

# UNO2-PS/1AC/24DC/960W - Power supply unit



1110043

<https://www.phoenixcontact.com/de/produkte/1110043>

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Primary-switched power supply unit, UNO POWER, Screw connection, DIN rail mounting, input: 1-phase, output: 24 V DC / 40 A, Adjustable from 24 V DC ... 28 V DC

## Your advantages

- 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

## Commercial Data

Item number	1110043
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	H1 - Stromversorgungen
Product Key	CMPV13
GTIN	4063151024420
Weight per Piece (including packing)	2.430 g
Weight per Piece (excluding packing)	2.126 g
Customs tariff number	85044083
Country of origin	TH

## Technical Data

### Input data

#### AC operation

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 % 110 V AC ... 240 V AC ±10 % (UL)
Derating	< 99 V AC (1 %/V)
Typical national grid voltage	120 V AC 230 V AC
Voltage type of supply voltage	AC
Inrush current	typ. 15 A (at 25 °C)
Inrush current integral ( $I^2t$ )	< 0.5 A <sup>2</sup> s
Frequency range ( $f_N$ )	50 Hz ... 60 Hz ±10 %
Mains buffering time	typ. 17 ms (120 V AC) typ. 23 ms (230 V AC)
Current consumption	10.5 A (100 V AC) 9 A (120 V AC) 4.7 A (230 V AC) 4.5 A (240 V AC) 9.5 A (110 V AC (UL)) 4.5 A (240 V AC (UL))
Protective circuit	Transient surge protection; Varistor, gas-filled surge arrester
Switch-on time	typ. 1 s
Device mains fuse	20 A internal (device protection), slow-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. 93.6 % (120 V AC) typ. 94.8 % (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 ( $I_N$ )	40 A
Short-circuit-proof	yes
No-load proof	yes
Derating	55 °C ... 70 °C
Crest factor	typ. 1.6 (120 V AC) typ. 1.6 (230 V AC)
Output power ( $P_N$ )	960 W
Connection in parallel	yes, for redundancy
Connection in series	yes, for increased output voltage

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Feedback voltage resistance	$\leq 35 \text{ V DC}$
Protection against overvoltage at the output (OVP)	$\leq 35 \text{ V DC}$
Residual ripple	typ. $150 \text{ mV}_{PP}$ (with nominal values)
Control deviation	$< 1 \%$ (change in load, static 10 % ... 90 %)
	$< 3 \%$ (change in load, dynamic 10 % ... 90 %)
	$< 0.1 \%$ (change in input voltage $\pm 10 \%$ )
Rise time	$< 1 \text{ s}$ ( $U_{Out} = 10 \% \dots 90 \%$ )
Minimum no-load power dissipation	$< 5 \text{ W}$ (120 V AC)
Maximum no-load power dissipation	$< 4 \text{ W}$ (230 V AC)
Minimum nominal load power dissipation	$< 67 \text{ W}$ (120 V AC)
Power loss nominal load max.	$< 53 \text{ W}$ (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. $30 \text{ V AC/DC}$
	max. $60 \text{ V DC}$
Current carrying capacity	max. $50 \text{ mA}$
State condition	DC OK ( $U_{Out} > 0,9 \times U_N$ ) (Contact closed)
	$U_{OUT} < 0,9 \times U_N$ (Contact open)

## Connection data

### Input

Position	1.x
Identification	1.1 (  ) , 1.3 (N)

### Conductor connection

Connection method	Screw connection
rigid	$0.2 \text{ mm}^2 \dots 6 \text{ mm}^2$
flexible	$0.2 \text{ mm}^2 \dots 4 \text{ mm}^2$
flexible with ferrule without plastic sleeve	$0.25 \text{ mm}^2 \dots 4 \text{ mm}^2$
flexible with ferrule with plastic sleeve	$0.25 \text{ mm}^2 \dots 4 \text{ mm}^2$
rigid (AWG)	24 ... 10 (Cu)
Stripping length	8 mm
Tightening torque	0.5 Nm ... 0.6 Nm
	4 lb <sub>f</sub> -in. ... 5 lb <sub>f</sub> -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
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rigid	0.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>
flexible	0.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>
flexible with ferrule without plastic sleeve	0.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>
flexible with ferrule with plastic sleeve	0.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>
rigid (AWG)	20 ... 6 (Cu)
Stripping length	10 mm
Tightening torque	1.2 Nm ... 1.5 Nm
	10 lb <sub>F</sub> -in. ... 13 lb <sub>F</sub> -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	0.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>
flexible	0.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>
flexible with ferrule without plastic sleeve	0.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>
flexible with ferrule with plastic sleeve	0.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>
rigid (AWG)	20 ... 6 (Cu)
Stripping length	10 mm
Tightening torque	1.2 Nm ... 1.5 Nm
	10 lb <sub>F</sub> -in. ... 13 lb <sub>F</sub> -in.
Drive form screw head	Slotted L

