



Size: 8in x 4in x 1.6in
(203.1mm x 101.6mm x 40.6mm)

FEATURES

- Universal 80-264VAC or 110~370VDC Input Voltage Range
- Accepts AC or DC Input (Dual-Use of Same Terminal)
- Low Standby Power Consumption
- High Efficiency
- Remote Sense Compensation
- Remote ON/OFF Function
- Active PFC
- Output Short Circuit Constant Current, Over Current, Over Voltage, and Over Temperature Protection
- Over Voltage Class III (Designed to meet EN61558)
- High I/O Isolation Test Voltage Up to 4000VAC
- Safety Varies by Model, See Data Sheet for Further Details

APPLICATIONS

- Industrial
- LED
- Street Light Control
- Security
- Telecommunications
- Smart Home

DESCRIPTION

The PSEW500 series of AC/DC switching power supplies offers 500 watts of output power in an enclosed 8" x 4" x 1.6" package. This series consists of single output models with an input voltage range of 80~264VAC or 110~370VAC as this series accepts AC or DC input. Each model features active PFC function, low standby power consumption, remote sense compensation, and remote ON/OFF. This series has short circuit constant current, over current, over voltage, and over temperature protection, and is RoHS compliant.

MODEL SELECTION TABLE

Model Number ⁽¹⁾	Input Voltage Range	Nominal Output Voltage	Nominal Output Current	Output Voltage Adjustable Range	Typ. Efficiency	Max. Capacitive Load	Output Power	Certification	Remote Sense Compensation	Remote ON/OFF Function
PSEW500-03S	80~264VAC (110~370VDC)	3.3V	90A	3.13-3.46V	84%	15000µF	297W	EN/CCC/BS	300mV	Yes
PSEW500-05S		5V	90A	4.75-5.25V	87%	15000µF	450W			
PSEW500-12S		12V	41.7A	11.4-12.6V	92%	12000µF	500.4W			
PSEW500-15S		15V	33.4A	14.25-15.75V	92%	12000µF	501.0W	EN/CCC/BIS/BS		
PSEW500-24S		24V	20.9A	22.8-25.2V	93%	6000µF	501.6W			
PSEW500-27S		27V	18.6A	25.65-28.35V	93%	6000µF	502.2W			
PSEW500-36S		36V	13.9A	34.2-37.8V	93%	3000µF	500.4W			
PSEW500-48S		48V	10.4A	45.6-50.4V	93%	1800µF	499.2W			
PSEW500-54S		54V	9.3A	51.3-56.7V	93%	1800µF	502.2W			

SPECIFICATIONS

All specifications are based on 25°C, Humidity <75%RH, Nominal Input Voltage, and Rated Output Load unless otherwise noted. We reserve the right to change specifications based on technological advances.

SPECIFICATION	EST CONDITIONS		Min	Typ	Max	Unit
INPUT SPECIFICATIONS						
Input Voltage Range	AC Input		80		264	VAC
	DC Input		110		370	VDC
Input Voltage Frequency			47		63	Hz
Input Current	115VAC				6	A
	230VAC				3	
Inrush Current	Cold Start	230VAC		40		A
		115VAC	0.98			
Power Factor	Full Load	115VAC	0.98			
		230VAC	0.95			
Leakage Current	240VAC				0.1	mA
Hot Plug					Unavailable	
OUTPUT SPECIFICATIONS						
Output Voltage				See Table		
Voltage Accuracy	Full Load Range	3.3V/5V		±2		%
		12V/15V/24V/27V/36V/48V/54V		±1		
Line Regulation	Rated Load	3.3V/5V		±0.5		%
		12V/15V/24V/27V/36V/48V/54V		±0.3		
Load Regulation	0%-100% Load	3.3V/5V		±1		%
		12V/15V/24V/27V/36V/48V/54V		±0.5		
Output Voltage Adjustable Range				See Table		
Output Power				See Table		
Output Current				See Table		
Minimum Load			0			%
Maximum Capacitive Load				See Table		
Ripple & Noise ⁽²⁾	20MHz bandwidth, (peak-to-peak value), 25°C	5V			150	mV
		Others			120	
Hold-Up Time	230VAC		12	18		ms
Temperature Coefficient				±0.03		%/°C

