



# Total Power International, Inc.

## UNIVERSAL INPUT AC-DC MEDICAL APPLICATION OPEN FRAME SINGLE OUTPUT 40 WATTS INTERNAL SWITCHING POWER SUPPLIES TPMI40 SERIES



### FEATURES:

- ACCOMMODATE UNIVERSAL AC SOURCES
- COMPACT 5" x 3" PCB FORMAT
- MEET MEDICAL STANDARD EN 60601-1/  
UL 2601-1
- EMI MEET EN 55011 & FCC CLASS B
- CE MARKING COMPLIANCE

### SPECIFICATION

#### INPUT SPECIFICATION

**Input Voltage:** Range typ. 90-264Vac.  
Rating 100 to 240Vac.

**Input Connector:** V-M connector.

**Input Frequency:** 47-63Hz.

**Inrush Current:** Typ. 2.36Arms @230Vac.

**Input Current:** Typ. 0.66A@115Vac, 0.37A @230Vac.

**Dielectric Withstand:** Meet IEC 60601-1.

**EMI:** Meet EN55011 & FCC Class B.

**Hold-up Time:** Typ. 14mS @115Vac, 78.4mS @ 230Vac.

**Earth Leakage:** Less than 0.12mA @230Vac.

#### OUTPUT SPECIFICATION

**Output Voltage:** See Ratings Chart.

**Output Current:** See Ratings Chart.

**Output Connector:** V-M connector.

**Output Wattage:** Typ. 40 watts.

**Line Regulation:** Typ. 0.2-0.8%.

**Load Regulation:** Main VO1 typ  $\pm 3\%$ .  
Aux. VO2 typ.  $\pm 3.8\%$ .  
Aux. VO3 typ.  $\pm 0.3\%$ .

**Noise & Ripple:** Typ. 1.0% peak to peak.

**OVP:** Built-in at main output (Latch).

**Adjustability:** Available at Main output.

**Overload Protection (OLP):**  
Fully protected against outputs overload and short circuit.  
Typ. OLP set at 125-150% of rating output power.  
Consult the factory for OLP setting.

#### GENERAL SPECIFICATION

**Efficiency:** Typ. 71% (Various with output voltage).

**Switching Frequency:** 45 KHz.

**Circuit Topology:** Fixed frequency flyback circuit.

**Transient Response:** Output voltage returns in less than 2mS following a 25% load change.

**Safety Standard:** Meet Medical standards UL 2601-1/  
EN 60601-1 Class I.

**Operating Temperature:** -20 to +50 °C.  
(Various with output voltage).

**Storage Temperature:** -20 to +85°C.

**Temperature Coefficient:** Typ. 0.04%/°C.

**Cooling:** Free air convection.

**Power Density:** 2.18Watts / Cubic Inch.

**Construction:** 5" x 3" PCB format.

Note: Due to requests in market and advances in technology, specifications subject to change without notification.



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## OUTPUT VOLTAGE/CURRENT RATINGS CHART

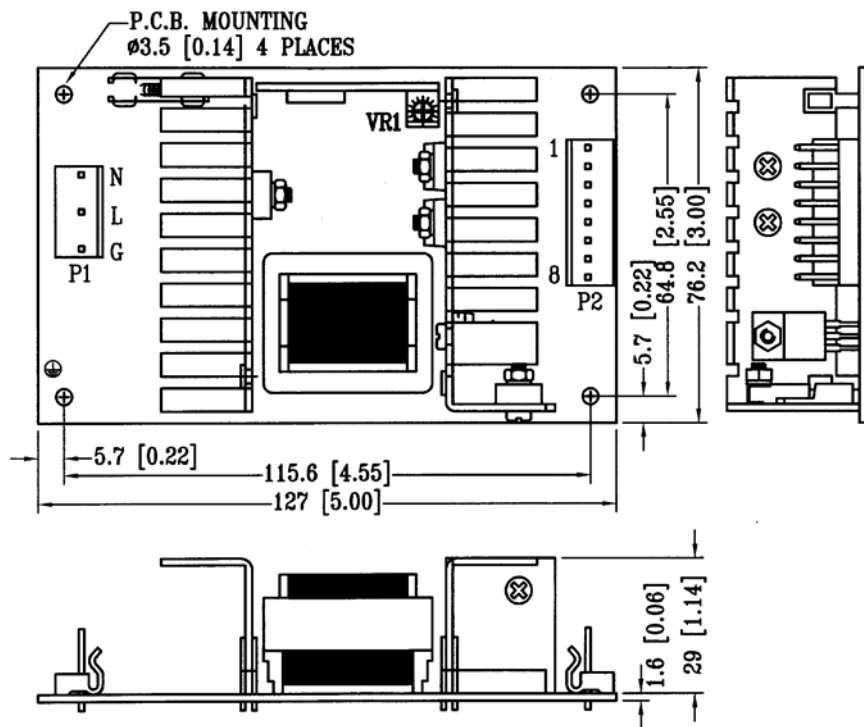
### TRIPLE OUTPUT

MODEL NO.	MAIN +VO1 ★				AUX. +VO2				AUX. VO3 ◇			
	Min.	Typ.	Volt.	Max.	Min.	Typ.	Volt.	Max.	Min.	Typ.	Volt.	Max.
TPMI40-T033EI	0A	6.0A	+3.3V	6.9A	0A	1.5A	+5V	1.7A	0A	1.0A	12V	1.1A
TPMI40-T050II	0A	4.0A	+5.0V	6.0A	0A	1.5A	+12V	2.0A	0A	0.5A	12V	0.5A
TPMI40-T050KK	0A	4.0A	+5.0V	6.0A	0A	1.0A	+15V	1.5A	0A	0.5A	15V	0.5A
TPMI40-T050MI	0A	4.0A	+5.0V	6.0A	0A	0.7A	+24V	1.0A	0A	0.5A	12V	0.5A

Symbol: "★" OVP built-in "◇"floating.

**MECHANICAL DIMENSIONS: MM [INCHES]**

**WEIGHT: 145g (5.12 Oz.)**



### INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT

ASSIGNMENT CNTR/PIN#	AC INPUT			SINGLE OUTPUT				
	AC-L	AC-N	AC-G	VO1	VO2	+VO3	-VO3	DC COM
	P1-L	P1-N	G	P2-2,3	P2-1	P2-7	P2-8	P2-4,5

Mating connector: P1,2 Molex # 5195 or 5239 series.