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

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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

RoHS

H D W

Key Commercial Data

Packing unit	1 pc
GTIN	4 055626 456652
GTIN	4055626456652
Weight per Piece (excluding packing)	1,240.000 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} ≥50%)

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

Technical data

Dimensions

Installation distance top/bottom (active, passive)	30 mm / 30 mm (P_{Out} ≥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
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_N)	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^2t)	< 1 A^2s
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_{Set})	24 V DC ... 28 V DC (> 24 V DC, constant capacity restricted)
Nominal output current (I_N)	20 A
Control deviation	< 1 % (change in load, static 10 % ... 90 %)

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

Technical data

Output data

	< 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_{PP} (with nominal values)
Connection in parallel	yes, for redundancy
Connection in series	yes, for increased output voltage
Feedback voltage resistance	≤ 35 V DC
Protection against overvoltage at the output (OVP)	≤ 35 V DC
Rise time	< 1 s (U_{Out} = 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 no-load power dissipation	< 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

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

Technical data

Input connection data

Position	1.x
Identification	1.1 (#), 1.2 (L), 1.3 (N)
Connection method	Screw connection
Torque	0.5 Nm ... 0.6 Nm
Stripping length	8 mm
Conductor cross section solid	0.2 mm² ... 6 mm²
Conductor cross section flexible	0.2 mm² ... 4 mm²
Conductor cross-section flexible with ferrule without plastic sleeve	0.25 mm² ... 4 mm²
Conductor cross-section flexible with ferrule and plastic sleeve	0.25 mm² ... 4 mm²
Conductor cross section AWG	24 ... 10 (Cu)

Output connection data

Position	2.x
Identification	2.1, 2.2 (+), 2.3, 2.4 (-)
Connection method	Screw connection
Torque	0.5 Nm ... 0.6 Nm
Stripping length	8 mm
Conductor cross section solid	0.2 mm² ... 6 mm²
Conductor cross section flexible	0.2 mm² ... 4 mm²
Conductor cross-section flexible with ferrule without plastic sleeve	0.25 mm² ... 4 mm²
Conductor cross-section flexible with ferrule and plastic sleeve	0.25 mm² ... 4 mm²
Conductor cross section AWG	24 ... 10 (Cu)

Signal connection data

Position	3.x
Identification	3.1 (13), 3.2 (14)
Connection method	Screw connection
Torque	0.5 Nm ... 0.6 Nm
Stripping length	8 mm
Conductor cross section solid	0.2 mm² ... 6 mm²
Conductor cross section flexible	0.2 mm² ... 4 mm²
Conductor cross-section flexible with ferrule without plastic sleeve	0.25 mm² ... 4 mm²
Conductor cross-section flexible with ferrule and plastic sleeve	0.25 mm² ... 4 mm²
Conductor cross section AWG	24 ... 10 (Cu)

LED signaling

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

Connection level	3.x

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

Technical data

Connection labeling	3.1 (13), 3.2 (14)
Function	Operating state forwarding
Switch contact	OptoMOS
Switching voltage	max. 30 V AC/DC
	max. 60 V DC
Current carrying capacity	max. 50 mA
State condition	U_{OUT} > 0,9 x U_N (Contact closed)
	U_{OUT} < 0,9 x U_N (Contact open)

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)
Overvoltage category EN 61010-1	II (≤ 3000 m)
Overvoltage category EN 62477-1	III (≤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

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

Technical data

Conformance/approvals

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
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

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

Technical data

EMC data

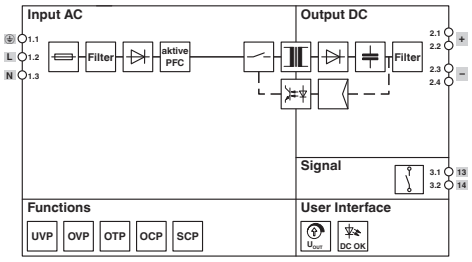
Voltage	230 V AC
Frequency	50 Hz
Voltage dip	70 %
Number of periods	25 / 30 periods
Comments	Criterion A
Voltage dip	40 %
Number of periods	12 periods
Additional text	Test Level 2
Comments	Criterion A
Voltage dip	0 %
Number of periods	1 period
Additional text	Test Level 2
Comments	Criterion B
Criterion 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

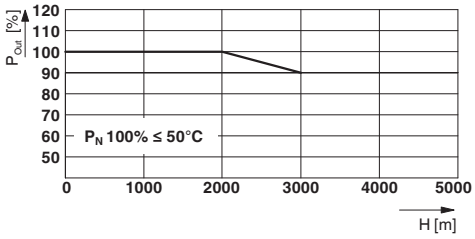
REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;
	For details about hazardous substances go to tab “Downloads”, Category “Manufacturer's declaration”