## Signaling

### LED signaling

Types of signaling	LED DC OK – signal state operation ( $U_N = 24 \text{ V DC}$ , $I_{Out} = I_N$ )
Function	Visual operating state display
Color	green
LED off	Supply voltage input AC not present (Off)
LED on (green), DC OK	$U_{OUT} > 0,9 \times U_N$ (On (green), DC OK)
LED on (flashing green) DC OK < 0.9 x UN	$U_{OUT} < 0,9 \times U_N$ (on (flashing green))

## 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
Product family	UNO POWER

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MTBF (IEC 61709, SN 29500)	> 900000 h (25 °C)
	> 530000 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

### Item dimensions

Width	126 mm
Height	130 mm
Depth	129 mm
	125 mm (Device depth (DIN rail mounting))

### Installation dimensions

Installation distance right/left (active, passive)	15 mm / 15 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)
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)

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Shock (operation)	18 ms, 30g, per spatial direction (IEC 60068-2-27)
Vibration (operation)	< 13.2 Hz, amplitude $\pm 1.0$ mm (according to IEC 60068-2-6)
	5 Hz ... 100 Hz, 0.7g (EN 60068-2-6)

## Standards and regulations

### Overvoltage category

EN 61010-1	II ( $\leq 3000$ m)
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### Overvoltage category

EN 62477-1	III ( $\leq 3000$ m)
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### Safety of power supply units up to 1100 V (insulation distances)

Standard designation	Safety of power supply units up to 1100 V (insulation distances)
Standards/specifications	DIN EN 61558-2-16

### Electrical safety

Standard designation	Electrical safety
Standards/specifications	IEC 61010-2-201 (SELV)

### Electronic equipment for use in power installations

Standard designation	Equipping high voltage installations with electronic equipment
Standards/specifications	EN 50178/VDE 0160 (PELV)

### Safety for measurement, control, and laboratory equipment

Standard designation	Safety for equipment for measurement, control, and laboratory use
Standards/specifications	IEC 61010-1

### Protective extra-low voltage

Standard designation	Protective extra-low voltage
Standards/specifications	IEC 61010-1 (SELV)
	IEC 61010-2-201 (PELV)

### Safe isolation

Standard designation	Safe isolation
Standards/specifications	IEC 61558-2-16
	IEC 61010-2-201

### Limitation of harmonic line currents

Standard designation	Limitation of harmonic line currents
Standards/specifications	EN 61000-3-2

### Mains voltage dips

Standard designation	Requirement of the semiconductor industry with regard to mains voltage dips
Standards/specifications	SEMI F47 - 0706 (200 V AC)

## Approvals

# UNO2-PS/1AC/24DC/960W - Power supply unit



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## UL

Identification	UL/C-UL Listed UL 61010-1
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## UL

Identification	UL/C-UL Listed UL 61010-2-201
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## UL

Identification	UL/C-UL Listed ANSI/UL 121201 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
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## SIQ

Identification	CB scheme (IEC 61010-1, IEC 61010-2-201)
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## EMC data

Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
Interference emission	Interference emission in accordance with EN 61000-6-3 (residential and commercial) and EN 61000-6-4 (industrial)
EMC requirements for noise immunity	EN 61000-6-2
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Conducted noise emission	EN 55016 EN 61000-6-3 (Class B)
Noise emission	EN 55016 EN 61000-6-3 (Class B)

## Harmonic currents

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

## Flicker

Standards/regulations	EN 61000-3-3
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

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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 4 - symmetrical)
	4 kV (Test Level 4 - asymmetrical)
Output	1 kV (Test Level 3 - symmetrical)
	2 kV (Test Level 3 - asymmetrical)
Comments	Criterion A

