



Size: 3.98in x 2in x 1.10in (101.6mm x 50.8mm x 28mm)

**FEATURES**

- Input Voltage Range from 90-264VAC
- Single, Dual, and Triple Output Models
- High Efficiency
- Single Side PCB for Low Assembly Cost
- Over Load, Over Voltage, and Short Circuit Protection
- Useful in Medical and Dental Applications and ITE Applications
- UL/CSA/EN 60950-1, 2<sup>nd</sup> Edition and ANSI/AAMI/CSA/EN 60601-1 3<sup>rd</sup> Edition + A1 Safety Approvals

**DESCRIPTION**

The PSSNP-Y04 series of AC/DC open frame power supplies offers rated output power of 45 watts and a peak output power of 60 watts in a 3.98" x 2" x 1.10" package. This series consists of single, dual, and triple output models with a wide input voltage range from 90-264VAC. Each model in this series has high efficiency, single side PCB, as well as over load, over voltage, and short circuit protection. This series has UL/CSA/EN 60950-1 2<sup>nd</sup> edition and ANSI/AAMI/CSA/EN 60601-1 3<sup>rd</sup> edition +A1 safety approvals.

**MODEL SELECTION TABLE**

Single Output

Model Number	Input Voltage Range	Output Voltage	Output Current				Ripple & Noise	Voltage Accuracy <sup>(3)</sup>	Output Power		Load Regulation	Efficiency
			Min	Rated	Max	Peak			Rated	Peak		
PSSNP-Y046	90-264VAC	+5V	0A	7A	-	10A	1%	+4.9~+5.05V	45W	60W	±1%	77%
PSSNP-Y047-1		+12V	0A	3.3A	-	5A	1%	+11.88~+12.12V	45W	60W	±1%	81%
PSSNP-Y048-1		+15V	0A	3A	-	4A	1%	+14.85~15.15V	45W	60W	±1%	81%
PSSNP-Y049-1		+24V	0A	1.9A	-	2.5A	1%	+23.75~24.24V	45W	60W	±1%	83%
PSSNP-Y04T		+48V	0A	1A	-	1.35A	1%	+47.6~48.4V	45W	60W	±1%	85%

**MODEL SELECTION TABLE**

Dual Output

Model Number	Input Voltage Range	Output Voltage	Output Current				Ripple & Noise	Voltage Accuracy <sup>(3)</sup>	Output Power		Load Regulation	Efficiency
			Min	Rated	Max	Peak			Rated	Peak		
PSSNP-Y043	90-264VAC	+5V	0A	3A	4A	5A	1%	+4.9~+5.1V	45W	60W	±3%	80%
		+12V	0A	2.3A	3.3A	4A	1%	+11.4~+12.6V				
PSSNP-Y047		+12V	0A	3.3A	-	5A	1%	+11.88~+12.12V	45W	60W	±1%	
		+5V	0A	0.5A	-	-	1%	+4.75V~+5.25V				
PSSNP-Y048		+15V	0A	2.6A	-	4A	1%	+14.85~+15.15V	45W	60W	±1%	
	+5V	0A	0.5A	-	-	1%	+4.75~+5.25V					
PSSNP-Y049	+24V	0A	1.7A	-	2.5A	1%	+23.75~+24.24V	45W	60W	±1%		
	+5V	0A	0.5A	-	-	1%	+4.75~+5.25A					

**MODEL SELECTION TABLE**

Triple Output

Model Number	Input Voltage Range	Output Voltage	Output Current				Ripple & Noise	Voltage Accuracy <sup>(3)</sup>	Output Power		Load Regulation	Efficiency
			Min	Rated	Max	Peak			Rated	Peak		
PSSNP-Y041	90-264VAC	+5V	0A	3A	4A	5A	1%	+4.9~+5.1V	45W	60W	±3%	80%
		+12V	0A	2A	3A	4A	1%	+11.4~+12.6V				
		-12V	0A	0.3A	-	-	1%	-11.4~-12.6V				
PSSNP-Y04F		+5V	0A	3A	4A	6A	1%	+4.9~+5.05V	45W	60W	±3%	
		+24V	0A	1A	1.5A	2.4A	1%	+22.8~+25.2V				
PSSNP-Y04D <sup>(2)</sup>	+12V	0A	0.3A	-	-	1%	+11.4~+12.6V	45W	60W	±5%		
	+3.3V	0A	4A	4A	5A	1%	+3.26~+3.33V					
	+5V	0A	3A	3A	4A	1%	+4.75~+5.25V					
		+12V	0A	0.3A	0.3A	1%	+11.40~+12.80V			±5%		

