

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

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



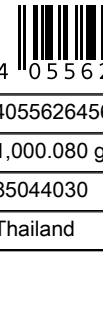
Primary-switched power supply unit, UNO POWER, Screw connection, DIN rail mounting, input: 1-phase, output: 24 V DC / 20 A

## 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	 4 0 5 5 6 2 6 4 5 6 6 5 2
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	129 mm
	125 mm (Device depth (DIN rail mounting))
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

Ambient temperature (operation)	-25 °C ... 70 °C (> 55 °C Derating: 2.5 %/K)
Ambient temperature (start-up type tested)	-40 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C

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

## Technical data

### Ambient conditions

Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Maximum altitude	≤ 3000 m (> 2000 m, Derating: 10 %/1000 m)
Degree of pollution	2
Climatic class	3K3 (in acc. with EN 60721)

### Input data

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)
Frequency range (f <sub>N</sub> )	50 Hz ... 60 Hz #10 %
Typical national grid voltage	120 V AC
	230 V AC
Voltage type of supply voltage	AC
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)
Discharge current to PE	< 3.5 mA
Mains buffering time	typ. 17 ms (120 V AC)
	typ. 18 ms (230 V AC)
Switch-on time	typ. 1 s
Inrush current	typ. 15 A (at 25 °C)
Inrush current integral (I <sup>2</sup> t)	< 1 A <sup>2</sup> s
Type of protection	Transient protection
Protective circuit/component	Varistor, gas-filled surge arrester
Device mains fuse	8 A internal (device protection), fast-blow
Recommended breaker for input protection	10 A ... 16 A (Characteristic B, C, D, K or comparable)

### Output data

Nominal output voltage	24 V DC
Setting range of the output voltage (U <sub>Set</sub> )	24 V DC ... 28 V DC (> 24 V DC, constant capacity restricted)
Nominal output current (I <sub>N</sub> )	20 A
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
	< 3 % (change in load, dynamic 10 % ... 90 %)
	< 0.1 % (change in input voltage ±10 %)
Short-circuit-proof	yes
No-load proof	yes
Residual ripple	typ. 70 mV <sub>PP</sub> (with nominal values)
Connection in parallel	yes, for redundancy
Connection in series	yes, for increased output voltage
Feedback voltage resistance	≤ 35 V DC

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

## Technical data

### Output data

Protection against overvoltage at the output (OVP)	≤ 35 V DC
Rise time	< 1 s (U <sub>Out</sub> = 10 % ... 90 %)
Derating	55 °C ... 70 °C
Crest factor	typ. 1,667 (120 V AC)
	typ. 1,75 (230 V AC)
Minimum no-load power dissipation	< 2.9 W (120 V AC)
Maximum power dissipation in no-load condition	< 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)

### General

Net weight	1 kg
Environmental protection directive	RoHS Directive 2011/65/EU
	WEEE
	Reach
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
Housing material	Aluminum (AlMg3) / sheet steel, zinc-plated
Foot latch material	Sheet steel, zinc-plated
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	alignable: 0 mm horizontally, 30 mm vertically

### Input connection data

Connection method	Screw connection
Stripping length	8 mm
Conductor cross section solid	0.2 mm <sup>2</sup> ... 6 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Flexible conductor cross section (ferrule with plastic sleeve)	0.25 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Flexible conductor cross section flexible (ferrule, w/o plastic sleeve)	0.25 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross section AWG	24 ... 10 (Cu)
Torque	0.5 Nm ... 0.6 Nm

### Output connection data

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

## Technical data

### Output connection data

Connection method	Screw connection
Stripping length	8 mm
Conductor cross section solid	0.2 mm <sup>2</sup> ... 6 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Flexible conductor cross section (ferrule with plastic sleeve)	0.25 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Flexible conductor cross section flexible (ferrule, w/o plastic sleeve)	0.25 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross section AWG	24 ... 10 (Cu)
Torque	0.5 Nm ... 0.6 Nm

### Signal connection data

Connection method	Screw connection
Stripping length	8 mm
Conductor cross section solid	0.2 mm <sup>2</sup> ... 6 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Flexible conductor cross section (ferrule with plastic sleeve)	0.25 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Flexible conductor cross section flexible (ferrule, w/o plastic sleeve)	0.25 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross section AWG	24 ... 10 (Cu)
Torque	0.5 Nm ... 0.6 Nm

### LED signaling

Types of signaling	LED DC OK – signal state operation ( $U_N = 24 \text{ V DC}$ , $I_{Out} = I_N$ )
--------------------	--

