Wall Industries, Inc.

DATASHEET
Rev. B

PSPDF-320 SERIES

88~264VAC (124~370VDC) Input Voltage Range
Single Outputs, PFC Function
Up to 321.6 Watts Output Power
AC/DC Switching Power Supplies



E232347

FEATURES

- Single Outputs
- RoHS Compliant
- Built-in Fan
- Built-in PFC Function, PF > 0.95
- Universal Input Voltage Range (Full Range)
- High Efficiency and High Reliability
- All Using 105°C Long Life Electrolytic Capacitors
- PCB Soldering Side with Conformal Coating
- Up to 321.6W Output Power
- 100% Full Load Burn-in Tested
- Output Voltages Available from 3.3VDC to 48VDC
- Output Voltage Adjustability
- Wide Operating Temperature Range (-20°C to +65°C)
- Dimensions: 8.92” x 4.53” x 1.97” enclosed
- Short Circuit, Over Voltage, Over Load, and Over Temperature Protection

DESCRIPTION

The PSPDF-320 series of AC/DC switching power supplies offers up to 321.6 Watts of output power in a 8.92” x 4.53” x 1.97” enclosed case. All models have a single output and a universal input voltage range of 88~264VAC (124~370VDC). Some features include ±10% output adjustability, PFC > 0.93 at 230VAC, built-in fan, and a wide operating temperature range of -20°C to +65°C. These supplies also have short circuit, over load, over voltage, and over temperature protection. All models are RoHS compliant and have UL/cUL, CB, and CE safety approvals. These supplies are 100% full load burn-in tested.

SPECIFICATIONS: *PSPDF-320 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.

