

# Power supply unit - UNO2-PS/1AC/24DC/480W - 2910105

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Primary-switched UNO power supply for DIN rail mounting, input: single-phase, output: 24 V DC/480 W

## Your advantages

- ✓ Save space in the control cabinet, thanks to an extremely narrow overall width of just 59 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



## Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4055626456652
Weight per Piece (excluding packing)	1,000.080 g
Custom tariff number	85044030
Country of origin	Thailand

## Technical data

### Dimensions

Width	59 mm
Height	130 mm
Depth	125 mm
Installation distance right/left (active, passive)	0 mm / 0 mm ( $P_{Out} \geq 50\%$ )
Installation distance top/bottom (active, passive)	30 mm / 30 mm ( $P_{Out} \geq 50\%$ )

### Ambient conditions

Degree of protection	IP20
Inflammability class in acc. with UL 94 (housing / terminal blocks)	V0
Ambient temperature (operation)	-25 °C ... 70 °C (> 55 °C Derating: 2.5 %/K)

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## Technical data

### Ambient conditions

Ambient temperature (start-up type tested)	-40 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Climatic class	3K3 (in acc. with EN 60721)
Degree of pollution	2
Installation height	≤ 3000 m (> 2000 m, Derating: 10 %/1000 m)

### Input data

Nominal input voltage range	100 V AC ... 240 V AC
Input voltage range	100 V AC ... 240 V AC -15 % ... +10 %
Frequency range (f <sub>N</sub> )	50 Hz ... 60 Hz #10 %
Discharge current to PE	< 3.5 mA
Current consumption	5.4 A (100 V AC)
	4.4 A (120 V AC)
	2.3 A (230 V AC)
	2.2 A (240 V AC)
Mains buffering time	typ. 17 ms (120 V AC)
	typ. 18 ms (230 V AC)
Input fuse	8 A (fast blow, internal)
Recommended breaker for input protection	10 A ... 16 A (Characteristic B, C, D, K or comparable)
Type of protection	Transient protection
Protective circuit/component	Varistor, gas-filled surge arrester

### Output data

Nominal output voltage	24 V DC
Setting range of the output voltage (U <sub>Set</sub> )	24 V DC ... 28 V DC (constant capacity)
Nominal output current (I <sub>N</sub> )	20 A
Connection in parallel	yes, for increased efficiency and redundancy
Connection in series	yes, for increased efficiency
Feedback voltage resistance	≤ 35 V DC
Protection against overvoltage at the output (OVP)	≤ 35 V DC
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
	< 3 % (change in load, dynamic 10 % ... 90 %)
	< 0.1 % (change in input voltage ±10 %)
Residual ripple	typ. 70 mV <sub>PP</sub> (with nominal values)
Output power	480 W
Typical response time	< 1 s
Maximum power dissipation in no-load condition	< 2.9 W (120 V AC)
	< 3 W (230 V AC)
Power loss nominal load max.	< 37 W (120 V AC)
	< 28 W (230 V AC)

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## Technical data

### General

Net weight	1 kg
Efficiency	typ. 93 % (120 V AC)
	typ. 94.6 % (230 V AC)
MTBF (IEC 61709, SN 29500)	> 900000 h (25 °C)
	> 530000 h (40 °C)
	> 280000 h (55 °C)
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)
Degree of protection	IP20
Protection class	I
Inflammability class in acc. with UL 94 (housing / terminal blocks)	V0
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	alignable: 0 mm horizontally, 30 mm vertically

### Connection data, input

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	6 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	4 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	10
Stripping length	8 mm
Screw thread	M3

### Connection data, output

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	6 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	4 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	10
Stripping length	8 mm
Screw thread	M3

### Connection data for signaling

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	6 mm <sup>2</sup>

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## Technical data

### Connection data for signaling

Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	4 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	10
Stripping length	8 mm
Screw thread	M3

### Standards

EMC requirements for noise immunity	EN 61000-6-2
Standard - Safety of power supply units up to 1100 V (insulation distances)	DIN EN 61558-2-16
Standard - Electrical safety	IEC 61010-2-201 (SELV)
Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations	EN 50178/VDE 0160 (PELV)
Standard - safety for equipment for measurement, control, and laboratory use	IEC 61010-1
Standard – Safety extra-low voltage	IEC 61010-1 (SELV)
	IEC 61010-2-201 (PELV)
Standard - Safe isolation	IEC 61558-2-16
Standard – Limitation of mains harmonic currents	EN 61000-3-2
Mains variation/undervoltage	SEMI F47 - 0706 (185 V AC)

