

Size: 3in x 2in x 1.18in
(76.20mm x 50.80mm x 30mm)

UL CE CB

FEATURES

- Universal Input Range of 85-264VAC (100-370VDC)
- 3" x 2" High Power Density
- High Efficiency
- High Reliability
- Regulated Output
- RoHS Compliant
- Low Ripple & Noise
- Output Short Circuit, Over Current, and Over Voltage Protection
- EMI Performance Meets CISPR32/EN55032 Class B
- IEC62368, UL62368, and EN62368 Safety Approvals

DESCRIPTION

The PSAPD65 series of AC/DC converters offers up to 65 watts of output power in a 3" x 2" high power density open frame package. This series consists of single output models with a universal input range of 85-264VAC (100-370VDC). Each model in this series features high efficiency, high reliability, and low ripple and noise. They are also protected against short circuit, over current, and over voltage conditions and are RoHS compliant. The PSAPD65 series has IEC62368, UL62368, and EN62368 safety approvals and EMI performance meets CISPR32/EN55032 class B.

MODEL SELECTION TABLE

Model Number	Input Voltage Range	Output Voltage	Output Current	Efficiency	Maximum Capacitive Load	Output Power	Certification
PSAPD65-05S	85-264VAC (100-370VDC)	5V	10000mA	80%	40000µF	50W	UL/CE/CB
PSAPD65-09S		9V	6600mA	83%	12000µF	60W	
PSAPD65-12S		12V	5420mA	85%	8000µF	65W	
PSAPD65-15S		15V	4340mA	85%	7000µF		
PSAPD65-24S		24V	2710mA	87%	1500µF		
PSAPD65-48S		48V	1360mA	87%	1000µF		

SPECIFICATIONS

All specifications are based on Ta=25°C, Humidity <75%, Nominal Input Voltage, and Rated Output Load 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	AC Input	85		264	VAC
	DC Input	100		370	VDC
Input Frequency		47		63	Hz
Input Current	115VAC			1600	mA
	230VAC			900	
Inrush Current	115VAC		35		A
	230VAC		50		
Hot Plug		Unavailable			
OUTPUT SPECIFICATIONS					
Output Voltage		See Table			
Voltage Accuracy			±2		%
Line Regulation	Full Load		±0.5		%
Load Regulation	5%-100% Load		±1		%
Output Power		See Table			
Output Current		See Table			
Minimum Load		0			%
Maximum Capacitive Load		See Table			
Ripple & Noise ⁽¹⁾	20Mhz (peak-to-peak value)			150	mV
Stand-By Power Consumption				0.5	W
Hold-Up Time	230VAC		35		ms
Temperature Coefficient			±0.02		%/°C
PROTECTION					
Short Circuit Protection	Hiccup, Continuous	Self-Recovery			
Over Current Protection	Self-Recovery		≥120		%Io
Over Voltage Protection	5VDC Output, Output voltage clamp or turn off		≤9		VDC
	9VDC Output, Output voltage clamp or turn off		≤16		
	12VDC Output, Output voltage clamp or turn off		≤20		
	15VDC Output, Output voltage clamp or turn off		≤24		
	24VDC Output, Output voltage clamp or turn off		≤35		
	48VDC Output, Output voltage clamp or turn off		≤60		

SPECIFICATIONS

All specifications are based on Ta=25°C, Humidity <75%, Nominal Input Voltage, and Rated Output Load unless otherwise noted.
We reserve the right to change specifications based on technological advances.

SPECIFICATION	TEST CONDITIONS		Min	Typ	Max	Unit
ENVIRONMENTAL SPECIFICATIONS						
Operating Temperature			-25		+70	°C
Storage Temperature			-25		+85	°C
Storage Humidity					90	%RH
Power Derating	-25°C to -10°C		2.0			% / °C
	+50°C to 70°C		2.5			
	85VAC-165VAC		0.375			% / VAC
	240VAC-264VAC		0.833			
MTBF	MIL-HDBK-217F, 25°C		300,000			Hours
GENERAL SPECIFICATIONS						
Efficiency	@230VAC			See Table		
Switching Frequency				65		kHz
Isolation Test	Input-Output, Electric Strength for 1 min., leakage current <5mA		3000			VAC
PHYSICAL SPECIFICATIONS						
Weight					3.35oz (95g) Typ.	
Dimensions (L x W x H)					3in x 2in x 1.18in (76.20mm x 50.80mm x 30.00mm)	
Cooling Method					Free Air Convection	
SAFETY CHARACTERISTICS						
Safety Standard						UL/EN/IEC62368
Safety Certification						UL/EN/IEC62368
Safety Class						Class II
Emissions	CE	CISPR32/EN55032				Class B
	RE	CISPR32/EN55032				Class B
Immunity	ESD	IEC/EN61000-4-2	Contact ±6KV			Perf. Criteria B
	RS	IEC/EN61000-4-3	10V/m			Perf. Criteria A
	EFT	IEC/EN61000-4-4	±2KV			Perf. Criteria B
	Surge	IEC/EN61000-4-5	Line to Line ±1KV			Perf. Criteria B
	CS	IEC/EN61000-4-6	10Vr.m.s			Perf. Criteria A
	Voltage Dips, Short Interruption and Voltage Variations	IEC/EN61000-4-11	0%, 70%			Perf. Criteria B

