



**Size:**  
2.53 x 1.78 x 0.85 inches  
64.3 x 45.1 x 21.7 mm

## FEATURES

- RoHS Compliant
- Isolation Class II
- 4000VAC I/O Isolation
- 15 Watts Output Power
- High Efficiency up to 82%
- 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
- UL/cUL and CE Safety Approvals

## DESCRIPTION

The PSATCN series of AC/DC power supplies provides 15 watts of output power in a 2.53" x 1.78" x 0.85" 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. All models are RoHS compliant and have UL/cUL and CE 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				
PSATCN-5S	90~264 VAC (120~370 VDC)	5 VDC	0%	3000mA	100mVp-p	15W	78%	1100µF
PSATCN-12S		12 VDC	0%	1250mA	120mVp-p	15W	82%	200µF
PSATCN-15S		15 VDC	0%	1000mA	200mVp-p	15W	81%	200µF
PSATCN-24S		24 VDC	0%	625mA	240mVp-p	15W	82%	47µF

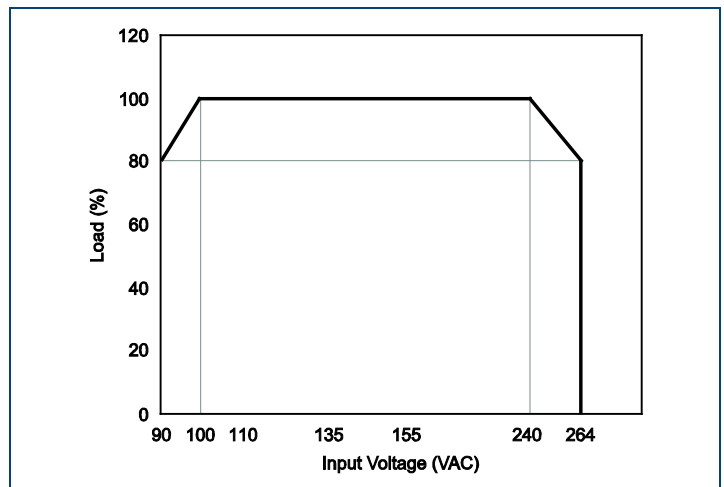
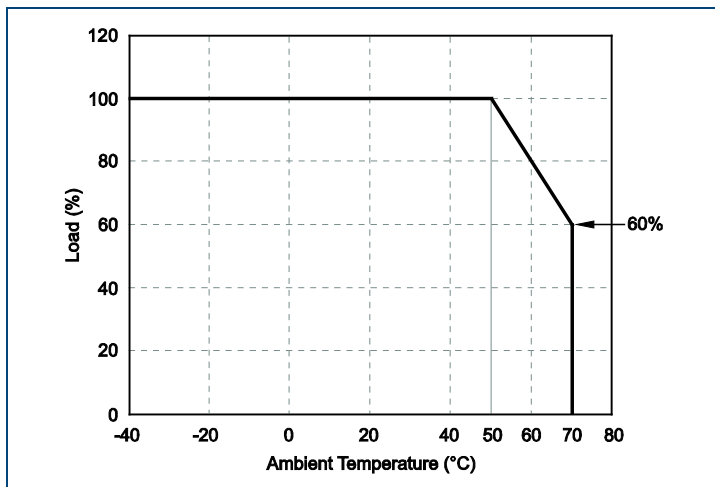
### NOTES

1. Ripple & Noise are measured at 20MHz of bandwidth with 0.1µF & 47µF parallel capacitor.

2.. It's necessary to add Varistor 14S471K at L/N input side in parallel.

