

250W, Encapsulated AC/DC Power Supply for Industrial Applications POL 59 Series



- Field-proven rugged design
- Full encapsulation
- Conduction cooling
- Single output
- Full electronic protection
- High reliability

The POL 59 Series rugged, industrial quality AC/DC power supply uses field-proven topology to generate the required output power. It is a mature design with a track record in hundreds of applications. This high-density unit is entirely potted with a thermally conductive MIL-spec. silicon rubber compound for immunity to shock, vibration and humidity. It is conduction cooled via a base plate and is rated for operation over a -40 to +70°C cold-plate temperature range without derating. The POL 59 features full electronic protection, high efficiency and low output noise. The use of components with established reliability and generous headroom result in high demonstrated MTBF. The POL 59 is manufactured at our plant under strict quality control. Customized versions are also available.

SPECIFICATIONS

Input Voltage
115 or 230VAC \pm 15%
47-420Hz
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 and related corresponding UL and CSA standards

EMI
EN55022 Class A as a minimum

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
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.
Thermal shutdown with automatic resetting

Output Over-voltage Protection
Second regulator loop.

Efficiency
Min. 85% at full load depending on output voltage

Operating Temperature Range
-40 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

Shock/Vibration
Designed to meet requirements of IEC 61373 Cat 1 A&B and Cat 2 as a minimum

MTBF
180,000 hours @ 45 °C (calculated)
Demonstrated MTBF is significantly higher

Indicators
None

Alarm output
None on standard version

Package/Dimensions
P 59: 108 x 70 x 191 mm
(4.25" x 2.75" x 7.5")
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
Fully compliant

Warranty
Two years subject to application within good engineering practice

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

Designer and manufacturer of quality converters, inverters, UPS systems, complete rack mount systems and DC-input fluorescent lamp inverters since 1982. Custom or standard. Absopulse is a BABT-approved Facility.



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