### Conformance/approvals

UL approvals	UL/C-UL Listed UL 61010-1
	UL/C-UL Listed UL 61010-2-201
SIQ	CB-Scheme (IEC 61010-1, IEC 61010-2-201)

### EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
Conducted noise emission	EN 55016
	EN 61000-6-3 (Class B)
Noise emission	EN 55016
	EN 61000-6-3 (Class B)
Harmonic currents	EN 61000-3-2
	EN 61000-3-2 (Class A)
Electrostatic discharge	EN 61000-4-2
Contact discharge	6 kV (Test Level 3)
Discharge in air	8 kV (Test Level 3)
Electromagnetic HF field	EN 61000-4-3
Frequency range	80 MHz ... 1 GHz
Test field strength	10 V/m (Test Level 3)
Frequency range	1 GHz ... 2 GHz

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## Technical data

### EMC data

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)	EN 61000-4-4
Input	4 kV (Test Level 4 - asymmetrical)
Output	2 kV (Test Level 3 - asymmetrical)
Comments	Criterion A
Surge voltage load (surge)	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
Conducted interference	EN 61000-4-6
Frequency range	0.15 MHz ... 80 MHz
Voltage	10 V (Test Level 3)
Comments	Criterion A
Voltage dips	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.

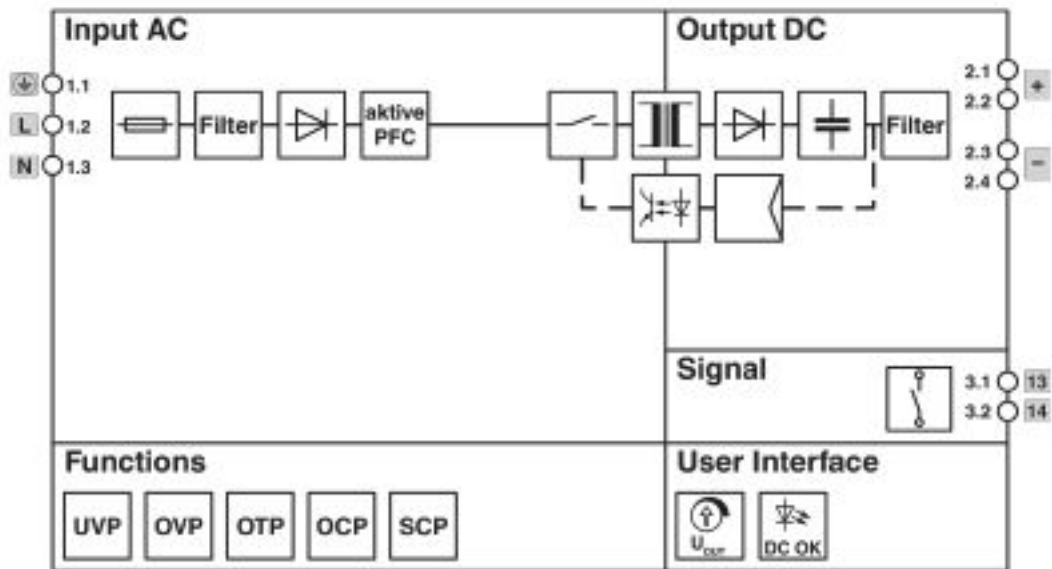
### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