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

## DERATING

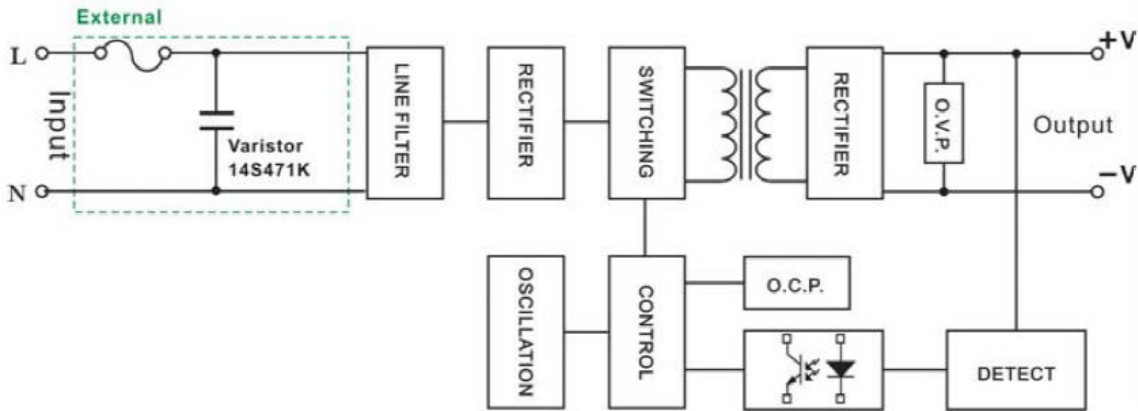


**SPECIFICATIONS: PSATCN SERIES**

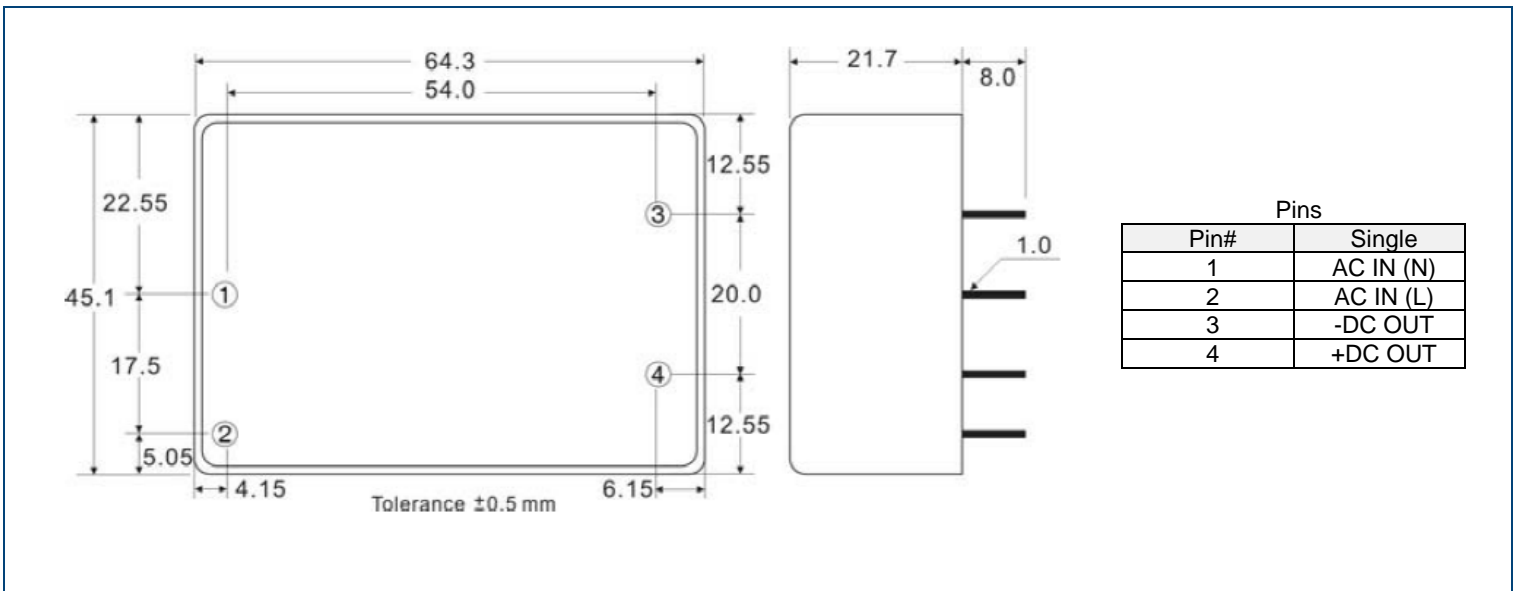
All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted.  
We reserve the right to change specifications based on technological advances.

