

Wall Industries, Inc.

PSM250 SERIES

**90~264VAC Input Voltage Range
200 Watts with Free Air Convection
250 Watts with 17.1CFM Forced Air
Medical AC/DC Switching Power Supplies**



Type O



Type U

FEATURES

- Single Outputs
- RoHS Compliant
- Power Factor > 0.90 at 230VAC
- 90~264VAC Input Voltage Range
- 85% High Efficiency
- 250W with 17.1CFM Forced Air
- 200W with Convection Cooling
- High Power Density
- No Minimum Load Requirement
- Over Load, Over Voltage, and Short Circuit Protection
- Ultra Low Leakage Current < 300 μ A at 264VAC
- UL/cUL 60601-1, TUV EN60601-1, and IEC60601-1:2005 (3rd edition) Medical Approvals
- Meets CE, EN60601-1-2, FCC Part-18 Class B, EN55011 Class B, and EMC Standards
- Open Frame and U-Chassis Mechanical Options Available

DESCRIPTION

The PSM250 series of medical AC/DC switching power supplies offers 250 Watts of output power with 17.1CFM forced air and 200 Watts with convection cooling. All models have a single output, a 90~264VAC input voltage range, and a power factor greater than 0.9. These units are also protected against short circuit, over load, and over voltage conditions. All models have UL/cUL 60601-1, TUV EN60601-1, and IEC60601-1:2005 (3rd edition) safety approvals. This series is RoHS compliant and meets CE, EN60601-1, FCC Part-18 Class B, and EN55011 Class B EMC standards. Models are available in both open frame (Type O) and U-chassis (Type U) designs.

SPECIFICATIONS: PSM250 Series					
All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted. We reserve the right to change specifications based on technological advances.					
Specification	Test Conditions	Min	Typ	Max	Unit
INPUT SPECIFICATIONS					
Input Voltage Range		90		264	VAC
Input Frequency		47		63	Hz
Input Current (rms)	At 115VAC			4	A
	At 230VAC			2	
Inrush Current	At 115VAC, cold start at 25°C			50	A peak
	At 230VAC, cold start at 25°C			100	
Power Factor	At 115VAC and full load	0.95			
	At 230VAC and full load	0.90			
OUTPUT SPECIFICATIONS					
Output Voltage		See Table			
Output Regulation	At 25°C including initial tolerance, line voltage, load currents, and output voltages adjusted to factory settings	-5		+5	%
Output Current		See Table			
Minimum Load		0			%
Output Power		See Table			
Ripple & Noise	At 20MHz limited bandwidth and 0.1µF ceramic and 10µF electrolytic capacitors in parallel on the output	-1		+1	%
Hold-up Time	115VAC and full load		16		ms
Temperature Coefficient		-0.04		+0.04	%/°C
PROTECTION					
Over Load Protection	Automatic recovery	110		160	%
Short Circuit Protection		Automatic recovery			
Over Voltage Protection		Automatic recovery			
GENERAL SPECIFICATIONS					
Efficiency (typical)	115VAC and full load		85		%
Isolation Voltage	Primary to Secondary	5656			VDC
	Primary to Frame Ground	2121			VDC
Earth Leakage Current	At 264VAC			300	µA
ENVIRONMENTAL SPECIFICATIONS					
Operating Temperature	Derate linearly 2.5% per °C from 41°C to 60°C	0		60	°C
Storage Temperature		-40		85	°C
Humidity (non-condensing)		5		95	%
MTBF	Full load and 25°C	> 100,000 hours			
PHYSICAL SPECIFICATIONS					
Dimensions (L x W x H)	Open Frame Type (Suffix “O”)	5 x 3 x 1.28 inches (127 x 76.2 x 32.5 mm)			
	U-Chassis Type (Suffix “U”)	5 x 3.2 x 1.52 inches (127 x 81 x 38.6 mm)			
Weight	Open Frame Type (Suffix “O”)	0.88 lbs (400g)			
	U-Chassis Type (Suffix “U”)	1.11 lbs (500g)			
SAFETY & EMC					
Safety Standards	UL/cUL UL60601-1, TUV EN60601-1, IEC 60601-1:2005 (3 rd edition)				
EMC Standards	EN60601-1-2, FCC Part 18 Class B, EN55011 Class B, CE				

