

# 50-65 WATT DC TO DC CONVERTERS

## DESCRIPTION

The PD65 series of DC/DC converters provide 50 to 65 watts of continuous output power. Available in three standard input range 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

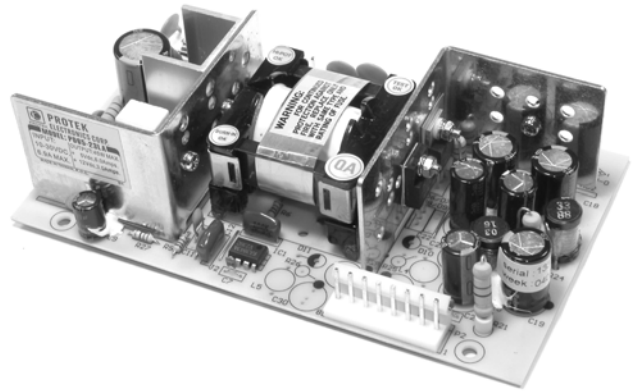
## INPUT SPECIFICATIONS

<b>Input voltage :</b>	10 to 30 VDC ( PD65 "L" series ) 20 to 60 VDC ( PD65 "M" series ) 30 to 90 VDC ( PD65 "H" series )
<b>Input current :</b>	4.1A ( rms ) for 24 VDC 2.1A ( rms ) for 48 VDC 1.5A ( rms ) for 72 VDC

## OUTPUT SPECIFICATIONS

<b>Output voltage/current :</b>	See rating chart
<b>Total output power :</b>	65 watts maximum
<b>Ripple and noise :</b>	1% peak to peak max.
<b>Overvoltage protection :</b>	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

## PD65 SERIES



## ENVIRONMENTAL SPECIFICATIONS

<b>Operating temperature :</b>	0 $^{\circ}\text{C}$ to +70 $^{\circ}\text{C}$
<b>Storage temperature :</b>	-40 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$
<b>Relative humidity :</b>	5% to 95% non-condensing
<b>Derating :</b>	Derate from 100% at +50 $^{\circ}\text{C}$ linearly to 50% at +70 $^{\circ}\text{C}$

## GENERAL SPECIFICATIONS

<b>Switching frequency :</b>	32KHz $\pm 5$ KHz
<b>Efficiency :</b>	70% minimum at full load
<b>Line regulation :</b>	$\pm 0.5\%$ maximum at full load
<b>Withstand voltage :</b>	1000VDC from input to output
<b>MTBF :</b>	400,000 hours minimum at full load at 25 $^{\circ}\text{C}$ ambient, calculated per MIL-HDBK-217F

**Tumbler Technologies + TRUMPower**

3350 Scott Blvd., Bldg. 13, Santa Clara, California 95054, USA

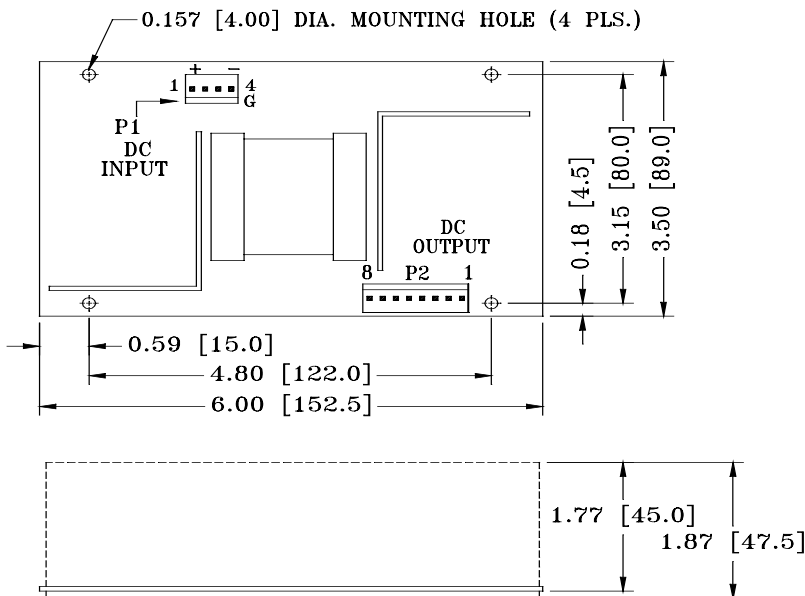
Phone: 408-988-6616 • sales@trumpower.com • www.TRUMPower.com

