



Size: 4in x 1.50in x 1.04in (101.6mm x 38.1mm x 26.5mm)

**FEATURES**

- Wide Operating Input Voltage of 80~275VAC
- Single Outputs
- Over Voltage, Over Load, and Short Circuit Protection
- Protection Class I
- Cooling by Free Air Convection
- High Efficiency up to 90%
- Output Power Up to 60 Watts
- Support Risk Management Process
- Input to Output: 2MOPP
- High ESD Immunity
- IEC60601-1 Edition 3.1, ES60601-1:2005(R2012), CSAC22.2 NO.60601-1:14, and EN60601-1:2006/A1:2013 Safety Approvals

**APPLICATIONS**

- Breathing Therapy Devices
- Blood Pressure Systems
- Portable Medical Device
- ECG ` EEG
- Medical Tablets

**DESCRIPTION**

The PSHBU58 series of AC/DC medical open frame power supplies provide up to 60 watts of continuous output power. This series consists of single output models with a wide operating input voltage range of 80~275VAC and output voltages ranging from 5VDC to 55VDC. Each model is protected against short circuit, over voltage and over load conditions and have IEC60601-1 Edition 3.1, ES60601-1:2005(R2012), CSAC22.2 NO.60601-1:14, and EN60601-1:2006/A1:2013 safety approvals.

**MODEL SELECTION TABLE**

Model Number	Input Voltage Range	Setting Voltage Range <sup>(1)</sup>	Output Current		Ripple & Noise <sup>(6)</sup>	No Load Consumption	Output Power	Total Regulation	Efficiency <sup>(8)</sup>
			Min Load	Max Load					
PSHBU58-102	80~275VAC	5~6VDC	5.50A	6.60A	100mVp-p	0.5W	33W	±5%	80%
PSHBU58-103		6~8VDC	5A	6.66A	100mVp-p	0.5W	40W	±5%	82%
PSHBU58-104		8~11VDC	4.54A	6.25A	100mVp-p	0.5W	50W	±5%	86%
PSHBU58-105		11~13VDC	4.61A	5.45A	100mVp-p	0.5W	60W	±5%	87%
PSHBU58-106		13~16VDC	3.75A	4.67A	100mVp-p	0.5W	60W	±5%	87%
PSHBU58-107		16~21VDC	2.85A	3.75A	100mVp-p	0.5W	60W	±5%	87%
PSHBU58-108		21~27VDC	2.22A	2.85A	100mVp-p	0.5W	60W	±3%	88%
PSHBU58-109		27~33VDC	1.81A	2.22A	100mVp-p	0.5W	60W	±3%	88%
PSHBU58-110		33~40VDC	1.50A	1.81A	100mVp-p	0.5W	60W	±3%	89%
PSHBU58-111		40~50VDC	1.20A	1.50A	100mVp-p	0.5W	60W	±3%	90%
PSHBU58-112		50~55VDC	1.09A	1.20A	100mVp-p	0.5W	60W	±3%	90%

**SPECIFICATIONS**

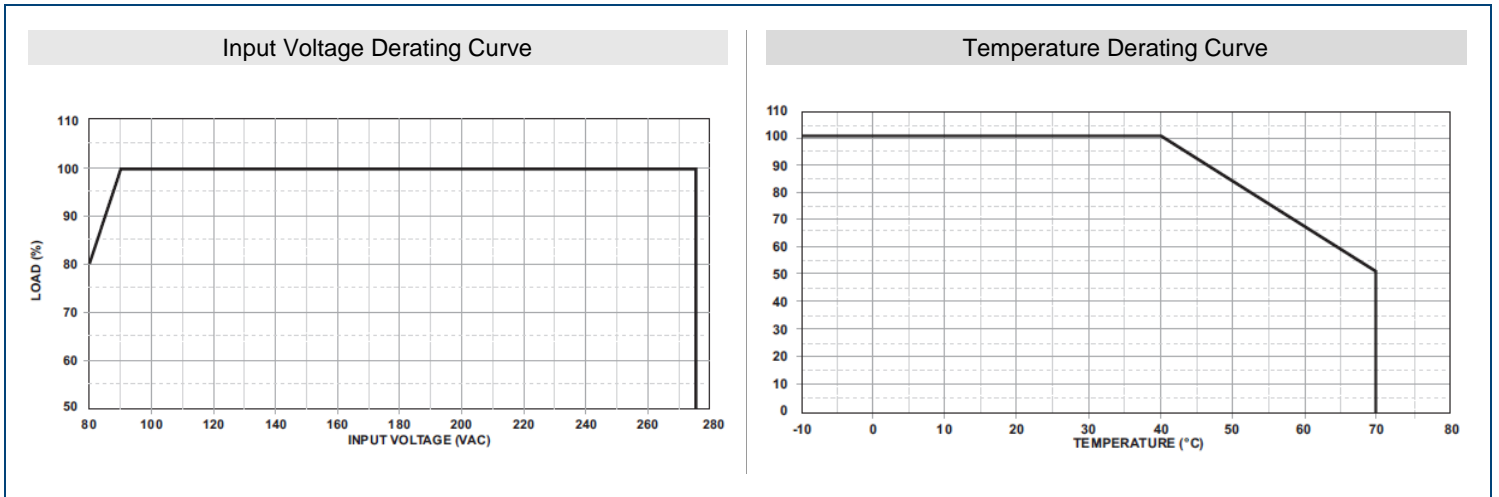
All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted.  
We reserve the right to change specifications based on technological advances.

