MPE-320S Series

Single Output, 320W Compact, Enclosed AC/DC Power Supplies



Key Features:

- 320W Output Power
- Selectable 88-264 AC Input
- EN 60950 Approved
- Internal Fan With Control
- Eight Single Output Models
- Meets EN55022
- >188 kHour MTBF
- Compact Metal Enclosure

RoHS Compliant

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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	Switch Selectable	88	115	132	VAC
		176	220	264	
		248		370	VDC
Input Frequency		47		63	Hz
Input Current	See Model Selection Guide				
Inrush Current	Cold Start, 115 VAC		20.0		A Pk
	Cold Start, 230 VAC		40.0		
Safety Ground Leakage Current	115 VAC			2.0	mA
	230 VAC			3.5	

Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage	See Model Selection Guide				
Output Current	See Model Selection Guide				
Output Voltage Adjustment	See Model Selection Guide				
Output Voltage Tolerance, See Note 1	See Model Selection Guide				
Ripple & Noise (20 MHz), See Note 2	See Model Selection Guide				
Hold-Up Time	115 VAC		20		mSec
	230 VAC		24		
Set-Up Time	230 VAC		2,000		mSec
Rise Time	230 VAC		20		mSec
Temperature Coefficient			±0.02		%/°C
Short Circuit Protection	Continuous (Autorecovery)				
Over Voltage Protection	See Note 3	115		135	%
Overload Protection	See Note 4	105		135	%
Fan Control (Over Temp Control)	Fan On, 5V - 15 Vout	RT1 ≥65 °C			
	Fan On, 24V - 48 Vout	RT1 ≥70 °C			
	Fan Off, 5V - 15 Vout	RT1 ≤55 °C			
	Fan Off, 24V - 48 Vout	RT1 ≤65 °C			
	Output Shutdown, 5V - 15Vout	RT1 ≥70 °C			
	Output Shutdown, 24V - 48Vout	RT1 ≥80 °C			

General

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage	Input to Output	3,000			VAC
	Input to Ground	1,500			
	Output to Ground	500			
Isolation resistance	500 VDC		100		MΩ
EMI/RFI	Conducted	EN 55022; EN 61000-3-2, -3			
EMC Compliance	Electrostatic Discharge (ESD)	IEC/EN 61000-4-2, -6, -8, -11			
	RF Field Susceptibility	IEC/EN61000-4-3			
	Electrical Fast Transients/Bursts On Mains	IEC/EN 61000-4-4			
	Surge	IEC/EN 61000-4-5			
Switching Frequency			75		kHz

Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range	Ambient	-10	+25	+60	°C
Storage Temperature Range		-20		+85	°C
Cooling	Internal Fan With Built In Control				
Humidity	RH, Non-condensing			95	%

Physical

Case Size	8.46 x 4.52 x 1.97 Inches (215.0 x 115.0 x 50.0 mm)
Case Material	Vented Metal Enclosure
Weight	38.1 Oz (1.08 kg)

Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 25°C, Gnd Benign	188			kHours
Safety Standards	IEN 60950, IEC 60950				
Vibration	10~500 Hz, 2G 10 min/1 Cycle. Period of 60 min each along X, Y &Z Axis				

Model Selection Guide

Model Number	Input		Output				Output Tolerance (%)	Ripple & Noise (mV p-p)	Efficiency (%, Typ)
	Current (A)		Voltage (VDC)		Current (A)				
	115 VAC	230 VAC	Rated	Adjust	Rated	Range			
MPE-320S-05	6.0	3.5	5.0	4.5 - 5.7	50.0	0 to 50.0	±2.0	150	77
MPE-320S-7.5	6.0	3.5	7.5	6.0 - 9.0	36.0	0 to 36.0	±2.0	150	80
MPE-320S-12	6.0	3.5	12.0	10.0 - 13.2	25.0	0 to 25.0	±1.0	150	82
MPE-320S-13.5	6.0	3.5	13.5	12.0 - 15.0	22.0	0 to 22.0	±1.0	150	83
MPE-320S-15	6.0	3.5	15.0	13.5 - 18.0	20.0	0 to 20.0	±1.0	150	84
MPE-320S-24	6.0	3.5	24.0	20.0 - 26.4	12.5	0 to 12.5	±1.0	150	86
MPE-320S-27	6.0	3.5	27.0	26.0 - 32.0	11.0	0 to 11.0	±1.0	200	86
MPE-320S-48	6.0	3.5	48.0	41.0 - 56.0	6.5	0 to 6.5	±1.0	240	87

