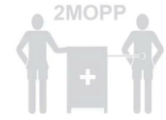
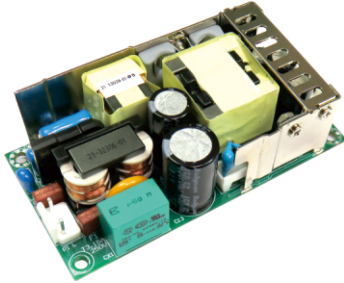


HBU100 F series

V1.6

The HBU100 F series of AC/DC switching mode power supplies provide 150 Watts of continuous output power. All models meet CISPR-11 and EN55011 class B emission Limits, IEC 60601-1-2 and are designed to comply with UL/cUL, TUV T-mark and conformity assessment in CE marking. All units pass burn-in test at full load condition.



FEATURES:

- * Wide operating voltage, 90 to 260 VAC, 47 to 63 Hz
- * Single Output
- * Crowbar Mode over Voltage Protection
- * Over Temperature Protection
- * Size: 2"x4"x1.02"
- * Input to Output : 2MOPP
- * High ESD Immunity
- * Suitable Professional Healthcare Facility
- * 3-Year Warranty

APPLICATIONS:

- * Patient Monitor
- * Ultrasound System
- * Portable Medical Device
- * Blood Chemistry Analyzer
- * Medical Image

GENERAL SPECIFICATION:

- * **Short Circuit Protection:** Auto Recovery
- * **Cooling:** 150W with fan 20 CFM
- * **Protection Classes:** Class I
- * **Safety:** IEC 60601-1 Edition 3.1, IEC 60601-1 Edition 3.2, ANSI/AAMI ES60601-1, CAN/CSA-C22.2 NO.60601-1, EN 60601-1

APPROVALS:



Electrical Characteristics:

Characteristic	Condition	Min.	Typ.	Max.	Unit
Safety Approval Input Voltage Range	Safety Approval & Specification in Label	100		240	VAC
Input Operate Voltage Range	Detail to See Fig.1	90		260	VAC
Input Frequency	Sine Wave	47		63	Hz
Power Factor Correction		0.90		1	
Output Power Range	See Rating Chart			150	W
Low Line Input Current	100% Load & 150% Load(with fan 20 CFM), Vin=100VAC		1.4	2.3	A
High Line Input Current	100% Load & 150% Load(with fan 20 CFM), Vin=240VAC		0.7	1	A
Low Line Input Inrush Current	Full Load, 25°C, Cool Start, Vin=100VAC			50	A
High Line Input Inrush Current	Full Load, 25°C, Cool Start, Vin=240VAC			100	A
Safety Ground Leakage Current	Vin=240VAC, Fi=60Hz			0.25	mA
Efficiency	Full Load, Vin=230VAC, Detail to See Rating Chart	See Rating Chart			
Line Regulation	Full Load, Vin=100~120VAC or 200~240VAC			1	%
Over Voltage Protection		112		132	%
Over Load Protection	Recovers Automatically after Fault Condition is Removed	110		150	%
Time of Transient Response	Io=Full Load to Half Load, Vin=110VAC			4	ms
Hold-Up Time	Full Load, Vin=110VAC	See Rating Chart			
Start-up time	Full Load, Vin=100~240VAC			0.5	s
Insulation Resistance		50			MΩ
Temperature Coefficient	All Condition			±0.04	%/°C
Dielectric Withstanding Voltage (P-S)	Primary to Secondary, Limit Current <10mA	4000			VAC
Dielectric Withstanding Voltage (P-G)	Primary to PE, Limit Current <10mA	2015			VAC
EMC Emission	Compliance to EN55011 (CISPR11), EN60601-1-2	B			Class

Environmental:

Characteristic	Condition	Min.	Typ.	Max.	Unit
Operating Temperature	Detail to See Fig.2 (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			15	kV
Electro Static Discharge	Contact Discharge, IEC61000-4-2			8	kV
Mean Time Between Failure	Operating Temperature at 25°C, Calculated per MIL-HDBK-217F	200k			h
Operating Altitude (Elevation)	All Condition			3000	m
Vibration	10 ~ 500Hz, 10min./1Cycle, 60min. Each Along X, Y, Z Axes			5	G
Surge Voltage	Line-Neutral			1	kV
Surge Voltage	Line-PE & Neutral-PE			2	kV