SPECIFICATION	TEST CONDITIONS	Min	Typ	Max	Unit
<b>INPUT SPECIFICATIONS</b>					
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			
<b>OUTPUT SPECIFICATIONS</b>					
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
<b>PROTECTION</b>					
Short Circuit Protection		Hiccup mode, indefinite (auto-recovery)			
Over Voltage Protection		Zener diode clamp			
Over Power Protection		Hiccup technique, auto-recovery			
<b>GENERAL SPECIFICATIONS</b>					
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
<b>ENVIRONMENTAL SPECIFICATIONS</b>					
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)	450,000			hours
<b>PHYSICAL SPECIFICATIONS</b>					
Weight		3.25oz (92g)			
Case Material		Plastic resin (Flammability to UL 94V-0)			
Dimensions (L x W x H)		2.53 x 1.78 x 0.85 inches (64.3 x 45.1 x 21.7 mm)			
<b>SAFETY &amp; EMC</b>					
Safety Approvals		UL/cUL, CE			
EMC	EMI (Conducted and Radiated Emissions)	EN 55022 class B			
	EMS (Noise Immunity)	EN 55024			

**BLOCK DIAGRAM**



**MECHANICAL DRAWING**

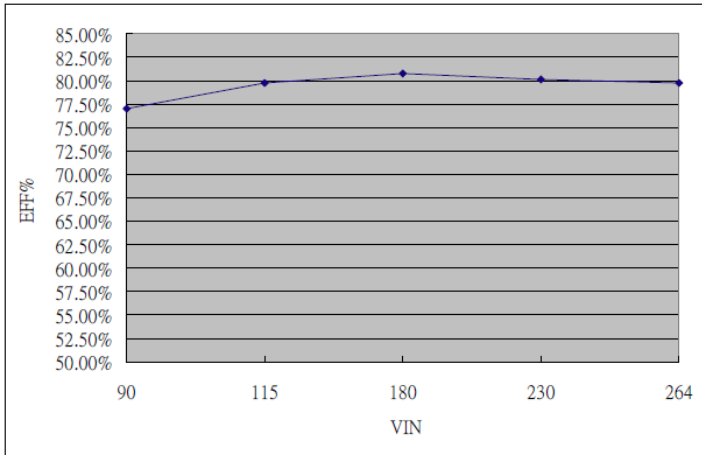


**EFFICIENCY VS LOAD CURVES**

**PSATCN-5S**

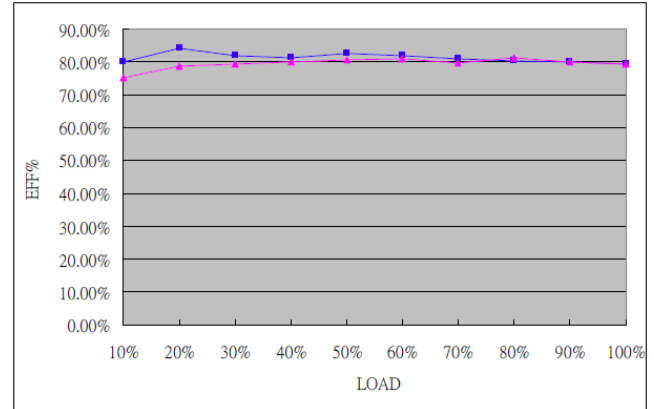
Input Voltage vs Efficiency

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	77.0	79.8	80.8	80.1	79.8



Load vs Efficiency

Load (%)	10	20	30	40	50
115V (%)	80.0	84.2	81.9	81.4	82.7
230V (%)	75.1	78.8	79.6	79.9	80.8
Load (%)	60	70	80	90	100
115V (%)	82.1	80.9	80.3	80.2	79.4
230V (%)	81.1	79.7	81.4	80.1	79.3

