PROTEK POWER

TT Electronics
POWER PARTNERS

PM42 30-48W Medical and ITE Power Supply Series (30-48W)

Features:

- BF Class insulation
- Suitable for both Class I and Class II applications *
- 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

RoHS CE

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.

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 PM42-12A	5V 12V	0A 0A	8.0A 3.5A	±2% ±2%	(N/A) (N/A)				(N/A)				40 W 42 W
PM42-13A PM42-14A	15V 24V	0A 0A	3.0A 2.0A	±2% ±2%	(N/A) N/A)				(N/A)				45 W 48 W
PM42-18A PM42-23A	48V +5V	0A 0.5A	1.0A 6.0A	±2% ±3%	(N/A) +12V	0.1A	2.0A	±5%	(N/A)				48 W 40 W
PM42-25A PM42-31A	+5V +5V	0.5A 0.5A	6.0A 6.0A	±3% ±3%	+24V +12V	0.1A 0.1A	1.0 A 2.0 A	±5% ±5%	(N/A) -12 V	0 A	0.3 A	±4%	40 W 40 W
PM42-31-3A PM42-31-5A	+3.3V +5V	0.8A 0.5A	6.0A 6.0A	±3% ±3%	+5V +3.3V	0.1A 0A	2.0 A 1.5 A	±5% ±5%	+12 V +12 V	0 A 0 A	0.3 A 0.3 A	±4% ±4%	30 W 30 W
PM42-32A PM42-39A	+5V +5V	0.5 A 0.5 A	6.0A 6.0A	±3% ±3%	+15V +24V	0.1A 0.1A	1.5 A 1.0 A	±5% ±5%	-15 V -12 V	0 A 0 A	0.3 A 0.3 A	±4% ±4%	40 W 40 W

NOTES:

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 is maximum peak to peak voltage value measured at output within 20MHz 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

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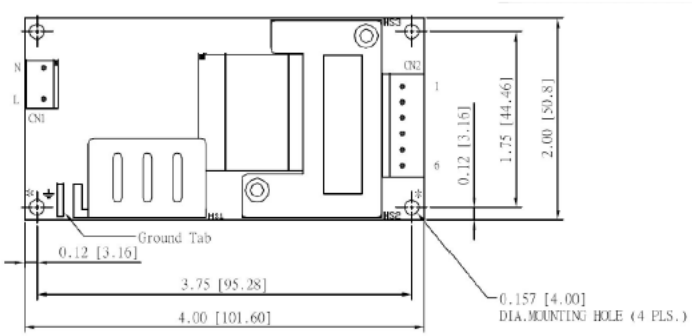
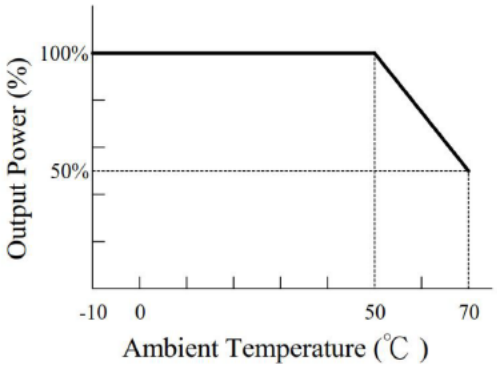
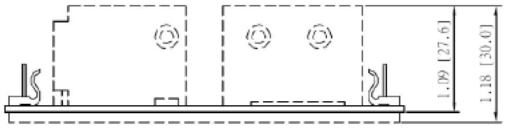
Specifications	
Safety Standards & EMC Specifications	
EMI Standard	EN55011 Class B conducted, class B radiated FCC: Class B conducted, class B radiated VCCI: Class B conducted, class B radiated
EMC Performance	EN61000-3-2: Harmonic distortion, class A and D EN61000-3-3: Line flicker EN61000-4-2: ESD, ±15 KV air and ±8 KV contact EN61000-4-3: Radiated immunity, 10 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
*Consult with TT Electronics for information on additional country safety approvals	
Input Specifications	
Input Voltage Range	90-264 VAC
Power Derating	Derate from 100% at +40°C linearly to 50% at +60°C
Input Frequency Range	47 to 63Hz
Input Current	1.4 A (rms) for 115 VAC 0.7 A (rms) for 230 VAC
Earth Leakage Current	200 µA max. @ 264 VAC, 63 Hz
Output Specifications	
Ripple and Noise	Maximum peak to peak voltage value measured at output within 20 MHz bandwidth
Overvoltage Protection	Provided and set at 115-140% of its nominal output voltage
Overcurrent Protection	Protected to short circuit conditions
Temperature Coefficient	±0.04% /□ 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	0°C to +60°C (See Derating)
Storage Temperature	-40°C to +85°C
Relative Humidity	5% to 95% non-condensing
Temperature Derating	De-rate from 100% at +40°C linearly to 50% at +60°C
General Specifications	
Hold-up Time	10ms minimum at 110 VAC
Power Factor	0.98 Typical at 115 VAC
Line Regulation	±0.5% maximum at full load
Inrush Current	80 A @ 115 VAC or 120 A @ 230 VAC, at 25□ cold start
Withstand Voltage	5600 VDC from input to output (2 MOPP) 2100 VDC from input to ground (1 MOPP) 700 VDC from output to ground (To verify AC strength, get correct test method to avoid power supply damage.) For Class II models, 4000 VAC from input to output
MTBF	50,000 hours at full load at 25□ ambient, calculated per MIL-HDBK-217F

Diagrams







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]
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 PM42-13A PM42-18A PM42-12A PM42-14A	+V1		V1 Return		N.C.	
PM42-23A PM42-25A	V1		Common Return		N.C	V2
PM42-31A PM42-32A PM42-39A PM42-31-3A PM42-31-5A	V1		Common Return		V3	V2