



# 40 WATT DC TO DC CONVERTERS

## DESCRIPTION

The PD40 series of DC/DC converters provide up to 40 watts of continuous output power. Available in three standard input ranges of 10-30 VDC, 20-60 VDC and 30-90 VDC, they are ideal for a variety of applications including telecoms, process control, portable equipment and vehicle mounted instrumentation. All units are available in compact "open PCB" or "enclosed" mechanical formats.

## FEATURES

- Low cost
- Small size, light weight
- 100% burn-in
- Overvoltage protection
- Overcurrent protection
- Three wide input ranges:  
10-30 VDC, 20-60 VDC and 30-90 VDC

## INPUT SPECIFICATIONS

**Input voltage :** 10 to 30 VDC ( PD40 "L" series )  
20 to 60 VDC ( PD40 "M" series )  
30 to 90 VDC ( PD40 "H" series )

**Input current :** 2.5A ( rms ) for 24 VDC  
1.3A ( rms ) for 48 VDC  
0.84A ( rms ) for 72 VDC

## OUTPUT SPECIFICATIONS

**Output voltage/current :** See rating chart

**Total output power :** 40 watts maximum

**Ripple and noise :** 1% peak to peak max.

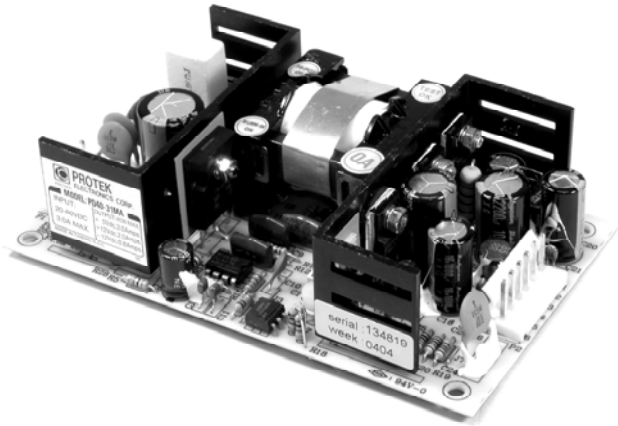
**Overvoltage protection :** set at 112 - 132% of its nominal output voltage

**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

## PD40 SERIES



## 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 :** 36KHz  $\pm 5$ KHz

**Efficiency :** 70% minimum at full load

**Line regulation :**  $\pm 0.5\%$  maximum at full load

**Withstand voltage :** 1000VDC from input to output

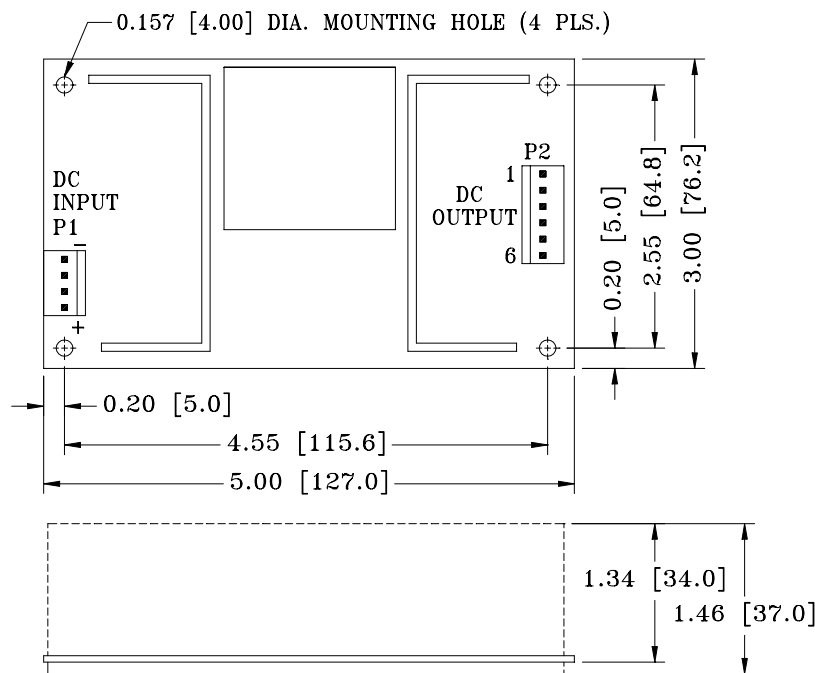
**MTBF :** 600,000 hours minimum at full load at 25 $^{\circ}\text{C}$  ambient, calculated per MIL-HDBK-217F

