



Size:  
1.44 x 1.06 x 0.67 inches  
36.5 x 27.0 x 17.1 mm

### FEATURES

- RoHS Compliant
- Isolation Class II
- Up to 4 Watts Output Power
- Low Ripple and Noise
- Single and Dual Outputs
- UL/cUL, CE, and CB Approvals
- PCB Mountable Switching Power Supply
- Fully Encapsulated Plastic Case
- -40°C to +70°C Operating Temperature Range
- Universal Input Voltage Range: 90-264VAC (120-370VDC)
- Short Circuit, Over Power, and Over Voltage Protection
- < 0.3W No Load Input Power

### DESCRIPTION

The PSAOC series of AC/DC switching power supplies provides up to 4 watts of output power in a 1.44" x 1.06" x 0.67" encapsulated PCB mountable package. This series consists of single and dual 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 over power, over voltage, and short circuit protection. All models are RoHS compliant and have UL/cUL, CE, and CB safety approvals.

### MODEL SELECTION TABLE

#### SINGLE OUTPUT MODELS

Model Number	Input Voltage	Output Voltage	Output Current		Ripple & Noise <sup>(2)</sup>	Line Regulation	Load Regulation (0% - 100%)	Output Power	Efficiency	Maximum Capacitive Load
			Min Load	Max Load						
PSAOC-3.3S	90~264 VAC (120~370 VDC)	3.3 VDC	0mA	1200mA	250mVp-p	±0.2%	±1%	3.96W	68%	14,000µF
PSAOC-5S		5 VDC	0mA	800mA	200mVp-p	±0.2%	±0.5%	4W	72%	8,000µF
PSAOC-8S		8 VDC	0mA	500mA	150mVp-p	±0.2%	±0.5%	4W	74%	2700µF
PSAOC-9S		9 VDC	0mA	444mA	100mVp-p	±0.2%	±0.5%	4W	75%	2400µF
PSAOC-12S		12 VDC	0mA	333mA	100mVp-p	±0.2%	±0.5%	4W	76%	1000µF
PSAOC-14S		14 VDC	0mA	286mA	100mVp-p	±0.2%	±0.5%	4W	76%	750µF
PSAOC-15S		15 VDC	0mA	267mA	100mVp-p	±0.2%	±0.5%	4W	76%	700µF
PSAOC-24S		24 VDC	0mA	167mA	100mVp-p	±0.2%	±0.5%	4W	77%	220µF

#### DUAL OUTPUT MODELS

Model Number	Input Voltage	Output Voltage	Output Current		Ripple & Noise <sup>(2)</sup>	Line Regulation	Load Regulation (25% - 100%)	Output Power	Efficiency	Maximum Capacitive Load
			Min Load <sup>(1)</sup>	Max Load						
PSAOC-5S3.3S	90~264 VAC (120~370 VDC)	5 VDC	150mA	600mA	200mVp-p	±0.2%	±0.5%	3.5W	72%	5600µF
		3.3 VDC	37.5mA	150mA		±3%	±5%			4700µF
PSAOC-8S5S		8 VDC	93.8mA	375mA	150mVp-p	±0.2%	±0.5%	3.6W	74%	1000µF
		5 VDC	30mA	120mA		±3%	±5%			4700µF
PSAOC-12S5S		12 VDC	62.5mA	250mA	100mVp-p	±0.2%	±0.5%	3.6W	75%	330µF
		5 VDC	30mA	120mA		±3%	±5%			4700µF

