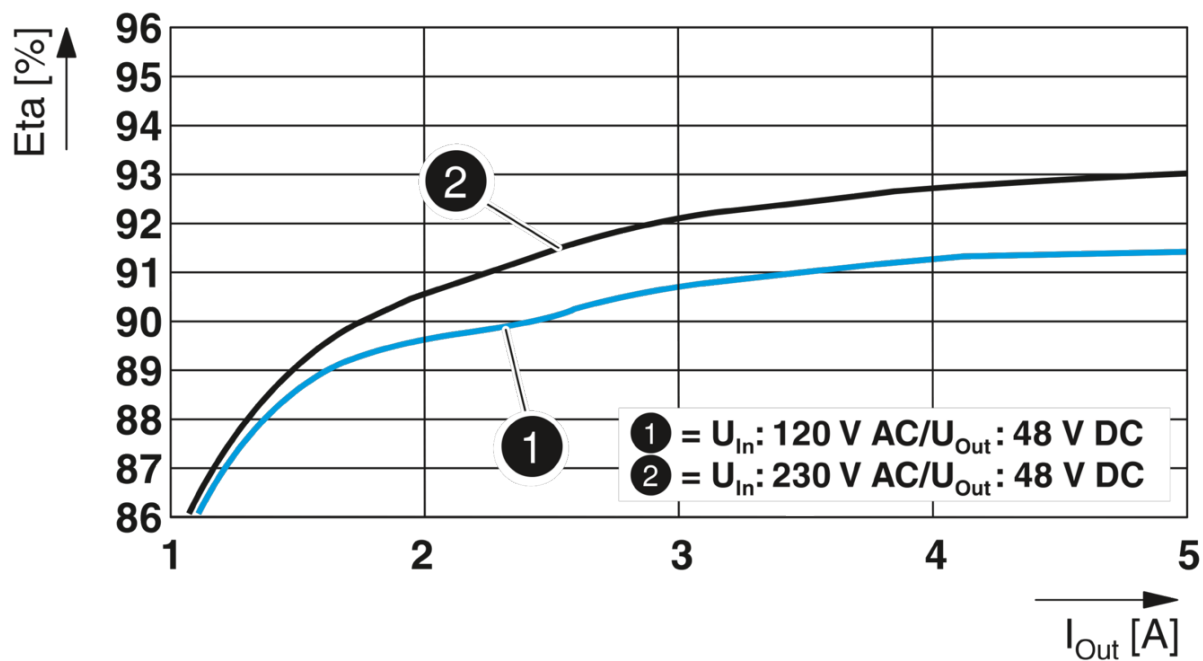
Dimensional drawing



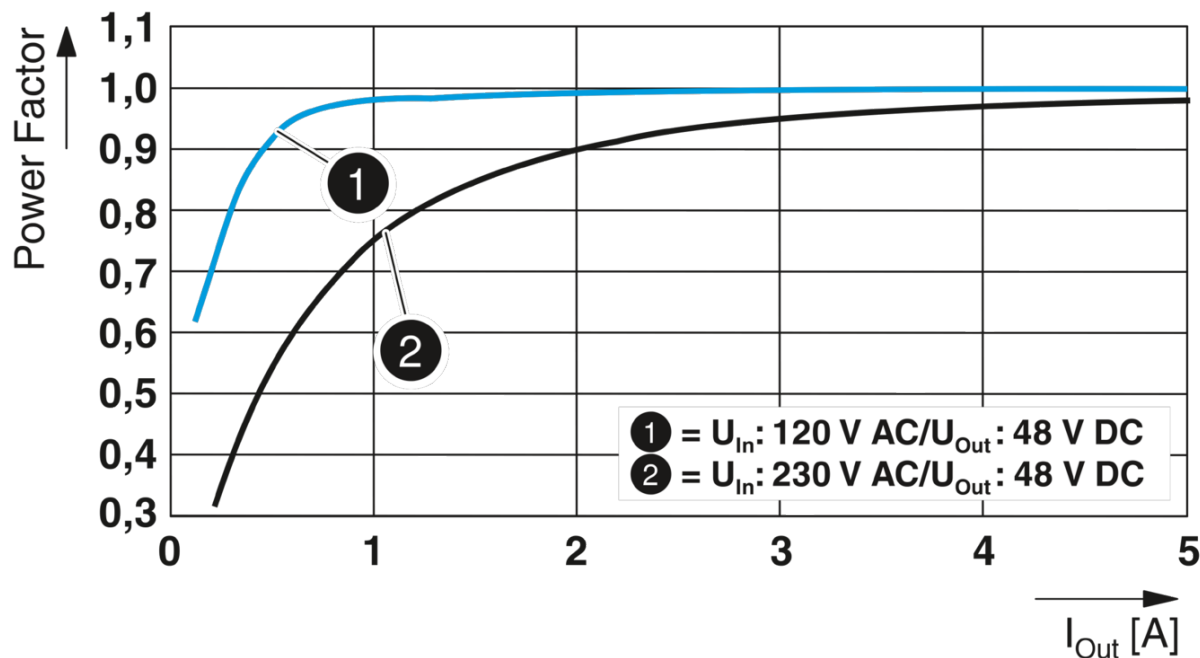
Block diagram



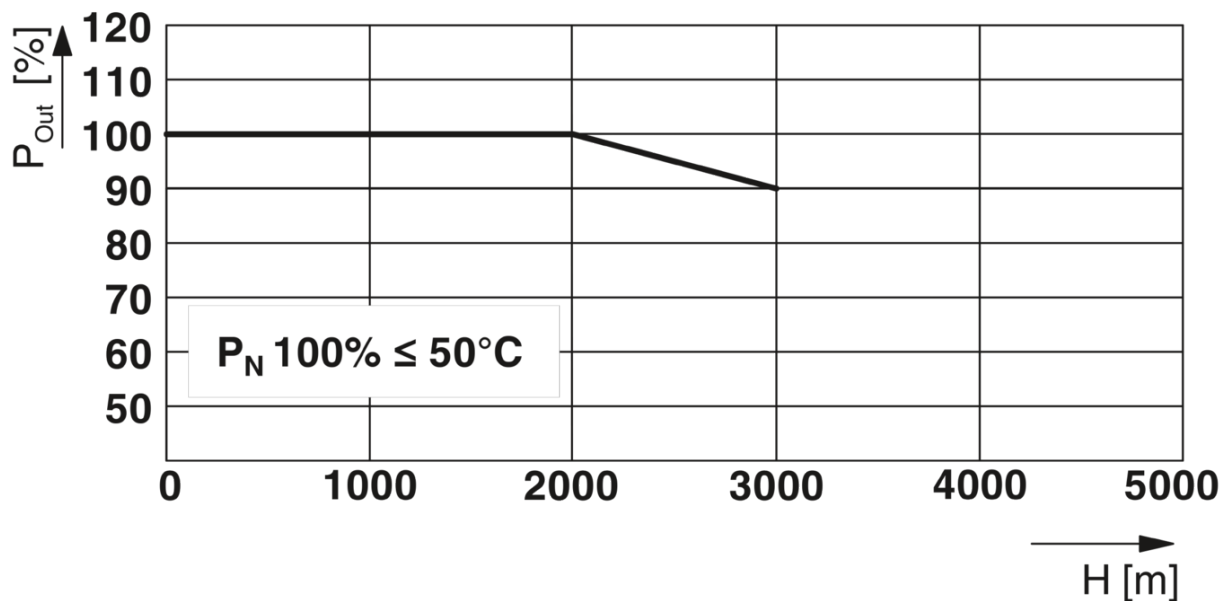
Diagram



Diagram



