Size: 4.00in x 1in x 1.28in
(101.6mm x 25.4mm x 32.6mm)

FEATURES

- Wide Operating Input Voltage Range of 80 to 275VAC
- Single Output
- Support Risk Management Process
- Input to Output: 2MOPP
- RoHS II Compliant
- Over Load and Short Circuit Protection
- High ESD Immunity
- Cooling by Free Air Convection
- IEC60601-1 Edition 3.1, ES60601-1:2005 (R2012), CSA C22.2 No. 60601-1:14, and EN60601-1: 2006/A1: 2013 Safety Approvals

APPLICATIONS

- Breathing Therapy Device
- Blood Pressure System
- Portable Medical Device
- ECG, EEG
- Medical Tablet

DESCRIPTION

The PSHBU50 series of medical AC/DC open frame power supplies offers up to 50 watts of output power in a 4” x 1” x 1.28” package. This series consists of single output models with a wide operating input voltage range of 80-275VAC. Each model in this series has high ESD immunity, cooling by free air convection, and over load and short circuit protection. This series has IEC60601-1 Edition 3.1, ES60601-1:2005 (R2012), CSA C22.2 No. 60601-1:14, and EN60601-1: 2006/A1: 2013 safety approvals.

MODEL SELECTION TABLE

Model Number	Operate Input Voltage Range	Output Voltage Range[1]	Output Current		Ripple & Noise		No Load Consumption	Output Power	Efficiency
			Min Load	Max Load	Min	Max			
PSHBU50-102	80-275VAC	5.0-6.0VDC	5.83A	7.00A	50mVp-p	60mVp-p	0.10W	35W	79%
PSHBU50-103		6.8-8.0VDC	5.00A	6.66A	60mVp-p	80mVp-p	0.10W	40W	80%
PSHBU50-104		8.0-11.0VDC	4.09A	5.62A	80mVp-p	110mVp-p	0.10W	45W	85%
PSHBU50-105		11.0-13.0VDC	3.84A	4.55A	110mVp-p	130mVp-p	0.15W	50W	87%
PSHBU50-106		13.0-16.0VDC	3.13A	3.85A	130mVp-p	160mVp-p	0.15W	50W	88%
PSHBU50-107		16.0-21.0VDC	2.38A	3.13A	160mVp-p	210mVp-p	0.15W	50W	88%
PSHBU50-108		21.0-27.0VDC	1.85A	2.38A	210mVp-p	270mVp-p	0.15W	50W	88%
PSHBU50-109		27.0-33.0VDC	1.51A	1.85A	270mVp-p	330mVp-p	0.15W	50W	88%
PSHBU50-110		33.0-40.0VDC	1.25A	1.51A	330mvp-p	400mVp-p	0.15W	50W	88%
PSHBU50-111		40.0-50.0VDC	1.00A	1.25A	400mVp-p	500mVp-p	0.15W	50W	88%
PSHBU50-112		50.0-59.0VDC	0.84A	1.00A	500mVp-p	590mVp-p	0.15W	50W	88%

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	Safety Approval & Specification Label Input Voltage Range		100		240	VAC
	Operate Voltage Range		80		275	
Input Frequency	Sine Wave		47		63	Hz
Input Current	Low Line	Full Load, Vin=100VAC			1.2	A
	High Line	Full Load, Vin=240VAC			0.7	
Inrush Current	Low Line	Full Load, 25ºC, Cool Start, Vin=100VAC			40	A
	High Line	Full Load, 25ºC, Cool Start, Vin=240VAC			80	
OUTPUT SPECIFICATIONS						
Output Voltage				See Table		
Line Regulation[4]	Full Load, Vin=100~120VAC			±1		%
Total Regulation[5]	PSHBU50-102-107			±5		%
	PSHBU50-108-112			±3		
Output Power				See Table		
Output Current				See Table		
Ripple & Noise[6]				See Table		
Transient Response Time	Full Load to Half Load, Vin=100VAC				4	mS
Start-Up Time	Full Load, Vin=100~240VAC				2	S
Hold-Up Time	Full Load, Vin=110VAC			12		mS
Temperature Coefficient	All Conditions				±0.04	%/ºC
PROTECTION						
Short Circuit Protection				Free Air Convection		
Over Load Protection	Recovers automatically after the fault condition is removed		110		150	%
ENVIRONMENTAL SPECIFICATIONS						
Operating Temperature	Derate linearly from 100% load at 40ºC to 50% load at 70ºC		-10		70	ºC
Storage Temperature	10~95%RH		-40		85	ºC
Operating Humidity	Non-Condensing		0		95	%RH
Storage Humidity			0		95	%RH
Operating Altitude	All Conditions				3000	m
Vibration	10~500Hz, 10min./1cycle, 60min. each along X, Y, Z axes				5	G
Cooling				Free Air Convection		
MTBF	Operating temperature at 25ºC, per MIL-HDBK0217F		100,000			Hours
GENERAL SPECIFICATIONS						
Efficiency	Full Load, Vin=100~120VAC			See Table		
Dielectric Withstanding Voltage	Primary to Secondary, Limit Current <10mA				4000	VAC
PHYSICAL SPECIFICATIONS						
Weight				2.65oz (75g)		
Dimensions (L x W x H)				4.00in x 1in x 1.28in (101.6mm x 25.4mm x 32.6mm)		
Flammability Rating				UL94V-1		
SAFETY CHARACTERISTICS						
Safety Approvals	IEC60601-1 Edition 3.1, ES60601-1:2005(R2012), CSA C22.2 No.60601-1:14, EN60601-1:2006/A1:2013					
EMC Emission	Compliance to EN55011 (CISPR11), EN60601-1-2					Class B
Surge Voltage	Line-Neutral				1	kV
	Line-PE & Neutral-PE				2	
Electrostatic Discharge	Air Discharge, IEC61000-4-2				15	kV
	Contact Discharge, IEC61000-4-2				8	
Class of Equipment	Double Insulated, Class II					

