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	Typ 100KHz
Dielectric Withstand	IEC62368-1 regulation
Circuit Topology	LLC resonant half-bridge converter
Transient Response	The Peak deviation less than 200mV, and the output shall Recover to regulation limits following a 25% load step-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 derated linearly
(see note 3)	from 100% load at +50°C to
(Refer to derating curve)	60% load at +70°C
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℃ 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.

Edited on July. 30, 2025

Output voltage & current rating chart

Quad output

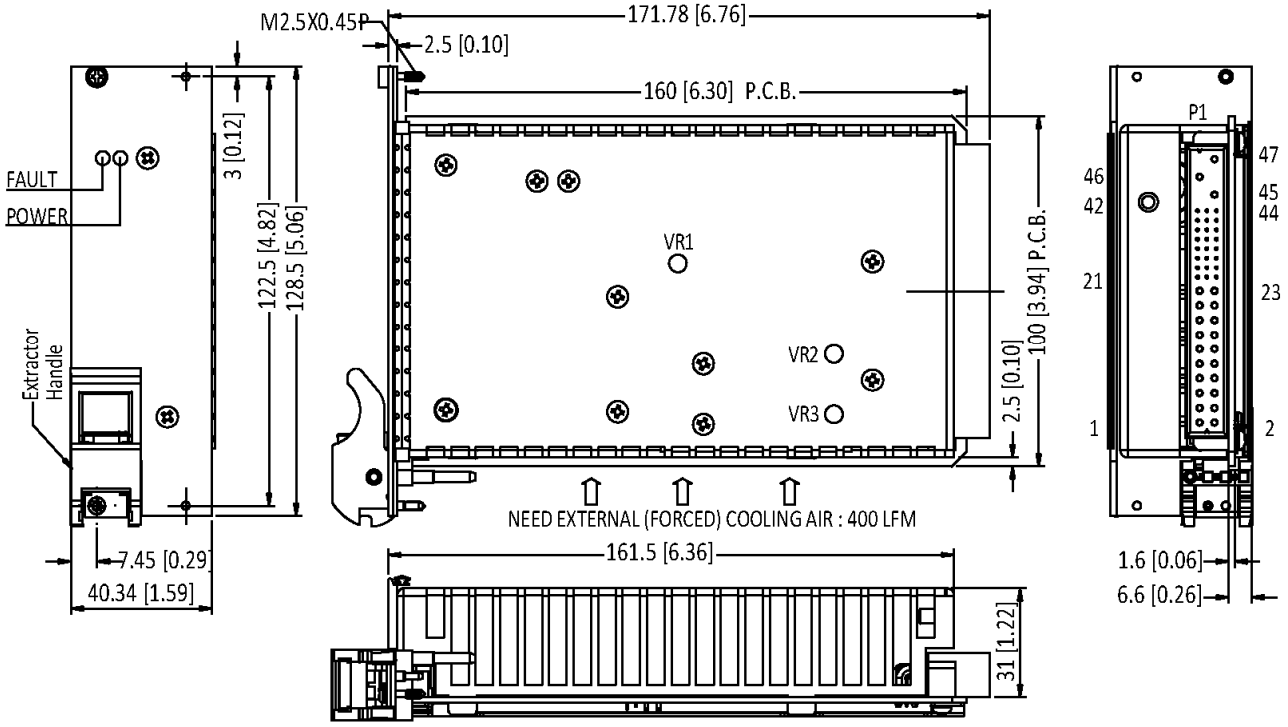
Model No.	Main V1 @★#≡⊙▼					Aux. V2 ▼@★#≡⊙					Aux. V3 ≡#⊙★ @※					Aux. V4 ⊙★▼				
	Min.	Typ.	**Volt.**	Max.	Pk.	Min.	Typ.	**Volt.**	Max	Pk.	Min.	Typ.	**Volt.**	Max.	Pk.	Min.	Typ.	**Volt.**	Max.	Pk.
HAC300U-490	0A	25A	**+5V**	40A	45A	0A	25A	**+3.3V**	40A	45A	0A	7A	**+12V**	10A	12A	0A	1A	**-12V**	2A	-

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

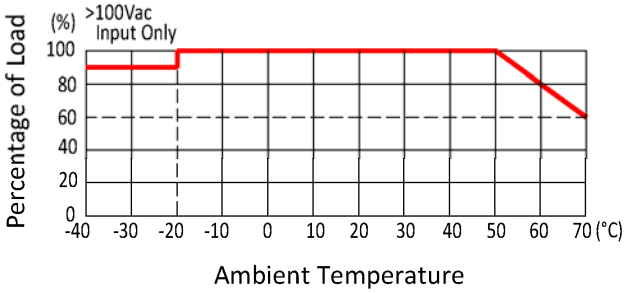
Notes: (1)Peak load less than 60sec. with duty cycle <10%.
(2)Maximum load is the continuous operating load of each rail, but the maximum load of each rail can't be drawn from all outputs at the same time.
(3)Total maximum output power: 300W and total combined current of +V1 and +V2 are not large than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

Edited on July. 30, 2025