

Power supply unit - UNO2-PS/1AC/24DC/240W



1096432

<https://www.phoenixcontact.com/us/products/1096432>

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Primary-switched power supply unit, UNO POWER, Screw connection, DIN rail mounting, input: 1-phase, output: 24 V DC / 10 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

Power supply unit - UNO2-PS/1AC/24DC/240W



1096432

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Commercial Data

Item number	1096432
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	C14
Product Key	CMPV13
GTIN	4055626930466
Weight per Piece (including packing)	862 g
Weight per Piece (excluding packing)	862 g
Customs tariff number	85044030
Country of origin	TH

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1096432

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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	typ. 10 A (at 25 °C)
Inrush current integral (I^2t)	< 0.2 A ² s
Frequency range (f_N)	50 Hz ... 60 Hz $\pm$ 10 %
Mains buffering time	typ. 16 ms (120 V AC)
	typ. 20 ms (230 V AC)
Current consumption	2.6 A (100 V AC)
	2.2 A (120 V AC)
	1.13 A (230 V AC)
	1.2 A (240 V AC)
Protective circuit	Transient surge protection; Varistor, gas-filled surge arrester
Switch-on time	typ. 400 ms
Device mains fuse	5 A internal (device protection), fast-blow
Recommended breaker for input protection	6 A ... 16 A (Characteristic B, C, D, K or comparable)
Discharge current to PE	< 3.5 mA

Output data

Efficiency	typ. 92 % (120 V AC)
	typ. 93.7 % (230 V AC)
Nominal output voltage	24 V DC
Setting range of the output voltage (U_{Set})	24 V DC ... 28 V DC (> 24 V DC, constant capacity restricted)
Nominal output current (I_N)	10 A
Short-circuit-proof	yes
No-load proof	yes
Crest factor	typ. 1.65 (120 V AC)
	typ. 1.63 (230 V AC)
Output power (P_N)	240 W
Connection in parallel	yes, for redundancy
Connection in series	yes, for increased output voltage
Feedback voltage resistance	$\leq$ 35 V DC
Protection against overvoltage at the output (OVP)	$\leq$ 35 V DC
Residual ripple	typ. 50 mV _{PP} (with nominal values)
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
	< 3 % (change in load, dynamic 10 % ... 90 %)

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1096432

<https://www.phoenixcontact.com/us/products/1096432>

	< 0.1 % (change in input voltage ± 10 %)
Rise time	< 1 s ($U_{\text{Out}} = 10$ % ... 90 %)
Minimum no-load power dissipation	< 4 W (120 V AC)
Maximum no-load power dissipation	< 4 W (230 V AC)
Minimum nominal load power dissipation	< 25 W (120 V AC)
Power loss nominal load max.	< 19 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	$U_{\text{OUT}} > 0,9 \times U_{\text{N}}$ (Contact closed)
	$U_{\text{OUT}} < 0,9 \times U_{\text{N}}$ (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.
Drive form screw head	Slotted L

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
rigid (AWG)	24 ... 14 (Cu)

Power supply unit - UNO2-PS/1AC/24DC/240W



1096432

<https://www.phoenixcontact.com/us/products/1096432>

Stripping length	6.5 mm
Torque	0.5 Nm ... 0.6 Nm
	4 lb _f -in. ... 5 lb _f -in.
Drive form screw head	Slotted L

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.
Drive form screw head	Slotted L

LED signaling

Types of signaling	LED DC OK – signal state operation ($U_N = 24\text{ V DC}$, $I_{Out} = I_N$)
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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)	> 1219000 h (25 °C)
	> 678000 h (40 °C)
	> 366000 h (55 °C)
Environmental protection directive	RoHS Directive 2011/65/EU
	WEEE
	Reach

Insulation characteristics

Protection class	I
Degree of pollution	2

Dimensions

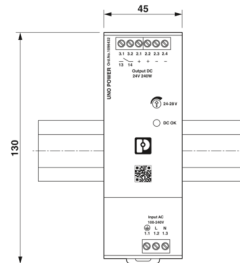
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1096432

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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
With protective coating	No

Material specifications

Flammability rating according to UL 94	V0 (Housing, terminal blocks)
Housing material	Metal
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.

