



**Universal AC input harmonic correction AC-DC hot-swappable  
CompactPCI Serial Dual output (with 5V standby) 312 Watts  
active current sharing switching power supplies HAC300S-D120E**



### Features

- 3U x 8HP CompactPCI Serial
- Wide operating temperature  $-40^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$
- IEC61000-3-2 harmonic correction
- N+1 redundancy, hot-swappable & active current sharing
- 80 plus gold efficiency
- PMBus communication
- Fully compliant with PICMG



### Specification

Input		General	
Input Voltage	Typical 90-264VAC	Efficiency	Typical 90% at 230VAC
Input Frequency	47-63Hz	Switching Frequency	85-100KHz
Input Current	Typical 3A at 115VAC Typical 1.5A at 230VAC	Dielectric Withstand	IEC60950-1 regulation
Inrush Current	5.3Arms at 230VAC	Transient Response	Peak transient less than 134mV and recovers within 0.5mS after 25% load-change
Power Factor	Typical 0.98-0.99	Remote ON/OFF	Available
Input Connector	FCI 51939-667LF	Power Fail Signal	Available at [FAL#] pin
Earth Leakage Current	Less than 0.7mA at 230VAC	DC OK	Available for V1 & +5Vsb(V2)
Output		Status LED	<Green> means valid input voltage <Red> means a critical fault <Green> means DC OK
Output Connector	FCI 51939-667LF	N+1 Redundancy	Internal OR-ing diodes
Line Regulation	Typical 1%	Hot-Swappable	Available
Load Regulation	V1 typical $\pm 1\%$ , V2 typical $\pm 5\%$	Power Density	5.7 Watts/Cubic Inch
Total Regulation	V1 typical $\pm 2\%$ , V2 typical $\pm 5\%$	PMBus interface	Available
Noise & Ripple	Typical 1% peak to peak	Environmental	
Remote Sense	Available for V1	Operating Temperature	$-40^{\circ}\text{C}$ to $+70^{\circ}\text{C}$ derate linearly (see note 3) (Refer to derating curve)
Adjustability	Available for V1	Storage Temperature	$-45^{\circ}\text{C}$ to $+85^{\circ}\text{C}$
Hold-up Time	Typical 18mS (@95%)	Cooling	200 LFM moving air
Current Sharing	Active current sharing at V1	Safety/EMC	
Protection		Emissions (conducted)	EN55032, FCC Class B
Over Voltage	Built-in	Harmonic Current	IEC61000-3-2
Over Current	Installed	Safety Standard	IEC62368-1 Class I
Over Load	Typical 120-130% peak current at 115VAC		
Over Temperature	Installed NTC and thermostat for thermal sensor at [DEG#] pin		

#### Notes:

- (1) All measurement are at nominal input, full load and  $+25^{\circ}\text{C}$  unless otherwise specifications.
- (2) Due to requests in market and advances in technology, specifications subject to change without notification.
- (3) A warm-up time 10 minutes is required after cold start at temperature from  $-40^{\circ}\text{C}$  to  $+0^{\circ}\text{C}$ .
- (4) Tantalum capacitors connected to system is suggested for bettering Ripple & Noise against operating temperature from  $-40^{\circ}\text{C}$  to  $+0^{\circ}\text{C}$ .
- (5)  $125^{\circ}\text{C}$  OS-CON Long-life Solid capacitors are installed in secondary circuits.

## Output voltage & current rating chart

### Dual output

Model No.	V1★@≡○					STANDBY V2★○				
	Min.	Typ.	Volt.	Max.	Peak	Min.	Typ.	Volt.	Max	Peak
HAC300S-D120E	0A/0.5A	25A	12V	25A	28A	0.1A	2.5A	5V	2.5A	3A

Symbol: "★" OVP built-in. "@" Adjustable. "#" Remote sensing. "≡" Active Load Sharing. "○" Installed with Or-ing diode.

Notes: (1) Peak load less than 60sec. with duty cycle <10%.

