

DESCRIPTION

The PM42 series of compact, open PCB constructed, AC-DC switching power supplies are capable of delivering 30-48 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 EN62368-1 Safety Standards improves design-in time and reduces end equipment compliance costs.

FEATURES

- BF Class insulation
- Medical and ITE approvals
- Compact size 2" x4" x1.18"
- Single, dual and triple outputs
- Wide-range input 90-264 VAC
- Low earth leakage current
- Level B emissions
- RoHS compliant

INPUT SPECIFICATIONS

Input voltage:	90-264 VAC
Input frequency:	47-63 Hz
Input current:	0.9 A (rms) for 100 VAC 0.5 A (rms) for 240 VAC
Earth Leakage current:	150 μ A max. @ 264 VAC, 63 Hz
Touch current:	100 μ A max. @ 264 VAC, 63 Hz

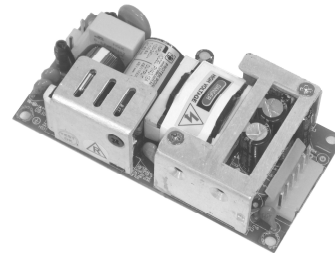
OUTPUT SPECIFICATIONS

Output voltage/current:	See rating chart.
Maximum output power:	See rating chart.
Ripple and noise:	100 mV peak to peak on 3.3 V & 5.0 V models, 1% peak to peak on other models
Over voltage protection:	Provided on output #1 only; set at 112–132% of its nominal output voltage, automatic recovery
Short circuit protection:	Automatic recovery
Temperature coefficient:	All outputs $\pm 0.04\%$ / $^{\circ}$ C maximum
Transient response:	Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500 μ s after a 25% step load change

ENVIRONMENTAL SPECIFICATIONS

Operating temperature:	-10 $^{\circ}$ C to +70 $^{\circ}$ C
Storage temperature:	-40 $^{\circ}$ C to +85 $^{\circ}$ C
Relative humidity:	5% to 95% non-condensing
Temperature derating:	Derate from 100% at +50 $^{\circ}$ C linearly to 50% at +70 $^{\circ}$ C

PM42 SERIES



CE
RoHS

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

GENERAL SPECIFICATIONS

Switching frequency:	62 K \pm 5 KHz
Efficiency:	80-88% typical except PM42-31-3A and PM42-31-5A at 75% typical
Hold-up time:	12 ms minimum at 110 VAC
Line regulation:	$\pm 0.5\%$ maximum at full load
Inrush current:	25 A @ 115 VAC, or 50 A @ 230 VAC, at 25 $^{\circ}$ 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 $^{\circ}$ C ambient, calculated per MIL-HDBK-217F
EMC Performance	
EN55011/ EN55032:	Class B conducted, class B radiated
EN61000-3-2:	Harmonic distortion, class A and D
EN61000-3-3:	Line flicker
EN60601-1-2, EN55024	
EN61000-4-2:	ESD, ± 15 KV air and ± 8 KV contact
EN61000-4-3:	Radiated immunity, 9-28 V/m
EN61000-4-4:	Fast transient/burst, ± 2 KV
EN61000-4-5:	Surge, ± 1 KV diff., ± 2 KV com
EN61000-4-6:	Conducted immunity, 10 Vrms
EN61000-4-8:	Magnetic field immunity, 30 A/m
EN61000-4-11:	Voltage dip immunity, 30% reduction for 500 ms, 100% reduction for 10 ms

