Size: 3.98in x 2in x 1in
(101.0mm x 50.8mm x 25.4mm)

FEATURES

- Wide Operating Input Voltage Range of 80-275VAC
- Single Output
- High ESD Immunity
- Input to Output: 2MOPP
- 100% Burn-In Tested
- Short Circuit, Over Voltage, and Over Load Protection
- RoHS 2 Compliant
- 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

- Patient Monitor
- Ultrasound System
- Portable Medical Devices
- Blood Chemistry Analyzer
- Medical Imaging

DESCRIPTION

The PSHBU60 series of AC/DC medical open frame power supplies offers up to 60 watts of output power in a 3.98” x 2” x 1” package. This series consists of single output models with a wide operating input voltage range of 80-275VAC as well as high ESD immunity. Each model in this series is RoHS 2 compliant, has short circuit, over voltage, and over load protection, and has been 100% burn-in tested. 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[1]	Output Current		Ripple & Noise	Output Power	Efficiency
			Min Load	Max Load			
PSHBU60-105	80-275VAC	12-13VDC	4.61A	5.00A	120mVp-p	60W	84%
PSHBU60-106		13-16VDC	3.75A	4.67A	130mVp-p	60W	85%
PSHBU60-107		16-21VDC	2.85A	3.75A	160mVp-p	60W	86%
PSHBU60-108		21-27VDC	2.22A	2.85A	200mVp-p	60W	86%
PSHBU60-109		27-33VDC	1.81A	2.22A	200mVp-p	60W	86%
PSHBU60-110		33-40VDC	1.50A	1.81A	200mVp-p	60W	86%

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 & Label Specification		100		240	VAC
	Operate Voltage Range		80		275	
Input Frequency	Sine Wave		47		63	Hz
Input Current	Low Line	Full Load, Vin=100VAC			0.8	A
	High Line	Full Load, Vin=240VAC			0.4	
Inrush Current	Low Line	Full Load, 25ºC, Cool Start, Vin=100VAC			25	A
	High Line	Full Load, 25ºC, Cool Start, Vin=240VAC			50	
Safety Ground Leakage Current	Vin=240VAC/60Hz				0.25	mA
OUTPUT SPECIFICATIONS						
Output Voltage			See Table			
Line Regulation[4]	Full Load, Vin=100VAC~120VAC or 200~240VAC				1	%
Total Regulation[5]	PSHBU60-105-107			±5		%
	PSHBU60-108-110			±3		
Output Power			See Table			
Output Current			See Table			
Ripple & Noise[6]			See Table			
Transient Response Time	Full Load, Vin=110VAC				4	mS
Start-Up Time	Full Load, Vin=100~240VAC				2	S
Hold-Up Time[7]	Full Load, Vin=100VAC			12		mS
Temperature Coefficient	All Conditions				±0.04	%/ºC
PROTECTION						
Short Circuit Protection			Automatic Recovery			
Over Load Protection	Recovers automatically after fault condition is removed		110		150	%
Over Voltage Protection			112		132	%

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
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
Operation 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-HDBK-217F	100,000			Hours
GENERAL SPECIFICATIONS					
Efficiency	Full Load, Vin=230VAC	See Table			
Insulation Resistance		50			MΩ
Dielectric Withstanding Voltage	Primary to Secondary, Limit Current <10mA			4000	VAC
	Primary to PE, Limit Current <10mA			1500	
PHYSICAL SPECIFICATIONS					
Weight		4.94oz (140g)			
Dimensions (L x W x H)		3.98in x 2in x 1in (101.0mm x 50.8mm x 25.4mm)			
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
Electro Static Discharge	Air Discharge, IEC61000-4-2			15	kV
	Contact Discharge, IEC61000-4-2			8	
Surge Voltage	Line-Neutral			1	kV
	Line-PE & Neutral-PE			2	
Protection Class	Class I				

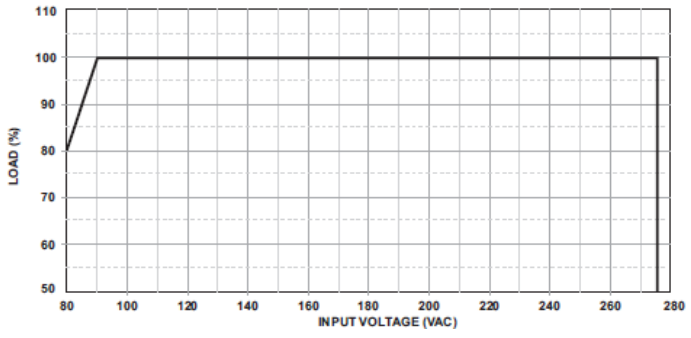
NOTES

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 the low limit of main output at rated load and nominal line.

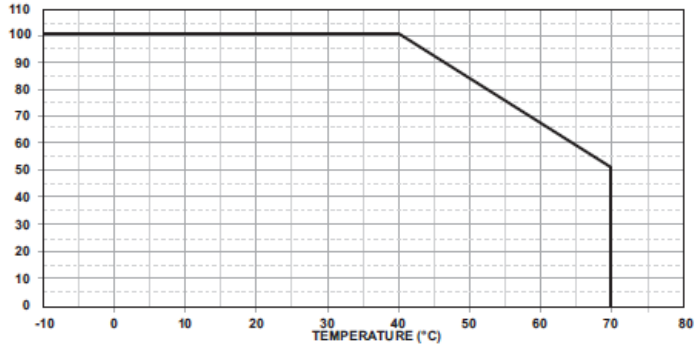
**Due to advances in technology, specifications subject to change without notice.*

DERATING CURVES

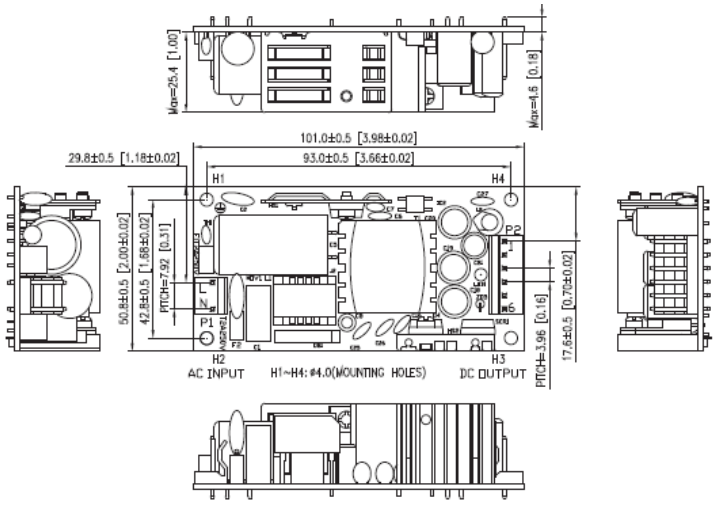
Input Voltage Derating Curve



Temperature Derating Curve



MECHANICAL DRAWINGS



Notes:

1. Input connector mates with Molex housing 09-50-3031/35977-0300 and Molex 2478/35922 series crimp terminal
2. Output connector mates with Molex housing 09-50-3061/35977-0600 and Molex 2478/35922 series crimp terminal.

PIN CHART

PIN / MODEL	1	2	3	4	5	6
PSHBU60-1xx	OUT	OUT	OUT	RTN	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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