



25- 30 WATT SWITCHING POWER SUPPLIES

DESCRIPTION

The PUP30 series of AC/DC switching power supplies are for 25 to 30 watts of continuous output power. They are enclosed in a 94V-1 rated polyphenylene-oxide case with an IEC 320 inlet to mate with interchangeable cord for world-wide use. All models meet CISPR 22 and FCC class B emission limits, and comply with UL, CSA, IEC and CE requirements.

FEATURES

- 15 standard desktop models
- Single, dual or triple outputs
- Optional output connectors
- Optional on/off switch
- 100% burn-in
- Wide input range 85 to 264 VAC
- Input surge current protection
- Overvoltage protection
- Overcurrent protection

INPUT SPECIFICATIONS

Input voltage : 85 to 264 VAC
Input frequency : 47 to 63 Hz
Input current : 0.80A (rms) for 115VAC
 0.50A (rms) for 230VAC
Leakage current : 0.47mA max. @ 115VAC, 60Hz
 0.85mA max. @ 230VAC, 50Hz

OUTPUT SPECIFICATIONS

Output voltage/current : See rating chart
Output power range : 30 watts maximum
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 $\pm 0.04\%$ / $^{\circ}\text{C}$ 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 $^{\circ}\text{C}$ to +70 $^{\circ}\text{C}$
Storage temperature : -40 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$
Relative humidity : 5% to 95% non-condensing
Derating : Derate from 100% at +50 $^{\circ}\text{C}$ linearly to 50% at +70 $^{\circ}\text{C}$

PUP30 SERIES



Safety Standard Approvals :



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



TÜV EN60950-1

GENERAL SPECIFICATIONS

Switching frequency : 30KHz $\pm 5\text{KHz}$
Efficiency : 70% minimum on single output models with $V_o \geq 12\text{V}$, 65% minimum on the others
Hold-up time : 10 msec minimum at 110VAC
Line regulation : $\pm 0.5\%$ maximum at full load
Inrush current : 15 amps @ 115VAC, or 30 amps @ 230VAC, at 25 $^{\circ}\text{C}$ cold start
Withstand voltage : 3000VAC from input to output
 1500VAC from input to ground
 500VAC from output to ground
MTBF : 400,000 hours minimum at full load at 25 $^{\circ}\text{C}$ ambient, calculated per MIL-HDBK-217F

EMC performance (EN55024)

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, $\pm 8\text{KV}$ air and $\pm 4\text{KV}$ contact
EN61000-4-3: Radiated immunity, 3V/m
EN61000-4-4: Fast transient/burst, $\pm 1\text{KV}$
EN61000-4-5: Surge, $\pm 1\text{KV}$ diff., $\pm 2\text{KV}$ com.
EN61000-4-6: Conducted immunity, 3Vrms
EN61000-4-8: Magnetic field immunity, 1A/m
EN61000-4-11: Voltage dips, 30% reduction for 500ms and >95% reduction for 10ms