### Standards

EMC requirements for noise immunity	EN 61000-6-2
Standard designation	Safety of power supply units up to 1100 V (insulation distances)
Standards/regulations	DIN EN 61558-2-16
Standard designation	Electrical safety
Standards/regulations	IEC 61010-2-201 (SELV)
Standard designation	Equipping high voltage installations with electronic equipment
Standards/regulations	EN 50178/VDE 0160 (PELV)
Standard designation	Safety for equipment for measurement, control, and laboratory use
Standards/regulations	IEC 61010-1
Standard designation	Protective extra-low voltage
Standards/regulations	IEC 61010-1 (SELV)
	IEC 61010-2-201 (PELV)
Standard designation	Safe isolation
Standards/regulations	IEC 61558-2-16
	IEC 61010-2-201
Standard designation	Limitation of harmonic line currents
Standards/regulations	EN 61000-3-2
Standard designation	Requirement of the semiconductor industry with regard to mains voltage dips
Standards/regulations	SEMI F47 - 0706 (185 V AC)

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

## Technical data

### Standards

Overvoltage category EN 61010-1	II ( $\leq 3000$ m)
Overvoltage category EN 62477-1	III ( $\leq 3000$ m)

### Conformance/approvals

Designation	UL
Identification	UL/C-UL Listed UL 61010-1
Designation	UL
Identification	UL/C-UL Listed UL 61010-2-201
Designation	UL
Identification	UL/C-UL Listed ANSI/UL 121201 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
Designation	SIQ
Identification	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 ... 6 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

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

## Technical data

### EMC data

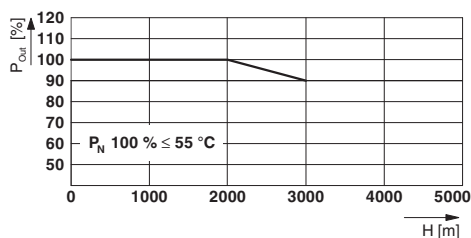
Conducted interference	EN 61000-4-6
Frequency range	0.15 MHz ... 80 MHz
Voltage	10 V (Test Level 3)
Comments	Criterion A
Voltage dips	EN 61000-4-11
Voltage	230 V AC
Frequency	50 Hz
Voltage dip	70 %
Number of periods	25 / 30 periods
Comments	Criterion A
Voltage dip	40 %
Number of periods	12 periods
Additional 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

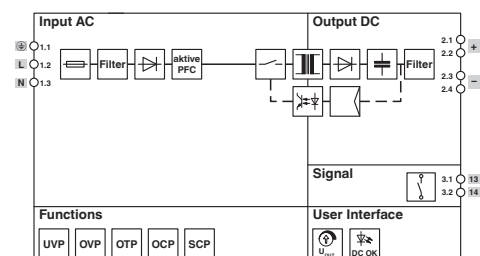
REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Drawings

