TRUMPower

150 WATT SWITCHING POWER SUPPLIES

DESCRIPTION

The PU150 series comprises single and multiple output models for 150 watts of continuous output power. Auto ranging input allows them to operate from any line voltage throughout the world without a selector strap. All auxiliary outputs are with magnetic amplifier to keep regulation.The units are constructed on a printed circuit board with a U-bracket for mechanical support and heat sinking, in 1U height.

PU150 SERIES CE (LVD + EMC)



FEATURES

- **Auto-ranging input**
- **Overvoltage protection**
- **Short-circuit protection with auto-recovery**
- **Power Fail Detect (PFD) signal on models with 5V output**
- **100% burn-in at full rated load**

Safety Standard Approvals:

UL 1950
File No. E137410

C22.2 No. 950
File No. LR93632

EN 60950
Certificate No. R9954992

INPUT SPECIFICATIONS

Input voltage:	85 to 132 VAC, or 170 to 264 VAC (auto-ranging)
Input frequency:	47 to 63 Hz
Input current:	3.4A (rms) for 115VAC 2.0A (rms) for 230VAC
Leakage current:	0.4mA max. @115VAC, 60Hz 0.8mA max. @230VAC, 50Hz

OUTPUT SPECIFICATIONS

Output voltage/current :	See rating chart
Total output power:	150 watts maximum at 30 CFM forced air cooling or 110 watts maximum at convection cooling.
Ripple and noise :	1% peak to peak maximum
Overvoltage protection :	Provided on output #1 only; set at 112 - 136 % 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

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:	120KHz +/-15%
Efficiency :	70% typical on all models
Hold-up time :	15 msec minimum at 115VAC
Line regulation :	+/-0.5% maximum at full load
Inrush current :	20 amps @ 115VAC, or 40 amps @ 230VAC, at 25 ℃ cold start
Withstand voltage :	3000VAC from input to output 1500VAC from input to ground 500VAC from output to ground
MTBF :	300,000 hours minimum at full load at 25℃ ambient, calculated per MIL-HDBK-217F
EMI requirements :	In compliance with (a) FCC Level B (b) EN 55022 Class B
Safety requirements :	Meets or exceeds: (a) UL 1950 (b) CSA C22.2 No. 950 (c) IEC 950 (EN 60950)

AUTORANGING INPUT PU150 SERIES

OUTPUT VOLTAGE/CURRENT RATING CHART

(1)(2) Model	Output #1 (3) Vnom.	Imin.	Imax.	Ipeak	Tol.	Output #2 Vnom.	Imin.	Imax.	Ipeak	Tol.	Output #3 Vnom.	Imin.	Imax.	Tol.	Output #4 Vnom.	Imin.	Imax.	Ipeak	Tol.	Maximum Output Power
PU150-10B	5V	0A	30A	35A	2%			(N/A)					(N/A)				(N/A)			150W
PU150-12B	12V	0A	12.5A	14.5A	2%			(N/A)					(N/A)				(N/A)			150W
PU150-13B	15V	0A	10A	11.6A	2%			(N/A)					(N/A)				(N/A)			150W
PU150-13-1B	18V	0A	8.3A	9.7A	2%			(N/A)					(N/A)				(N/A)			150W
PU150-14B	24V	0A	6.3A	7.3A	2%			(N/A)					(N/A)				(N/A)			150W
PU150-16B	30V	0A	5.0A	6.0A	2%			(N/A)					(N/A)				(N/A)			150W
PU150-17B	36V	0A	4.2A	4.8A	2%			(N/A)					(N/A)				(N/A)			150W
PU150-18B	48V	0A	3.1A	3.6A	2%			(N/A)					(N/A)				(N/A)			150W
PU150-23B	+5V	2.0A	22A	30A	2%	+12V	0A	8A	10A	3%			(N/A)				(N/A)			150W
PU150-24B	+5V	2.0A	22A	30A	2%	+15V	0A	6.4A	8A	3%			(N/A)				(N/A)			150W
PU150-25B	+5V	2.0A	22A	30A	2%	+24V	0A	4.5A	5A	3%			(N/A)				(N/A)			150W
PU150-30B	+5V	2.0A	22A	30A	2%	+12V	0A	8A	10A	3%	-5V	0A	2.5A	3%			(N/A)			150W
PU150-31B	+5V	2.0A	22A	30A	2%	+12V	0A	8A	10A	3%	-12V	0A	2.5A	3%			(N/A)			150W
PU150-32B	+5V	2.0A	22A	30A	2%	+15V	0A	6.4A	8A	3%	-15V	0A	2A	3%			(N/A)			150W
PU150-33B	+5V	2.0A	22A	30A	2%	+15V	0A	6.4A	8A	3%	-12V	0A	2.5A	3%			(N/A)			150W
PU150-40B	+5V	2.0A	22A	30A	2%	+12V	0A	8A	10A	3%	-12V	0A	2.5A	3%	5V	0A	5A	5A	3%	150W
PU150-41B	+5V	2.0A	22A	30A	2%	+15V	0A	6.4A	8A	3%	-15V	0A	2A	3%	24V	0A	4.5A	5A	3%	150W
PU150-42B	+5V	2.0A	22A	30A	2%	+12V	0A	8A	10A	3%	-12V	0A	2.5A	3%	12V	0A	4.5A	5A	3%	150W
PU150-44B	+5V	2.0A	22A	30A	2%	+12V	0A	8A	10A	3%	-15V	0A	2A	3%	15V	0A	4A	4.5A	3%	150W
PU150-45B	+5V	2.0A	22A	30A	2%	+12V	0A	8A	10A	3%	-12V	0A	2.5A	3%	24V	0A	4.5A	5A	3%	150W

