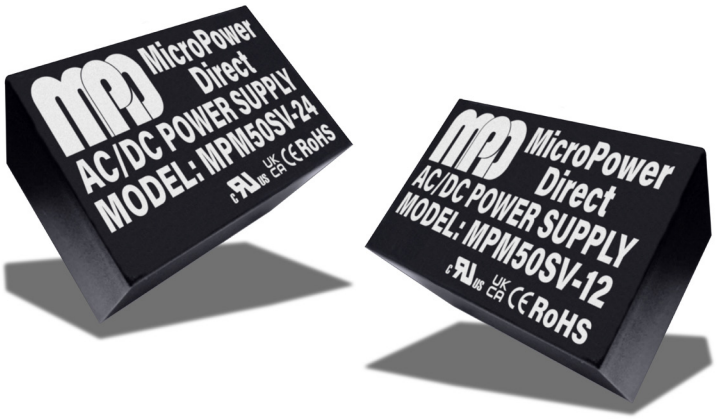
MPM-50SV

50W, Compact, High Isolation AC/DC Power Supplies



Key Features:

- 50W Output Power
- Universal VAC Input
- 4000VAC Isolation
- Compact Size
- EN 62368 Approval
- Efficiency to 89%
- -40°C to +70°C Temp
- Meets EN 55032 B
- >300 kHour MTBF

Electrical Specifications

Specifications typical @ +25°C, nominal 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		305	VAC
		120		430	VDC
Input Frequency		47		440	Hz
Input Current	See Model Selection Guide				
Inrush Current (Cold start)	115 VAC			45	A Pk
	230 VAC			90	
Leakage Current	100 – 240 VAC			.25	mA

Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage Accuracy	0% - 100% Load		±2.0		%
Line Regulation	V_{IN} = Min to Max		±2.0		%
Load Regulation	0 to 100%		±2.5		%
Ripple & Noise, See Note 1	12V Output		120		mVp-p
	15V Output		150		
	24V Output		240		
Hold-Up Time	230 VAC	30			mSec
Temperature Coefficient			±0.05		%/°C
Over Voltage Protection	Zener Diode Clamp				
Over Power Protection	Autorecovery				
Short Circuit Protection	Hiccup Mode (Autorecovery)				

EMC

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage	Input to Output	4000			VAC
EMC	EMI (Conducted/Radiated Emissions)				EN 55032 Level B
	EMS (Noise Immunity)				EN 55035

Environmental

Parameter	Conditions	Min.	Typ	Max.	Units
Operating Temperature Range	Ambient	-40		+70	°C
Storage Temperature Range		-40		+85	°C
Cooling	Free Air Convection				
Humidity	Non condensing			95	%RH

Physical

Case Size	2.92 x 1.85 x 0.91 in (See mechanical diagrams on page 3)
Case Material	Plastic resin
Weight	5.57 oz (158g)

Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL-HDBK-217F@25°C	300			kHours
Safety Standards	UL/cUL 62368-1 Recognition (UL Certificate)				
Vibration	IEC600068-2-6 (10~500Hz, 2G 10 min/1 cycle, 60 min along X, Y, Z axis				
Shock	IEC600068-2-27				

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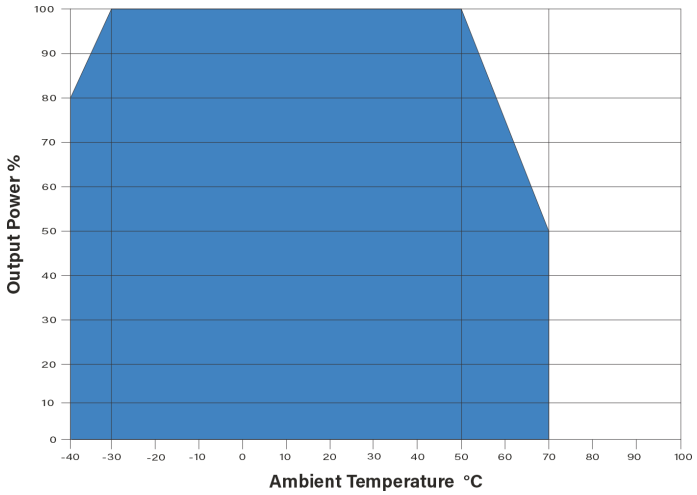
Model Selection Guide

Model Number	Input		Output			Capacitive Load (uF Max)	Efficiency (230 VAC, %, Typ.)
	Current (mA Max)		Voltage (VDC)	Current (mA, Max)	Power (W)		
	115 VAC	230 VAC					
MPM-50SV-12	1000	600	12.0	4167	50.0	3500	89
MPM-50SV-15	1000	600	15.0	3333	50.0	3000	88
MPM-50SV-24	1000	600	24.0	2083	50.0	2200	88

