

## 150W, Encapsulated AC-DC Power Supply for Heavy Duty Applications PWI 150-P59 Series



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

This fully encapsulated, rugged, industrial quality AC-DC power supply uses field-proven technology to generate the required output power. It has an excellent track record in numerous heavy-duty applications. The unit is entirely potted with a thermally conductive MIL-grade silicon rubber compound to increase resistance to shock, vibration and humidity. Cooling is via base plate by conduction. The unit is designed for continuous operation at 70°C with installation on an appropriate heatsinking 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. It 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

Universal input  
95Vac - 264Vac, 47-63Hz  
DC-input also available  
Consult factory for other voltages

#### Input Protection

Inrush current limiting  
Varistor  
Internal safety fuse  
Line to GND varistor upon request  
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 EN 62368-1 and corresponding UL and CSA standards

#### EMI

EN 55032 Class A with margins

#### Switching Frequency

47kHz  $\pm$ 2kHz

#### Hold-Up Time

Minimum 5ms at full load for 5% drop of output voltage at 120V AC input.

#### Output Voltage/Current

12Vdc, 24Vdc, 48Vdc or 125Vdc  
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 (hiccup type)

#### Output Over-voltage Protection

Double regulator loop completely stable and independent of main regulator loop

#### Efficiency

Output is voltage dependent.  
Typically 80% 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

180,000 hours @ 45 °C  
Demonstrated MTBF significantly higher

#### Indicators

None

#### Control Input

None

#### Alarm output

None

#### Package/Dimensions (W x H x L)

P59: 108 x 68 x 191 mm  
4.25" x 2.7" x 7.5"  
Includes baseplate and terminal block on top surface of unit  
Mounting holes are clear.

#### Weight

1.5 kg (3.2 lb)

#### Connections

9 pole barrier type terminal block, 3/8" spacing. Snap-on cover available.

#### RoHS Compliance

Compliant

#### Warranty

Two years subject to application within good engineering practice

#### Terminal Block Pin-out

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

*ABSOPULSE power supplies are designed and built to customer requirements. The specifications on this data sheet are generic guidelines only and are subject to change OEM of industrial and railway quality DC-DC converters, AC-DC power supplies and battery chargers, DC-AC sine-wave inverters, phase and frequency converters, DC-output UPS systems and complete power systems in 19" and 23" racks since 1982. Custom or standard. ABSOPULSE is a BABT-approved Facility.*



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