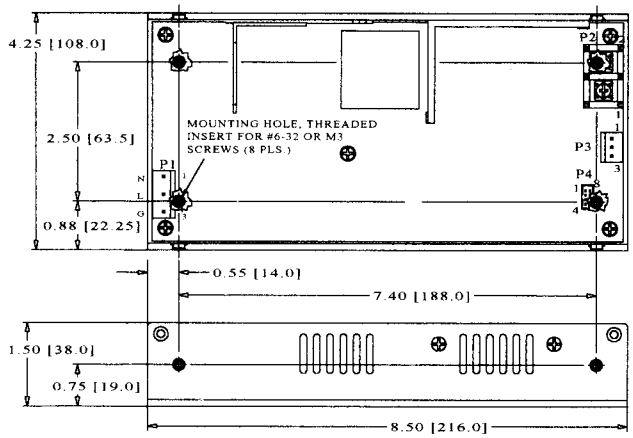
Notes: (1) Output #1 can be built for one-wire current sharing. Add suffix "Z" , e.g. PU150-45B-Z for this requirement.

(2) The maximum current of each output shall be derated to 75% if no forced air is provided by user.

(3) The output #1 of all multiple output models needs a minimum load of 2A to support the other outputs at their maximum rated loads.

MECHANICAL SPECIFICATIONS

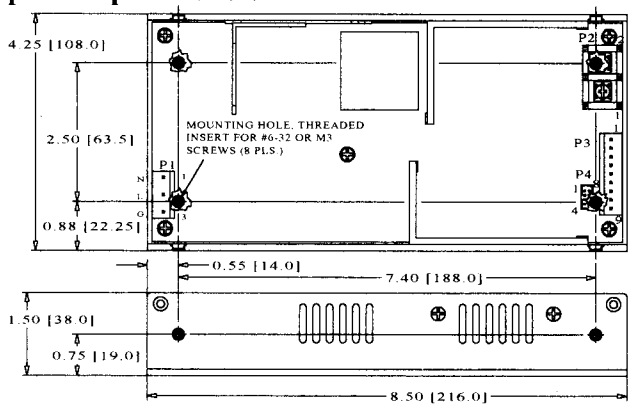
Single Output models



NOTES:

1. Dimensions shown in inch [mm]
2. Tolerance 0.02 [0.5] maximum
3. Input connector P1 mates with Molex housing 09-50-3051 and Molex 2878 series crimp terminal.
4. Output connector P3 mates with Molex housing 09-50-3031 and Molex 2878 series crimp terminal.
5. Connector P4 mates with Molex housing 51110-0851 and pins 50394-8100.
6. Weight: 0.84 Kgs (1.86 Lbs.) approx.

Multiple Output models



NOTES:

1. Dimensions shown in inch [mm]
2. Tolerance 0.02 [0.5] maximum
3. Input connector P1 mates with Molex housing 09-50-3051 and Molex 2878 series crimp terminal.
4. Output connector P3 mates with Molex housing 09-50-3091 and Molex 2878 series crimp terminal.
5. Connector P4 mates with Molex housing 51110-0851 and pins 50394-8100.
6. Weight: 0.84 Kgs (1.86 Lbs.) approx.

PIN CHART

Single Output models

CONN / PIN / MODEL	P1			P2		P3		
	1	2	3	1	2	1	2	3
PU150-10	AC NEUTRAL	AC LIVE	AC GROUND	COM. RET.	OUTPUT # 1	PFD	N.C.	COM. RET
PU150-12 PU150-13 PU150-13-1 PU150-14 PU150-16 PU150-17 PU150-18	AC NEUTRAL	AC LIVE	AC GROUND	COM. RET.	OUTPUT # 1			

CONN / PIN / MODEL	P4							
	1	2	3	4	5	6	7	8
PU150-10 PU150-12 PU150-13 PU150-13-1 PU150-14 PU150-16 PU150-17 PU150-18	COM. RET. INHIBIT -Ve	INHIBIT +Ve	N.C.	N.C.	COM. RET.	-SENSE	+SENSE	CURRENT SHARE

Multiple Output models

CONN / PIN / MODEL	P1			P2		P3					
	1	2	3	1	2	1	2	3	4	5,6,7	8,9
PU150-23 PU150-24 PU150-25	AC NEUTRAL	AC LIVE	AC GROUND	COM. RET.	OUTPUT # 1	N.C.	N.C.	PFD	N.C.	COM. RET.	OUTPUT # 2
PU150-30 PU150-31 PU150-32 PU150-33	AC NEUTRAL	AC LIVE	AC GROUND	COM. RET.	OUTPUT # 1	N.C.	N.C.	PFD	OUTPUT # 3	COM. RET.	OUTPUT # 2
PU150-40 PU150-41 PU150-42 PU150-44 PU150-45	AC NEUTRAL	AC LIVE	AC GROUND	COM. RET.	OUTPUT # 1	OUTPUT # 4 RETURN	OUTPUT # 4	PFD	OUTPUT # 3	COM. RET.	OUTPUT # 2

CONN / PIN / MODEL	P4							
	1	2	3	4	5	6	7	8
PU150-23 PU150-30 PU150-31 PU150-40 PU150-42 PU150-44 PU150-45	INHIBIT -Ve	INHIBIT +Ve	+12V (FAN)	N.C.	COM. RET.	-SENSE	+SENSE	CURRENT SHARE
PU150-24 PU150-32 PU150-33 PU150-41	INHIBIT -Ve	INHIBIT +Ve	+15V (FAN)	N.C.	COM. RET.	-SENSE	+SENSE	CURRENT SHARE
PU150-25	INHIBIT -Ve	INHIBIT +Ve	+24V (FAN)	N.C.	COM. RET.	-SENSE	+SENSE	CURRENT SHARE