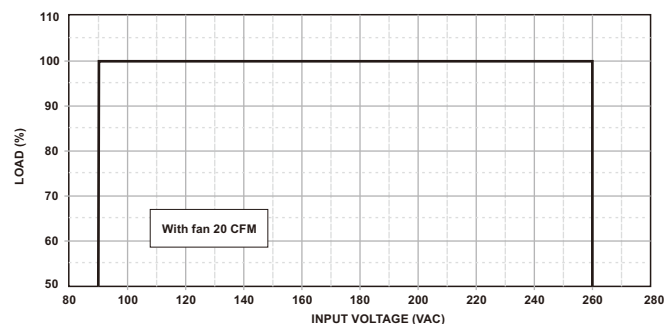
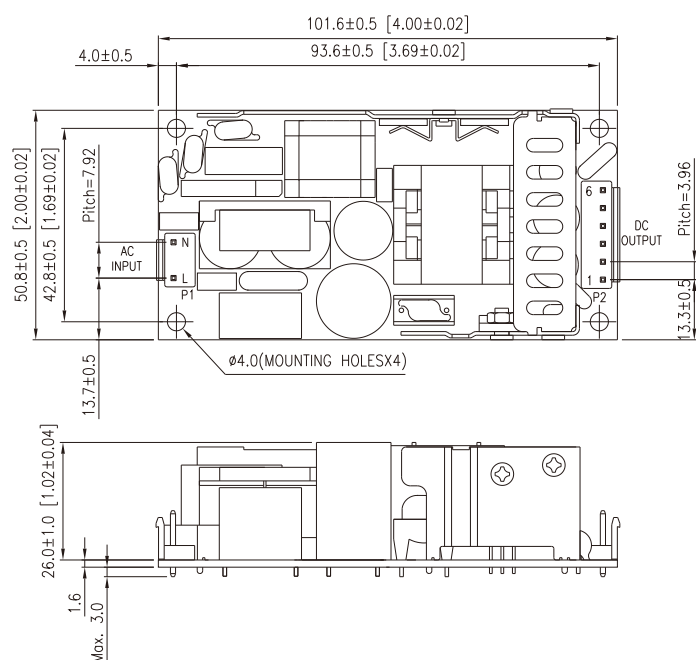
HBU100 F series

V1.6

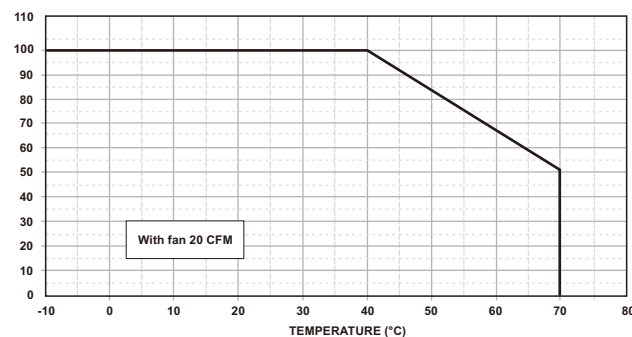
SPECIFICATION NOTE :

1. Output can provide up to peak load when the power supply starts up. Continuous staying in more than rated load is not allowed.
2. At factory, in 60% rated load condition, each output is checked to be within voltage accuracy.
3. Line regulation is defined by changing $\pm 10\%$ of input voltage from nominal line at rated load.
4. Load regulation is defined by changing $\pm 40\%$ of measured output load from 60% rated load.
5. The ripple is measured from peak to peak with a bandwidth-limit of 20MHz (Measured at the output connector with a 0.1uF ceramic capacitor and a 47uF electrolytic capacitor).
6. 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.
7. Efficiency is measured at rated load, and nominal line.

MECHANICAL DIMENSIONS: (UNIT: mm)



(FIG.1) INPUT VOLTAGE DERATING CURVE



(FIG.2) TEMPERATURE DERATING CURVE

PACKING :

1. Net weight: 180~250g approx.
2. Input connector mates with JST housing VHR-3N and JST SVH series crimp terminal..
3. Output connector mates with JST housing VHR-6N and JST SVH series crimp terminal.

PIN CHART

MODEL \ PIN	1	2	3	4	5	6
HBU100-1XXF	OUT	OUT	OUT	RTN	RTN	RTN

Rating Chart:

MODEL NO.	Voltage Range		Output Current (Based on the output volt.)		Maximum Output Power (Forced Air)	Ripple & Noise	Total Regulation	Typ. Efficiency	Typ. No Load Consumption	Hold-Up Time	Protection Mode
	min	max	(with fan cooling)								
	(VDC)	(VDC)	(A)	(A)							
HBU100-105F	11.0	13.0	11.53	13.63	150	200	±3	86	0.5	8	Hiccup
HBU100-106F	13.0	16.0	9.37	11.53	150	300	±3	86	0.5	8	Hiccup
HBU100-107F	16.0	21.0	7.14	9.37	150	300	±3	87	0.5	8	Hiccup
HBU100-108F	21.0	27.0	5.55	7.14	150	300	±3	88	0.5	8	Hiccup
HBU100-109F	27.0	33.0	4.54	5.55	150	300	±3	88	0.5	8	Hiccup
HBU100-110F	33.0	40.0	3.75	4.54	150	300	±3	88	0.5	8	Hiccup
HBU100-111F	40.0	50.0	3.00	3.75	150	300	±3	88	0.5	8	Hiccup