



# Total Power International, Inc.

## UNIVERSAL INPUT HARMONIC CORRECTION AC-DC OPEN FRAME SINGLE & MULTI-OUTPUT 150 WATTS INTERNAL SWITCHING POWER SUPPLIES TPVP149 SERIES



### FEATURES:

- ACCOMMODATE UNIVERSAL AC SOURCES
- MEET IEC 61000-3-2 HARMONIC CORRECTION
- DUAL CONVERTER ARCHITECTURE
- +5V STAND-BY GREEN POWER
- MEET UNIVERSAL SAFETY STANDARDS
- EMI MEET CISPR PUB. 22 & FCC CLASS B
- CE MARKING COMPLIANCE

### SPECIFICATION

#### INPUT SPECIFICATION

**Input Voltage:** Typ. 90-264Vac with PFC.  
**Input Connector:** V-M (Molex 5273) connector.  
**Input Frequency:** 47-63Hz.  
**Inrush Current:** Typ.  $\leq 30.6A@230Vac$ .  
**Input Current:** 2.0A @115Vac, 0.96A @230Vac.  
**Dielectric Withstand:** Meet IEC 60950-1.  
**EMI:** Meet CISPR PUB. 22 & FCC Class B.  
**Hold-up Time:** Typ. 20ms @115Vac & 230Vac.  
**Power Fail Signal:** Installed.  
**DC OK Signal:** Installed in two main outputs.  
**Remote Inhibit:** Installed. Enable active low.  
**Power Factor & Harmonic Correction:**  
 Meet IEC 61000-3-2, PF typ.0.99@ full load.  
**Over Temperature Protection:** By thermostat.  
**Earth Leakage:** Less than 0.75mA.

#### OUTPUT SPECIFICATION

**Output Voltage:** See Ratings Chart.  
**Output Current:** See Ratings Chart.  
**Output Connector:** B-S, V-M (Molex 5273),  
 X-M (Molex 5268) connectors.  
**Output Wattage:** Typ. 150W with 30 cfm forced  
 air cooling.  
**Line Regulation:** Typ. 0.1%.  
**Load Regulation:** Main VO1 & Aux. VO2 typ.  $\pm 1-1.5\%$ .  
 Main VO3 & Aux. VO4 typ.  $\pm 5.0\%$ .  
**Noise & Ripple:** Typ. 1.0% peak to peak.  
**OVP:** Installed in VO1, VO2 & VO3 (Latch).  
**Remote Sensing:** Installed in O/P VO1 & VO2.  
**Adjustability:** Available at VO1, VO2 and VO3.  
**Load Sharing:** Active current sharing circuit available at  
 VO1 & VO2 rail.  
**Overload Protection (OLP):** Fully protected against  
 output overload and short circuit.  
 Consult the factory for the OLP setting.

#### GENERAL SPECIFICATION

**Efficiency:** Typ. 70-73.7%.  
**Switching Frequency:** Fixed frequency at 70K Hz.  
**Circuit Topology:** Dual converter architecture.  
 1st, forward circuit for VO1 & VO2 rails.  
 2nd, fixed-frequency flyback circuit for VO3 & VO4 rails.  
**Transient Response:** Output voltage returns in less  
 than 1mS following a 25% load change.  
**Safety Standard:** UL 60950-1/EN 60950-1 Class I.  
**Power Density:** 3.0 Watts / Cubic Inch.

**Operating Temperature:** 0 to +50°C under forced air  
 cooling for half load.  
**Storage Temperature:** -55 to +85°C.  
**Temperature Coefficient:** 0 to +70°C (after 15 minutes  
 warm-up) typ.  $\pm 0.02-0.05\%/^{\circ}C$ .  
**Cooling:** 25-30 cfm airflow is required to deliver the full  
 power. 150W.  
**Construction:** U-bracket construction format.  
**Industrial Grade.**

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



For the details of safety approval, please consult the factory.



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## OUTPUT VOLTAGE / CURRENT RATINGS CHART

### SINGLE OUTPUT (Under forced air cooling)

MODEL NO.	MAIN VO1 @★#=#	
	Typ.	Volt.
TPVP149-S033350	35.00A	+3.3V
TPVP149-S050300	30.00A	+5.0V
TPVP149-S120150	15.00A	+12.0V
TPVP149-S240075	7.50A	+24.0V
TPVP149-S480375	3.75A	+48.0V

### DUAL OUTPUT (Under forced air cooling)

MODEL NO.	MAIN VO1 @★#=#		AUX. VO2 @★▲#=#	
	Typ.	Volt.	Typ.	Volt.
TPVP149-20	30A	+5.0V	10A	+5.0V
TPVP149-21	30A	+5.0V	5A	+12.0V
TPVP149-22	30A	+5.0V	5A	+15.0V
TPVP149-23	30A	+5.0V	3A	+24.0V
TPVP149-290A	30A	+5.0V	15A	+3.3V
TPVP149-290B	30A	+3.3V	8A	+5.0V
TPVP149-291	30A	+3.3V	5A	+12.0V
TPVP149-292	30A	+3.3V	4A	+15.0V
TPVP149-293	30A	+3.3V	3A	+24.0V