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1096432

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Standards and regulations

Overvoltage category

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

Safety of power supply units up to 1100 V (insulation distances)

Standards/specifications

IEC 61010-2-201 (SELV)

Safety of power supply units up to 1100 V (insulation distances)

Standards/specifications

EN 50178/VDE 0160 (PELV)

Safety of power supply units up to 1100 V (insulation distances)

Standards/specifications

IEC 61010-1

Safety of power supply units up to 1100 V (insulation distances)

Standards/specifications

IEC 61010-1 (SELV)

IEC 61010-2-201 (PELV)

Safety of power supply units up to 1100 V (insulation distances)

Standards/specifications

IEC 61558-2-16

IEC 61010-2-201

Safety of power supply units up to 1100 V (insulation distances)

Standards/specifications

EN 61000-3-2

Safety of power supply units up to 1100 V (insulation distances)

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)

UL

Identification

CB scheme (IEC 61010-1, IEC 61010-2-201)

EMC data

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1096432

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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
	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 ... 6 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)

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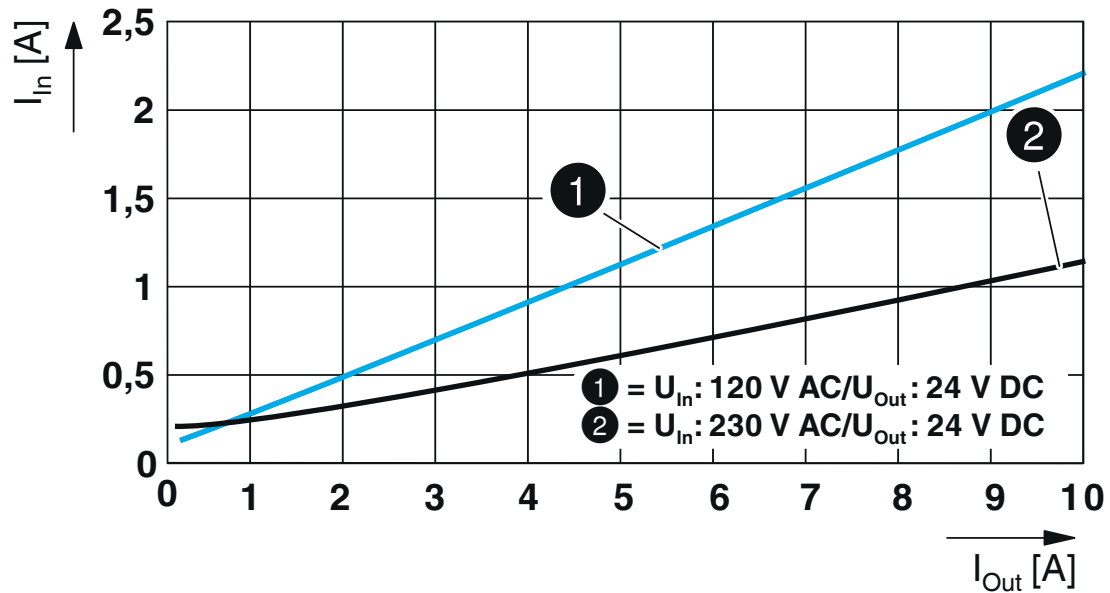
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Comments	Criterion A
Conducted interference	
Standards/regulations	EN 61000-4-6
Conducted interference	
Input/Output	asymmetrical
Frequency range	0.15 MHz ... 80 MHz
Comments	Criterion A
Voltage	10 V (Test Level 3)
Voltage dips	
Standards/regulations	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.

