LEVEL3

Size:
4.3 x 2.30 x 1.18 inches
109.0 x 58.5 x 30.0 mm

Weight:
10.93oz (310g)

FEATURES

- 5VDC to 48VDC Single Outputs
- 4000VAC I/O Isolation
- Up to 60 Watts Output Power
- High Efficiency up to 86%
- Fully Encapsulated Plastic Case
- ±10% Output Trim
- PCB Mountable Switching Power Supply
- Universal Input Voltage Range: 90-264VAC (120-370VDC)
- Short Circuit, Over Power, and Over Voltage Protection
- -40°C to +70°C Operating Temperature Range
- Four M3 Mounting Holes on Bottom Side
- CE & UL Safety Approvals for Standard Case and A2 Model
- Two Screw Terminal Options Available

DESCRIPTION

The PSAEC60 series of AC/DC power supplies provides up to 60 watts of output power in a 4.3” x 2.30” x 1.18” encapsulated PCB mountable package. This series consists of single output models with a universal input range of 90-264VAC (120-370VDC). Some features include 4000VAC I/O isolation, -40°C to +70°C operating temperature range, ±10% output trim, and efficiency up to 86%. This series is also protected against over power, over voltage, and short circuit conditions. The standard case and A2 model types have CE & UL safety approvals. This series also has two types of screw terminal options available.

MODEL SELECTION TABLE

Model Number	Input Voltage	Output Voltage	Output Current (1)		Ripple & Noise (2)		Output Power	Efficiency	Maximum Capacitive Load
			Min Load	Max Load	Ripple	Noise			
PSAEC60-5S	90~264 VAC (120~370 VDC)	5 VDC	100mA	10A	50mVp-p	75mVp-p	50W	82%	80,000µF
PSAEC60-9S		9 VDC	66.6mA	6.66A	58mVp-p	95mVp-p	60W	84%	28,000µF
PSAEC60-12S		12 VDC	50mA	5A	64mVp-p	110mVp-p	60W	86%	14,000µF
PSAEC60-15S		15 VDC	40mA	4A	70mVp-p	125mVp-p	60W	86%	12,000µF
PSAEC60-24S		24 VDC	25mA	2.5A	88mVp-p	170mVp-p	60W	86%	4000µF
PSAEC60-48S		48 VDC	12.5mA	1.25A	136mVp-p	290mVp-p	60W	86%	950µF

TECHNICAL SPECIFICATIONS: PSAEC60 SERIES

All specifications are based on 25°C After Warm-Up, Nominal Input Voltage, and Full 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		AC input voltage range	90		264	VAC
		DC input voltage range	120		370	VDC
Input Frequency			47		63	Hz
Input Current		At 115VAC and full load			2.0	A
		At 230VAC and full load			1.0	
Inrush Current (<2ms)		At 115VAC and cold start			30	A
		At 230VAC and cold start			50	
OUTPUT SPECIFICATIONS						
Output Voltage			See Table			
Voltage Accuracy			-2		+2	%
Output Trim		See page 4	-10		+10	%
Line Regulation		Low Line to High Line	-1		+1	%
Load Regulation		5% - 100% full load	-1		+1	%
Output Power			See Table			
Output Current			See Table			
Minimum Load			1			%
Ripple & Noise	Ripple	Measured at 20MHz bandwidth, full load, and with 47µF and 0.1µF capacitors in parallel across the output	< 0.2% Vout + 40mV max			mVp-p
	Noise		< 0.5% Vout + 50mV max			mVp-p
Max Capacitive Load			See Table			
Hold-up Time			10			ms
Temperature Coefficient			-0.02		+0.02	%/°C
PROTECTION						
Short Circuit Protection			Auto-recovery			
Over Voltage Protection			Zener diode clamp			
Over Power Protection			Auto-recovery			

TECHNICAL SPECIFICATIONS: PSAEC60 SERIES

All specifications are based on 25°C After Warm-Up, Nominal Input Voltage, and Full Load unless otherwise noted.
We reserve the right to change specifications based on technological advances.