## 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

## Criteria

Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected



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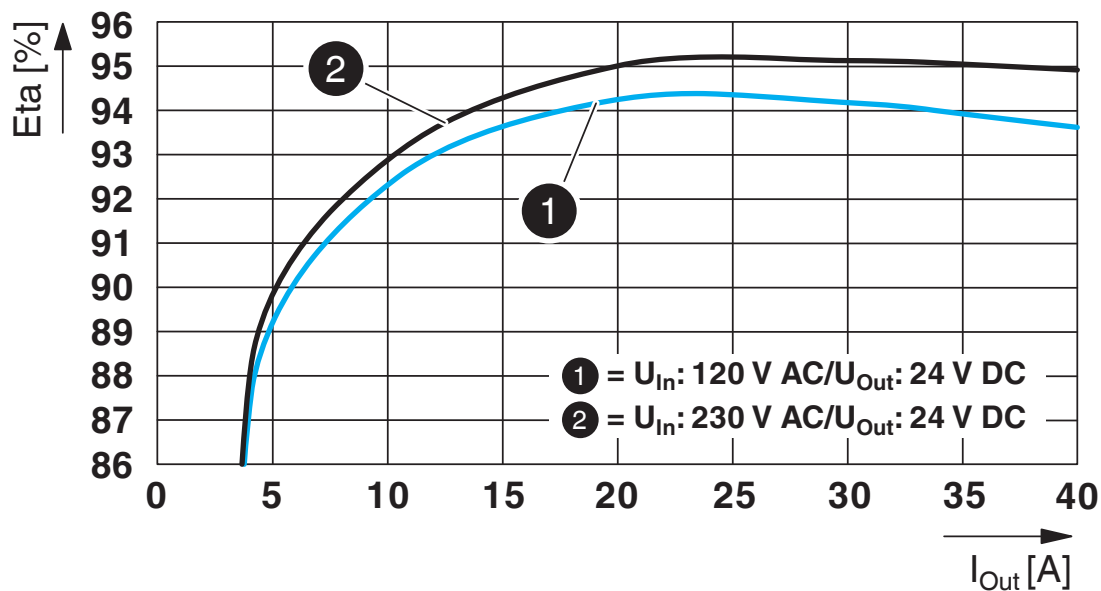
<https://www.phoenixcontact.com/de/produkte/1110043>

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by the device itself.

