

# HiTRON

## UNIVERSAL AC INPUT HARMONIC CORRECTION AC-DC HOT-SWAP CompactPCI QUAD OUTPUT 300 WATTS ACTIVE CURRENT SHARING SWITCHING POWER SUPPLIES HAC300U-490 SERIES



### FEATURES:

- 300W 3U X 8HP EUROCARD PACKAGE
- WIDE OPERATING TEMPERATURE RANGE
- HIGH EFFICIENCY
- NO MINIMUM LOAD REQUIREMENTS
- INTERNAL OR-ING DIODES FOR N+1 REDUNDANCY
- HOT-SWAPPABLE
- FULLY COMPLIANT WITH PICMG
- I<sup>2</sup>C INTERFACE OPTIONAL

### SPECIFICATION

#### INPUT SPECIFICATION

**Input Voltage:** Typ. 90-264Vac.  
**Power Factor Correction:** Meet Harmonic Correction IEC 61000-3-2. Power Factor typ. 0.95-0.98.  
**Input Connector:** Positronic 47-pin PCIH47M400A1.  
**Input Frequency:** 47-63Hz.  
**Inrush Current:** 9.37Arms at 230Vac.  
**Input Current:** 3.1A at 115Vac/1.6A at 230Vac.  
**Dielectric Withstand:** Meet IEC 60950-1 regulation.  
**EMI:** Meet EN 55022 / FCC Class B.  
**Hold-up Time:** 10mS at 115Vac/13mS at 230Vac.  
**Earth Leakage Current:** Less than 0.73mA 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 for thermal sensor at [DEG#] pin.

#### OUTPUT SPECIFICATION

**Output Voltage:** See Ratings Chart.  
**Output Current:** See Ratings Chart.  
**Output Wattage:** Typ. 300W continuous.  
**Output Connector:** Positronic 47-pin PCIH47M400A1.  
**Line Regulation:** Typ. 0.1%.  
**Load Regulation:** Typ. ±1%.  
**Total Tolerance:** VO1/2/3 typ. ±2%, VO4 typ. ±3%.  
**Noise & Ripple:** 1% pk to pk or 50mV, whichever is greater.  
**OVP:** Built-in at all outputs (Latch).  
**Adjustability:** Available at VO1/2/3.  
**Remote Sensing:** Available at VO1/2/3.  
**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.  
**Output Trim:** Electrical trim available at +VO1/2. [ADJ #].  
**Over Current Protection (OCP):** Installed at each rail.  
**Overload Protection (OLP):** Fully protected against output overload or short circuit. Typical 110-130% max. load at 115Vac. Consult the factory for special OLP setting.

#### GENERAL SPECIFICATION

**Efficiency:** Typ. 85% at 230Vac.  
**Switching Frequency:** 100K Hz.  
**Circuit Topology:** ZVS & LLC circuit.  
**Transient Response:** Peak transient less than 200mV and recovers within 0.5mS after 25% load-change.  
**Safety Standard:** IEC 60950-1 Class I.  
**Construction:** Eurocard 3U X 8HP CompactPCI format.  
**I<sup>2</sup>C:** Optional.

**Operating Temperature:** -40 °C to +70 °C (see note 3) , derate linearly from 100% load at +50 °C to 60% load at +70 °C (Refer to derating curve).  
**Storage Temperature:** -45 to +85 °C.  
**Temperature Coefficient:** Typ. ±0.02% / °C.  
**Cooling:** At least 400 LFM moving air is required to achieve full rating power 300W in a confined area.  
**Power Density:** 7.8 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.

(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.



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.	Pk.	Min.	Typ.	Volt.	Max.	Pk.	Min.	Typ.	Volt.	Max.	Pk.	Min.	Typ.	Volt.	Max.	Pk.
HAC300U-490	0A	25A	+5V	40A	45A	0A	25A	+3.3V	40A	45A	0A	7A	+12V	10A	12A	0A	1A	-12V	2A	2A

Symbol: "★" OVP built-in. "@" Adjustable. "#" Remote sensing. "≡" 3rd-wire Load Sharing. "◊" Installed with Or-ing diode. "▼" Buck Regulator. "※" Synchronous Rectifier.

