



**Size:**  
2.06 x 1.07 x 0.93 inches  
52.4 x 27.2 x 23.5 mm

**Weight:**  
1.8oz (51g)

**FEATURES**

- Isolation Class II
- RoHS Compliant
- 10 Watts Output Power
- Regulated Single Outputs
- Low Ripple & Noise
- MTBF > 330,000 Hours
- Fully Encapsulated Plastic Case
- PCB Mountable Switching Power Supply
- -25°C to +70°C Operating Temperature Range
- Optional -40°C~+70°C Operating Temperature Range
- Universal Input Range: 90-264VAC (120-370VDC)
- Short Circuit, Over Power, & Over Voltage Protection
- UL/cUL, CE, and CB Safety Approvals
- Two Screw Terminal Mechanical Options Available

**DESCRIPTION**

The PSAFC series of AC/DC switching power supplies provides 10 Watts of output power in a 2.06" x 1.07" x 0.93" encapsulated PCB mountable package. This series consists of single output models with a universal input range of 90-264VAC (120-370VDC). Some features include low ripple and noise, -25°C to +70°C operating temperature range, and over power, over voltage, and short circuit protection. The PSAFC series also has two types of screw terminal mechanical options and an extended operating temperature option available. All models are RoHS compliant and have UL/cUL, CB, and CE safety approvals.

**MODEL SELECTION TABLE**

Model Number	Input Voltage Range	Output Voltage	Output Current		Output Power	Efficiency	Maximum Capacitive Load
			Min Load	Max Load			
PSAFC-3.3S	90~264 VAC (120~370 VDC)	3.3 VDC	0%	2500mA	8.25W	74%	75,000µF
PSAFC-5S		5 VDC	0%	2000mA	10W	79%	40,000µF
PSAFC-12S		12 VDC	0%	833mA	10W	82%	8500µF
PSAFC-15S		15 VDC	0%	667mA	10W	78%	3500µF
PSAFC-24S		24 VDC	0%	417mA	10W	80%	1200µF

**NOTES**

- For -40°C to +70°C extended operating temperature range please add the suffix -E1 to the model number (Ex: PSAFC-12S-E1).
- Screw terminal mechanical options available (see page 4). Please call factory for ordering details.

**MODEL NUMBER SETUP**

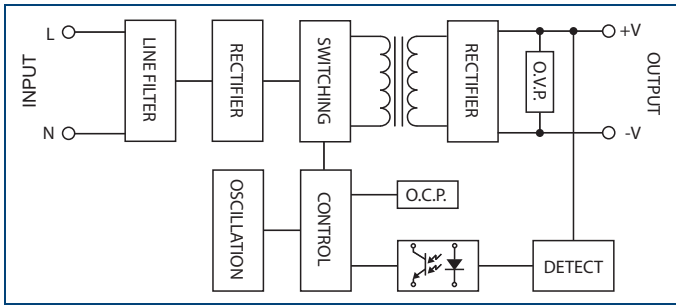
PSAFC	-	12	S	-	E1	A2
Series Name		Output Voltage	Output Quantity		Operating Temperature Options	Screw Terminal Options
		<b>3.3:</b> 3.3 VDC <b>5:</b> 5 VDC <b>12:</b> 12 VDC <b>15:</b> 15 VDC <b>24:</b> 24 VDC	<b>S:</b> Single Output		<b>None:</b> -25°C to +70°C Operating Temp. <b>E1:</b> -40°C to +70°C Operating Temp.	<b>None:</b> Encapsulated PCB Mount <b>A2:</b> See page 4 <b>A5:</b> See page 4

