



Size: 2.50in x 3.50in x 1.18in (63.50mm x 88.9mm x 1.18mm)

**FEATURES**

- Universal Input 85-264VAC
- Fully Encapsulated Plastic Case for PCB, Chassis, and DIN Rail Mounting
- Protection Class II as per IEC/EN60536
- Over Load, Over Current, and Short Circuit Protection
- RoHS & REACH Compliant
- I/O Isolation 4000VAC with Reinforced Isolation
- Industrial and Medical Safety Approvals

**DESCRIPTION**

The PSAPM-40 series of AC/DC industrial and medical power modules offers 40 watts of output power in a fully encapsulated plastic PCB, chassis, or DIN Rail mounted case. This series consists of single and dual output models with universal input voltage range of 85-264VAC and I/O isolation of 4000VAC with reinforced isolation. Each model in this series is RoHS & REACH compliant, has over load, over current, and short circuit protection, and has industrial and medical safety approvals. Please call factory for order details.

**MODEL SELECTION TABLE**

**Single Output**

Model Number	Input Voltage Range	Output Voltage	Output Current	Input Current		Maximum Capacitive Load	Efficiency	Output Power
				115VAC, 60Hz	230VAC, 50Hz			
PSAPM-40S05	85~264VAC (120~370VDC)	5VDC	8000mA	716mA	429mA	8000μF	81%	40 Watts
PSAPM-40S12		12VDC	3330mA	689mA	414mA	3900μF	84%	
PSAPM-40S15		15VDC	2660mA	680mA	408mA	3900μF	85%	
PSAPM-40S24		24VDC	1660mA	687mA	413mA	680μF	84%	

**MODEL SELECTION TABLE**

**Dual Output**

Model Number	Input Voltage Range	Output Voltage	Output Current	Input Current		Maximum Capacitive Load <sup>(2)</sup>	Efficiency	Output Power
				115VAC, 60Hz	230VAC, 50Hz			
PSAPM-40D12	85~264VAC	±12VDC	±1660mA	687mA	413mA	1500#μF	84%	40 Watts
PSAPM-40D15	(120~370VDC)	±15VDC	±1300mA	680mA	408mA	1000#μF	85%	

**SPECIFICATIONS**

All specifications are based on 25°C, Resistive Load, 115VAC, 60Hz Input Voltage, and After Warm Up Time Rated Output Current unless otherwise noted. We reserve the right to change specifications based on technological advances.

SPECIFICATION	TEST CONDITIONS	Min	Typ	Max	Unit
AC Input Voltage Range	All Models	85		264	VAC
DC Input Voltage Range	All Models	120		370	VDC
Input Frequency		47		440	Hz
Inrush Current	@115VAC, Cold start at 25°C @230VAC, Cold start at 25°C			30 60	A
No Load Power Consumption				0.3	W
<b>OUTPUT SPECIFICATIONS</b>					
Output Voltage		See Table			
Voltage Setting Accuracy			±2.0		%
Line Regulation	Vin=Min. to Max. @Full Load		±0.5		%
Load Regulation	Io=0% to 100%	Single Output Models Dual Output Models	±1.0 ±2.0		%
Overshoot				5	%
Output Power		See Table			
Output Current		See Table			
Minimum Load		No Minimum Load Requirement			
Maximum Capacitive Load		See Table			
Ripple & Noise (20MHz bandwidth) <sup>(3)</sup>	5V Output Models Other Output Models		1.5 1.0	1.8 1.3	%Vp-p of Vo
Hold-Up Time	115VAC, 60Hz 230VAC, 50Hz		25 80		ms
Temperature Coefficient			±0.02		%/°C