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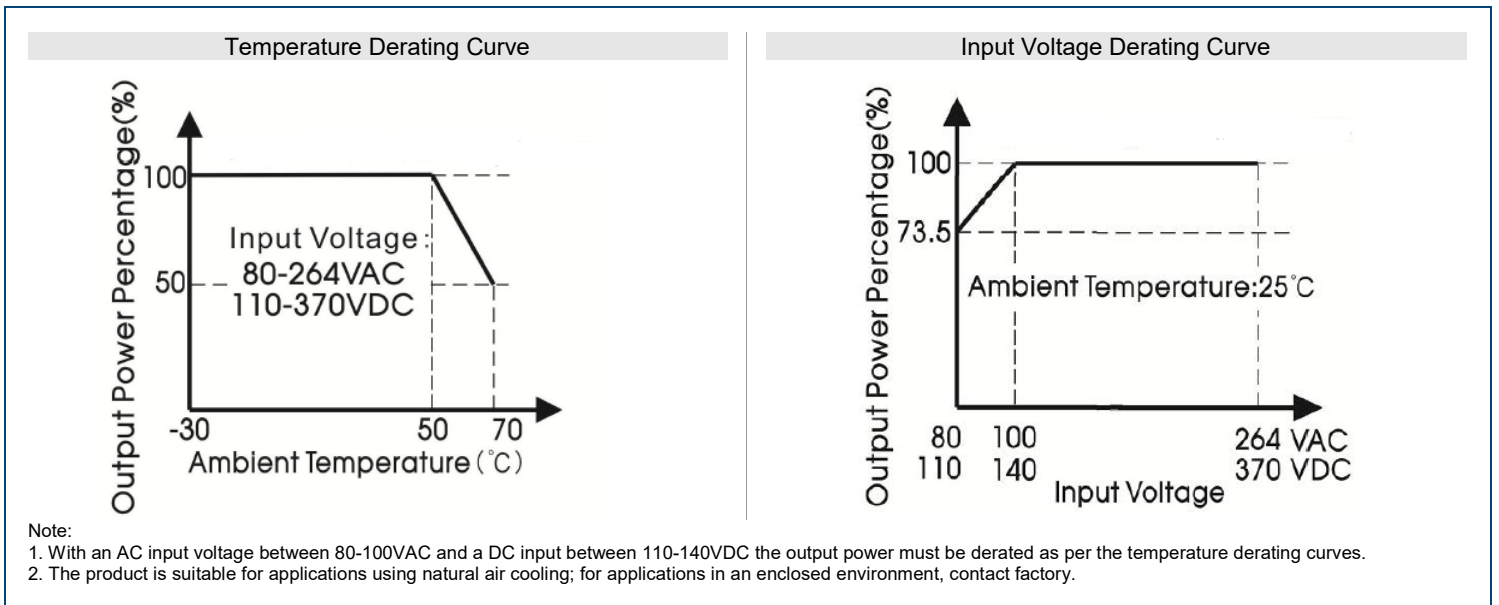
SPECIFICATION	EST CONDITIONS		Min	Typ	Max	Unit
PROTECTION						
Short Circuit Protection	Recovery time <3s after the short circuit disappears		Constant current protection, continuous, self-recovery			
Over Current Protection	Constant Current Protection, Self-Recovery	Room Temperature, High Temperature	110		160	%Io
		Low Temperature	105			
Over Voltage Protection	Output voltage turn off, re-power on for recovery	3.3V		≤5		V
		5V		≤10		
		12V		≤16		
		15V		≤21.8		
		24V		≤32.4		
		27V		≤35		
		36V		≤45		
		48V		≤60		
		54V		≤63		
Over Temperature Protection	Output voltage turn-off, self-recovery after temperature drops					
ENVIRONMENTAL SPECIFICATIONS						
Operating Temperature			-30		+70	°C
Storage Temperature			-40		+85	°C
Storage Humidity	Non-Condensing		10		95	%RH
Power Derating	Operating Temperature Derating		50°C to 70°C		2.5	%/°C
	Input Voltage Derating		80VAC to 100VAC		1.33	%/VAC
MTBF	MIL-HDBK-217F@25°C		300,000			H
GENERAL SPECIFICATIONS						
Efficiency	230VAC			See Table		
Isolation Test	Electric Strength Test for 1min., leakage current <5mA		Input – Output	4000		VAC
			Input - ⚡	2000		
			Output - ⚡	2000		
Insulation Resistance	At 500VDC		Input – Output	100		MΩ
			Input - ⚡	100		
			Output - ⚡	100		
