Total Power International, Inc.

TPMBU60 SERIES

63W Open Frame Type
Medical Power Supplies

Features:

- Wide Operating Voltage 90 to 264 VAC,47 to 63 Hz
- Internal EMI filter
- Single to Quad Output
- Size: 3"x5"x1.1"
- Power Fail Detect (Optional)
- Class I
- 3 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	1.6A
Iih	**Input Current (High Line)**	Io=Full load, Vin=240VAC	0.8A
Ir	**Low Line Inrush Current**	Io=Full load, 25°C, Cool start, Vin=115VAC	35A (max.)
	High Line Inrush Current	Io=Full load, 25°C, Cool start, Vin=230VAC	70A (max.)
Eff	**Efficiency**	Io=Full Load, Vin=230VAC	70~85%
REG-i	**Line Regulation**	Io=Full Load	0.5~1%
REG-o	**Load Regulation**	Vin=230VAC	3~6%
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	16mS (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 (typ.)
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	6290VDC (min.)
Vpg	**Dielectric Withstanding Voltage for Primary to PE**	Primary to PE	2121VDC (min.)
Ris	**Isolation Resistance**	Test Voltage=500VDC	50MΩ (min.)

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

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 50°C to 50% load at 70°C**	

Application:

- Medical Touch Panel PC
- Patient Monitoring System
- Ultrasound System

Safety Approvals:

c UL us CB CE

EN 60601-1 RoHS 2002/95/EC COMPLIANT

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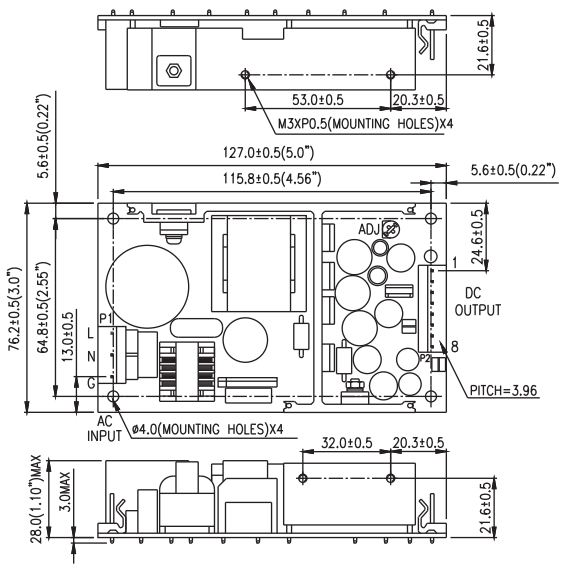
Output Voltage And Current Rating Chart (Single Output) :

Model Number	Output Voltage	Output Current	Total Regulation	Max. Output Power	Pno (max.)
TPMBU60-101	3 ~ 5 VDC	16.66 ~ 10.0 A	5%	50W	3W
TPMBU60-102	5 ~ 6 VDC	11.00 ~ 9.16 A	5%	55W	3W
TPMBU60-103	6 ~ 8 VDC	10.00 ~ 7.50 A	5%	60W	3W
TPMBU60-104	8 ~ 11 VDC	7.87 ~ 5.72 A	3%	63W	3W
TPMBU60-105	11 ~ 13 VDC	5.72 ~ 4.84 A	3%	63W	4W
TPMBU60-105-1	11 ~ 13 VDC	4.09 ~ 3.46 A	3%	45W	4W
TPMBU60-106	13 ~ 16 VDC	4.84 ~ 3.93 A	3%	63W	4W
TPMBU60-107	16 ~ 21 VDC	3.93 ~ 3.00 A	3%	63W	4W
TPMBU60-108	21 ~ 27 VDC	3.00 ~ 2.33 A	2%	63W	5W
TPMBU60-109	27 ~ 33 VDC	2.33 ~ 1.90 A	2%	63W	5W
TPMBU60-110	33 ~ 40 VDC	1.90 ~ 1.57 A	2%	63W	6W

Output Voltage And Current Rating Chart (Multi Output) :