SPECIFICATIONS						
All specifications are based on 25°C, Resistive Load, 115VAC, 60Hz Input Voltage, and After Warm Up Time Rated Output Current unless otherwise noted. We reserve the right to change specifications based on technological advances.						
SPECIFICATION	TEST CONDITIONS		Min	Typ	Max	Unit
<b>PROTECTION</b>						
Short Circuit Protection	Hiccup Mode		Automatic Recovery			
Over Load Protection <sup>(4)</sup>	85VAC, Hiccup Mode, Automatic Recovery		105			% Inom.
Over Voltage Protection	Zener Diode Clamp			120		% of Vo
<b>ENVIRONMENTAL SPECIFICATIONS</b>						
Operating Ambient Temperature	Natural Convection		-40		+80	°C
Storage Temperature			-40		+95	°C
Humidity	Non-Condensing				95	%RH
Power Derating	Above +60°C			1.5		W/°C
Thermal Shutdown	Shutdown, Internal IC Junction Temperature					
	Automatic Recovery, Internal IC Junction Temperature					
Lead Temperature	1.5mm from case for 10Sec.				260	°C
Cooling <sup>(5)</sup>			Natural Convection			
MTBF	Calculated per MIL-HDBK-217F @25°C, Ground Benign			200,000		Hours
<b>GENERAL SPECIFICATIONS</b>						
Typical Efficiency	@Max. Load, 115VAC		See Table			
Switching Frequency				130		KHz
Isolation Voltage	Reinforced Insulation, Rated for 60 Seconds		4000			VACrms
Isolation Resistance	500VDC		1000			MΩ
Leakage Current				80		μA
<b>PHYSICAL SPECIFICATIONS</b>						
Weight	PCB Mount		10.93oz (310g)			
	Chassis Mount		11.29oz (320g)			
	DIN Rail Mount		13.19oz (374g)			
Dimensions (L x W x H)	PCB Mount		3.50in x 2.50in x 1.18in (88.9mm x 63.5mm x 1.18mm)			
	Chassis Mount		4.41in x 2.51in x 1.34in (112mm x 63.8mm x 34.1mm)			
	DIN Rail Mount		4.41in x 2.51in x 1.77in (112mm x 63.8mm x 45.1mm)			
Case Material			Plastic Resin (flammability to UL 94V-0 rated)			
Pin Material	PCB Mount		Copper Alloy with Gold Plate Over Nickel Subplate			
<b>SAFETY CHARACTERISTICS</b>						
Safety Standards	UL/cUL 60950-1 <sup>(9)</sup> , CSA C22.2 No. 60950-1 ANSI/AAMI ES60601-1, CAN/CSA-C22.2 No. 60601-1 IEC/EN 60950-1, IEC/EN 60601-1 3 <sup>rd</sup> Edition 2xMOPP UL508, CSA C22.2 No. 107.1-01					
Safety Approvals <sup>(6)</sup>	UL/cUL 60950-1 recognition (UL Certificate) <sup>(9)</sup> IEC/EN 60950-1 (CB-Report), UL/cUL 508 listed certificate ANSI/AAMI ES60601-1 2xMOPP recognition (UL Certificate) IEC/EN 60601-1 3 <sup>rd</sup> Edition (CB-Report)					
EMI	Conduction and Radiation	EN55011, EN5022, EN55032, EN61000-6-4, EN61000-6-3, FCC Part 15			Class B	
EMS	ESD	EN61000-4-2 Alr±15kV, Contact±8kV			A	
	Radiated Immunity	EN61000-4-3 10V/m			A	
	Fast Transient	EN61000-4-4 ±2kV			A	
	Surge	EN61000-4-5 ±1kV			A	
	Conducted Immunity	EN61000-4-6 10Vrms			A	
	PFMF	EN61000-4-8 30A/m			A	
	Dips & Interruptions		EN61000-4-11	0% of 230VAC	0.5 Cycle	A
0% of 230VAC				1 Cycle	A	
70% of 230VAC				25/30 Cycle	A	
0% of 230VAC				250/300 Cycle	B	

