

UNO-PS/1AC/24DC/100W Single-Phase DIN Rail Power Supply

 [perle.com/products/industrial-power-supply/uno-ps-1ac-24dc-100w-29029938.shtml](https://www.perle.com/products/industrial-power-supply/uno-ps-1ac-24dc-100w-29029938.shtml)

24V Industrial Power Supply, AC to DC Converter

- 24V DC Output Voltage
- 4.2 Amps
- 100.8 Watts
- Single phase AC Input
- Input Voltage Range: 85 ... 264 V AC

The **UNO-PS/1AC/24DC/100W Industrial Power Supply** is a rugged AC to DC Converter built to meet the high stability and efficiency expectations of industrial, machine automation and process control environments. This Switching (switch mode) Power Supply ensures a regulated output voltage even in the event of voltage fluctuations in the power supply network. With all required safety certifications to support ITE (Information Technology Equipment), ruggedized packaging, extended operating temperatures, high peak load capabilities and high isolation voltages, the UNO Industrial Power Supply is designed to meet the needs of your industrial application.



With the NEC designation as a **Class 2 Power Supply**, all regulations address the wiring requirements (wire size and insulation, wire derating factors, overcurrent protection limits and methods of wiring installation) between the output of the supply and the input of the load are met by the UNO-PS/AC. The output voltage and power delivery capabilities of this Class 2 power supply will lower the risk of fire initiation and electrical shocks, which allows for lower cost wiring methods to be employed when installing an electrical system in a building.

Industrial operating temperature of -25°C to +70°C with reliable device start-up at -40°C

Equipment found in traffic management, oil and gas pipelines, weather tracking, industrial and outdoor applications must function in temperatures that cannot be supported by a commercial power supplies. With an operating temperature of -25°C to +70°C, and reliable device start-up at -40°C, the UNO-PS/1AC/24DC/100W Industrial Power Supply is ideal for use with equipment subjected to harsh environments and severe temperatures.

High efficiency up to 89% and no load power consumption <0.3W

Compared with other products on the market, the UNO Industrial Power Supply provides excellent energy savings. With a very low no load power consumption (below .3 W) and over 89% efficiency at nominal load, just a small amount of electrical energy is converted into undesired heat energy making this a very ECO friendly power supply.

Ideal application environments for an UNO-PS/1AC/24DC/100W DIN Rail Power Supply

- automated production process
- industrial control, automation, assembly, and test equipment
- building control, security and surveillance, and climate control systems.
- power countless industrial automation devices such as sensors, controllers and valves

Other reasons to choose the UNO-PS/1AC/24DC/100W Industrial Power Supply

- 55 mm wide DIN Rail mount narrow housing
- Voltage Isolation input/output: 4 kV AC
- LED indicator for voltage out failure: If the output voltage is below the operational range, the LED turns off.
- Protections: Short-circuit, Overload, Over voltage, Over-temperature
- High MTBF (Mean Time Between Failure) values ensure maximum availability
- IEC Protection Class II Power Supply

Environmental Product Compliance

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| REACH SVHC | Lead 7439-92-1 |
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| China RoHS | Environmentally Friendly Use Period = 25; |
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General

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| Net weight | 0.34 kg |
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| Efficiency | typ. 88 % (120 V AC) |
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| | typ. 89 % (230 V AC) |
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| Insulation voltage input/output | 4 kV AC (type test) |
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| | 3 kV AC (routine test) |
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| Protection class | II (in closed control cabinet) |
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| Degree of protection | IP20 |
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| MTBF (IEC 61709, SN 29500) | > 738000 h (40 °C) |
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| Mounting position | horizontal DIN rail NS 35, EN 60715 |
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| Assembly instructions | alignable: 0 mm horizontally, 30 mm vertically |
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Standards and Regulations

