

50W - 100W, Rugged, Ultra-compact, Industrial DC/DC Converter MIM 105-FT Series

- Rugged industrial quality
- Single output
- Conduction/convection cooled
- Full electronic protection
- Field-proven design
- Cost optimized



The MIM 105 Series rugged, industrial quality DC/DC converter uses a field proven design to generate up to 100W output power, depending on input/output configuration. It is a mature product with a track record in numerous applications. This converter is a complete turn-key unit with input filter, hold-up capacitors and output filter. Cooling is via baseplate to a heatsinking surface and by natural convection. Low component count, large design headrooms, and the use of components with established reliability result in a high MTBF. It features 135kHz switching frequency. Additional ruggedizing and conformal coating are available for applications requiring higher immunity to shock, vibration and humidity. Customized, potted versions, are also available. This series is suitable for building complex, multi-output DC/DC systems with virtually no NRE cost. Multiple output versions with two, three or four outputs are also available. The MIM 105 is manufactured at our plant under strict quality control.

SPECIFICATIONS

Input Voltage 12Vdc, 24Vdc or 48Vdc standard Consult factory for other voltages	Output Voltage/Current 5Vdc/10A, 12Vdc/4A, 24Vdc/2A, 36Vdc/1.5A, 48Vdc/1A or 72Vdc/0.5A are standard Consult factory for other voltages	Efficiency Output voltage dependent. Typically 80% at full load	Control Input None
Input Protection Inrush current limiting Varistor Reverse polarity protection Internal safety fuse Lower voltage than the specified minimum input will not damage the unit.	Redundancy Diode None on this series	Operating Temperature Range 0 to +50°C. Higher rating depends on available conduction and convection.	Alarm Output None
Isolation Depends on the required input/output configuration. At a minimum: 500VDC input to chassis, 500VDC input to output, 500VDC output to chassis	Line/Load Regulation +/- 1% combined from no load to full load	Temperature Drift 0.03% per °C over operating tempera range	Packaging/Dimensions/Weight <u>FM Enclosed case:</u> 66 x 38 x 163 mm (2.6" x 1.5" x 6.4") including terminal block and flanges. Mounting holes are clear <u>Open frame:</u> PCB Size: 2" x 5.3" Component height: 1.125"
Standards Designed to meet EN 60950 and corresponding UL and CSA standards	Dynamic Response Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time	Cooling Conduction to customer heatsink or chassis and natural convection	Weight Approx: 0.4 kg (0.9 lb)
EMI Each version meets the requirements of EN55022 Class A with margins	Output Ripple / Noise Better than 1% of output voltage peak to peak or 0.2% RMS of the output voltage (20MHZ BW)	Environmental Protection Basic ruggedizing Conformal coating as option	Connections 5-pole barrier-type terminal block
Switching Frequency 135kHz +/- 5kHz	Output Overload Protection Current limiting with short circuit protection (hiccup mode)	Humidity 5 – 95% non-condensing	RoHS Compliance Fully compliant
	Output Overvoltage Protection Double regulator loop and transzor clamp	MTBF 150,000 hours @ 45 °C Demonstrated MTBF is significantly higher	Warranty Two years subject to application within good engineering practice
		Indicators None on standard version	



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