



# 60-130 WATT DESKTOP POWER ADAPTERS

## DESCRIPTION

The PUP60/80/130 series of AC/DC switching power supplies are for 60 to 130 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. An on/off switch can be added at request. All models meet CISPR 22 and FCC class B emission limits, and comply with UL, CSA, IEC and CE requirements.

## FEATURES

- Optional output connectors
- Optional on/off switch
- 100% burn-in at full rated load
- Auto-ranging input
- Input surge current protection
- Overvoltage protection
- Overcurrent protection
- Thermal protection

## INPUT SPECIFICATIONS

<b>Input voltage :</b>	90 to 130 VAC or 180 to 260 VAC (auto-ranging)
<b>Input frequency :</b>	47 to 63 Hz
<b>Input current :</b>	
<b>PUP60/80 Series:</b>	1.8A ( rms ) for 115VAC 1.0A ( rms ) for 230VAC
<b>PUP130 Series:</b>	3.0mA (rms) for 115VAC 1.7A ( rms ) for 230VAC
<b>Leakage current :</b>	0.40mA max. @ 115VAC, 60Hz 0.80mA max. @ 230VAC, 50Hz

## OUTPUT SPECIFICATIONS

<b>Output voltage/current :</b>	See rating chart
<b>Output power range :</b>	See rating chart
<b>Ripple and noise :</b>	1% peak to peak maximum
<b>Overvoltage protection :</b>	Provided on output; set at 112 - 132% of its nominal output voltage
<b>Overcurrent protection :</b>	All outputs protected to short circuit conditions
<b>Temperature coefficient :</b>	All outputs $\pm 0.04\%$ / $^{\circ}\text{C}$ maximum
<b>Transient response :</b>	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

<b>Operating temperature :</b>	0 $^{\circ}\text{C}$ to +40 $^{\circ}\text{C}$ (PUP60/80 series) 0 $^{\circ}\text{C}$ to +50 $^{\circ}\text{C}$ (PUP130 series)
<b>Storage temperature :</b>	-40 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$
<b>Relative humidity :</b>	5% to 95% non-condensing

## PUP60/80/130 SERIES (LVD+EMC)



## Safety Standard Approvals :

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

 **TÜV EN60950-1**

## GENERAL SPECIFICATIONS

<b>Switching frequency :</b>	60KHz to 75KHz
<b>Efficiency :</b>	70 % minimum on $V_o \geq 12V$ , 65% minimum on the others
<b>Hold-up time :</b>	
<b>PUP60/80 SERIES:</b>	15 msec minimum at 110VAC
<b>PUP130 SERIES:</b>	10 msec minimum at 110VAC
<b>Line regulation :</b>	$\pm 0.5\%$ maximum at full load
<b>Inrush current :</b>	15 amps @ 115VAC, or 30 amps @ 230VAC, at 25 $^{\circ}\text{C}$ cold start
<b>Withstand voltage :</b>	3000VAC from input to output 1500VAC from input to ground 500VAC from output to ground
<b>MTBF :</b>	PUP60/PUP80 300,000 hours minimum, PUP130 400,000 hours minimum at full load at 25 $^{\circ}\text{C}$ ambient, calculated per MIL-HDBK-217F, excluding DC fan.
<b>EMC performance (EN55024)</b>	
<b>EN55022:</b>	Class B conducted, class B radiated
<b>FCC:</b>	Class B conducted, Class B radiated
<b>VCCI:</b>	Class B conducted, Class B radiated
<b>EN61000-3-2:</b>	Harmonic distortion, Class A
<b>EN61000-3-3:</b>	Line flicker
<b>EN61000-4-2:</b>	ESD, $\pm 8\text{KV}$ air and $\pm 4\text{KV}$ contact
<b>EN61000-4-3:</b>	Radiated immunity, 3V/m
<b>EN61000-4-4:</b>	Fast transient/burst, $\pm 1\text{KV}$
<b>EN61000-4-5:</b>	Surge, $\pm 1\text{KV}$ diff., $\pm 2\text{KV}$ com.
<b>EN61000-4-6:</b>	Conducted immunity, 3Vrms
<b>EN61000-4-8:</b>	Magnetic field immunity, 1A/m
<b>EN61000-4-11:</b>	Voltage dips, 30 % reduction for 500ms and >95% reduction for 10ms

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# AUTORANGING INPUT PUP60/PUP80/PUP130 SERIES

