50 - 100W, Rugged, Dual-output DC/DC Converter with Wide Input Range
DCW 102-FT Series

- Rugged industrial quality
- Conduction/convection cooled
- Full electronic protection
- Field-proven design in a wide range of applications
- Wide input ranges

The DCW 102 Series dual-output, industrial quality DC/DC converter uses field-proven technology to generate up to 100W continuous output power, depending on the input/output configuration. One output is regulated, with the second output tracking. It is a mature design with a track record in numerous applications. Cooling is via base plate to a heat-sinking surface and by natural convection. Additional ruggedizing and conformal coating are available for applications that require higher immunity to shock, vibration and humidity. Low component count, large design headroom, and the use of components with established reliability result in a high MTBF. The unit is manufactured at our plant under strict quality control.

SPECIFICATIONS

Input Voltage
Two standard input ranges are available:
20 - 60Vdc or 65 - 160Vdc
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
1500VDC input to chassis
2250VDC input to output
500VDC output to chassis

Standards
Designed to meet EN 60950 and related standards

EMI
EN55022 Class A conducted and radiated with margins

Switching Frequency
47KHz +/- 2KHz

Output Voltages
V1: 12Vdc/2A
V2: 12Vdc/2A
Both outputs are floating and isolated from each other.
Either terminal can be grounded.
Other outputs available on request

Redundancy diode
None

Line/Load Regulation
V1: $^{+}$/- 1% combined from no load to full load
V2: $^{+}$/- 5% combined from 10% to full load with constant load of min 10% on V1

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 (hiccup)

Output Overvoltage Protection
V1: Double regulator loop
V2: Transzorb clamp

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

Operating Temperature Range
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
Optional heavy ruggedizing and conformal coating is available

Shock/Vibration
IEC 61373 Cat 1 A&B

Humidity
5 - 95% non-condensing

MTBF
130,000 hours @ 45°C
Demonstrated MTBF is significantly higher

Indicators
None on standard version

Control Input
None

Alarm Output
None on standard version

Package/Dimensions (WxHxD)
F0: 94 x 48 x 160 mm
(3.7" x 1.9" x 6.3") including terminal block and flanges
Mounting holes are clear.

Weight
0.55kg (1.2 lb)

Connections
7-pole barrier-type terminal block, 7.5mm spacing

RoHS Compliance
Fully compliant

Warranty
Two years subject to application within good engineering practice

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