

E199779 LEVEL3

Size:
2.17 x 1.77 x 0.81 inches
55.0 x 45.0 x 20.5 mm

Weight:
2.82oz (80g)

FEATURES

- RoHS Compliant
- Isolation Class II
- 4000VAC I/O Isolation
- 15 Watts Output Power
- High Efficiency up to 83%
- Fully Encapsulated Plastic Case
- < 0.3W No Load Input Power
- 5V, 12V, 15V, and 24V Single Output Models
- PCB Mountable Switching Power Supply
- -40°C to +70°C Operating Temperature Range
- Universal Input Voltage Range: 90-264VAC (120-370VDC)
- Short Circuit, Over Power, and Over Voltage Protection
- Screw Terminal Mechanical Options Available
- UL/cUL, CE, and CB Safety Approvals

DESCRIPTION

The PSAPCN series of AC/DC power supplies provides 15 watts of output power in a 2.17" x 1.77" x 0.81" encapsulated PCB mountable package. This series consists of 5V, 12V, 15V, and 24V single output models with a universal input range of 90-264VAC (120-370VDC). Some features include low ripple and noise, -40°C to +70°C operating temperature range, and 4000VAC I/O isolation. This series is also protected against over power, over voltage, and short circuit conditions. The PSAPCN series has two types of screw terminal mechanical options available. All models are RoHS compliant and have UL/cUL, CE, and CB safety approvals.

MODEL SELECTION TABLE

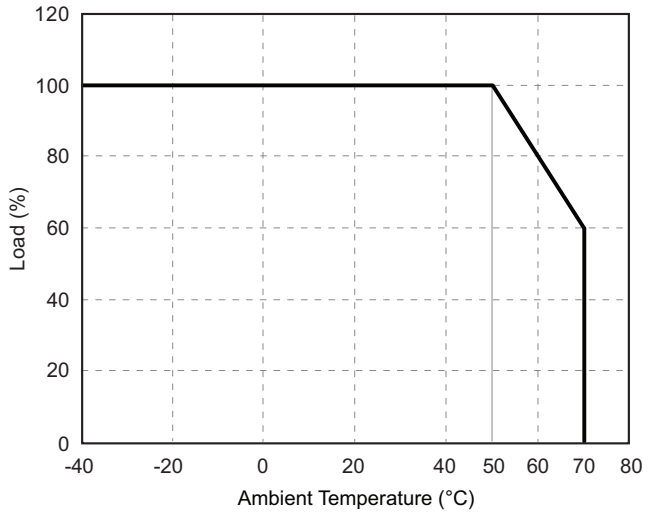
Model Number	Input Voltage	Output Voltage	Output Current		Ripple & Noise	Output Power	Efficiency	Maximum Capacitive Load
			Min Load	Max Load				
PSAPCN-5S	90~264 VAC (120~370 VDC)	5 VDC	0%	3000mA	100mVp-p	15W	78%	1100µF
PSAPCN-12S		12 VDC	0%	1250mA	120mVp-p	15W	83%	200µF
PSAPCN-15S		15 VDC	0%	1000mA	200mVp-p	15W	82%	200µF
PSAPCN-24S		24 VDC	0%	625mA	200mVp-p	15W	83%	47µF

NOTES

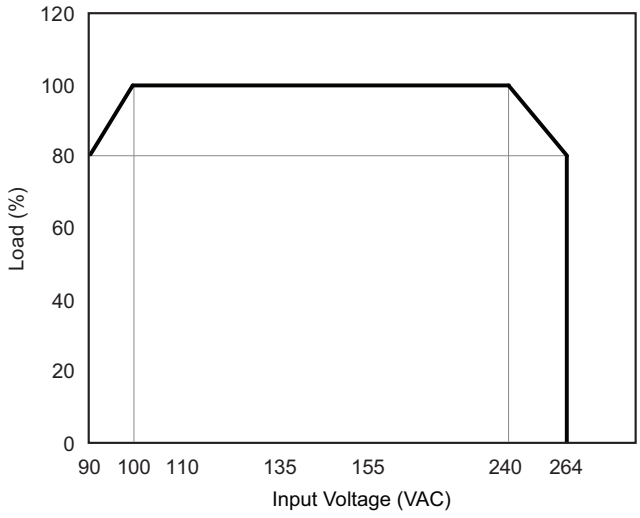
1. Screw terminal mechanical options available (see page 5). Please call factory for ordering details.