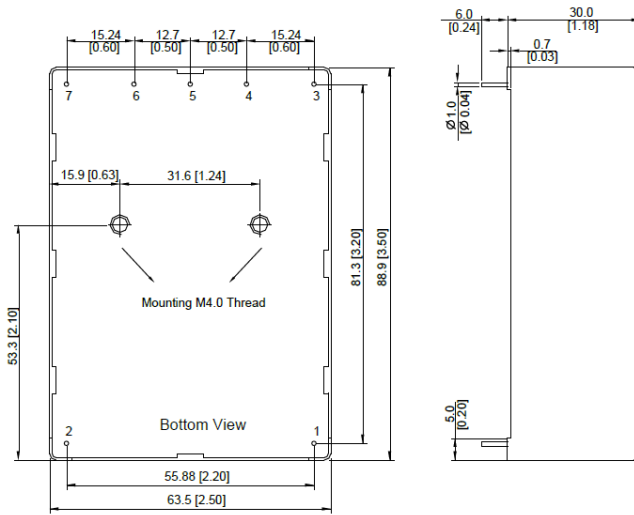
**NOTES**

1. This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications that necessitate specific safety regulatory standards other than the ones listed in this datasheet.
2. # for each output
3. Ripple & Noise measured with a 0.1µF/50V MLCC and a 1µF/50V aluminum electrolytic.
4. Long term over load conditions may cause damage.
5. Natural convection is about 20LFM but is not equal to still air (0 LFM).
6. Safety approvals cover frequency 47-63Hz.
7. Other input and output voltages may be available, please contact factory.
8. It is recommended to protect the converter by a slow blow fuse in the input supply line.
9. This product is Listed to applicable standards and requirements by UL.

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

**MECHANICAL DRAWINGS**

**PCB Mounting**



**Pin Connections**

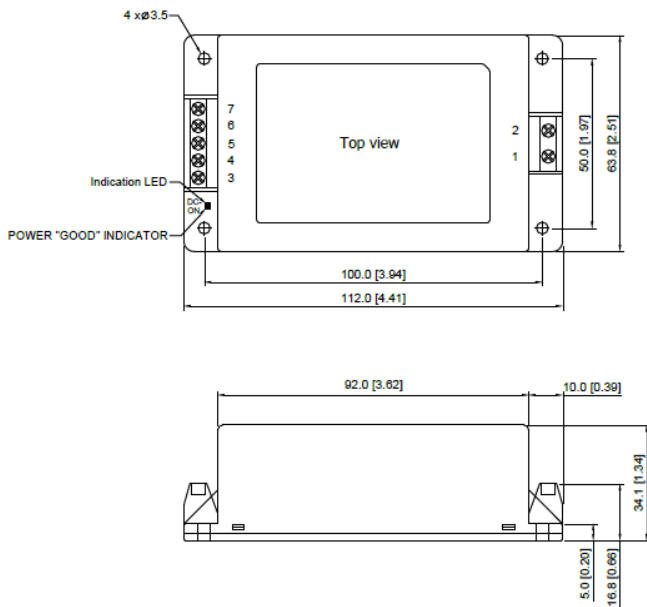
Pin	Single Output	Dual Output
1	AC (N)	AC (N)
2	AC (L)	AC (L)
3	+Vout	+Vout
4	No Pin	No Pin
5	-Vout	Common
6	No Pin	No Pin
7	NC	-Vout

NC: No Connection

**Notes:**

All dimensions in mm (inches)  
Tolerance: ±0.5 (±0.02)  
Pin Diameter Ø 1.0±0.1 (0.04±0.004)