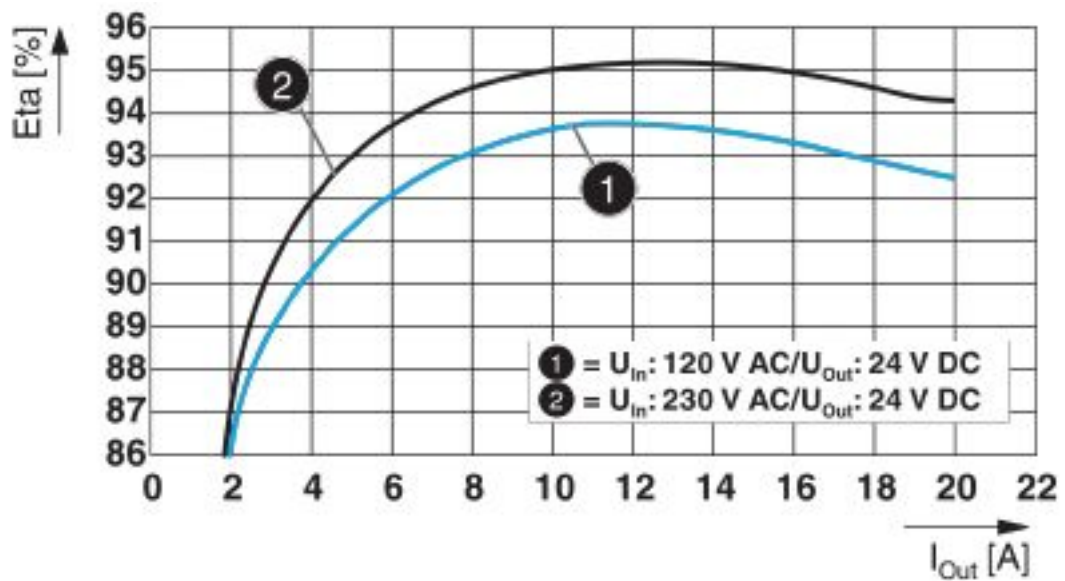
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## Drawings

