Open Frame | Enclosed ("C" Suffix)

Size: 3 x 2 x 1.04in (76.2 x 50.8 x 26.5mm) | Size: 3.6 x 2.38 x 1.31in (91.4 x 60.5 x 33.3mm)

FEATURES

- Universal Input Range of 80~264VAC (100~370VDC)
- High Power Density
- High Efficiency
- Compact Size
- Low Leakage Current <75uA
- Meets 5000m Altitude Requirements
- RoHS Compliant
- High I/O Isolation Test Voltage up to 4000VAC
- Output Short Circuit, Over Current, and Over Voltage Protection
- Over Voltage Class (Designed to meet EN61558-1)
- Meets 2 x MOPP Safety Certification
- Suitable for BF Applications
- EN62368-1, EN60601, UL60601 Safety Approvals

DESCRIPTION

The PSAMPS45 series of AC/DC converters offers up to 45 watts of output power in a high power density open frame or enclosed package. This series consists of single output models with a universal input range of 80~264VAC (100~370VDC). Each model in this series features high efficiency, low leakage current, and they are also protected against short circuit, over current, and over voltage conditions. The PSAMPS45 series is also RoHS compliant, meets 2 x MOPP safety certifications, and has EN62368-1, EN60601, and UL60601 safety approvals.

MODEL SELECTION TABLE

Model Number[1]	Input Voltage Range	Output Voltage	Output Current	Output Voltage Adjustable Range	Efficiency	Maximum Capacitive Load	Output Power	Certification
PSAMPS45-03S	80~264VAC (100~370VDC)	3.3V	8A	2.97-3.63V	83%	20000µF	26.4W	EN
PSAMPS45-05S		5V	8A	4.5-5.5V	85%	20000µF	40W	
PSAMPS45-12S		12V	3.75A	10.2-13.8V	90%	4000µF	45W	
PSAMPS45-15S		15V	3A	13.5-18V	90%	3500µF		
PSAMPS45-24S		24V	1.875A	21.6-28.5V	90%	1000µF		
PSAMPS45-36S		36V	1.25A	32.4-39.6V	90%	820µF		
PSAMPS45-48S		48V	0.94A	43.2-52.8V	90%	330µF		

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		80		264	VAC
	DC Input		100		370	VDC
Input Frequency			47		63	Hz
Input Current	115VAC				1100	mA
	230VAC				700	
Inrush Current	115VAC				40	A
	230VAC				60	
Leakage Current	240VAC				75	uA
Hot Plug			Unavailable			
OUTPUT SPECIFICATIONS						
Output Voltage			See Table			
Voltage Accuracy	0%-100% Load	3.3/5V Output		±2		%
		Other Outputs		±1		
Line Regulation	Rated Load	3.3/5V Output		±0.8		%
		Other Outputs		±0.5		
Load Regulation	230VAC			±1		%
Output Power			See Table			
Output Current			See Table			
Minimum Load			0			%
Maximum Capacitive Load			See Table			
Ripple & Noise[2]	20MHz BW (peak-to-peak value)	3.3V/5V/12V/15V Output		75	100	mV
		24V Output		80	120	
		36V/48V Output		100	150	
Stand-By Power Consumption				0.2	0.3	W
Hold-Up Time	115VAC Input		13	22		ms
	230VAC Input		65	100		
Temperature Coefficient				±0.02		%/°C

