

## 100W, Rugged, Encapsulated DC-DC Converter for Heavy-duty Applications PDC 100-P99H Series



- Rugged, field-proven design
- Fully encapsulation
- Conduction cooling
- Full electronic protection
- Wide temperature range
- Wide input ranges

This fully encapsulated, industrial quality, DC-DC converter 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 which provides protection from moisture and other contaminants, as well as immunity to shock and vibration. Cooling is via base plate by conduction. The unit is designed for continuous operation at 70°C cold plate temperature. Full electronic protection, low component count, large design headroom and the exclusive use of components with established reliability contribute to a 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.

### SPECIFICATIONS

#### Input Voltage

24Vdc (21V - 30V)  
48Vdc (42 - 60V)  
125Vdc (95 - 140V)  
Consult factory for other voltages and ranges, including for railway

#### Input Protection

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

#### Isolation

According to input/output voltage, but minimum of:  
1000VDC input to chassis  
1500VDC input to output  
500VDC output to chassis

#### Standards

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

#### EMI

EN 55032 Class A with margins

#### Switching Frequency

47kHz  $\pm$ 3kHz

#### Output Voltage

12Vdc, 24Vdc, 36Vdc, 48Vdc,  
72Vdc or 125Vdc  
Output is floating; either terminal can be grounded.  
Consult factory for other voltages

#### Redundancy Diode

Not installed  
Available on custom versions

#### 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% Vrms (20MHz BW)

#### Output Overload Protection

Rectangular current limiting with short-circuit protection

#### Output Overvoltage Protection

Second 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 cooling via base plate to customer chassis or heat-sink

#### Environmental Protection

Full encapsulation with thermally conductive silicon potting compound with UL94V-0 flammability rating.

#### Shock/Vibration

IEC 61373 Cat 1 A&B

#### Humidity

5 - 95% non-condensing

#### MTBF

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

#### Indicators

None

#### Control Input

None

#### Alarm Output

None

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

P99H: 82 x 63 x 157 mm  
3.2" x 2.5" x 6.2" including terminal block and flanges  
Mounting holes are clear

#### Weight

0.8 kg (1.5 lb)

#### Connections

6-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

| OUTPUT |   |     | INPUT |   |   |
|--------|---|-----|-------|---|---|
| -      | + | N/A | GND   | - | + |
| 1      | 2 | 3   | 4     | 5 | 6 |

**Please note that ABSOPULSE power supplies are designed and built to customer specifications. The specifications on this data sheet are generic and will vary depending on input/output configuration and other customer requirements. Generic specifications are subject to change.**

*Designer and manufacturer of quality ac-dc power supplies and battery chargers, converters, inverters, dc-output 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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