## OUTPUT VOLTAGE/CURRENT RATING CHART

(1)(2) Model	Output #1				Output #2				Output #3				Output #4				Maximum Output Power(3)	
	Vnom.	Imin.	Imax.	Tol.	Vnom.	Imin.	Imax.	Tol.	Vnom.	Imin.	Imax.	Tol.	Vnom.	Imin.	Imax.	Tol.		
PD65-10	5V	0A	10A	1%		(N/A)				(N/A)				(N/A)				50W
PD65-12	12V	0A	5.5A	1%		(N/A)				(N/A)				(N/A)				65W
PD65-13	15V	0A	4.5A	1%		(N/A)				(N/A)				(N/A)				65W
PD65-14	24V	0A	3.0A	1%		(N/A)				(N/A)				(N/A)				65W
PD65-23	+5V	1A	6.0A	3%	+12V	0.5A	3A	5%		(N/A)				(N/A)				65W
PD65-24	+5V	1A	6.0A	3%	+15V	0.4A	3A	5%		(N/A)				(N/A)				65W
PD65-25	+5V	1A	6.0A	3%	+24V	0.3A	2A	5%		(N/A)				(N/A)				65W
PD65-30	+5V	1A	6.0A	3%	+12V	0.5A	3A	5%	-5V	0.1A	0.5A	10%		(N/A)				65W
PD65-31	+5V	1A	6.0A	3%	+12V	0.5A	3A	5%	-12V	0.1A	0.5A	10%		(N/A)				65W
PD65-32	+5V	1A	6.0A	3%	+15V	0.4A	3A	5%	-15V	0.1A	0.5A	10%		(N/A)				65W
PD65-33	+5V	1A	6.0A	3%	+15V	0.4A	3A	5%	-12V	0.1A	0.5A	10%		(N/A)				65W
PD65-39	+5V	1A	6.0A	3%	+24V	0.3A	2A	5%	-12V	0.1A	0.5A	10%		(N/A)				65W
PD65-40	+5V	1A	6.0A	3%	+12V	0.5A	3A	5%	-12V	0.1A	0.5A	10%	-5V	0.1A	0.5A	10%		65W

- 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. PD65-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. PD65-31 MC (20-60 VDC input range, enclosed).  
 (3) The models for 10-30 VDC input range are suitable only for 70% 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 09-50-3031 and Molex 2878 series crimp terminal.
4. Output connector mates with Molex housing 09-50-3081 and Molex 2878 series crimp terminal.
5. Weight: 380 grams (PCB format)
6. See the mechanical details of L-bracket and enclosed formats in page 7-2.