Switching Frequency	PFC Circuit			65		kHz
	LLC Circuit			100		
Isolation Level	Input – Output		2xMOPP			
	Input - ⚡		1xMOPP			
	Output - ⚡		1xMOPP			
PHYSICAL SPECIFICATIONS						
Weight			29.98oz (850g)			
Dimensions (L x W x H)			8in x 4in x 1.6in (203.1mm x 101.6mm x 40.6mm)			
Case Material			Metal (AL1100. SGCC)			
Cooling			Forced Air Convection			
SAFETY CHARACTERISTICS						
Safety Standard ⁽³⁾	3.3V/5V		GB4943.1 Safety Approved & EN62368-1, BS EN62368-1 (Report) Design Refers to IEC/UL62368-1, IEC/EN60601-1, EN60335-1, EN61558-1, EN61558-2-16, IS13252 (Part 1)			
	12V/15V/24V/27V/36V/48V/54V		GB4943.1, IS13252 (Part 1) Safety Approved & EN62368-1, BS EN62368-1 (Report) Design Refers to IEC/UL62368-1, IEC/EN60601-1, EN60335-1, EN61558-1, EN61558-2-16			
Safety Class			Class I			
Emissions	CE	CISPR32/EN55032	Class B			
	RE	CISPR32/EN55032	Class B			
	Harmonic Current	IEC/EN61000-3-2	Class A			
Immunity	ESD	IEC/EN 61000-4-2	Contact ±8KV/Air ±15KV			Perf. Criteria A
	RS	IEC/EN 61000-4-3	10V/m			Perf. Criteria A
	EFT	IEC/EN 61000-4-4	±4KV			Perf. Criteria A
	Surge	IEC/EN 61000-4-5	Line to line ±2KV/line to ground ±4KV			Perf. Criteria A
	CS Voltage dips, short interruptions and voltage variations	IEC/EN 61000-4-6 IEC/EN 61000-4-11	10 Vr.m.s 0%, 70%			Perf. Criteria A Perf. Criteria B