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UNIVERSAL INPUT

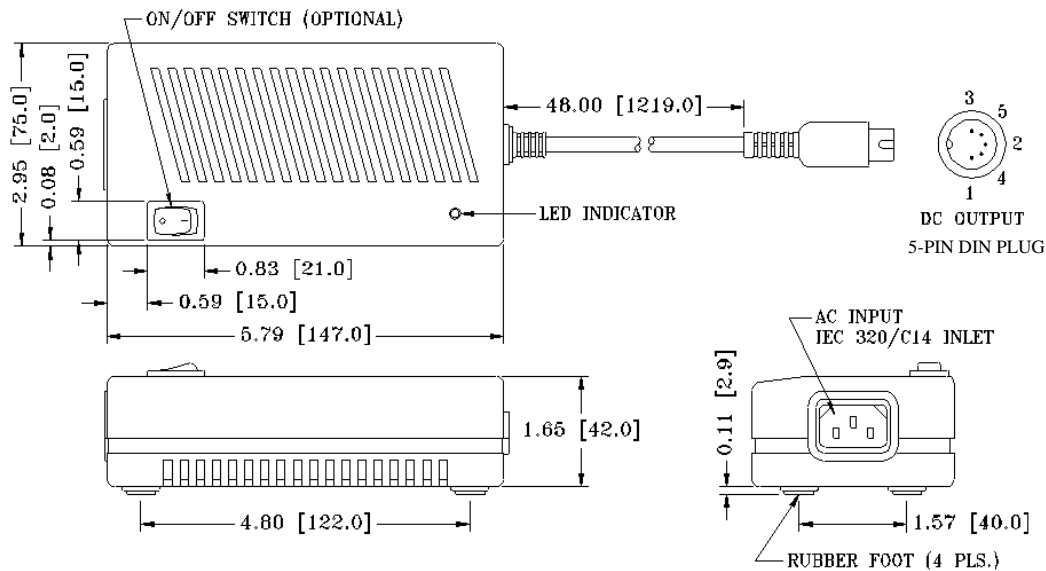
PUP30 SERIES

OUTPUT VOLTAGE/CURRENT RATING CHART

(1)(2) Model	Output #1				Output #2				Output #3				Maximum Output Power
	Vnom.	Imin.	Imax.	Tol.	Vnom.	Imin.	Imax.	Tol.	Vnom.	Imin.	Imax.	Tol.	
PUP30-10	5-6V	0A	5.0A	5%			(N/A)						25W
PUP30-10-1	6-8V	0A	4.5A	2%			(N/A)						27W
PUP30-11	9-11V	0A	3.3A	2%			(N/A)						30W
PUP30-12	11-13V	0A	2.7A	2%			(N/A)						30W
PUP30-13	13-17V	0A	2.3A	2%			(N/A)						30W
PUP30-13-1	17-21V	0A	1.7A	2%			(N/A)						30W
PUP30-14	21-27V	0A	1.4A	2%			(N/A)						30W
PUP30-16	27-33V	0A	1.1A	2%			(N/A)						30W
PUP30-17	33-39V	0A	0.9A	2%			(N/A)						30W
PUP30-18	48V	0A	0.7A	2%			(N/A)						30W
PUP30-23	+5V	0.3A	3.0A	5%	+12V	0.1A	2.0A	5%					30W
PUP30-24	+5V	0.3A	3.0A	5%	+15V	0.1A	1.5A	5%					30W
PUP30-25	+5V	0.3A	3.0A	5%	+24V	0.1A	1.0A	5%					30W
PUP30-31	+5V	0.3A	3.0A	5%	+12V	0A	0.8A	5%	-12V	0A	0.8A	5%	30W
PUP30-32	+5V	0.3A	3.0A	5%	+15V	0A	0.8A	5%	-15V	0A	0.8A	5%	30W

- Notes: (1) The output voltage of a single output model, except PUP30-18, can be adjusted by user in the stated range, or set by factory to a wanted value in the range at the request of a user when ordering.
 (2) Output #2 and #3 are with low drop voltage regulators. The output #1 of the multiple output models need a minimum current of 0.3A to support the other outputs at their maximum rated loads to be within voltage tolerance.

MECHANICAL SPECIFICATIONS



NOTES:

- Dimensions shown in inch [mm]
- Tolerance 0.02 [0.5] maximum
- Weight: 550 grams approx.
- See pages 6-1 to 6-8 for optional output connectors. Add the suffix assigned for a selected connector to a wanted model number, e.g. PUP30-10-B1, for ordering.

PIN CHART

PIN	1	2	3	4	5
MODEL					
PUP30-10 PUP30-10-1 PUP30-11 PUP30-12	RETURN	RETURN	OUTPUT #1	RETURN	OUTPUT #1
PUP30-13 PUP30-13-1 PUP30-14 PUP30-16	RETURN	RETURN	OUTPUT #1	RETURN	OUTPUT #1
PUP30-17 PUP30-18	COMMON	COMMON	OUTPUT #1	COMMON	OUTPUT #2
PUP30-23 PUP30-24 PUP30-25	COMMON	COMMON	OUTPUT #1	COMMON	OUTPUT #2
PUP30-31 PUP30-32	COMMON	COMMON	OUTPUT #1	OUTPUT #3	OUTPUT #2