

63W OPEN FRAME SWITCHING POWER SUPPLIES FOR MEDICAL EQUIPMENT

Description:

The MBU60 series of compact, open frame constructed, AC/DC switching mode power supplies provide 63W 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 60601-1:2nd Edition), TUV/Tmark (EN 60601-1:2nd Edition) and new CE requirements. All units are 100% burned in and tested.

Features:

- Wide Input Voltage 90 to 264 V AC, 47 to 63 Hz
- Internal EMI filter
- Single to Quad Output
- Input connector mates with Molex housing 09-50-3051 and Molex 2478 series circular terminal
- Output connector mates with Molex housing 09-50-3081 and Molex 2478 series circular terminal
- Size: 3"x5"x1.1"
- Power Fail Detect (Optional)
- 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		264	VAC
f _{in}	Input Frequency		47		63	Hz
P _o	Output Power Range	V _{in} =90 to 264 VAC	0		63	W
V _o	Output Voltage Range		See rating Chart			V
I _o	Output Current Range		See rating Chart			A
I _{il}	Input Current (Low Line)	I _o =Full load, V _{in} =115VAC			1.6	A
I _{ih}	Input Current (High Line)	I _o =Full load, V _{in} =230VAC			0.8	A
I _{rl}	Low Line Inrush Current	I _o =Full load, 25°C, Coolstart, V _{in} =115VAC		15	18	A
I _{rh}	High Line Inrush Current	I _o =Full load, 25°C, Coolstart, V _{in} =230VAC		21	25	A
Eff	Efficiency	I _o =Full load, V _{in} =230VAC	70	80	85	%
REG-i	Line Regulation	I _o =Full load		0.5	1	%
REG-o	Load Regulation	V _{in} =230VAC		3	7	%
OVP	Over Voltage Protection		112		132	%
OCP	Over Current Protection		110		150	%
T _{tr}	Time of Transient Response	I _o =Full load to Half Load, V _{in} =100VAC			4	mS
T _{hold}	Hold-Up Time	I _o =Full load, V _{in} =110VAC	16			mS
T _s	Start Up Time	I _o =Full load, V _{in} =100VAC	0.3	1	2	S
V _{p-p}	Ripple & Noise (Peak to Peak)	Full load, V _{in} =90VAC		0.5	1	%
I _{lk}	Safety Ground Leakage Current	I _o =Full load, V _{in} =240VAC		0.1	0.3	mA
TC	Temperature Coefficient	All output	-0.04		0.04	%/°C

* Note: The Ripple & Noise which is under 3.3VDC at 2% max. The range of OCP is set between 110-150% of total output power.

Environmental:

Sym.	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
T _{oper}	Operating Temperature		0	50	70	°C
T _{stg}	Storage Temperature		-40		85	°C
H _o	Operating Humidity		0		95	%
H _r	Storage Humidity		0		75	%
MTBF	Operating Temperature at 25°C, Calculated per MIL-HDBK-217F		0.1M			Hrs
P _d	Derate linearly from 100% load at 0.5°C to 50% load at 70°C					°C

Safety Specifications:

Sym.	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V _{ps}	Dielectric Withstanding Voltage for Primary to secondary	Primary to secondary	5656			VDC
V _{pg}	Dielectric Withstanding Voltage for Primary to Ground	Primary to ground	2828			VDC
R _{is}	Isolation Resistance	Test Voltage=500VDC	50			MΩ
CISPR	EMI requirements for CISPR-11	V _{in} =220VAC	B			CLASS
FCC	EMI requirements for FCC PART-18	V _{in} =110VAC	B			CLASS