Block diagram

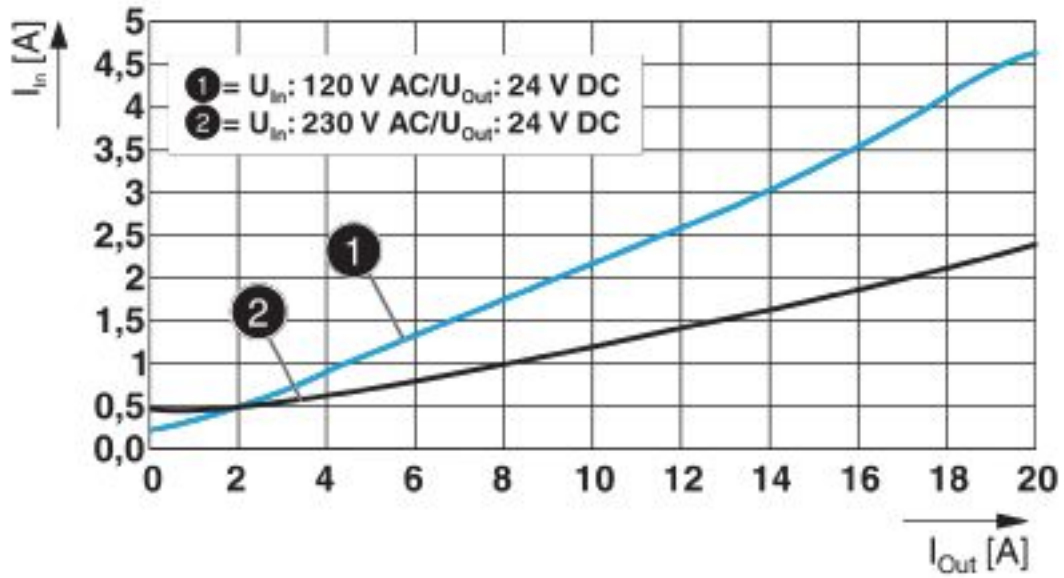


Diagram

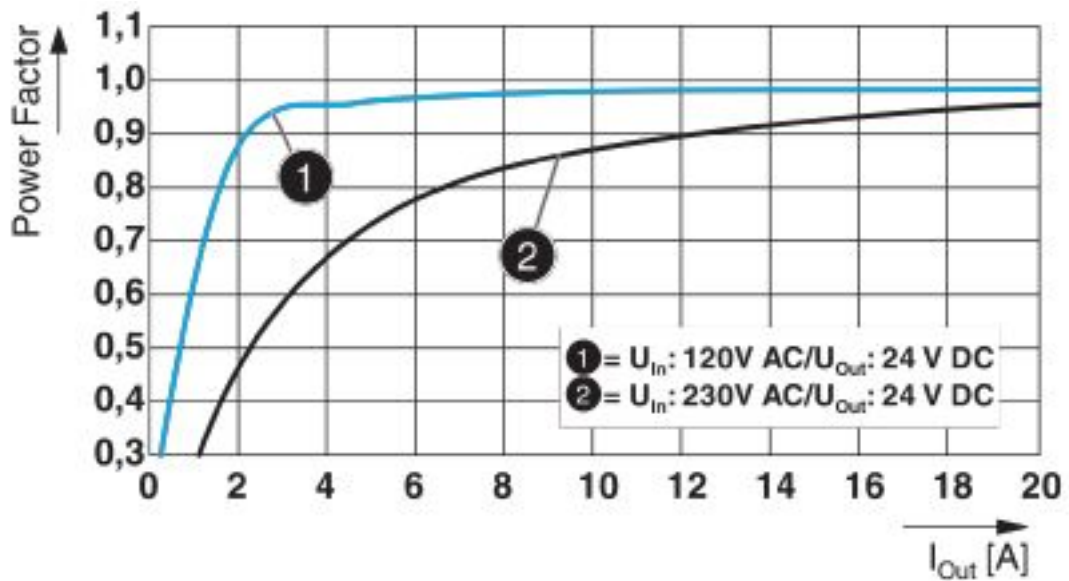


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Diagram

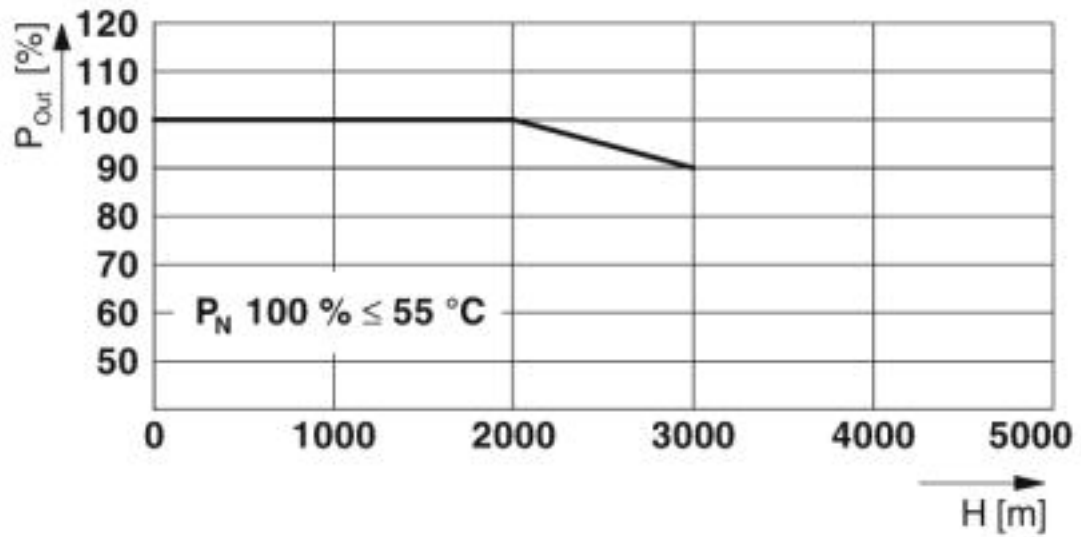


Diagram