## PIN CHART

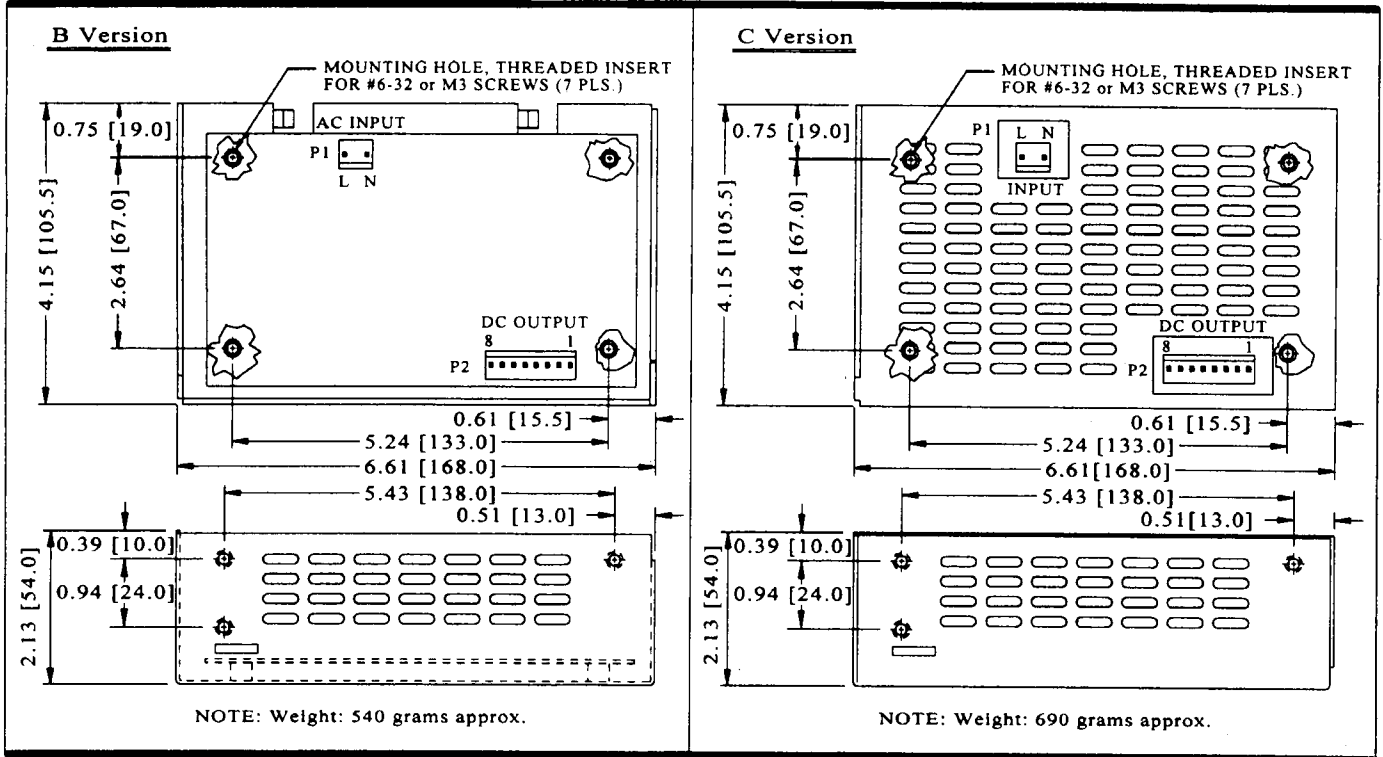
PIN MODEL	1	2	3	4	5	6	7	8
	PD65-10 PD65-12 PD65-13 PD65-14	OUTPUT #1	OUTPUT #1	OUTPUT #1	OUTPUT #1	RETURN	RETURN	RETURN
PD65-23 PD65-24 PD65-25	OUTPUT #1	OUTPUT #1	COMMON RETURN	COMMON RETURN	OUTPUT #2	OUTPUT #2	N.C.	N.C.
PD65-30 PD65-31 PD65-32 PD65-33 PD65-39	OUTPUT #1	OUTPUT #1	COMMON RETURN	COMMON RETURN	OUTPUT #2	OUTPUT #2	OUTPUT #3	N.C.
PD65-40	OUTPUT #1	OUTPUT #1	COMMON RETURN	COMMON RETURN	OUTPUT #2	OUTPUT #2	OUTPUT #3	OUTPUT #4

# L-Bracket and Enclosed Formats of PU65, PU110, PM65, PM110, PD65 and PD110 series

Unit: inch [mm]

Tolerance: 0.02 [0.5]

## SERIES: PU65/PM65/PD65



## SERIES: PU110/PM110/PD110

