DESCRIPTION

The PU110 series of compact, open PCB constructed, AC-DC switching power supplies are capable of delivering 72-110 watts of continuous power at 25 CFM forced air cooling or 60-80 watts at convection cooling. They operate at 85-264 VAC input voltage without the need of a selector strap. They are ideally suited for use in small to medium size digitally-based systems, such as point-of-sale equipment, microprocessor based systems, and telecom equipment. All models meet the safety requirements of UL, CSA and IEC.

FEATURES

- Recognized or certified by UL, CSA and TÜV
- Power Fail Detect (PFD)signal
- 100% burn-in
- Wide input range 85-264 VAC
- Input surge current protection
- Overvoltage protection
- Overcurrent protection
- Compliant with RoHS requirements

INPUT SPECIFICATIONS

Input voltage:	85-264 VAC
Input frequency:	47-63Hz
Input current:	3.20 A (rms) for 115 VAC
	1.80 A (rms) for 230 VAC
Earth leakage current:	0.40 mA max. @ 115 VAC, 60 Hz
(Touch current)	0.75 mA max. @ 230 VAC, 50 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 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 on all models, recovering to 1% of final value within 500 us after a 25% step load change

INTERFACE SIGNALS

PFD:	TTL logic high for normal operation and TTL logic low upon loss of input power. This signal appears at least 1 ms prior to +5V output dropping 5% below its nominal value. This signal also provides a minimum delay of 100 ms after +5V is within regulation.

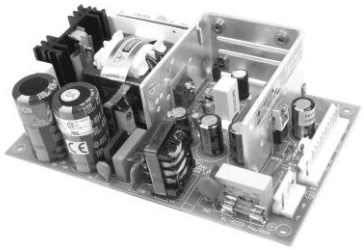
ENVIRONMENTAL SPECIFICATIONS

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℃
Cooling:	110 watts continuous output power at 25 CFM forced air cooling or 80 watts at convection cooling

PU110 SERIES

CE (LVD)

RoHS



SAFETY STANDARD APPROVALS

UL 60950-1
File No. E137410

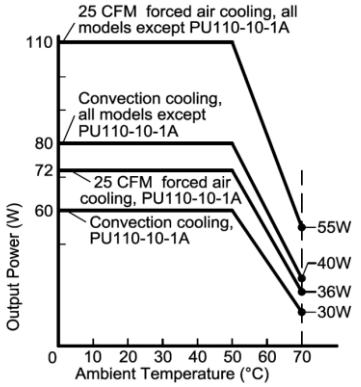
CSA C22.2 No. 60950-1
File No. LR93632

TÜV EN 60950-1
Certificate No. R9352008

GENERAL SPECIFICATIONS

Switching frequency:	20 KHz to 250 KHz, varied with load and line
Efficiency:	70% minimum on single output models with Vo ≧12V, 65% minimum on the others
Hold-up time:	12 ms minimum at 110 VAC
Line regulation:	±0.5% maximum at full load
Inrush current:	15 A @ 115 VAC or 30 A @ 230VAC, 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:	400,000 hours minimum at full load at 25℃ 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
EN61000-3-3:	Line flicker
EN55024	
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

