

### DESCRIPTION

The TM41 series of compact, open PCB constructed, AC-DC switching power supplies are capable of delivering 30 to 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 medical equipments, safety systems and monitoring equipments.

### FEATURES

- Low safety ground leakage current
- 100% burn-in
- 85 to 264VAC wide input range
- Input surge current protection
- Overvoltage protection
- Overcurrent protection
- Open PCB construction
- Compliant with RoHS requirements

### INPUT SPECIFICATIONS

Input voltage :	85 to 264VAC
Input frequency :	110 to 280VDC
Input current :	47 to 63Hz
	1.1A ( rms ) for 115VAC
	0.6A ( rms ) for 230VAC
Earth leakage current :	90 $\mu$ A max. @ 115VAC, 60Hz
	150 $\mu$ A max. @ 230VAC, 50Hz

### OUTPUT SPECIFICATIONS

Output voltage/current :	See rating chart
Total output power :	See rating chart
Ripple and noise :	1% peak to peak max.
Over voltage protection :	Provided on output; set at 112 – 132% of its nominal output voltage
Over current protection :	The output protected to short circuit conditions
Temperature coefficient :	All outputs $\pm 0.04\%/^{\circ}\text{C}$
Transient response :	Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500 $\mu$ s after a 25% step load change

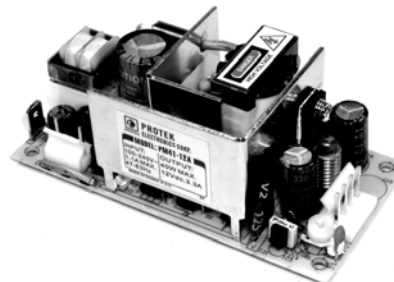
### ENVIRONMENTAL SPECIFICATIONS

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

### TM41 SERIES



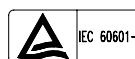
RoHS



### Safety Standard Approvals :



UL 2601-1  
CSA C22.2 No. 601.1



TÜV EN60601-1

### GENERAL SPECIFICATIONS

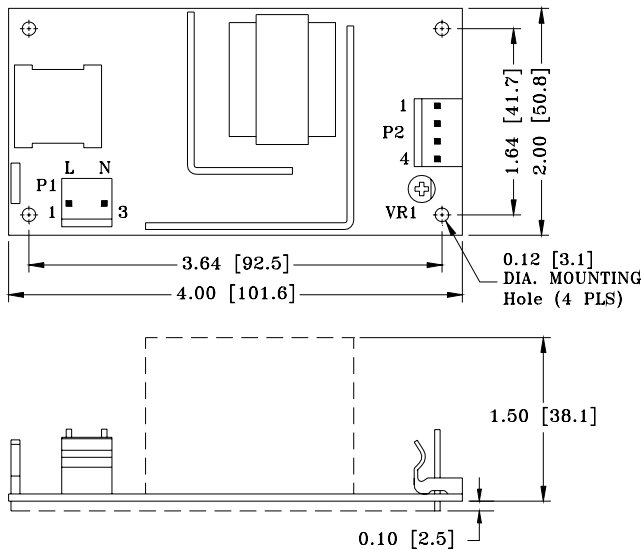
Switching frequency:	42KHz $\pm 5$ KHz
Efficiency:	70% minimum on single output model with $V_o \geq 12\text{V}$ , 68% minimum on the others
Hold-up time:	20 msec minimum at 110VAC
Line regulation:	$\pm 0.5\%$ maximum at full load
Inrush current:	12 amps @ 115VAC or 24 amps @ 230VAC, at 25 $^{\circ}$ C cold start
Withstand voltage:	4000VAC from input to output 1500VAC from input to ground 500VAC from output to ground
MTBF:	600,000 hours minimum at full load at 25 $^{\circ}$ C ambient, calculated per MIL-HDBK- 217F
<b>EMC Performance (EN60601-1-2: 2001)</b>	
EN55011:	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, $\pm 8\text{KV}$ air and $\pm 6\text{KV}$ contact
EN61000-4-3:	Radiated immunity, 3V/m for 80-2500MHz
EN61000-4-4:	Fast transient/burst, $\pm 2\text{KV}$
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, 3A/m
EN61000-4-11:	Voltage dips, 30% reduction for 500ms, 60% reduction for 100ms and >95% reduction for 10ms

## OUTPUT VOLTAGE/CURRENT RATING CHART

<u>Product No.</u>	<u>Vnom.</u>	<u>Output</u>			<u>ToI.</u>	<u>Maximum Output Power</u>
		<u>Imin.</u>		<u>I<sub>max.</sub></u>		
TM41-5.1	5.1V	0A		6.0A	2%	30W
TM41-12	12V	0A		3.3A	2%	40W
TM41-15	15V	0A		2.7A	2%	40W
TM41-18	18V	0A		2.3A	2%	40W
TM41-24	24V	0A		1.7A	2%	40W
TM41-28	28V	0A		1.4A	2%	40W

NOTES: Ripple and noise: Peak-to-peak with 20MHz bandwidth and 10µF in parallel with a 0.1µF capacitor at rated line voltage and load ranges.

## MECHANICAL SPECIFICATIONS



### NOTES:

1. Dimensions shown in inch [mm]
2. Tolerance 0.03 [0.76] maximum
3. Input connector mates with Molex housing 09-50-3031 and Molex 2878 series crimp terminal.
4. Output connector mates with Molex housing 09-50-3040 and Molex 2878 series crimp terminal.
5. Weight : 190 grams (PCB format)

## PIN CHART

### Single Output Models

<u>Product No.</u>	<u>PIN</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
		TM41-5.1 TM41-18	TM41-12 TM41-24	TM41-15 TM41-28	OUTPUT