# Hitron

### UNIVERSAL AC INPUT HARMONIC CORRECTION AC-DC HOT-SWAP CompactPCI QUAD OUTPUT 250 WATTS ACTIVE CURRENT SHARING SWITCHING POWER SUPPLIES HAC250P SERIES



### **FEATURES:**

- 250W 3U X 8HP EUROCARD PACKAGE
- WIDE OPERATING TEMPERATURE RANGE OF -40°C TO +70°C
- 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 / FCC CLASS A
- 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. 0.95-0.97.

**Input Connector:** Positronic 47-pin PCIH47M400A1.

Input Frequency: 47-63Hz.

Inrush Current: Less than 30A at 230Vac.
Input Current: 2.8A at 115Vac/1.4A at 230Vac.
Dielectric Withstand: Meet IEC 60950-1 regulation.

EMI: Meet EN 55022 / FCC Class A.

**Hold-up Time:** 5mS after power fail signal. **Earth Leakage:** Less than 0.5mA 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.

### **OUTPUT SPECIFICATION**

Output Voltage: See Ratings Chart.
Output Current: See Ratings Chart.
Output Wattage: Typ. 250W continuous.

Output Connector: Positronic 47-pin PCIH47M400A1.

Line Regulation: Typ. 0.1%.

**Load Regulation:** Typ.  $\pm 1$ - $\pm 4\%$ . (Various with output voltage.)

Noise & Ripple: Typ. 1% peak to peak or 50mV,

whichever is greater.

**OVP:** Built-in at all outputs.

Adjustability: Available at VO1, 2 & 3.

Output Trim: Electrical trim available at VO1/VO2.[ADJ #]

Remote Sensing: Available at VO1, VO2 & VO3.

Hot-Swap: Available.

N+1 Redundancy: Installed with internal OR-ing diodes at all outputs for N+1 redundancy operation.

**Current Sharing:** Third-wire current sharing at VO1,2 &3.

Power OK Signal: Available for all output.

Over Current Protection (OCP): Installed at each rail.

Overload Protection (OLP): Fully protected against output overload or short circuit. Typical 120% max. load. Consult the factory for special OLP setting.

### GENERAL SPECIFICATION

Efficiency: Typ. 78%.

Switching Frequency: 120K Hz. Circuit Topology: Forward circuit.

Transient Response: Peak transient less than 100mV and

recovers within 2mS after 25% load-change.

**Safety Standard:** IEC 60950-1 Class I. **Construction:** Eurocard 3U X 8HP X 160mm

CompactPCI format. Front Panel with either Ordinary handle or Extractor handle.

**Operating Temperature:**  $-40 \,^{\circ}\text{C}$  to  $+70 \,^{\circ}\text{C}$  (see note 3), derate linearly from 100% power at  $+50 \,^{\circ}\text{C}$  to

60% power at +70 °C (Refer to derating curve).

Storage Temperature: -45°C to +85°C.

Cooling: At least 600 LFM moving air is required

to achieve full rating power 250W in a confined area.

Power Density: 4.58 Watts/ Cubic Inch.

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

(2)Due to requests in market and advances in technology, specifications subject to change without notification.

(3)A warm-up time 3 minutes is required to maintain VO3 +12V within specific spec. after cold start at temperature from -40 °C to +0 °C. (4)Tantalum capacitors connected to system is suggested for bettering Ripple & Noise against operating temperature from -40 °C to +0 °C.







### **OUTPUT VOLTAGE / CURRENT RATINGS CHART**

### **QUAD OUTPUT**

MODEL NO.	MAIN +VO1 @★#≡⊙			AUX. +VO2 ▲@★#≡⊙				AUX. +VO3 ▲≡#⊙★@					AUX. –VO4 • ⊙ ★■=					
MODEL NO.	Min.	Typ.	Volt.	Max.	Min.	Тур.	Volt.	Max.	Min.	Тур.	Volt.	Max.	Pk.	Min.	Тур.	Volt.	Max.	Pk.
HAC250P-490(E)	0-2A	25A	+5V	33A	0A	18A	+3.3V	33A	0A	5A	+12V	5.5A	6A	0A	0.5A	-12V	1A	1.5A
HAC250P-490(O)	0-2A	25A	+5V	33A	0A	18A	+3.3V	33A	0A	5A	+12V	5.5A	6A	0A	0.5A	-12V	1A	1.5A

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

"⊙" Installed with Or-ing diode. "▲" Magnetic Amplifier. "•" Installed with Post-regulator. "■" Common Choke.

Remark: 1.Peak load less than 60sec. with duty cycle <10%.

- 2.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.
- 3. Please consult the factory if you have the special min load request of VO1.

### **MECHANICAL DIMENSIONS: MM [INCHES]**

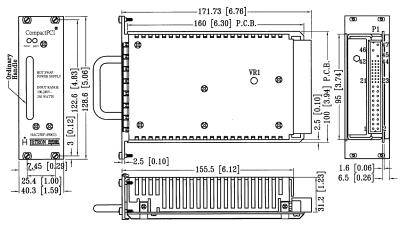
# -7.45 [0.29] -171.73 [6.76] -160 [6.30] P.C.B. -160 [6.30] P.C.B. -160 [6.30] P.C.B. -171.73 [6.76] -171.73 [6.

## INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT

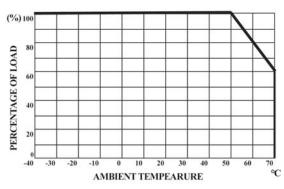
**WEIGHT:** 666.0 g (23.5 Oz.)

ASSIGNMENT	PIN NO.
AC-L	47
AC-N	46
AC-GND	45
VO1	1,2,3,4.
VO1 S +	30
VO1 S -	34
VO1 ADJ.	29
VO1 C.S.	35
VO2	13, 14, 15, 16, 17, 18.
VO2 S+	33
VO2 ADJ	32
VO2 C.S.	41
VO3	20
VO3 S+	36
VO3 C.S.	44
VO4	21
DC COM	5, 6, 7, 8, 9, 10, 11, 12, 19,24.
EN#	27
DEG#	38
INH#	39
FAL#	42

Mating connector: PCIH47F400A1



### DERATING CURVE



HAC250P-490(O)