



25 WATT MEDICAL SWITCHING POWER SUPPLIES

DESCRIPTION

The PM25A series of compact, open PCB constructed, AC-DC switching power supplies are capable of delivering 25 watts of continuous output power. They operate at 85 to 264 VAC input voltage without the need of voltage selection. They are ideally suited for use in medical equipment, safety systems and monitoring equipment, not for patient contact.

FEATURES

- Low safety ground leakage current
- 100% burn-in
- Wide input range 85 to 264 VAC
- Input surge current protection
- Overvoltage protection
- Overcurrent protection
- Open PCB construction

INPUT SPECIFICATIONS

Input voltage: 85 to 264 VAC
Input frequency: 47 to 63 Hz
Input current: 0.62A (rms) for 115VAC
0.40A (rms) for 230VAC
Leakage current: 90uA max.@ 115VAC, 60 Hz
150uA max.@ 230VAC, 50 Hz

OUTPUT SPECIFICATIONS

Output voltage/current: See rating chart
Total output power: See rating chart
Ripple and noise: 1% peak to peak max.
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 $\pm 0.04\%/^{\circ}\text{C}$ maximum
Transient response: Maximum excursion of 4% or better on all models; recovering to 1% of final value within 500us after a 25% step load change

PM25A SERIES



Safety Standard Approvals:

ENVIRONMENTAL SPECIFICATIONS

Operating temperature: 0°C to $+70^{\circ}\text{C}$
Storage temperature: -40°C to $+85^{\circ}\text{C}$
Relative humidity: 5% to 95% non-condensing
Derating: Derate from 100% at $+50^{\circ}\text{C}$ linearly to 50% at $+70^{\circ}\text{C}$

GENERAL SPECIFICATIONS

Switching frequency: 42KHz $\pm$ 5KHz
Efficiency: 70% minimum on single output models with $V_o \geq 12\text{V}$, 68% minimum on the others
Hold-up time: 10 msec minimum at 110VAC
Line regulation: $\pm 0.5\%$ maximum at full load
Inrush current: 10 amps @ 115VAC, or 25 amps @ 230VAC, at 25°C cold start
Withstand voltage: 4000VAC from input to output
1500VAC from input to ground
500VAC from output to ground
MTBF: 500,000 hours minimum at full load at 25°C ambient, calculated per MIL-HDBK-217F
EMI requirements: Meets conducted limits of
(a) FCC Level B
(b) EN 55011 Class B
Safety requirements: Meets or exceeds:
(a) UL 2601-1
(b) CSA C22.2 No. 601.1
(c) IEC 601-1 (EN 60601-1)

