

100 - 150W, Rugged, Configurable, Triple-output, Industrial Quality AC/DC Power Supply MIW 133-F2 Series



- Triple output, fully regulated, isolated
- Rugged industrial quality
- Conduction/convection cooled
- Full electronic protection
- Field-proven design in a wide range of applications

This rugged, triple output industrial quality AC/DC power supply on 100 x 220mm PCB size uses field-proven double conversion topology to generate the required output power. The main input converter generates an internal bus voltage, which is converted to the individual outputs with three separate switching regulators. This provides high flexibility for customizing. The outputs can be set to the required output configuration. There are no optocouplers in the circuit, which contributes to high reliability. Cooling is via baseplate to a heat-sinking surface and by natural convection. Ruggedizing and conformal coating provide added immunity to shock, vibration and humidity. Full electronic protection, 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

95-264Vac universal, 47-63Hz
Input current: 1.9Arms max
Other inputs upon request

Input Protection

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

Isolation

2250Vdc input to chassis
4300Vdc input to output
700Vdc output to chassis
700V between outputs

Standards

Designed to meet EN60950-1

EMI

EN55022 Class A with margins

Hold up Time

Min. 10msec at ≥ 115 Vac input

Switching Frequency

47 kHz \pm 2 kHz main PWM
72 kHz \pm 7 kHz for output regulators

Output Voltage

V1: 5.1Vdc \pm 0.05V / 4A
V2: 12Vdc \pm 0.2V / 3A
V3: 12Vdc \pm 0.2V / 3A
Above is one possible output configuration.
Please discuss the required output parameters with factory.
All outputs are fully regulated, floating and isolated from each other
Either side of each output can be grounded

Redundancy diode

None

Line/Load Regulation

\pm 1% combined from 10% load to full load on all outputs

Dynamic Response

Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time

Output Ripple/Noise

Better than 0.3%rms and 1% pp on all outputs (20MHZ BW)

Output Overload Protection

Individual rectangular current limiting on all three outputs. Short circuit protection

Output Overvoltage Protection

Transzorb on all outputs

Efficiency

80% at full load depending on input/output configuration

Operating Temperature

0°C to +50°C for full specification with proper installation
Extended temperature ranges available on request

Temperature Drift

0.03% per °C over operating temperature range

Cooling

Conduction to customer heatsink or chassis and natural convection

Environmental Protection

Ruggedizing
Conformal coating

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5 – 95% non-condensing

MTBF

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

Indicators

None

Control Input

None

Alarm Output

None

Package/Dimensions (W x H x L)

F2: 114 x 58 x 256 mm
(4.5" x 2.3" x 10.1") including terminal block and flanges.
Mounting holes are clear

Weight

1.2 kg (2.6 lb)

Connections

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

RoHS

Fully compliant

Warranty

Two years subject to application within good engineering practice

Standard Terminal Block Pin-Out

DC OUTPUTS						GND	AC INPUT	
V3		V2		V1		\perp	PH	N
+	-	+	-	+	-	\perp	\sim	\sim
1	2	3	4	5	6	7	8	9

Note: A few existing designs of this extensive series have a slightly different Pin-out

Please note that the above specifications set only generic guidelines for the design.
Customizing and enhancements are possible. Please contact us with your specific requirements.

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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Made in Canada