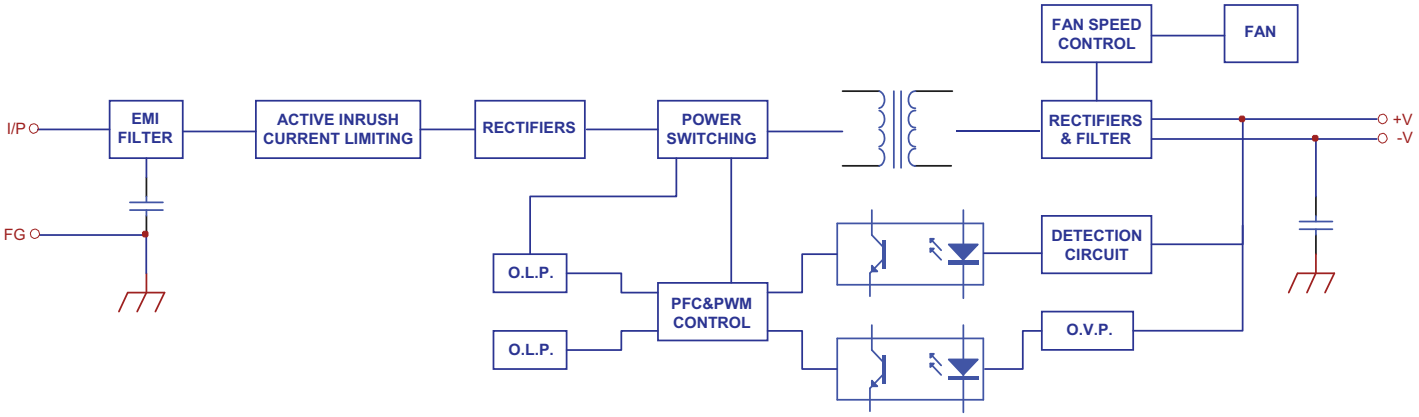
SPECIFICATION	TEST CONDITIONS		Min	Nom	Max	Unit
INPUT SPECIFICATIONS						
Input Voltage Range	AC input voltage range		88		264	VAC
	DC input voltage range		124		370	VDC
Inrush Current	At 115VAC and cold start				30	A
	At 230VAC and cold start				50	
Input Frequency			47		63	Hz
Power Factor	At 115VAC		0.98			VAC
	At 230VAC		0.95			
AC Current					4.0	A
OUTPUT SPECIFICATIONS						
Output Voltage			See Table			
Voltage Accuracy	3.3V, 4V, 5V, & 7.5V output models		-2.0		+2.0	%
	12V, 24V 28V, 36V, & 48V output models		-1.0		+1.0	
Voltage Adjustment Range			See Table			
Line Regulation	3.3V, 4V, 5V, & 7.5V output models		-0.5		+0.5	%
	12V output model		-0.3		+0.3	
	24V, 28V, 36V, & 48V output models		-0.2		+0.2	
Load Regulation	3.3V, 4V, 5V, & 7.5V output models		-1.0		+1.0	%
	12V, 24V 28V, 36V, & 48V output models		-0.5		+0.5	
Output Current			See Table			
Output Power			See Table			
Ripple & Noise *(See Note 1)*			See Table			
Set-up Time	At 115VAC and Full load				2.5	s
	At 230VAC and Full load				1.2	
Hold-up Time	3.3V, 4V, & 5V output models	At 230VAC and full load	14			ms
	7.5V, 12V, 24V, 28V, 36V, 48V output models		16			
Overshoot					5.0	%
Temperature Coefficient			-0.03		+0.03	%/°C
PROTECTION						
Over Load Protection	Hiccup mode, automatic recovery		105		135	% Io
Over Voltage Protection	Hiccup mode, automatic recovery		110		150	% Vo
Short Circuit Protection			Long-term mode, automatic recovery			
Over Temperature Protection	85°C±5°C (detect on heatsink of power transistor); shutdown, automatic recovery after the temperature goes down					
GENERAL SPECIFICATIONS						
Efficiency			See Table			
Withstand Voltage	Primary to Secondary	≤ 10mA	3000			VAC
	Primary to PG		1500			
	Secondary to PG		500			
Isolation resistance			100			MΩ
Leakage Current	Input to Output				0.1	mA
	Input to PG				0.75	
ENVIRONMENTAL SPECIFICATIONS						
Operating Temperature			-20		+65	°C
Operating Humidity	non-condensing		20		90	% RH
Storage Temperature			-40		+85	°C
Storage Humidity	non-condensing		10		95	% RH
Cooling Method			Forced air cooling (Built-in fan)			
MTBF	At 25°C and full load		300,000			hours
PHYSICAL SPECIFICATIONS						
Weight			Approx. 2.56 lbs (1160g)			
Dimensions (L x W x H)			8.92 x 4.53 x 1.97 inches (226.5 x 115 x 50 mm)			
SAFETY & EMC CHARACTERISTICS *(See Note 2)*						
Safety Standards			UL60950-1; EN60950-1: 2006			
EMI Conduction and Radiation			Compliance to EN55022 (CISPR22) Class B			
Harmonic Current			Compliance to EN61000-3-2, 17625.1-2003			
EMS Immunity			Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, light industry level, criteria A			

MODEL SELECTION TABLE									
Model Number	Input Voltage	Output Voltage	Voltage Adjustment	Output Current	Ripple & Noise (1)		Output Power	Efficiency	
					-20°C	0-65°C		115VAC	230VAC
PSPDF-320-3.3	88~264 VAC or 120~370 VDC	3.3 VDC	3.1~3.6V	60A	180mVp-p	150mVp-p	198W	72%	77%
PSPDF-320-4		4 VDC	3.7~4.3V	60A	180mVp-p	150mVp-p	240W	73%	78%
PSPDF-320-5		5 VDC	4.4~5.3V	60A	180mVp-p	150mVp-p	300W	73%	79%
PSPDF-320-7.5		7.5 VDC	6.6~8.4V	40A	180mVp-p	150mVp-p	300W	77%	83%
PSPDF-320-12		12 VDC	10.5~13.3V	25A	180mVp-p	150mVp-p	300W	78%	86%
PSPDF-320-24		24 VDC	19.7~26.4V	13A	180mVp-p	150mVp-p	312W	79%	87%
PSPDF-320-28		28 VDC	25.7~30.4V	11A	180mVp-p	150mVp-p	308W	79%	87%
PSPDF-320-36		36 VDC	33.2~38.4V	8.8A	200mVp-p	200mVp-p	316.8W	80%	87%
PSPDF-320-48		48 VDC	41.5~53.1V	6.7A	240mVp-p	240mVp-p	321.6W	81%	88%

