Open Frame

Size: 3in x 2in x 0.94in

U-Chassis

Size: 3.53in x 2.38in x 1.31in

Enclosed

Size: 3.53in x 2.38in x 1.31in

Din Rail

Size: 3.53in x 2.37in x 1.31inn

OPTIONS

- Package Type
  -Open Frame
  -U-Chassis
  -Enclosed
  -Din Rail
- Protection Type
  -Class I
  -Class II

APPLICATIONS

- Wireless Network
- Telecom/Datacom
- Industry Control System
- Measurement Equipment
- Semiconductor Equipment

FEATURES

- Wide Input Voltage 85~264VAC
- Low Standby Power Consumption
- Built-In Class B EMI Filter
- Adjustable Output Voltage Range
- Low Leakage Current
- 3000VAC Isolation
- High Efficiency up to 93%
- Class I or Class II Protection
- Over Current, Short Circuit, and Over Voltage Protection
- RoHS II Compliant
- REACH Compliant
- CE Marked: Design Meets IEC 61850-3
- Safety Meets UL60950-1, EN60950-1, & IEC60950-1

DESCRIPTION

The PSTAD40 series of AC/DC power supply offers up to 40 watts of output power in an open frame, u-chassis, enclosed, or din rail package. This series consist of single output models with a wide input voltage of 85~264VAC. Each model in this series has low standby power consumption, low leakage current, 3000VAC isolation, and high efficiency. This model also has over current, short circuit, and over voltage protection, RoHS II and REACH compliance, as well as UL60950-1, EN60950-1, and IEC60950-1 safety approvals.

MODEL SELECTION TABLE

Model Number[1]	Input Voltage Range	Output Voltage	Output Current[2]	Ripple & Noise	No Load Input Current	Output Power	Efficiency
PSTAD40-US05X	85~264VAC (120~370VDC)	5VDC	8A	75mVp-p	0.11W	40W	90%
PSTAD40-US75X		7.5VDC	5.34A	75mVp-p	0.11W	40W	90%
PSTAD40-US09X		9VDC	4.45A	75mVp-p	0.11W	40W	91%
PSTAD40-US12X		12VDC	3.34A	75mVp-p	0.11W	40W	92%
PSTAD40-US121X[3]		12VDC	3.34A	75mVp-p	0.11W	40W	90%
PSTAD40-US15X		15VDC	2.67A	75mVp-p	0.11W	40W	92%
PSTAD40-US151X[3]		15VDC	2.67A	75mVp-p	0.11W	40W	90%
PSTAD40-US24X		24VDC	1.67A	75mVp-p	0.11W	40W	92%
PSTAD40-US28X		28VDC	1.43A	75mVp-p	0.11W	40W	91%
PSTAD40-US36X		36VDC	1.12A	75mVp-p	0.11W	40W	92%
PSTAD40-US48X		48VDC	0.84A	150mVp-p	0.11W	40W	93%
PSTAD40-US53X		53VDC	0.77A	150mVp-p	0.11W	40W	92.5%

