

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



- Rugged industrial quality
- Triple output
- Conduction/convection cooled
- 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 heatsinking 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  
47 - 420Hz  
DC-input also available.  
Please consult factory.

### 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

### Standards

Designed to meet EN 60950 and corresponding UL and CSA standards

### EMI

EN55022 Class A as a minimum

### Switching Frequency

47 kHz +/-2kHz

### 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

+/-1% combined from no load to full load for the 5V and -12V outputs, +/-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 hiccup mode short-circuit protection on both outputs  
Thermal shutdown in case of insufficient cooling (self resetting)

### Output Overvoltage Protection

Double regulator loop

### Efficiency

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

### Operating Temperature Range

0 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 via base plate and 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

### Packaging/Connections:

Open PCB version:  
PCB size 3.5" x 5"  
Component height: 1.5"  
Connector: header pins with 0.156" spacing or barrier-type terminal block  
Weight: 0.2 kg (0.5 lb)

### Enclosed case version (FOW)

102 x 51 x 153 mm (W x H x L)  
(4.0" x 2.0" x 6.0") including terminal block and flanges  
Connector: barrier-type terminal block  
Weight: 0.8 kg (1.8 lb)

### RoHS Compliance

Fully compliant

### Warranty

Two years subject to application within good engineering practice



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