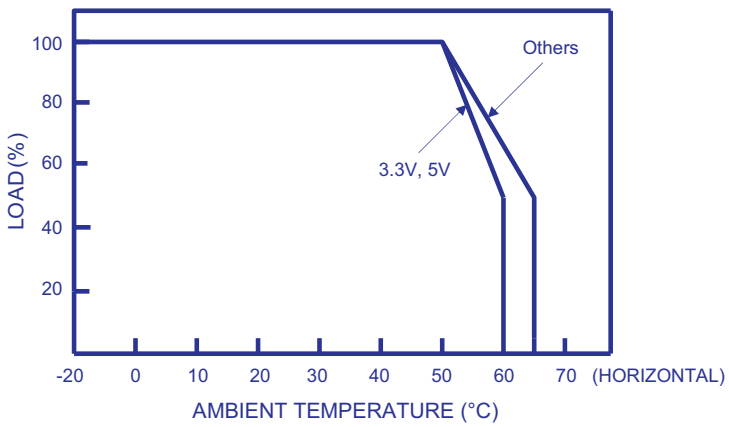
NOTES

1. Ripple & noise is measured at 20MHz bandwidth by using a 12" twisted pair-wire terminated with 0.1μF and 47μF capacitors in parallel.
2. The SPS is considered a component which will be installed into final equipment. The final equipment must be re-confirmed that it still meets EMC directives.