**SPECIFICATIONS: PSAFC SERIES**

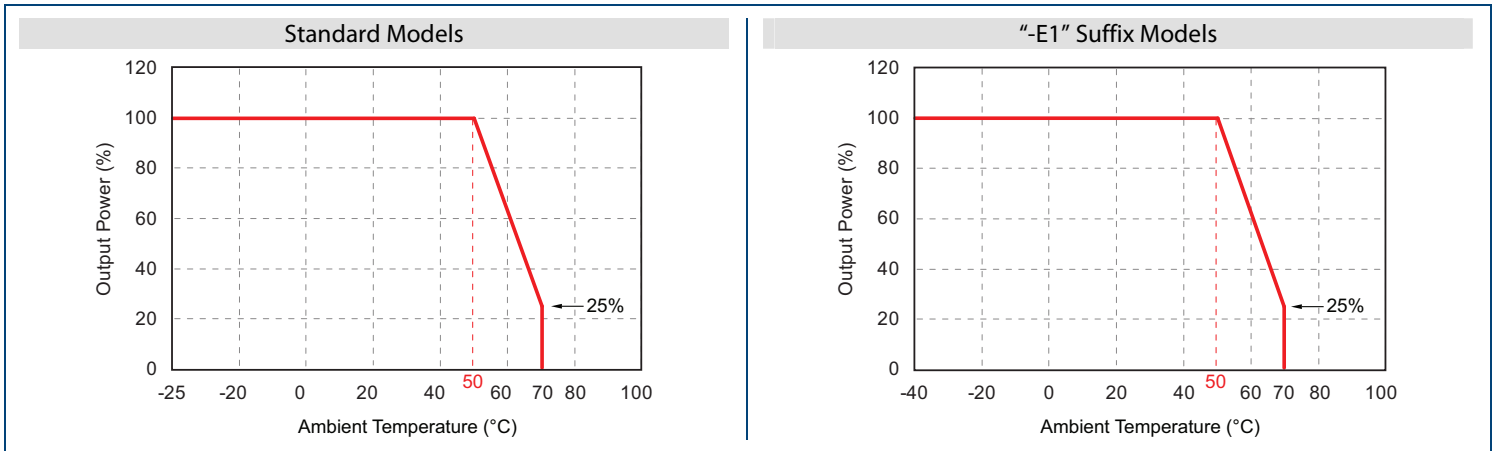
All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted.  
 We reserve the right to change specifications based on technological advances.

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			220	mA
	At 230VAC and full load			150	
Inrush Current (< 2ms)	Standard Models	At 115VAC		10	A
		At 230VAC		20	
	"-E1" Suffix Models	At 115VAC		23	A
		At 230VAC		46	
External Fuse (recommended)		2A slow blow type			
<b>OUTPUT SPECIFICATIONS</b>					
Output Voltage		See Table			
Voltage Accuracy		-2		+2	%
Line Regulation	Low line to high line	-0.3		+0.3	%
Load Regulation	10% - 100% load	-0.5		+0.5	%
Output Power		See Table			
Output Current		See Table			
Minimum Load		0			%
Ripple & Noise	Ripple	Measured at 20MHz BW and with a 47µF tantalum capacitor and a 0.1µF ceramic capacitor in parallel across the output.			Vp-p
	Noise				
		< 0.2% Vout + 40mV max			
		< 0.5% Vout +50mV max.			
Maximum Capacitive Load		See Table			
Hold-Up Time		15			ms
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		See Table			
Switching Frequency			125		KHz
Isolation Voltage	Input to Output	3000			VAC
Leakage Current				0.75	mA
<b>ENVIRONMENTAL SPECIFICATIONS</b>					
Operating Temperature	Standard Models	-25		+70	°C
	"-E1" Suffix Models	-40		+70	
Storage Temperature		-40		+85	°C
Humidity		20		85	% RH
Vibration		10-55Hz 0.5mm width / 1 minute cycle			
Shock		20G (3 directions each 3 times)			
Cooling		Free air convection			
MTBF	25°C (MIL-HDBK-217F)	330,000			hours
<b>PHYSICAL SPECIFICATIONS</b>					
Weight		1.8oz (51g)			
Case Material		Plastic resin with fiberglass (Flammability to UL 94V-0)			
Dimensions (L x W x H)		2.06 x 1.07 x 0.93 inches (52.4 x 27.2 x 23.5 mm)			
<b>SAFETY &amp; EMC</b>					
Safety Approvals		CE, UL/cUL, CE, CB			
EMC	EMI (Conducted and Radiated Emissions)	EN 55022 Class B			
	EMS (Noise Immunity)	EN 55024			

