THE DATASHEET OF

PM60-18A

PROTEK POWER

TT Electronics
POWER PARTNERS

PM60 Medical Power Supplies (37.5-64W)

CE
RoHS

Features:

- BF Class insulation
- Medical and ITE approvals
- Compact size 2 ” x 4” x 1.18”
- Single, dual and triple outputs
- Wide-range input 90-264 VAC
- Low earth leakage current
- Level B emissions
- RoHS compliant
- Suitable for both Class I and Class II applications*

IEC 60601-1 | cULus | TÜV Rheinland of North America, Inc. US | TÜV Rheinland Product Safety – BAUART GEPRÜFT – TYPE APPROVED

Description:

The PM60 series of compact, open PCB constructed, AC-DC switching power supplies are capable of delivering 37.5-64 watts of continuous output power at convection cooling. They operate at 90-264 VAC input voltage without the need of voltage selection, and are suited for medical, information technology and industrial applications. Approval to both EN60601-1 and EN60950-1 safety standards improves design-in time and reduces end equipment compliance costs.

Model[1]	Output #1					Output #2				Output #3				Max. Output Power
	V1	Min. Current	Max. Current at convection	Max. Current At 5 CFM[2]	Tol.	V2	Min. Current	Max. Current	Tol.	V3	Min. Current	Max. Current	Tol.	
PM60-10A	5V	0A	11A	11A	±2%	N/A				N/A				55W
PM60-12A	12V	0A	5A	5A	±2%	N/A				N/A				60W
PM60-13A	15V	0A	4.3A	4.3A	±2%	N/A				N/A				64W
PM60-14A	24V	0A	2.7A	2.7A	±2%	N/A				N/A				64W
PM60-18A	48V	0A	1.35A	11A	±2%	N/A				N/A				64W
PM60-23A	5V	0.5A	6A	8A	±3%	12V	0.1A	3A	±5%	N/A				55W
PM60-25A	5V	0.5A	6A	8A	±3%	24V	0.1A	1.5A	±5%	N/A				55W
PM60-31A	5V	0.5A	6A	8A	±3%	12V	0.1A	3A	±5%	-12V	0A	0.5A	±4%	55W
PM60-31-3A	3.3V	0.5A	6A	8A	±3%	5.2V	0.1A	3A	±5%	12V	0A	0.5A	±4%	37.5W
PM60-31-5A	5V	0.5A	6A	8A	±3%	3.3V	0A	1.5A	±5%	12V	0A	0.5A	±4%	37.5W/ 47.5 W
PM60-32A	5V	0.5A	6A	8A	±3%	15V	0.1A	2.4A	±5%	-15V	0A	0.5A	±4%	55W
PM60-39A	5V	0.5A	6A	8A	±3%	24V	0.1A	1.5A	±5%	-12V	0A	0.5A	±4%	55W

Notes:

1. Safety approvals are for PCB form only. To order unit with cover fitted, change suffix “A” to “C”.
2. Maximum current of output #1 of multi-output models can be 8 A at 5 CFM forced air provided by user.
3. PM60-31-5A is rated at 37.5 W maximum at convection cooling or 47.5 W maximum at 5 CFM forced air cooling by user.
4. The output voltages of a multiple output model may go outside of the stated tolerance when an output load current is out of stated limits. All models may be operated at no-load without damage.
5. Ripple and noise is maximum peak to peak voltage value measured at output within 20 MHz bandwidth, at rated line voltage and output load ranges, and with a 10 µF tantalum capacitor in parallel with a 0.1 µF ceramic capacitor across the output.

TT Electronics | Power Partners, Inc
43 Broad Street Suite B206, Hudson, MA 01749, USA. t: +1 (978) 567-9600

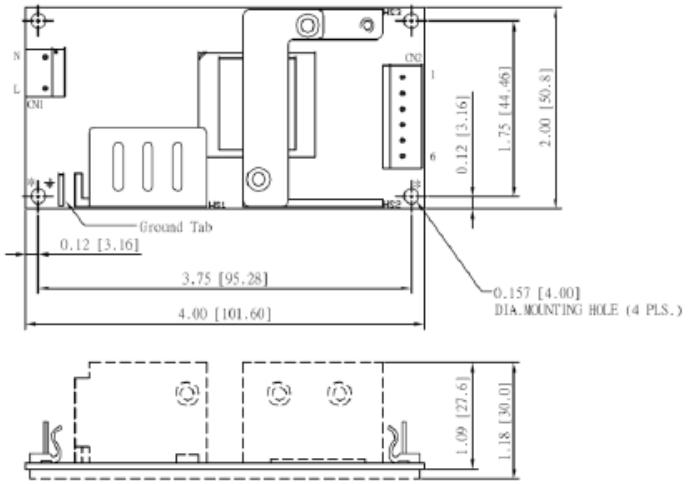
PM60 Medical Power Supplies (37.5-64W)

