



Total Power International, Inc.

UNIVERSAL INPUT AC-DC MEDICAL APPLICATION OPEN FRAME SINGLE & MULTI-OUTPUT 100 WATTS INTERNAL SWITCHING POWER SUPPLIES TPMI100 SERIES



FEATURES:

- ACCOMMODATE UNIVERSAL AC SOURCES
- COMPACT 4.5"x 2.5"x1.2" PCB FORMAT
- MEET MEDICAL STANDARD EN 60601-1/
UL 60601-1
- EMI MEET EN 55011 & FCC CLASS B
- CE MARKING COMPLIANCE

SPECIFICATION

INPUT SPECIFICATION

Input Voltage: 90-264Vac.
Input Connector: V-M connector.
Input Frequency: 47-63Hz.
Inrush Current: Typ. 9.68Arms @230Vac.
Input Current: Typ. 1.8A@115Vac, 0.9A @230Vac.
Dielectric Withstand: Meet IEC 60601-1.
EMI: Meet EN55011 & CISPR Class B.
Hold-up Time: Typ. 12.8mS @115Vac, 76mS @ 230Vac.
Earth Leakage: Less than 0.189mA @230Vac.

OUTPUT SPECIFICATION

Output Voltage: See Ratings Chart.
Output Current: See Ratings Chart.
Output Connector: V-M connector.
Output Wattage: Typ. 100 watts.
Line Regulation: Typ. $\pm 0.5\%$.
Load Regulation: Main VO1 typ $\pm 1\%$.
Aux. VO2 typ. $\pm 1\%$.
Aux. VO3 typ. $\pm 5\%$.
Aux. VO4 typ. $\pm 5\%$.
Noise & Ripple: Typ. 1.0% peak to peak.
OVP: Built-in at main output (Latch).
Adjustability: Available at VO1 and VO2.
Overload Protection (OLP):
Fully protected against outputs overload and short circuit.
Typ. OLP set at 110-150% of rating output power.
Consult the factory for OLP setting.

GENERAL SPECIFICATION

Efficiency: Typ. 74-80%(Various with output voltage).
Switching Frequency: 68 KHz.
Circuit Topology: Single-Forward circuit.
Multiple-Fixed freq. flyback circuit.
Transient Response: Output voltage returns in less than
14-44mS following a 25% load change.
Safety Standard: Meet Medical standards UL 60601-1/
EN 60601-1 Class I.

Operating Temperature: 0 to +50 °C under forced air flow
for full load.(Various with output voltage).
Storage Temperature: -20 to +85°C.
Temperature Coefficient: Typ. 0.05%/°C.
Cooling: Recommended 24CFM cooling fan for
full rating load.
Power Density: 7.4 Watts / Cubic Inch.
Construction: 4.5"x2.5"x1.2" 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

SINGLE OUTPUT (under 20CFM or 800LFM)

MODEL NO.	MAIN +VO1 ★@	
	Typ.	Volt.
TPMI100-S033160	16.0A	+3.3 V
TPMI100-S050200	20.0A	+5.0 V
TPMI100-S070143	14.3A	+7.0 V
TPMI100-S090111	11.1A	+9.0 V
TPMI100-S120075	7.5A	+12.0 V
TPMI100-S150060	6.0A	+15.0 V
TPMI100-S180050	5.0A	+18.0 V
TPMI100-S240041	4.1A	+24.0 V
TPMI100-S330030	3.0A	+33.0 V
TPMI100-S480021	2.1A	+48.0 V

DUAL OUTPUT (under 20CFM or 800LFM)

MODEL NO.	MAIN +VO1 ★@		AUX. +VO2@	
	Typ.	Volt.	Typ.	Volt.
TPMI100-D050I	12.0A	+ 5.0V	3.0A	+12.0V
TPMI100-D050K	12.0A	+5.0V	3.0A	+15.0V

Symbol: "★" OVP built-in "@" Adjustable

TRIPLE OUTPUT (under 20CFM or 800LFM)

