

E199779 LEVEL3

Size:
2.0 x 1.0 x 0.597 inches
50.80 x 25.40 x 15.16 mm

Weight:
1.06oz (30g)

FEATURES

- Isolation Class II
- RoHS Compliant
- 5 Watts Output Power
- Single Outputs
- Fully Encapsulated Plastic Case
- UL/cUL, CE, and CB Safety Approvals
- 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, and Over Voltage Protection
- Screw Terminal Mechanical Options Available

DESCRIPTION

The PSAHC series of AC/DC switching power supplies provides up to 5.5 Watts of output power in a 2.0" x 1.0" x 0.597" 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 PSAHC 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.

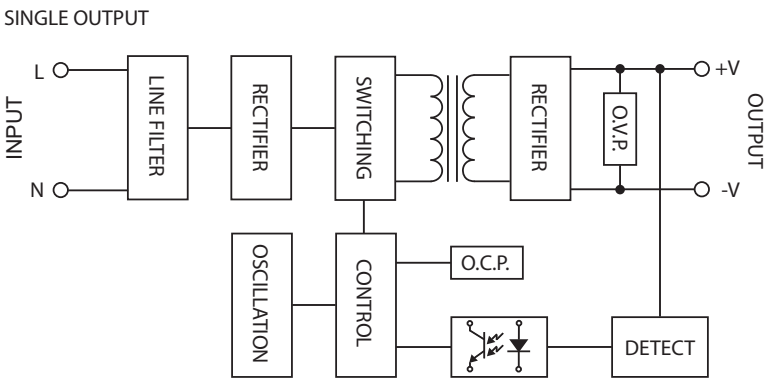
MODEL SELECTION TABLE

Model Number	Input Voltage Range	Output Voltage	Output Current		Output Power	Efficiency	Maximum Capacitive Load
			Min Load	Max Load			
PSAHC-3.3S	90~264 VAC (120~370 VDC)	3.3 VDC	0%	1250mA	4W	68%	13,800µF
PSAHC-5S		5 VDC	0%	1000mA	5W	71%	6000µF
PSAHC-12S		12 VDC	0%	420mA	5W	75%	1400µF
PSAHC-15S		15 VDC	0%	333mA	5W	75%	1000µF
PSAHC-24S		24 VDC	0%	230mA	5.5W	77%	170µF

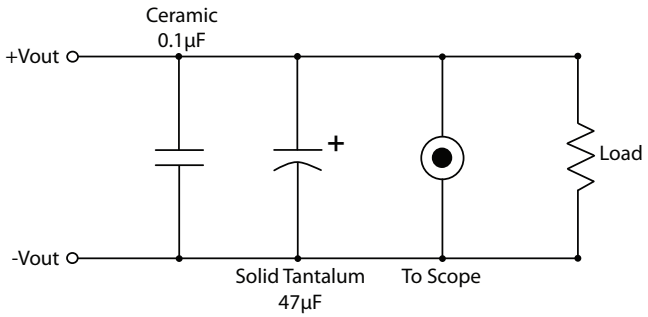
NOTES

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

BLOCK DIAGRAM



RIPPLE & NOISE SETUP



The output noise is measured with a 47µF tantalum capacitor and a 0.1µF ceramic capacitor in parallel across the output

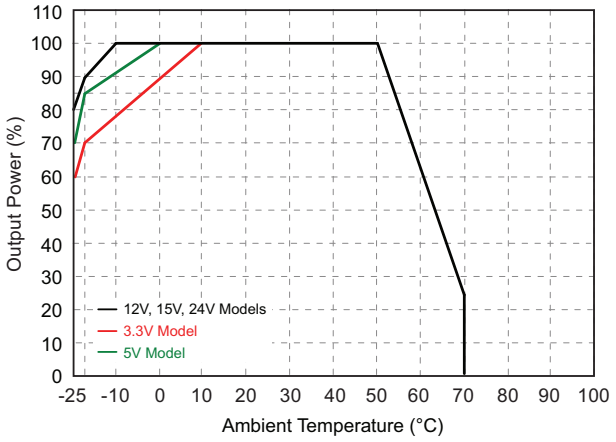
SPECIFICATIONS: PSAHC SERIES

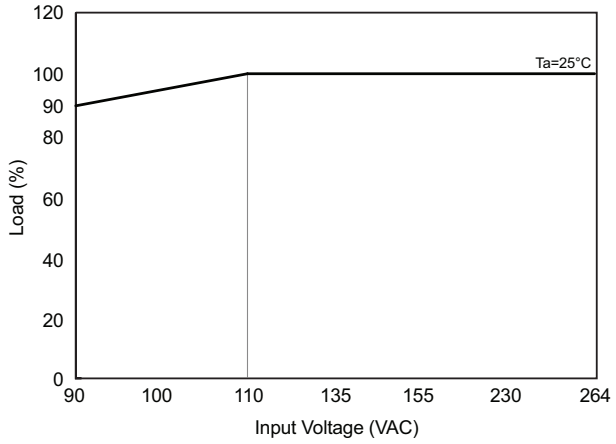
All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted.
We reserve the right to change specifications based on technological advances.

