

# TOTAL POWER INT'L

## UNIVERSAL AC INPUT HARMONIC CORRECTION AC-DC HOT-SWAP CompactPCI QUAD OUTPUT 500 WATTS ACTIVE CURRENT SHARING SWITCHING POWER SUPPLIES TPAC500P SERIES



### FEATURES:

- 500W 6U X 8HP EUROCARD PACKAGE
- MEET IEC1000-3-2 HARMONIC CORRECTION
- INTERNAL OR-ING DIODES FOR N+1 REDUNDANCY
- HOT-SWAPPABLE
- THIRD-WIRE CURRENT SHARING
- EMI MEET EN 55022 / CLASS A
- CE MARKING COMPLIANCE
- FULLY COMPLIANT WITH PICMG

### SPECIFICATION

#### INPUT SPECIFICATION

**Input Voltage:** Typ. 90-264Vac.  
**Input On/Off switch:** Option.  
**Power Factor Correction:** Meet Harmonic Correction IEC1000-3-2. Power Factor typ. 0.99.  
**Input Connector:** Positronic 47-pin PCIH47M400A1.  
**Input Frequency:** 47-63Hz.  
**Inrush Current:**  $\leq 30.6A(\text{rms}) @ 230\text{Vac}$ .  
**Input Current:** 5.1A@115Vac/2.6A @230Vac.  
**Dielectric Withstand:** Meet IEC950 regulation.  
**Transient Protection:** MOV withstands transient as specified by EN61000-4-4 level 3.  
**EMI:** Meet EN55022 Class A.  
**Hold-up Time:** 22.4ms @ 115Vac, 34ms @ 230Vac.  
**Remote ON/OFF:** Available at [INH#] & [EN#] pins.  
**Power Fail Signal:** Available at [FAL#] pin.  
**Status LED:** <Green> means valid input voltage.  
<Amber> means a critical fault.  
**Thermal Protection (OTP):** Installed NTC and thermostat for thermal sensor at [DEG#] pin.  
**Power OK:** Installed at all outputs.  
**Leakage Current:** Typ. 0.7mA @ 230Vac.

#### OUTPUT SPECIFICATION

**Output Voltage:** See Ratings Chart.  
**Output Current:** See Ratings Chart.  
**Output Power:** Typ. 500W continuous.  
**Output Connector:** Positronic 47-pin PCIH47M400A1.  
**Line Regulation:** Typ. 0.1%.  
**Load Regulation:** VO1 & VO2 typ.  $\pm 0.5\%$ .  
VO3 typ.  $\pm 1.0\%$ , VO4 typ.  $\pm 3.0\%$ .  
**Noise & Ripple:** Typ. 1% peak-peak or 50mV, which is greater.  
**OVP:** Built-in at all outputs.  
**Adjustability:** Available at VO1, 2, 3 & 4.  
**Output Trim:** Electrical trim available at VO1/2. [ADJ #].  
**Remote Sensing:** Available at VO1, VO2 & VO3.  
**Hot-Swap:** Available.  
**N+1 Redundancy:** Installed with internal OR-ing diodes at all outputs and third-wire current sharing method for N+1 redundancy operation.  
**Current Sharing:** Third-wire current sharing at VO1, 2 & 3.  
**DC OK Signal:** Available for all outputs.  
**Power OK Signal:** Available for all outputs.  
**Over Current Protection (OCP):** Installed at each rail.  
**Overload Protection (OLP):** Fully protected against output overload or short circuit. Typ. 120-130% max. load. Consult the factory for special OLP setting.

#### GENERAL SPECIFICATION

**Efficiency:** Typ. 77-80 %.  
**Switching Frequency:** 120K Hz.  
**Circuit Topology:** Forward circuit.  
**Transient Response:** Peak transient less than 250mV and returns to within 1% less than 0.5ms for 50% load-change.  
**Safety Standard:** IEC60950.  
**Construction:** Eurocard 6U X 8HP X 160mm CompactPCI format. Front Panel with Extractor handle.

**Operating Temperature:** -30 to +50 °C at full load with specified air flow. Derates linearly to 50% at +70 °C.  
**Storage Temperature:** -30 to +85 °C.  
**Temperature Coefficient:** Typ.  $\pm 0.04\% / ^\circ\text{C}$ .  
**Cooling:** At least 800lfm moving air is required to achieve full rating power 500W in a confined area.  
**Power Density:** 5.0 Watts/ Cubic Inch.

Remark: All measurements are at nominal input, full load and +25°C unless otherwise specified.