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| Electromagnetic compatibility | Conformance with EMC Directive 2014/30/EU |
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| Connection in acc. with standard | CUL |
| Standards/regulations | EN 61000-4-2 |
| Contact discharge | 4 kV (Test Level 2) |
| Standards/regulations | EN 61000-4-3 |
| Frequency range | 80 MHz ... 1 GHz |
| Test field strength | 10 V/m |
| Frequency range | 1.4 GHz ... 2 GHz |
| Test field strength | 3 V/m |
| Standards/regulations | EN 61000-4-4 |
| Comments | Criterion B |
| Standards/regulations | EN 61000-6-3 |
| | EN 61000-4-6 |
| Frequency range | 10 kHz ... 80 MHz |
| Voltage | 10 V (Test Level 3) |
| Standards/regulations | EN 61000-4-11 |
| Low Voltage Directive | Conformance with LV directive 2006/95/EC |
| Standard - Safety of transformers | EN 61558-2-16 |
| Standard - Electrical safety | IEC 60950-1/VDE 0805 (SELV) |
| Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations | EN 50178/VDE 0160 (PELV) |
| Standard – Safety extra-low voltage | IEC 60950-1 (SELV) and EN 60204-1 (PELV) |
| Standard - Safe isolation | DIN VDE 0100-410 |
| Standard – Limitation of mains harmonic currents | EN 61000-3-2 |
| UL approvals | UL/C-UL listed UL 508 |
| | UL/C-UL Recognized UL 60950-1 |
| | UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location) |

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| Vibration (operation) | < 15 Hz, amplitude ± 2.5 mm (according to IEC 60068-2-6) |
| | 15 Hz ... 150 Hz, 2.3g, 90 min. |
| Approval - requirement of the semiconductor industry with regard to mains voltage dips | EN 61000-4-11 |
| Information technology equipment - safety (CB scheme) | CB Scheme |
| Connection data, input | |
| Connection method | Screw connection |
| Conductor cross section solid min. | 0.2 mm ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 2.5 mm ² |
| Conductor cross section AWG min. | 24 |
| Conductor cross section AWG max. | 14 |
| Stripping length | 8 mm |
| Screw thread | M3 |
| Output data | |
| Nominal output voltage | 24 V DC ± 1 % |
| Nominal output current (I_N) | 4.2 A (-25 °C ... 55 °C) |
| Derating | 55 °C ... 70 °C (2.5%/K) |
| Connection in parallel | Yes, for redundancy and increased capacity |
| Connection in series | yes |
| Feedback resistance | < 35 V DC |
| Protection against surge voltage on the output | ≤ 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) |

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| Typical response time | < 1 s |
| Maximum power dissipation in no-load condition | < 0.5 W |
| Power loss nominal load max. | < 11 W |
| Dimensions | |
| Width | 55 mm |
| Height | 90 mm |
| Depth | 84 mm |
| Weight per piece | 340.0 GRM |
| Input data | |
| Nominal input voltage range | 100 V AC ... 240 V AC |
| Input voltage range | 85 V AC ... 264 V AC |
| Current consumption | 2.1 A (100 V AC) |
| | 0.95 A (240 V AC) |
| Nominal power consumption | 242.6 VA |
| Inrush surge current | < 40 A (typical) |
| Mains buffering | typ. 20 ms (120 V AC) |
| | typ. 100 ms (230 V AC) |
| Input fuse | 4 A (slow-blow, internal) |
| Choice of suitable circuit breakers | 6 A ... 16 A (Characteristics B, C, D, K) |
| Power factor (cos phi) | 0.47 |
| Type of protection | Transient surge protection |
| Protective circuit/component | Varistor |
| Connection data, onput | |
| Connection method | Screw connection |
| Conductor cross section solid min. | 0.2 mm ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 2.5 mm ² |

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| Conductor cross section AWG max. | 14 |
| Stripping length | 8 mm |
| Screw thread | M3 |
| Ambient conditions | |
| Degree of protection | IP20 |
| 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) |
| Climatic class | 3K3 (in acc. with EN 60721) |
| Degree of pollution | 2 |

Approvals

- EAC
- UL Recognized
- cUL Recognized
- cUL Listed
- UL Listed
- IECEE CB Scheme

UNO-PS/1AC Industrial Power Supply Block Diagram

