DATASHEET
Rev. A

Wall Industries, Inc.

PSME10 SERIES

85~264VAC (125~373VDC) Input Voltage Range
10 Watts, Encapsulated PCB Mount
Single Outputs, Isolation Class II
Medical AC/DC Switching Power Supplies

E324816

FEATURES

- Isolation Class II
- Fully Isolated Plastic Case
- Single Outputs
- Cooling by Free Air Convection
- RoHS Compliant
- Energy Star Compliant
- Withstand 2G Vibration Test
- 10 Watts Output Power
- Universal Input Voltage: 85~264VAC or 125~373VDC
- Green Design, No-Load Power Consumption < 0.3W
- All Using 105°C Long Life Electrolytic Capacitors
- -20°C ~ +70°C Wide Operating Temperature Range
- 100% Full Load Burn-in Tested
- Short Circuit, Over Load, Over Voltage, and Brown-out (Low AC Input Voltage) Protection
- UL60601-1, TUV EN60601-1, and IEC60601-1 Medical Approvals

DESCRIPTION

The PSME10 series of Medical AC/DC switching power supplies provides 10 Watts of continuous output power in a 2.76” x 1.97” x 0.89” encapsulated PCB mountable package. This series consists of 5V, 12V, 15V, and 24VDC output models with a universal input voltage range of 85~264VAC or 125~373VDC. These power supplies are protected against short circuit, over load, over voltage, and brown-out (low AC input voltage) conditions and have an MTBF of 210,200 hours using MIL-HDBK-217F. This series also has UL60601-1, TUV EN60601-1, and IEC60601-1 medical approvals. All models have been 100% full load burn-in tested and are RoHS and Energy Star compliant.

SPECIFICATIONS: PSME10 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.

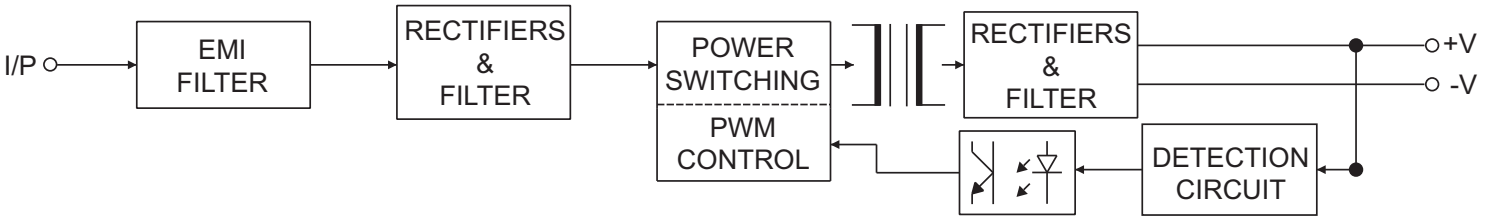
SPECIFICATION		TEST CONDITIONS		Min	Nom	Max	Unit
INPUT SPECIFICATIONS							
Input Voltage Range		AC Input Voltage Range		85		264	VAC
		DC Input Voltage Range		125		373	VDC
Input Frequency				47		63	Hz
Input Current	Low Line	Full Load, Vin = 115VAC			0.25		A
	High Line	Full Load, Vin = 230VAC			0.15		
Inrush Current	Low Line	Cold Start, Vin = 115VAC			25		A
	High Line	Cold Start, Vin = 230VAC			45		
No Load Power Consumption						0.3	W
OUTPUT SPECIFICATIONS							
Output Voltage				See Table			
Voltage Tolerance				-3		+5	%
Load Regulation		5VDC output model	10% to 100% rated load	-1		+1	%
		12V, 15V, & 24VDC output models		-0.5		+0.5	
Line Regulation		5VDC output model	Low Line to High Line at rated load	-1		+1	%
		12V, 15V, & 24VDC output models		-0.5		+0.5	
Output Power				0		10	W
Output Current				See Table			
Ripple & Noise *(See Note 1)*				See Table			
Hold-Up Time	Low Line	Full Load, Vin = 115VAC			25		ms
	High Line	Full Load, Vin = 230VAC			100		
Setup Time *(See Note 3)*		Full Load, Vin = 115/230VAC			100		ms
Rise Time		Full Load, Vin = 115/230VAC			25		ms
Temperature Coefficient		0~50°C		-0.03		+0.03	%/°C
PROTECTION							
Over Voltage Protection		Latch-off mode		115		145	%
Over Load Protection		Hiccup mode, recovers automatically after fault condition is removed		110			%
Short Circuit				yes			
Brown-out (Low AC Input Voltage)				yes			
GENERAL SPECIFICATIONS							
Efficiency		Vin = 230VAC		See Table			
Withstand Voltage (Input to Output)				4000			VAC
Isolation Resistance (Input to Output)		500VDC		100			MΩ
ENVIRONMENTAL SPECIFICATIONS							
Operating Temperature		With derating (see derating curve)		-20		+70	°C
Storage Temperature				-40		+85	°C
Operating Humidity		Non-condensing		20		90	% RH
Storage Humidity				10		95	% RH
Vibration		10~500Hz, 2G 10min/1cycle, period for 60 min each along X, Y, and Z axes					
Cooling				Free air convection			
MTBF		MIL-HDBK-217F		210,200 hours			
PHYSICAL SPECIFICATIONS							
Weight				Approximately 3.7oz (105g)			
Dimensions (L x W x H)		2.76 x 1.97 x 0.89 inches (70 x 50 x 22.7 mm)					
SAFETY & EMC							
Safety Approvals		UL60601-1, TUV EN60601-1, and IEC60601-1					
EMI Conduction & Radiation		EN55011: 2007+A2: 2007 Class B					
Harmonic Current		EN61000-3-2: 2006 Class A, EN61000-3-3: 1995+A1: 2001+A2: 2005					
EMS Immunity		EN60601-1-2: 2001+A1: 2006, IEC61000-4-2,3,4,5,6,8,11 light industry level, criteria A					

