

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 EN60950-1 Safety Standards improves design-in time and reduces end equipment compliance costs.

FEATURES

- Medical and industrial approvals
- Compact size 2" x4" x1.18"
- Single, dual and triple outputs
- Class I and Class II construction
- 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 uA max. @ 264 VAC, 63 Hz

OUTPUT SPECIFICATIONS

Output voltage/current:	See rating chart.
Maximum output power:	See rating chart.
Ripple and noise:	100mV peak to peak on 3.3V & 5.0 V model, 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 $\pm 0.04\%$ / $^{\circ}\text{C}$ maximum
Transient response:	Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500 us after a 25% step load change

ENVIRONMENTAL SPECIFICATIONS

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

PM42 SERIES



CE (LVD)
RoHS

SAFETY STANDARD APPROVALS



UL 60601-1, CSA C22.2 No. 601.1
File No. E178020



TÜV EN60601-1



UL 60950-1, CSA-C22.2 No. 60950-1



TÜV EN60950-1

GENERAL SPECIFICATIONS

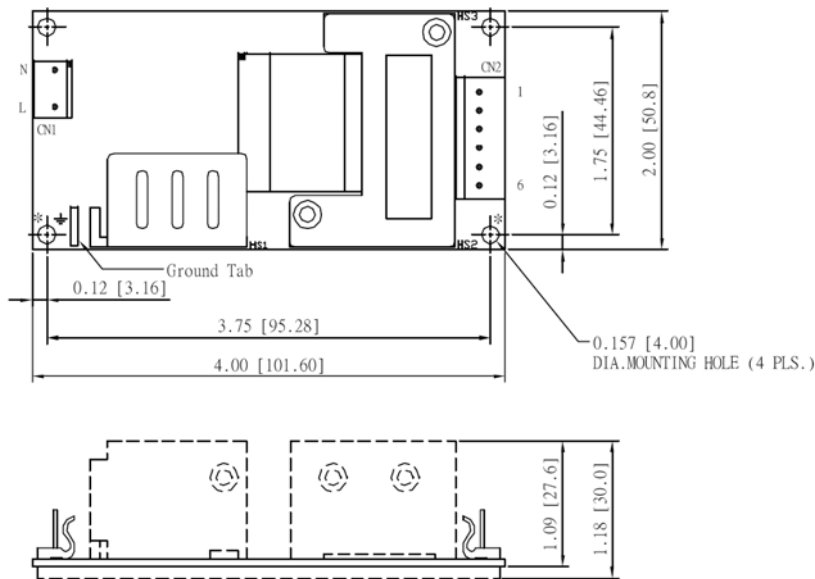
Switching frequency:	62 K ± 5 KHz
Efficiency:	80-88% typical except PM42-31-3A and PM42-31-5A at 75% typical
Hold-up time:	12 msec minimum at 110 VAC
Line regulation:	$\pm 0.5\%$ maximum at full load
Inrush current:	25 A @ 115 VAC, or 50 A @ 230 VAC, at 25 $^{\circ}\text{C}$ cold start
Withstand voltage:	4000 VAC from input to output 1500 VAC from input to ground 500 VAC from output to ground
MTBF:	400,000 hours at full load at 25 $^{\circ}\text{C}$ ambient, calculated per MIL-HDBK-217F
EMC Performance	
EN55011 / EN55022:	Class B conducted, class B radiated
FCC:	Class B conducted, class B radiated
VCCI:	Class B conducted, class B radiated
EN61000-3-2:	Harmonic distortion, class A and D
EN61000-3-3:	Line flicker
EN61000-4-2:	ESD, ± 8 KV air and ± 6 KV contact
EN61000-4-3:	Radiated immunity, 3 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, 3 Vrms
EN61000-4-8:	Magnetic field immunity, 3 A/m
EN61000-4-11:	Voltage dips, 30% reduction for 500 ms 60% reduction for 100 ms >95% reduction for 10 ms

OUTPUT VOLTAGE/CURRENT RATING CHART

MODEL (1)	Output #1				Output #2				Output #3				Maximum Output Power
	Vnom.	Imin.	Imax.	Tol.	Vnom.	Imin.	Imax.	Tol.	Vnom.	Imin.	Imax.	Tol.	
PM42-10A	5 V	0 A	8.0 A	2%									40 W
PM42-12A	12 V	0 A	3.5 A	2%									42 W
PM42-13A	15 V	0 A	3.0 A	2%									45 W
PM42-14A	24 V	0 A	2.0 A	2%									48 W
PM42-18A	48 V	0 A	1.0 A	2%									48 W
PM42-23A	+5 V	0.5 A	6 A	3%	+12 V	0.1 A	2 A	5%					40 W
PM42-25A	+5 V	0.5 A	6 A	3%	+24 V	0.1 A	1 A	5%					40 W
PM42-31A	+5 V	0.5 A	6 A	3%	+12 V	0.1 A	2 A	5%	-12 V	0 A	0.3 A	4%	40 W
PM42-31-3A	+3.3 V	0.8 A	6 A	3%	+5 V	0.1 A	2 A	5%	+12 V	0 A	0.3 A	4%	30 W
PM42-31-5A	+5 V	0.5 A	6 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 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 A	3%	+24 V	0.1 A	1 A	5%	-12 V	0 A	0.3 A	4%	40 W

- NOTE:
1. Safety approvals are for PCB form only. To order unit with cover fitted, change suffix "A" to "C".
 2. 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.
 3. Ripple and noise: Peak to peak with 20 MHz bandwidth and 10 uF tantalum capacitor in parallel with a 0.1 uF ceramic capacitor at rated line voltage and load ranges.

MECHANICAL SPECIFICATIONS



NOTES:

1. Dimensions shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Input connector mates with Molex housing 09-50-3031 and Molex 2878 series crimp terminal.
4. Output connector mates with Moles housing 09-50-3061 and Moles 2878 series crimp terminal.
5. Ground tab is 0.25 [6.35] x 0.032 [0.8]
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

PIN CHART

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