# OUTPUT VOLTAGE/CURRENT RATINGS CHART

## QUAD OUTPUT

MODEL NO.	MAIN +VO1 @★#≡⊙				AUX. +VO2 ▲@★#≡⊙				AUX. +VO3 ▲≡#⊙★@					AUX. -VO4 @▲⊙★				
	Min.	Typ.	Volt.	Max.	Min.	Typ.	Volt.	Max.	Min.	Typ.	Volt.	Max.	Pk.	Min.	Typ.	Volt.	Max.	Pk.
HAC500P-490	4.0A	50A	+5V	60A	0A	30A	+3.3V	60A	0A	10A	+12V	14A	15A	0A	3A	-12V	4A	5A

Symbol: "★" OVP built-in. "@@" Adjustable. "#" Remote sensing. "≡" 3rd-wire Load Sharing.

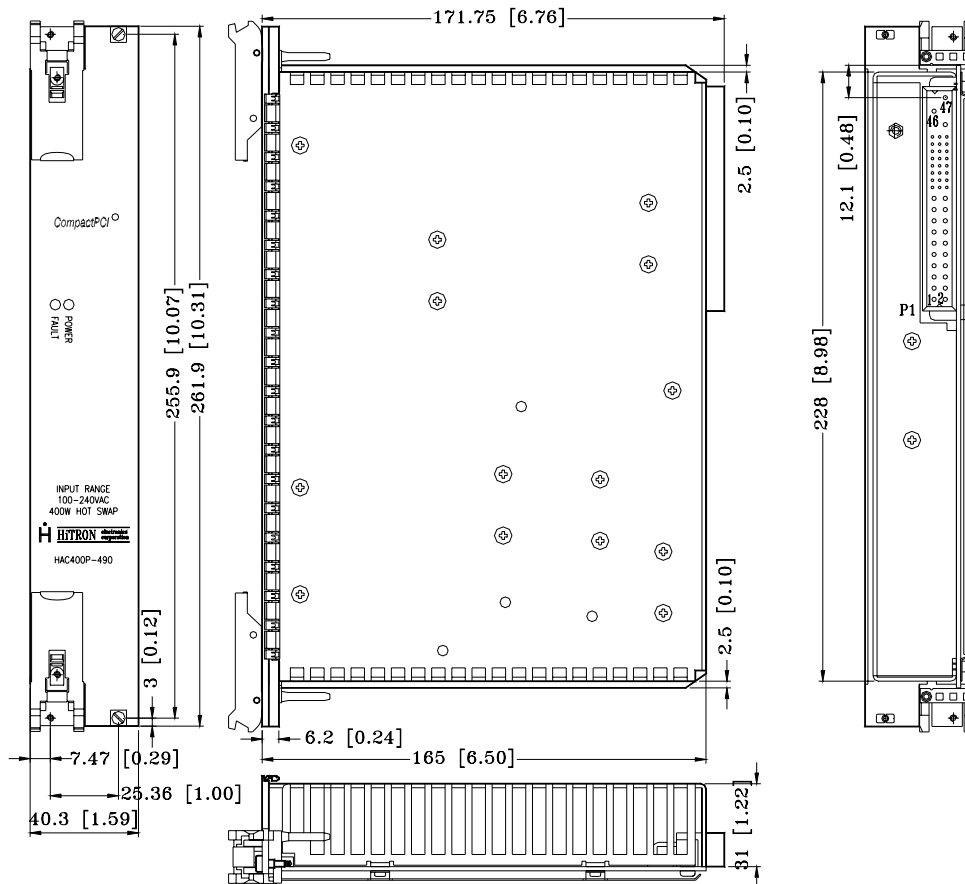
"⊙" Installed with Or-ing diode. "▲" Magnetic Amplifier. "●" Installed with Post-regulator.

Remark: Peak load less than 60sec. with duty cycle <10%.

Max. load is the continuous operating load of each rail. But the max. load of each rail can't be drawn from all outputs at the same time.

## MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: 1.7kg (3.75 lb.)



## INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT

ASSIGNMENT	AC INPUT			QUAD OUTPUT												STATUS/CONTROL					
	L	N	G	VO1	S+	S-	Adj.	C.S.	VO2	S+	Adj.	C.S.	VO3	S+	C.S.	VO4	DC COM	EN#	DEG#	INH#	FAL#
CNTR & PIN #	47	46	45	1,2,3,4	30	34	29	35	13,14,15,16,17,18	33	32	41	20	36	44	21	5,6,7,8,9,10,11,12,19,24	27	38	39	42

Mating connector: PCIH47F400A1.