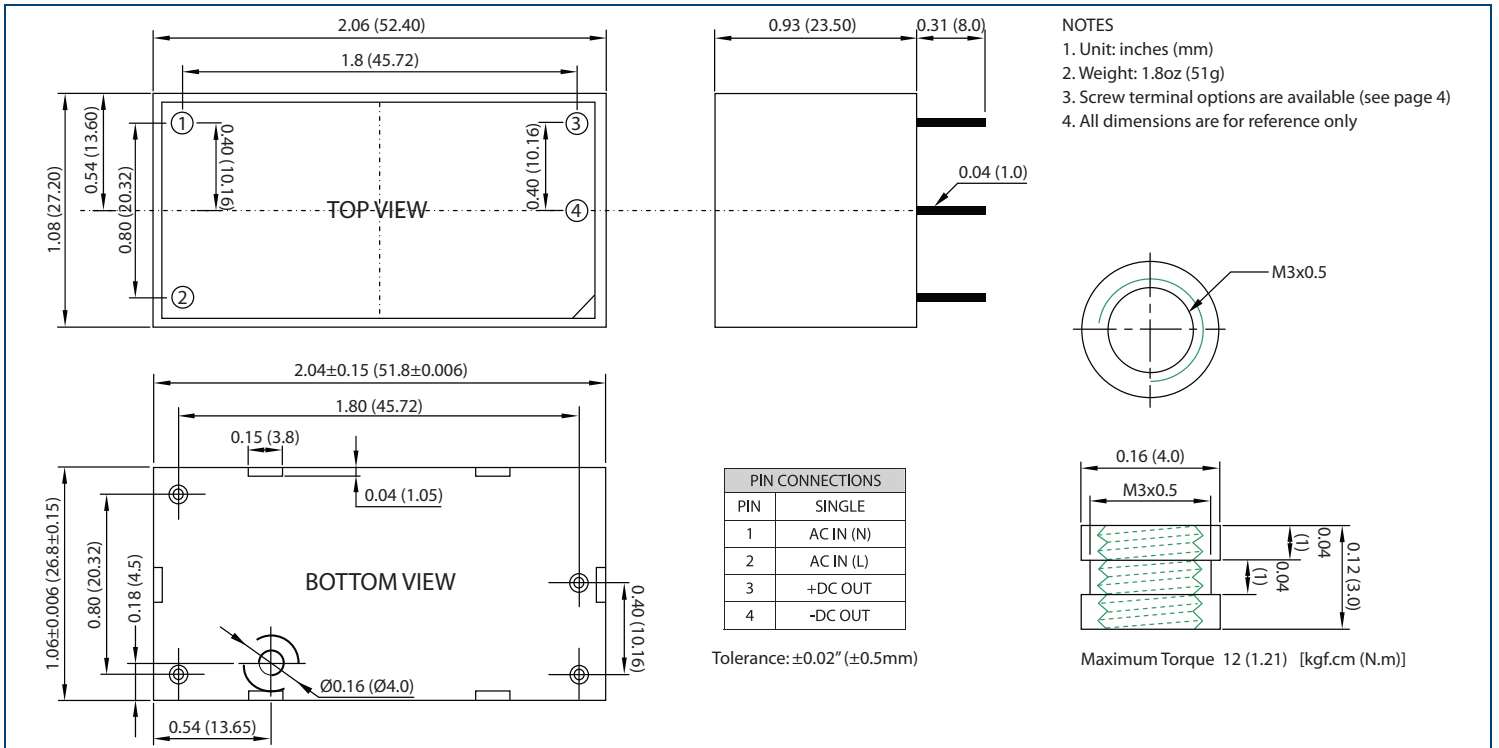
**BLOCK DIAGRAM**



**DERATING CURVES**



**MECHANICAL DRAWING**



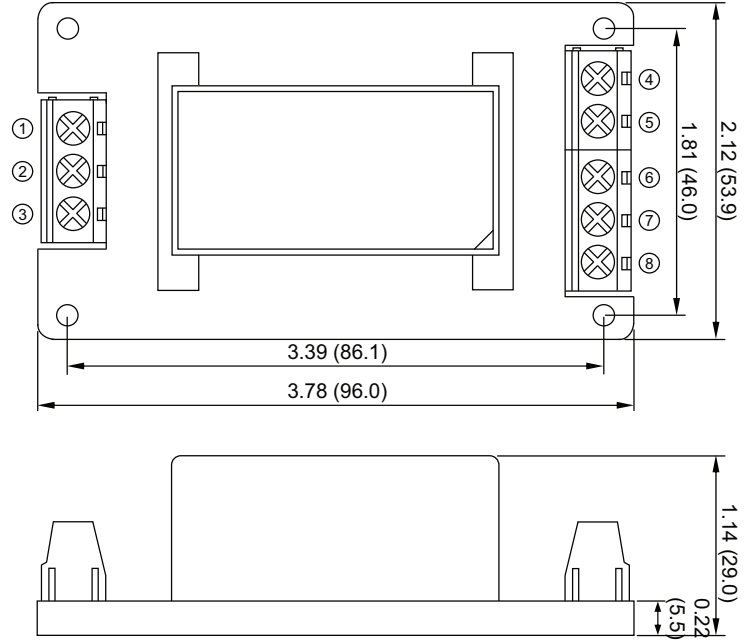
SCREW TERMINAL OPTIONS

PSAFC-A2



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

Unit: inches (mm)

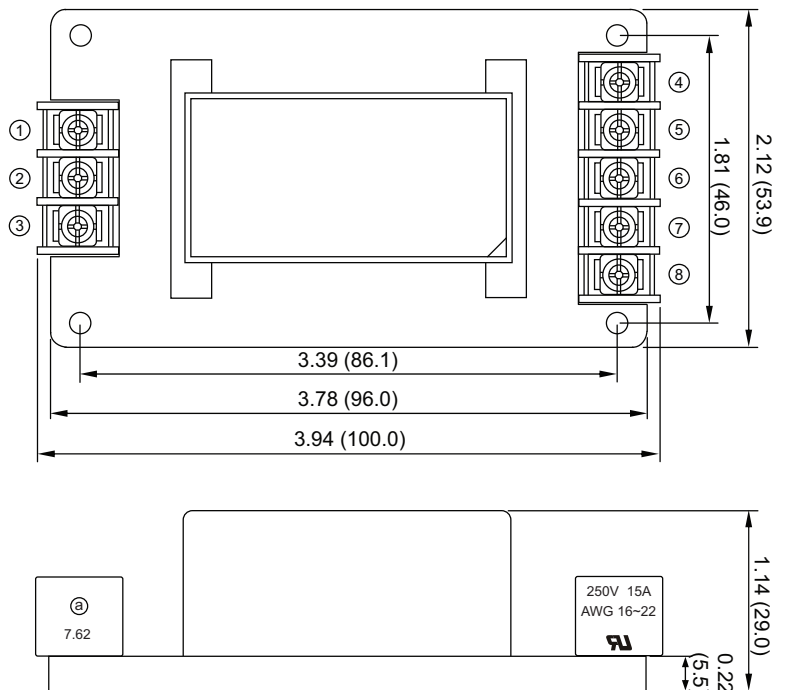


PSAFC-A5



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

Unit: inches (mm)



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**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.

Contact **Wall Industries** for further information:

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