

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



1110043

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

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	C13
Product Key	CMPV13
GTIN	4063151024420
Weight per Piece (including packing)	2,570 kg
Weight per Piece (excluding packing)	2,570 kg
Customs tariff number	85044083
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 % 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 ² 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
Feedback voltage resistance	≤ 35 V DC

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Protection against overvoltage at the output (OVP)	≤ 35 V DC
Residual ripple	typ. 150 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 ±10 %)
Rise time	< 1 s (U _{Out} = 10 % ... 90 %)
Minimum no-load power dissipation	< 5 W (120 V AC)
Maximum no-load power dissipation	< 4 W (230 V AC)
Minimum nominal load power dissipation	< 67 W (120 V AC)
Power loss nominal load max.	< 53 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	DC OK (U _{Out} > 0,9 x U _N) (Contact closed)
	U _{OUT} < 0,9 x U _N (Contact open)

Connection data

Input

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

Conductor connection

Connection method	Screw connection
rigid	0.2 mm ² ... 6 mm ²
flexible	0.2 mm ² ... 4 mm ²
flexible with ferrule without plastic sleeve	0.25 mm ² ... 4 mm ²
flexible with ferrule with plastic sleeve	0.25 mm ² ... 4 mm ²
rigid (AWG)	24 ... 10 (Cu)
Stripping length	8 mm
Tightening 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	0.5 mm ² ... 16 mm ²

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flexible	0.5 mm ² ... 16 mm ²
flexible with ferrule without plastic sleeve	0.5 mm ² ... 16 mm ²
flexible with ferrule with plastic sleeve	0.5 mm ² ... 16 mm ²
rigid (AWG)	20 ... 6 (Cu)
Stripping length	10 mm
Tightening torque	1.2 Nm ... 1.5 Nm 10 lb _F -in. ... 13 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	0.5 mm ² ... 16 mm ²
flexible	0.5 mm ² ... 16 mm ²
flexible with ferrule without plastic sleeve	0.5 mm ² ... 16 mm ²
flexible with ferrule with plastic sleeve	0.5 mm ² ... 16 mm ²
rigid (AWG)	20 ... 6 (Cu)
Stripping length	10 mm
Tightening torque	1.2 Nm ... 1.5 Nm 10 lb _F -in. ... 13 lb _F -in.
Drive form screw head	Slotted L

LED signaling

Types of signaling	LED DC OK – signal state operation ($U_N = 24$ 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
Product family	UNO POWER
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

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Protection class	I
Degree of pollution	2

Dimensions

Width	126 mm
Height	130 mm
Depth Device depth (DIN rail mounting)	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)
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)	< 13.2 Hz, amplitude ±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 (≤ 3000 m)
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Overvoltage category

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

Standards/specifications	DIN EN 61558-2-16
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Electrical safety

Standards/specifications	IEC 61010-2-201 (SELV)
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Electronic equipment for use in power installations

Standards/specifications	EN 50178/VDE 0160 (PELV)
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Safety for measurement, control, and laboratory equipment

Standards/specifications	IEC 61010-1
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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
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Mains voltage dips

Standards/specifications	SEMI F47 - 0706 (185 V AC)
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Approval data

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
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	Interference emission in accordance with EN 61000-6-3 (residential and commercial) and EN 61000-6-4 (industrial)

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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

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
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

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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)

