

## 250W, Rugged Dual-output, Industrial Quality DC-DC Converter with 200-370Vdc Input DCH 282-F1W Series



- Rugged industrial quality
- Two regulated outputs
- Wide DC-input voltage range
- Conduction/convection cooled – no fan
- Full electronic protection
- Field-proven design concept

This rugged, industrial quality, dual-output DC-DC converter generates up to 250W continuous output power, depending on the input/output configuration. The design is based on field proven DCW 150 topology. The unit has two fully independent regulated isolated outputs. Cooling is by conduction via baseplate. Additional cooling is achieved by natural convection through the cooling slots. All heat generating components are installed on aluminum heatsink blocks which are thermally connected to the base plate. This also provides exceptional mechanical ruggedness. Conformal coating provides protection against humidity and airborne contaminants. 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 manufactured at our plant under strict quality control.

### SPECIFICATIONS

#### Input Voltage

200 – 370Vdc  
Consult factory for other input voltages and ranges

#### Input Protection

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

#### Isolation

Corresponding to input/output voltage:  
1500Vdc input to chassis  
2250VDC input to output  
500VDC min. output to chassis  
500VDC min. between outputs

#### Standards

Designed to meet EN62368-1 and related standards

#### EMI

EN55032 Class A with margins

#### Switching Frequency

47kHz  $\pm$ 2kHz

#### Output Voltage

V1: Any voltage 5V to 125Vdc  
V2: Any voltage 5V to 150Vdc  
The current on each output is limited to 10A  
Both outputs are fully regulated  
The outputs are floating; either terminal can be grounded  
Returns are isolated.

#### Redundancy diode

None  
Available as option

#### Line/Load Regulation

$\pm$ 1% combined from no load to full load on both outputs

#### 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)

#### Overload Protection

Individual current limiting with short circuit protection on both outputs (cycling mode)

#### Output Overvoltage Protection

Double regulator loop and transzorbs on both outputs

#### Efficiency

Typically 85% at full load depending on input/output configuration

#### Operating Temperature

0°C to 50°C for full specification  
Extended temperature ranges available

#### Temperature Drift

0.03% per °C over operating temperature range

#### Cooling

Conduction via base plate to customer heat-sink or chassis and natural convection

#### Environmental Protection

Basic ruggedizing  
Conformal coating

#### Shock/Vibration

IEC 61373 Cat 1 A&B

#### Humidity

5 – 95% non-condensing

#### MTBF

140,000 hours @45°C  
Demonstrated MTBF is significantly higher

#### Indicators

Green output ON LED on both outputs, visible through cooling slots

#### Control Input

None

#### Alarm Output

None on standard version  
Available as option

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

F1W: 163 x 51 x 198 mm  
6.43" x 2" x 7.78" Includes baseplate, excludes terminals. Mounting holes are clear.

#### Weight

1.4 kg (3 lbs)

#### Connections

12-pole barrier-type terminal block, 3/8" spacing

#### RoHS

Compliant

#### Warranty

Two years subject to application within good engineering practice

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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