### TRIPLE OUTPUT (Under forced air cooling)

MODEL NO.	MAIN VO1 @★#=#		AUX. VO2 @★#▲		MAIN ±VO3 @★◇	
	Typ.	Volt.	Typ.	Volt.	Typ.	Volt.
TPVP149-30	30.0A	+5.0V	4.0A	+12.0V	3.0A	12.0V
TPVP149-31	30.0A	+5.0V	4.0A	+12.0V	6.0A	5.0V
TPVP149-T0501M	17.5A	+5.0V	4.0A	+12.0V	2.0A	24.0V
TPVP149-32	30.0A	+5.0V	2.5A	+24.0V	3.0A	12.0V
TPVP149-33	30.0A	+5.0V	4.0A	+15.0V	3.0A	15.0V
TPVP149-390A	30.0A	+5.0V	12.0A	+3.3V	3.0A	12.0V
TPVP149-390B	30.0A	+3.3V	8.0A	+5.0V	3.0A	12.0V
TPVP149-391A	30.0A	+5.0V	12.0A	+3.3V	3.0A	15.0V
TPVP149-391B	30.0A	+3.3V	8.0A	+5.0V	3.0A	15.0V

### QUAD OUTPUT (Under forced air cooling)

MODEL NO.	MAIN VO1 @★#=#		AUX. VO2 @★#▲		MAIN ±VO3 @★◇		AUX. ±VO4 ◇(● or   )	
	Typ.	Volt.	Typ.	Volt.	Typ.	Volt.	Typ.	Volt.
TPVP149-40	30A	+5.0V	8.0A	+12.0V	2.0A	12.0V	2.0A	12.0V
TPVP149-41	30A	+5.0V	8.0A	+12.0V	4.0A	5.0V	3.0A	5.0V
TPVP149-Q0501IE	30A	+5.0V	8.0A	+12.0V	3.0A	12.0V	2.0A	5.0V
TPVP149-42	30A	+5.0V	4.0A	+24.0V	2.0A	12.0V	2.0A	12.0V
TPVP149-43	30A	+5.0V	6.0A	+15.0V	2.0A	12.0V	1.5A	15.0V
TPVP149-490A	30A	+5.0V	15.0A	+3.3V	2.0A	12.0V	2.0A	12.0V
TPVP149-490B	30A	+3.3V	15.0A	+5.0V	2.0A	12.0V	2.0A	12.0V
TPVP149-491A	30A	+5.0V	15.0A	+3.3V	1.5A	15.0V	1.5A	15.0V
TPVP149-491B	30A	+3.3V	15.0A	+5.0V	1.5A	15.0V	1.5A	15.0V
TPVP149-Q025DIE	30A	+2.5V	15.0A	+3.3V	4.0A	12.0V	2.0A	5.0V

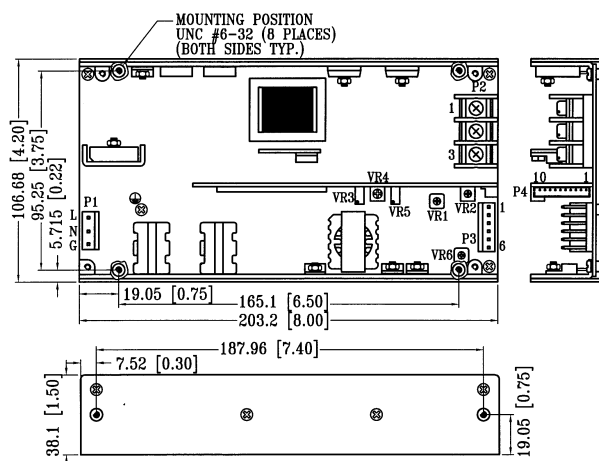
Symbol: "★" OVP built-in. "@" Adjustable. "◇" Floating but not isolated output. "●" Installed with Post Regulator (P.R.). "#" Remote sensing.

"▲" Installed with magnetic amplifier. "±" Positive or Negative selectable (factory set). "≡" Active circuit current sharing. "||" Double Feedback.

Remark: VO1 and VO2 total continual output current ≤ 30A. VO3 and VO4 total continual output current ≤ 5A. Max. total output power: 150W.

### MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: 960.5g (33.88 Oz)



### INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT

ASSIGNMENT CNTR & PIN#	AC INPUT			SINGLE/DUAL/ TRIPLE/ QUAD OUTPUT								ASSORTED SIGNALS								
	AC-LINE P1-L	AC-NEUTRAL P1-N	AC-GROUND P1-G	+VO1	VO2	DC-COM P2-1	VO3	-VO3	VO4	-VO4	DC-COM P4-1	ENABLE P4-2	POWER FAIL P4-3	DC-OK P4-4	+5V.S.B. P4-5	VO2≡ P4-6	VO2≠S P4-7	VO1≡ P4-8	VO1/VO2-S P4-9	VO1≠S P4-10
				P2-2	P2-3	P2-1	P3-1,2	P3-3,4	P3-5	P3-6	P4-1	P4-2	P4-3	P4-4	P4-5	P4-6	P4-7	P4-8	P4-9	P4-10

Mating connector P1 & P3: Molex 5195 or 5239 series, P4: Molex 5264 series or equivalent.