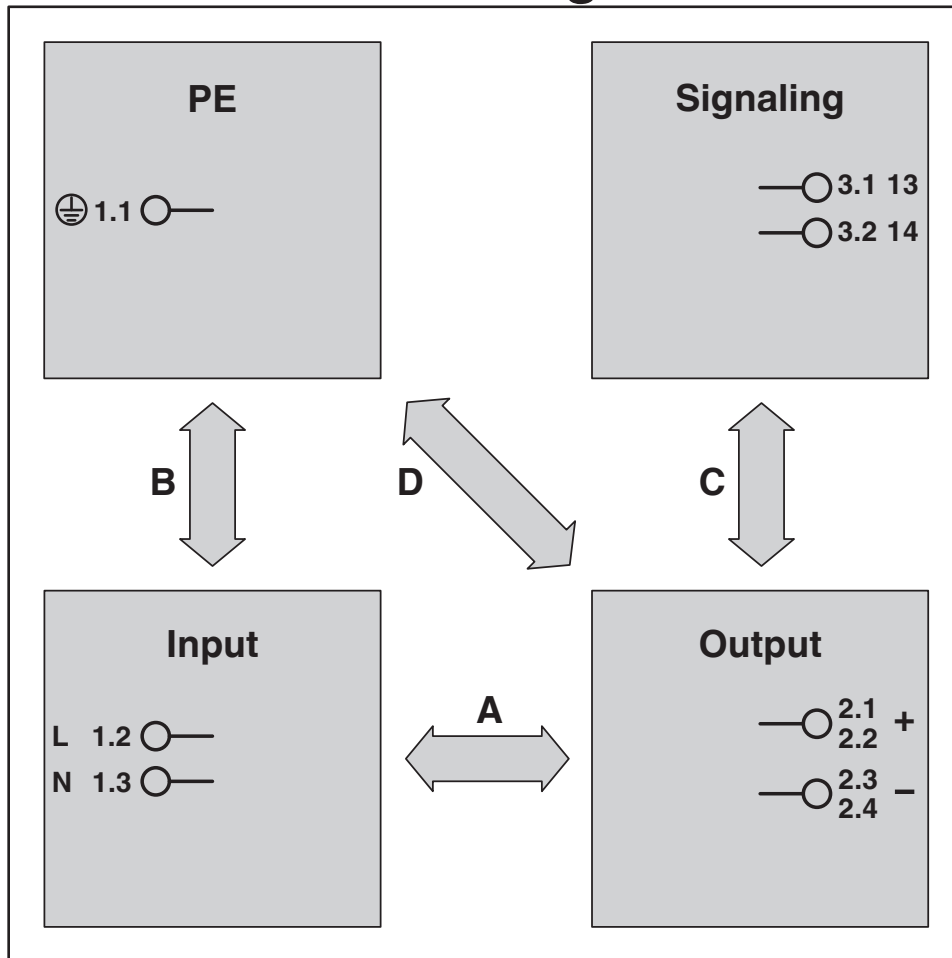
Criteria

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

Drawings

Schematic diagram

Housing



Test sections, insulation voltage

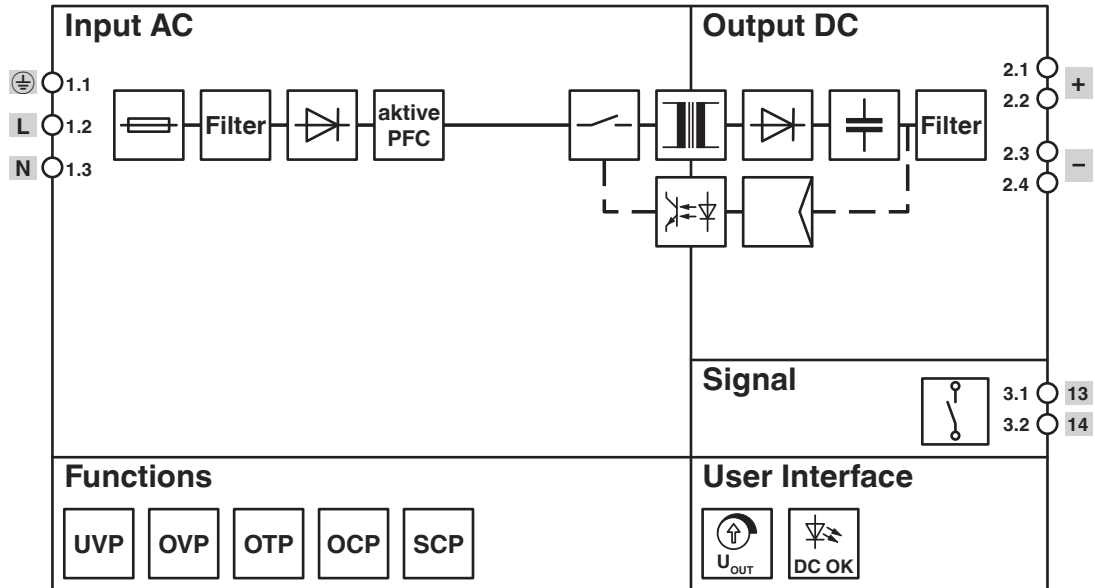
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Block diagram



Block diagram

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Approvals



cULus Listed

Approval ID: FILE E 123528



cULus Listed

Approval ID: FILE E 199827

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Classifications

ECLASS

ECLASS-11.0

27040701

ETIM

ETIM 8.0

EC002540

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/us/products/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

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

2902879

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

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



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

2907919

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

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

2906031

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

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

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.

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



1110043

<https://www.phoenixcontact.com/us/products/1110043>

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

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.

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

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.

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

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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