H 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^2C 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^2C: 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 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.

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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

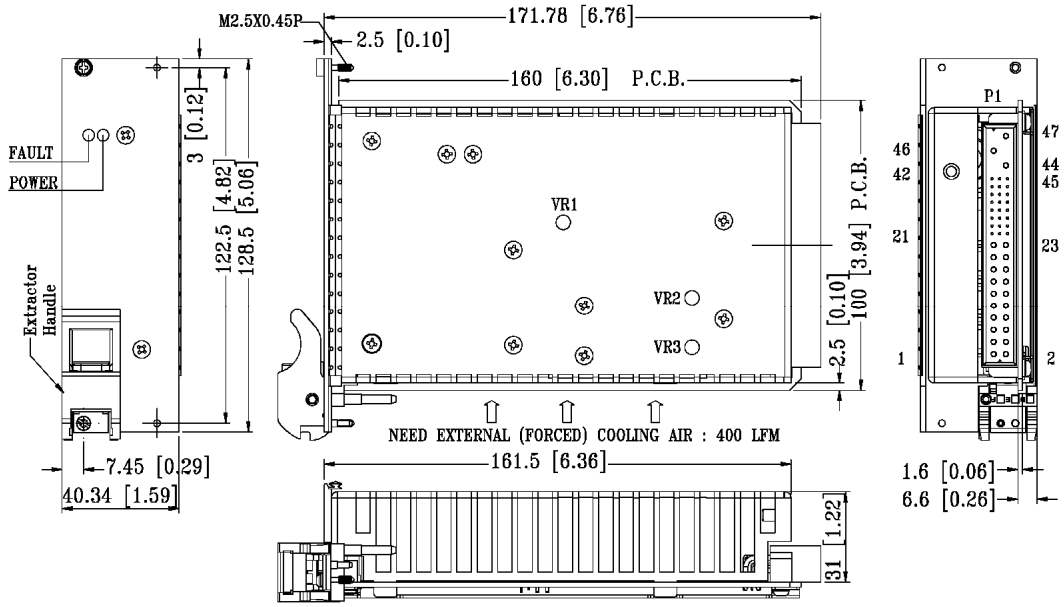
MODEL NO.	MAIN +VO1 @★#≡⊙▼					AUX. +VO2 ▼@★#≡⊙					AUX. +VO3 ≡#⊙★@※					AUX. –VO4 ⊙★▼				
	Min.	Typ.	**Volt.**	Max.	Pk.	Min.	Typ	**Volt.**	Max	Pk.	Min.	Typ	**Volt.**	Max.	Pk.	Min.	Typ.	**Volt.**	Max.	Pk.
HAC300U-490	0A	25A	**+5V**	40A	45A	0A	25A	**+3.3V**	40A	45A	0A	7A	**+12V**	10A	12A	0A	1A	**-12V**	2A	2A

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

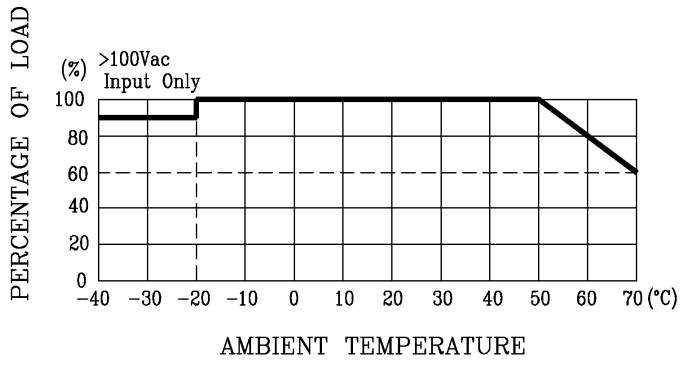
Remark: Peak load less than 60sec. with duty cycle <10%.
Max. load is the continuous operating load of each rail. But the max. load of each rail can't be drawn from all outputs at the same time.
Total maximum output power: 300W and total combined current of +VO1 and +VO2 not large than 50A.

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	

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