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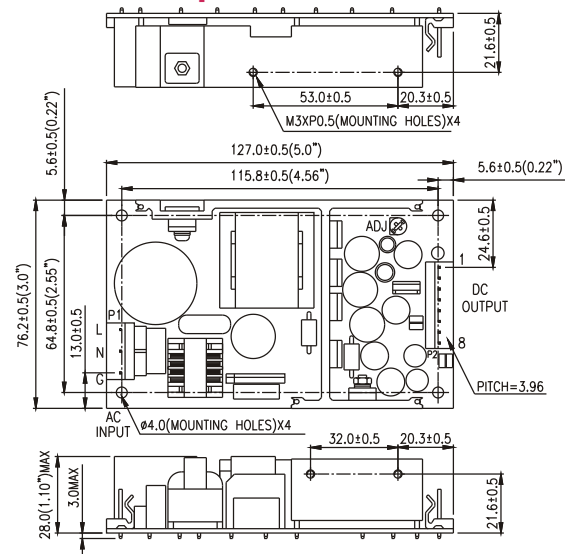
Output Voltage And Current Rating Chart (Single Output) :

Model Number	Output Voltage	Output Current	Total Regulation	Maximum Output Power
MBU60-101	3 - 5 VDC	16.66 - 10.0 A	5%	50W
MBU60-102	5 - 6 VDC	11.0 - 9.16 A	5%	55W
MBU60-103	6 - 8 VDC	10.0 - 7.50 A	5%	60W
MBU60-104	8 - 11 VDC	7.87 - 5.72 A	3%	63W
MBU60-105	11 - 13 VDC	5.72 - 4.84 A	3%	63W
MBU60-105-1	11 - 13 VDC	4.09 - 3.46 A	3%	45W
MBU60-106	13 - 16 VDC	4.84 - 3.93 A	3%	63W
MBU60-107	16 - 21 VDC	3.93 - 3.00 A	3%	63W
MBU60-108	21 - 27 VDC	3.00 - 2.33 A	2%	63W
MBU60-109	27 - 33 VDC	2.33 - 1.90 A	2%	63W
MBU60-110	33 - 40 VDC	1.90 - 1.57 A	2%	63W

Output Voltage And Current Rating Chart (Multi Output) :