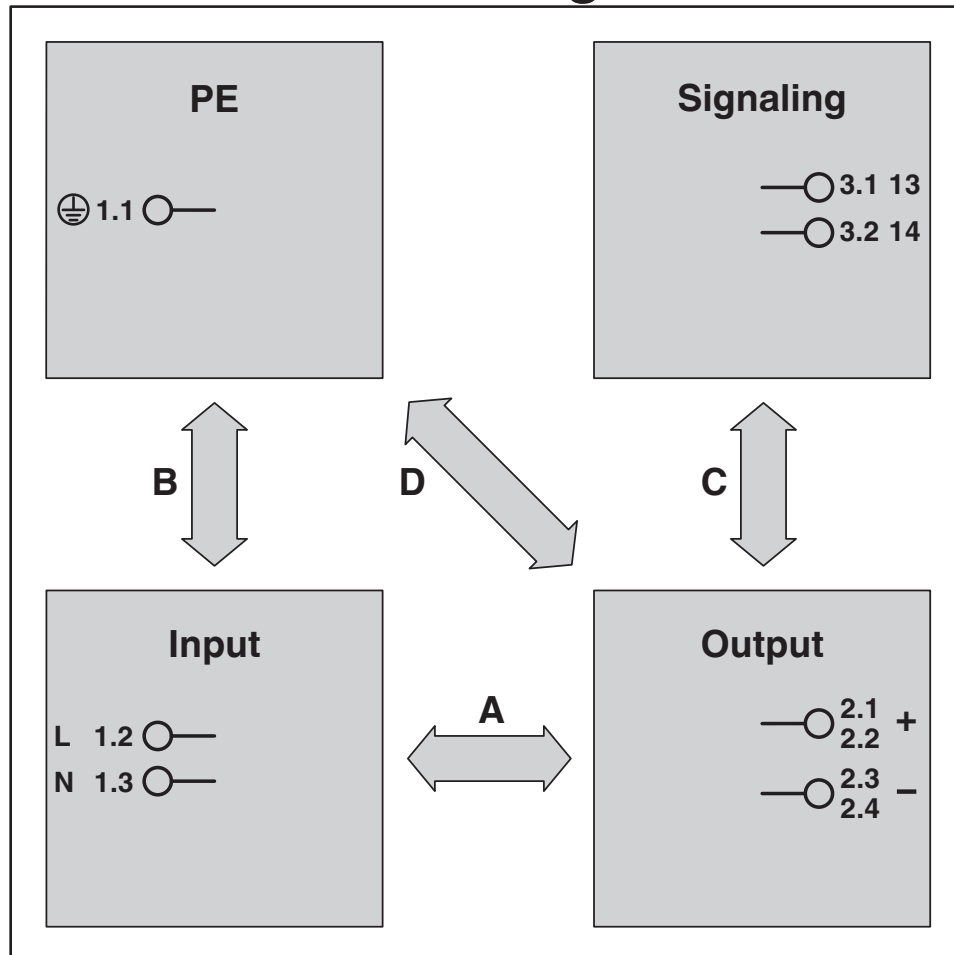
Drawings

Diagram



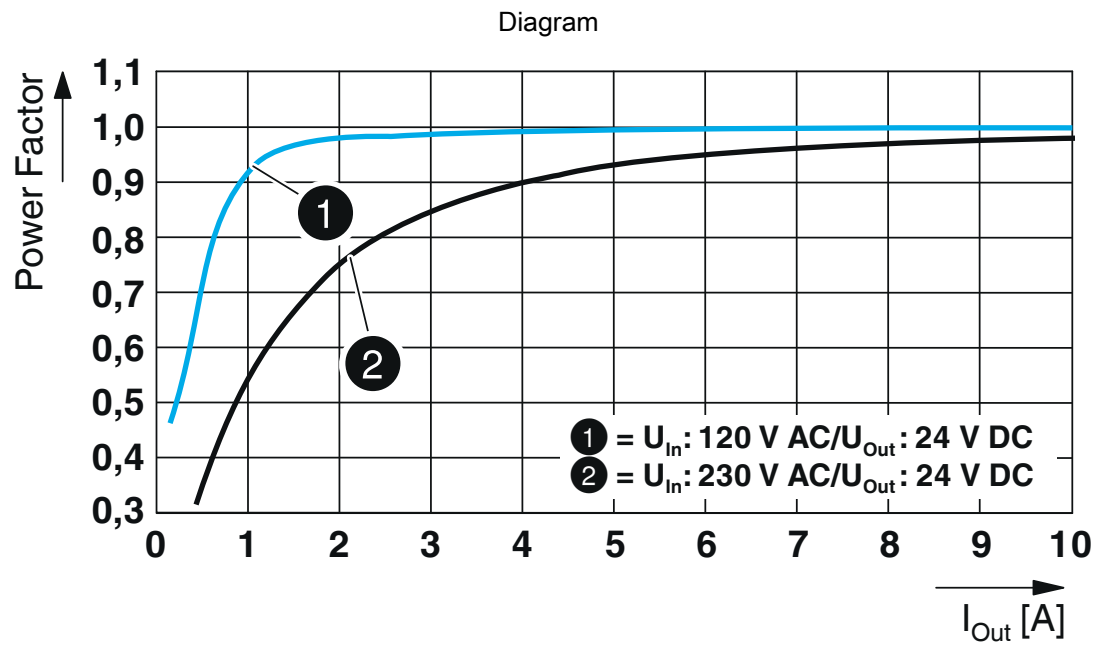
Schematic diagram

Housing