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
PROTECTION							
Short Circuit Protection	Hiccup, Continuous				Self-Recovery		
Over Current Protection	Self-Recovery				≥120		%Io
Over Voltage Protection	Output voltage hiccup	3.3VDC Output			≤5.25		VDC
		5VDC Output			≤7		
		12VDC Output			≤16		
		15VDC Output			≤22		
		24VDC Output			≤32.4		
		36VDC Output			≤42.4		
		48VDC Output			≤57		
ENVIRONMENTAL SPECIFICATIONS							
Operating Temperature				-40		+85	°C
Storage Temperature				-40		+85	°C
Storage Humidity						90	%RH
Altitude						5000	m
Power Derating	-40°C to -25°C			1.20			%/°C
	+50°C to 70°C			2.50			
	+70°C to +85°C			1.34			
	80VAC-100VAC			1.00			%/VAC
	2000m-5000m			5.00			%/Km
Safety Distance	Clearance			7.6			mm
	Creepage			8			
MTBF	MIL-HDBK-217F, 25°C			300,000			Hours
GENERAL SPECIFICATIONS							
Efficiency	@230VAC				See Table		
Isolation	Electric Strength Test for 1min. Leakage Current <5mA	Input-Output		4000			VAC
		Enclosed Case	Input-Shell	2500			
			Output-Shell	2500			
Isolation Resistance	Input-Output, 500VDC				≥100x10^6		Ω
PHYSICAL SPECIFICATIONS							
Weight	Standard Case				3.35oz (95g)		
	Enclosed Case (“C” Suffix)				5.29oz (150g)		
Dimensions (L x W x H)	Standard Case				3in x 2in x 1.04in (76.20mm x 50.80mm x 26.50mm)		
	Enclosed Case (“C” Suffix)				3.6in x 2.38in x 1.31in (91.4mm x 60.5mm x 33.3mm)		
Cooling Method					Free Air Convection		
SAFETY CHARACTERISTICS							
Safety Standard	Report				EN62368-1, EN60601, UL60601[3]		
	Design Refers to[4]				ES60601-1 (3.1 version), IEC60601-1, CAN/CSA 22.2 No. 60601-1:14 Edition 3, EN60601-1-2 Edition 4, UL/IEC62368-1, EN60335-1, EN61558-1, GB4943.1		
Safety Class					Class II		
Emissions	CE	CISPR32/EN55032/EN55011			Class B		
	RE	CISPR32/EN55032/EN55011			Class B		
Immunity	ESD	IEC/EN61000-4-2	Contact ±8KV/Air±15kV		Perf. Criteria A		
	RS	IEC/EN61000-4-3	20V/m		Perf. Criteria A		
	EFT	IEC/EN61000-4-4	±2KV		Perf. Criteria A		
	Surge	IEC/EN61000-4-5	Line to Line ±2KV		Perf. Criteria A		
	CS	IEC/EN61000-4-6	20Vr.m.s		Perf. Criteria A		
	Voltage Dips, Short Interruption and Voltage Variations	IEC/EN61000-4-11	100% dip 1 period, 30% dip 25 periods, 100% interruptions 250 periods		Perf. Criteria B		

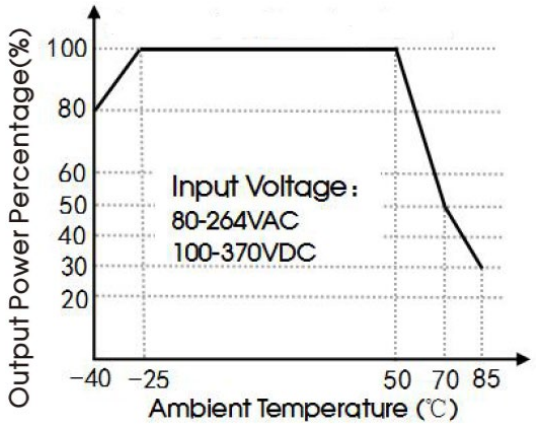
NOTES

1. Add “C” suffix to model number to indicate enclosed version. Ex: PSAMPS45-05SC
2. The ‘tip and barrel method’ is used for ripple and noise test. 3.3V, 5V, 12V, 15V with a 10uFceramic capacitor. 24V with a 1uF ceramic capacitor. 36V, 48V with a 0.1uF ceramic capacitor. Contact factory for more information.
3. This product is Listed to applicable standards and requirements by UL.
4. Models are designed to meet these standards, but have not reached approval at this time.
5. Customization service is available. Contact factory for more information.
6. This product is classified according to ISO14001 and related environmental laws and regulations and should be handled by qualified units.

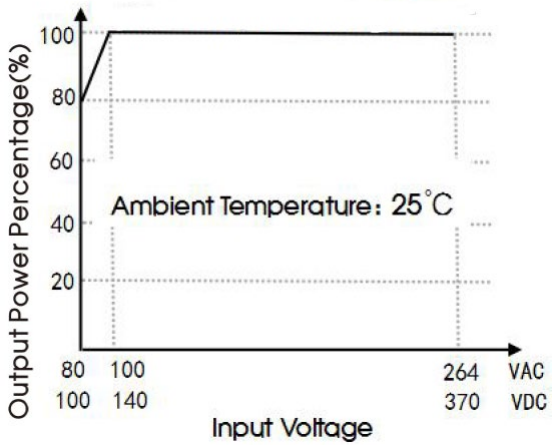
**Due to advances in technology, specifications subject to change without notice.*

