

MPM-10MM Series

Compact, Encapsulated, PC Board Mount, 10W AC/DC Power Supplies



Key Features:

- 10W Output Power
- Universal 90-264 VAC Input
- Miniature Size
- EN 60950 Approved (UL)
- Meets IEC Safety Class II
- -40°C to +70°C Temp Range
- Meets EN 55032 B
- >450 kHour MTBF



RoHS



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Electrical Specifications

Specifications typical @ +25°C, 230 VAC input voltage & rated output current, unless otherwise noted. Specifications subject to change without notice.

Input					
Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage Range		90		264	VAC
		120		370	VDC
Input Frequency		47		440	Hz
Input Current	See Model Selection Guide				
Inrush Current	115 VAC			30.0	A Pk
	230 VAC			60.0	
Leakage Current				0.25	mA

Output					
Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage Accuracy			±2.0		%
Line Regulation	V _{IN} = Min to Max		±0.2		%
Load Regulation, See Note 1	5V & 12V Output		±1.0		%
	15V & 24V Output		±0.5		
Ripple/Noise, See Note 2	5V & 12V Output			150.0	mVp-p
	15V Output			160.0	
	24V Output			240.0	
Hold-Up Time	230 VAC	30			mSec
Temperature Coefficient			±0.02		%/°C
Over Voltage Protection	Zener Diode Clamp				
Over Power Protection	Hiccup Mode (Autorecovery)				
Short Circuit Protection, See Note 4	Continuous (Autorecovery)				

General					
Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage	Input to Output	3,000			VAC
Isolation Resistance	500 VDC	100			MΩ
EMC	EMI (Conducted/Radiated Emmissions)	EN 55032 Level B			
	EMS (Noise Immunity)	EN 55024			

Environmental					
Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range	Ambient	-40	+25	+70	°C
Storage Temperature Range		-40		+85	°C
Cooling	Free Air Convection (See Derating Curve)				
Humidity	RH, Non-condensing			95	%

Physical					
Case Size	See Mechanical Diagram (Page 2)				
Case Material	Non-Conductive Plastic Resin (UL94-V0)				
Weight	See Mechanical Diagram (Page 2)				

Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 25°C, Gnd Benign	450			kHours
Safety Standards	UL/cUL 60950-1 recognition (UL certificate)				
Safety Class	IEC 61140 Class II				

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Model Selection Guide

Model Number	Input		Output Voltage (VDC)	Output Current (mA)		Maximum Cap. Load (μ F)	Efficiency (% , Typ)
	Current (A)			Max.	Min.		
	115 VAC	230 VAC					
MPM-10S-05MM	0.230	0.140	5.0	2.000	0.0	3,500	80
MPM-10S-12MM	0.230	0.140	12.0	833	0.0	700	84
MPM-10S-15MM	0.230	0.140	15.0	667	0.0	390	85
MPM-10S-24MM	0.230	0.140	24.0	417	0.0	180	85

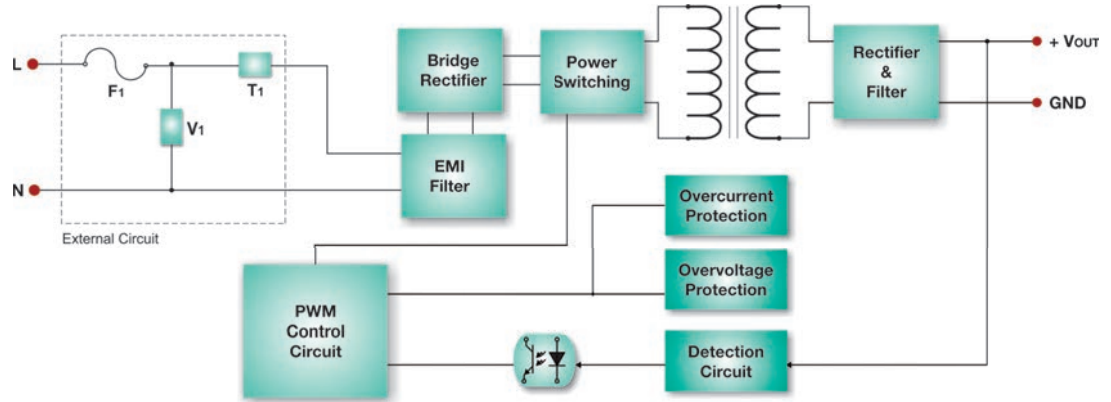
Notes:

1. Ripple and noise are measured at 20 Mhz bandwidth with a 0.1 μ F and a 47 μ F capacitor connected in parallel as close to the unit output terminals as possible.
2. Output short circuit protection is provided by a "hiccup mode" circuit. The unit recovers automatically when the fault condition is removed.
3. Operation at under no load conditions will not damage these units.
4. It is recommended that a fuse be used on the input of a power supply for protection. For the **MPM-10SMM** series, a 2.0A/250 VAC slow blow should be used.