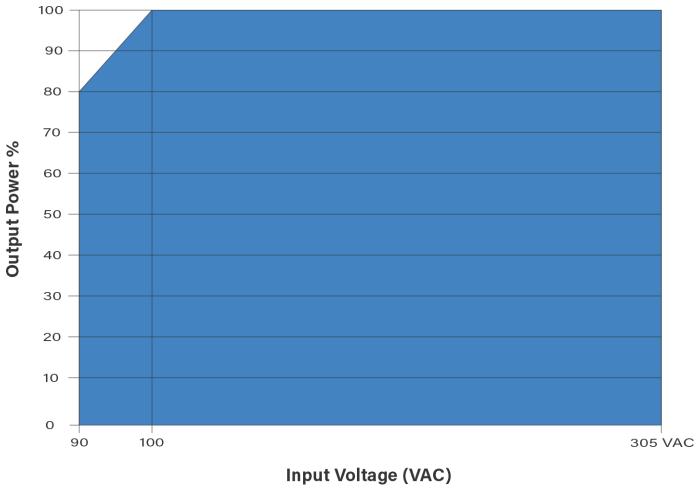
Notes:
1. Ripple and noise are measured at 20 Mhz bandwith with 0.1µF and a 47 µF capacitor connected in parallel as close to the unit output terminals as possible.
2. Output short circuit protection is provided by a "hiccup mode" circuit. The unit recovers automatically when the fault condition is removed.
3. Caution: The unit uses Double Pole neutral fusing. Disconnect the mains before servicing. For more information, contact the factory.

For the A2S adapter board option, add the sufix "-A2S" to the model number (i.e. **MPM-50SV-12-A2S**). See Page 3.