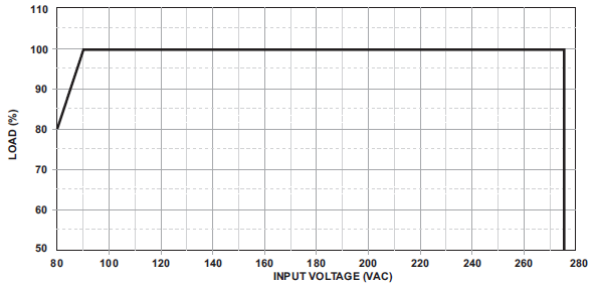
NOTES

1. Factory setting, cannot be adjusted.
2. Output can provide up to peak load when the power supply starts up. Staying in more than rated load continually is not allowed.
3. At factory, in 60% rated load condition, each output is checked to be within voltage accuracy.
4. Line regulation is defined by changing ±10% of input voltage from nominal line at rated load.
5. Load regulation is defined by changing ±40% of measured output load from 60% rated load.
6. Ripple & Noise is measured by using 20MHz bandwidth limited oscilloscope and terminated each output with a 0.47uF capacitor at rated load and nominal line.
7. Hold up time is measured from the end of the last charging pulse to the time which the main output drops down to low limit of main output at rated load and nominal line.

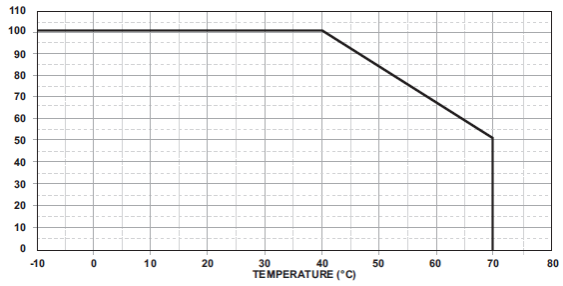
**Due to advances in technology, specifications subject to change without notice.*

DERATING CURVES

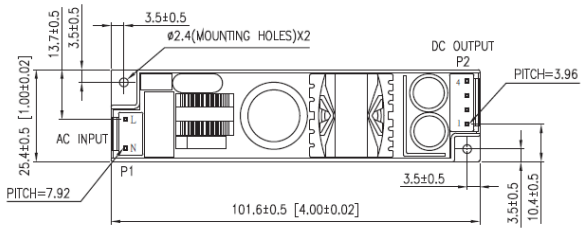
Input Voltage Derating Curve

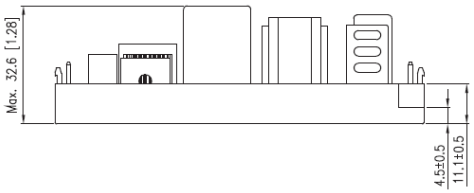


Temperature Derating Curve



MECHANICAL DRAWINGS





Notes:

1. Input connector mates with JST housing VHR-3N and JST SVH series crimp terminal
2. Output connector mates with JST housing VHR-6N and JST SVH series crimp terminal

PIN CHART

PIN / MODEL	1	2	3	4
PSHBU50-1xx	OUT	OUT	RTN	RTN

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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