

1100 WATT ITE POWER SUPPLIES

DESCRIPTION

The PU1100 series of AC-DC switching power supplies in a package of $5.91 \times 9.25 \times 2.4$ inches are capable of delivering 1100 watts of continuous power. The units are constructed on a printed circuit board with an enclosed format for mechanical support and heat sinking. They are designed for ITE and industrial applications.

FEATURES

- Active PFC, 0.98 typical
- EN61000-3-2 class A and D compliant
- Operation up to 5000 meters
- Compact size 5.91" x 9.25" x 2.4"
- EN55022 Class B conducted emissions
- Inhibit TTL low to disable output
- Standard PS Off and DC OK signals
- High Efficiency 89% typical
- Compliant with RoHS requirements
- Standby output 5 VDC at 200 mA
- Variable speed internal fan
- Overvoltage protection
- Overcurrent protection
- Thermal protection

INPUT SPECIFICATIONS

Input voltage:	90-264 VAC				
Input frequency:	47-63 Hz				
Input current:	16 A (rms) @100 VAC, 60 Hz				
	8 A (rms) @ 240 VAC, 50 Hz				
Earth leakage current:	300 µA max. @ 264 VAC, 63 Hz				
Touch current:	100 μA max. @ 264 VAC, 63 Hz				

OUTPUT SPECIFICATIONS

Output voltage/current:	See rating chart.
Maximum output power:	See rating chart.
Ripple and noise:	1% peak to peak maximum
Remote sense	Compensation for cable losses up to 0.5 V
Overvoltage protection:	Set at 112-140% of nominal output voltage
Overcurrent protection:	Set at 120-140% of maximum output current
Thermal shutdown	Protected to overtemperature conditions
Temperature coefficient:	All outputs ±0.04% /°C maximum
Transient response:	Maximum excursion of 4%, recovering to
	1% of final value within 500 us after a 25% step load change
Standby power	5 V at 200 mA maximum
Fan power	12 V at 1.0 A maximum

ENVIRONMENTAL SPECIFICATIONS

 Operating temperature:
 -10°C to +70°C

 Storage temperature:
 -40°C to +85°C

 Relative humidity:
 5% to 95% non-condensing

 Derating:
 Derate from 100% at +50°C linearly to 50% at +70°C, applicable to convection and forced-air cooling conditions

PU1100 SERIES





SAFETY STANDARD APPROVALS



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



TÜV EN 60950-1

GENERAL SPECIFICATIONS

Switching frequency:	40 KHz to 200 KHz
Efficiency:	See rating chart
Hold-up time:	10 ms minimum at 110 VAC
Line regulation:	±0.5% maximum at full load
Inrush current:	50 A @ 115 VAC, or 100 A @ 230 VAC, at
	25°C cold start
Withstand voltage:	4000 VAC from input to output
	1500 VAC from input to ground
	1500 VAC from output to ground
MTBF:	300,000 hours at full load at 25 $^\circ\!\mathrm{C}$ ambient,
	calculated per MIL-HDBK-217F
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 Vrms
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

INTERFACE SIGNALS

PFD:	TTL high for normal operation,
	low upon loss of input power,
	turn-on delay time 100-2500 ms,
	turn-off delay time 1 ms minimum
Inhibit:	TTL low to turn off output
DC OK:	TTL high when output voltage >95%
PS OFF:	TTL high to turn off output

OUTPUT POWER DERATING CURVE



OUTPUT VOLTAGE/CURRENT RATING CHART

	Output							Efficiency (typical)	
		Min.	Max.	Peak		Ripple & Max. Output		@ 1100 W	
Model	V1	Current	Current	Current	Tol.	Noise ⁽²⁾	Power ⁽¹⁾	115/230 Vac	
PU1100-14C	24 V	0 A	45.84 A	52.10 A	±2%	240 mV	1100 W /1250 W	87 /88%	
PU1100-15C	28 V	0 A	39.29 A	44.65 A	±2%	280 mV	1100 W /1250 W	87 /88%	
PU1100-16C	32 V	0 A	34.38 A	39.07 A	±2%	320 mV	1100 W /1250 W	87 /88%	
PU1100-17-1C	34 V	0 A	32.35 A	36.77 A	±2%	340 mV	1100 W /1250 W	87 /89%	
PU1100-17C	36 V	0 A	30.56 A	34.73 A	±2%	360 mV	1100 W /1250 W	87 /89%	
PU1100-18-1C	42 V	0 A	26.20 A	29.77 A	±2%	420 mV	1100 W /1250 W	87 /89%	
PU1100-18C	48 V	0 A	22.92 A	26.10 A	±2%	480 mV	1100 W /1250 W	87 /89%	

NOTES:

1. Peak current and power possible at 170-260 VAC input, 10 seconds, 35% duty cycle.

2. 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



NOTES:

- 1. Dimensions shown in inches [mm]
- 2. Tolerance 0.02 [0.5] maximum
- 3. Input connector P1 is Dinkle terminal P/N DT-4C-B01W-03, with nickel plated M3.5 screws or equivalent.
- 4. Output connectors P2 and P3 are for M5*0.8 screw connections.
- 5. Output connector P4 is Molex header 22-05-7105 or equivalent, mating with Molex housing 50-37-5103 or equivalent.
- 6. Weight: 2.884 Kgs (6.35 lbs.) approx. for enclosed form.
- 7. Maximum penetration depth of fixing screws is 4 mm from the outer surface of chassis.

UNIVERSAL INPUT

PIN CHART

Connector			P1 (AC)		P2			P3			
PIN NO.	1		2		3		2		1	2	
Polarity	Live		Neutral G		Ground	+V1			V1 Return		
Connector	P4										
PIN NO.	1	2	3	4	5	6	7	8	9	10	
Polarity	FAN Return	+12V FAN	PS OFF	DC OK	+5V Standby	Inhibit	PFD	-V1 Sense	+V1 Sense	common Return	