

120W, Rugged, Triple Output, Industrial Quality AC/DC Power Supply

MIW 153-F1 Series



- Rugged industrial quality
- Triple output
- Conduction/convection cooled (no fans)
- Full electronic protection
- Field proven design

This rugged, triple output, industrial quality supply uses field-proven technology to generate up to 120W output power. It is a mature design with a track record in numerous applications. 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

95V to 264Vac universal
47 - 63Hz
DC-input also available.
Consult factory for other voltages

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
8mm spacing
500VDC output to chassis
500Vdc between V1 and V2, V3

Standards

Designed to meet EN 60950-1 and related standards

EMI

EN55032 Class A with margins

Switching Frequency

47kHz \pm 2kHz

Hold Up Time

Minimum 5ms at full load for 5% drop of output voltage at 120Vac and higher input

Output Voltage/Current

Typical configuration:
V1: 5V/8A main
V2: 12V/6A tracking
V3: -12/1A regulated
Consult factory for required output combination
Derating may be required depending on input voltage
The output return is floating

Redundancy Diode

None

Line/Load Regulation

V1: \pm 1% from no load to full load
V2: \pm 5% from 10% to full load, with constant load of min10% load on V1
V3: \pm 1% from no 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

Less 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 hiccup type short-circuit protection

Output Overvoltage Protection

Second regulator loop, completely stable and independent of main output V1. Transzorb clamp on V2 and V3

Efficiency

Output voltage dependent.
Typically 80% at full load

Operating Temperature Range

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

Temperature Drift

0.03% per °C over operating temperature range

Cooling

Conduction via base plate to customer heatsink or chassis and natural convection

Environmental Protection

Basic ruggedizing
Full ruggedizing and conformal coating available as an option

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 visible through the cooling slots

Control Input

None

Alarm Output

None on standard version

Package/Dimensions (W x H x L)

F1: 114 x 51 x 201 mm (4.5" x 2" x 7.9") including terminal block and flanges
Mounting holes are clear

Weight

0.8 kg (1.8 lb)

Connections

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

RoHS Compliance

Fully compliant

Warranty

Two years subject to application within good engineering practice

Terminal block Pin-out

DC OUTPUT						AC INPUT		
	V3	V2	V1			GND	PH (+)	N (-)
COM	-	+	RTN	+	N/A	⏏	(+)	(-)
1	2	3	4	5	6	7	8	9

Enhancements to these general specifications and customizing can be accommodated upon request. Specifications are subject to change.

Designer and manufacturer of DC-DC converters, AC-DC power supplies, DC-AC sine wave inverters, AC-AC frequency converters, DC-output UPS systems, complete rack mount systems and DC-input fluorescent lamp inverters since 1982. Custom or standard. ABSOPULSE is a ABBT-approved Facility.



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