MODEL SELECTION TABLE						
Model Number	**Input Voltage Range**	**Output Voltage**	**Output Current**	**Ripple & Noise (1)**	**Efficiency**	**Output Power**
PSME-10-05	85 ~ 264 VAC or 125 ~ 373 VDC	5 VDC	2A	80mVp-p	77%	10W
PSME-10-12		12 VDC	0.83A	150mVp-p	79%	10W
PSME-10-15		15 VDC	0.66A	150mVp-p	80%	10W
PSME-10-24		24 VDC	0.42A	240mVp-p	82%	10W

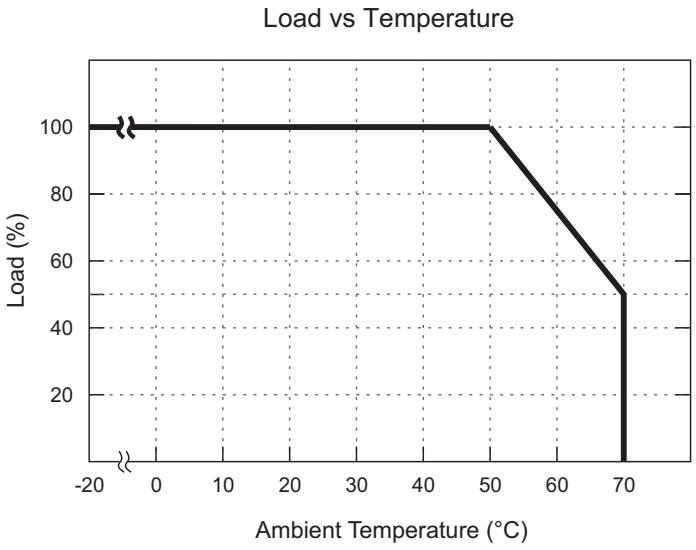
NOTES

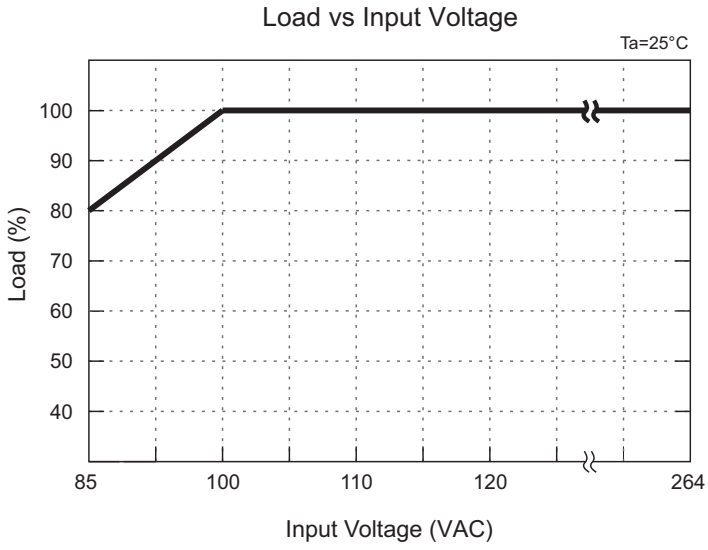
1. Ripple & noise is measured at 20MHz bandwidth by using 12" twisted pair-wire terminated with 0.1µF and 47µF capacitors in parallel.
2. Tolerance includes set up tolerance, line regulation, and load regulation.