**Chassis Mounting**



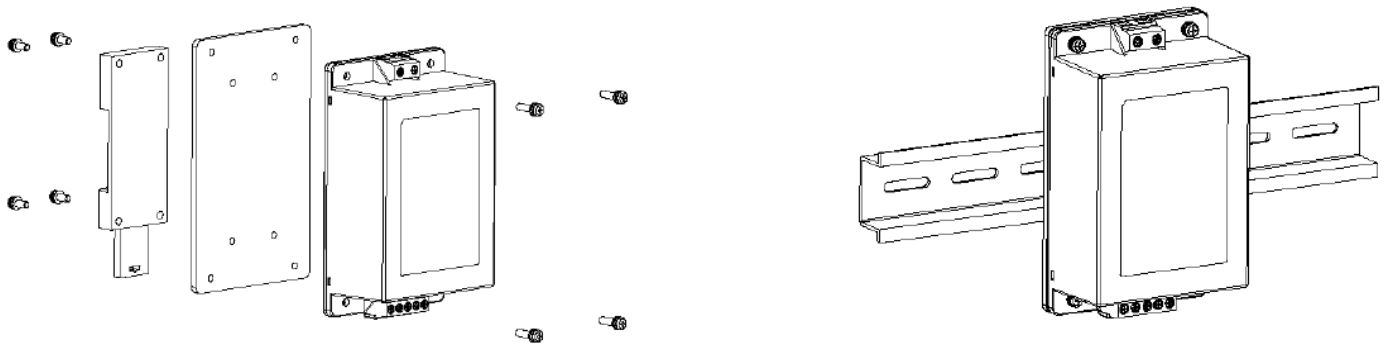
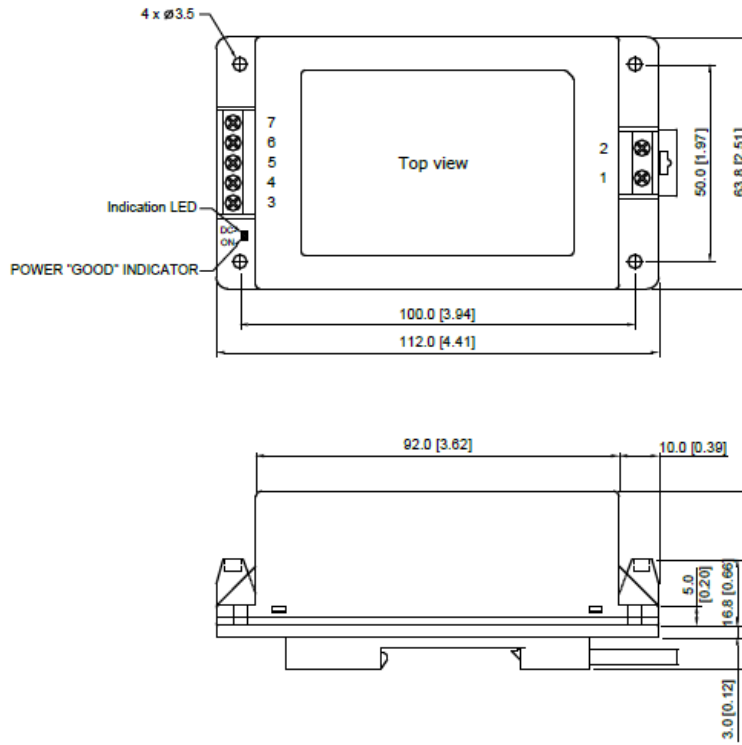
**Pin Connections**

Pin	Single Output	Dual Output
1	AC (N)	AC (N)
2	AC (L)	AC (L)
3	+Vout	+Vout
4	NC	NC
5	-Vout	Common
6	NC	NC
7	NC	-Vout

NC: No Connection

**Notes:** All dimensions in mm (inches)  
Tolerance: ±0.5 (±0.02)

DIN Rail Mounting Bracket



MODEL NUMBER SETUP

PSAPM	-	40	S	05	C	DN
Series Name		Output Voltage	Output Quantity	Ouptut Voltage	Chassis Mount	Din Rail
			<b>S:</b> Single	<b>05:</b> 5VDC <b>12:</b> 12VDC <b>15:</b> 15VDC <b>24:</b> 24VDC	<b>C:</b> Chassis Mount	<b>DN:</b> Din Rail Mount
			<b>D:</b> Dual	<b>12:</b> ±12VDC <b>15:</b> ±15VDC		

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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: 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.

Contact **Wall Industries** for further information:

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