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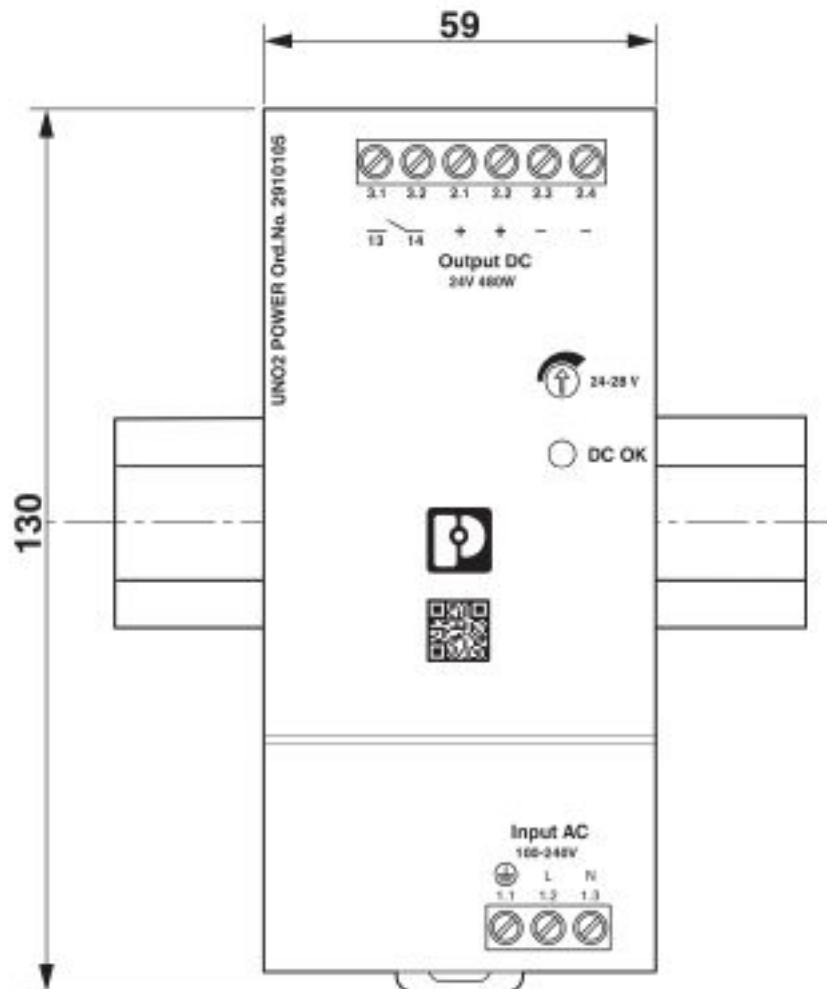
Diagram





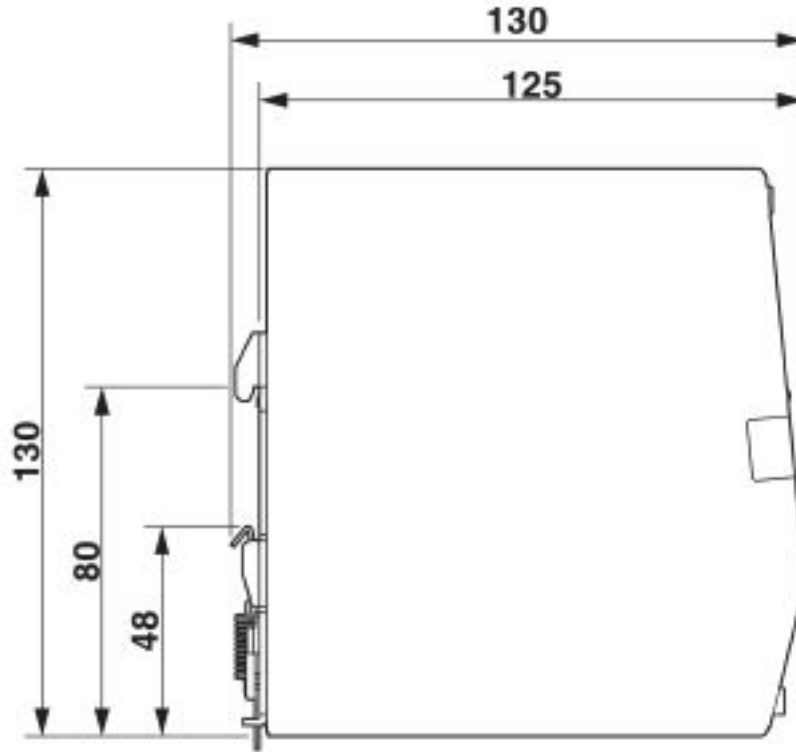
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Dimensional drawing