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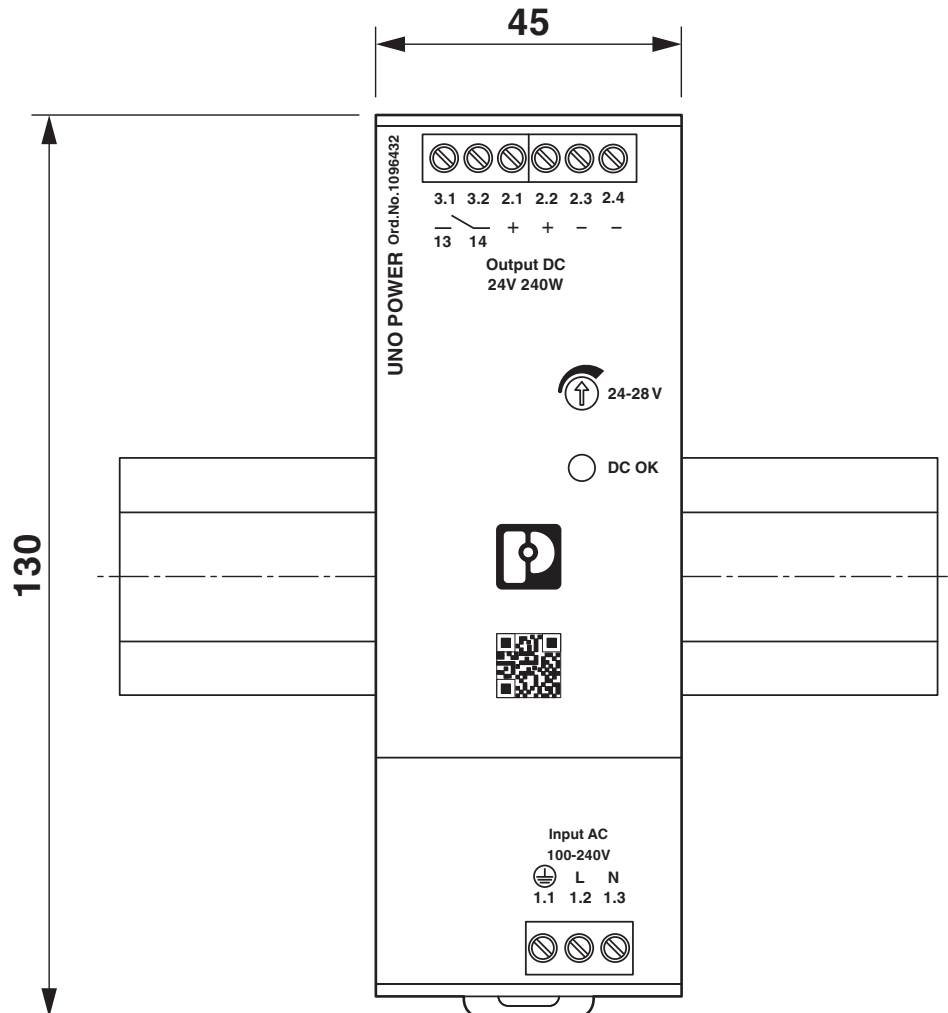
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Dimensional drawing