**SPECIFICATIONS**

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 Range		90		264	VAC
Input Frequency		47		63	Hz
Inrush Current	@115VAC, Cold Start at 25°C			30	A
	@230VAC, Cold Start at 25°C			60	
<b>OUTPUT SPECIFICATIONS</b>					
Output Voltage		See Table			
Voltage Accuracy		See Table			
Line Regulation <sup>(4)</sup>			±1		%
Load Regulation <sup>(5)</sup>		See Table			
Output Power		See Table			
Output Current		See Table			
Ripple & Noise <sup>(6)</sup>			1		%
Hold Up Time <sup>(7)</sup>			14		mS
<b>PROTECTION</b>					
Short Circuit Protection		Automatic Recovery			
Over Load Protection		Automatic Recovery			
Over Voltage Protection		Latch Off			
<b>ENVIRONMENTAL SPECIFICATIONS</b>					
Operating Temperature	Derating: 2.5%/°V>50°C	0		70	°C
Storage Temperature		-40		85	°C
Cooling		Free Air Convection			
<b>GENERAL SPECIFICATIONS</b>					
Efficiency	@Rated load and 115VAC	76		85	%
Earth Leakage Current				300	uA
<b>PHYSICAL SPECIFICATIONS</b>					
Weight		Approx. 4.48oz (127g)			
Dimensions (L x W x H)		3.98in x 2in x 1.10in (101.6mm x 50.8mm x 28mm)			
<b>SAFETY CHARACTERISTICS</b>					
Safety Approvals		UL/CSA/EN 60950-1, 2 <sup>nd</sup> Edition <sup>(9)</sup> ANSI/AAMI/CSA/EN 60601-1 3 <sup>rd</sup> Edition + A1 FCC "B"			
EMI		EN55022 "B", EN55011 "B"			
EMS		EN61000-4-2, 3, 4, 5, 6, 8, 11			

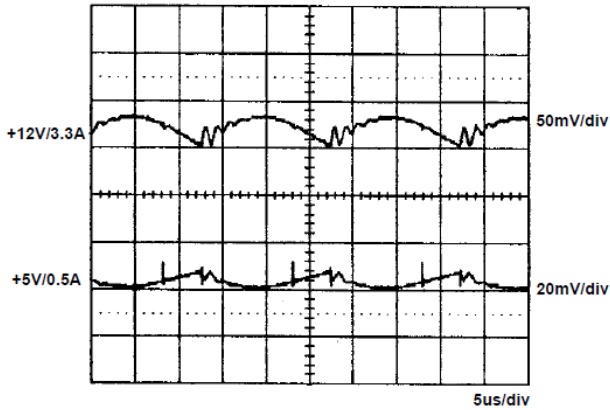
**NOTES**

- At peak load, output can last for 8 seconds without shutting down.
- The maximum combined load of PSSNP-Y04D for +3.3V & +5V is 28W.
- At factory, all outputs in 60% rated load condition, each output is checked to be within the accuracy range while the main output is set within specified accuracy range at rated load.
- Line regulation is defined by changing ±10% of input voltage from nominal line at rated load.
- Load regulation is defined by changing ±40% of measured output load from 60% rated load at another output set to 60% rated load.
- Ripple & Noise is measured by using 15MHz bandwidth limited oscilloscope and terminated each output with 0.47uF capacitor at rated load and nominal line.
- Hold up time is measured from the end of the last charging pulse to the time which the main output drops down to regulation limit at rated load and nominal line.
- PSSNP-Y04x is for both ITE and medical applications.
- This product is Listed to applicable standards and requirements by UL.

