

# HBU60 series

60W Open Frame Type  
Medical Power Supplies

## Features:

- Wide Operating Voltage 90 to 264 VAC, 47 to 63 Hz
- Single Output
- ANSI/AAMI ES 60601-1: 2005 (UL/cUL 3rd Edition)  
EN 60601-1:2006 (TUV/T-mark 3rd Edition)
- Input to Output : 2MOPP
- Class I
- 2 year warranty



## Electrical Characteristics:

Vin	Safety Approvals Input Voltage Range		100~240VAC
	Operate Voltage Range		90~264VAC
fin	Input Frequency		47~63Hz
Po	Output Power Range		See rating chart
Vo	Output Voltage Range		See rating chart
Io	Output Current Range		See rating chart
Iil	Input Current (Low Line)	Io=Full load, Vin=100VAC	1.62A
Iih	Input Current (High Line)	Io=Full load, Vin=240VAC	0.72A
Ir	Low Line Inrush Current	Io=Full load, 25°C, Cool start, Vin=115VAC	31A (max.)
	High Line Inrush Current	Io=Full load, 25°C, Cool start, Vin=230VAC	62A (max.)
Eff	Efficiency	Io=Full Load, Vin=230VAC	78.4~89%
REG-i	Line Regulation	Io=Full Load	1% (max.)
REG-o	Load Regulation	Vin=230VAC	5% (max.)
OVP	Over Voltage Protection		112~132%
OCP	Over Current Protection		110~150%
Ttr	Time of Transient Response	Io=Full Load to Half Load, Vin=100VAC	4mS (max.)
Th	Hold-Up Time	Io=Full Load, Vin=110VAC	12mS (min.)
Ts	Start Up Time	Io=Full Load, Vin=100VAC	0.3~2S
Vp-p	Ripple & Noise(Peak to Peak)	Full Load, Vin=90VAC	1% (max.)
Ilk	Safety Ground Leakage Current	Vin=240VAC/60Hz	0.25mA (max.)
TC	Temperature Coefficient	All output	±0.04%/°C
OA	Operating Altitude		Up to 3000m
Pno	No-Load Power Consumption	No load, Vin=230VAC	See rating chart
Vps	Dielectric Withstanding Voltage	Primary to secondary	6492VDC (min.)
Vpg	Dielectric Withstanding Voltage for Primary to PE	Primary to PE	2121VDC (min.)
Ris	Isolation Resistance	Test Voltage=500VDC	50MΩ (min.)

Recommend to be used on the metal chassis.

## Environmental

To	Operating Temperature	See derating curve
Ts	Storage Temperature	-40~85°C
Ho	Operating Humidity	0~95%
Hr	Storage Humidity	0~95%
MTBF	Operating Temperature at 25°C, Calculated per MIL-HDBK-217F	0.1M Hrs (min.)
Pd	Derate linearly from 100% load at 40°C to 50% load at 70°C	

## Application:

- Blood Pressure system
- Portable medical devices
- ECG machine

## Safety Approvals:



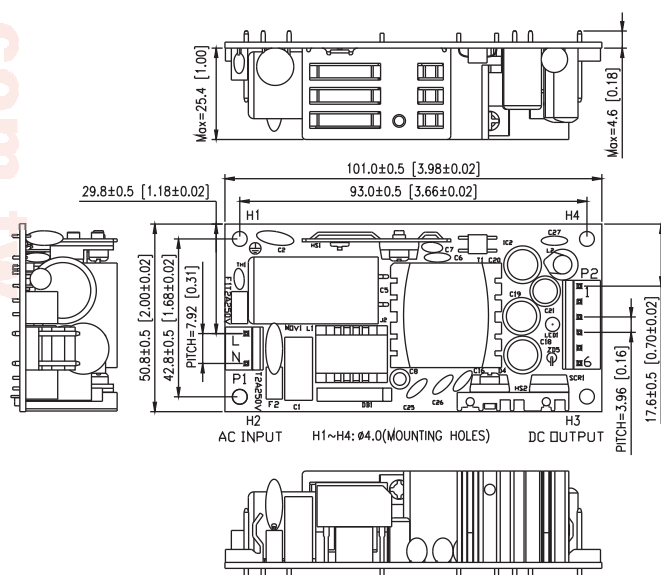
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## Output Voltage And Current Rating Chart ( Single Output ) :

Model Number	Output Voltage	Output Current	Total Regulation	Max. Output Power	Pno (max.)
HBU60-105	12 ~ 13 VDC	5.00 ~ 4.61 A	5%	60W	0.5W
HBU60-106	13 ~ 16 VDC	4.61 ~ 3.75 A	5%	60W	0.5W
HBU60-107	16 ~ 21 VDC	3.75 ~ 2.85 A	5%	60W	0.5W
HBU60-108	21 ~ 27 VDC	2.85 ~ 2.22 A	3%	60W	0.5W
HBU60-109	27 ~ 33 VDC	2.22 ~ 1.81 A	3%	60W	0.5W
HBU60-110	33 ~ 40 VDC	1.81 ~ 1.50 A	3%	60W	0.5W

## Mechanical Specifications:



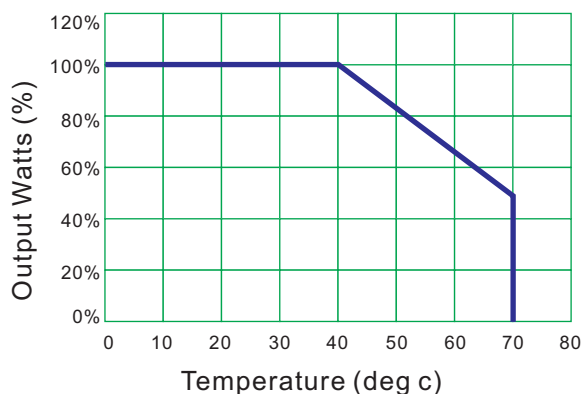
## PIN CHART

PIN	1	2	3	4	5	6
MODEL	1	2	3	4	5	6
HBU60-1XX	OUT	OUT	OUT	RTN	RTN	RTN

Note:

1. Dimensions are shown in inches or mm.
2. Weight: 140gs approx.
3. Input connector mates with Molex housing 09-50-3031/35977-0300 and Molex 2478/ 35922 series crimp terminal.
4. Output connector mates with Molex housing 09-50-3061/35977-0600 and Molex 2478/ 35922 series crimp terminal.

## Derating Curve :



1. Operating Temperature: 0 to 70°C
2. Derate linearly from 100% load at 40°C to 50% load at 70°C