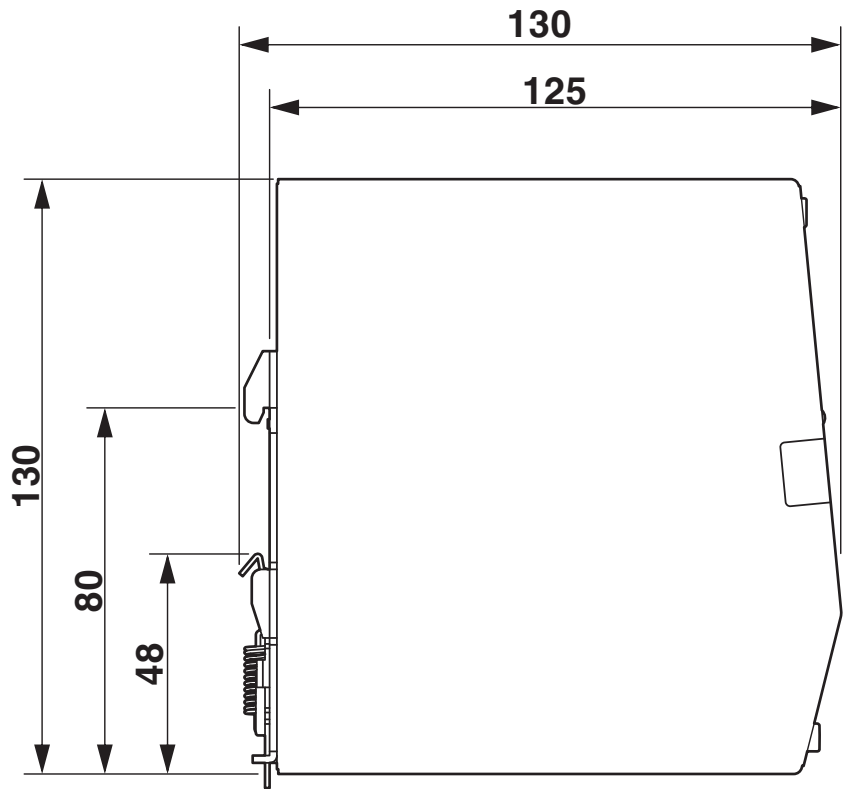
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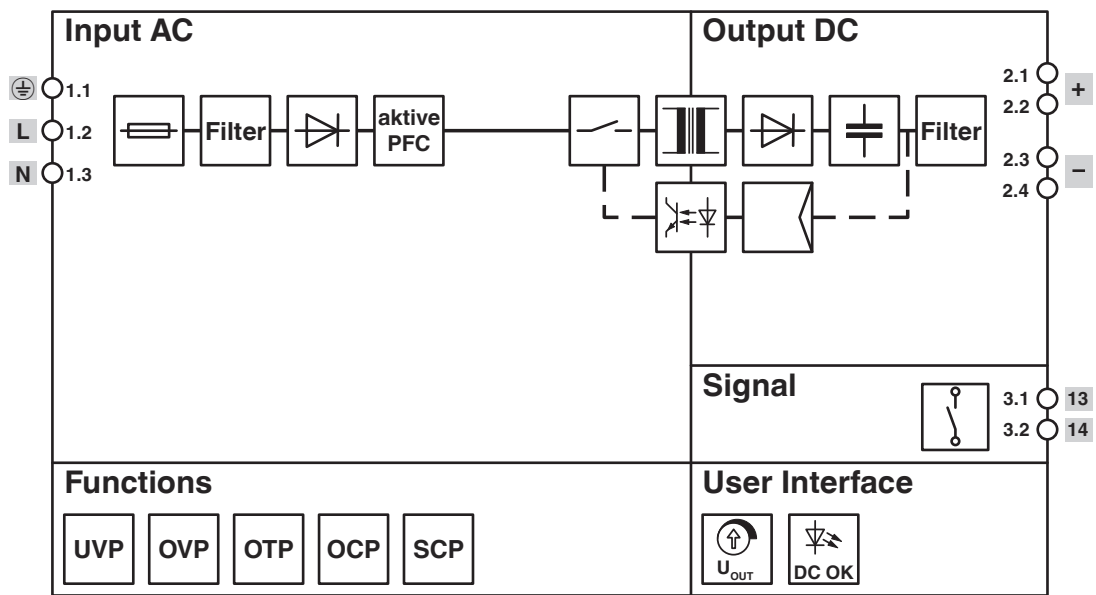