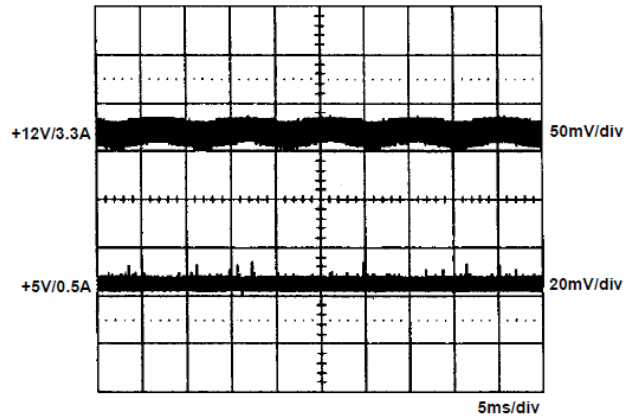
\*Due to advances in technology, specifications subject to change without notice.

DERATING CURVES

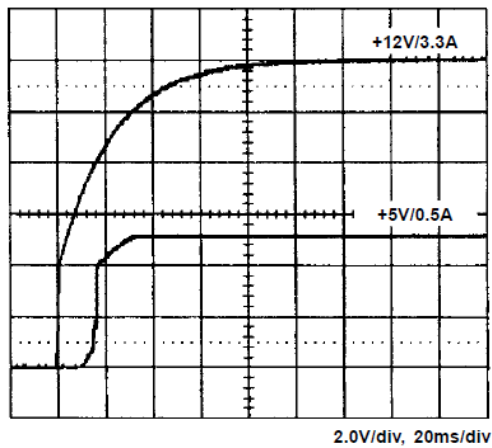
Switching Frequency Ripple



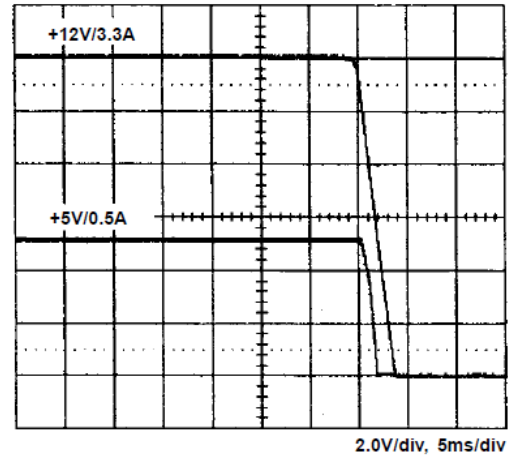
Line Frequency Ripple



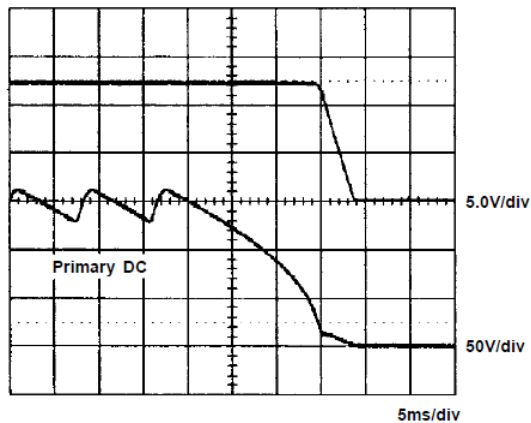
Output Turn On Wave Form



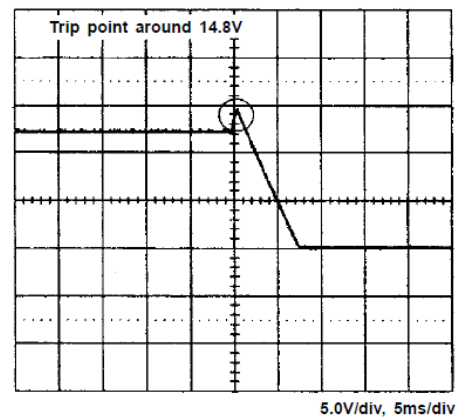
Output Turn On Wave Form



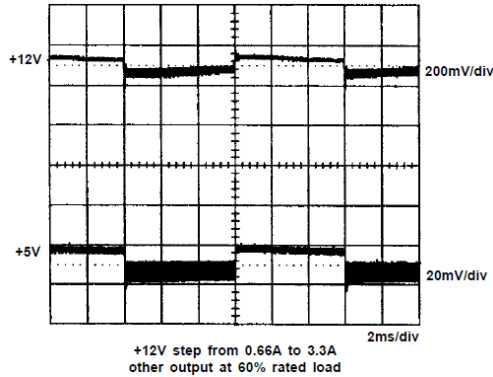
Hold-Up Time



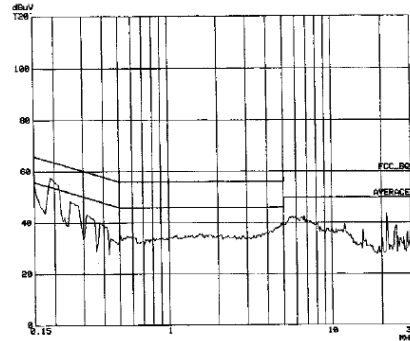
Over Voltage Protection



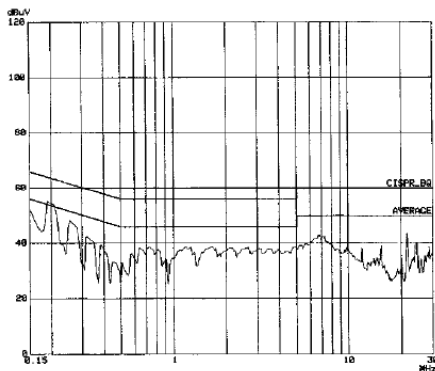
**+12V Step Response**



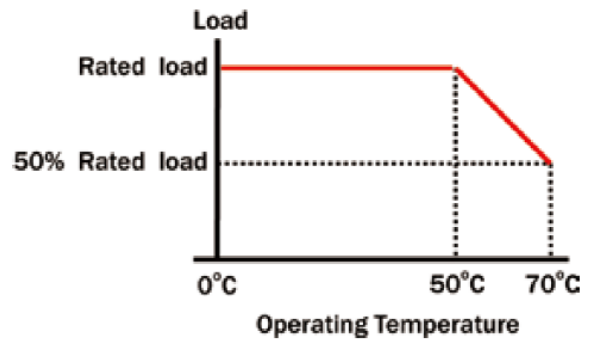
**FCC B**



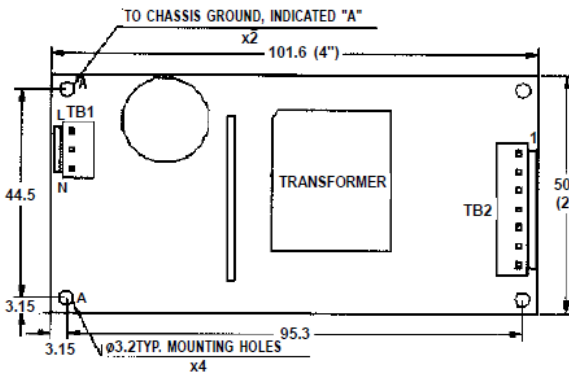
**EN 55011 B**



**Power Derating Curve**



**MECHANICAL DRAWINGS**



**Notes:**

1. Mounting Hole: 44.5mm x 95.3mm
2. Connectors: AC Input: JST B2P3-VH or Equivalent  