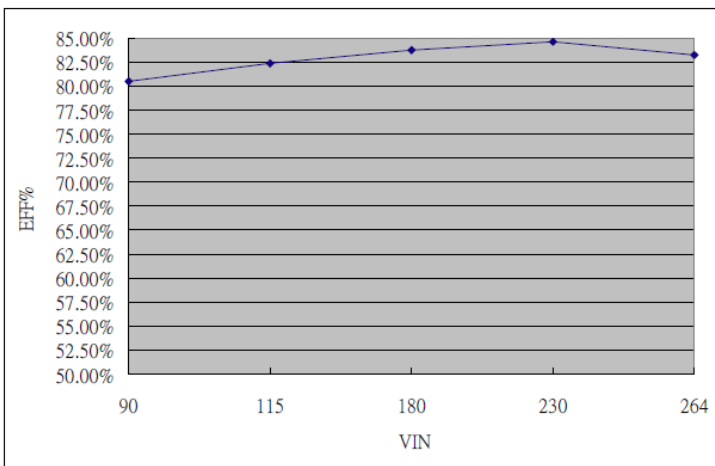


**EFFICIENCY VS LOAD CURVES**

**PSATCN-12S**

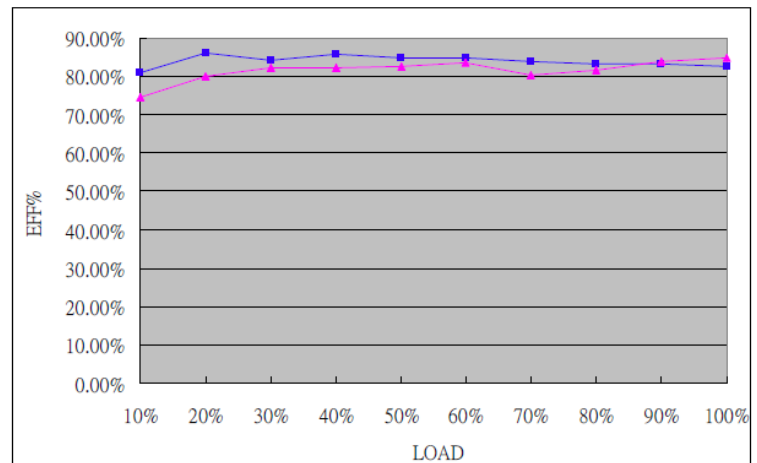
Input Voltage vs Efficiency

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	80.5	82.4	83.7	84.6	83.3



Load vs Efficiency

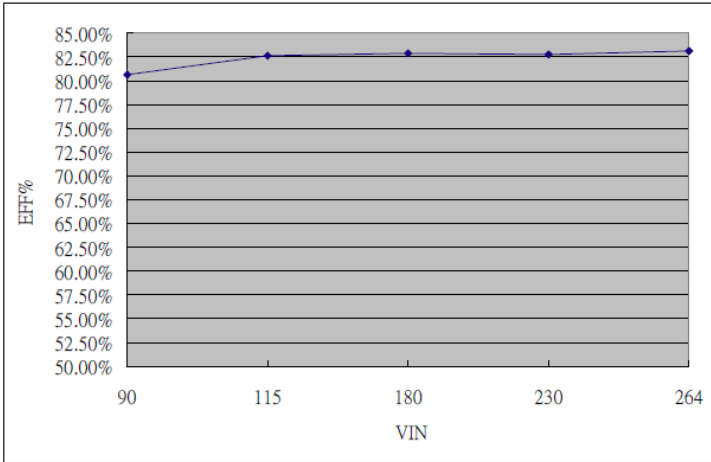
Load (%)	10	20	30	40	50
115V (%)	81.1	86.1	84.2	85.9	85.0
230V (%)	74.5	80.0	82.4	82.3	82.6
Load (%)	60	70	80	90	100
115V (%)	85.0	83.9	83.1	83.3	82.6
230V (%)	83.6	80.2	81.7	83.8	84.8