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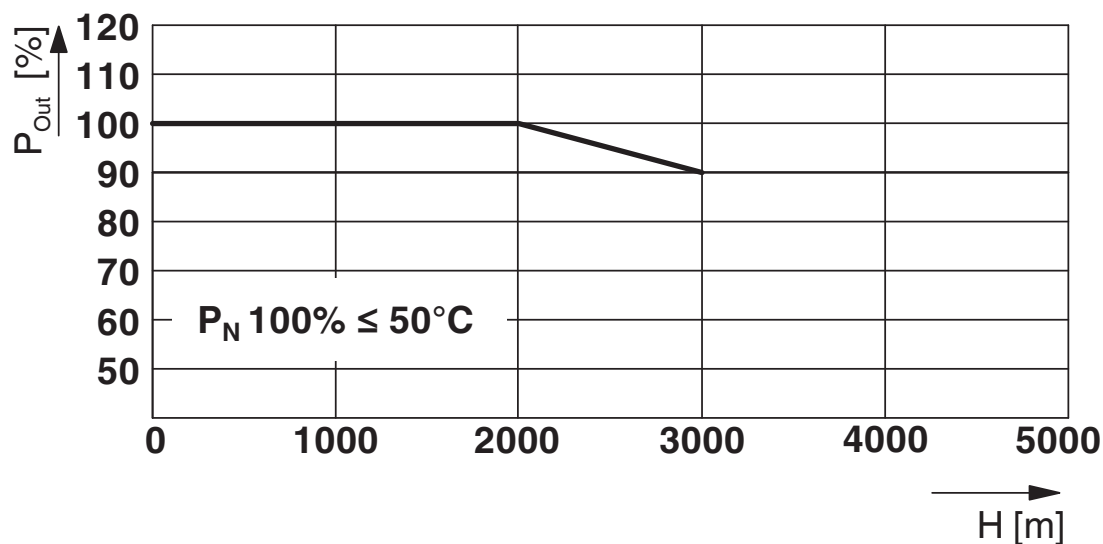
Dimensional drawing