DERATING

Ambient Temperature vs Load



Input Voltage vs Load



TECHNICAL SPECIFICATIONS: PSAPCN SERIES

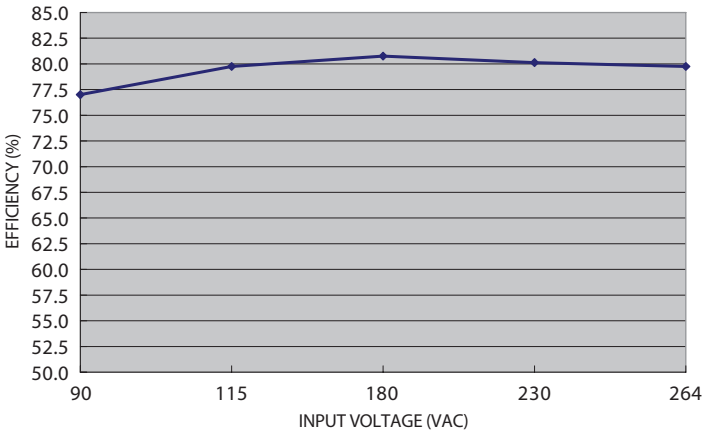
All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted.
We reserve the right to change specifications based on technological advances.

SPECIFICATION	TEST CONDITIONS	Min	Typ	Max	Unit
INPUT SPECIFICATIONS					
Input Voltage	AC input voltage range	90		264	VAC
	DC input voltage range	120		370	VDC
Input Frequency			50/60		Hz
Input Current	At 115VAC and full load			315	mA
	At 230VAC and full load			195	
Inrush Current	At 115VAC and cold start			15	A
	At 230VAC and cold start			30	
No Load Input Power				0.3	W
External Fuse (recommended)		1.5A slow blow type			
OUTPUT SPECIFICATIONS					
Output Voltage		See Table			
Voltage Accuracy		-2		+2	%
Line Regulation	Low Line to High Line	-0.5		+0.5	%
Load Regulation	10% - 100% full load	-1		+1	%
Output Power				15	W
Output Current		See Table			
Minimum Load		0			%
Ripple & Noise (20MHz BW)	Measured with 0.1µF and 47µF capacitors in parallel	See Table			
Max Capacitive Load	At 100~240VAC	See Table			
Temperature Coefficient		-0.02		+0.02	%/°C
PROTECTION					
Short Circuit Protection		Hiccup mode, indefinite (auto-recovery)			
Over Voltage Protection		Zener diode clamp			
Over Power Protection		Hiccup technique, auto-recovery			
GENERAL SPECIFICATIONS					
Efficiency	Avg. efficiency at 230VAC and 25%, 50%, 75%, and 100% loads	See Table			
Isolation Voltage (Input to Output)		4000			VAC
Leakage Current	At < 240VAC			0.25	mA
ENVIRONMENTAL SPECIFICATIONS					
Operating Temperature	With derating (see derating curve)	-40		+70	°C
Storage Temperature		-40		+85	°C
Humidity				95	% RH
Cooling		Free air convection			
MTBF	25°C (MIL-HDBK-217F)	300,000			hours
PHYSICAL SPECIFICATIONS					
Weight		2.82oz (80g)			
Case Material	Flammability to UL 94V-0	Plastic resin with fiberglass			
Dimensions (L x W x H)		2.17 x 1.77 x 0.81 in (55.0 x 45.0 x 20.5 mm)			
SAFETY & EMC					
Safety Approvals		UL/cUL, CE, CB			
EMC	EMI (Conducted and Radiated Emissions)	EN 55022 class B			
	EMS (Noise Immunity)	EN 55024			