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				47		440	Hz
Input Current		At 115VAC and full load				110	mA
		At 230VAC and full load				70	
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)				1.5A slow blow type			
OUTPUT SPECIFICATIONS							
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. (See page 1)		< 0.2% Vout + 40mV max			Vp-p
	Noise			< 0.5% Vout +50mV max.			
Maximum Capacitive Load				See Table			
Hold-Up Time				15			ms
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				See Table			
Switching Frequency					132		KHz
Isolation Voltage		Input to Output		3000			VAC
Leakage Current						0.75	mA
ENVIRONMENTAL SPECIFICATIONS							
Operating Temperature		Standard Models		-25		+70	°C
		"-E1" Suffix Models		-40		+70	
Storage Temperature				-40		+85	°C
Humidity						95	% RH
Cooling				Free air convection			
MTBF		25°C (MIL-HDBK-217F)		360,000			hours
PHYSICAL SPECIFICATIONS							
Weight				1.06oz (30g)			
Case Material				Plastic resin with fiberglass (Flammability to UL 94V-0)			
Dimensions (L x W x H)				2.0 x 1.0 x 0.597 inches (50.8 x 25.4 x 15.16 mm)			
SAFETY & EMC							
Safety Approvals				CE, UL/cUL, CB			
EMC		EMI (Conducted and Radiated Emissions)		EN 55022 Class B			
		EMS (Noise Immunity)		EN 55024			