Model Number	Output #1				Output #2				Output #3				Output #4				Maximum Output Power
	Vonom	Iomin	Iomax	Regmax	Vonom	Iomin	Iomax	Regmax	Vonom	Iomin	Iomax	Regmax	Vonom	Iomin	Iomax	Regmax	
MBU60-200	+3.3V	1.4A	7A	6%	+12V	0.6A	3A	5%									59.1W
MBU60-201	+5V	0.7A	7A	5%	+12V	0.3A	3A	5%									63W
MBU60-202	+5V	0.7A	7A	5%	+15V	0.3A	3A	5%									63W
MBU60-203	+5V	0.7A	7A	5%	+24V	0.4A	2A	5%									63W
MBU60-204	+3.3V	1.4A	7A	6%	+5V	0.5A	5A	5%									48.1W
MBU60-215	+5V	0.7A	7A	5%					-24V	0.2A	2A	5%					63W
MBU60-300	+3.3V	1.2A	6A	6%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%					63W
MBU60-300-1	+3.3V	1.2A	6A	6%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%					63W
MBU60-301	+5V	0.6A	6A	5%	+12V	0.3A	3A	5%	-5V	0A	0.8A	5%					63W
MBU60-301-1	+5V	0.6A	6A	5%	+12V	0.3A	3A	5%	+5V	0A	0.8A	5%					63W
MBU60-302	+5V	0.6A	6A	5%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%					63W
MBU60-302-1	+5V	0.6A	6A	5%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%					63W
MBU60-303	+5V	0.6A	6A	5%	+15V	0.3A	3A	5%	-15V	0A	0.8A	5%					63W
MBU60-303-1	+5V	0.6A	6A	5%	+15V	0.3A	3A	5%	+15V	0A	0.8A	5%					63W
MBU60-305	+5V	1.2A	6A	5%	+24V	0.4A	2A	5%	-12V	0A	0.8A	5%					63W
MBU60-305-1	+5V	1.2A	6A	5%	+24V	0.4A	2A	5%	+12V	0A	0.8A	5%					63W
MBU60-306	+3.3V	1.2A	6A	6%	+12V	0.6A	3A	5%	-5V	0A	0.8A	5%					59.8W
MBU60-306-1	+3.3V	1.2A	6A	6%	+12V	0.6A	3A	5%	+5V	0A	0.8A	5%					59.8W
MBU60-308	+3.3V	0.5A	5A	6%	+5V	0.5A	5A	5%	-12V	0A	1A	5%					53.5W
MBU60-308-1	+3.3V	0.5A	5A	6%	+5V	0.5A	5A	5%	+12V	0A	1A	5%					53.5W
MBU60-400	+3.3V	1.2A	6A	6%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%	-5V	0A	0.8A	5%	63W
MBU60-400-1	+3.3V	1.2A	6A	6%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%	+5V	0A	0.8A	5%	63W
MBU60-400-2	+3.3V	1.2A	6A	6%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%	-5V	0A	0.8A	5%	63W
MBU60-400-3	+3.3V	1.2A	6A	6%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%	+5V	0A	0.8A	5%	63W
MBU60-401	+5V	0.6A	6A	5%	+12V	0.3A	3A	5%	-12V	0A	0.8A	5%	-5V	0A	0.8A	5%	63W
MBU60-401-1	+5V	0.6A	6A	5%	+12V	0.3A	3A	5%	-12V	0A	0.8A	5%	+5V	0A	0.8A	5%	63W
MBU60-401-2	+5V	0.6A	6A	5%	+12V	0.3A	3A	5%	+12V	0A	0.8A	5%	-5V	0A	0.8A	5%	63W
MBU60-401-3	+5V	0.6A	6A	5%	+12V	0.3A	3A	5%	+12V	0A	0.8A	5%	+5V	0A	0.8A	5%	63W
MBU60-402	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%	-12V	0A	0.8A	5%	63W
MBU60-402-1	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%	+12V	0A	0.8A	5%	63W
MBU60-402-2	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%	-12V	0A	0.8A	5%	63W
MBU60-402-3	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%	+12V	0A	0.8A	5%	63W
MBU60-403	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%	-24V	0A	0.8A	5%	63W
MBU60-403-1	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%	+24V	0A	0.8A	5%	63W
MBU60-403-2	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%	-24V	0A	0.8A	5%	63W
MBU60-403-3	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%	+24V	0A	0.8A	5%	63W
MBU60-404	+5V	0.6A	6A	5%	+15V	0.3A	3A	5%	-15V	0A	0.8A	5%	-5V	0A	0.8A	5%	63W
MBU60-404-1	+5V	0.6A	6A	5%	+15V	0.3A	3A	5%	-15V	0A	0.8A	5%	+5V	0A	0.8A	5%	63W
MBU60-404-2	+5V	0.6A	6A	5%	+15V	0.3A	3A	5%	+15V	0A	0.8A	5%	-5V	0A	0.8A	5%	63W
MBU60-404-3	+5V	0.6A	6A	5%	+15V	0.3A	3A	5%	+15V	0A	0.8A	5%	+5V	0A	0.8A	5%	63W

Mechanical Specifications :



PIN CHART

MODEL	PIN 1	2	3	4	5	6	7	8 (Optional)
MBU60-1XX	OUT	OUT	OUT	RTN	RTN	RTN	RTN	PFD
MBU60-2XX	Vo2	Vo1	Vo1	COM	COM	N/C	N/C	PFD
MBU60-215	N/C	Vo1	Vo1	COM	COM	Vo3	N/C	PFD
MBU60-3XX	Vo2	Vo1	Vo1	COM	COM	Vo3	N/C	PFD
MBU60-4XX	Vo2	Vo1	Vo1	COM	COM	Vo3	Vo4	PFD

Note: Vo1:Output#1 Vo2:Output#2 Vo3:Output#3 Vo4:Output#4

Note:

- Dimensions are shown in inches or mm.
- Weight: 300gs approx.
- Input connector mates with Molex housing 09-50-3051 and Molex 2478 series crimp terminal.
- Output connector mates with Molex housing 09-50-3081 and Molex 2478 series crimp terminal.

Data sheets are subject to change without notice, please check with our sales office before ordering