## OUTPUT VOLTAGE/CURRENT RATING CHART

(1)(2) Model	Output #1				Output #2				Output #3				Maximum Output Power(3)
	Vnom.	Imin.	Imax.	Tol.	Vnom.	Imin.	Imax.	Tol.	Vnom.	Imin.	Imax.	Tol.	
PD40-10	5V	0A	8.0A	2%									40W
PD40-12	12V	0A	3.5A	1%	(N/A)					(N/A)			40W
PD40-13	15V	0A	3.0A	1%	(N/A)					(N/A)			40W
PD40-14	24V	0A	2.0A	1%	(N/A)					(N/A)			40W
PD40-23	+5V	0.5A	3.0A	3%	+12V	0.2A	2A	5%		(N/A)			40W
PD40-24	+5V	0.5A	3.0A	3%	+15V	0.2A	2A	5%		(N/A)			40W
PD40-25	+5V	0.5A	3.0A	3%	+24V	0.1A	1A	5%		(N/A)			40W
PD40-30	+5V	0.5A	3.0A	3%	+12V	0.2A	2A	5%	-5V	0A	0.8A	5%	40W
PD40-31	+5V	0.5A	3.0A	3%	+12V	0.2A	2A	5%	-12V	0A	0.8A	5%	40W
PD40-32	+5V	0.5A	3.0A	3%	+15V	0.2A	2A	5%	-15V	0A	0.8A	5%	40W
PD40-33	+5V	0.5A	3.0A	3%	+15V	0.2A	2A	5%	-12V	0A	0.8A	5%	40W
PD40-39	+5V	0.5A	3.0A	3%	+24V	0.1A	1A	5%	-12V	0A	0.8A	5%	40W

Notes: (1) All multi-output units may be operated at no-load without damage. At no-load, output tolerance increases to 10%.  
 (2) Suffix codes for mechanical format and input range are as follows. PD40-XXYZ; "XX" is the model code from the above table, "Y" is the input range (L=10-30 VDC, M=20-60 VDC, H=30-90 VDC) and "Z" is the mechanical format (A=open PCB, B=L-bracket, C=enclosed), e.g. PD40-31MC (20-60 VDC input range, enclosed).  
 (3) "L" series is suitable only for 75% of the above stated maximum output power.

## MECHANICAL SPECIFICATIONS



### NOTES:

1. Dimensions shown in inch [mm]
2. Tolerance 0.02 [0.5] maximum
3. Input connector mates with Molex housing 09-50-3041 and Molex 2878 series crimp terminal.
4. Output connector mates with Molex housing 09-50-3061 and Molex 2878 series crimp terminal.
5. Weight: 220 grams approx. (PCB format)
6. See the mechanical details of L-bracket and enclosed formats in page 7-1.