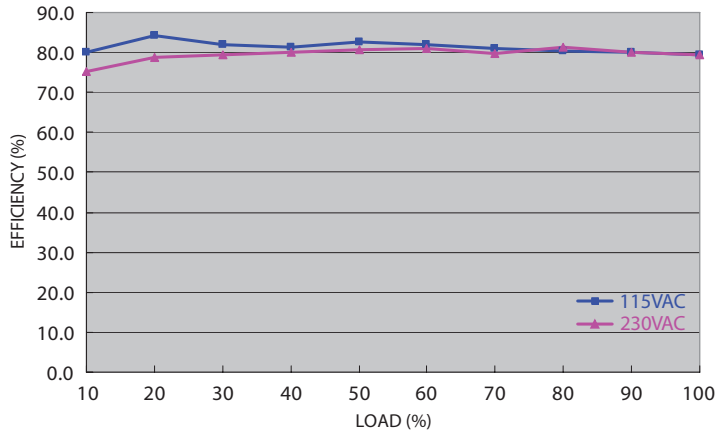
EFFICIENCY VS LOAD CURVES

PSAPCN-5S

Input Voltage vs Efficiency

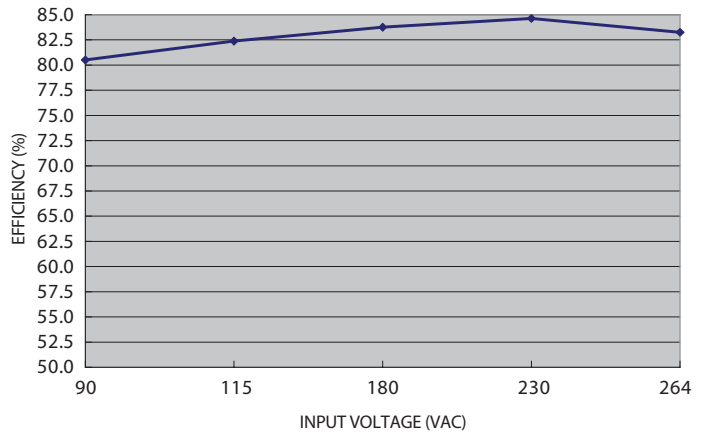


Load vs Efficiency

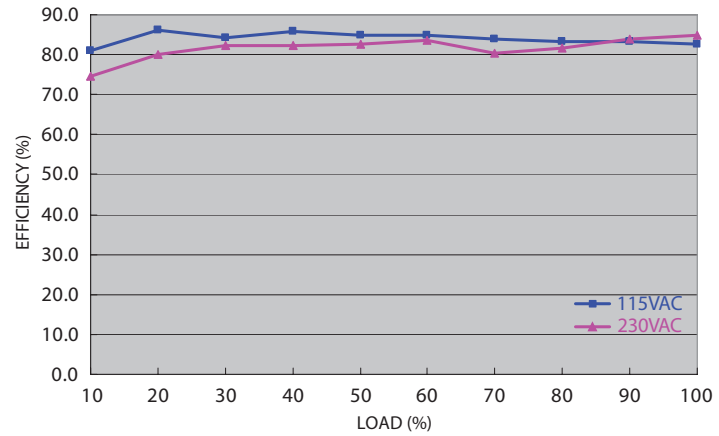


PSAPCN-12S

Input Voltage vs Efficiency

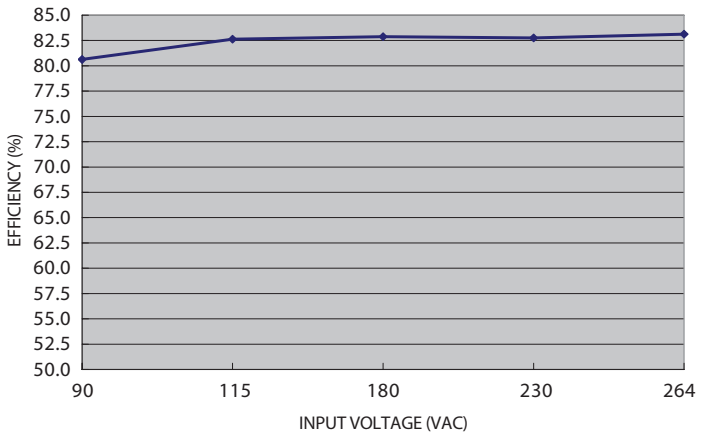