Specifications	
Safety Standards & EMC Specifications	
Safety Standard Approvals	UL ES 60601-1, CSA C22.2 No. 60601-1 File No. E178020 TÜV EN 60601-1 UL 62368-1, CSA C22.2 No. 62368-1 TÜV EN 62368-1
EMI Standard	EN55011/EN55022, FCC, and VCCI Class B (radiated and conducted)
EMC Performance	EN61000-3-2: Harmonic distortion, Class A and D EN61000-3-3: Line flicker EN61000-4-2: ESD, ±15 KV air and ± 8KV contact EN61000-4-3: Radiated immunity, 10V/m EN61000-4-4: Fast transient/burst, ±2KV EN61000-4-5: Surge, ±1 KV diff., ±2 KV com. EN61000-4-6: Conducted immunity, 10Vrms EN61000-4-8: Magnetic field immunity, 30 A/m EN61000-4-11: Voltage dip immunity, 30% reduction for 500ms, and 100% reduction for 10ms
*Consult with TT Electronics for information on additional country safety approvals	
Input Specifications	
Input Voltage Range	90 to 264VAC
Input Frequency Range	47 to 63Hz
Input Current	1.3A (rms) @100VAC, 60 Hz 0.7A(rms) @240VAC, 50 Hz
Earth Leakage Current	150µA max. @ 264VAC, 63Hz
Touch Current	100µA max. @ 264 VAC, 63Hz
Output Specifications	
Ripple & Noise	100 mV peak to peak on 3.3 V & 5.0 V models, 1% peak to peak on other models
Overvoltage Protection	Provided on output #1 only; set at 112-132% of its nominal output voltage
Overcurrent Protection	All outputs protected to short circuit conditions
Temperature Coefficient	All outputs ±0.04%/°C maximum
Transient Response	Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500 us after a 25% step load change
Environmental Specifications	
Operating Temperature	-10°C to +70°C
Storage Temperature	-40°C to +85°C
Relative Humidity	5% to 95% non-condensing
Temperature Derating	De-rate from 100% at +50°C linearly to 50% at +70°C
General Specifications	
Switching Frequency	62 K ±5 KHz
Efficiency	80-88% typical except PM60-31-3A and PM60-31-5 A at 75% typical
Hold-up Time	12ms minimum at 110 VAC
Line Regulation	±0.5% maximum at full load
Inrush Current	30A @ 115VAC or 60A @ 230VAC at 25°C cold start
Withstand Voltage	4000 VAC from input to output (2 MOPP) 1500 VAC from input to ground (1 MOPP) 1500 VAC from output to ground
MTBF	400,000 hours at full load at 25°C ambient, calculated per MIL-HDBK-217F

PM60 Medical Power Supplies (37.5-64W)

Diagrams

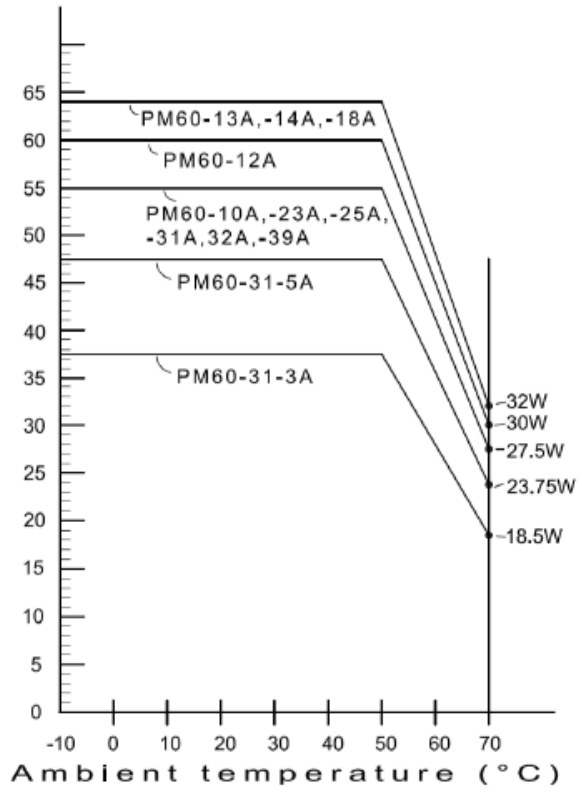
MECHANICAL SPECIFICATIONS



NOTES:

1. Dimensions shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Connector CN1: Molex header 09-65-2038 or equivalent, mating with Molex housing 09-50-1031 or equivalent.
4. Connector CN2: Molex header 09-65-2068 or equivalent, mating with Molex housing 09-50-1061 or equivalent.
5. Ground tab is 0.25 [6.35] x 0.032 [0.8] fast-on connector.
6. To ensure compliance with level B emissions, connect the two "∗" marked mounting holes with metallic standoffs to chassis.
7. Weight: 205 grams (0.45 lbs.) approx.

OUTPUT POWER DERATING CURVE



PIN CHART

MODEL / PIN			1	2	3	4	5	6
PM60-10A PM60-14A	PM60-12A PM60-18A	PM60-13A	+V1	+V1	V1 Return	V1 Return	N.C.	N.C.
PM60-23A	PM60-25A		V1	V1	Common Return		N.C.	V2
PM60-31A	PM60-32A	PM60-39A	V1	V1	Common Return		V3	V2
PM60-31-3A	PM60-31-5A		V1	V1	Common Return		V3	V2

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- View PM60-18A on WIN SOURCE
- TT Electronics Information

Optimize Your Supply Chain with WIN SOURCE Solutions

- Global Sourcing Solution
- Obsolete Management
- Cost Control Management
- Shortage Management
- Alternative Solution
- Excess Inventory Management