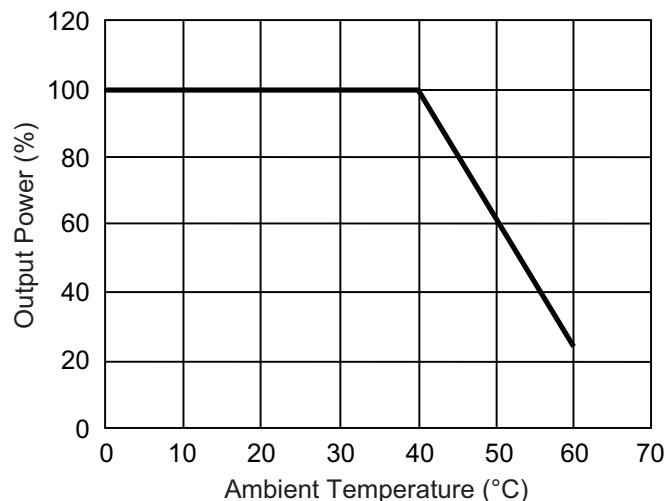
MODEL SELECTION TABLE

Model Number ⁽¹⁾	Input Voltage	Output Voltage	Output Current		Output Power		Package Type
			Convection	17.1CFM Airflow	Convection	17.1CFM Airflow	
PSM250B1Y12O	90 ~ 264 VAC	12 VDC	16.67 A	20.84 A	200W	250W	Open Frame
PSM250B1Y19O		19 VDC	10.53 A	13.16 A	200W	250W	
PSM250B1Y24O		24 VDC	8.34 A	10.42 A	200W	250W	
PSM250B1Y28O		28 VDC	7.14 A	8.93 A	200W	250W	
PSM250B1Y30O		30 VDC	6.67 A	8.34 A	200W	250W	
PSM250B1Y36O		36 VDC	5.56 A	6.95 A	200W	250W	
PSM250B1Y40O		40 VDC	5 A	6.25 A	200W	250W	
PSM250B1Y48O		48 VDC	4.17 A	5.21 A	200W	250W	
PSM250B1Y12U	90 ~ 264 VAC	12 VDC	16.67 A	20.84 A	200W	250W	U-Chassis
PSM250B1Y19U		19 VDC	10.53 A	13.16 A	200W	250W	
PSM250B1Y24U		24 VDC	8.34 A	10.42 A	200W	250W	
PSM250B1Y28U		28 VDC	7.14 A	8.93 A	200W	250W	
PSM250B1Y30U		30 VDC	6.67 A	8.34 A	200W	250W	
PSM250B1Y36U		36 VDC	5.56 A	6.95 A	200W	250W	
PSM250B1Y40U		40 VDC	5 A	6.25 A	200W	250W	
PSM250B1Y48U		48 VDC	4.17 A	5.21 A	200W	250W	