DERATING CURVES

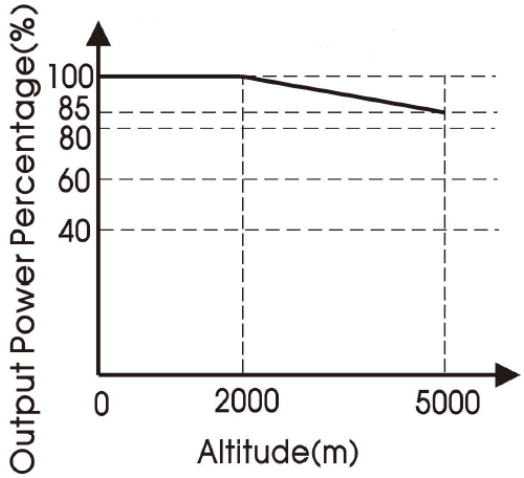
Temperature Derating Curve



Input Voltage Derating Curve



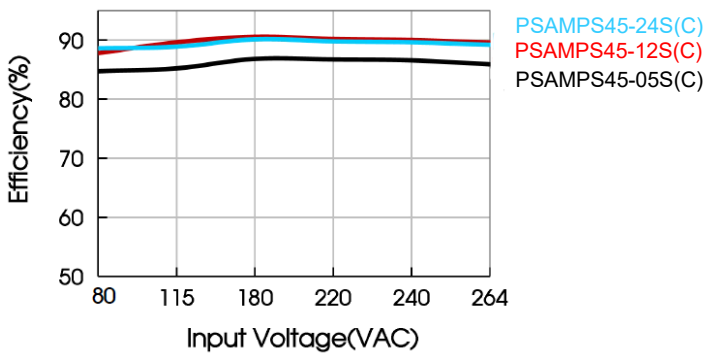
Altitude Derating Curve



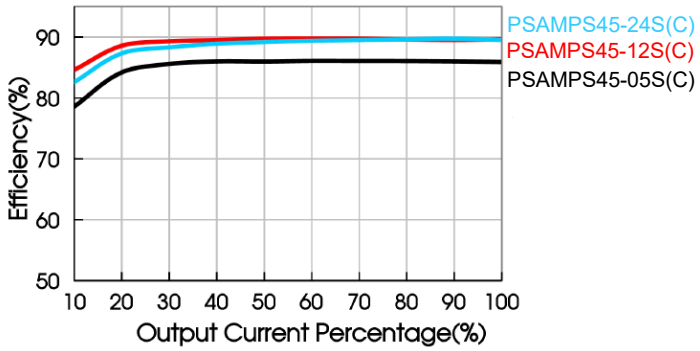
Note: 1. With an AC input between 80-100VAC and a DC input between 100-140VDC, the output power must be derated as per temperature derating curves
2. This product is suitable for applications using natural air cooling; for applications in closed environments, contact factory.

EFFICIENCY GRAPHS

Efficiency vs. Input Voltage (Full Load)