SPECIFICATION		TEST CONDITIONS	Min	Typ	Max	Unit
GENERAL SPECIFICATIONS						
Efficiency		At 230VAC		See Table		
Isolation Voltage	Input to Output		4000			VAC
	Input to FG		1500			
	Output to FG		500			
Leakage Current					0.5	mA
ENVIRONMENTAL SPECIFICATIONS						
Operating Temperature Range		With derating	-40		+70	°C
Storage Temperature Range			-50		+85	°C
Humidity					95	% RH
Cooling				Free air convection		
MTBF		MIL-HDBK-217F; 25°C	300,000			hours
PHYSICAL SPECIFICATIONS						
Weight				10.93oz (310g)		
Dimensions (L x W x H)		Tolerance ±0.1mm		4.3 x 2.30 x 1.18 in (109.0 x 58.5 x 30.0 mm)		
Case Material				Plastic Resin (Flammability to UL 94V-0)		
SAFETY & EMC						
Safety Approvals[3]		For Standard Case and A2 Models Only		IEC/EN 60950, EN 62368-1		
EMI (Conducted & Radiated Emissions)				EN 55022 Class B		
EMS (Noise Immunity)				EN55024		

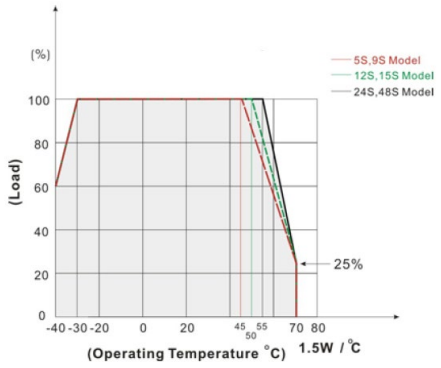
NOTES

1. Ripple & noise is measured at 20MHz bandwidth with 47µF and 0.1µF capacitors in parallel across the output.
2. It is recommended to add a Varistor 14S471K at L/N input side in parallel.
3. This product is Listed to applicable standards and requirements by UL.

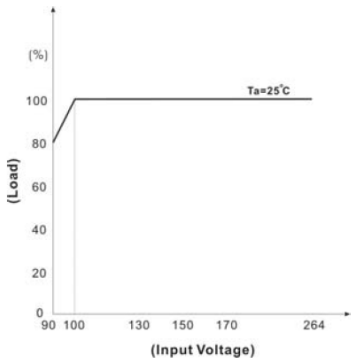
**Due to advances in technology, specifications subject to change without notice.*

