Size: 4in x 1in x 1.28in (101.6mm x 25.4mm x 32.6mm)

FEATURES

- Wide Operating Voltage, 80 to 275VAC, 47 to 63Hz
- Single Outputs
- Supports Risk Management Process
- Input to Output: 2MOPP
- High ESD Immunity
- Ultra Low Earth Leakage Current
- Short Circuit and Over Load Protection
- IEC60601-1 Edition 3.1, ES60601-1:2005(R2012), CSA C22.2 No. 60601-1:14, EN60601-1:2006/A1:2013 Safety Approvals

APPLICATIONS

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

DESCRIPTION

The PSHBU40 series of AC DC open frame medical power supplies offers up to 40 watts of output power in a 4” x 1” x 1.28” unit. This series consists of single output models and a wide operating voltage of 80 to 275VAC. Each model in this series has an ultra low earth leakage current and is protected against short circuit and over load conditions. This series has IEC60601-1 edition 3.1, ES60601-1:2005(R2012), CSA C22.2 No. 60601-1:14, EN60601-1:2006/A1:203 safety approvals.

MODEL SELECTION TABLE

Model Number	Input Voltage Range	Output Voltage Range[1]	Output Current		Ripple & Noise		Output Power	Total Regulation	Efficiency
			Min Load	Max Load	Min.	Max.			
PSHBU40-102	80 to 275VAC	5~6VDC	4.66A	5.60A	50mVp-p	60mVp-p	28W	±5%	79%
PSHBU40-103		6~8VDC	4.00A	5.33A	60mVp-p	80mVp-p	32W	±5%	80%
PSHBU40-104		8~11VDC	3.28A	4.50A	80mVp-p	110mVp-p	36W	±5%	85%
PSHBU40-105		11~13VDC	3.07A	3.63A	110mVp-p	130mVp-p	40W	±5%	87.5%
PSHBU40-106		13~16VDC	2.50A	3.07A	130mVp-p	160mVp-p	40W	±5%	88%
PSHBU40-107		16~21VDC	1.90A	2.50A	160mVp-p	210mVp-p	40W	±5%	88%
PSHBU40-108		21~27VDC	1.48A	1.90A	210mVp-p	270mVp-p	40W	±3%	88%
PSHBU40-109		27~33VDC	1.21A	1.48A	270mVp-p	330mVp-p	40W	±3%	88%
PSHBU40-110		33~40VDC	1.00A	1.21A	330mVp-p	400mVp-p	40W	±3%	88%
PSHBU40-111		40~50VDC	0.80A	1.00A	400mVp-p	500mVp-p	40W	±3%	88%
PSHBU40-112		50~59VDC	0.68A	0.80A	500mVp-p	590mVp-p	40W	±3%	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						
Operate Input Voltage Range			80		275	VAC
Safety Approval Input Voltage Range			100		240	VAC
Input Frequency	Sine Wave		47		63	Hz
Input Current	Low Line	Full Load, Vin=100VAC			1.0	A
	High Line	Full Load, Vin=240VAC			0.6	
Inrush Current	Low Line	Full Load, 25ºC, Cool Start, Vin=100VAC			30	A
	High Line	Full Load, 25ºC, Cool Start, Vin=240VAC			60	
OUTPUT SPECIFICATIONS						
Output Voltage			See Table			
Line Regulation[4]	Full Load, Vin=100~120VAC or 200~240VAC				1	%
Total Regulation[5]			See Table			
Output Power			See Table			
Output Current			See Table			
No Load Consumption				0.1		W
Ripple & Noise (20MHz bandwidth)[6]			See Table			
Transient Response Time	Io=Full Load to Half Load, Vin=100VAC				4	ms
Start-Up Time	Full Load, Vin=100~240VAC				2	S
Hold-Up Time[7]	Full Load, Vin=110VAC			12		ms
Temperature Coefficient	All Conditions		-0.04		+0.04	%/ºC

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
PROTECTION					
Short Circuit Protection			Automatic Recovery		
Over Load Protection	Recovers automatically after fault condition is removed	110		150	%
ENVIRONMENTAL SPECIFICATIONS					
Operating Case Temperature	Derate linearly from 100% load at 40ºC to 50% load 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
Surge Voltage	Line-Neutral			1	kV
	Line-PE & Neutral-PE			2	
Vibration	10~500Hz, 10min./1cycle, 60min. each along X, Y, Z axes			5	G
Electro Static Discharge	Air Discharge, IEC61000-4-2			15	kV
	Contact Discharge, IEC61000-4-2			8	
Cooling			Free Air Convection		
MTBF	Operating Temperature at 25ºC, Calculated per MIL-HDBK-217F	100,000			Hours
GENERAL SPECIFICATIONS					
Efficiency(8)	Full Load, Vin=230VAC		See Table		
Dielectric Withstanding Voltage (P-S)	Primary to Secondary, limit current <10mA			4000	VAC
PHYSICAL SPECIFICATIONS					
Weight			2.65oz (75g)		
Dimensions (L x W x H)			4in x 1in x1.28in (4.00mm x 25.4mm x 32.6mm)		
Input Connector			Mates with JST housing VHR-3N and JST SVH series crimp terminal		
Output Connector			Mates with JST housing VHR-6N and JST SVH series crimp terminal		
SAFETY & EMC CHARACTERISTICS					
Safety Approvals	IEC60601-1 Edition 3.1 ES60601-1:2005(R2012) CSAC22.2 No 60601-1:14 EN60601-1:2006/A1:2013				
EMC	Compliance to EN55011 (CISPR11), EN60601-1-2				Class B
Flammability Rating					UL94V-1
Protection Classes					Double Insulated, Class II