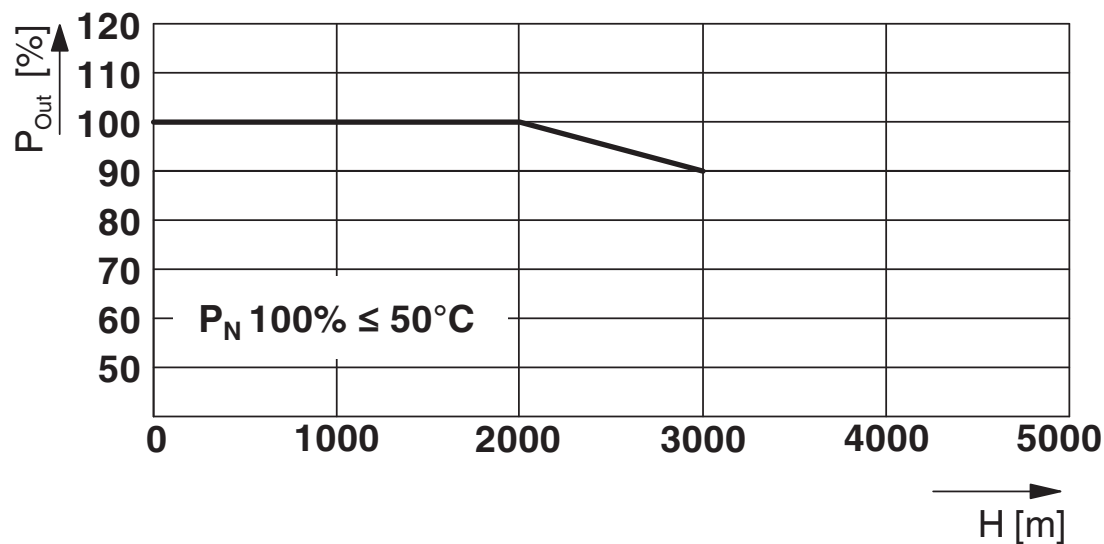
Drawings

Diagram

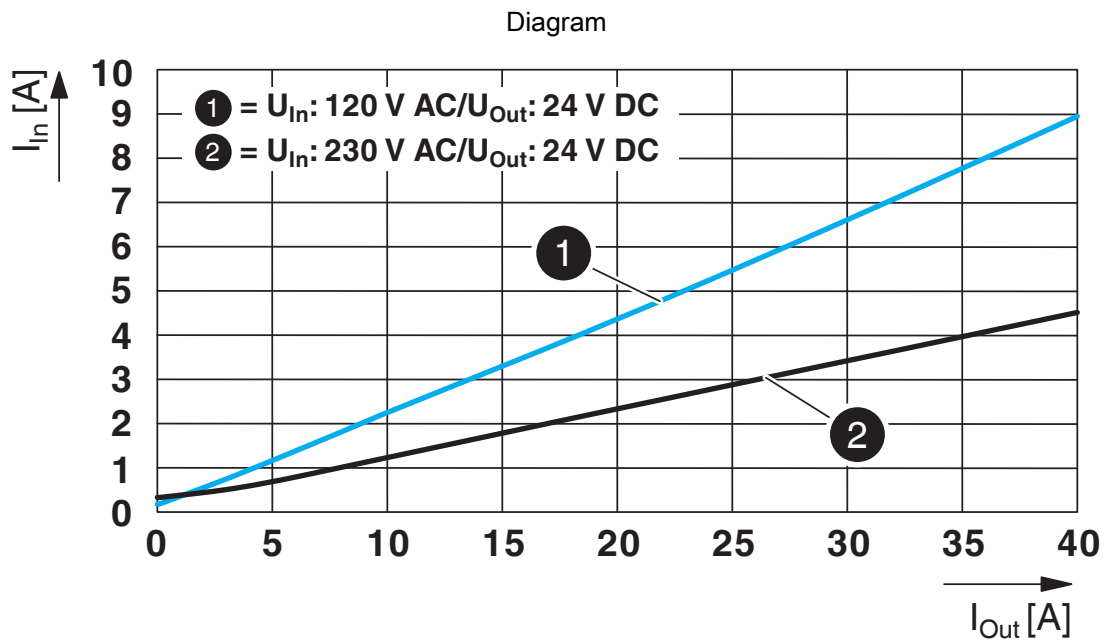


Efficiency

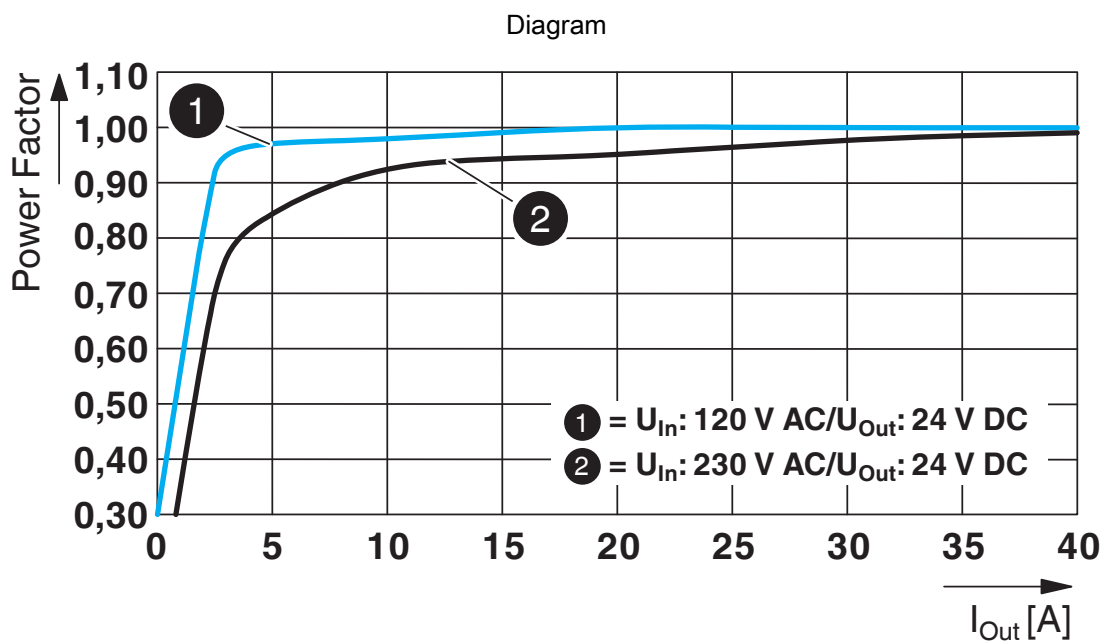
Diagram



