

## **30-48 WATT ITE POWER SUPPLIES**

### **DESCRIPTION**

The PU42 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 information technology and industrial applications.

# FEATURES

- Compact size 2□x4□x1.18□
- Single, dual and triple outputs
- Wide-range input 90-264 VAC
- Level B emissions
- RoHS compliant

### **PU42 SERIES**

CE<sub>(LVD)</sub>

**RoHS** 



### **SAFETY STANDARD APPROVALS**



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



T<sub>V</sub> EN 60950-1

### 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 µA max. @ 264 VAC, 63 Hz

### **GENERAL SPECIFICATIONS**

Switching frequency: 62 K±5 KHz

Efficiency: 80-88% typical except PU42-31-3A and

PU42-31-5A 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°C cold start

Withstand voltage: 3000 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° ambient,

calculated per MIL-HDBK-217F

## 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

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% ∫ maximum

Transient response: Maximum excursion of 4% or better

Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500 us after a 25% step load

change

EMC Performance

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 ±4 KV contact

EN61000-4-3: Radiated immunity, 3 V/m
EN61000-4-4: Fast transient/burst, ±1 KV
EN61000-4-5: Surge, ±1 KV diff., ±2 KV com
EN61000-4-6: Conducted immunity, 3 V/ms
EN61000-4-8: Magnetic field immunity, 1 A/m

EN61000-4-11: Voltage dip immunity, 30% reduction for 500

ms and >95% reduction for 10 ms

### **ENVIRONMENTAL SPECIFICATIONS**

Operating temperature:  $-10^{\circ}$  to  $+70^{\circ}$  Storage temperature:  $-40^{\circ}$  to  $+85^{\circ}$ 

Relative humidity: 5% to 95% non-condensing

Derating: Derate from 100% to +50℃ linearly to

50% at +70°C

### **OUTPUT VOLTAGE/CURRENT RATING CHART**

	Output #1				Output #2				Output #3				Max.
		Min.	Max.			Min.	Max.			Min.	Max.		Output
Model (1)	V1	Current	Current	Tol.	V2	Current	Current	Tol.	V3	Current	Current	Tol.	Power
PU42-10A	5 V	0 A	8.0 A	±2%	(N/A) (N/A)						40 W		
PU42-12A	12 V	0 A	3.5 A	±2%	(N/A)				(N/A)			42 W	
PU42-13A	15 V	0 A	3.0 A	±2%	(N/A) (N/A)					45 W			
PU42-14A	24 V	0 A	2.0 A	±2%	(N/A)				(N/A)				48 W
PU42-18A	48 V	0 A	1.0 A	±2%	(N/A)				(N/A)				48 W
PU42-23A	+5 V	0.5 A	6.0 A	±3%	+12 V	0.1 A	2.0 A	±5%	(N/A)			40 W	
PU42-25A	+5 V	0.5 A	6.0 A	±3%	+24 V	0.1 A	1.0 A	±5%	(N/A)			40 W	
PU42-31A	+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
PU42-31-3A	+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
PU42-31-5A	+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
PU42-32A	+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
PU42-39A	+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

### NOTE:

- 1. Safety approvals are for PCB form only. To order unit with cover fitted, change suffix ♣□to ₺€□
- 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 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** 50 **└**PU42-14A,-18A 45 [44.46 **└**PU42-13A 50 Output Power (W) 40 2.00 75 PU42-10A,-23A,-25A,-31A,-32A,-39 35 0 30 PU42-31-3A,-31-5A 25 Ground Tab 0.12 [3.16] 20 3.75 [95.28] 0.157 [4.00] 15 -15W 4.00 [101.60] DIA.MOUNTING HOLE (4 PLS.) 10 5 (O) (C) (O) 18 [30.0] 90. 20 30 40 50 60 70 Ambient temperature (°C)

### NOTES:

- 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.
- 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]
- 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**

1 IIV OHART										
MODEL		PIN	1	2	3	4	5	6		
PU42-10A	PU42-13A	PU42-18A	+\	V1	V/1 D	eturn	N.C.			
PU42-12A	PU42-14A		7,	V I	VIK	eturri				
PU42-23A	PU42-25A		٧	′1	Commo	n Return	N.C	V2		
PU42-31A PU42-31-3A	PU42-32A PU42-31-5A	PU42-39A	٧	<b>′</b> 1	Commo	n Return	V3	V2		