# UNO-PS/1AC/24DC/100W - Power supply

2902993

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Primary-switched power supply unit UNO POWER, Screw connection, DIN rail mounting, input: 1-phase, output: 24 V DC / 4.2 A

## Product description

UNO POWER power supplies with basic functionality
Thanks to their high power density, compact UNO POWER power supplies are 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

ELEKTROGERÄTE RÜCKNAHME

## Commercial data

| | |
|---|---|
| Item number | 2902993 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | CM14 |
| Product key | CMPU13 |
| GTIN | 4046356729215 |
| Weight per piece (including packing) | 376 g |
| Weight per piece (excluding packing) | 348 g |

| | |
|---|---|
| Customs tariff number | 85044095 |
| 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 |
| Input voltage range AC | 85 V AC ... 264 V AC |
| Voltage type of supply voltage | AC |
| Inrush current | < 40 A (typ.) |
| Inrush current integral ($I^2t$) | < 1.5 $A^2s$ (typ.) |
| Frequency range ($f_N$) | 50 Hz ... 60 Hz ±10 % |
| Mains buffering time | > 20 ms (120 V AC) |
| | > 100 ms (230 V AC) |
| Current consumption | typ. 2.1 A (100 V AC) |
| | typ. 0.95 A (240 V AC) |
| Nominal power consumption | 242.6 VA |
| Protective circuit | Transient surge protection; Varistor |
| Power factor | 0.47 |
| Typical response time | < 1 s |
| Input fuse | 4 A (slow-blow, internal) |
| Recommended breaker for input protection | 6 A ... 16 A (Characteristics B, C, D, K) |

## Output data

| | |
|---|---|
| Efficiency | typ. 88 % (120 V AC) |
| | typ. 89 % (230 V AC) |
| Output characteristic | HICCUP |
| Nominal output voltage | 24 V DC |
| Nominal output current ($I_N$) | 4.2 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 | < 1 % (change in load, static 10 % ... 90 %) |
| | < 2 % (Dynamic load change 10 % ... 90 %, 10 Hz) |
| | < 0.1 % (change in input voltage ±10 %) |
| Residual ripple | < 30 $mV_{PP}$ (with nominal values) |
| Short-circuit-proof | yes |
| No-load proof | yes |
| Output power | 100 W |
| Maximum no-load power dissipation | < 0.5 W |
| Power loss nominal load max. | < 11 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 | yes |

## 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 | 0.6 Nm |
| Tightening torque max | 0.8 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) | > 738000 h (40 °C) |

### Insulation characteristics

| | |
|---|---|
| Protection class | II (in closed control cabinet) |
| Degree of pollution | 2 |

## Dimensions

| | |
|---|---|
| Width | 55 mm |
| Height | 90 mm |
| Depth | 84 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 |
| With protective coating | no |

## Material specifications

| | |
|---|---|
| Flammability rating according to UL 94 (housing / terminal blocks) | V0 |
| Housing material | Plastic |
| Housing material | PC |
| Type of housing | Polycarbonate |
| Foot latch material | POM (Polyoxymethylene) |

## 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 |

| | |
|---|---|
| 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 A |

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 1 - 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 A |

Emitted interference

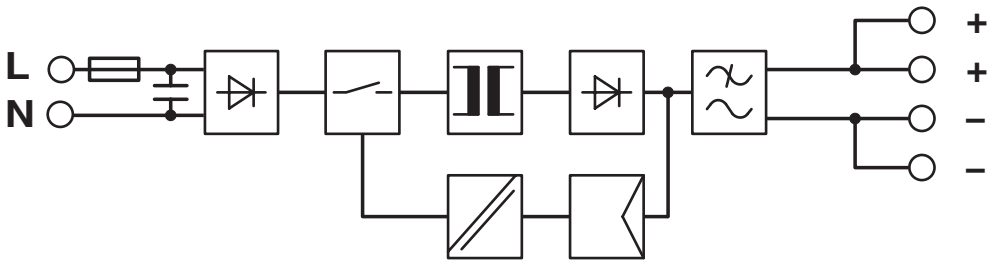
| | |
|---|---|
| Standards/regulations | EN 61000-6-3 |
| Radio interference voltage in acc. with EN 55011 | EN 55011 (EN 55022) class B used in industry and residential area / EMC 1 |
| Emitted radio interference in acc. with EN 55011 | EN 55011 (EN 55022) class B used in industry and residential area / EMC 1 |

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



## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2902993

**cUL Recognized**
Approval ID: FILE E 214596

**UL Recognized**
Approval ID: FILE E 214596

**IECEE CB Scheme**
Approval ID: DK-39228-A1-UL

**EAC**
Approval ID: RU S-DE.BL08.W.00764

**EAC**
Approval ID: RU S-DE.BL08.W.00764

**UL Listed**
Approval ID: E123528

**cUL Listed**
Approval ID: FILE E 123528

**IECEE CB Scheme**
Approval ID: NL2-021189

**EAC**
Approval ID: KZ7500651 0101 12535

**cUL Listed**
Approval ID: E199827

**UL Listed**
Approval ID: FILE E 199827

## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-13.0 | 27040701 |
| ECLASS-15.0 | 27040701 |

### ETIM

| | |
|---|---|
| ETIM 10.0 | 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) |
| SCIP | 73f8272f-8f27-493f-be2b-151e602247e4 |

EF3.1 Climate Change

| | |
|---|---|
| CO2e kg | 5.876 kg CO2e |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