OUTPUT POWER DERATING CURVE

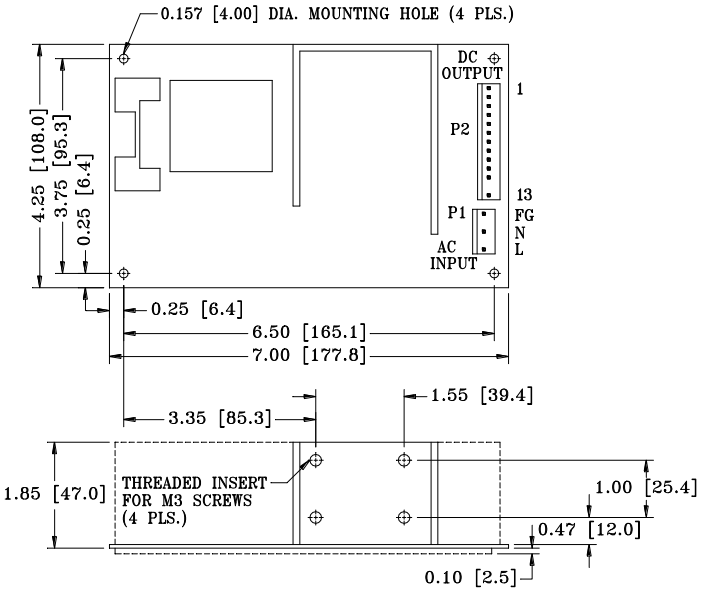


OUTPUT VOLTAGE/CURRENT RATING CHART

Model[3]	Output # 1[2][4]				Output # 2					Output # 3				Output # 4				Max. Output Power[2]
	V1	Imin.	Imax.	Tol.	V2	Imin.	Imax.	Peak[1]	Tol.	V3	Imin.	Imax.	Tol.	V4	Imin.	Imax.	Tol.	
PU110-10-1A	3.3 V	0 A	22.0 A	±3%	(N/A)					(N/A)				(N/A)				60 W / 72 W
PU110-10A	5 V	0 A	22.0 A	±3%	(N/A)					(N/A)				(N/A)				80 W / 110 W
PU110-12A	12 V	0 A	9.0 A	±2%	(N/A)					(N/A)				(N/A)				80 W / 110 W
PU110-13A	15 V	0 A	7.5 A	±2%	(N/A)					(N/A)				(N/A)				80 W / 110 W
PU110-14A	24 V	0 A	4.5 A	±2%	(N/A)					(N/A)				(N/A)				80 W / 110 W
PU110-16A	30 V	0 A	3.6 A	±2%	(N/A)					(N/A)				(N/A)				80 W / 110 W
PU110-23A	+5 V	0 A	10.0 A	±3%	+12 V	0 A	5 A	9.0 A	±3%	(N/A)				(N/A)				80 W / 110 W
PU110-31A	+5 V	0 A	10.0 A	±3%	+12 V	0 A	5 A	9.0 A	±3%	-12 V	0 A	1 A	±4%	(N/A)				80 W / 110 W
PU110-32A	+5 V	0 A	10.0 A	±3%	+15 V	0 A	4 A	7.5 A	±3%	-15 V	0 A	1 A	±4%	(N/A)				80 W / 110 W
PU110-40A	+5 V	0 A	10.0 A	±3%	+12 V	0 A	5 A	9.0 A	±3%	-12 V	0 A	1 A	±4%	-5 V	0 A	1 A	±4%	80 W / 110 W
PU110-41A	+5 V	0 A	10.0 A	±3%	+15 V	0 A	4 A	7.5 A	±3%	-15 V	0 A	1 A	±4%	+24 V	0 A	1 A	±4%	80 W / 110 W
PU110-42A	+5 V	0 A	10.0 A	±3%	+12 V	0 A	5 A	9.0 A	±3%	-12 V	0 A	1 A	±4%	+12 V	0 A	1 A	±4%	80 W / 110 W
PU110-45A	+5 V	0 A	10.0 A	±3%	+12 V	0 A	5 A	9.0 A	±3%	-12 V	0 A	1 A	±4%	+24 V	0 A	1 A	±4%	80 W / 110 W
PU110-45-1A	+5 V	2 A	10.0 A	±3%	+12 V	0 A	5 A	9.0 A	±3%	-12 V	0 A	1 A	±4%	+24 V	1.5 A	3 A	±10%	80 W / 110 W
PU110-45-2A	+5 V	0 A	10.0 A	±3%	+24 V	0 A	3 A	5.0 A	±3%	-12 V	0 A	1 A	±4%	+12 V	0 A	1 A	±4%	80 W / 110 W
PU110-46A	+5 V	0 A	10.0 A	±3%	+15 V	0 A	4 A	7.5 A	±3%	-15 V	0 A	1 A	±4%	-5 V	0 A	1 A	±4%	80 W / 110 W

NOTES:
1. Peak output current with 10% maximum duty cycle for less than 60 seconds. Total peak power must not exceed 130 watts.
2. 110 watts maximum at 25 CFM forced air cooling or 80 watts maximum at convection cooling, except model PU110-10-1A which is rated maximum 60 W at convection cooling or 72 W at 25 CFM forced air cooling.
3. Safety agency approvals are for the above listed models in PCB format. To order models with metallic L-bracket or box, change suffix "A" to "B" for L-bracket format, to "C" for enclosed format (mechanical details shown in page 71-72), e.g. PU110-31C.
4. The output #1 of model PU110-45-1A needs a minimum current of 2 A to support the other outputs at their maximum rated loads
5. 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. Connector P1: Molex header 09-65-2058 or equivalent, mating with Molex housing 09-50-1051 or equivalent.
4. Connector P2 mates with Molex housing 09-50-3131 or equivalent.
5. Weight: 640 grams (1.408 lbs.) approx.
6. The copper pad of the mounting hole near P1 is for system grounding through a metallic stand-off to system chassis.

PIN CHART

MODEL \ PIN	1, 2, 3	4, 5	6, 7	8, 9	10	11	12	13
PU110-10-1A PU110-13A PU110-10A PU110-14A PU110-12A PU110-16A	+V1	V1 & PFD Return	V1 & PFD Return	+V1	PFD	N.C.	KEY	N.C.
PU110-23A	V1	Common Return	Common Return	V2	PFD	N.C.	KEY	N.C.
PU110-31A PU110-32A	V1	Common Return	Common Return	V2	PFD	V3	KEY	N.C.
PU110-40A PU110-45-1A PU110-41A PU110-45-2A PU110-42A PU110-46A PU110-45A	V1	Common Return	Common Return	V2	PFD	V3	KEY	V4