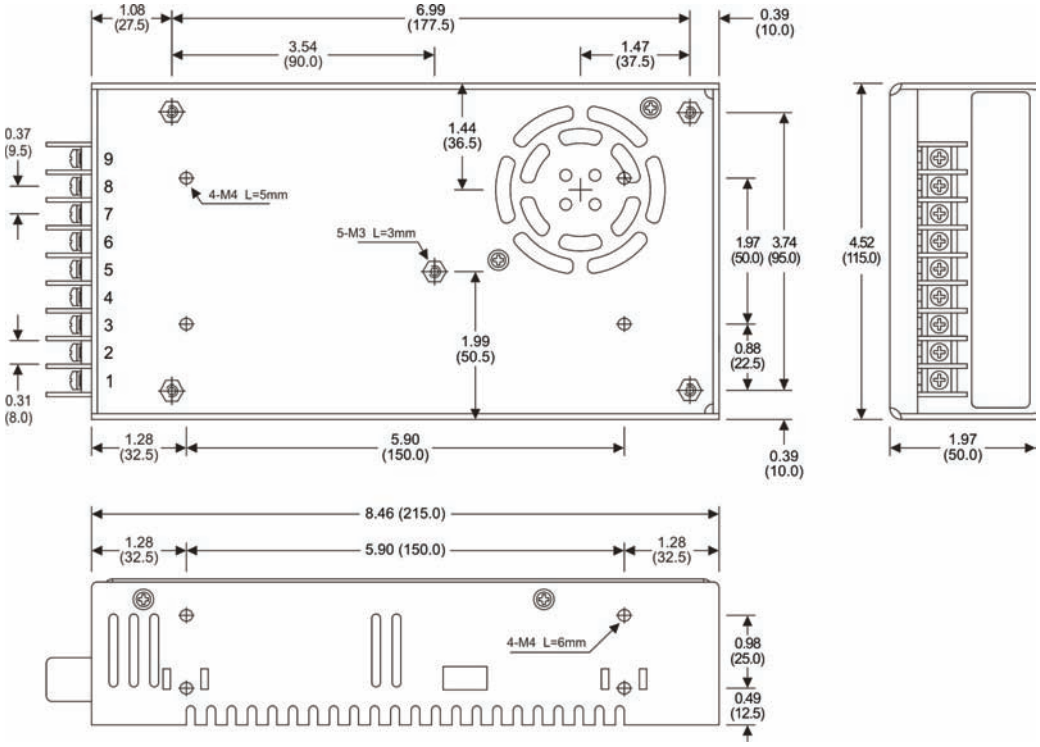
Notes:

1. Output voltage tolerance includes the effects of set point accuracy, line regulation and load regulation.
2. Ripple and noise is measured at 20 MHz bandwidth using a 12 inch twisted pair wire to connect to the power supply terminals. A 0.1 μF and a 47 μF capacitor are connected in parallel as close to the power supply terminals as possible.
3. Overvoltage protection is provided by a "hiccup mode" circuit. The unit recovers automatically when the fault condition is removed.
4. Overload protection is provided by fold-back current limiting. The unit recovers automatically when the fault condition is removed.
5. It is recommended that a fuse be used on the input of a power supply for protection. For the **MPE-320S** series, a 10A/250 VAC slow blow should be used.

Pin Connections

Pin	Function
1	AC-Line
2	AC-Neutral
3	AC-Ground
4	-Vout
5	-Vout
6	-Vout
7	+Vout
8	+Vout
9	+Vout

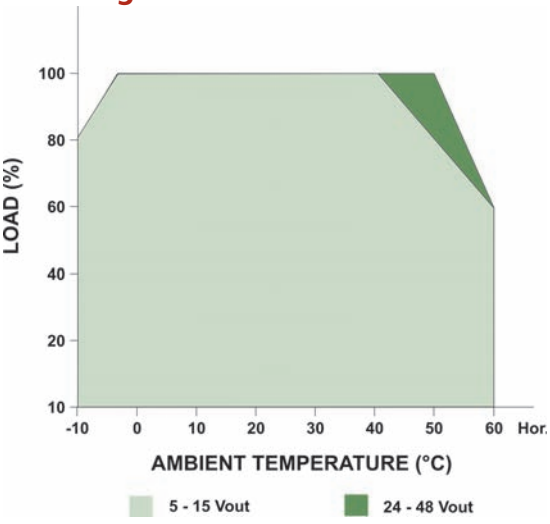
Mechanical Dimensions



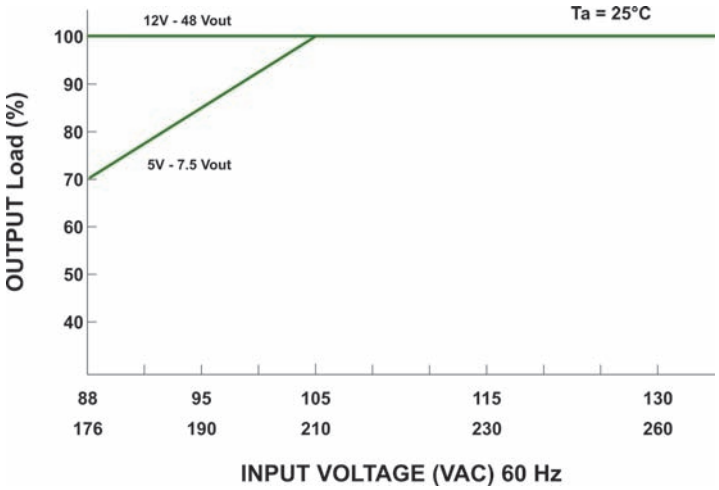
Notes:

- All dimensions are typical in inches (mm)
- Tolerance x.xx = ±0.01 (±0.25)

Derating Curve



Static Characteristics



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