Temperature Derating

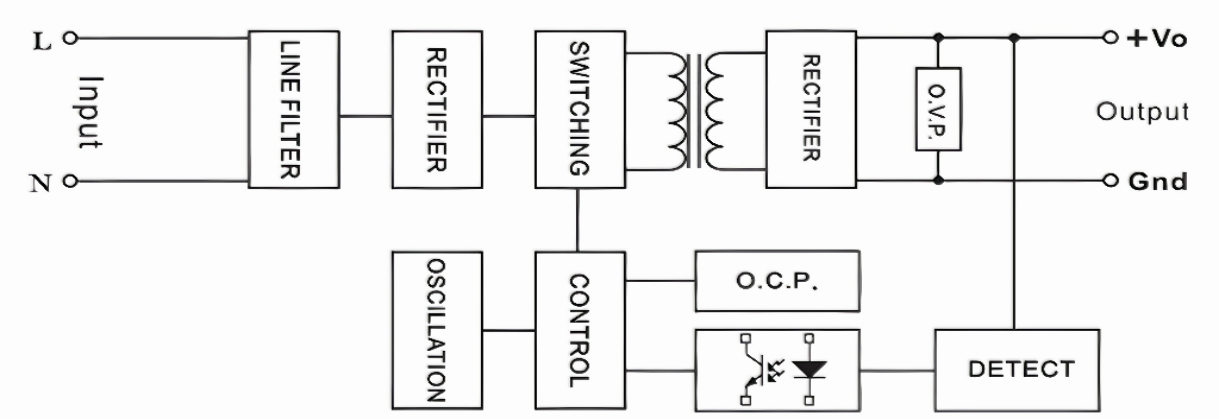


Input Voltage Derating

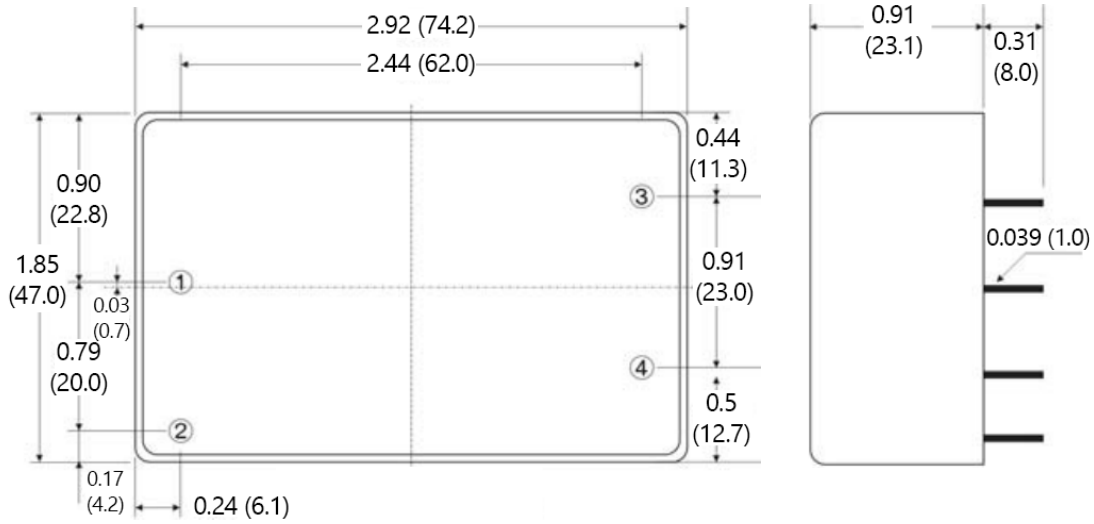


Block Diagram

Single Output



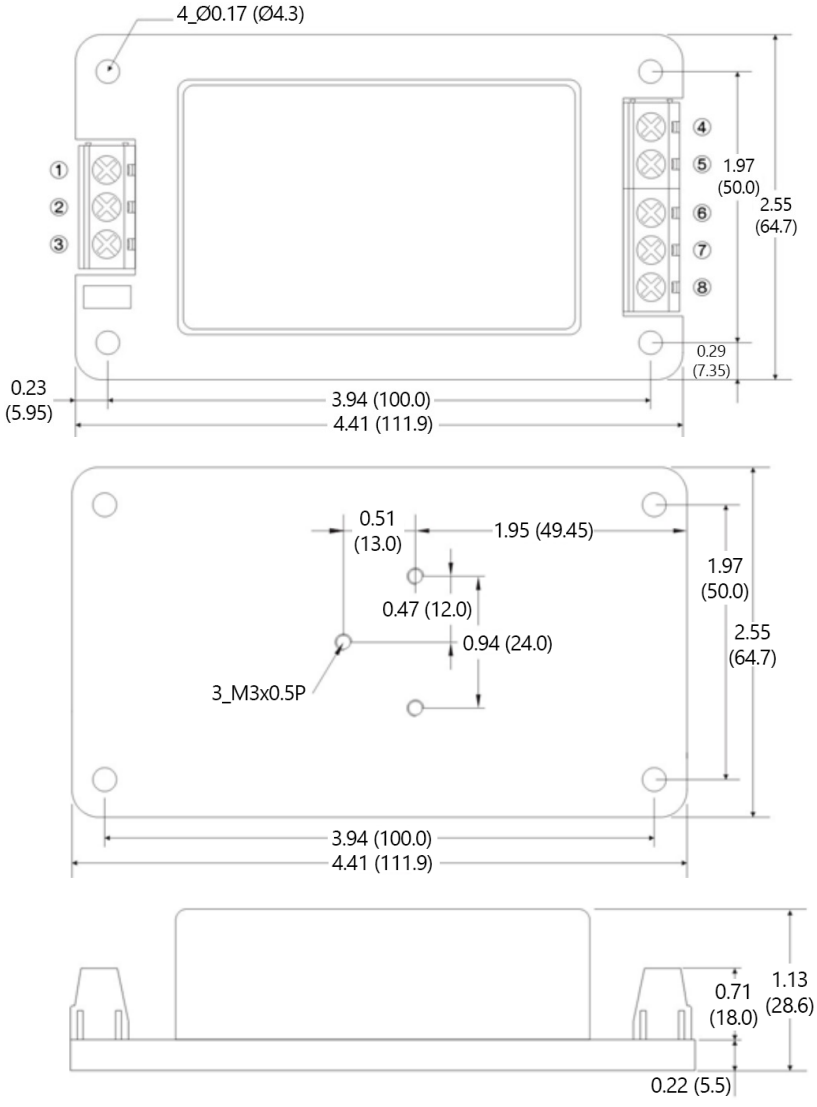
Mechnical Dimensions



Pin Definition Table

Pin	Single
1	AC IN (N)
2	AC IN (L)
3	-DC OUT
4	+DC OUT

Screw Terminal



Pin Definition Table

Pin	Single
1	NO CONNECT
2	AC IN (N)
3	AC IN (L)
4	NO CONNECT
5	-DC OUT
6	NO CONNECT
7	+DC OUT
8	NO CONNECT

Notes:

- All dimensions are typical in inches (mm)
- General tolerances: ±0.020 (±0.50)
- Height tolerance: ±0.04 (1.0)
- Assembly gap tolerance: ±0.020 (±0.50)

Weight:

- 5.57 oz (158g)