Load vs Efficiency

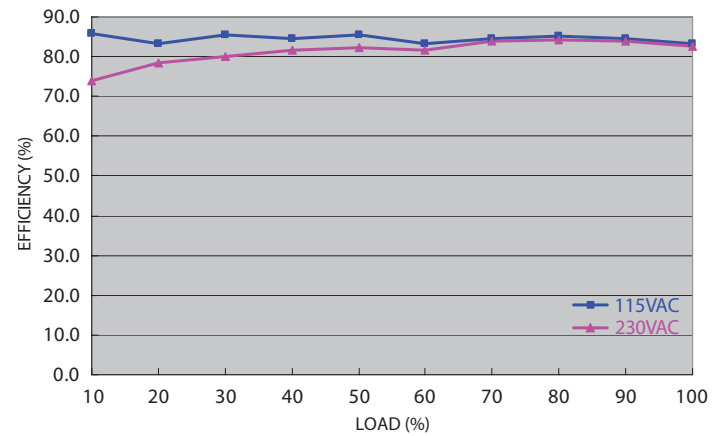


PSAPCN-15S

Input Voltage vs Efficiency

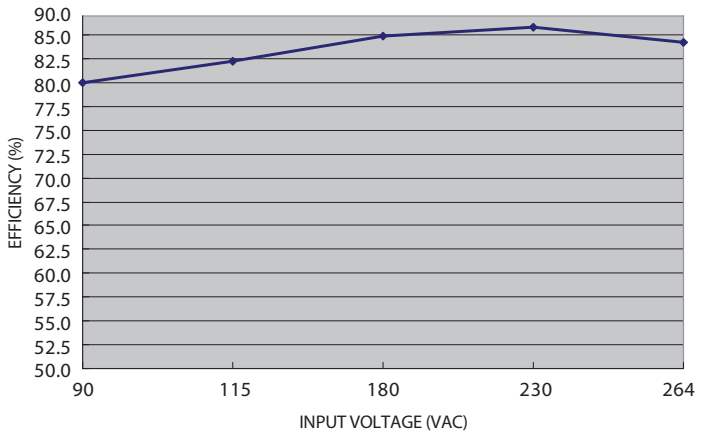


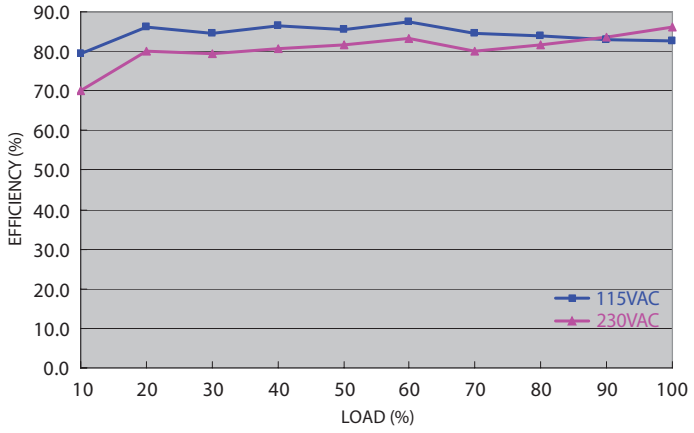
Load vs Efficiency



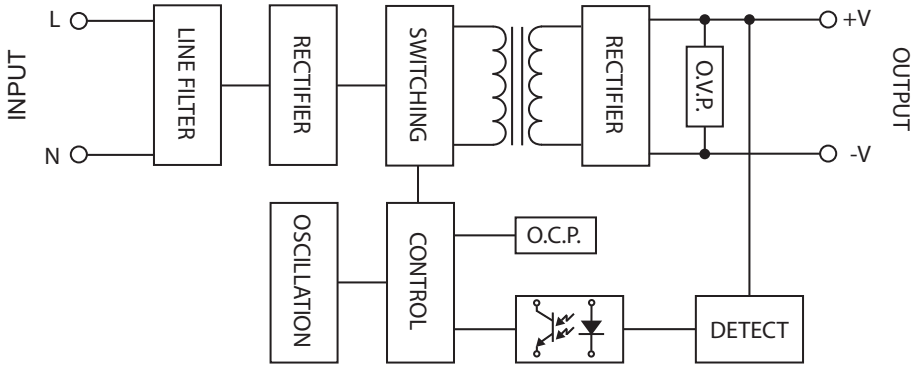
EFFICIENCY VS LOAD CURVES

PSAPCN-24S

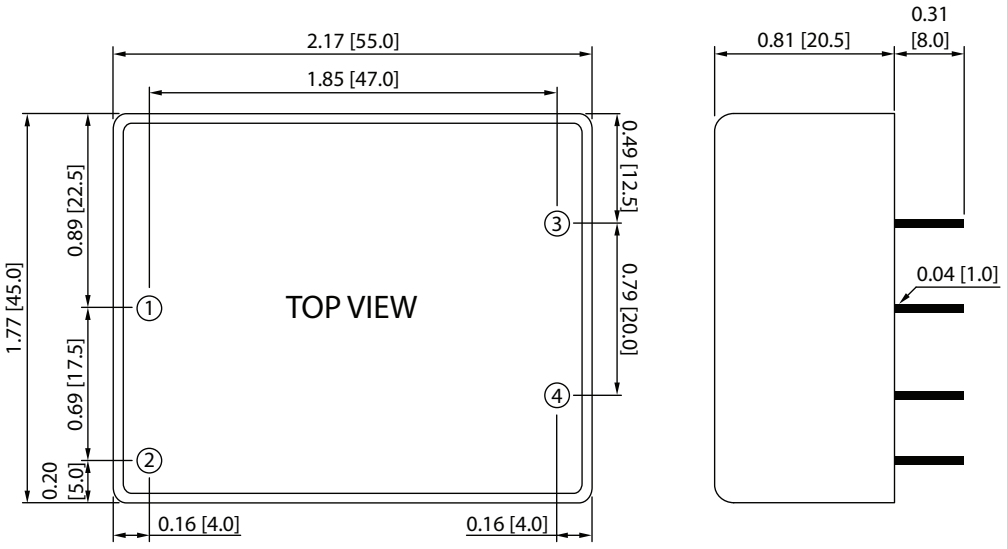




BLOCK DIAGRAM



MECHANICAL DRAWING



PIN CONNECTIONS	
PIN	ASSIGNMENT
1	AC IN (N)
2	AC IN (L)
3	-DC OUT
4	+DC OUT

Notes
1. Unit: inches [mm]
2. Tolerance: ±0.02" [±0.5mm]
3. Weight: 2.82oz (80g)
4. Case Material: Plastic resin with fiberglass
5. All dimensions are for reference only