SPECIFICATION	TEST CONDITIONS	Min	Typ	Max	Unit
<b>INPUT SPECIFICATIONS</b>					
Safety Approval Input Voltage Range	Safety Approval & Specification in Label	100		240	VAC
Input Operate Voltage Range	Derate linearly from 100% load at 90VAC to 80% load at 80VAC)	80		275	VAC
Input Frequency	Sine Wave	47		63	Hz
Input Current	Low Line	Full Load, Vin=100VAC		1.2	A
	High Line	Full Load, Vin=240VAC		0.6	
Inrush Current	Low Line	Full Load, 25°C, Cool Start, Vin=100VAC		30	A
	High Line	Full Load, 25°C, Cool Start, Vin=100VAC		60	
Safety Ground Leakage Current	Vin=240VAC, Fi=60Hz			0.25	mA
<b>OUTPUT SPECIFICATIONS</b>					
Output Voltage		See Table			
Line Regulation <sup>(4)</sup>	Full Load, Vin=100~120VAC or 200~240VAC			1	%
Total Regulation	PSHBU58-102 – PSHBU58-107 PSHBU58-108 – PSHBU58-112		±5		%
			±3		
Output Power				60	W
Output Current		See Table			
Ripple & Noise		See Table			
Transient Response Time	Full Load, Vin=110VAC			4	ms
Start-Up Time	Full Load, Vin=100~240VAC	0.25		0.5	S
Hold-Up Time <sup>(7)</sup>	Full Load, Vin=100VAC		12		ms
Temperature Coefficient	All Conditions			±0.04	%/°C
<b>PROTECTION</b>					
Short Circuit Protection		Automatic Recovery			
Over Load Protection	Recovers automatically after fault condition is removed	110		150	%
Over Voltage Protection	Crowbar Mode	110		275	%
<b>ENVIRONMENTAL SPECIFICATIONS</b>					
Operating Temperature	Derate linearly from 100% load at 40°C to 50% load at 70°C	-10		70	°C
Storage Temperature	10~95% RH	-40		85	°C
Operating Humidity	Non-Condensing	0		95	% RH
Storage Humidity		0		95	% RH
Electro Static Discharge	Air Discharge, IEC61000-4-2 Contact Discharge, IEC61000-4-2				
Operating Altitude	All Condition			3000	M
Vibration	10~500Hz, 10min./1cycle, 60min. each along X, Y, Z axes			5	G
Cooling		Free Air Convection			
Flammability Rating		UL94V-1			
Surge Voltage	Line-Neutral			1	kV
	Line-PE & Neutral PE			2	
MTBF	Operating Temperature at 25°C, Calculated per MIL-HDBK-217F	100k			h
<b>GENERAL SPECIFICATIONS</b>					
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	
<b>PHYSICAL SPECIFICATIONS</b>					
Weight		4.94oz (140g)			
Dimensions (L x W x H)		4.00in x 1.50in x 1.04in (101.6mm x 38.1mm x 26.5mm)			
<b>SAFETY</b>					
Safety Approvals		IEC60601-1 Edition 3.1 ES60601-1: 2005 (R1012) CSAC22.2 NO.60601-1:14 EN60601-1:2006/A1:2013			
EMC Emission	Compliance to EN55011 (CISPR11), EN60601-1-2	Class B			
Protection Classes		Class I			