NOTES

1. There are two types of mechanical options available: Open frame (suffix "O") and U-chassis (suffix "U").

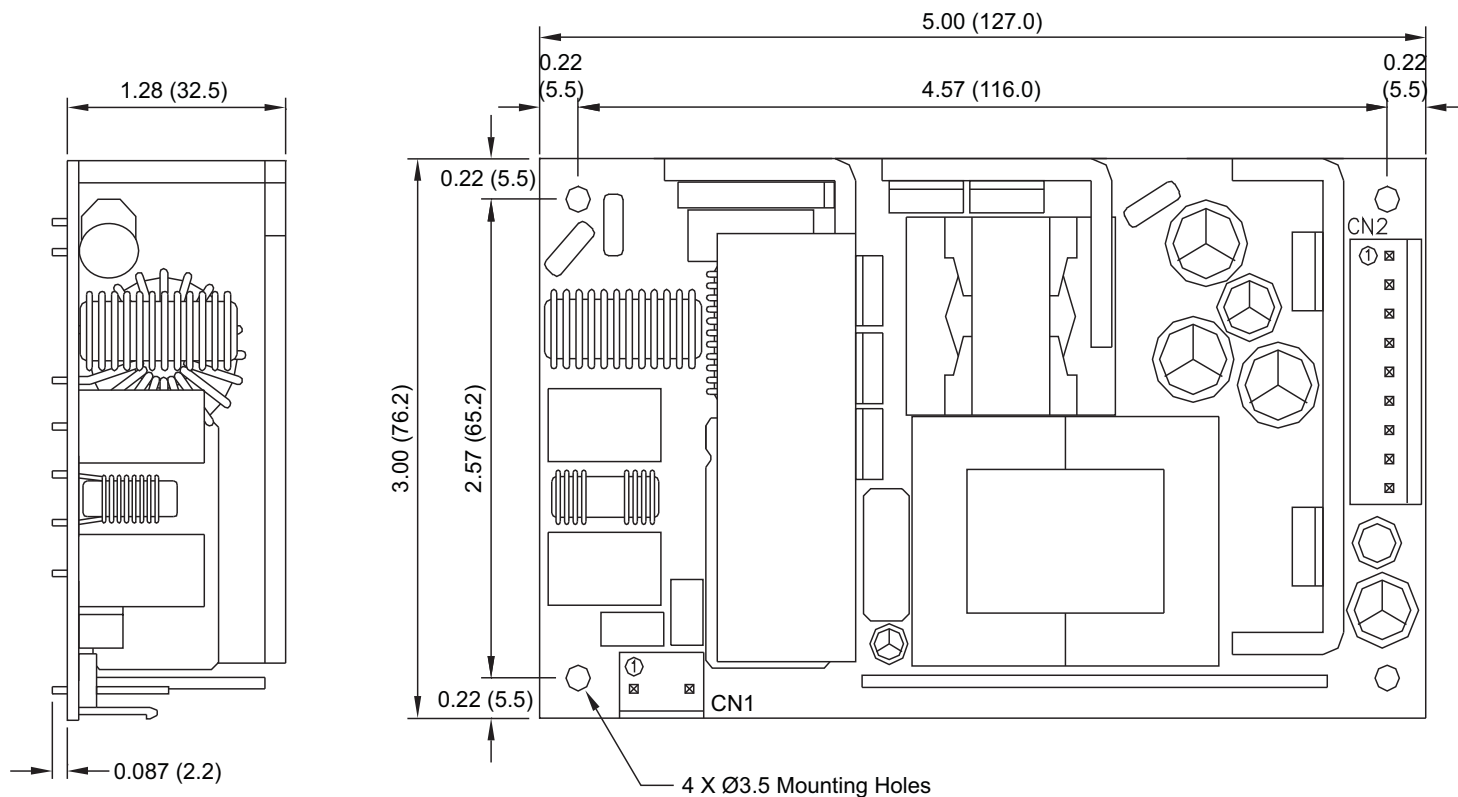
DERATING CURVE



MECHANICAL DRAWINGS

Open Frame Models (Type "O"): 5.00 x 3.00 x 1.28 inches

Unit: inches (mm)



MATCHING CONNECTORS

CN1: Input Connector

JST B3P-VH-B pitch: 3.96mm or equivalent, mates with JST VHR-3N or equivalent.