Output power/installation altitude



Input current/output current



Power factor

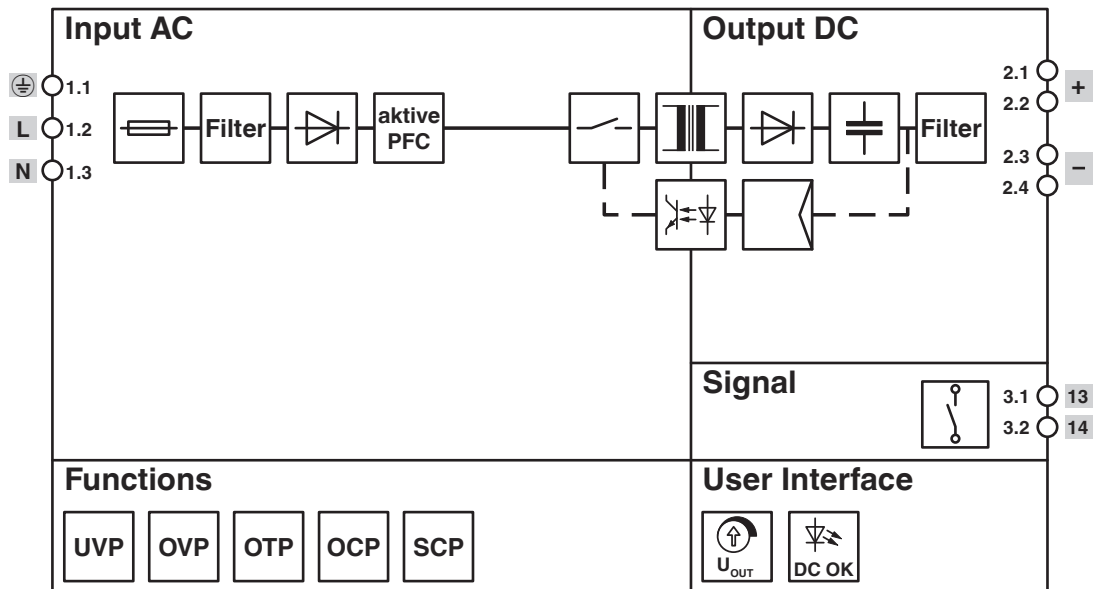
# UNO2-PS/1AC/24DC/960W - Power supply unit