#### NOTES

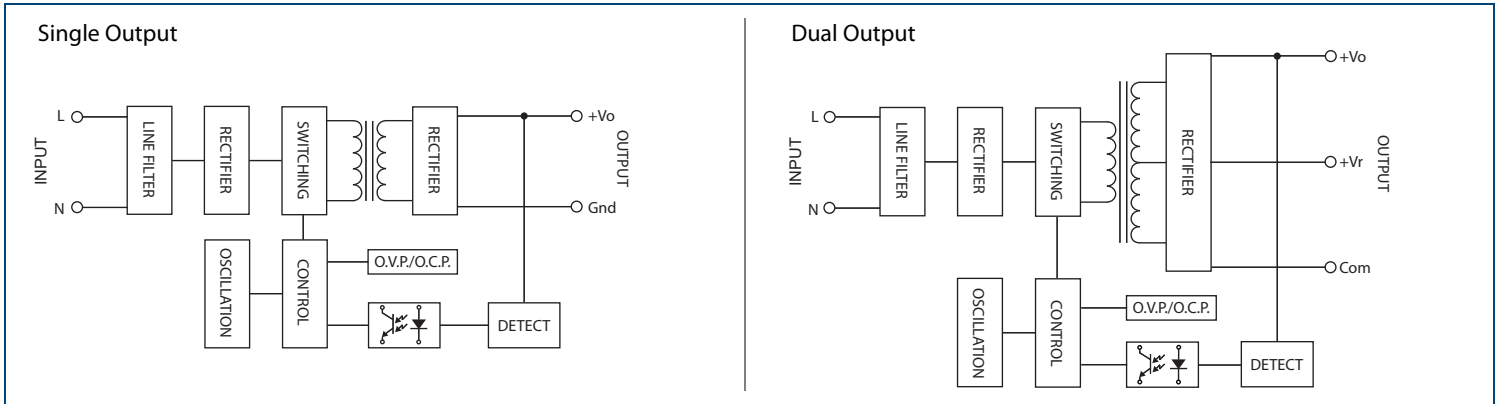
1. Dual output models require a minimum loading on the output to maintain specified regulations. Operation under no-load conditions will not damage these devices; however, they may not meet all listed specifications.
2. Ripple & Noise is measured 20MHz limited bandwidth and with 0.1µF and 47µF capacitors in parallel across the output.

**SPECIFICATIONS: PSAOC SERIES**

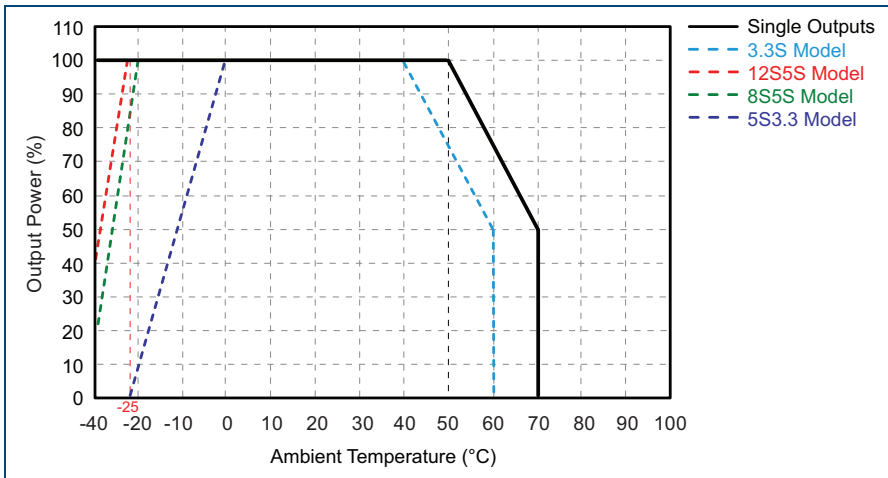
All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted.  
We reserve the right to change specifications based on technological advances.

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		47		440	Hz	
Input Current	At 115VAC and full load			95	mA	
	At 230VAC and full load			65		
Inrush Current (<500µs)	At 115VAC			15	A	
	At 230VAC			25		
External Fuse (recommended)		3.15A slow blow type				
<b>OUTPUT SPECIFICATIONS</b>						
Output Voltage		See Table				
Voltage Accuracy	Single Output Models	-2		+2	%	
	Dual Output Models	Vo:	-2		+2	%
		Vr:	-5		+5	
Line Regulation	Low Line to High Line	See Table				
Load Regulation		See Table				
Output Power		See Table				
Output Current		See Table				
Minimum Load	Single Output Models	0			%	
	Dual Output Models	25				
Ripple & Noise	Measured at 20MHz BW with 0.1µF and 47µF capacitors in parallel	See Table				
Max Capacitive Load		See Table				
Hold-Up Time		15			ms	
Temperature Coefficient			±0.02		%/°C	
<b>PROTECTION</b>						
Short Circuit Protection		Hiccup mode, indefinite (auto-recovery)				
Over Voltage Protection		Zener diode clamp				
Over Power Protection		Hiccup mode, auto-recovery				
<b>GENERAL SPECIFICATIONS</b>						
Efficiency		See Table				
Switching Frequency		124	132	140	KHz	
Isolation Voltage (Input to Output)		3000			VAC	
Leakage Current				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)	350,000			hours	
<b>PHYSICAL SPECIFICATIONS</b>						
Weight		0.92oz (26g)				
Case Material		Plastic resin + fiberglass (Flammability to UL 94V-0)				
Dimensions (L x W x H)		1.44 x 1.06 x 0.67 inches (36.5 x 27.0 x 17.1 mm)				
<b>SAFETY &amp; EMC</b>						
Safety Approvals		UL/cUL, CE, CB				
EMC	EMI (Conducted and Radiated Emissions)	EN 55022 Class B				
	EMS (Noise Immunity)	EN 55024				