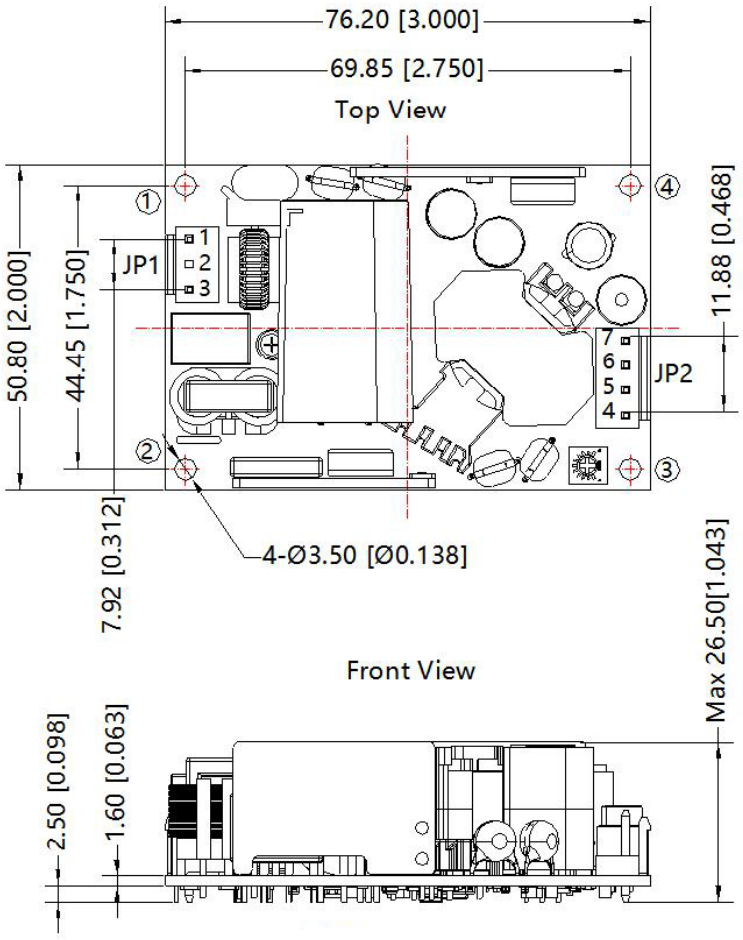


Efficiency vs. Output Load (Vin=230VAC)



MECHANICAL DRAWINGS

Standard Model

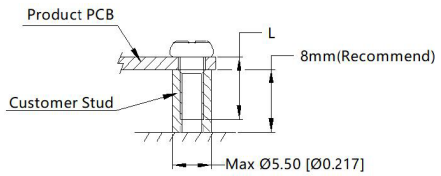


THIRD ANGLE PROJECTION

Pin-Out

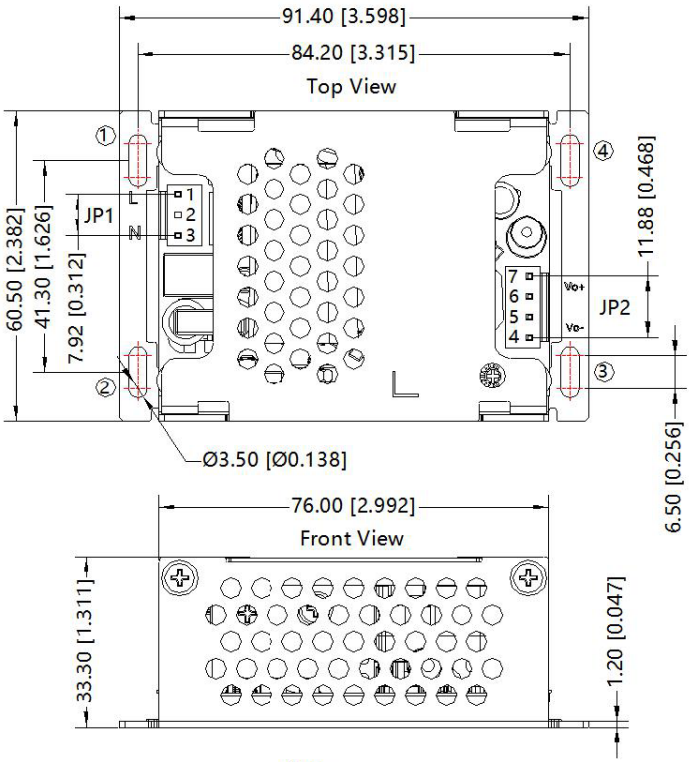
Connectors	Pin	Mark	Client Connectors
JP1	1	AC (L)	Housing: JST VHR Contact: JSTSVH-21T-P1.1 or equivalent
	2	No Pin	
	3	AC (N)	
JP2	4	-Vo	Housing: JST VHR Contact: JSTSVH-21T-P1.1 or equivalent
	5	-Vo	
	6	+Vo	
	7	+Vo	

Position	Screw Spec.	L(Recommended)	Torque(max.)
①-④	M3	6mm	0.4N·



Note:
Unit: mm [inch]
General Tolerances: ±0.50 [±0.020]
The layout of the device is for reference only, please refer to the actual product.

Enclosed Model (“C” Suffix)

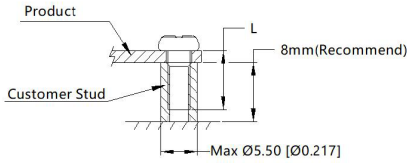


THIRD ANGLE PROJECTION

Pin-Out

Connectors	Pin	Mark	Client Connectors
JP1	1	AC (L)	Housing: JST VHR Contact: JSTSVH-21T-P1.1 or equivalent
	2	No Pin	
	3	AC (N)	
JP2	4	-Vo	Housing: JST VHR Contact: JSTSVH-21T-P1.1 or equivalent
	5	-Vo	
	6	+Vo	
	7	+Vo	

Position	Screw Spec.	L(Recommended)	Torque(max.)
①-④	M3	6mm	0.4N·m



Note:
Unit: mm [inch]
General Tolerances: ±0.50 [±0.020]
The layout of the device is for reference only, please refer to the actual product.

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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