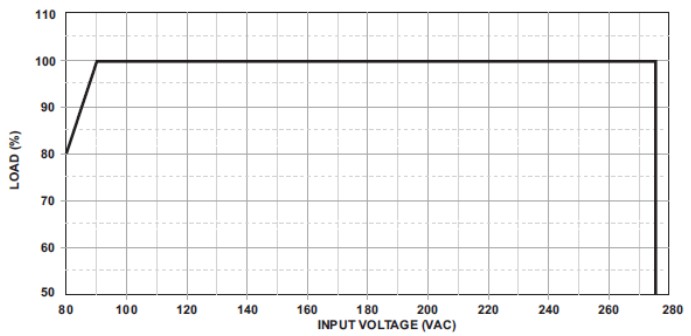
NOTES

(1) Output is at factory setting and cannot be adjusted.
(2) Output can provide up to peak load when the power supply starts up. Staying in more than the rated load continuously is not allowed.
(3) Each output is checked to be within voltage accuracy at factory in 60% rated load condition.
(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.
(8) Efficiency is measured at rated load and nominal line.

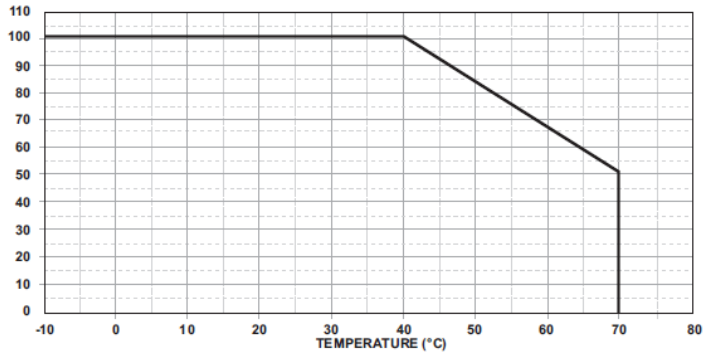
**Due to advances in technology, specifications subject to change without notice.*

DERATING CURVES

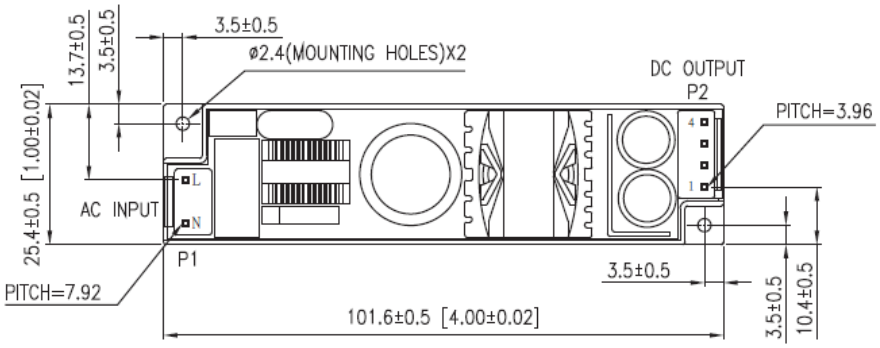
Input Voltage Derating Curve



Temperature Derating Curve

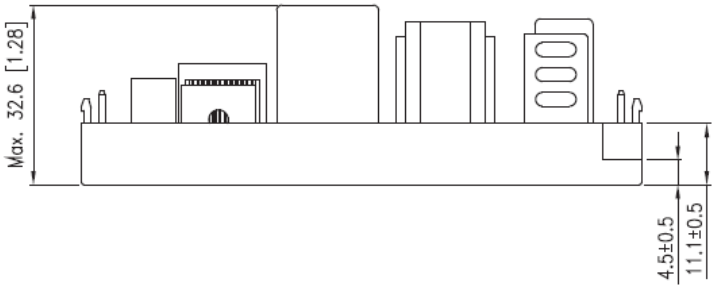


MECHANICAL DRAWINGS



PIN Chart PSHBU40-1XX

1	2	3	4
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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