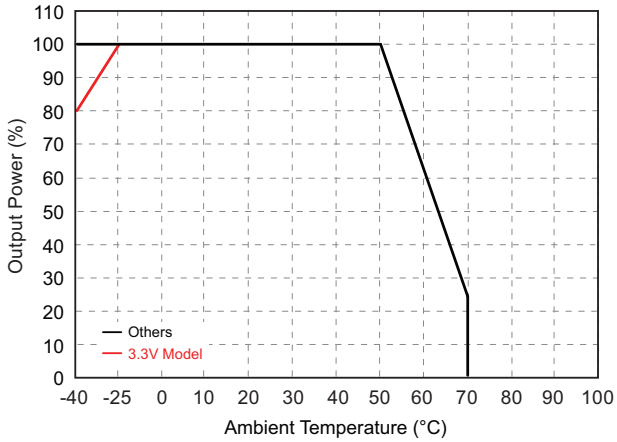
DERATING

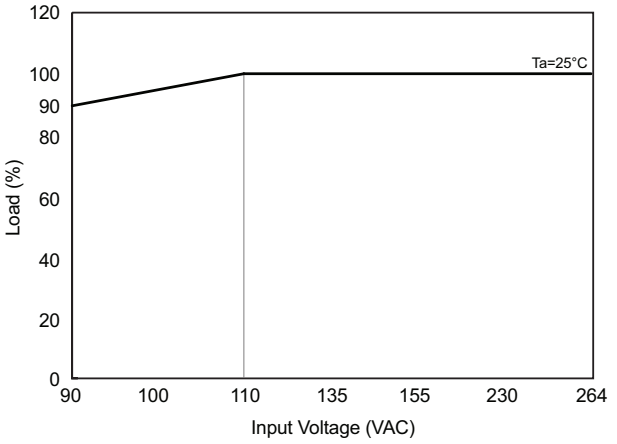
Standard Models





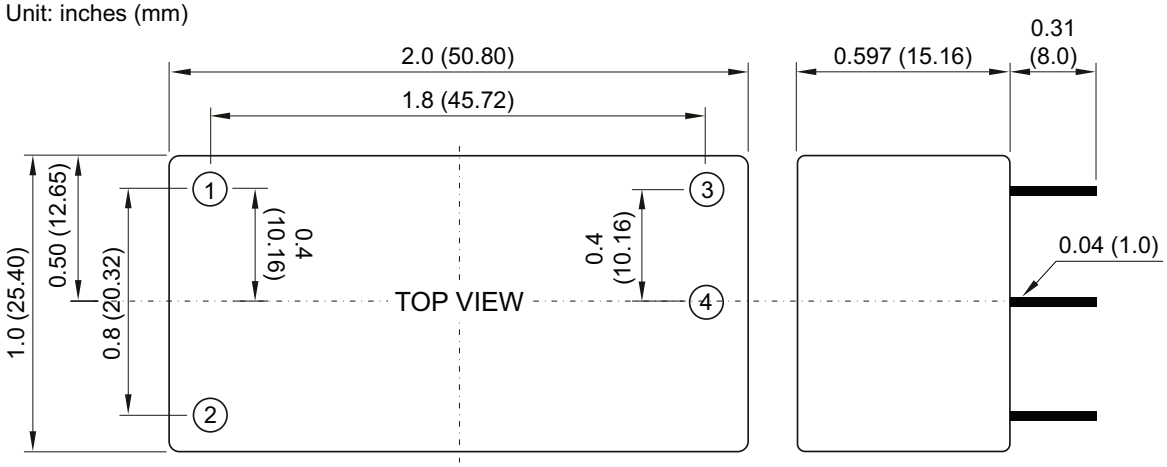
"-E1" Suffix Models





MECHANICAL DRAWING

Unit: inches (mm)



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

Tolerance: ±0.02 (±0.5)

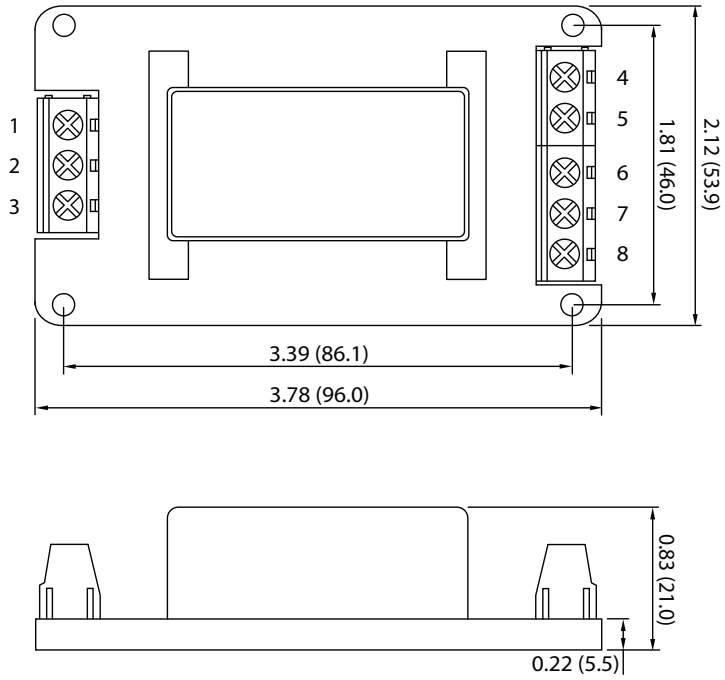
SCREW TERMINAL OPTIONS

PSAHC-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)

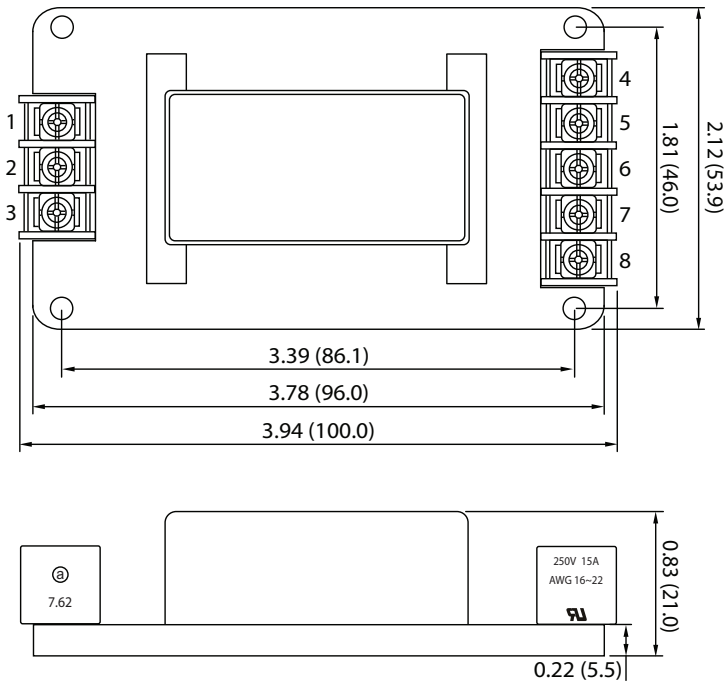


PSAHC-A5



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)



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.

Contact **Wall Industries** for further information:

Phone:	☎(603)778-2300
Toll Free:	☎(888)597-9255
Fax:	☎(603)778-9797
E-mail:	sales@wallindustries.com
Web:	www.wallindustries.com
Address:	5 Watson Brook Rd. Exeter, NH 03833