UNIVERSAL INPUT

PM25A MEDICAL SERIES

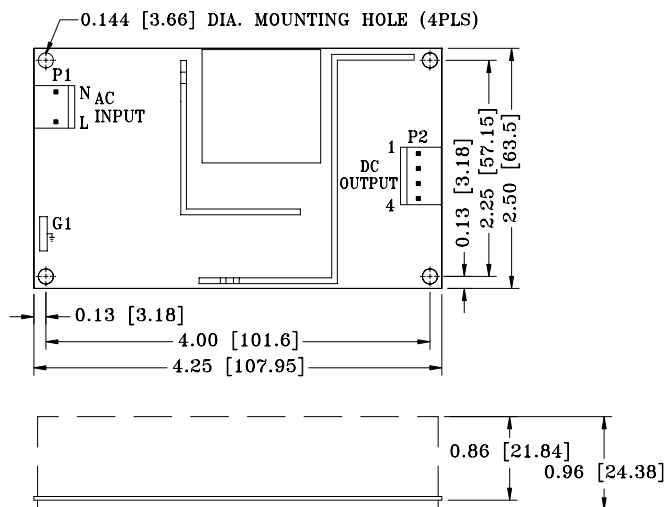
OUTPUT VOLTAGE/CURRENT RATING CHART

Model	Output #1				Output #2				Output #3				Maximum Output Power
	Vnom.	Imin.	Imax.	Tol.	Vnom.	Imin.	Imax.	Tol.	Vnom.	Imin.	Imax.	Tol.	
PM25-10A	5.1V	0A	5.5A	2%	(N/A)				(N/A)				28W
PM25-12A	12V	0A	2.3A	1%	(N/A)				(N/A)				28W
PM25-13A	15V	0A	1.9A	1%	(N/A)				(N/A)				28W
PM25-14A	24V	0A	1.2A	1%	(N/A)				(N/A)				28W
PM25-15A	28V	0A	1.0A	1%	(N/A)				(N/A)				28W
PM25-23A	+5.1V	0.4A	2.5A	3%	+12V	0.2A	1.5A	5%	(N/A)				25W
PM25-25A	+5.1V	0.4A	2.5A	3%	+24V	0.1A	0.8A	5%	(N/A)				25W
PM25-31A	+5.1V	0.4A	2.5A	3%	+12V	0.2A	1.5A	5%	-12V	0.05A	0.2A	4%	25W
PM25-32A	+5.1V	0.4A	2.5A	3%	+15V	0.1A	1.0A	5%	-15V	0.05A	0.2A	4%	25W
PM24-39A	+5.1V	0.4A	2.5A	3%	+24V	0.1A	0.8A	5%	-12V	0.05A	0.2A	4%	25W

- Notes: (1) All multiple output models may be operated at no-load without damage. At no-load, output voltage tolerance increases to 10%.
- (2) Ripple and noise: Peak-to-peak with 20MHz bandwidth and 10uF in parallel with a 0.1uF capacitor at rated line voltage and load ranges.

MECHANICAL SPECIFICATIONS

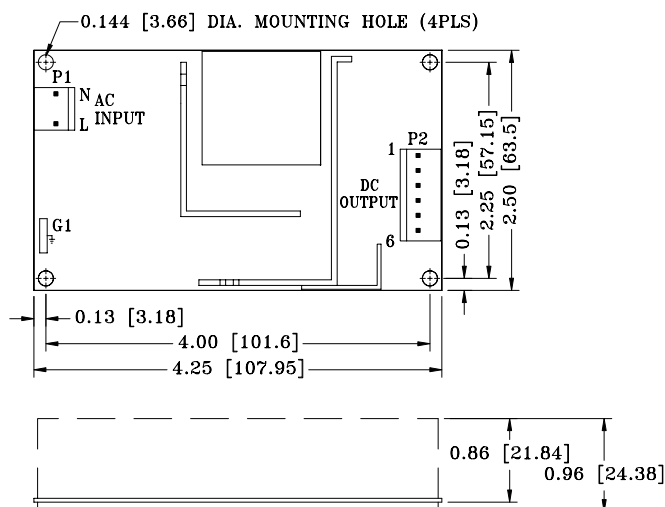
Single Output Models



NOTES:

1. Dimensions shown in inch [mm].
2. Tolerance 0.03 [0.76] maximum.
3. Input connector mates with Molex housing 09-50-3031 and Molex 2878 series crimp terminal.
4. Output connector mates with Molex housing 09-50-3041 and Molex 2878 series crimp terminal.
5. Weight : 163 grams.

Multiple Output Models



NOTES:

1. Dimensions shown in inch [mm].
2. Tolerance 0.03 [0.76] maximum.
3. Input connector mates with Molex housing 09-50-3031 and Molex 2878 series crimp terminal.
4. Output connector mates with Molex housing 09-50-3061 and Molex 2878 series crimp terminal.
5. Weight : 175 grams.

UNIVERSAL INPUT

PM25A MEDICAL SERIES

PIN CHART

Single Output models

MODEL \ PIN	1	2	3	4
PM25-10A PM25-12A PM25-13A PM25-14A PM25-15A	RETURN	RETURN	OUTPUT #1	OUTPUT #1

Multiple Output models

MODEL \ PIN	1	2	3	4	5	6
PM25-23A PM25-25A	OUTPUT #2	OUTPUT #1	OUTPUT #1	COMMON RETURN	COMMON RETURN	N.C.
PM25-31A PM25-32A PM25-39A	OUTPUT #2	OUTPUT #1	OUTPUT #1	COMMON RETURN	COMMON RETURN	OUTPUT #3