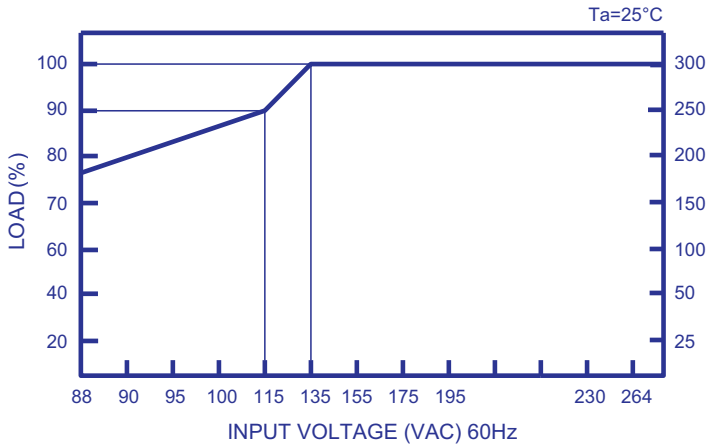
BLOCK DIAGRAM



DERATING CURVE

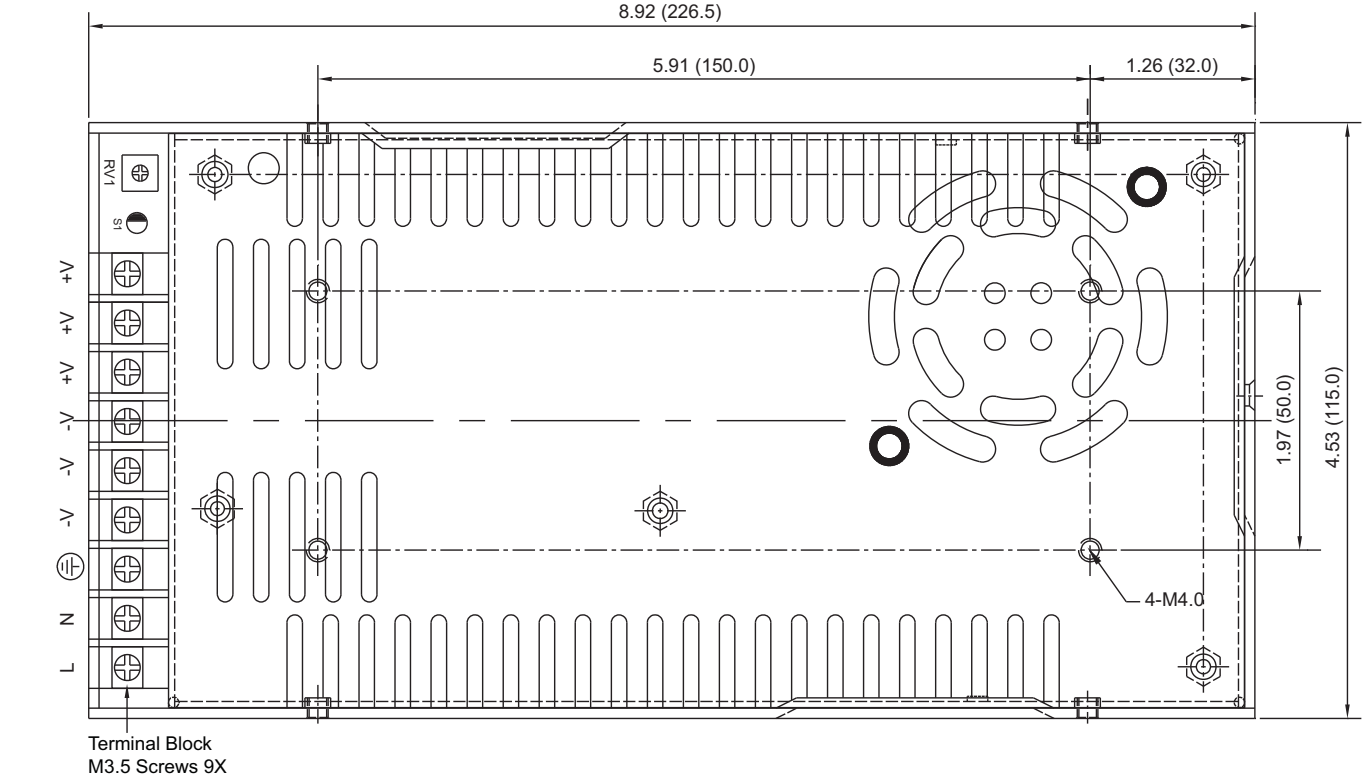


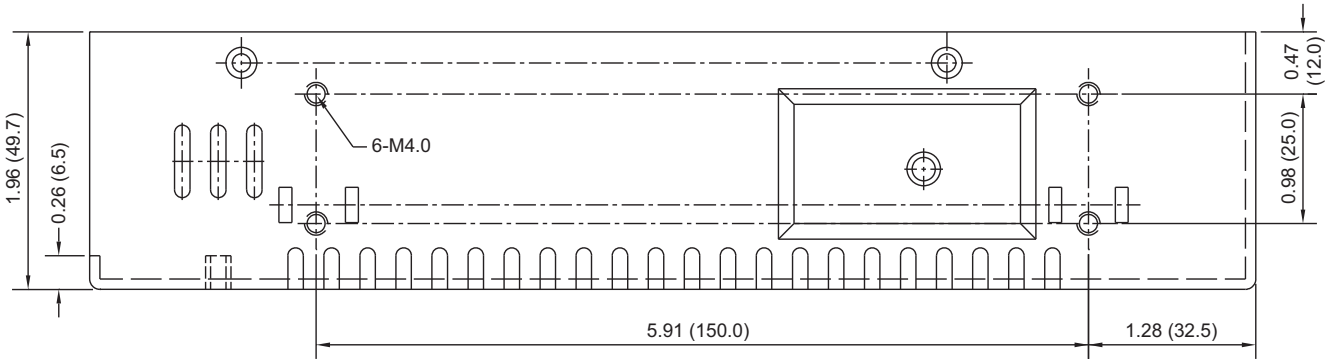
STATIC CHARACTERISTICS

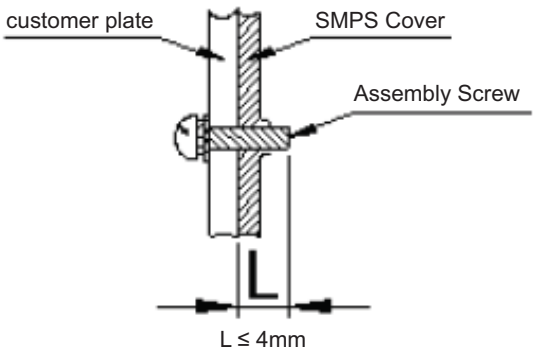


MECHANICAL DRAWING

Unit: inches (mm)







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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