

HiTRON

Universal AC input harmonic correction AC-DC hot-swappable CompactPCI quad output 300 Watts active current sharing switching power supplies HAC300U-490



Features

- 300W 3U x 8HP CPCI package
- Wide operating temperature/high efficiency
- No minimum load requirements
- N+1 redundancy and hot-swappable
- Fully compliant with PICMG
- I²c interface optional



Specification

Input

| | |
|------------------------------|--------------------------------|
| Input Voltage | 90-264VAC |
| Input Frequency | 47-63Hz |
| Input Current | 3.1A at 115VAC, 1.6A at 230VAC |
| Inrush Current | 9.37Arms at 230VAC |
| Power Factor | Typical 0.95-0.98 |
| Input Connector | Positronic 47-pin PCIH47M400A1 |
| Earth Leakage Current | Less than 0.73mA at 230VAC |

Output

| | |
|---------------------------|---|
| Output Connector | Positronic 47-pin PCIH47M400A1 |
| Line Regulation | Typical 0.1% |
| Load Regulation | Typical ±1% |
| Total Regulation | V1-3 typical ±2%, V4 typical ±3%. |
| Noise & Ripple | 1% pk to pk or 50mV, whichever is greater |

| | |
|----------------------|----------------------------------|
| Remote Sense | Available at V1,V2,V3 |
| Adjustability | Available at V1,V2,V3 |
| Hold-up Time | 10mS at 115VAC 13mS at 230VAC |

| | |
|------------------------|-----------------------------|
| Current Sharing | V1, V2,V3 |
| Output Trim | Available at V1, V2 [ADJ #] |

Protection

| | |
|-------------------------|--|
| Over Voltage | Built-in at all outputs (Latch) |
| Over Current | Installed at each rail |
| Over Load | Typical 110-130% max. load at 115VAC |
| Over Temperature | Installed NTC for thermal sensor at [DEG#] pin |

General

| | |
|-----------------------------|--|
| Efficiency | Typical 85% at 230VAC |
| Switching Frequency | 100KHz |
| Dielectric Withstand | IEC62368-1 regulation |
| Circuit Topology | ZVS & LLC circuit |
| Transient Response | Peak transient < 200mV and recovers within 0.5mS after 25% load-change |

| | |
|---------------------------------|---|
| Remote ON/OFF | Available at [INH#] & [EN#] pins |
| Power Fail Signal | Available at [FAL#] pin |
| Power OK Signal | Available for all output |
| Status LED | <Green> means valid input voltage <Amber> means a critical fault |
| N+1 Redundancy | Internal OR-ing diodes |
| Hot-Swappable | Available |
| Power Density | 7.8 Watts/Cubic Inch |
| I²C interface | Optional |

Environmental

| | |
|------------------------------|---|
| Operating Temperature | -40°C to +70°C derate linearly from 100% load at +50°C to 60% load at +70°C |
|------------------------------|---|

(see note 3)
(Refer to derating curve)

| | |
|----------------------------|-----------------|
| Storage Temperature | -45°C to +85 °C |
| Cooling | 400 LFM |

Safety/EMC

| | |
|------------------------------|--------------------|
| Emissions (conducted) | EN55032 Class B |
| Harmonic Current | IEC61000-3-2 |
| Safety Standard | IEC62368-1 Class I |
| Conformal coating | Available |

Notes:

- (1)All measurement 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 V3 +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 rating chart