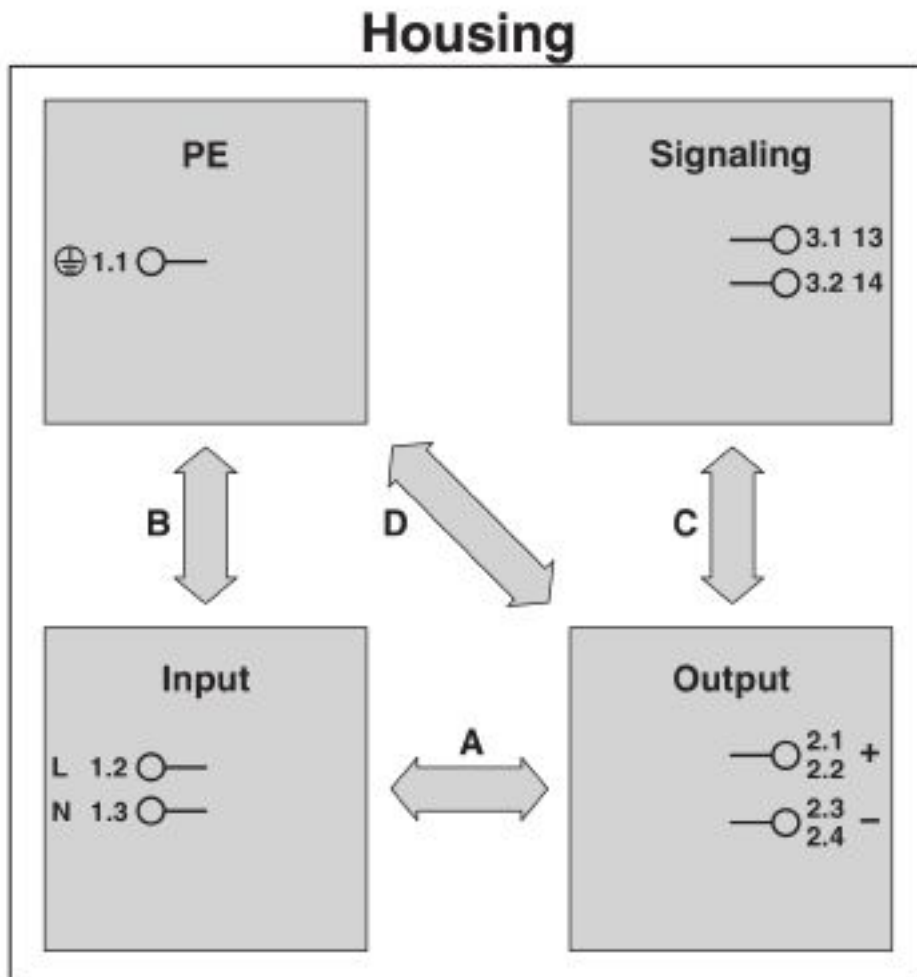
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Dimensional drawing



# Power supply unit - UNO2-PS/1AC/24DC/480W - 2910105

Schematic diagram



## Classifications

eCl@ss

eCl@ss 10.0.1	27040701
eCl@ss 8.0	27049002
eCl@ss 9.0	27040701

ETIM

ETIM 5.0	EC002540
ETIM 6.0	EC002540
ETIM 7.0	EC002540

## Approvals

Approvals

# Power supply unit - UNO2-PS/1AC/24DC/480W - 2910105

## Approvals

Approvals

IECEE CB Scheme / UL Listed / cUL Listed / cULus Listed

Ex Approvals

UL Listed / cUL Listed / cULus Listed

## Approval details

IECEE CB Scheme		<a href="http://www.iecee.org/">http://www.iecee.org/</a>	SI-7397
UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 123528
cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 123528
cULus Listed			

## Accessories

### Accessories

#### Device circuit breakers

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



Multi-channel electronic device 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 device circuit breaker - CBMC E4 24DC/1-10A NO - 2906032



Multi-channel electronic device 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.

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### Accessories

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Electronic device circuit breaker - CBMC E4 24DC/1-4A+ IOL - 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 device circuit breaker - CBMC E4 24DC/1-10A IOL - 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.

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



Multi-channel, electronic device 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.

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



Multi-channel, electronic device 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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### Device protection

Type 3 surge protection device - PLT-SEC-T3-230-FM - 2905229



Pluggable device protection, according to type 3/class III, for 1-phase power supply networks with separate N and PE (3-conductor system: L1, N, PE), with integrated surge-proof fuse and remote indication contact. Also suitable for DC applications.

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### Redundancy module

## Power supply unit - UNO2-PS/1AC/24DC/480W - 2910105

### Accessories

Diode - QUINT4-DIODE/12-24DC/2X20/1X40 - 2907719



DIN rail diode module 12-24 V DC/2x20 A or 1x40 A. Uniform redundancy up to the consumer.

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Redundancy module, with protective coating - QUINT-ORING/24DC/2X20/1X40 - 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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Diode - TRIO2-DIODE/12-24DC/2X20/1X40 - 2907379



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

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