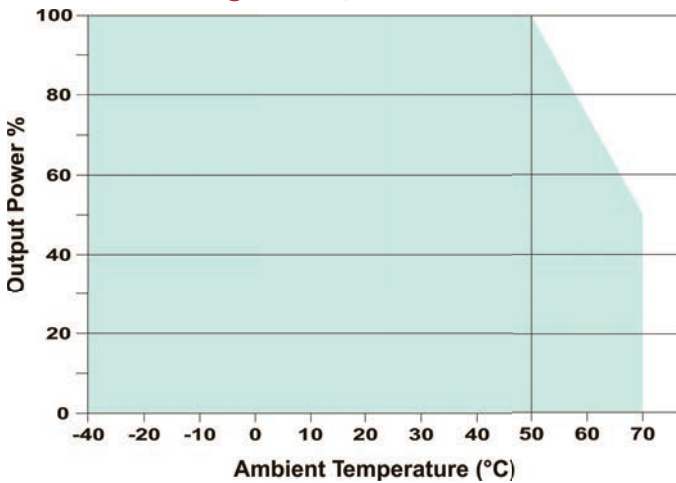
Block Diagram, With Input Components

The block diagram shows the input components required to meet specified operation. These include:

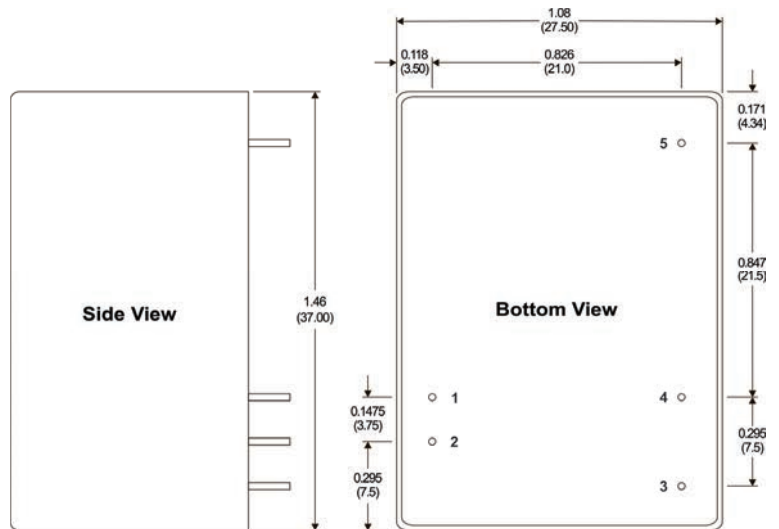
1. The external fuse (F₁) is required to protect the supply from input line current surges. A 2.0A/250 VAC slow blow should be used.
2. A varistor (V₁) is connected in parallel with the input to the AC module. The varistor is required to protect the power module against high voltage transients on the input line. A 14S471K is recommended.
3. It is also recommended that a thermistor (T₁) be connected on the used on the input of the power supply for protection. For the **MPM-10SMM** series, a 10R/8 Φ should be used.



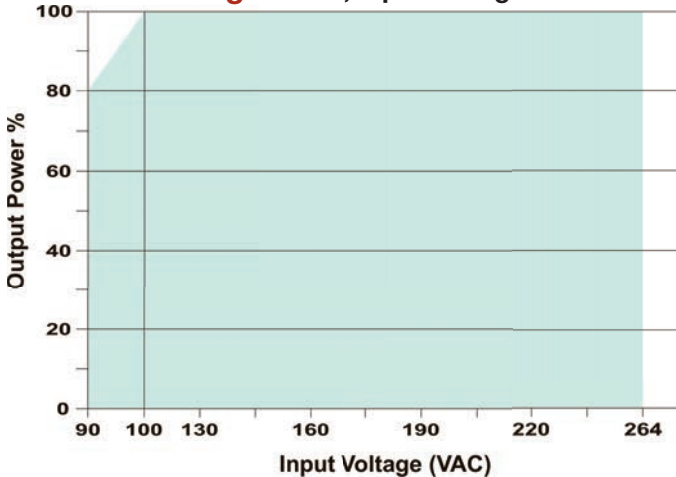
Power Derating Curve, Temperature



Mechanical Dimensions



Power Derating Curve, Input Voltage



Pin	Function
1	+V _{OUT}
2	-V _{OUT}
3	AC-Line
4	AC-Neutral
5	No Connection

Notes:

- All dimensions are typical in inches (mm)
- Tolerance x.xx = ± 0.01 (± 0.25)
- Module Weight is: 1.23 Oz (35g)



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