DESCRIPTION

The PU450 series comprising single and multiple output models for 450-480 watts of continuous output power is specially designed for ITE and industrial applications. They operate at 90-264 VAC input voltage without the need of a selector strap. The units are constructed on a printed circuit board with a U-bracket for mechanical support and heat sinking. A cover-and-fan assembly can be added during manufacturing.

FEATURES

- EN61000-3-2 class A and D compliant
- Power Factor 0.98 typical
- Overvoltage protection
- Short-circuit protection
- Thermal protection
- Power Fail Detect (PFD) Signal
- 100% burn-in at full rated load
- Remote sense on output #1 and output #2
- Remote inhibit – TTL high to disable output
- Compliant with RoHS requirements

INPUT SPECIFICATIONS

Input voltage:	90-264 VAC
Input frequency:	47-63 Hz
Input current:	7.1 A（rms）for 115 VAC 3.5 A（rms）for 230 VAC
Earth leakage current:	240 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
Overvoltage protection:	Provided on output #1 only; set at 115-140% 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 on all models, recovering to 1% of final value within 500us after a 25% step load change
Fan power:	12 V at 400 mA for B version, 12 V at 100 mA for C version

INTERFACE SIGNALS

PFD:	TTL logic high for normal operation and TTL logic low upon loss of input power. This signal appears at least 1ms prior to master output dropping 5% below its nominal value. This signal also provides a minimum delay of 100 ms after master output is within regulation.
Inhibit：	Requires an external TTL high level signal to inhibit outputs for standard models.

PU450 SERIES

CE (LVD)

RoHS

SAFETY STANDARD APPROVALS

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

TÜV EN 60950-1

ENVIRONMENTAL SPECIFICATIONS

Operating temperature:	0℃ to +70℃
Storage temperature:	-40℃ to +85℃
Relative humidity:	5% to 95% non-condensing
Derating:	Derate from 100% at +50℃ linearly to 50% at +70℃

GENERAL SPECIFICATIONS

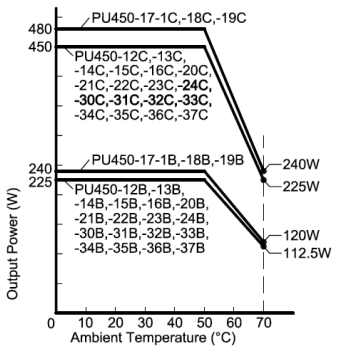
Switching frequency:	60 KHz ±10 KHz
Power factor:	0.98 typical
Efficiency:	80% minimum on all models
Hold-up time:	12 ms minimum at 110 VAC
Line regulation:	±0.2% maximum at full load
Inrush current:	40 A @ 115 VAC or 80 A @ 230 VAC, at 25℃ cold start
Withstand voltage:	3000 VAC from input to output, 1500 VAC from input to ground, 500 VAC from output to ground
MTBF:	300,000 hours at full load at 25℃ ambient, calculated per MIL-HDBK-217F
EMC Performance	
EN55022:	Class B conducted, Class A radiated
FCC:	Class B conducted, Class A radiated
VCCI:	Class B conducted, Class A radiated
EN61000-3-2:	Harmonic distortion, Class A and D
EN61000-3-3:	Line flicker
EN55024	
EN61000-4-2:	ESD, ±8 KV air and ±4 KV contact
EN61000-4-3:	Radiated immunity, 3V/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