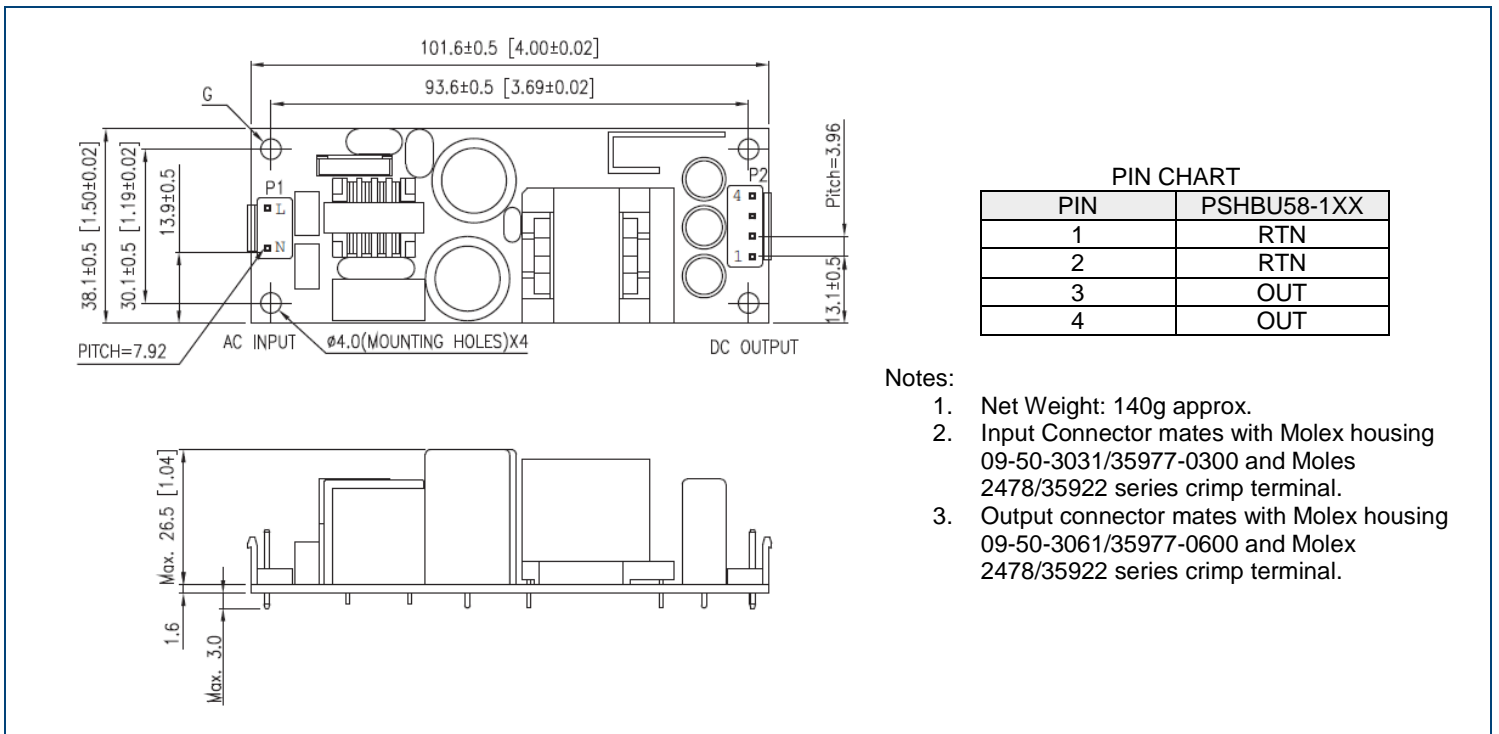
**NOTES**

- (1) Setting voltage range is a factory setting and cannot be adjusted.
- (2) Output can provide up to peak load when the power supply starts up. Continuous staying in more than rated load is not allowed.
- (3) In 60% rated load condition, each output is checked to be within voltage accuracy.
- (4) Line regulation is defined by changing  $\pm 10\%$  of input voltage from nominal line at rated load.
- (5) Load regulation is defined by changing  $\pm 40\%$  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  $0.47\mu\text{F}$  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.

**DERATING CURVES**



**MECHANICAL DRAWINGS**



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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 ISO9001-2008 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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