Model Number	Output #1				Output #2				Output #3				Output #4				Max. Output Power	Pno (max.)
	Vonom	Iomin	Iomax	Regmax	Vonom	Iomin	Iomax	Regmax	Vonom	Iomin	Iomax	Regmax	Vonom	Iomin	Iomax	Regmax		
TPMBU60-200	+3.3V	1.4A	7A	6%	+12V	0.6A	3A	5%									59.1W	4W
TPMBU60-201	+5V	0.7A	7A	5%	+12V	0.3A	3A	5%									63W	4W
TPMBU60-202	+5V	0.7A	7A	5%	+15V	0.3A	3A	5%									63W	4W
TPMBU60-203	+5V	0.7A	7A	5%	+24V	0.4A	2A	5%									63W	4W
TPMBU60-204	+3.3V	1.4A	7A	6%	+5V	0.5A	5A	5%									48.1W	3W
TPMBU60-215	+5V	0.7A	7A	5%					-24V	0.2A	2A	5%					63W	4W
TPMBU60-300	+3.3V	1.2A	6A	6%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%					63W	4W
TPMBU60-300-1	+3.3V	1.2A	6A	6%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%					63W	4W
TPMBU60-301	+5V	0.6A	6A	5%	+12V	0.3A	3A	5%	-5V	0A	0.8A	5%					63W	4W
TPMBU60-301-1	+5V	0.6A	6A	5%	+12V	0.3A	3A	5%	+5V	0A	0.8A	5%					63W	4W
TPMBU60-302	+5V	0.6A	6A	5%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%					63W	4W
TPMBU60-302-1	+5V	0.6A	6A	5%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%					63W	4W
TPMBU60-303	+5V	0.6A	6A	5%	+15V	0.3A	3A	5%	-15V	0A	0.8A	5%					63W	4W
TPMBU60-303-1	+5V	0.6A	6A	5%	+15V	0.3A	3A	5%	+15V	0A	0.8A	5%					63W	4W
TPMBU60-305	+5V	1.2A	6A	5%	+24V	0.4A	2A	5%	-12V	0A	0.8A	5%					63W	5W
TPMBU60-305-1	+5V	1.2A	6A	5%	+24V	0.4A	2A	5%	+12V	0A	0.8A	5%					63W	5W
TPMBU60-306	+3.3V	1.2A	6A	6%	+12V	0.6A	3A	5%	-5V	0A	0.8A	5%					59.8W	4W
TPMBU60-306-1	+3.3V	1.2A	6A	6%	+12V	0.6A	3A	5%	+5V	0A	0.8A	5%					59.8W	4W
TPMBU60-308	+3.3V	0.5A	5A	6%	+5V	0.5A	5A	5%	-12V	0A	1A	5%					53.5W	3W
TPMBU60-308-1	+3.3V	0.5A	5A	6%	+5V	0.5A	5A	5%	+12V	0A	1A	5%					53.5W	3W
TPMBU60-400	+3.3V	1.2A	6A	6%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%	-5V	0A	0.8A	5%	63W	4W
TPMBU60-400-1	+3.3V	1.2A	6A	6%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%	+5V	0A	0.8A	5%	63W	4W
TPMBU60-400-2	+3.3V	1.2A	6A	6%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%	-5V	0A	0.8A	5%	63W	4W
TPMBU60-400-3	+3.3V	1.2A	6A	6%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%	+5V	0A	0.8A	5%	63W	4W
TPMBU60-401	+5V	0.6A	6A	5%	+12V	0.3A	3A	5%	-12V	0A	0.8A	5%	-5V	0A	0.8A	5%	63W	4W
TPMBU60-401-1	+5V	0.6A	6A	5%	+12V	0.3A	3A	5%	-12V	0A	0.8A	5%	+5V	0A	0.8A	5%	63W	4W
TPMBU60-401-2	+5V	0.6A	6A	5%	+12V	0.3A	3A	5%	+12V	0A	0.8A	5%	-5V	0A	0.8A	5%	63W	4W
TPMBU60-401-3	+5V	0.6A	6A	5%	+12V	0.3A	3A	5%	+12V	0A	0.8A	5%	+5V	0A	0.8A	5%	63W	4W
TPMBU60-402	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%	-12V	0A	0.8A	5%	63W	4W
TPMBU60-402-1	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%	+12V	0A	0.8A	5%	63W	4W
TPMBU60-402-2	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%	-12V	0A	0.8A	5%	63W	4W
TPMBU60-402-3	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%	+12V	0A	0.8A	5%	63W	4W
TPMBU60-403	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%	-24V	0A	0.8A	5%	63W	4W
TPMBU60-403-1	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%	+24V	0A	0.8A	5%	63W	4W
TPMBU60-403-2	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%	-24V	0A	0.8A	5%	63W	4W
TPMBU60-403-3	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%	+24V	0A	0.8A	5%	63W	4W
TPMBU60-404	+5V	0.6A	6A	5%	+15V	0.3A	3A	5%	-15V	0A	0.8A	5%	-5V	0A	0.8A	5%	63W	4W
TPMBU60-404-1	+5V	0.6A	6A	5%	+15V	0.3A	3A	5%	-15V	0A	0.8A	5%	+5V	0A	0.8A	5%	63W	4W
TPMBU60-404-2	+5V	0.6A	6A	5%	+15V	0.3A	3A	5%	+15V	0A	0.8A	5%	-5V	0A	0.8A	5%	63W	4W
TPMBU60-404-3	+5V	0.6A	6A	5%	+15V	0.3A	3A	5%	+15V	0A	0.8A	5%	+5V	0A	0.8A	5%	63W	4W

Mechanical Specifications :

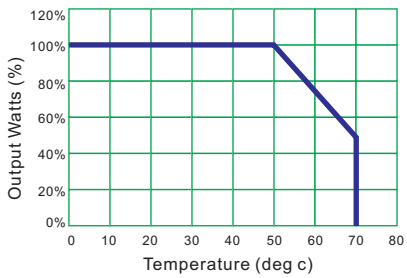


PIN CHART

PIN / MODEL	1	2	3	4	5	6	7	8 (Optional)
TPMBU60-1XX	OUT	OUT	OUT	RTN	RTN	RTN	RTN	PFD
TPMBU60-2XX	Vo2	Vo1	Vo1	COM	COM	N/C	N/C	PFD
TPMBU60-215	N/C	Vo1	Vo1	COM	COM	Vo3	N/C	PFD
TPMBU60-3XX	Vo2	Vo1	Vo1	COM	COM	Vo3	N/C	PFD
TPMBU60-4XX	Vo2	Vo1	Vo1	COM	COM	Vo3	Vo4	PFD

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

Derating Curve :



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

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