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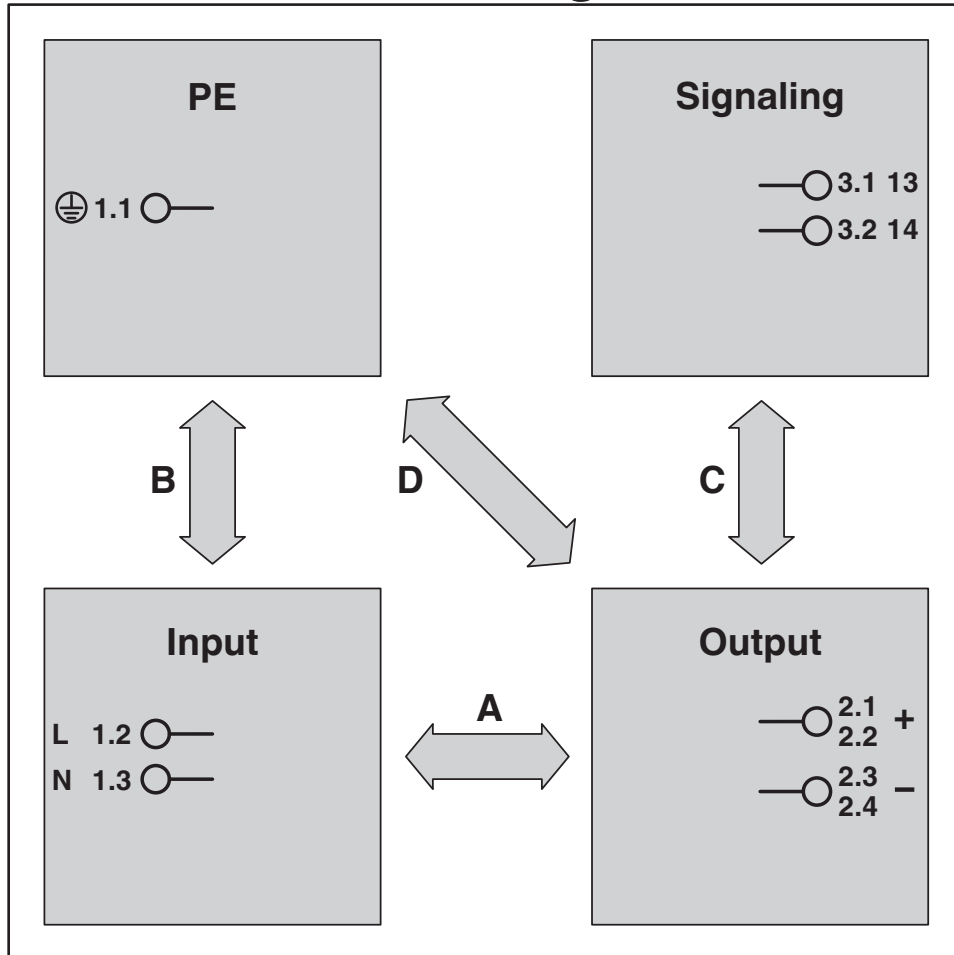
Block diagram



Block diagram

Schematic diagram

# Housing



Test sections, insulation voltage

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/de/produkte/1110043>



**cULus Listed**

Approval ID: FILE E 123528



**cULus Listed**

Approval ID: FILE E 199827

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## Classifications

### ECLASS

ECLASS-11.0	27040701
ECLASS-12.0	27040701
ECLASS-13.0	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



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## Accessories

### QUINT4-S-ORING/12-24DC/1X40 - Redundancy module

2907752

<https://www.phoenixcontact.com/de/produkte/2907752>



Active QUINT single redundancy module for DIN rail mounting, input: 12 V DC ... 24 V DC, output: 12 V DC ... 24 V DC / 1 x 40 A, incl. mounted UTA 107/30 universal DIN rail adapter

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### QUINT-ORING/24DC/2X40/1X80 - Redundancy module

2902879

<https://www.phoenixcontact.com/de/produkte/2902879>



Active QUINT redundancy module for DIN rail mounting with ACB (Auto Current Balancing) Technology and monitoring functions, input: 24 V DC/2x 40 A, output: 24 V DC/1 x 80 A, including mounted UTA 107/30 universal DIN rail adapter

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

2907379

<https://www.phoenixcontact.com/de/produkte/2907379>

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



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## PLT-SEC-T3-230-FM-UT - Type 3 surge protection device

2907919

<https://www.phoenixcontact.com/de/produkte/2907919>

Type 2/3 surge protection, consisting of protective plug and base element with screw connection. For single-phase power supply network with integrated status indicator and remote signaling. Nominal voltage: 230 V AC/DC



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## PLT-SEC-T3-230-FM-PT - Type 3 surge protection device

2907928

<https://www.phoenixcontact.com/de/produkte/2907928>



Type 2/3 surge protection, consisting of protective plug and base element with Push-in connection. For single-phase power supply network with integrated status indicator and remote signaling. Nominal voltage: 230 V AC/DC

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

2906031

<https://www.phoenixcontact.com/de/produkte/2906031>



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.

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

2906032

<https://www.phoenixcontact.com/de/produkte/2906032>



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.

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

2910410

<https://www.phoenixcontact.com/de/produkte/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.

# UNO2-PS/1AC/24DC/960W - Power supply unit



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

2910411

<https://www.phoenixcontact.com/de/produkte/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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## CBM E4 24DC/0.5-10A NO-R - Electronic circuit breaker

2905743

<https://www.phoenixcontact.com/de/produkte/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.

# UNO2-PS/1AC/24DC/960W - Power supply unit

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

2905744

<https://www.phoenixcontact.com/de/produkte/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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