H HiTRON

UNIVERSAL AC INPUT HARMONIC CORRECTION AC-DC HOT-SWAP CompactPCI QUAD OUTPUT 400 WATTS ACTIVE CURRENT SHARING SWITCHING POWER SUPPLIES HAC400P SERIES



FEATURES:

- **400W 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: Typ. 30Arms at 230Vac.(Active).
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: 30mS 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. 400-450W continuous.
Output Connector: Positronic 47-pin PCIH47M400A1.
Line Regulation: Typ. 0.1%.
Load Regulation: VO1 typ. ±5% , VO2 typ. ±5%. VO3 typ. ±3.0%, VO4 typ. ±3.0%.
Noise & Ripple: 1% peak-peak or 50mV, whichever is greater.
OVP: Built-in at all outputs.
Adjustability: Available at VO1, 2 &3.
Output Trim: Electrical trim available at VO1/2. [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: Typical 78%.
Switching Frequency: 120K Hz.
Circuit Topology: Forward circuit.
Transient Response: Peak transient less than 250mV and returns to within 1% less than 1.0mS for 25% load-change.
Safety Standard: IEC 60950-1 Class I.
Construction: Eurocard 6U X 8HP X 160mm CompactPCI format. Front Panel with Extractor handle.
Operating Temperature: 0 to +50 °C at full load with specified air flow. Derates linearly to 50% at +70 °C.
Storage Temperature: -40 to +85 °C.
Temperature Coefficient: Typ. ±0.04% / °C.
Cooling: At least 600LFM/20CFM moving air is required to achieve full rating power 400W in a confined area.
Power Density: 3.98 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.

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

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OUTPUT VOLTAGE / CURRENT RATINGS CHART

QUAD OUTPUT

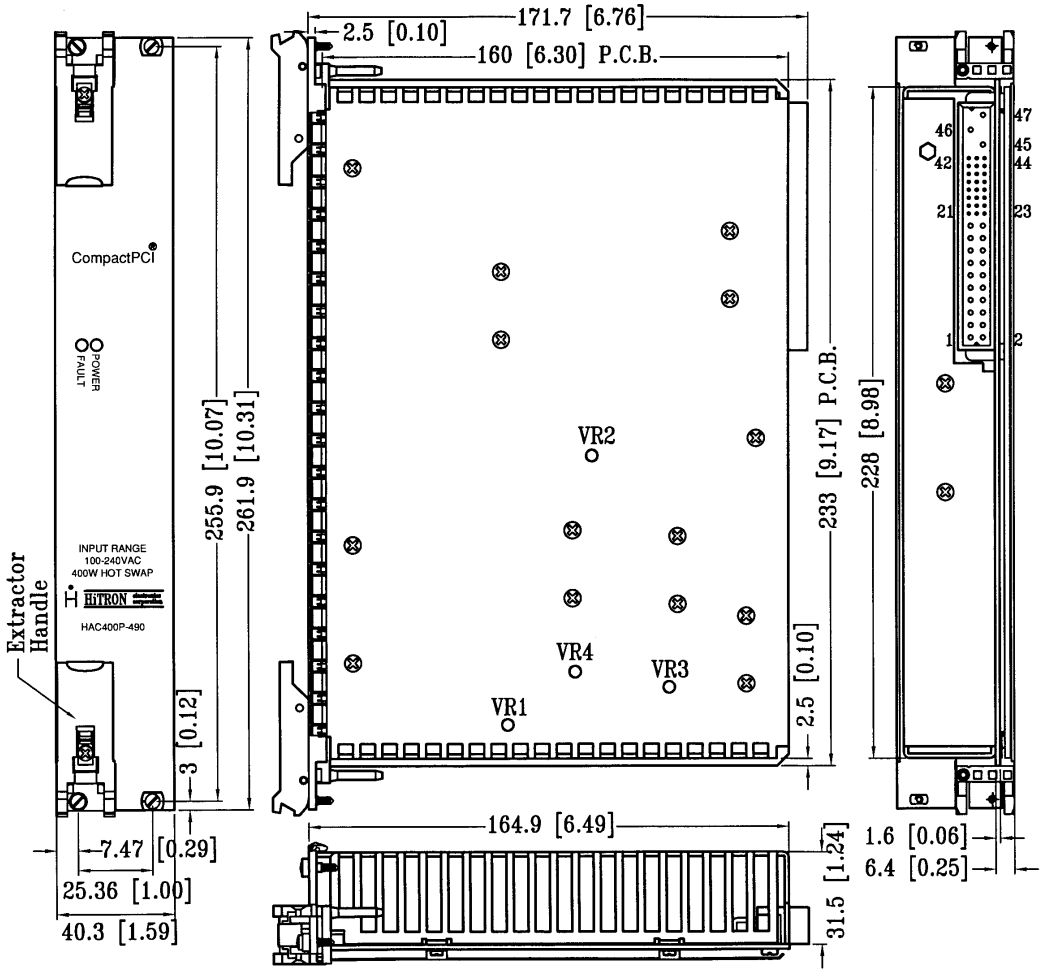
MODEL NO.	MAIN +VO1 @★#≡⊙				AUX. +VO2 ▲@★#≡⊙				AUX. +VO3 ▲≡#⊙★@					AUX. –VO4 ▲⊙★				
	Min.	Typ.	**Volt.**	Max.	Min.	Typ.	**Volt.**	Max.	Min.	Typ.	**Volt.**	Max.	Pk.	Min.	Typ.	**Volt.**	Max.	Pk.
HAC400P-490	4.0A	40A	**+5V**	55.0A	0A	20A	**+3.3V**	55A	0A	10A	**+12V**	14A	15A	0A	3A	**-12V**	4A	5A

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.
Total max. power of VO1 and VO2 should be less than 300W.

MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: 1.7kg (3.75 lb.)



INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT

	AC INPUT			QUAD OUTPUT														STATUS/CONTROL			
ASSIGNMENT	**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.

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