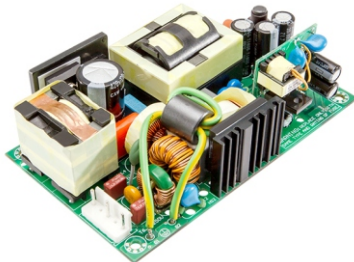


MBU250 P series

V1.6

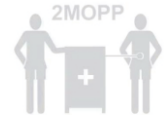
The MBU250 P series of AC/DC switching mode power supplies provide 250 Watts of continuous output power. All models meet FCC Part-18, CISPR-11 and EN55011 class B emission Limits, IEC 60601-1-2 and are designed to comply with UL/cUL, TUV T-mark and conformity assessment in CE marking. All units pass burn-in test at full load condition.



250W Open Frame Medical Grade Power Supply

FEATURES:

- * Wide Operating Voltage, 90 to 264 VAC, 47 to 63 Hz
- * Single Output with Standby Power
- * Protection: OVP, OLP, OTP
- * Size: 3"x5"x1.46"
- * Input to Output: 2MOPP
- * High ESD Immunity
- * Suitable Professional Healthcare Facility
- * Remote ON/OFF
- * 5-Year Warranty



APPLICATIONS:

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

GENERAL SPECIFICATION:

- * **Short Circuit Protection:** Auto Recovery
- * **Cooling:** Free Air Convection
- * **Protection Classes:** Class I
- * **Safety:** IEC60601-1 Edition3.1, ANSI/AAMI ES60601-1, CSA-C22.2 NO.60601-1, EN60601-1

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		264	VAC
Input Frequency	Sine Wave	47		63	Hz
Power Factor Correction		0.90		1	
Output Power Range	See Rating Chart			250	W
Low Line Input Current	Full Load, Vin=100VAC		3		A
High Line Input Current	Full Load, Vin=240VAC		1.5		A
Low Line Input Inrush Current	Full Load, 25°C, Cool Start, Vin=100VAC			75	A
High Line Input Inrush Current	Full Load, 25°C, Cool Start, Vin=240VAC			150	A
Safety Ground Leakage Current	Vin=264VAC, Fi=63Hz			0.30	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	Recovers Automatically After Fault Condition is Removed	112		132	%
Over Load Protection	Recovers Automatically After Fault Condition is Removed	105		130	%
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			2	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	1500			VAC
Dielectric Withstanding Voltage (S-G)	Secondary to PE, Limit Current <10mA	1500			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	-40		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

MBU250 P series

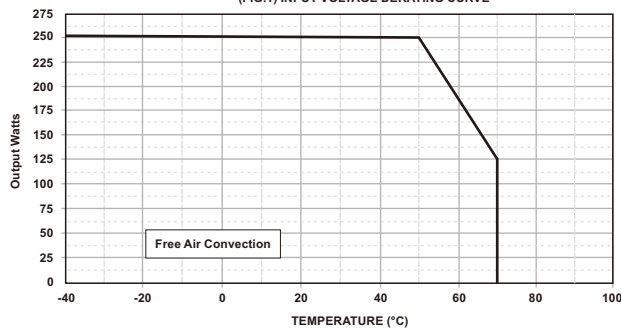
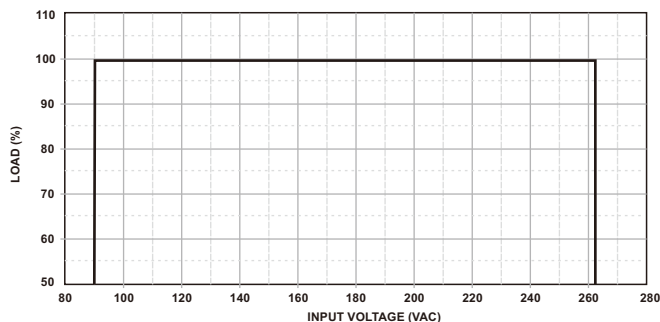
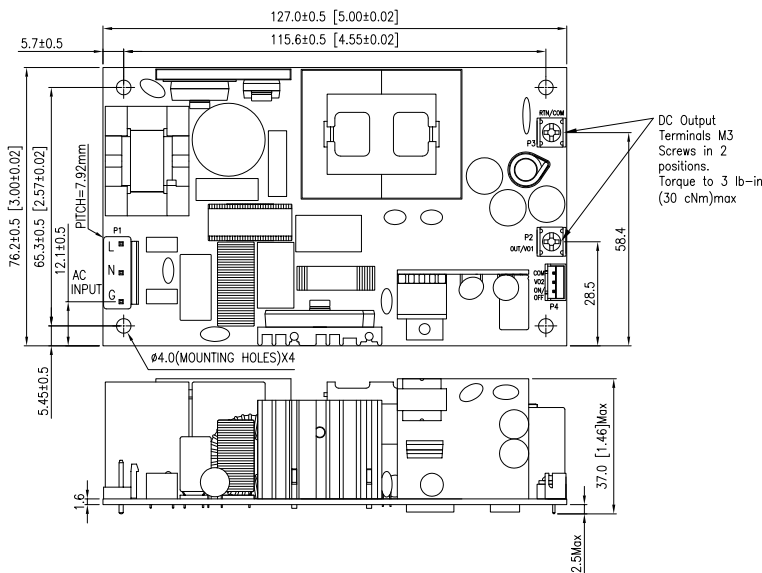
V1.6

250W Open Frame Medical Grade Power Supply

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 [inch])



PIN CHART

Main Power Output

MODEL	Screw Terminal	P2	P3
MBU250-1XXP	Vo1	RTN	

Standby Power Output:(P4)

MODEL	PIN	1	2	3
MBU250-1XXP	COM	Vo2	ON/OFF	

*It is possible to enable Vo1 by shorting PIN2 & PIN3.

PACKING :

1. Net weight: 350g approx.
2. Input connector mates with JST housing VHR-5N and JST SVH series crimp terminal.
3. Main power output connector mates with M3 Screws in 2 positions torque to 3 lb-in (30 cNm) max.
4. Standby power output connector P4 mates with JST housing XHP-3 and JST SXH series crimp terminals.

Rating Chart:

MODEL NO.	Output Voltage		Output Current		Total Output Power	Ripple & Noise		Total Regulation		Typ. Efficiency	Standby Power Consumption	Hold-Up Time
	Vo1	Vo2	Vo1	Vo2		Vo1	Vo2	Vo1	Vo2			
	(VDC)		(A)			(W)	(mVp-p)		(%)			
MBU250-105P	12.0	5.0	20.0	2.0	250	120	50	±5	±5	90	0.3	16
MBU250-106P	15.0	5.0	16.0	2.0	250	150	50	±5	±5	90	0.3	16
MBU250-107P	19.0	5.0	12.63	2.0	250	190	50	±5	±5	90	0.3	16
MBU250-108P	24.0	5.0	10.0	2.0	250	240	50	±3	±5	91	0.3	16
MBU250-109P	30.0	5.0	8.00	2.0	250	300	50	±2	±5	91	0.3	16
MBU250-110P	36.0	5.0	6.66	2.0	250	300	50	±2	±5	92	0.3	16
MBU250-111P	48.0	5.0	5.0	2.0	250	480	50	±2	±5	92	0.3	16

*Vo2: Standby Power 5V@2A

*Vo2: Min. Load 0.3A