Pin	Signal
1	AC Line
2	AC Neutral

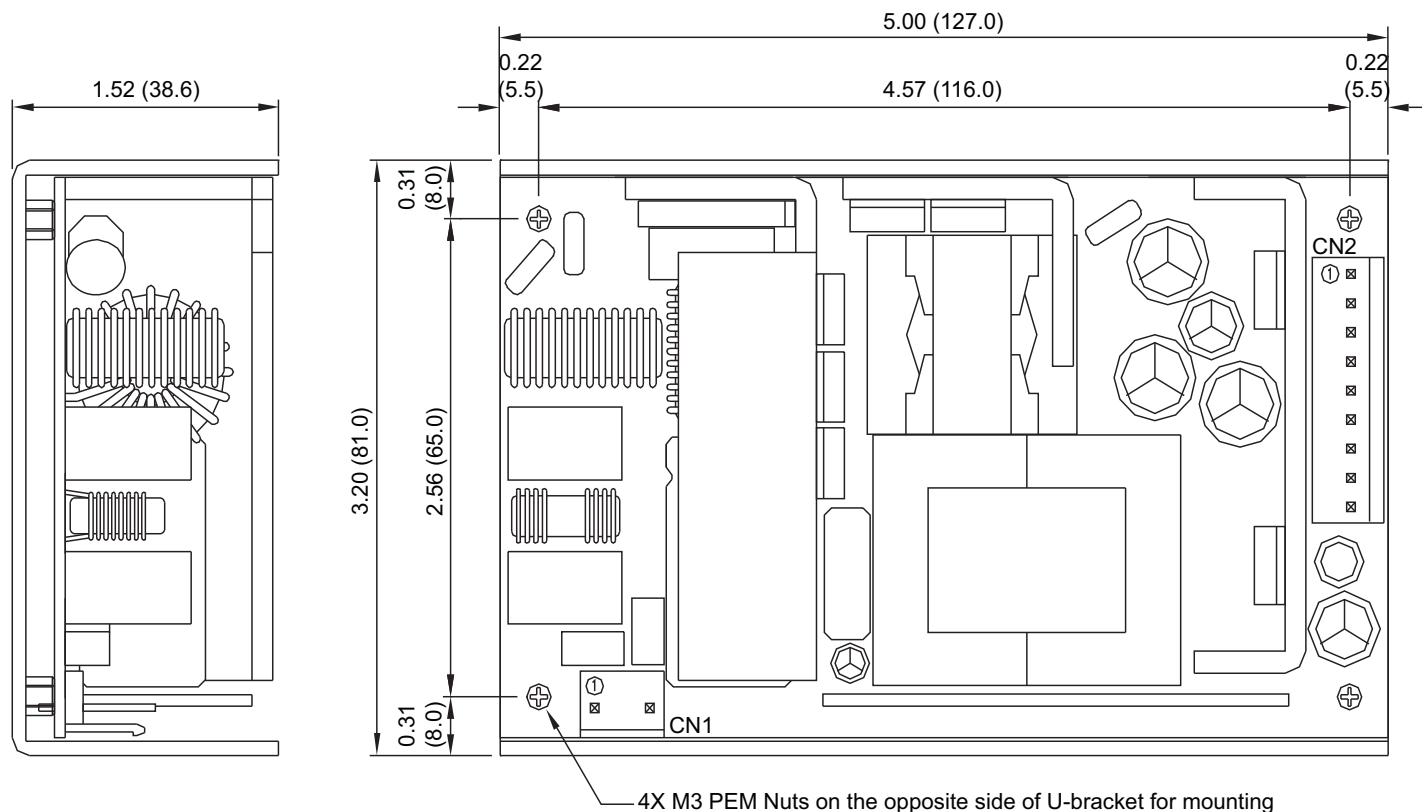
CN2: Output Connector

JST B9P-VH-B pitch: 3.96mm or equivalent, mates with JST VHR-9N or equivalent.

Pin	Signal
1	RTN
2	RTN
3	RTN
4	RTN
5	+Vo
6	+Vo
7	+Vo
8	+Vo
9	+Vo

U-Chassis Models (Type "U"): 5.00 x 3.20 x 1.52 inches

Unit: inches (mm)



MATCHING CONNECTORS

CN1: Input Connector

JST B3P-VH-B pitch: 3.96mm or equivalent, mates with JST VHR-3N or equivalent.

Pin	Signal
1	AC Line
2	AC Neutral

CN2: Output Connector

JST B9P-VH-B pitch: 3.96mm or equivalent, mates with JST VHR-9N or equivalent.

Pin	Signal
1	RTN
2	RTN
3	RTN
4	RTN
5	+Vo
6	+Vo
7	+Vo
8	+Vo
9	+Vo

COMPANY INFORMATION

Wall Industries, Inc. has created custom and modified units for over 50 years. Our in-house research and development engineers will provide a solution that exceeds your performance requirements on-time and on budget. Our ISO9001-2008 certification is just one example of our commitment to producing a high quality, well-documented product for our customers.

Our past projects demonstrate our commitment to you, our customer. Wall Industries, Inc. has a reputation for working closely with its customers to ensure each solution meets or exceeds form, fit and function requirements. We will continue to provide ongoing support for your project above and beyond the design and production phases. Give us a call today to discuss your future projects.

Contact **Wall Industries** for further information:

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