NOTES

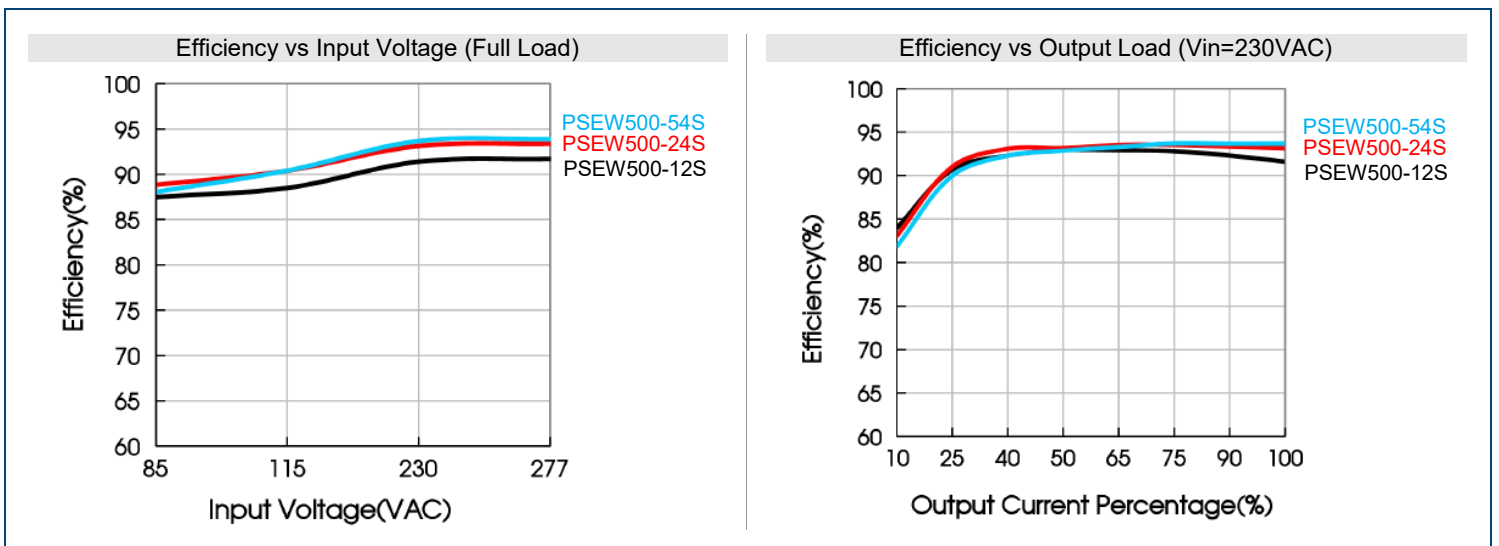
- Under any conditions, the total power of the product should not exceed rated power, and the output current should not exceed the rated output current.
- Tip and barrel method is used for ripple and noise test. Output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor, contact factory for more information.
- This product is Listed to applicable standards and requirements by UL.
- Room temperature derating of 5°C/1000m is needed for operating altitude greater than 2000m
- In order to improve the efficiency at high input voltage, there will be audible noise generated, but does not affect product performance and reliability
- Product customization service is available, please contact factory for more details.
- Out case needs to be connected to PE (≡) of system when terminal equipment in operation.
- Output voltage can be adjusted by the ADJ, clockwise to decrease.
- CAUTION: Double pole, neutral fusing. Disconnect mains before servicing.
- Products should be classified according to ISO14001 and related environmental laws and regulations and should be handled by qualified units.
- Power supply is considered a component which will be installed into final equipment. All EMC tests should be confirmed with final equipment. Consult factory for EMC test operation instructions.

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

DERATING CURVES



EFFICIENCY GRAPHS



MECHANICAL DRAWINGS

THIRD ANGLE PROJECTION

Pin-Out	
Pin	Function
1	PE
2	AC(N)
3	AC(L)
4	+Vo
5	-Vo

CN1: Remote Control Port		Customer Connector
Pin-Out	Mark	
1	RC-	Housing: JST PHD-2*2Y or equivalent Contact: JST PHD-TE or equivalent
2	RC+	
3	VSENSE-	
4	VSENSE+	

①-⑧ any position must be connected to the earth (⊥)

Position	Screw Spec.	L (Recommended)	Torque (Max.)
①-⑧	M3	4mm	0.4N·m

Note:
Unit: mm [inch]
ADJ: Output adjustable resistor
Input Connector Wire Range: 22-14AWG
Input Connector Tightening Torque: M4, 1.2N·m (max)
Output Connector (-Vo/+Vo) Tightening Torque: M5, 2.4N·m (Max)
General Tolerances: ±1.00 [±0.039]

TYPICAL APPLICATION

1. Remote ON/OFF

R1 (Product Inside)	2KΩ, 1/4W
V2 (User Side)	5V-15V

Note: When the product is working normally, apply voltage (5-15V) to RC+ and RC- to trigger the remote ON/OFF Function, and the output voltage will be off. Withdraw the voltage, the output voltage will be re-established.

2. Remote Sense Compensation

Note: 1. The left side represents the internal schematic diagram of the product, the right side represents the customer system.
2. Twisted pair wires are needed for S+/S-

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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