

# MBU 120 SERIES

## 120W Open Frame Switching Power Supplies For Medical Equipment.

### Description:

The MBU120 series of compact, open frame constructed, AC/DC switching mode power supplies provide 120 Watts of continuous output power. They are suited for use in hospital instrument and many other applications. All models meet FCC Part-18 class B and CISPR-11 EN55011 class B emission Limits and are designed to comply with UL/c-UL (UL 60601-1:2<sup>nd</sup> Edition), TUV/T-mark (EN 60601-1:2<sup>nd</sup> Edition) and new CE requirements. All units are 100% burned in and tested.

### Features:

- Wide Operating Voltage 90 to 260 VAC, 47 to 63 Hz
- Internal EMI filter
- Single Output
- Input connector mates with Molex housing 09-50-3051 and Molex 2478 series crimp terminal
- Output Connector mates with screw terminal (Terminal Block)(16-22AWG) or Molex housing 09-50-3121 and Molex 2478 series crimp terminal
- Input Surge Current, Over Voltage and Over Load protection
- Output Voltage Protection (Crowbar Design)
- Active Power Factor Correction
- Size: 3"x5"x1.42"
- Class I
- 3 year warranty



### Safety Approvals :



### Electrical Characteristics:

Sym.	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Vin	Safety Approvals Input Voltage Range		100		240	VAC
	Operate Voltage Range		90		260	VAC
f <sub>in</sub>	Input Frequency		47		63	Hz
PF	Power Factor Correction	I <sub>o</sub> =Full load, Vin=90~260VAC	0.95	0.97	1.0	
P <sub>o</sub>	Output Power Range	Vin=90 to 260 VAC	0		120	W
V <sub>o</sub>	Output Voltage Range		See rating Chart			V
I <sub>o</sub>	Output Current Range		See rating Chart			A
I <sub>il</sub>	Input Current (Low Line)	I <sub>o</sub> =Full load, Vin=115VAC			1.7	A
I <sub>ih</sub>	Input Current (High Line)	I <sub>o</sub> =Full load, Vin=230VAC			0.8	A
I <sub>rl</sub>	Low Line Inrush Current	I <sub>o</sub> =Full load, 25°C, Cool start, Vin=115VAC		48	54	A
I <sub>rh</sub>	High Line Inrush Current	I <sub>o</sub> =Full load, 25°C, Cool start, Vin=230VAC		58	63	A
Eff	Efficiency	I <sub>o</sub> =Full load, Vin=230VAC	70	80	88	%
REG-i	Line Regulation	I <sub>o</sub> =Full load		0.5	1	%
REG-o	Load Regulation	Vin=230VAC		3	5	%
OVP	Over Voltage Protection		112		132	%
OCP	Over Current Protection		110		150	%
T <sub>tr</sub>	Time of Transient Response	I <sub>o</sub> =Full load to Half Load, Vin=100VAC			4	mS
T <sub>hold</sub>	Hold-Up Time	I <sub>o</sub> =Full load, Vin=110VAC	16			mS
T <sub>s</sub>	Start Up Time	I <sub>o</sub> =Full load, Vin=100VAC	0.3	1	2	S
V <sub>p-p</sub>	Ripple & Noise (Peak to Peak)	Full load, Vin=90VAC		0.5	1	%
I <sub>lk</sub>	Safety Ground Leakage Current	I <sub>o</sub> =Full load, Vin=240VAC		0.095	0.1	mA
TC	Temperature Coefficient	All output	-0.04		0.04	%/°C

### Environmental :

Sym.	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
T <sub>oper</sub>	Operating Temperature		0	50	70	°C
T <sub>stg</sub>	Storage Temperature		-40		85	°C
H <sub>o</sub>	Operating Humidity		0		95	%
H <sub>r</sub>	Storage Humidity		0		75	%
MTBF	Operating Temperature at 25°C, Calculated per MIL-HDBK-217F		0.1M			Hrs
P <sub>d</sub>	Derate linearly from 100% load at 50°C to 50% load at 70°C					

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### Safety Specifications:

Sym.	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Vps	Dielectric Withstanding Voltage for Primary to secondary	Primary to secondary	5656			VDC
Vpg	Dielectric Withstanding Voltage for Primary to Ground	Primary to ground	2828			VDC
Ris	Power Factor Corrention	Test Voltage=500VDC	50			MΩ
CISPR	Output Power Range	Vin=220VAC	B			CLASS
FCC	Output Voltage Range	Vin=110VAC	B			CLASS

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

Model Number	Output Voltage	Output Current	Total Regulation	Maximum Output Power
MBU120-102	5~6 VDC	20.00~16.66 A	7%	100W
MBU120-103	6~9 VDC	18.33~12.22 A	7%	110W
MBU120-104	9~11 VDC	13.33~10.90 A	5%	120W
MBU120-105	11~13 VDC	10.90~9.23 A	5%	120W
MBU120-106	13~16 VDC	9.23~7.50 A	5%	120W
MBU120-107	16~21 VDC	7.50~5.71 A	3%	120W
MBU120-108	21~27 VDC	5.71~4.44 A	3%	120W
MBU120-109	27~33 VDC	4.44~3.63 A	2%	120W
MBU120-110	33~40 VDC	3.63~3.00 A	2%	120W

### PIN CHART

PIN	1	2	3	4	5	6	7	8	9	10	11	12
MODEL												
MBU120-1XX-12PIN	OUT	OUT	OUT	OUT	OUT	OUT	RTN	RTN	RTN	RTN	RTN	RTN

PIN	1	2	3	4	5	6
MODEL						
MBU120-1XX-6PIN	OUT	OUT	OUT	RTN	RTN	RTN

### Mechanical Specifications :

#### Note:

1. Dimensions are shown in inches or mm.
2. Weight: 365gs approx.
3. Input connector mates with Molex housing 09-50-3051 and Molex 2478 series crimp terminal.
4. Output connector mates with screw terminal (Terminal Block)(16-22AWG)or Molex housing 09-50-3121 and Molex 2478 series crimp terminal