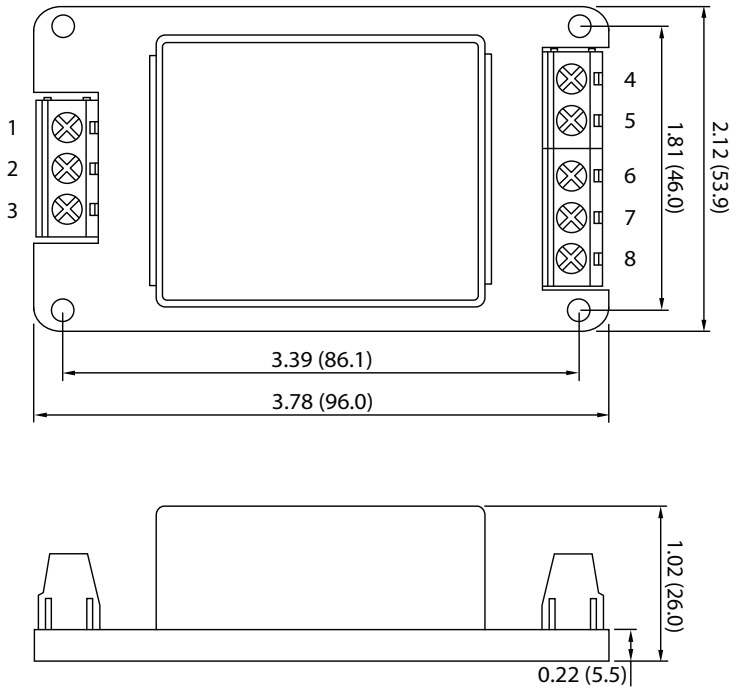
SCREW TERMINAL OPTIONS

PSAPCN-A2



PIN CONNECTIONS	
PIN	ASSIGNMENT
1	NO CONNECT
2	AC IN (N)
3	AC IN (L)
4	NO CONNECT
5	-DC OUT
6	NO CONNECT
7	+DC OUT
8	NO CONNECT

Unit: inches (mm)

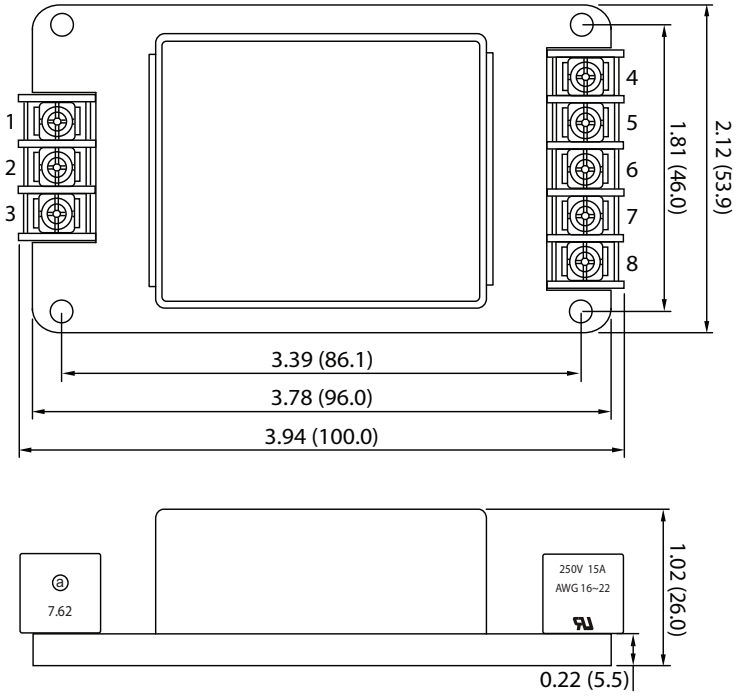


PSAPCN-A5



PIN CONNECTIONS	
PIN	ASSIGNMENT
1	NO CONNECT
2	AC IN (N)
3	AC IN (L)
4	NO CONNECT
5	-DC OUT
6	NO CONNECT
7	+DC OUT
8	NO CONNECT

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.

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