## PIN CHART

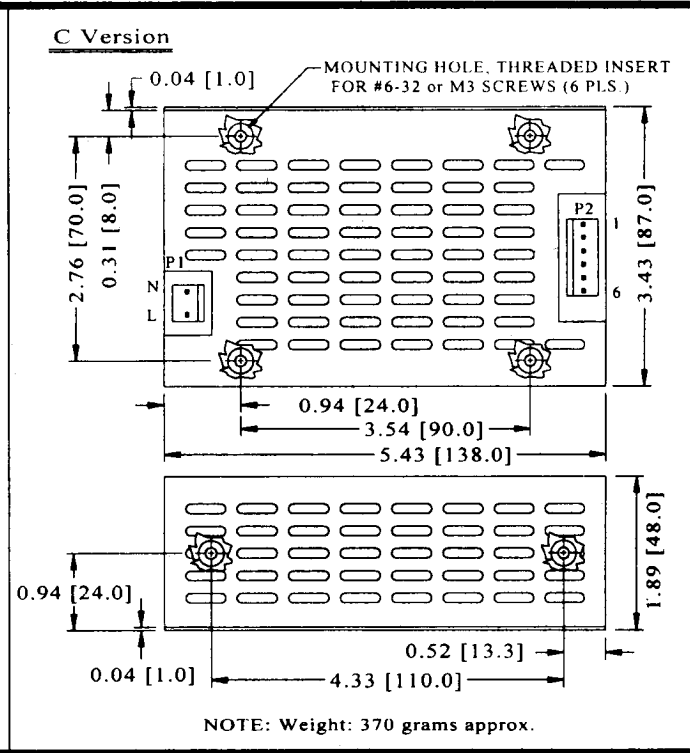
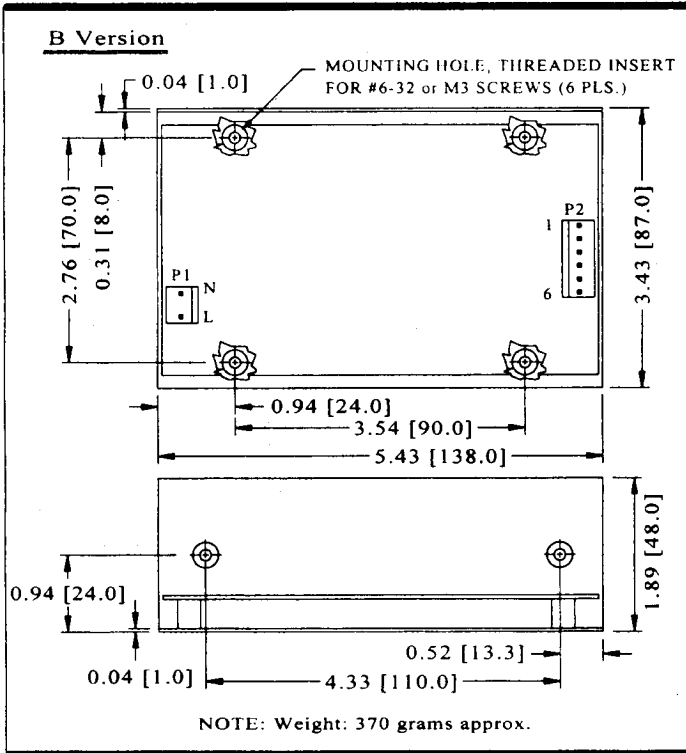
PIN		1	2	3	4	5	6
MODEL							
PD40-10	PD40-12	OUTPUT	OUTPUT	OUTPUT	RETURN	RETURN	RETURN
PD40-13	PD40-14	#1	#1	#1			
PD40-23	PD40-24	OUTPUT	OUTPUT	OUTPUT	COMMON	COMMON	N.C.
PD40-25		#2	#1	#1	RETURN	RETURN	
PD40-30	PD40-31	OUTPUT	OUTPUT	OUTPUT	COMMON	COMMON	OUTPUT
PD40-32	PD40-33	#2	#1	#1	RETURN	RETURN	#3
PD40-39							

# L-Bracket and Enclosed Formats of PU30SL, PU40SL, PM40AL and PD40 series

Unit: inch [mm]

Tolerance: 0.02 [0.5]

## SERIES: PU30SL



## SERIES: PU40SL/PM40AL/PD40