NOTES

1. The “parallel cable” method is used to test Ripple and Noise. Contact factory for more information.
2. This product is listed to applicable standards and requirements by UL.
3. There will be noise generated when product is working at light load, but it will not affect performance and reliability.
4. This product is classified according to ISO14001 and related environmental laws and regulations and should be handled by qualified units.
5. Customization service is available. Contact factory for more information.

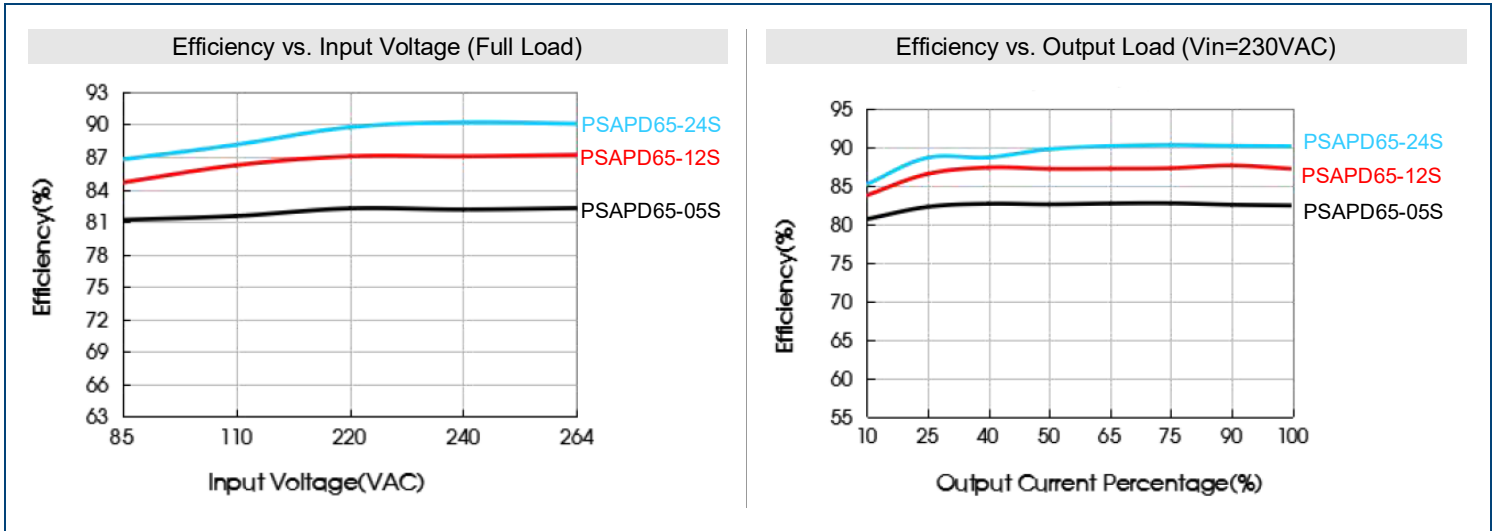
*Due to advances in technology, specifications subject to change without notice.