Quad output

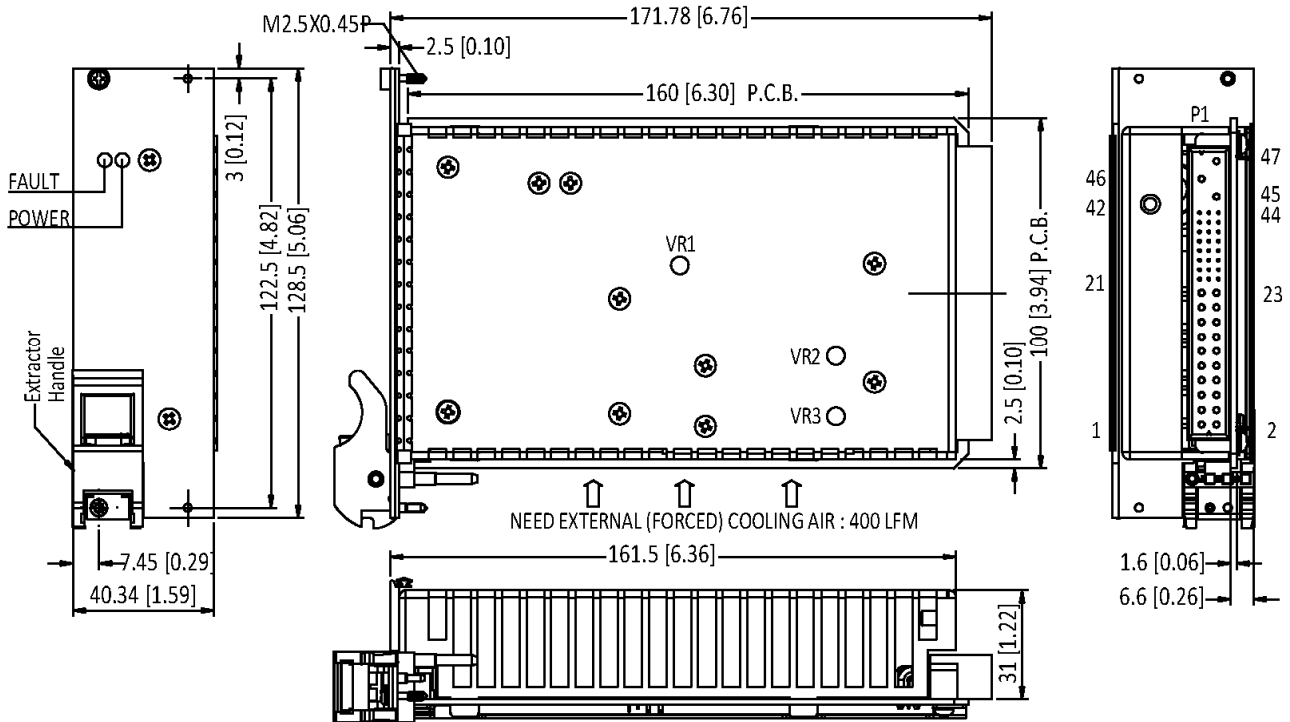
| Model No. | Main V1 @★#≡○▼ | | | | | Aux. V2 ▼@★#≡○ | | | | | Aux. V3 ≡#○★@※ | | | | | Aux. V4 ○★▼ | | | | |
|-------------|----------------|------|-------|------|-----|----------------|------|-------|------|-----|----------------|------|-------|------|-----|-------------|------|-------|------|-----|
| | 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 "≡" Active Load Sharing
 "○" Installed with Or-ing diode "▼" Buck Regulator "※" Synchronous Rectifier

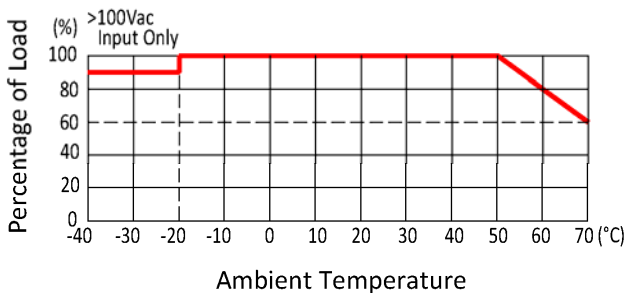
- Notes: (1) Peak load less than 60sec. with duty cycle <10%.
 (2) Maximum load is the continuous operating load of each rail, but the maximum load of each rail can't be drawn from all outputs at the same time.
 (3) Total maximum output power: 300W and total combined current of +V1 and +V2 are not large than 50A.

Mechanical Dimensions (All dimensions are in mm[inch])

Weight: 762.0 g (26.9 Oz.)



Derating Chart



Pin assignment

| Assignment | Pin No. | Assignment | Pin No. |
|-------------|-------------------|------------|-----------------------------|
| AC-L | 47 | V2 C.S. | 41 |
| AC-N | 46 | V3 | 20 |
| AC-G | 45 | V3 S+ | 36 |
| V1 | 1,2,3,4 | V3 C.S. | 44 |
| V1 S+ | 30 | V4 | 21 |
| V1 S-/V2 S- | 34 | DC COM | 5,6,7,8,9,10,11,12,19,22,24 |
| V1 Adj. | 29 | EN# | 27 |
| V1 C.S. | 35 | DEG# | 38 |
| V2 | 13,14,15,16,17,18 | INH# | 39 |
| V2 S+ | 33 | FAL# | 42 |
| V2 Adj. | 32 | | |