

250W, Rugged, Encapsulated AC/DC Power Supply for Heavy-duty Applications POL 59-P59W Series



- Rugged, field proven design
- Conduction cooling
- Fully encapsulated
- Full electronic protection

This fully encapsulated, rugged, industrial quality AC/DC power supply uses field-proven technology to generate 100W output power. It is a mature product with a track-record in numerous applications. The unit is entirely potted with a thermally conductive MIL-grade silicon rubber compound to provide immunity to shock, vibration and humidity. It is conduction cooled via a base plate to a heat-sinking surface. Full electronic protection, low component count, large design headroom, and the use of components with established reliability ensure high MTBF. The unit is suitable for transportation, mining, oilrigs, military and other harsh environments. The converter is manufactured at our plant under strict quality control. Versions that are designed to meet EN 50155 railway specifications are also available.

SPECIFICATIONS

Input Voltage

115 or 230Vac \pm 15%
47 - 63Hz
Auto-ranging available
Consult factory for other voltages

Input Protection

Inrush current limiting
Varistor
Internal safety fuse
Lower voltage than the specified minimum input will not damage the unit

Isolation

2250VDC input to chassis
4300VDC input to output
8mm spacing
500VDC output to chassis

Standards

Designed to meet EN60950-1 and corresponding UL and CSA standards

EMI

EN55022 Class A with margins

Switching Frequency

55 kHz \pm 3kHz

Hold-Up Time

Min. 10ms at full load for 5% drop in output voltage

Output Voltage/Current

12V/20A, 24V/10 or 48V/5A
Output is floating, either terminal can be grounded
Consult factory for other voltages

Redundancy Diode

None

Line/Load Regulation

\pm 1% combined from zero load to full load

Dynamic Response

Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time

Output Ripple / Noise

Better than 1% of output voltage peak to peak or 0.2% RMS of the output voltage. (20MHz BW)

Output Overload Protection

Rectangular current limiting with short-circuit protection (no hiccup)
Thermal shutdown in case of insufficient cooling (self-resetting)

Output Over-voltage Protection

Second regulator loop.

Efficiency

Output voltage dependent
Typically 85% at full load

Operating Temperature Range

-40°C to +70°C cold-plate temperature for full specification

Temperature Drift

0.03% per °C over operating temperature range.

Cooling

Conduction via base plate to customer heatsink or chassis

Environmental Protection

Full encapsulation with thermally conductive silicon potting compound with UL94V-0 flammability rating. Meets environmental criteria as requested in MIL-810 C, D

Shock/Vibration

IEC 61373 Cat 1 A&B

MTBF

150,000 hours @ 45°C
Demonstrated MTBF is significantly higher

Indicators

None

Control Input

None

Alarm Output

None
Available on custom versions

Package/Dimensions

P59W: 133 x 68 x 165 mm
5.3" x 2.7" x 6.5" including terminal block and flanges
Mounting holes are clear

Weight

2 kg (4.5 lb)

Connections

9 pole barrier type terminal block, 3/8" spacing

RoHS Compliance

Compliant

Warranty

Two years subject to application within good engineering practice

Terminal Block Pin-out

DC OUTPUT					DC INPUT			
-	+	NOT USED	NOT USED	NOT USED	NOT USED	GND	(+) PH	(-) N
1	2	3	4	5	6	7	8	9

Enhancements to these general specifications and customizing can be accommodated upon request. Specifications are subject to change.

Designer and manufacturer of quality ac-dc power supplies and battery chargers, converters, inverters, dc-output UPS systems, and complete rack mount systems in 19" or 23" racks. Custom or standard. ABSOPULSE is a ABBT-approved Facility.



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