CHARACTERISTIC CURVES

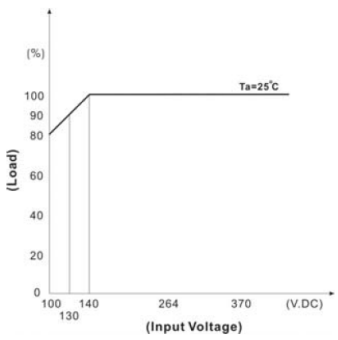
Load vs Ambient Temperature



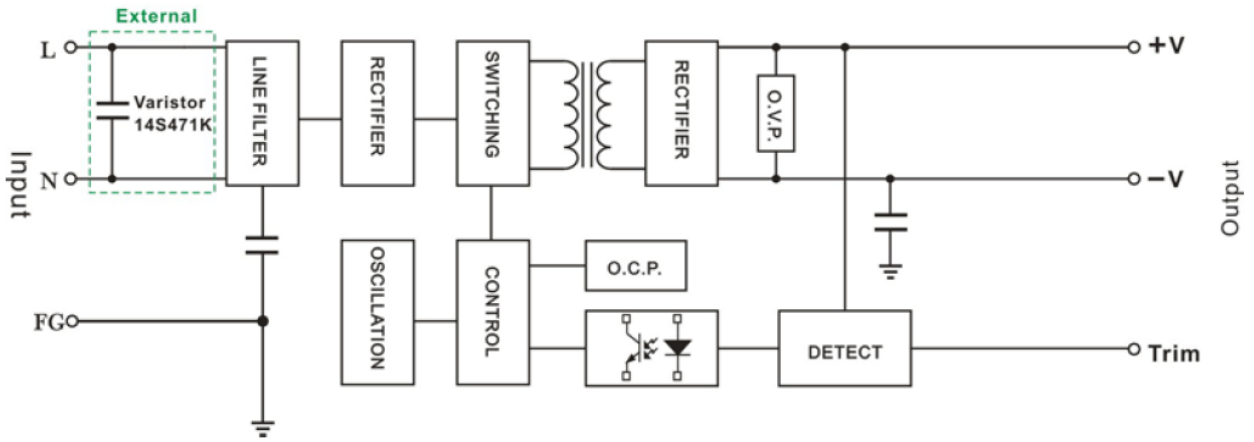
Load vs AC Input Voltage



Load vs DC Input Voltage

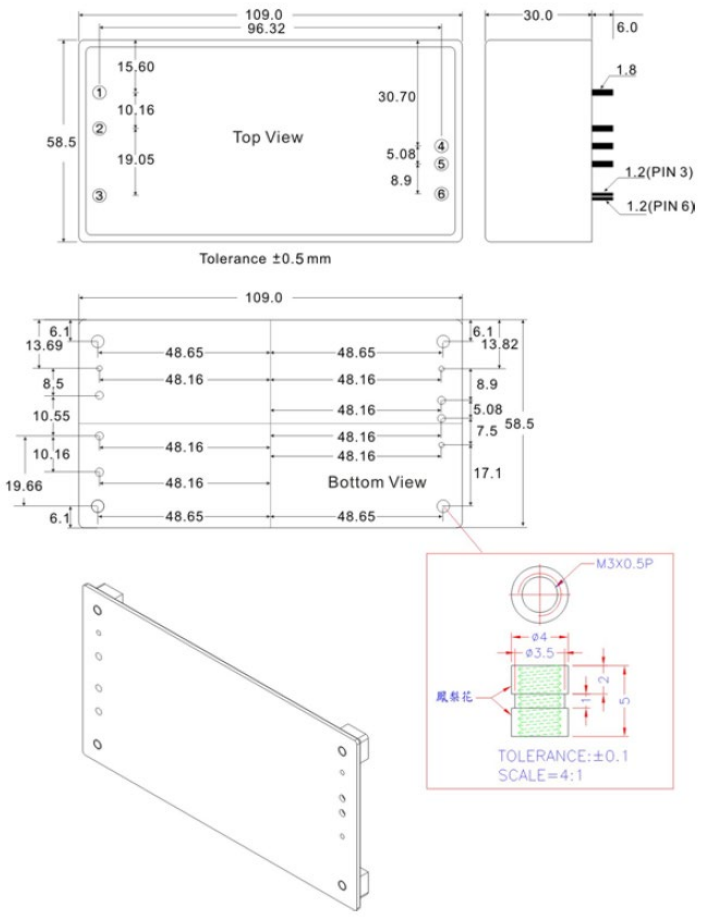


BLOCK DIAGRAM



	5S	9S	12S	15S	24S	48S
Trim → -V	+10% 0% 500Ω ~ 1M	+10% 0% 6KΩ ~ 1M	+10% 0% 4KΩ ~ 1M	+10% 0% 5KΩ ~ 1M	+10% 0% 12KΩ ~ 1M	+10% 0% 12KΩ ~ 1M
Trim → +V	+10% 0% 1M ~ 500Ω	+10% 0% 1M ~ 20KΩ	+10% 0% 1M ~ 40KΩ	+10% 0% 1M ~ 60KΩ	+10% 0% 1M ~ 110KΩ	+10% 0% 1M ~ 290Ω

