UNO-PS/1AC/24DC/240W - Power supply

2904372

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Please use the following item in new systems: 1096432.
Primary-switched UNO power supply for DIN rail mounting, input: 1-phase, output: 24 V DC / 240 W

Product description

UNO POWER power supplies - compact with basic functionality
Thanks to their high power density, compact UNO POWER power supplies offer the ideal solution for loads up to 240 W, particularly in compact control boxes. The power supply units are available in various performance classes and overall widths. Their high degree of efficiency and low idling losses ensure a high level of energy efficiency.

Your advantages

- Flexible mounting by simply snapping onto the DIN rail
- More space in the control cabinet with up to 20 % higher power density
- Maximum energy efficiency, thanks to over 90 % efficiency and extremely low idling losses under 0.3 W
- Outdoor installation, thanks to the wide temperature range from -25 °C ... +70 °C

Commercial data

Item number	2904372
Packing unit	1 pc
Sales key	CM14
Product key	CMPU13
GTIN	4046356897037
Weight per piece (including packing)	888.2 g
Weight per piece (excluding packing)	850 g
Customs tariff number	85044030
Country of origin	VN

Technical data

Input data

AC operation

Nominal input voltage range	100 V AC ... 240 V AC
Input voltage range	85 V AC ... 264 V AC (< 95 V AC Derating 1 %/V)
Derating	< 95 V AC (1 %/V)
Input voltage range AC	85 V AC ... 264 V AC
Voltage type of supply voltage	AC
Inrush current	< 80 A (typ.)
Inrush current integral (I^2t)	< 2 A^2s (typ.)
AC frequency range	50 Hz ... 60 Hz
Frequency range (f_N)	50 Hz ... 60 Hz ±10 %
Mains buffering time	> 10 ms (120 V AC)
	> 10 ms (230 V AC)
Current consumption	typ. 2.69 A (100 V AC)
	typ. 1.08 A (240 V AC)
Nominal power consumption	260 VA
Protective circuit	Transient surge protection; Varistor
Power factor	0.99
Typical response time	< 1 s
Input fuse	5 A (slow-blow, internal)
Recommended breaker for input protection	6 A ... 16 A (Characteristics B, C, D, K)

Output data

Efficiency	typ. 90 % (120 V AC)
	typ. 93 % (230 V AC)
Output characteristic	U/I
Nominal output voltage	24 V DC
Setting range of the output voltage (U_{Set})	24 V DC ... 28 V DC ±1 %
Nominal output current (I_N)	10 A (-25 °C ... 55 °C)
Derating	55 °C ... 70 °C (2.5 %/K)
Feedback voltage resistance	< 35 V DC
Protection against overvoltage at the output (OVP)	≤ 35 V DC
Control deviation	change in load, static 10 % ... 90 %
	< 2 % (change in load, dynamic 10 % ... 90 %)
	< 0.1 % (change in input voltage ±10 %)
Residual ripple	< 50 mV_{PP} (with nominal values)
Short-circuit-proof	yes
Output power	240 W
Maximum no-load power dissipation	< 1.1 W
Power loss nominal load max.	< 18.8 W
Rise time	< 0.5 s (U_{OUT} (10 % ... 90 %))

Response time	< 2 ms
Connection in parallel	yes, for redundancy and increased capacity
Connection in series	no

Connection data

Input

Connection method	Screw connection
Conductor cross-section, rigid min.	0.2 mm²
Conductor cross-section, rigid max.	2.5 mm²
Conductor cross-section flexible min.	0.2 mm²
Conductor cross-section flexible max.	2.5 mm²
Single conductor/flexible terminal point with ferrule with plastic sleeve, min.	0.2 mm²
Single conductor/flexible terminal point with ferrule with plastic sleeve, max.	2.5 mm²
Single conductor/flexible terminal point with ferrule without plastic sleeve, min.	0.2 mm²
Single conductor/flexible terminal point with ferrule without plastic sleeve, max.	2.5 mm²
Conductor cross-section AWG min.	24
Conductor cross-section AWG max.	14
Stripping length	8 mm
Screw thread	M3
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

Output

Connection method	Screw connection
Conductor cross-section, rigid min.	0.2 mm²
Conductor cross-section, rigid max.	2.5 mm²
Conductor cross-section flexible min.	0.2 mm²
Conductor cross-section flexible max.	2.5 mm²
Single conductor/flexible terminal point with ferrule with plastic sleeve, min.	0.2 mm²
Single conductor/flexible terminal point with ferrule with plastic sleeve, max.	2.5 mm²
Single conductor/flexible terminal point with ferrule without plastic sleeve, min.	0.2 mm²
Single conductor/flexible terminal point with ferrule without plastic sleeve, max.	2.5 mm²
Conductor cross-section AWG min.	24
Conductor cross-section AWG max.	14
Stripping length	8 mm
Screw thread	M3
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