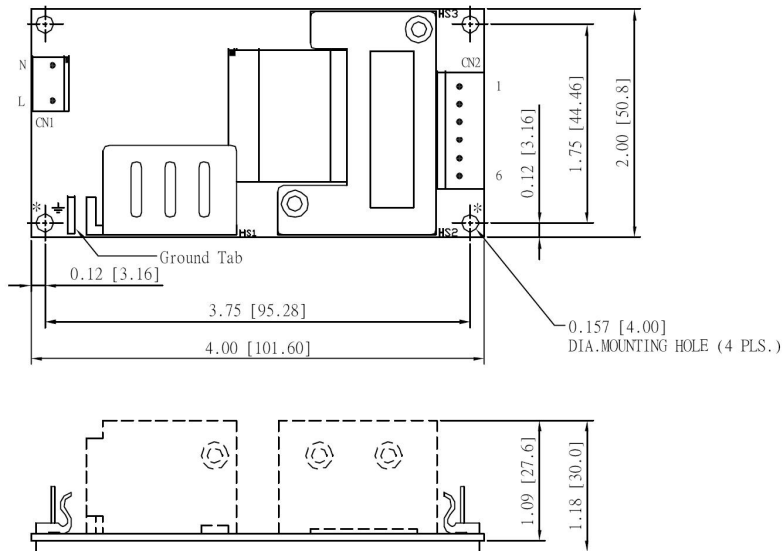
OUTPUT VOLTAGE/CURRENT RATING CHART

Model ⁽¹⁾	Output #1				Output #2				Output #3				Max. Output Power
	V1	Min. Current	Max. Current	Tol.	V2	Min. Current	Max. Current	Tol.	V3	Min. Current	Max. Current	Tol.	
PM42-10A	5 V	0 A	8.0 A	±2%		(N/A)				(N/A)			40 W
PM42-12A	12 V	0 A	3.5 A	±2%		(N/A)				(N/A)			42 W
PM42-13A	15 V	0 A	3.0 A	±2%		(N/A)				(N/A)			45 W
PM42-14A	24 V	0 A	2.0 A	±2%		(N/A)				(N/A)			48 W
PM42-18A	48 V	0 A	1.0 A	±2%		(N/A)				(N/A)			48 W
PM42-23A	+5 V	0.5 A	6.0 A	±3%	+12 V	0.1 A	2.0 A	±5%		(N/A)			40 W
PM42-25A	+5 V	0.5 A	6.0 A	±3%	+24 V	0.1 A	1.0 A	±5%		(N/A)			40 W
PM42-31A	+5 V	0.5 A	6.0 A	±3%	+12 V	0.1 A	2.0 A	±5%	-12 V	0 A	0.3 A	±4%	40 W
PM42-31-3A	+3.3 V	0.8 A	6.0 A	±3%	+5 V	0.1 A	2.0 A	±5%	+12 V	0 A	0.3 A	±4%	30 W
PM42-31-5A	+5 V	0.5 A	6.0 A	±3%	+3.3 V	0 A	1.5 A	±5%	+12 V	0 A	0.3 A	±4%	30 W
PM42-32A	+5 V	0.5 A	6.0 A	±3%	+15 V	0.1 A	1.5 A	±5%	-15 V	0 A	0.3 A	±4%	40 W
PM42-39A	+5 V	0.5 A	6.0 A	±3%	+24 V	0.1 A	1.0 A	±5%	-12 V	0 A	0.3 A	±4%	40 W

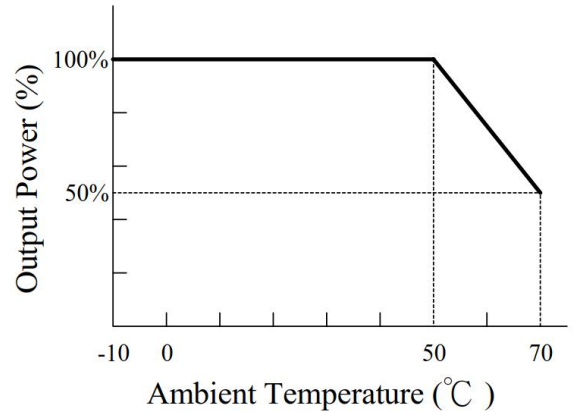
NOTES:

- Safety approvals are for PCB form only. To order unit with cover fitted, change suffix "A" to "C".
- 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.
- 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.

MECHANICAL SPECIFICATIONS



OUTPUT POWER DERATING CURVE



NOTES:

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

PIN CHART

MODEL	PIN	1	2	3	4	5	6
PM42-10A	PM42-13A	PM42-18A	+V1		V1 Return		N.C.
PM42-12A	PM42-14A		V1		Common Return		N.C.
PM42-23A	PM42-25A		V1		Common Return		N.C.
PM42-31A	PM42-32A	PM42-39A	V1		Common Return		V3
PM42-31-3A	PM42-31-5A		V1		Common Return		V2