Diagram

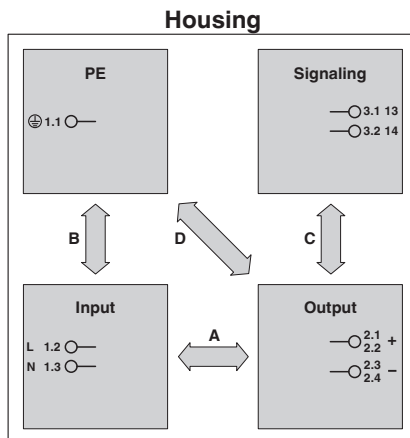


Block diagram

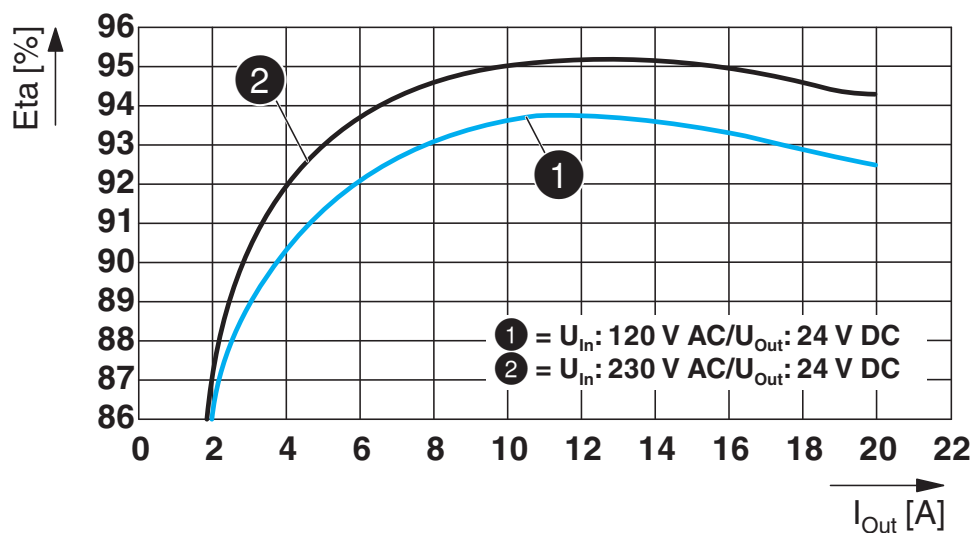


# Power supply unit - UNO2-PS/1AC/24DC/480W - 2910105

Schematic diagram

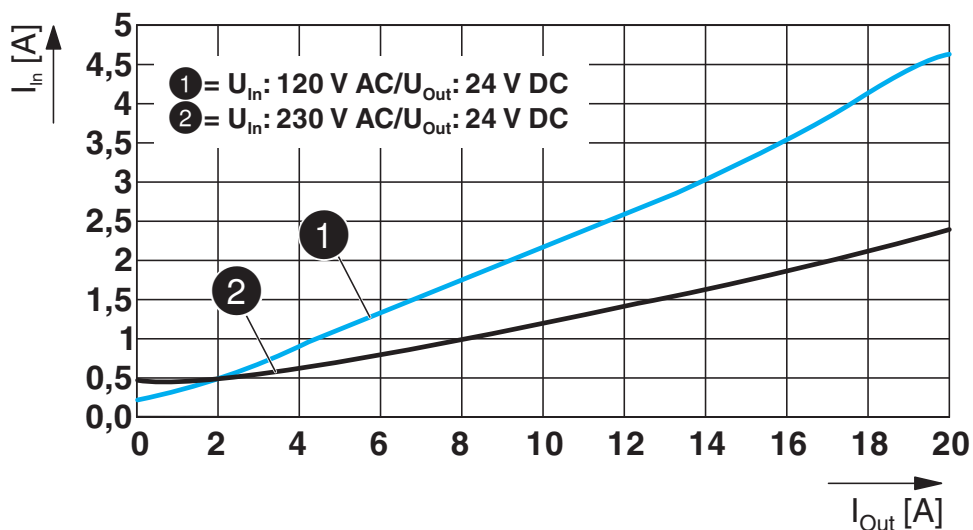


Diagram

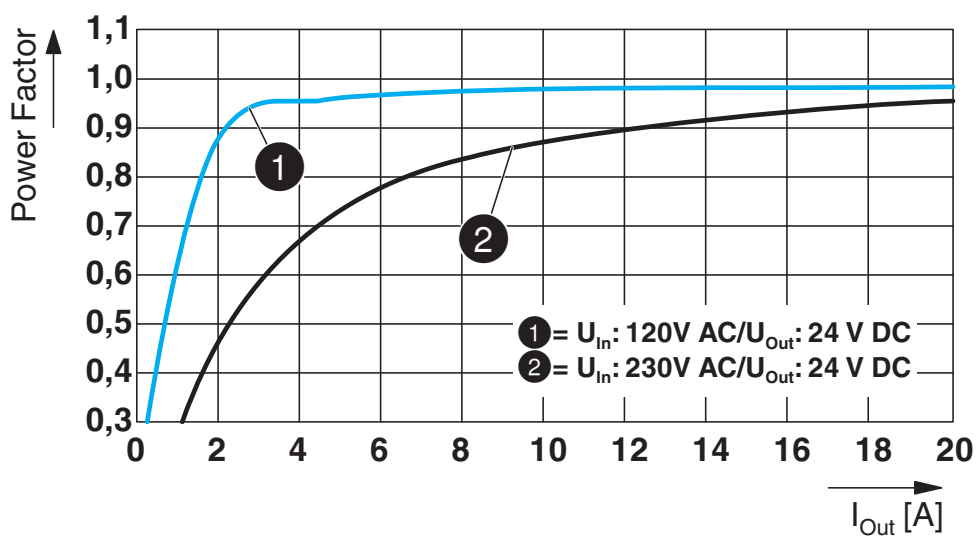


# Power supply unit - UNO2-PS/1AC/24DC/480W - 2910105

Diagram



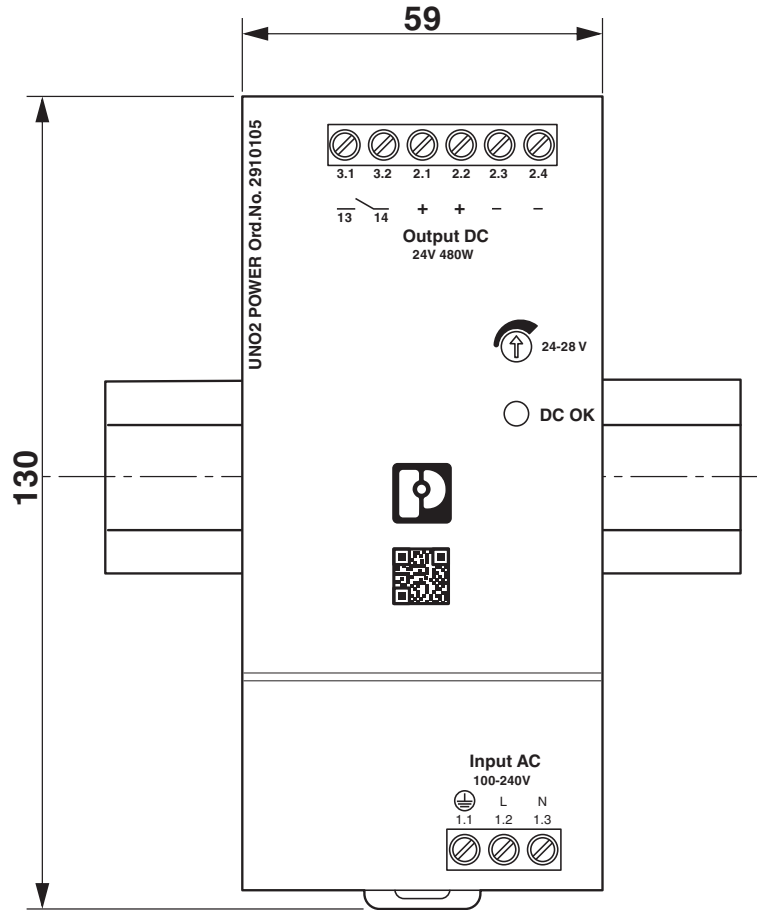
Diagram





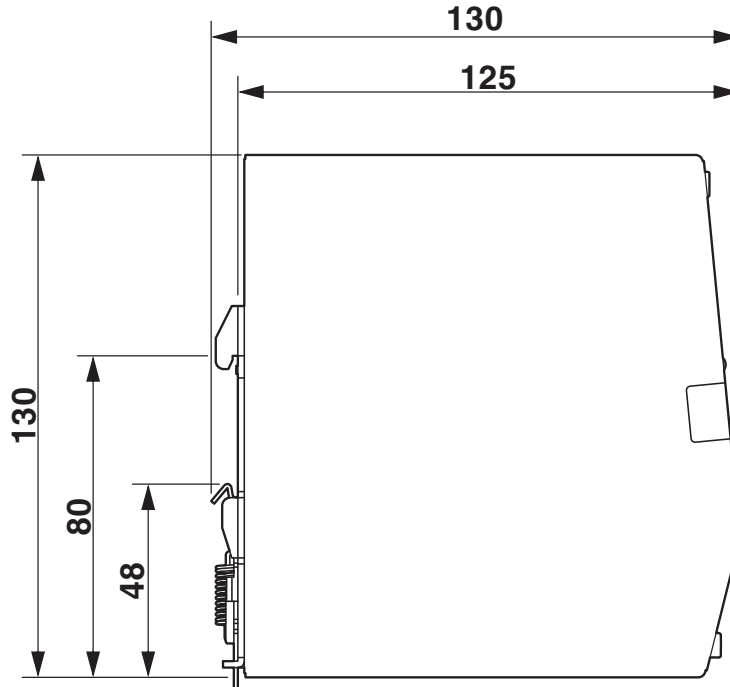
# Power supply unit - UNO2-PS/1AC/24DC/480W - 2910105

Dimensional drawing



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

Dimensional drawing



## Classifications

### eCl@ss

eCl@ss 10.0.1	27040701
eCl@ss 11.0	27040701
eCl@ss 9.0	27040701

### ETIM

ETIM 6.0	EC002540
ETIM 7.0	EC002540

### UNSPSC

UNSPSC 18.0	39121004
UNSPSC 19.0	39121004
UNSPSC 20.0	39121004
UNSPSC 21.0	39121004

## 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-8862
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 circuit breaker - CBMC E4 24DC/1-4A NO - 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.

---

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

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

## Accessories

---

### Electronic 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.

---

### Electronic 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.

---

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

---

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

---

## 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.

---

## 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.

---

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

---

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



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

---

---