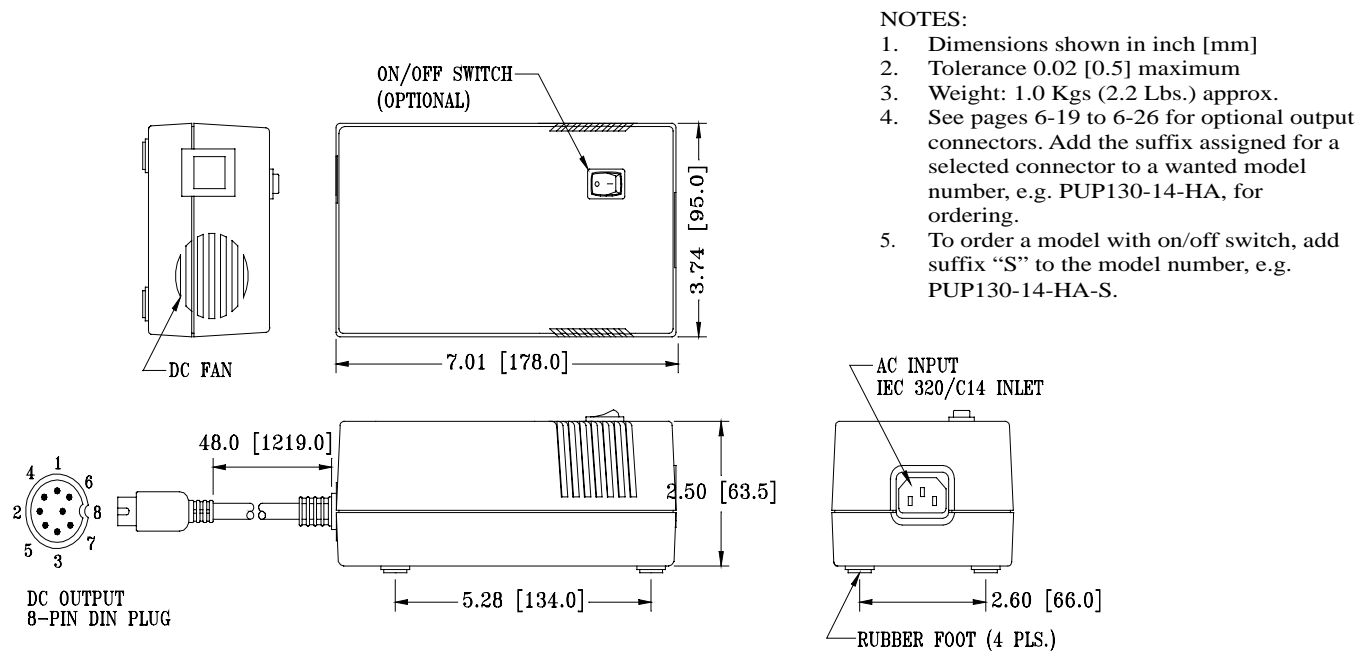
## OUTPUT VOLTAGE/CURRENT RATING CHART

Model	Vnom.	Output			Tol.	Output Power
		Imin.	Imax.			
PUP60-10	5V	0A	12A		5%	60W
PUP60-10-1	7V	0A	8.6A		5%	60W
PUP60-11	10V	0A	6A		5%	60W
PUP80-12	12V	0A	6.7A		4%	80W
PUP80-13	15V	0A	5.3A		3%	80W
PUP80-13-1	18V	0A	4.5A		3%	80W
PUP80-14	24V	0A	3.4A		3%	80W
PUP80-16	30V	0A	2.7A		2%	80W
PUP80-17	36V	0A	2.3A		2%	80W
PUP80-18	48V	0A	1.7A		2%	80W
PUP130-12	12V	0A	10.8A		5%	130W
PUP130-13	15V	0A	8.6A		4%	130W
PUP130-13-1	18V	0A	7.2A		4%	130W
PUP130-14	24V	0A	5.4A		3%	130W
PUP130-16	30V	0A	4.3A		3%	130W
PUP130-17	36V	0A	3.6A		2%	130W
PUP130-18	48V	0A	2.7A		2%	130W

Notes: (1) PUP60 and PUP80 series are without, while PUP130 series are with, built-in fan.

(2) PUP60 series are with remote sense. The other series can also be equipped with remote sense. Please consult factory.

## MECHANICAL SPECIFICATIONS



## PIN CHART

MODEL	PIN	1	2	3	4	5	6	7	8
		PUP60-10 PUP60-11	PUP60-10-1	RETURN	-SENSE	OUTPUT +V	RETURN	OUTPUT +V	RETURN
PUP80-12 PUP80-13-1 PUP80-16 PUP80-18	PUP80-13 PUP80-14 PUP80-17 PUP130-12	RETURN	RETURN	OUTPUT +V	RETURN	OUTPUT +V	RETURN	OUTPUT +V	OUTPUT +V
PUP130-13 PUP130-14 PUP130-17	PUP130-13-1 PUP130-16 PUP130-18								