

UNO-PS/350-900DC/24DC/60W DIN Rail Power Supply

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Regulated DC to DC Converter

- 24V DC Output Voltage
- 2.5 Amps
- 60 Watts
- Input Voltage Range: 300 V DC ... 1000 V DC

If you need to efficiently produce a regulated 24 V DC output voltage from a source that may or may not be well controlled to a load that may or may not be constant, the **UNO-PS/350-900DC/24DC/60W Power Supply** is for you. This DC to DC converter enables direct connection to string voltages of up to 1000 V DC. This means the Combiner Box is supplied directly from the photovoltaic panel and additional installation costs are not incurred. In another expansion stage, the signal line can be replaced by a wireless connection. 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 DC to DC Converter is designed to meet the needs of your industrial application.



Industrial operating temperature of -25°C to +70°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 Industrial Power Supply is ideal for use with equipment subjected to harsh environments and severe temperatures.

High efficiency over 90% and low no load power consumption

Compared with other products on the market, the UNO Industrial Power Supply provides excellent energy savings. With a very low no load power consumption and over 90% 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 DC to DC converter

- Supply your control cabinet directly from the photovoltaic system to save on installation costs and increase system efficiency.
- Where an AC connection is not available and direct field installation needed.

Other reasons to choose the UNO DC to DC Converter

- UL 1741 certification simplifies approval of the overall system
- LED function monitoring simplifies start-up

- Minimal space required in the control box
- High Voltage Isolation input/output value of 8 kV
- Protections: Short-circuit, Overload, Over voltage, Over-temperature
- High MTBF (Mean Time Between Failure) values ensure maximum system availability

Environmental Product Compliance

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

General

Net weight	0.3 kg
Efficiency	> 90 %
Insulation voltage input/output	8 kV DC (type test) 3 kV DC (routine test)
Protection class	II
Degree of protection	IP20
MTBF (IEC 61709, SN 29500)	> 1160000 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
Standards/regulations	EN 61000-4-2
Contact discharge	4 kV (Test Level 3)
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 -	IEC 62109-1
Standard - Electrical safety	IEC 62109-1
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 1741
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
Overvoltage category (IEC 62109-1)	II

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)	2.5 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	No
Feedback resistance	< 35 V DC
Protection against surge voltage on the output	≤ 35 V DC
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
	< 3 % (Dynamic load change 10 % ... 90 %, 10 Hz)
	< 0.1 % (change in input voltage ±10 %)
Residual ripple	< 20 mV _{PP} (with nominal values)
Output power	60 W
Typical response time	< 1 s
Maximum power dissipation in no-load condition	< 0.5 W
Power loss nominal load max.	< 6.5 W

Dimensions

Width	55 mm
Height	90 mm
Depth	84 mm
Weight per piece	316.9 GRM

Input data

Nominal input voltage range	350 V DC ... 900 V DC
Input voltage range	300 V DC ... 1000 V DC
Dielectric strength maximum	≤ 1050 V DC
Current consumption	0.19 A (350 V DC)
	0.07 A (1000 V DC)
Inrush surge current	< 1 A (typical)
Choice of suitable circuit breakers	1 A (Characteristic gPV or comparable)

Connection data, output

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

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

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

UNO-PS/350-900DC/24DC/60W Industrial Power Supply Block Diagram

