

400W, Rugged AC/DC Conduction Cooled Power Supply for Heavy Duty Applications

POL 400 Series

- Extremely rugged
- Single output
- Full electronic protection
- Field-proven design
- High reliability
- Fully encapsulated
- Conduction cooling



The POL 400 Series compact AC/DC power supply which uses half-bridge technology to convert a 115 or 230Vac input or a DC-input in a 250Vdc to 370Vdc range, to the required voltage. Designed for operation in very harsh environments, the unit is entirely potted with a thermally conductive MIL-spec silicon rubber compound to increase resistance against humidity, moisture, shock, vibration, dust and insects. It is conduction cooled via a base plate. The POL 400 was designed for continuous operation in a -40°C to a +70°C temperature range when installed on an appropriate heatsinking surface. The POL 400 features full electronic protection, high efficiency and low output noise. The use of components with many years of established reliability and generous headroom contributes to an MTBF exceeding 180,000 hours at 45°C. The POL 400 is manufactured at our plant under strict quality control. Customized versions are also available.

SPECIFICATIONS

Input Voltage

115 or 230Vac, 47-440Hz
Input setting can be changed by removing the top cover and resolder a jumper.
The unit also accepts 250Vdc to 370Vdc range if selector is in 230Vac position.
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

Input 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

EN 55022 Class B

Switching Frequency

55KHz +/- 3KHz

Hold Up Time

Min 5ms at nominal input for 5% drop of output voltage

Output Voltages

12Vdc/33A, 24Vdc/17A,
36Vdc/12A or 48Vdc/9A
Consult factory for other voltages

Redundancy diode

None

Line/Load Regulation

+/-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% peak to peak or 0.2% Vrms of the output voltage (20MHz BW)

Output Overload Protection

Rectangular current limiting with short circuit protection (no hiccup)
Thermal shutdown with automatic reset in case of insufficient cooling
Current limit: typically set for 110% of nominal output current

Output Overvoltage Protection

Double regulator loop completely stable and independent of main regulator loop.
OVP setting: typically set at 120% of nominal output voltage

Efficiency

Min 80% at full load

Operating Temperature

-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 at 45°C
Demonstrated MTBF exceeds 1,000,000 hours at typical operating temperatures

Indicators

None

Control Input

None

Alarm Output

None on standard version

Package/Dimensions

P 400: 131 x 76 x 232 mm
5.2" x 3" x 9.1" including terminal block and flanges.
Mounting holes are clear

Weight

2.2 kg (4.85 lbs)

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 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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