PS-100/48, Power Supply

DIN-Rail PoE Ready PSU

- 48 – 56 VDC
- 1.8 – 2.1 A
- 100 Watt
- 115 or 230 VAC Input
- PoE and PoE Plus Ready
- –10 to +70°C (14 to +158°F)

EN 61000-6-2 Industrial Immunity
EN 61000-6-3 Residential Emission
EN 61000-6-4 Industrial Emission

The PS-100/48 is a DIN-rail industrial power supply (PSU) complying with a wide range of approvals. With the robust plastic housing the PS-100/48 is one of the markets most compact PSU:s. It has been specifically designed for use with the Westermo Power over Ethernet (PoE) products and meets the requirements for both PoE and PoE Plus as the output voltage can be adjusted between 48 and 56 VDC. In some applications there might be a need to power many Powered Devices (PD):s thus the unit can deliver up to 100 Watt.

Mounting and connecting the unit does not require any additional tools as both the DIN-rail connector and the terminal connectors have been designed, not only, with ruggedness and the ability to sustain harsh environments, but also the made easy methodolgy using spring clamps.

Every PS-100/48 has to pass rigorous quality tests including temperature cycling at full load to guarantee quality. With very high MTBF figures the PSU is built to last.

Ordering Information	
Art.no	**Description**
3125-0050	Westermo Power Supply PS-100

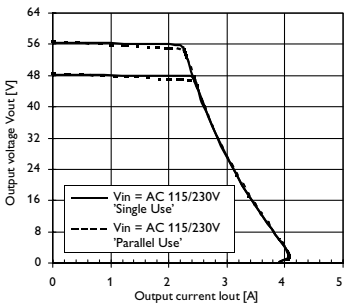
Specifications PS-100/48

Input	
Input voltage	AC 100 – 120 / 220 – 240 V (Auto Select), 47 to 63 Hz (AC 85 to 132 V / AC 184 to 264 V, DC 220 to 375 V)
Input current	<2.1A (@ AC 100 V_{in}, 100 W P_{out}) <1A (@ AC 220V_{in}, 100W P_{out})
External Fusing	Not required, unit provides internal fuse (T3A15H, not accessible)
Transient immunity	Transient resistance acc. to VDE 0160 / W2 (750 V / 1.3 ms), over entire load range
Hold-up time	>40 ms @ AC 230 V, 48 V / 2.1 A >20 ms @ AC 196 V, 48 V / 2.1 A >20 ms @ AC 100 V, 48 V / 2.1 A
Output	
Output voltage *preset to	48 – 56 VDC (adj. by front panel potentiometer) 48 V ± 0.5% @ 2.1 A
Voltage regulation	stat. <1% V_{out} (Jumper in pos. 'Single Use') stat. <3% V_{out} (Jumper in pos. 'Parallel Use'), dyn. ±1.5% Vout over all
Ripple/Noise	<50 m V_{PP} (20 MHz bandwidh, 50 Ohm measurement)
Overvoltage prot.	<60 V
Rated continuous loading	Up to 2.1 A @ 48 V / 1.8 A @ 56 V (convection cooling), depending on built-in orientation, V_{in} and T_{amb}
Overload behaviour	No switch-off at overload/short-circuit
Protection	Unit is protected against (also permanent) shortcircuit, overload and open-circuit
Derating	Depending on built-in orientation
Parallel operation	Yes (selectable by front panel jumper)
Power back immunity	63 V
Operation indicator	Green LED
Evironmental, EMC & Safety	
Ambient temperature range	(measured 25 mm below unit)
Storage, transport	–25°C to +85°C (–13 to 185°F)
Operation	–10°C to +70°C (14 to 158°F)
Humidity	max. 95% (without condensation)
Electromagnetic emissions (EME)	EN 61000-6-3 (includes EN 61000-6-4) Class B (EN 55011, EN 55022) EN 61000-3-2 (PFC)
Electromagnetic immunity (EMI)	EN 61000-6-2 (includes EN 61000-6-1)
Safe low voltage	SELV (EN 60950, VDE0100/T.410), PELV (EN 50178)
Prot. class/degree	Class 1 (EN 60950) / IP20 (EN 60529)
This unit fulfills all major safety approvals for EU (EN 60 950, EN 60204-1, EN 50178), USA (UL 60950, E137006, UL508 LISTED, E198865), Canada (CAN/CSA-C22.2 No 60950 [CUR], CAN/CSA-C22.2 No. 14 [CUL]), CB Scheme (IEC 60950).	

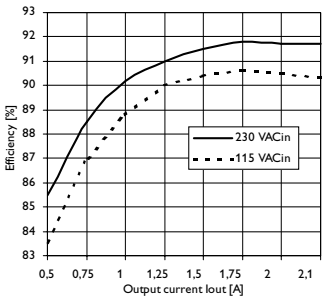
Efficiency & Reliability	
Efficiency	typ. 91% (230 VAC, 48 V / 2.1 A)
Losses	typ. 10 W (230 VAC, 48 V / 2.1 A)
MTBF (Reliability)	appr. 500.000 h acc. to Siemensnorm SN 29500 48 V / 2.1 A, 230 VAC, T_{amb} = +40°C
Prior to shipment, every unit undergoes the following tests in order to isolate any defective units which might suffer an early failure	Run-in / burn-in (Full load, T_{amb} = +60°C, on/off cycle)
	Functional test (100%)
Mechanical Details	
Robust plastic housing (US Patent No. D442, 923S), fine ventilation grid on three housing sides to keep out small parts (e.g. screws), IP20	
Dimensions and weight	
W x H x D	73 mm x 75 mm x 103 mm (+ DIN rail) Depth incl. terminals: 98 mm (+ DIN rail)
Weight	360 g

Diagrams

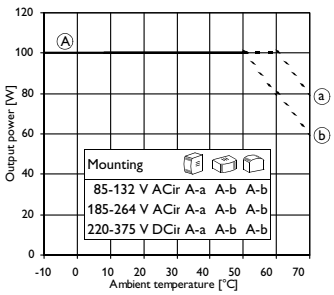
Output characteristic V_{out} /I_{out} (min.)



Efficiency (@ V_{out} = 48V, typ.)



Derating of output power



Hold-up time with ACin (at V_{out} = 48V, typ. + min.)