**PSATCN-15S**

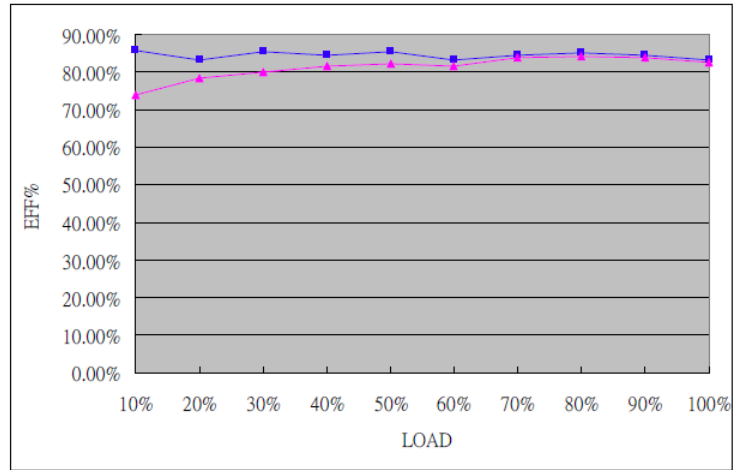
Input Voltage vs Efficiency

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	80.6	82.6	82.9	82.7	83.1



Load vs Efficiency

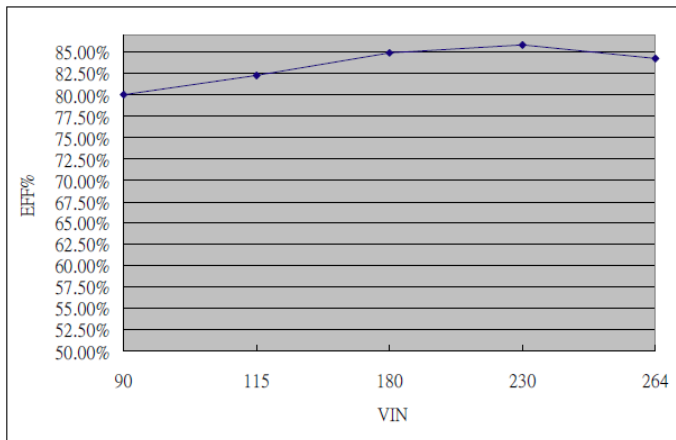
Load (%)	10	20	30	40	50
115V (%)	85.9	83.3	85.7	84.7	85.4
230V (%)	74.0	78.5	79.9	81.7	82.3
Load (%)	60	70	80	90	100
115V (%)	83.4	84.5	85.1	84.6	83.2
230V (%)	81.7	84.0	84.3	84.0	82.6



**PSATCN-24S**

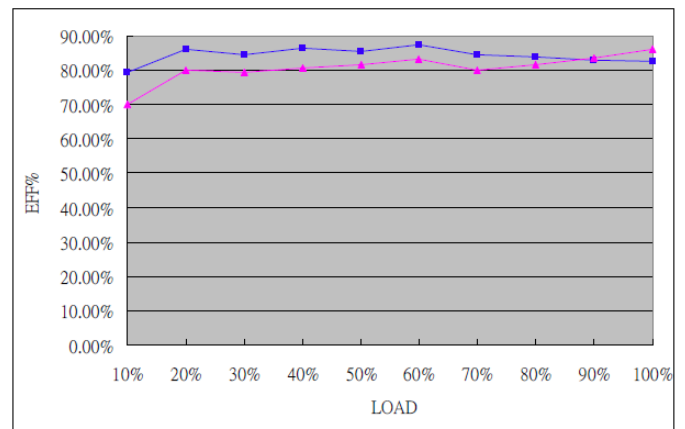
Input Voltage vs Efficiency

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	79.9	82.3	84.9	85.8	84.2



Load vs Efficiency

Load (%)	10	20	30	40	50
115V (%)	79.5	86.3	84.6	86.5	85.4
230V (%)	70.1	80.0	79.5	80.7	81.7
Load (%)	60	70	80	90	100
115V (%)	87.3	84.6	83.8	83.0	82.7
230V (%)	83.2	80.0	81.6	83.7	86.3



## COMPANY INFORMATION

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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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