OUTPUT VOLTAGE/CURRENT RATING CHART

Model[1]	Output #1[3][5]				Output #2[5]				Output #3[4]				Max. Output Power[5]
	V1	Imin.	Imax.	Tol.	V2	Imin.	Imax.	Tol.	V3	Imin.	Imax.	Tol.	
PU450-12B	12 V	0 A	37.5 A	±2%	(N/A)				(N/A)				225 / 450 W
PU450-13B	15 V	0 A	30.0 A	±2%	(N/A)				(N/A)				225 / 450 W
PU450-14B	24 V	0 A	18.75 A	±2%	(N/A)				(N/A)				225 / 450 W
PU450-15B	27 V	0 A	16.7 A	±2%	(N/A)				(N/A)				225 / 450 W
PU450-16B	30 V	0 A	15.0 A	±2%	(N/A)				(N/A)				225 / 450 W
PU450-17-1B	40 V	0 A	12.0 A	±2%	(N/A)				(N/A)				240 / 480 W
PU450-18B	48 V	0 A	10.0 A	±2%	(N/A)				(N/A)				240 / 480 W
PU450-19B	55 V	0 A	8.73 A	±2%	(N/A)				(N/A)				240 / 480 W
PU450-20B	24 V	1.0 A	12.0 A	±2%	12 V	1.00 A	17 A	±5%	(N/A)				225 / 450 W
PU450-21B	24 V	1.0 A	12.0 A	±2%	15 V	0.75 A	15 A	±5%	(N/A)				225 / 450 W
PU450-22B	48 V	0.5 A	6.0 A	±2%	24 V	0.50 A	10 A	±5%	(N/A)				225 / 450 W
PU450-23B	48 V	0.5 A	6.0 A	±2%	12 V	1.00 A	17 A	±5%	(N/A)				225 / 450 W
PU450-24B	48 V	0.5 A	6.0 A	±2%	15 V	0.75 A	15 A	±5%	(N/A)				225 / 450 W
PU450-30B	24 V	1.0 A	12.0 A	±2%	12 V	1.00 A	17 A	±5%	3.3 V	0 A	8 A	±3%	225 / 450 W
PU450-31B	24 V	1.0 A	12.0 A	±2%	15 V	0.75 A	15 A	±5%	3.3 V	0 A	8 A	±3%	225 / 450 W
PU450-32B	24 V	1.0 A	12.0 A	±2%	12 V	1.00 A	17 A	±5%	5.1 V	0 A	8 A	±3%	225 / 450 W
PU450-33B	24 V	1.0 A	12.0 A	±2%	15 V	0.75 A	15 A	±5%	5.1 V	0 A	8 A	±3%	225 / 450 W
PU450-34B	48 V	0.5 A	6.0 A	±2%	12 V	1.00 A	17 A	±5%	3.3 V	0 A	8 A	±3%	225 / 450 W
PU450-35B	48 V	0.5 A	6.0 A	±2%	15 V	0.75 A	15 A	±5%	3.3 V	0 A	8 A	±3%	225 / 450 W
PU450-36B	48 V	0.5 A	6.0 A	±2%	12 V	1.00 A	17 A	±5%	5.1 V	0 A	8 A	±3%	225 / 450 W
PU450-37B	48 V	0.5 A	6.0 A	±2%	15 V	0.75 A	15 A	±5%	5.1 V	0 A	8 A	±3%	225 / 450 W

NOTES:
1. Suffix "B" in model numbers denotes U-bracket form. Change "B" to "C" for enclosed form with cover-and-fan assembly, e.g. PU450-14C.
2. All outputs are floating. They can be connected externally for positive or negative output.
3. Output #1 can be adjusted within ±5% of its nominal voltage.
4. Output #3 can be adjusted within ±15% of its nominal voltage.
5. 450-480 watts for "C" version with cover-and-fan assembly. 225-240 watts for "B" version without moving air (maximum current of output #1 & 2 derated to 50%), or 450 watts with 40 CFM forced air provided by user.
6. All models may be operated at no-load. At no-load, output voltage tolerance increases to ±10%.