Drawings

Block diagram

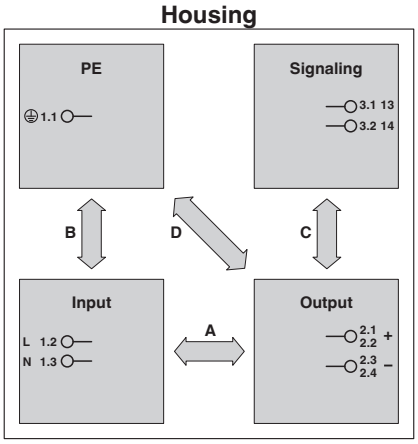


Diagram



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

Schematic diagram



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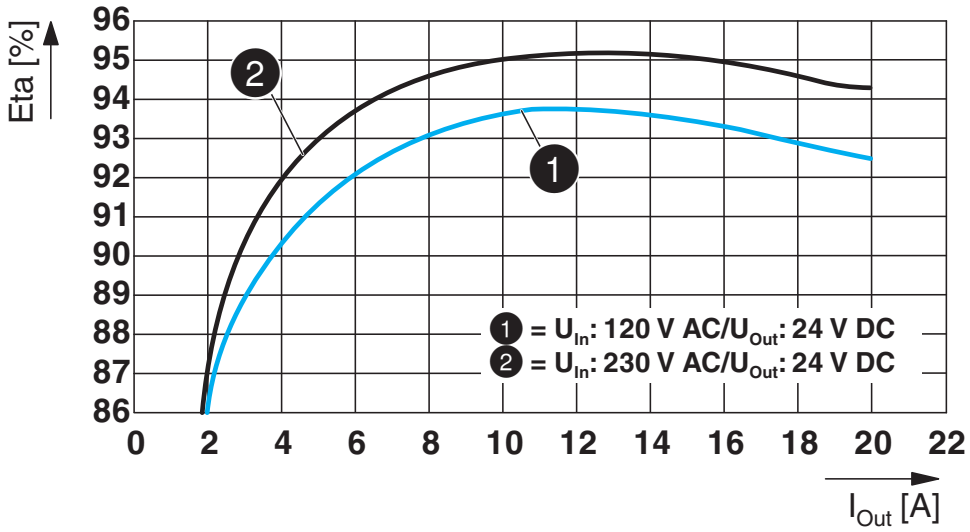

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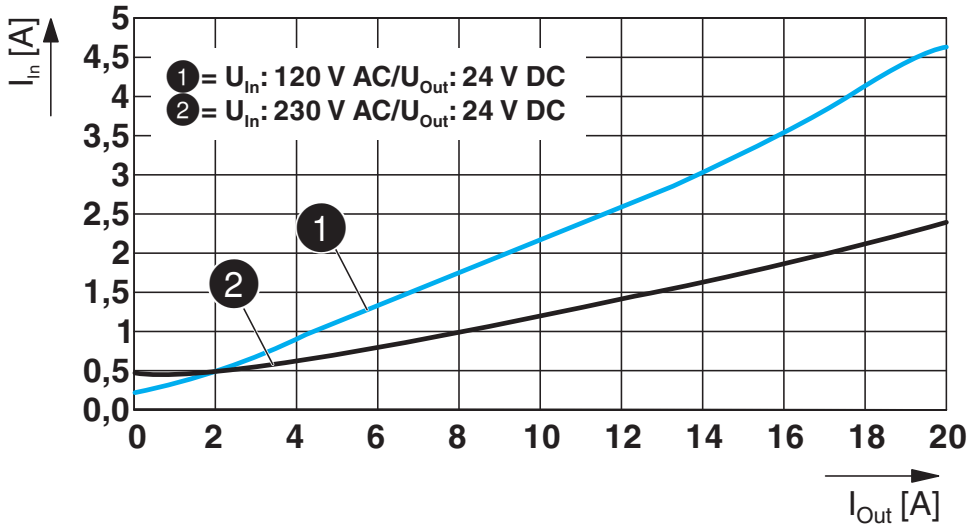
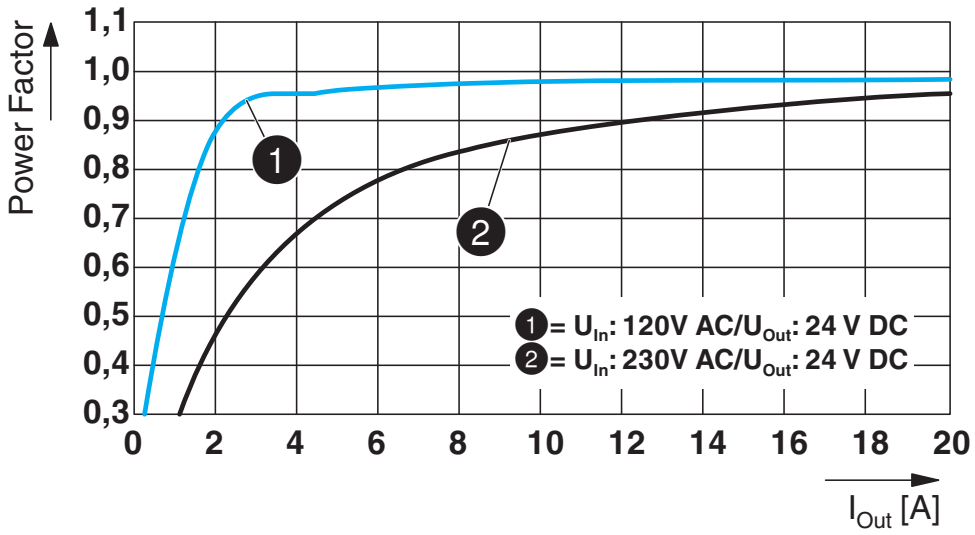
Diagram

