



40-55 WATT SWITCHING POWER SUPPLIES

DESCRIPTION

The PUP55 series of AC/DC switching power supplies are for 40 to 55 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.

PUP55 SERIES



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 264VAC
- Input surge current protection
- Overvoltage protection
- Overcurrent protection
- Compliant with RoHS requirements

Safety Standard Approvals :



UL 60950-1, CSA C22.2 NO. 60950-1
File No. E137410



TÜV EN60950-1
Certificate No. S 50101123

INPUT SPECIFICATIONS

Input voltage : 85 to 264VAC
 Input frequency : 47 to 63Hz
 Input current : 1.50A (rms) for 115VAC
 0.90A (rms) for 230VAC
 Earth leakage current : 0.35mA max. @ 115VAC, 60Hz
 (Touch current) 0.63mA max. @ 230VAC, 50Hz

OUTPUT SPECIFICATIONS

Output voltage/current : See rating chart
 Total output power : 55 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 $^{\circ}\text{C}$

GENERAL SPECIFICATIONS

Switching frequency : 40KHz $\pm 5\text{KHz}$
 Efficiency : 70% minimum on single output models with $V_o \geq 10\text{V}$, 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 : 450,000 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
 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

UNIVERSAL INPUT

PUP55 SERIES

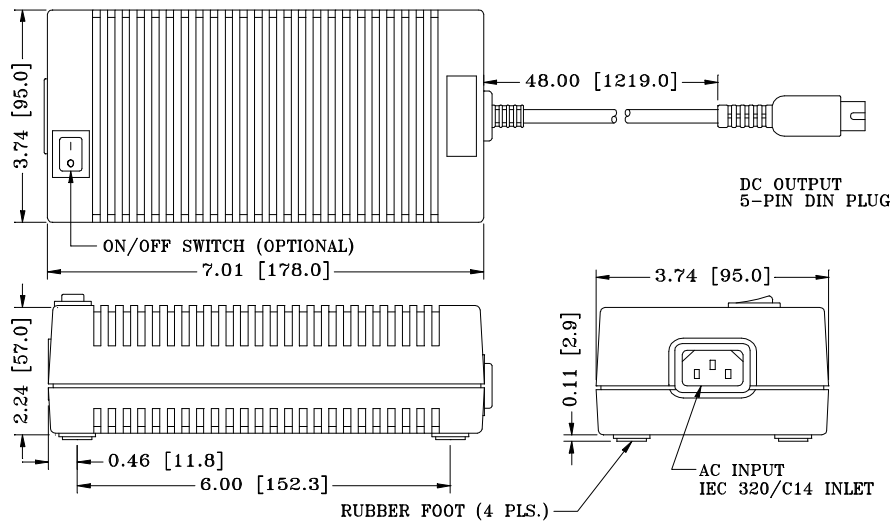
OUTPUT VOLTAGE/CURRENT RATING CHART

(1) (2) MODEL	Output #1				Output #2				Output #3				Maximum Output Power
	Vnom.	Imin.	I _{max.}	Tol.	Vnom.	Imin.	I _{max.}	Tol.	Vnom.	Imin.	I _{max.}	Tol.	
PUP55-10	5-6V	0A	8.0A	5%	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	40W
PUP55-10-1	6-8V	0A	7.5A	5%	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	45W
PUP55-11	9-11V	0A	5.0A	5%	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	50W
PUP55-12	11-13V	0A	4.6A	5%	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	55W
PUP55-13	13-17V	0A	3.7A	3%	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	55W
PUP55-13-1	17-21V	0A	3.1A	3%	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	55W
PUP55-14	21-27V	0A	2.3A	3%	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	55W
PUP55-16	27-33V	0A	1.9A	3%	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	55W
PUP55-17	33-39V	0A	1.6A	3%	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	55W
PUP55-18	48V	0A	1.2A	3%	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	55W
PUP55-23	+5V	1A	5.0A	5%	+12V	0.5A	3.0A	5%	(N/A)	(N/A)	(N/A)	(N/A)	45W
PUP55-24	+5V	1A	5.0A	5%	+15V	0.4A	2.5A	5%	(N/A)	(N/A)	(N/A)	(N/A)	45W
PUP55-25	+5V	1A	5.0A	5%	+24V	0.3A	2.0A	5%	(N/A)	(N/A)	(N/A)	(N/A)	45W
PUP55-31	+5V	1A	5.0A	5%	+12V	0.5A	3.0A	5%	-12V	0.1A	0.5A	10%	45W
PUP55-32	+5V	1A	5.0A	5%	+15V	0.4A	2.5A	5%	-15V	0.1A	0.5A	10%	45W

NOTES:

- The output voltage of a single output model, except PUP55-18, 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.
- The output voltages of a multiple output model may go outside of the stated tolerance when an output load current is out of stated limits. All models may be operated at no-load without damage

MECHANICAL SPECIFICATIONS



NOTES:

- Dimensions shown in inch [mm]
- Tolerance 0.02 [0.5] maximum
- Weight: 700 grams approx.
- See [pages 6-9 to 6-18](#) for optional output connectors. Add the suffix assigned for a selected connector to a wanted model number, e.g. PUP55-10-B2, for ordering.
- To order a model with on/off switch, add suffix "S" to the model number, e.g. PUP55-10-B2-S.

PIN CHART

MODEL	PIN	1	2	3	4	5
PUP55-10 PUP55-10-1 PUP55-11 PUP55-12		RETURN	RETURN	OUTPUT #1	RETURN	OUTPUT #1
PUP55-13 PUP55-13-1 PUP55-14 PUP55-16		RETURN	RETURN	OUTPUT #1	RETURN	OUTPUT #1
PUP55-17 PUP55-18		COMMON RETURN	COMMON RETURN	OUTPUT #1	COMMON RETURN	OUTPUT #2
PUP55-23 PUP55-24 PUP55-25		COMMON RETURN	COMMON RETURN	OUTPUT #1	OUTPUT #3	OUTPUT #2
PUP55-31 PUP55-32		COMMON RETURN	COMMON RETURN	OUTPUT #1	OUTPUT #3	OUTPUT #2