DC Output: JST B4P-VH or Equivalent for Single Output  
JST B6P-VH or Equivalent for Multiple Outputs
3. Output Pin Assignment:

PIN No.	1	2	3	4	5	6
PSSNP-Y041	+5V	+5V	GND	GND	+12V	-12V
PSSNP-Y043	+5V	+5V	GND	GND	+12V	NC
PSSNP-Y04F	+5V	+5V	GND	GND	+24V	+12V
PSSNP-Y046	+5V	+5V	GND	GND		
PSSNP-Y047	+12V	+12V	GND	GND	+5V	NC
PSSNP-Y047-1	+12V	+12V	GND	GND		
PSSNP-Y048	+15V	+15V	GND	GND	+5V	NC
PSSNP-Y048-1	+15V	+15V	GND	GND		
PSSNP-Y049	+24V	+24V	GND	GND	+5V	NC
PSSNP-Y049-1	+24V	+24V	GND	GND		
PSSNP-Y04T	+48V	+48V	GND	GND		
PSSNP-Y04D	+3.3V	+3.3V	GND	GND	+5V	+12V

**4. Packing:**

Net weight: Approx. 127g/unit  
 Gross Weight: Approx. 12.6kg/carton, 80units/carton  
 Carton Size: 382mm x 374mm x 277mm

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## 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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