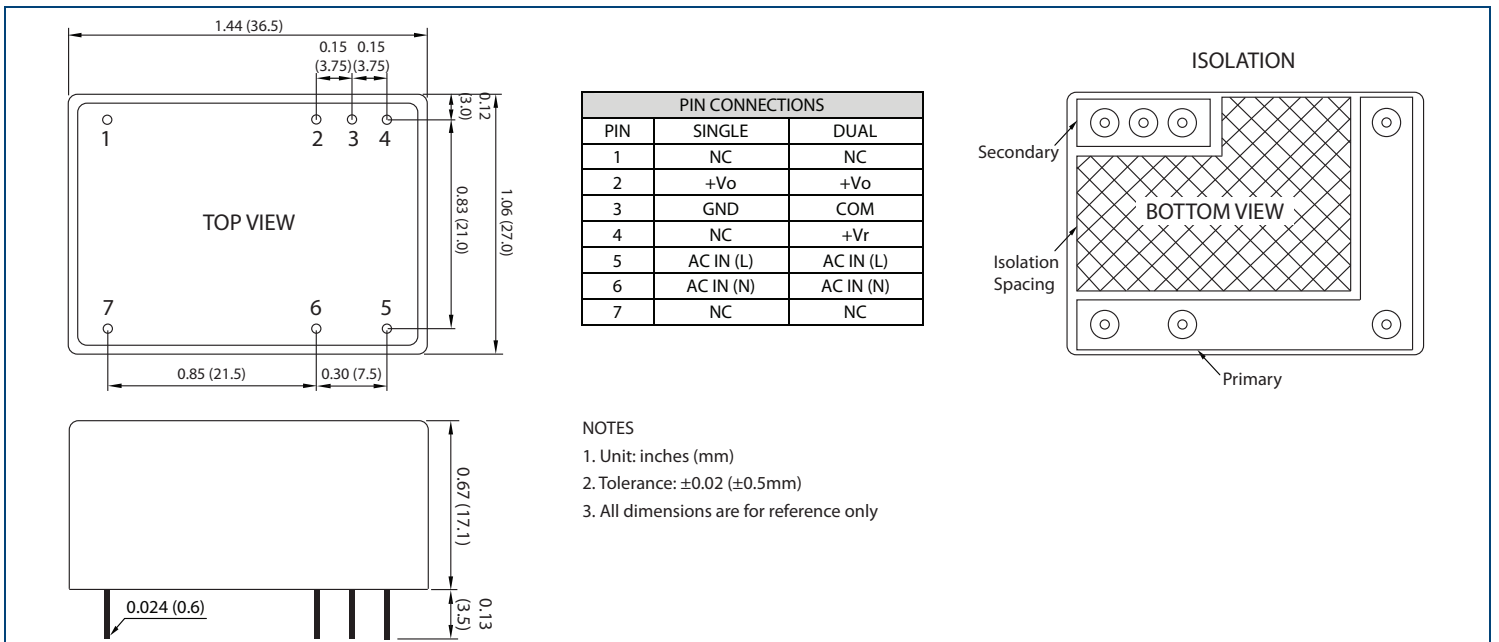
**BLOCK DIAGRAMS**



**DERATING CURVE**



**MECHANICAL DRAWING**



## 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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