

# HiTRON

## UNIVERSAL AC INPUT HARMONIC CORRECTION AC-DC HOT-SWAP LOW VOLTAGE CompactPCI PENTA OUTPUT 200 WATTS ACTIVE CURRENT SHARING SWITCHING POWER SUPPLIES HAC203P SERIES



### FEATURES:

- 200W 3U X 9HP 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 / FCC 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. 0.97-0.98.  
**Input Connector:** Positronic 47-pin PCIH47M400A1.  
**Input Frequency:** 47-63Hz.  
**Inrush Current:** 8.66Arms @ 230Vac.  
**Input Current:** 2.5A @115Vac/1.18A @230Vac.  
**Dielectric Withstand:** Meet IEC 60950-1 regulation.  
**EMI:** Meet EN 55022 / FCC Class A.  
**Hold-up Time:** 18.4mS @115Vac, 20.8mS @230Vac.  
**Earth Leakage:** Less than 0.64mA @230Vac.  
**Remote ON/OFF:** Available at [INH#] & [EN#] pins.  
**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. 200W continuous.  
**Output Connector:** Positronic 47-pin PCIH47M400A1.  
**Line Regulation:** Typ. 0.2%.  
**Load Regulation:** Typ.  $\pm 1\%$ .  
**Noise & Ripple:** Typ. 1% peak to peak or 55mV, whichever is greater.  
**OVP:** Built-in at all outputs.  
**Adjustability:** Available at VO1,2,3 & 4.  
**Remote Sensing:** Available at VO1,VO2,VO3 & VO4.  
**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 & 4.  
**Over Current Protection (OCP):** Installed at each rail.  
**DC OK:** Available at VO1,2,3,4 & 5.  
**Overload Protection (OLP):** Fully protected against output overload or short circuit. Typical 120-150% max. load. Consult the factory for special OLP setting.

#### GENERAL SPECIFICATION

**Efficiency:** Typ. 67-69 %.  
**Switching Frequency:** 133K Hz.  
**Circuit Topology:** Forward circuit.  
**Transient Response:** Peak transient less than 50mV and recovers within 0.96mS after 25% load-change.  
**Safety Standard:** IEC 60950-1 Class I.  
**Construction:** Eurocard 3U X 9HP X 185mm CompactPCI format.

**Operating Temperature:** -5 to +50 °C at full load with specified air flow. Derates linearly to 50% at +60 °C.  
**Storage Temperature:** -40 to +85 °C.  
**Temperature Coefficient:** Typ.  $\pm 0.02\% / ^\circ\text{C}$ .  
**Cooling:** At least 14CFM moving air is required to achieve full rating power 200W in a confined area.  
**Power Density:** 2.85 Watts/ Cubic Inch.

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



In application

# OUTPUT VOLTAGE / CURRENT RATINGS CHART

## PENTA OUTPUT

MODEL NO.	MAIN +VO1★@#≡◇				AUX. +VO2★@#≡◇▲				AUX. +VO3★@#≡◇▲				AUX. +VO4★@#≡◇▲				AUX. VO5★◇●◇			
	Min.	Typ.	Volt.	Max.	Min.	Typ.	Volt.	Max.	Min.	Typ.	Volt.	Max.	Min.	Typ.	Volt.	Max.	Min.	Typ.	Volt.	Max.
HAC203P-P033BCEI(E)	1A	20A	3.3V	20A	0.5A	9A	5V	9A	0A	12A	2.5V	12A	0A	17A	1.5V	17A	1A	2A	12V	2A

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

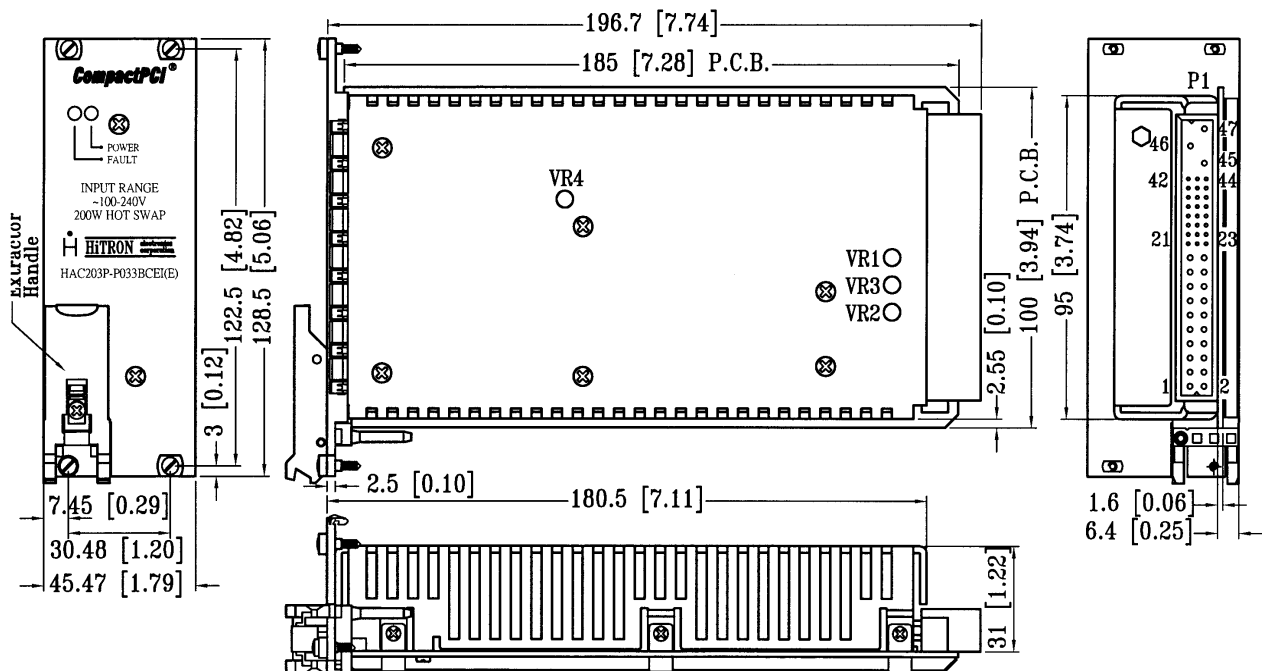
"◇" Installed with Or-ing diode. "▲" Magnetic Amplifier. "●" Installed with Post Regulator.

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: 666.0 g (23.5 Oz.)



## INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT

ASSIGNMENT	AC INPUT			PENTA OUTPUT															
	L	N	G	V1	V2	V3	V4	DC COM	+V5	-V5	V1 S	V2 S	V3S	V4 S	-S	V1 CS	V2 CS	V3 CS	V4 CS
CNTR & PIN #	47	46	45	13,14,15,16,17,18	1	2	3,4	5,6,7,8,9,10,11,12,22,24	20	19	33	30	35	37	34	28	29	25	26
STATUS/CONTROL																			
ASSIGNMENT	EN	DEG	INH	FAL	CRD-EXEISIT 1	CRD-EXEISIT 0	SLOT_ID0	SLOT_ID1	I <sup>2</sup> C_SDA	I <sup>2</sup> C_SCL	NC								
CNTR & PIN #	27	38	39	42	31	32	40	41	43	44	21,23,36								

Mating connector: PCIH47F400A1.