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
INPUT SPECIFICATIONS						
Input Voltage Range	AC Input		85		264	VAC
	DC Input		120		370	VDC
Input Frequency	AC Input		47		63	Hz
Input Current	100VAC and Full Load				1.0	A
	240VAC and Full Load				0.5	
Leakage Current	264VAC				75	µA
Input Inrush Current	230VAC				60	A
Input Protection	Internal Fuse In Line and Neutral			T3.15A/250VAC		
No Load Input Power	230VAC			0.11		Watts
OUTPUT SPECIFICATIONS						
Output Voltage				See Table		
Initial Set Voltage Accuracy	230VAC and Full Load		-1.0		+1.0	%
Line Regulation	Low Line to High Line at Full Load		-0.2		+0.2	%
Load Regulation	No Load to Full Load	5Vout	-0.7		+0.7	%
		Others	-0.5		+0.5	
	10% Load to 90% Load	5Vout	-0.6		+0.6	
		Others	-0.4		+0.4	
Voltage Adjustability	53Vout		-20		+10	%
	Others			±10		
Output Power				See Table		
Output Current				See Table		
Minimum Load				0		%
Ripple & Noise (20MHz bandwidth)	With a 10µF/25V 1206 X7R MLCC	5V, 7.5V, 9V, 12V, 15V Models		75		mVp-p
	With a 1µF/50V 1206 X7R MLCC	24V, 28V, 36V Models		75		
	With a 0.1µV/100V 1206 X7R MLCC	48V, 53V Models		150		
Transient Response	Load Step from 50~75% Change at 2.5A/µs	Peak Deviation			3	%Vout
		Recovery time		600		µS
Start-Up Time					1000	mS
Rise Time				20		mS
Hold Up Time	115VAC and Full Load			25		mS
Temperature Coefficient			-0.02		+0.02	%/ºC
PROTECTION						
Short Circuit Protection				Continuous, Automatic Recovery		
Over Load Protection	% of Iout rated; Hiccup Mode			145		%
Over Voltage Protection	% of Vout(nom); Latch Mode		125		140	%
ENVIRONMENTAL SPECIFICATIONS						
Operating Temperature	Natural Convection with Derating		-40		+85	ºC
Storage Temperature			-40		+85	ºC
Relative Humidity			5		95	%RH
Operation Altitude					5000	m
Shock				IEC60068-2-27		
Vibration				IEC60068-2-6		
MTBF	MIL-HDBK-217F, Full Load			3,010,000		Hours
GENERAL SPECIFICATIONS						
Efficiency				See Table		
Switching Frequency	230VAC	5V Models		70		kHz
		Others		120		
Isolation Voltage	1 Minute (2MOPP Insulation)	Input to Output	3000			VAC
		Input (Output) to F.G.	2500			
Isolation Resistance	500VDC		0.1			GΩ
PHYSICAL SPECIFICATIONS						
Weight	Open Frame Package			4.02oz (114g)		
	U-Chassis Package			5.43oz (154g)		
	Enclosed Package			5.96oz (169g)		
	Din Rail Package			6.70oz (190g)		
Dimensions (L x W x H)	Open Frame Package			3in x 2in x 0.94in (76.2mm x 50.8mm x 24mm)		
	U-Chassis Package			3.53in x 2.38in x 1.31in (89.7mm x 60.5mm x 33.3mm)		
	Enclosed Package			3.53in x 2.38in x 1.31in (89.7mm x 60.5mm x 33.3mm)		
	Din Rail Package			3.53in x 2.37in x 1.31in (89.7mm x 60.4mm x 33mm)		

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
SAFETY CHARACTERISTICS							
Safety Meets	UL60905-1[5], EN60950-1, IEC60950-1						
EMI[4]	EN55011, EN55022, and FCC Part 15						Conducted: Class B Radiated: Class B
Harmonic Current	EN61000-3-2	Full Load					Class A
Voltage Flicker	EN61000-3-3						
ESD	EN61000-4-2	Air ±15kV and Contact ±6kV					Perf. Criteria A
Radiated Immunity	EN61000-4-3	20V/m					Perf. Criteria A
Fast Transient	EN61000-4-4	±4kV					Perf. Criteria B
Surge	EN61000-4-5	DM ±2kV and CM ±4kV					Perf. Criteria A
Conducted Immunity	EN61000-4-6	20 Vr.m.s					Perf. Criteria A
Power Frequency Magnetic Field	EN61000-4-8	100 A/m					Perf. Criteria A
Dip and Interruptions	EN61000-4-11	230VAC 50Hz	30% 20mS				Perf. Criteria A
			30% 500mS				Perf. Criteria A
			60% 1000mS				Perf. Criteria A
			>95% 10mS				Perf. Criteria A
			>95% 5000ms				Perf. Criteria B
Damped Oscillatory Wave	EN61000-4-18	DM ±1kV and CM ±2.5kV					Perf. Criteria A

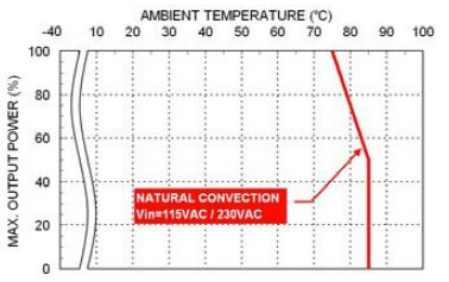
NOTES

1. "X" in model number indicates package type. "X" can either be "O" for open frame, "U" for u-chassis, "C" for enclosed, or "DN" for din rail.
2. Convection cooled at 73ºC Ta
3. Please note that PSTAD40-12S-x and PSTAD40-15S-x have higher efficiency than PSTAD40-12S1-x and PSTAD40-12S1-x. This allows for higher ambient temperature operation.
4. External components may be required for class I application. Contact factory for more information.
5. This product is Listed to applicable standards and requirements by UL.