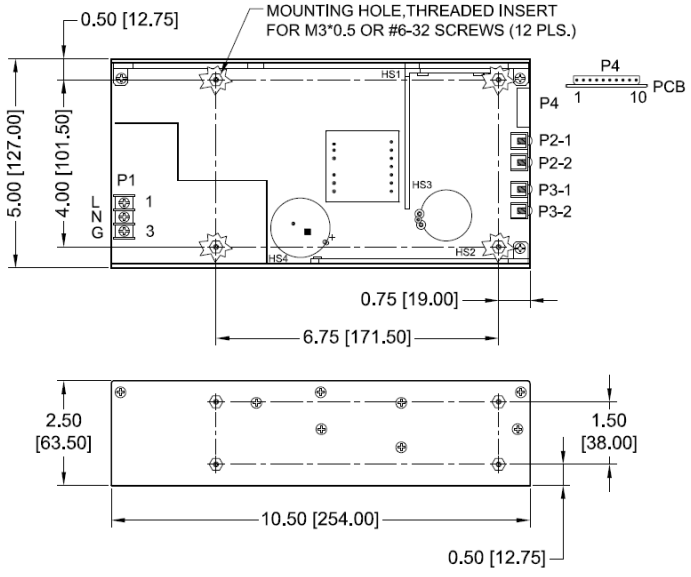
OUTPUT POWER DERATING CURVE



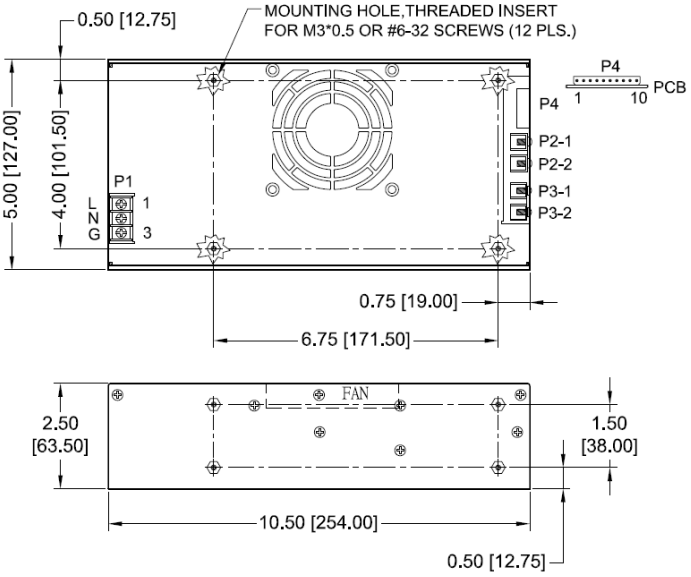
MECHANICAL SPECIFICATIONS

Single Output Models

U-bracket Form

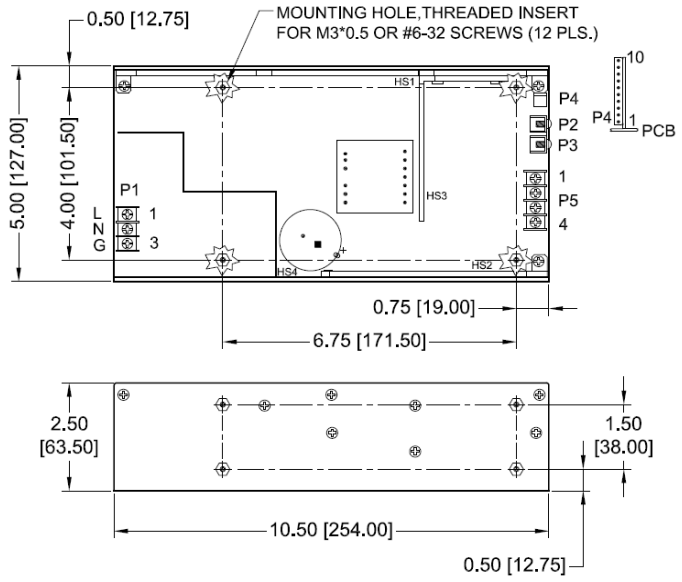


Enclosed Form



Multiple Output Models

U-bracket Form



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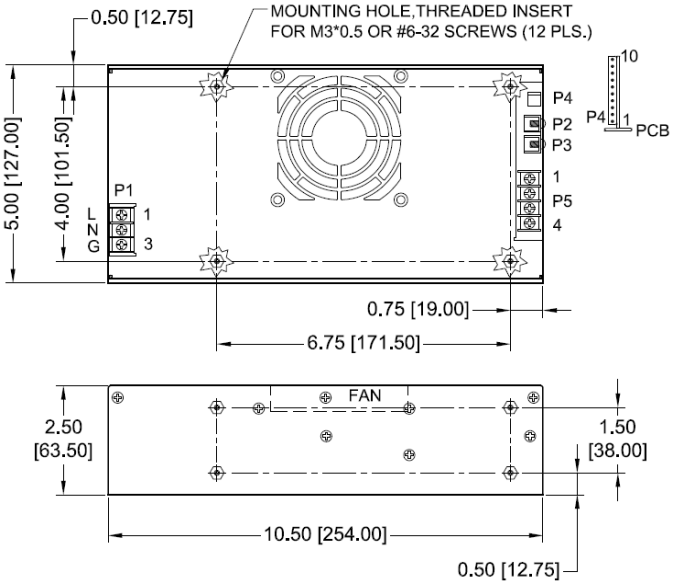

NOTES:
1. Dimensions shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Input connector P1 is Dinkle DT-35-B01W-03 with M3, nickel plated screws.
4. Connector P4 mates with Molex housing 50-37-5103 and pins 5263.
5. P2, P2-1, P2-2, P3, P3-1 & P3-2: M3*0.5 screw connections
6. Output connector P5 is Dinkle DT-35-B01W-04 with M3, nickel plated screws.
7. Weight: 1.8 Kgs (3.96 lbs.) approx. for U-bracket form, 2.0 Kg (4.4 lbs.) approx. for enclosed form
8. Maximum penetration depth of fixing screws is 4 mm from the outer surface of chassis.

PIN CHART

CONN / MODEL / PIN		P1 (AC)			P2	P3	P5			
		1	2	3			1	2	3	4
PU450-12B PU450-13B PU450-14B PU450-15B	PU450-16B PU450-17-1B PU450-18B PU450-19B	Live	Neutral	Ground	+V1	V1 Return	N.A.			
PU450-20B PU450-21B PU450-22B	PU450-23B PU450-24B	Live	Neutral	Ground	+V1	V1 Return	+V2	V2 Return	N.C.	N.C.
PU450-30B PU450-31B PU450-32B PU450-33B	PU450-34B PU450-35B PU450-36B PU450-37B	Live	Neutral	Ground	+V1	V1 Return	+V2	V2 Return	+V3	V3 Return

CONN / MODEL / PIN		P4									
		1	2	3	4	5	6	7	8	9	10
PU450-12B PU450-13B PU450-14B PU450-15B	PU450-16B PU450-17-1B PU450-18B PU450-19B	PFD Return	+V1 Sense	-V1 Sense	PFD	Inhibit +V	Inhibit -V	N.C.	N.C.	Fan Return	+12V Fan
PU450-20B PU450-21B PU450-22B	PU450-23B PU450-24B	PFD Return	+V1 Sense	-V1 Sense	PFD	Inhibit +V	Inhibit -V	+V2 Sense	-V2 Sense	Fan Return	+12V Fan
PU450-30B PU450-31B PU450-32B PU450-33B	PU450-34B PU450-35B PU450-36B PU450-37B	PFD Return	+V1 Sense	-V1 Sense	PFD	Inhibit +V	Inhibit -V	+V2 Sense	-V2 Sense	Fan Return	+12V Fan