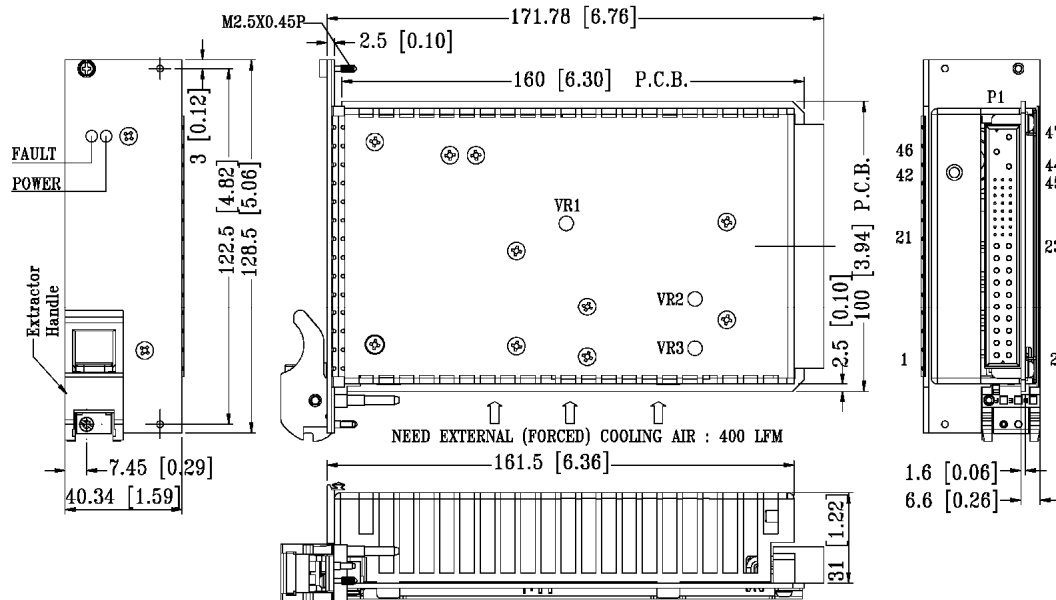
Remark: Peak load less than 60sec. with duty cycle <10%.

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.

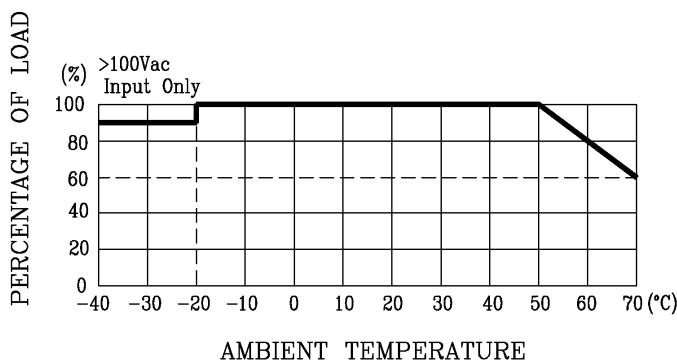
Total maximum output power: 300W and total combined current of +VO1 and +VO2 not large than 50A.

## MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: 762.0 g (26.9 Oz.)



## DERATING CHART



## INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT

ASSIGNMENT	PIN NO.	ASSIGNMENT	PIN NO.
AC-L	47	VO2 C.S.	41
AC-N	46	VO3	20
AC-G	45	VO3 S+	36
VO1	1,2,3,4	VO3 C.S.	44
VO1 S+	30	VO4	21
VO1 S-/VO2 S-	34	DC COM	5,6,7,8,9,10,11,12,19,22,24
VO1 Adj.	29	EN#	27
VO1 C.S.	35	DEG#	38
VO2	13,14,15,16,17,18	INH#	39
VO2 S+	33	FAL#	42
VO2 Adj.	32	Mating connector: PCIH47F400A1	