

100W, Rugged, Triple Output, AC/DC Industrial Power Supply with Universal Input MIW 103-F1 Series

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



The MIW 103 Series rugged, triple output AC/DC industrial power supply uses field-proven technology to deliver 100W. It is a mature design with a track record in numerous applications. The main 5V output is galvanically isolated from the other two outputs which have a common return and are typically configured as $\pm 12V$. The +5V and -12V are fully regulated and the +12V is semi-regulated (tracking the 5V output). The standard output configuration is +5V/6A, +12V/3A and -12V/1A. Cooling is by conduction via baseplate to a heat-sinking surface and by natural convection for the stand-alone version. The unit has full electronic protection. Low component count, large design headroom, and the use of components with established reliability result in a high MTBF. Additional ruggedizing and conformal coating are available for operation in extreme environments. The MIW 103 is manufactured at our plant under strict quality control. It is also available in a plug-in module.

SPECIFICATIONS

Input Voltage

95V to 264Vac $\pm 15\%$
47 - 63Hz
DC-input also available.
Other inputs available on 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
8mm spacing
500VDC output to chassis
(or corresponding to output voltage)

Standards

Designed to meet EN 60950-1 and corresponding UL and CSA standards.
Several versions have formal agency approvals

EMI

EN55032 Class A with margins

Switching Frequency

47kHz ± 2 kHz

Hold Up Time

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

Output Voltage/Current

+5V/6A, +12V/3A and -12V/1A, standard.
Consult factory for other voltages

Redundancy Diode

None

Line/Load Regulation

$\pm 1\%$ combined from no load to full load for the 5V and -12V outputs, $\pm 5\%$ for the +12V output

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 short-circuit protection (hiccup mode)

Output Overvoltage Protection

Double regulator loop

Efficiency

Output voltage dependent.
Typically better than 80% at full load

Operating Temperature Range

0°C to 50°C for full specification installed on heat-sinking surface with good air flow
Extended temperature ranges available

Temperature Drift

0.03% per °C over operating temperature range

Cooling

Conduction to customer heat-sink 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

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

Indicators

None on standard version

Control Input

None

Alarm Output

None

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 with 3/8" spacing

RoHS Compliance

Compliant

Warranty

Two years subject to application within good engineering practice

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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