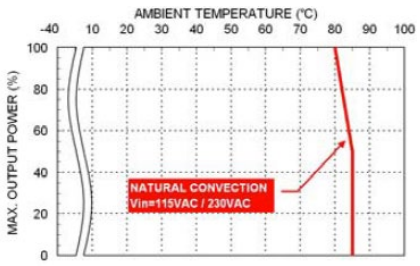
**Due to advances in technology, specifications subject to change without notice.*

DERATING CURVES

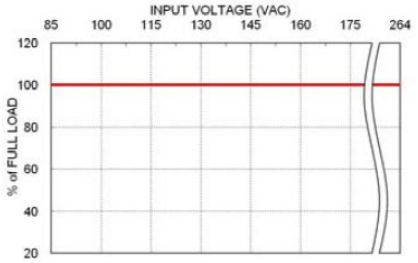
Derating Curve vs. Ambient Temperature
5V, 7.5V, 9V, 121V, 151V, 28V Models



Derating Curve vs. Ambient Temperature
12V, 15V, 24V, 36V, 48V, 53V Models

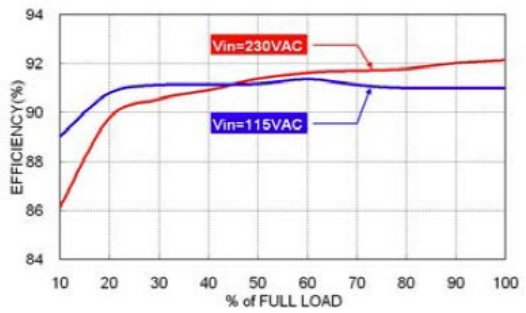


Derating Curve vs. Input Voltage
All Models

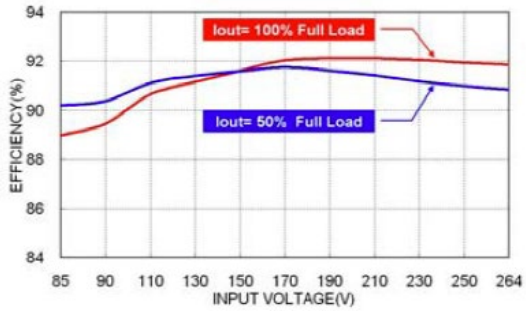


EFFICIENCY GRAPHS

Efficiency vs. Output Load

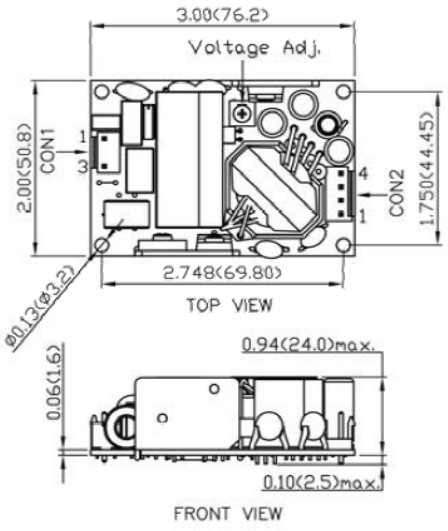


Efficiency vs. Input Voltage

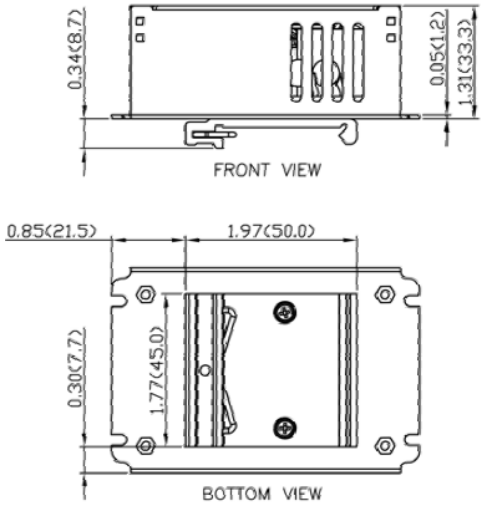


MECHANICAL DRAWINGS

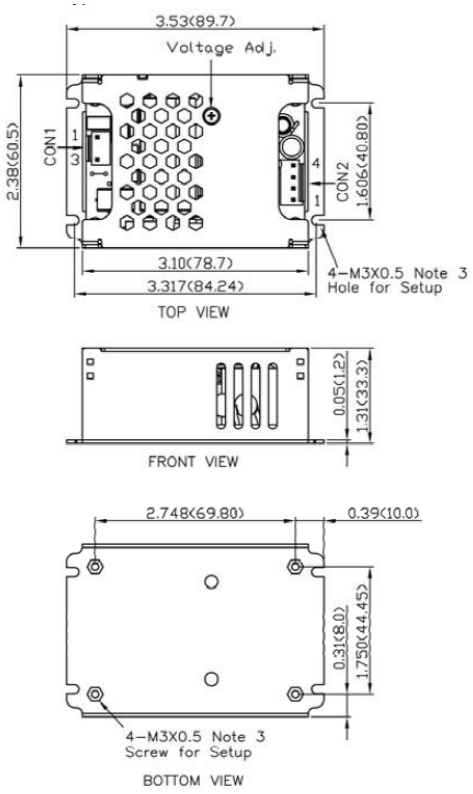
Open Frame Package



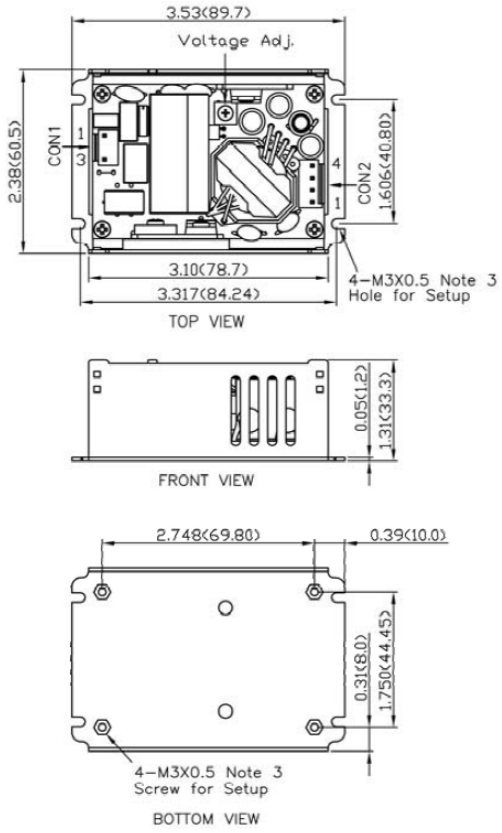
Din Rail Package



Enclosed Package



U-Chassis Package



Notes:
1. All dimesnsions in inch (mm)
2. Tolerance: x.xx±0.02 (x.x±0.5) x.xxx±0.01 (x.xx±0.25)
3. M3x0.5 screw locked torque MAX 5Kgf.cm/0.49N.m

CONNECTORS

CON1-Input Connector

Pin 1	Line
Pin 3	Neutral

Mates with
JST Housing: VHR-3N
JST Crimp Terminals: SVH-21T-P1.1

Either one of four screws holes of Open/Chassis type can be considered as PE connection for CLASS I application.

CON2-Output Connector

Pin 1,2	-Vout
Pin 3,4	+Vout

Mates with
JST Housing: VHR-4N
JST Crimp Terminals: SVH-21T-P1.1

MODEL NUMBER SETUP

PSTAD	40	-	U	S	15	X	B
Series Name	Output Power		Input Voltage	Output Quanitity	Output Voltage	Package Type	Protection Type
	40: 40 Watts		**U:** Universal 85~264VAC	**S:** Single Output	**05:** 5VDC **75:** 7.5VDC **09:** 9VDC **12:** 12VDC **15:** 15VDc **24:** 24VDC **28:** 28VDC **36:** 36VDC **48:** 48VDC **53:** 53VDC	**O:** Open Frame **U:** U-Chassis **C:** Enclosed **DN:** Din Rail	**B:** Class II **Blank:** Class I

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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