Diagram



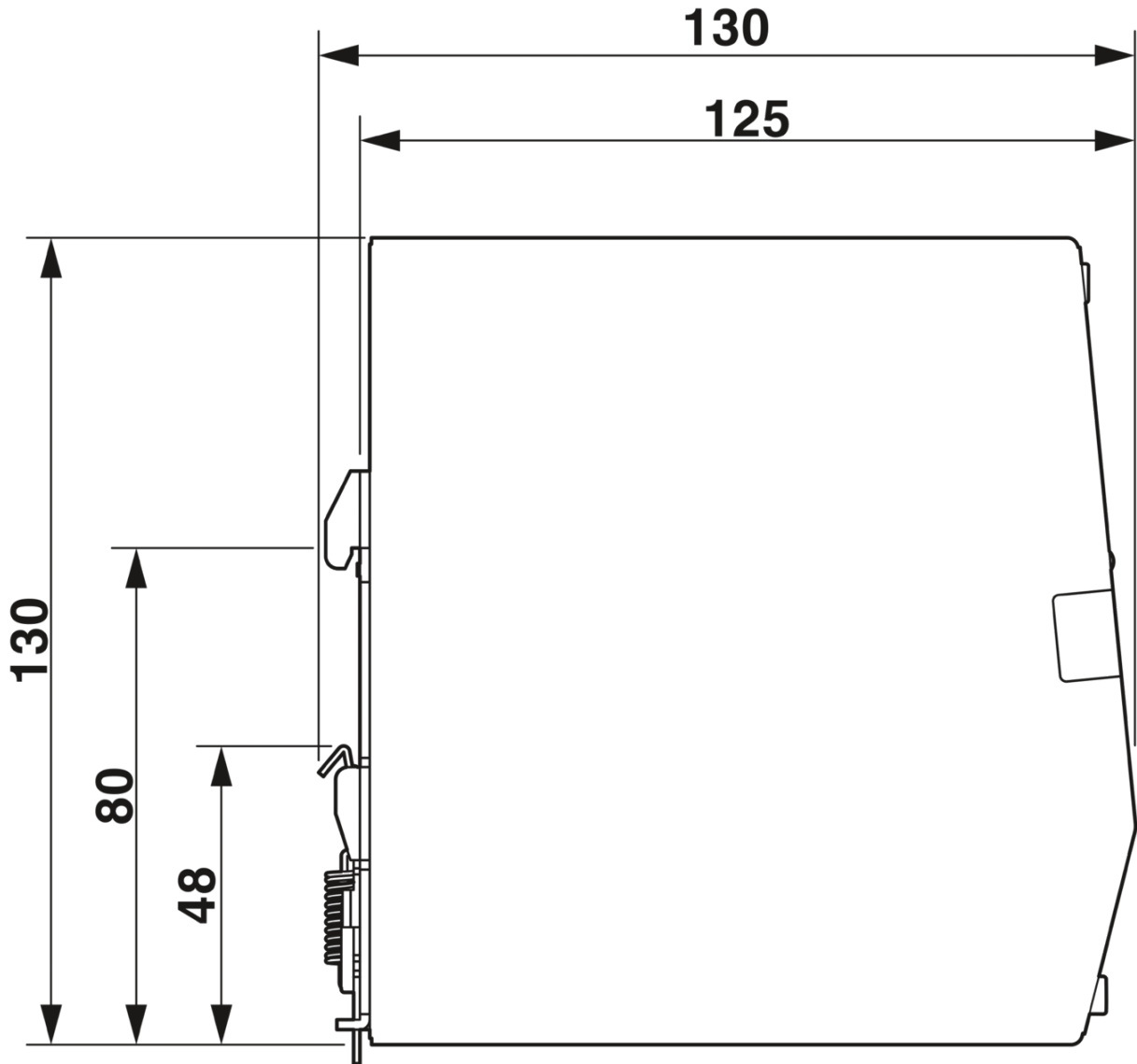
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Dimensional drawing



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Approvals

EAC ENEC

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Classifications

ECLASS

ECLASS-11.0

27040701

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