DERATING CURVES

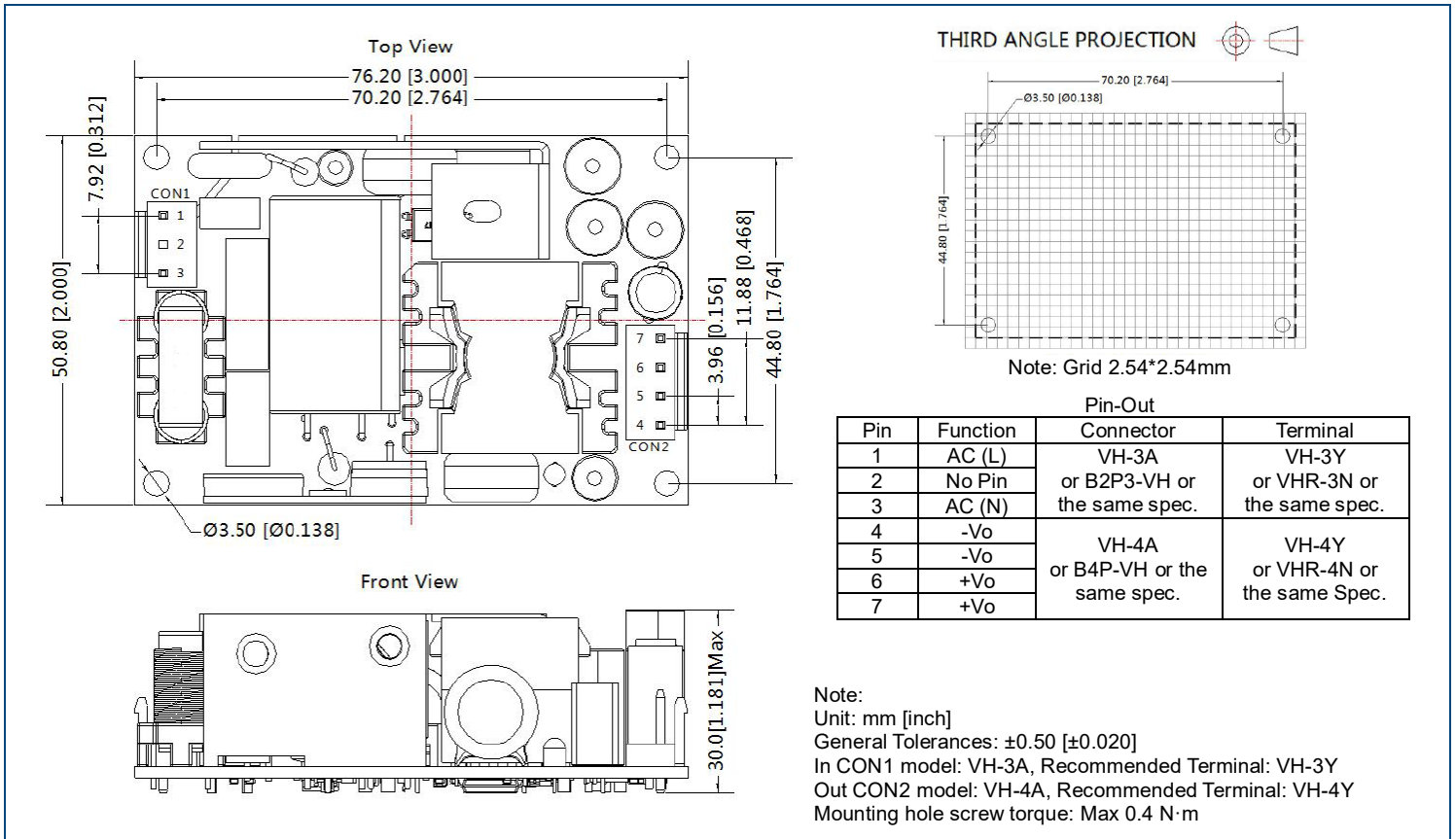


- Note: 1. With an AC input between 85-165V/240-264VAC and a DC input between 100-230V/340-370VDC, the output power must be derated as per temperature derating curves
2. This product is suitable for applications using natural air cooling; for applications in closed environments, contact factory.

EFFICIENCY GRAPHS

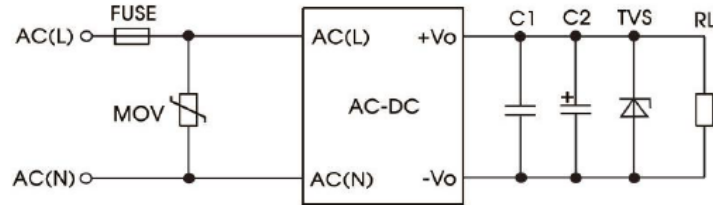


MECHANICAL DRAWINGS



DESIGN REFERENCE

1. Typical Application



Typical Circuit Diagram

Part No.	FUSE	MOV	C1(μF)	C2(μF)	TVS
PSAPD65-05S	3.15A/250V Slow-blow	S14K300	1μF/16V	330μF/16V	SMBJ7.0A
PSAPD65-09S				47μF/16V	SMBJ12A
PSAPD65-12S			1μF/25V	47μF/25V	SMBJ20A
PSAPD65-15S				47μF/25V	SMBJ20A
PSAPD65-24S			1μF/50V	47μF/35V	SMBJ30A
PSAPD65-48S			1μF/100V	47μF/63V	SMJB64A

Output Filter Components:

We recommend using an electrolytic capacitor with high frequency and low ESR rating for C2 (see data sheet). Choose a capacitor voltage rating with at least 20% margin, in other words, not exceeding 80%. C1 is a ceramic capacitor used for filtering high-frequency noise and TVS is a recommended suppressor diode to protect the application in case of converter failure.

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: 2015 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.

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