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

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	
REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;
General	
Net weight	0.34 kg
Efficiency	typ. 88 % (120 V AC)
	typ. 89 % (230 V AC)
Insulation voltage input/output	4 kV AC (type test)
	3 kV AC (routine test)
Protection class	II (in closed control cabinet)
Degree of protection	IP20
MTBF (IEC 61709, SN 29500)	> 738000 h (40 °C)
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	alignable: 0 mm horizontally, 30 mm vertically
Standards and Regulations	
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise immunity	EN 61000-6-2:2005

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)
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.
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 mm²
Conductor cross section solid max.	2.5 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	2.5 mm²
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)
Output power	100 W

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 mm²
Conductor cross section solid max.	2.5 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	2.5 mm²
Conductor cross section AWG min.	24

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