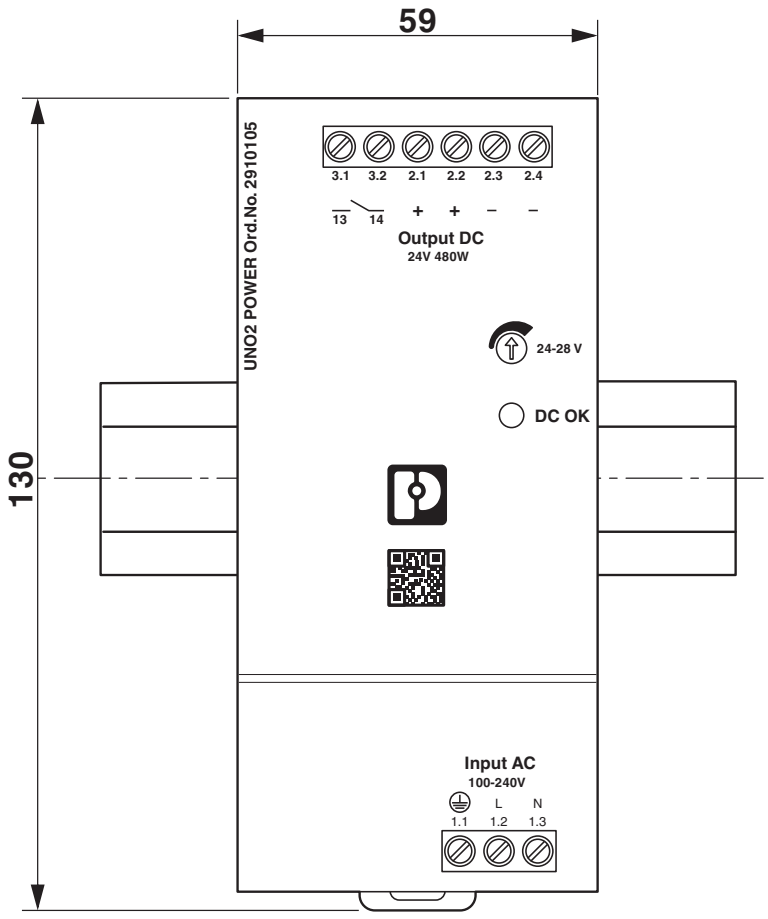


Diagram



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

Dimensional drawing



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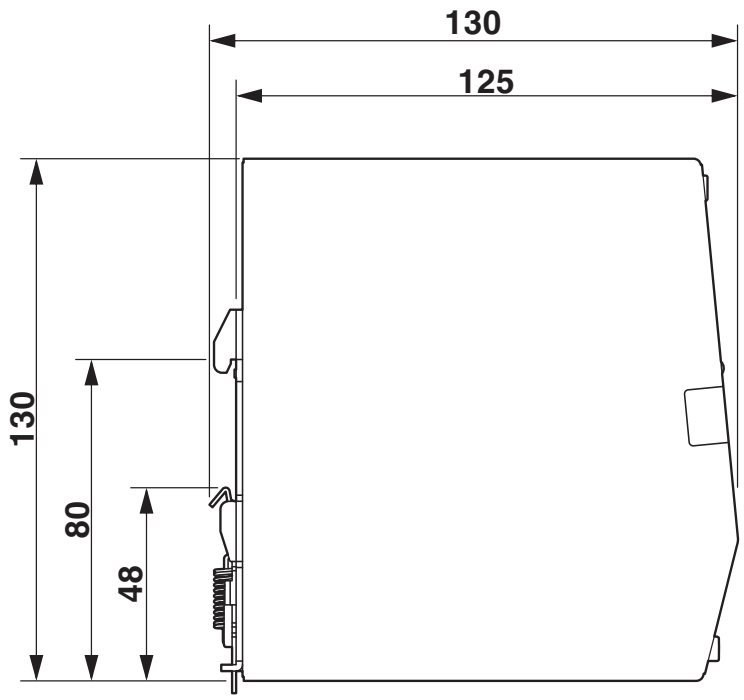
Dimensional drawing



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

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

Approvals

Approvals

Approvals

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

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approval details

IECEE CB Scheme	http://www.iecee.org/	SI-8862
UL Listed	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528
cUL Listed	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528
EAC		RU S-DE.BL08.W.00764
cULus Listed		

Accessories

Accessories

Device circuit breakers

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

Accessories

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.

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.

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

Accessories

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

Redundancy module - 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

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

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

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

Accessories