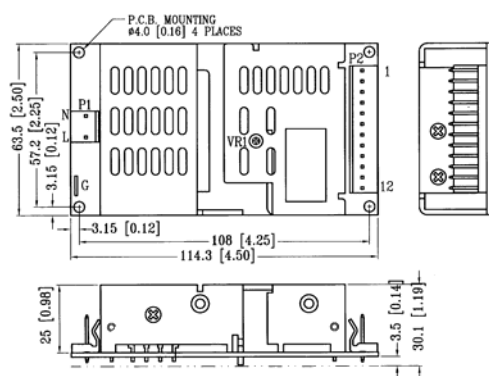
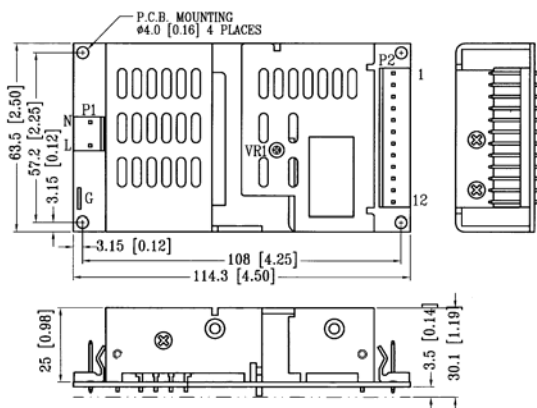
MODEL NO.	MAIN +VO1 ★@		AUX. +VO2@		AUX. +/-VO3	
	Typ.	Volt.	Typ.	Volt.	Typ.	Volt.
TPMI100-T033EI	8.0A	+3.3V	7.0A	+5.0 V	0.8A	+12.0 V
TPMI100-T050DI	8.0A	+5.0V	6.0A	+3.3 V	0.8A	+12.0 V
TPMI100-T050II	10.0A	+5.0V	3.0A	+12.0 V	0.8A	-12.0 V
TPMI100-T050IE	10.0A	+5.0V	3.0A	+12.0 V	0.8A	-5.0 V
TPMI100-T050KK	10.0A	+5.0V	2.5A	+15.0 V	0.8A	-15.0 V
TPMI100-T050KE	10.0A	+5.0V	3.0A	+15.0 V	0.8A	- 5.0 V
TPMI100-T050MI	10.0A	+5.0V	1.5A	+24.0 V	0.8A	-12.0 V

QUAD OUTPUT (under 20CFM or 800LFM)

MODEL NO.	MAIN +VO1 ★@		AUX. +VO2@		AUX. VO3		AUX. +VO4	
	Typ.	Volt.	Typ.	Volt.	Typ.	Volt.	Typ.	Volt.
TPMI100-Q033EII	7.0A	+3.3V	8.0A	+5.0 V	0.5A	+12.0V	0.5A	-12.0 V
TPMI100-Q050DII	8.0A	+5.0V	7.0A	+3.3 V	0.5A	+12.0V	0.5A	-12.0 V
TPMI100-Q050IIE	10.0A	+5.0V	3.0A	+12.0 V	0.8A	-12.0V	0.5A	-5.0 V
TPMI100-Q050KKE	10.0A	+5.0V	3.0A	+15.0 V	0.8A	-15.0V	0.5A	-5.0 V
TPMI100-Q050MII	10.0A	+5.0V	1.5A	+24.0 V	0.8A	+12.0V	0.5A	-12.0 V
TPMI100-Q050MKK	10.0A	+5.0V	1.5A	+24.0 V	0.8A	+15.0V	0.5A	-15.0 V

MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: 240g (8.11 Oz.)



INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT

ASSIGNMENT	AC INPUT			SINGLE		DUAL			TRIPLE				QUAD				
	AC-L	AC-N	AC-G	VO1	DC COM	VO1	VO2	DC COM	VO1	VO2	VO3	DC COM	VO1	VO2	VO3	VO4	DC COM
CNTR/PIN#	P1-L	P1-N	G	P2-1,2 P2-3,4	P2-5,6 P2-7,8	P2-1,2 P2-3,4	P2-9,10	P2-5,6 P2-7,8	P2-1,2 P2-3,4	P2-9,10	P2-12	P2-5,6 P2-7,8	P2-1,2 P2-3,4	P2-9,10	P2-11	P2-12	P2-5,6 P2-7,8

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