Signaling

Types of signaling	LED

Electrical properties

Number of phases	1
Insulation voltage input/output	4 kV AC (type test)
	3 kV AC (routine test)

Product properties

Product type	Power supply
Product family	UNO POWER
MTBF (IEC 61709, SN 29500)	> 641000 h (40 °C)

Insulation characteristics

Protection class	I (in closed control cabinet)
Degree of pollution	2

Dimensions

Width	45 mm
Height	130 mm
Depth	125 mm

Installation dimensions

Installation distance right/left	0 mm / 0 mm
Installation distance top/bottom	30 mm / 30 mm

Mounting

Mounting type	DIN rail mounting
Assembly note	alignable: 0 mm horizontally, 30 mm vertically
Mounting position	horizontal DIN rail NS 35, EN 60715

Material specifications

Flammability rating according to UL 94 (housing / terminal blocks)	V0
Housing material	Aluminum / polycarbonate
Type of housing	Aluminum/polycarbonate

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)	-25 °C
Climatic class	3K22 (in accordance with EN 60721-3-3)
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)

Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Vibration (operation)	< 15 Hz, amplitude ±2.5 mm (according to IEC 60068-2-6)
	15 Hz ... 150 Hz, 2.3g, 90 min.

Standards and regulations

Standard – Limitation of mains harmonic currents	EN 61000-3-2
Standard - Electrical safety	IEC 62368-1 (SELV)
Standard – Safety extra-low voltage	IEC 62368-1 (SELV) und EN 60204-1 (PELV)
Standard - Safe isolation	DIN VDE 0100-410
Standard - Safety of transformers	EN 61558-2-16
Approval - requirement of the semiconductor industry with regard to mains voltage dips	EN 61000-4-11

Mains voltage dips

Standard designation	Requirement of the semiconductor industry with regard to mains voltage dips
Standards/specifications	SEMI F47 - 0706 (180 V AC)

Approvals

CSA	CAN/CSA-C22.2 No. 60950-1-07
	CSA-C22.2 No. 107.1-01
	CAN/CSA-C22.2 No. 213 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)
UL approvals	UL/C-UL listed UL 508
	UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)
	UL/C-UL Recognized UL 60950-1

Conformity/Approvals

SIL in accordance with IEC 61508	0

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
EMC requirements for noise emission	EN 61000-6-3
	EN 61000-6-4
EMC requirements for noise immunity	EN 61000-6-1
	EN 61000-6-2

Electrostatic discharge

Standards/regulations	EN 61000-4-2

Electrostatic discharge

Contact discharge	6 kV (Test Level 3)
Discharge in air	8 kV (Test Level 3)
Comments	Criterion B

Electromagnetic HF field

Standards/regulations	EN 61000-4-3

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

Fast transients (burst)

Input	4 kV (Test Level 4 - asymmetrical)
Output	2 kV (Test Level 3 - asymmetrical)
Comments	Criterion B

Surge voltage load (surge)

Standards/regulations	EN 61000-4-5

Surge voltage load (surge)

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 B

Conducted interference

Standards/regulations	EN 61000-4-6

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 periods
Additional text	Class 3
Comments	Criterion A
Voltage dip	40 %
Number of periods	10 periods

Additional text	Class 3
Comments	Criterion A
Voltage dip	0 %
Number of periods	1 period
Additional text	Class 3
Comments	Criterion B

Emitted interference

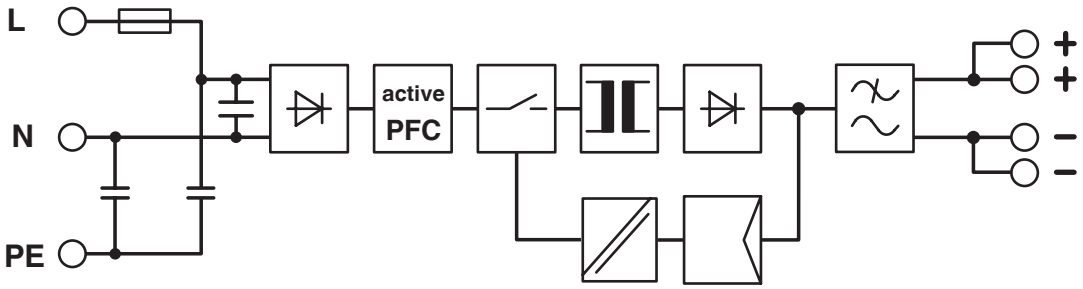
Standards/regulations	EN 61000-6-3
Radio interference voltage in acc. with EN 55011	EN 55011 (EN 55022) Class B, area of application: Industry and residential
Emitted radio interference in acc. with EN 55011	EN 55011 (EN 55022) Class B, area of application: Industry and residential

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

Block diagram



Classifications

ETIM

ETIM 9.0	EC002540

UNSPSC

UNSPSC 21.0	39121000

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-25
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)

EF3.1 Climate Change

CO2e kg	13.963 kg CO2e

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