3. The length of the setup time is measured a first cold start. Turning the power supply ON and OFF very quickly may lead to an increase in the setup time.
4. The power supply is considered a component which will be installed into final equipment. The final equipment must be re-confirmed that it still meets EMC directives.

BLOCK DIAGRAM

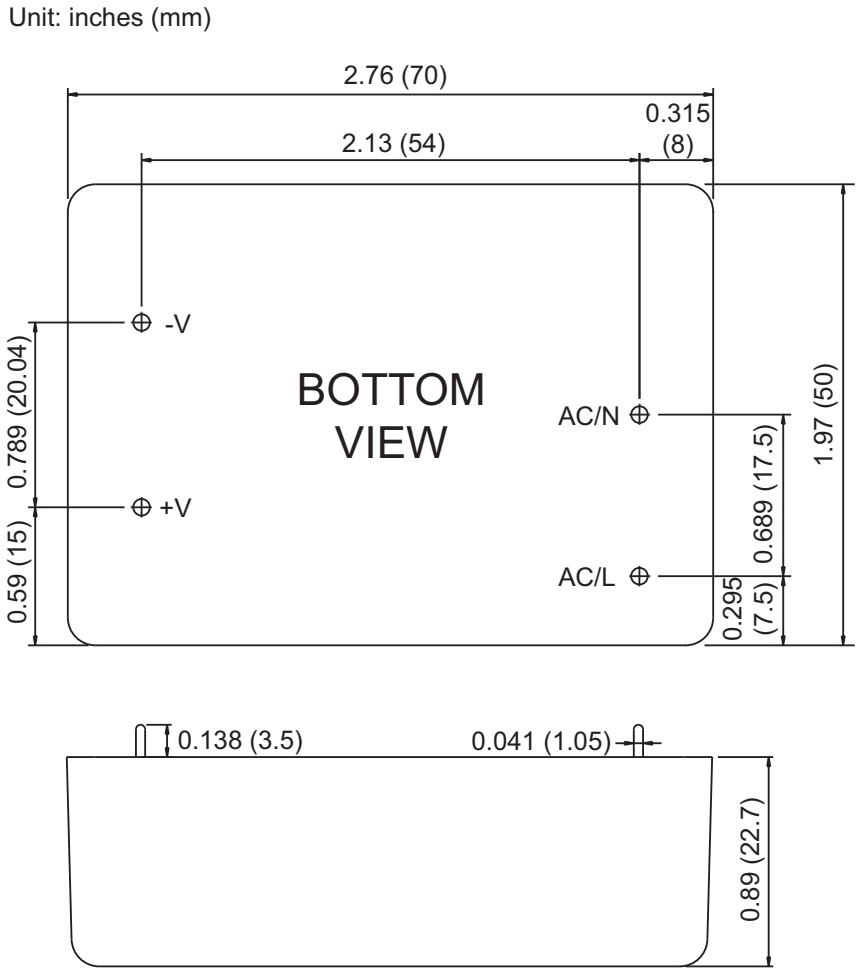


DERATING CURVE





MECHANICAL DRAWING



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:

Phone: ☎(603)778-2300
Toll Free: ☎(888)597-9255
Fax: ☎(603)778-9797
E-mail: sales@wallindustries.com
Web: www.wallindustries.com
Address: 5 Watson Brook Rd.
Exeter, NH 03833