PROTEK POWER

40 WATT SWITCHING POWER SUPPLIES

DESCRIPTION

The PU40SL series of compact, open PCB constructed, AC-DC switching power supplies are capable of delivering 40 watts of continuous output power. They operate at 85 to 264VAC input voltage without the need of voltage selection. They are ideally suited for use in today's CRT terminals, disc drive systems, small microprocessor based systems and other mixed logic applications. All models meet the safety requirements of UL, CSA and IEC.

PU40SL SERIES

CE (LVD)
RoHS



FEATURES

- **Recognized or certified by UL, CSA and TÜV**
- **High efficiency**
- **100% burn-in**
- **Wide input range 85 to 264VAC**
- **Input surge current protection**
- **Overvoltage protection**
- **Overcurrent protection**
- **Open PCB construction**
- **Compliant with RoHS requirements**
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Safety Standard Approvals :

UL 60950-1
File No. E137410

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

TÜV EN60950-1
Certificate No. R9172083

INPUT SPECIFICATIONS

Input voltage:	85 to 264VAC
Input frequency:	47 to 63Hz
Input current:	1.20A（rms）for 115VAC 0.70A（rms）for 230VAC
Earth leakage current: **(Touch current)**	0.47mA max. @ 115VAC, 60Hz 0.85mA max. @ 230VAC, 50Hz

OUTPUT SPECIFICATIONS

Output voltage/current :	See rating chart
Total output power :	40 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 ±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 :	36KHz ± 5KHz
Efficiency :	70% minimum on single output models with Vo ≧ 15V, 65% minimum on the others
Hold-up time :	10 msec minimum at 110VAC
Line regulation :	±0.5% maximum at full load
Inrush current :	15 amps @ 115VAC or 30 amps @ 230VAC, at 25℃ cold start
Withstand voltage :	3000VAC from input to output 1500VAC from input to ground 500VAC from output to ground
MTBF :	600,000 hours minimum at full load at 25℃ 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, ± 8KV air and ± 4KV contact
EN61000-4-3:	Radiated immunity, 3V/m
EN61000-4-4:	Fast transient/burst, ± 1KV
EN61000-4-5:	Surge, ± 1KV diff., ± 2KV 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

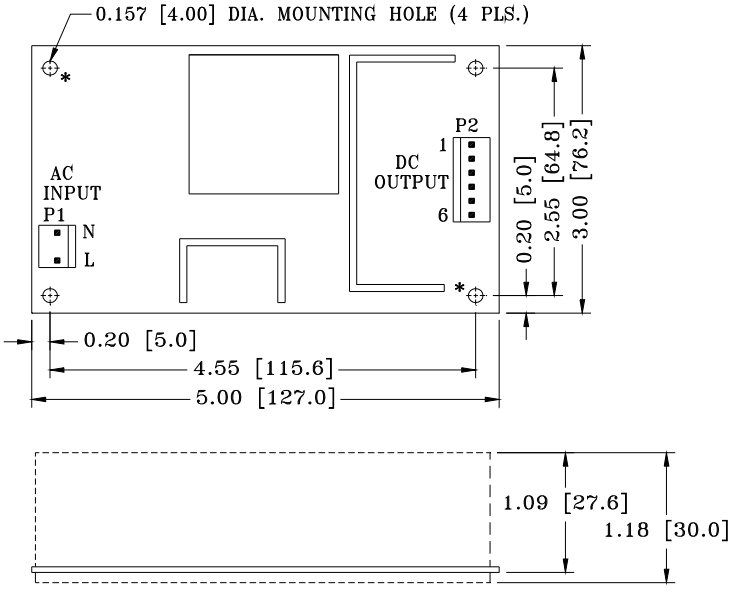
OUTPUT VOLTAGE/CURRENT RATING CHART

(1)(2)	Output #1				Output #2				Output #3				Maximum
MODEL	Vnom.	Imin.	Imax.	Tol.	Vnom.	Imin.	Imax.	Tol.	Vnom.	Imin.	Imax.	Tol.	Output Power
PU40-10SL	5V	0A	8.0A	2%		(N/A)				(N/A)			40W
PU40-12SL	12V	0A	3.5A	1%		(N/A)				(N/A)			40W
PU40-13SL	15V	0A	3.0A	1%		(N/A)				(N/A)			40W
PU40-14SL	24V	0A	2.0A	1%		(N/A)				(N/A)			40W
PU40-18SL	48V	0A	0.9A	1%		(N/A)				(N/A)			40W
PU40-23SL	+5V	0.5A	3.0A	1%	+12V	0.2A	2A	5%		(N/A)			40W
PU40-24SL	+5V	0.5A	3.0A	3%	+15V	0.2A	2A	5%		(N/A)			40W
PU40-25SL	+5V	0.5A	3.0A	3%	+24V	0.1A	1A	5%		(N/A)			40W
PU40-30SL	+5V	0.5A	3.0A	3%	+12V	0.2A	2A	5%	-5V	0.05A	0.3A	10%	40W
PU40-31SL	+5V	0.5A	3.0A	3%	+12V	0.2A	2A	5%	-12V	0.05A	0.3A	10%	40W
PU40-32SL	+5V	0.5A	3.0A	3%	+15V	0.2A	2A	5%	-15V	0.05A	0.3A	10%	40W
PU40-33SL	+5V	0.5A	3.0A	3%	+15V	0.2A	2A	5%	-12V	0.05A	0.3A	10%	40W
PU40-39SL	+5V	0.5A	3.0A	3%	+24V	0.1A	1A	5%	-12V	0.05A	0.3A	10%	40W

NOTES: 1. All multiple output models may be operated at no-load without damage. At no-load, output voltage tolerance increases to 10%

2. Safety agency approvals are for the above listed models in PCB format. To order a model with a metallic L-bracket or box, add suffix “B” for L-bracket format or “C” for enclosed format to the model number (mechanical details shown in **page 7-1**), e.g. PU40-14SLC.

MECHANICAL SPECIFICATIONS



NOTES:

1. Dimensions shown in inch [mm]
2. Tolerance 0.02 [0.5] maximum
3. Input connector mates with Molex housing 09-50-3031 and Molex 2878 series crimp terminal.
4. Output connector mates with Molex housing 09-50-3061 and Molex 2878 series crimp terminal.
5. Weight: 230 grams (PCB format)
6. It is strongly recommended to connect the two “*” marked mounting holes to system chassis through metallic stand-offs. This helps reduce greatly output noise.

PIN CHART

MODEL \ PIN	1	2	3	4	5	6
PU40-10SL PU40-12SL PU40-13SL PU40-14SL PU40-18SL	OUTPUT #1	OUTPUT #1	OUTPUT #1	RETURN	RETURN	RETURN
PU40-23SL PU40-24SL PU40-25SL	OUTPUT #2	OUTPUT #1	OUTPUT #1	COMMON RETURN	COMMON RETURN	N.C.
PU40-30SL PU40-31SL PU40-32SL PU40-33SL PU40-39SL	OUTPUT #2	OUTPUT #1	OUTPUT #1	COMMON RETURN	COMMON RETURN	OUTPUT #3