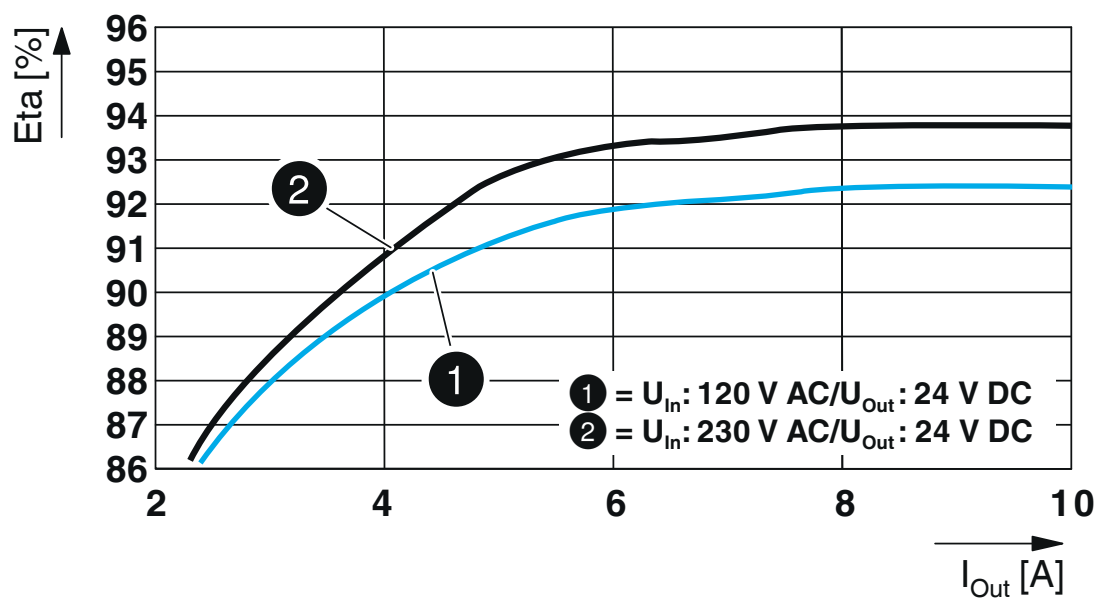
Block diagram



Diagram



Diagram



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Approvals



cULus Listed

Approval ID: FILE E 123528



EAC

Approval ID: RU S-DE.BL08.W.00764



EAC

Approval ID: RU S-DE.BL08.W.00764



cULus Listed

Approval ID: FILE E 199827

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Classifications

ECLASS

ECLASS-9.0	27040701
ECLASS-11.0	27040701

ETIM

ETIM 8.0	EC002540
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UNSPSC

UNSPSC 21.0	39121000
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25; For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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Accessories

Redundancy module

Redundancy module - UNO-DIODE/5-24DC/2X10/1X20 - 2905489

<https://www.phoenixcontact.com/us/products/2905489>

Redundancy module, 5 V - 24 V DC, 2 x 10 A, 1 x 20 A.



Redundancy module, with protective coating

Redundancy module, with protective coating - QUINT-ORING/24DC/2X20/1X40 - 2320186

<https://www.phoenixcontact.com/us/products/2320186>



Active QUINT redundancy module for DIN rail mounting with ACB (Auto Current Balancing) Technology and monitoring functions, input: 24 V DC/2x 20 A, output: 24 V DC/1 x 40 A, including mounted UTA 107/30 universal DIN rail adapter

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Redundancy module

Redundancy module - TRIO2-DIODE/12-24DC/2X20/1X40 - 2907379

<https://www.phoenixcontact.com/us/products/2907379>

Redundancy module, 12 V - 24 V DC, 2 x 20 A, 1 x 40 A



Electronic circuit breaker

Electronic circuit breaker - CBMC E4 24DC/1-4A NO - 2906031

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Multi-channel electronic circuit breaker for protecting four loads at 24 V DC in the event of overload and short circuit. With electronic locking of the set nominal currents. For installation on DIN rails.



Power supply unit - UNO2-PS/1AC/24DC/240W



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Electronic circuit breaker

Electronic circuit breaker - CBMC E4 24DC/1-10A NO - 2906032

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Multi-channel electronic circuit breaker for protecting four loads at 24 V DC in the event of overload and short circuit. With electronic locking of the set nominal currents. For installation on DIN rails.

Electronic circuit breaker

Electronic circuit breaker - CBMC E4 24DC/1-4A+ IOL - 2910410

<https://www.phoenixcontact.com/us/products/2910410>



Multi-channel electronic circuit breaker with IO-Link interface for protecting four loads at 24 V DC in the event of overload and short circuit. With electronic locking of the set nominal currents. For installation on DIN rails.

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Electronic circuit breaker

Electronic circuit breaker - CBMC E4 24DC/1-10A IOL - 2910411

<https://www.phoenixcontact.com/us/products/2910411>



Multi-channel electronic circuit breaker with IO-Link interface for protecting four loads at 24 V DC in the event of overload and short circuit. With electronic locking of the set nominal currents. For installation on DIN rails.

Electronic circuit breaker

Electronic circuit breaker - CBM E4 24DC/0.5-10A NO-R - 2905743

<https://www.phoenixcontact.com/us/products/2905743>



Multi-channel, electronic circuit breaker with active current limitation for protecting four loads at 24 V DC in the event of overload and short circuit. With nominal current assistant and electronic locking of the set nominal currents. For installation on DIN rails.

Power supply unit - UNO2-PS/1AC/24DC/240W



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Electronic circuit breaker

Electronic circuit breaker - CBM E8 24DC/0.5-10A NO-R - 2905744

<https://www.phoenixcontact.com/us/products/2905744>



Multi-channel, electronic circuit breaker with active current limitation for protecting eight loads at 24 V DC in the event of overload and short circuit. With nominal current assistant and electronic locking of the set nominal currents. For installation on DIN rails.

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