

# **UNIVERSAL AC INPUT HARMONIC CORRECTION AC-DC HOT-SWAP CompactPCI QUAD OUTPUT 500 WATTS ACTIVE CURRENT SHARING SWITCHING POWER SUPPLIES HAC500P SERIES**



## **FEATURES:**

- **500W 6U X 8HP EUROCARD PACKAGE**
- **MEET IEC 61000-3-2 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.  
**Power Factor Correction:** Meet Harmonic Correction IEC 61000-3-2. Power Factor typ. 0.99.  
**Input Connector:** Positronic 47-pin PCIH47M400A1.  
**Input Frequency:** 47-63Hz.  
**Inrush Current:** ≤ 30.6A(rms) at 230Vac.  
**Input Current:** 5.1A at 115Vac/2.6A at 230Vac.  
**Dielectric Withstand:** Meet IEC 60950-1 regulation.  
**Transient Protection:** MOV withstands transient as specified by EN 61000-4-4 level 3.  
**EMI:** Meet EN 55022 Class A.  
**Hold-up Time:** 22.4mS at 115Vac, 34mS at 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.  
**Leakage Current:** Typ. 0.7mA at 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. ±0.5%.  
 VO3 typ. ±1.0%, VO4 typ. ±3.0%.  
**Noise & Ripple:** Typ. 1% peak-peak or 50mV, whichever 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%.  
**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:** IEC 60950-1 Class I.  
**Construction:** 6U X 8HP CompactPCI format.  
 Front Panel with Extractor handle.  
**Operating Temperature:** -30 to +70 °C at full load with specified air flow. Derates linearly from 100% power at +50 °C to 50% power at +70 °C.  
**Storage Temperature:** -40 to +85 °C.  
**Temperature Coefficient:** Typ. ±0.04% / °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.

NOTE: (1) All measurements are at nominal input, full load and +25°C unless otherwise specifications.

(2) 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.

# 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	4A	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.

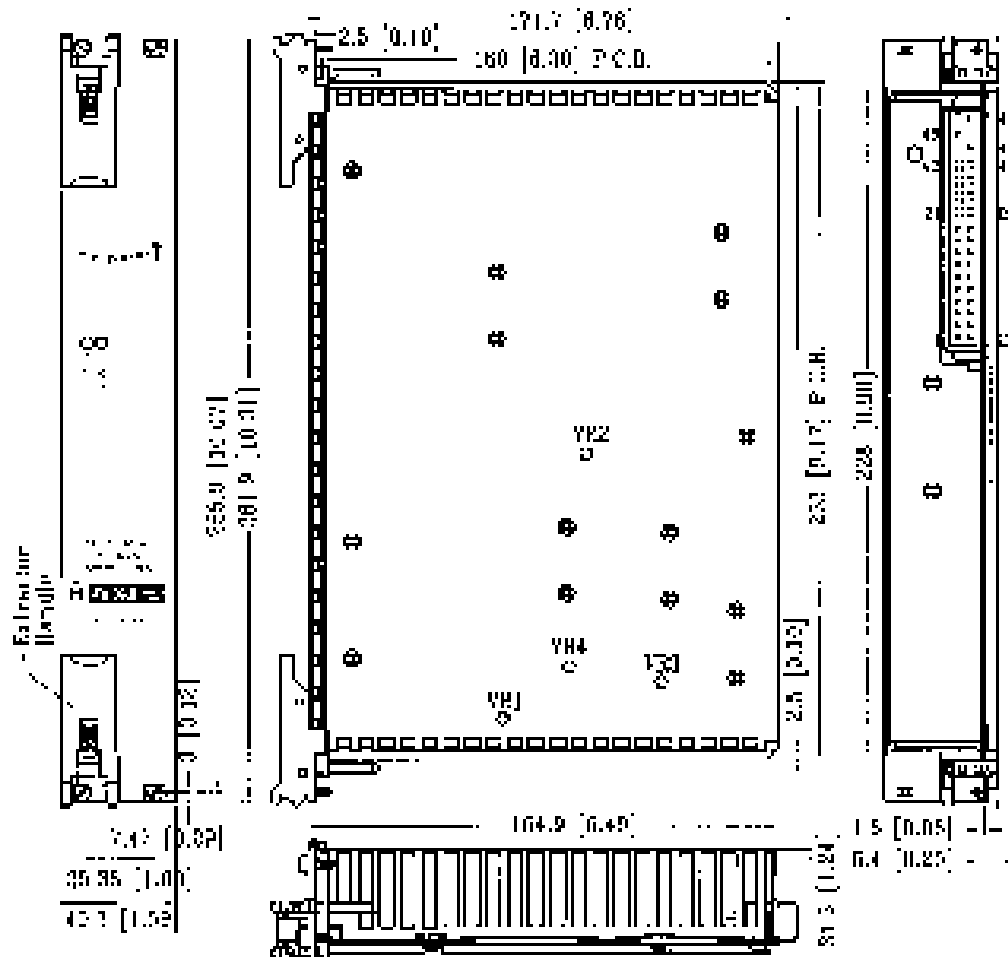
"○" Installed with Or-ing diode. "▲" Magnetic Amplifier. "●" Installed with Post-regulator.

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.