MECHANICAL DRAWING

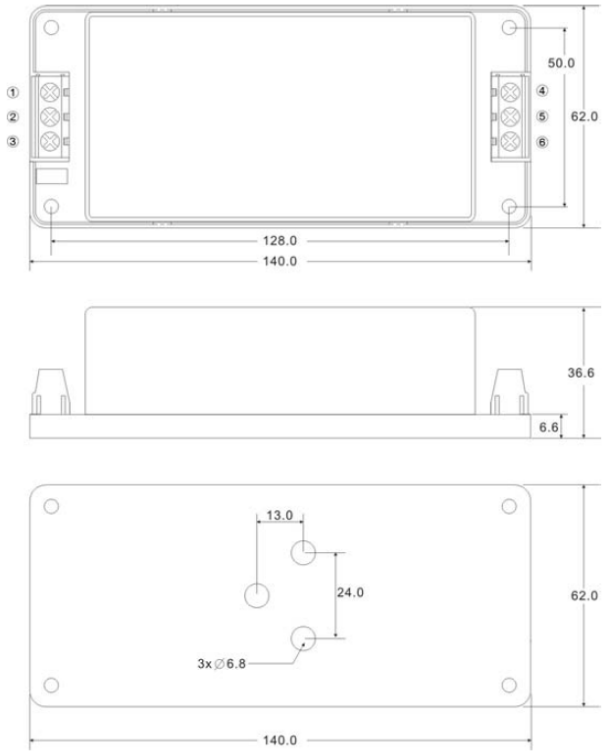


Pin#	Single
1	AC IN (N)
2	AC IN (L)
3	FG
4	+DC OUT
5	-DC OUT
6	Trim

SCREW TERMINAL OPTIONS

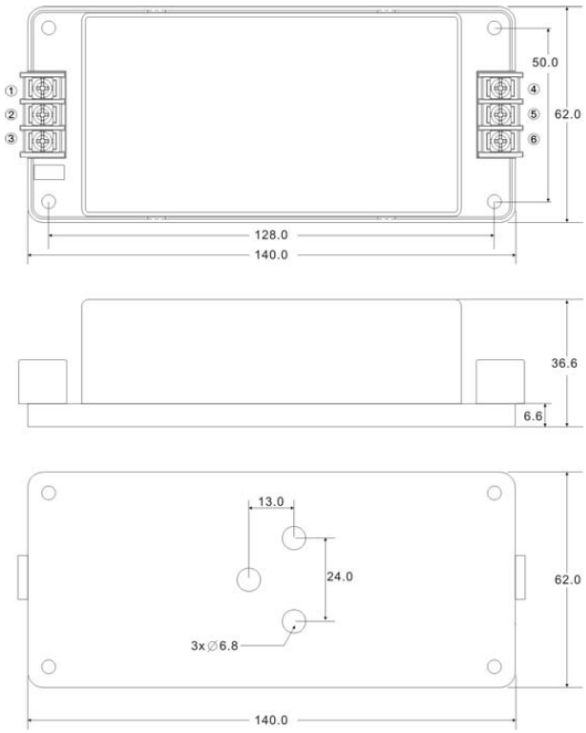
PSAEC60-A2

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



PSAEC60-A5

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



MODEL NUMBER SETUP

PSAEC	60	-	12	S	-	A2
Series Name	Output Power		Output Voltage	Output Quantity		Screw Terminal Options
	60: 60 Watts		**5:** 5 VDC **9:** 9 VDC **12:** 12 VDC **15:** 15 VDC **24:** 24 VDC **48:** 48 VDC	**S:** Single Output		**None:** Encapsulated PCB Mount **A2:** See page 4 **A5:** See page 4

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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