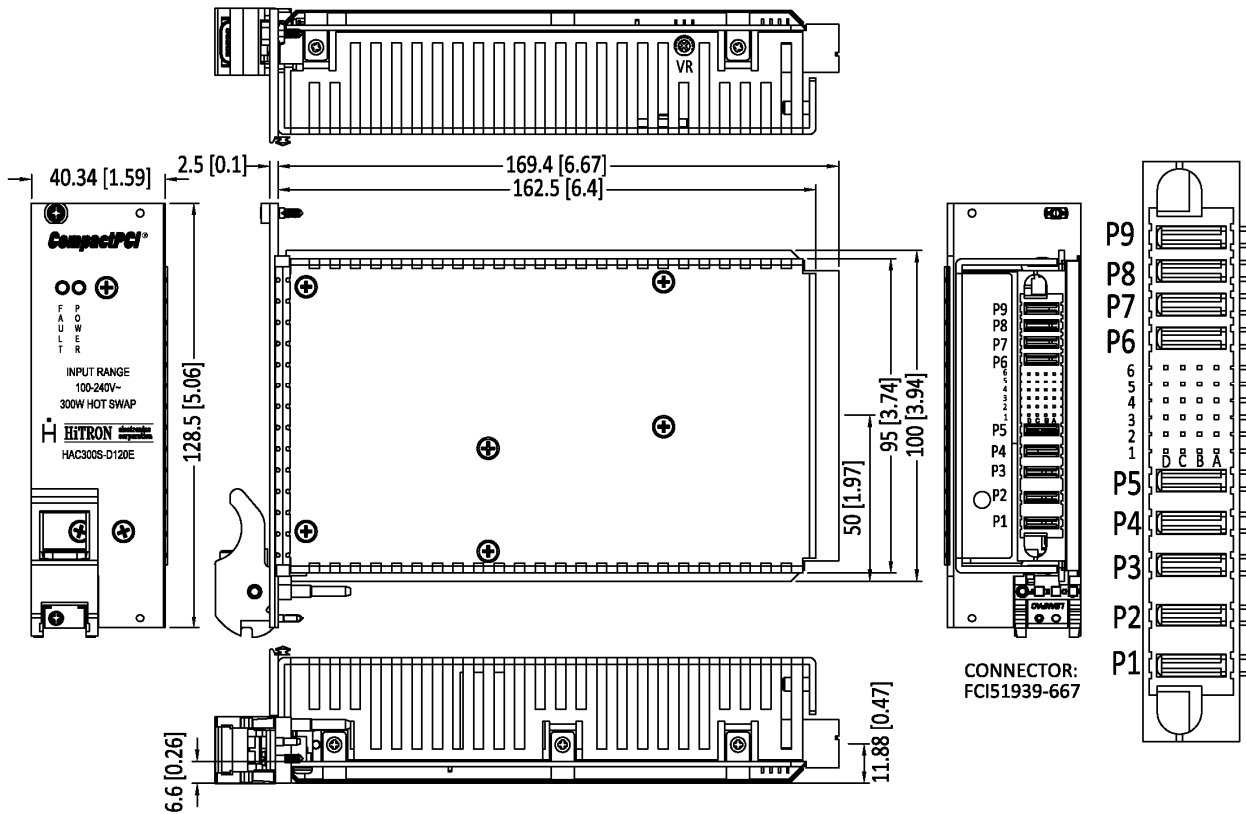
(2) Maximum load is the continuous operating load of each rail, but the maximum load of each rail can't be drawn from all outputs at the same time.

(3) Please consult the factory if you have the special min load request of V1.

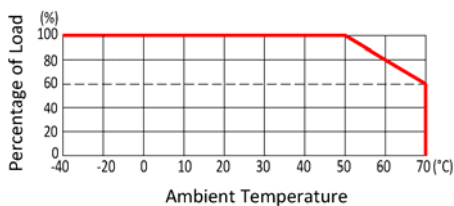
(4) Min. load is only requested when PSUs do run in parallel.

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

Weight: 710.0 g (25.1 Oz.)



### Derating Chart



### Pin Assignment

P1	P2	P3	P4	P5	D1	D2	D3	D4	D5	D6	P6	P7	P8	P9
L	N	G	N/A	N/A	N/A	FAL	PS_P	COM	DEG	5Vsb	COM	COM	V1	V1
					C1	C2	C3	C4	C5	C6				
					N/A	N/A	COM	A0	ALERT	5Vsb				
					B1	B2	B3	B4	B5	B6				
					N/A	12VCS	PSON	A1	SCL	COM				
					A1	A2	A3	A4	A5	A6				
					N/A	-VS	+VS	A2	SDA	EN				

Notes: The mating connector is FCI 51940-350LF.



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Inrush Current	5.3Arms at 230VAC
Power Factor	Typical 0.98-0.99
Input Connector	FCI 51939-667LF
Earth Leakage Current	Less than 0.7mA at 230VAC

#### Output

Output Connector	FCI 51939-667LF
Line Regulation	Typical 1%
Load Regulation	V1 typical $\pm 1\%$ , V2 typical $\pm 5\%$
Total Regulation	V1 typical $\pm 2\%$ , V2 typical $\pm 5\%$
Noise & Ripple	Typical 1% peak to peak
Remote Sense	Available for V1
Adjustability	Available for V1
Hold-up Time	Typical 18mS (@95%)
Current Sharing	Active current sharing at V1

#### Protection

Over Voltage	Built-in
Over Current	Installed
Over Load	Typical 120-130% peak current at 115VAC
Over Temperature	Installed NTC and thermostat for thermal sensor at [DEG#] pin

#### General

Efficiency	Typical 90% at 230VAC
Switching Frequency	85-100KHz
Dielectric Withstand	IEC60950-1 regulation
Transient Response	Peak transient less than 134mV and recovers within 0.5mS after 25% load-change
Remote ON/OFF	Available
Power Fail Signal	Available at [FAL#] pin
DC OK	Available for V1 & +5Vsb(V2)
Status LED	<Green> means valid input voltage <Red> means a critical fault <Green> means DC OK
N+1 Redundancy	Internal OR-ing diodes
Hot-Swappable	Available
Power Density	5.7 Watts/Cubic Inch
PMBus interface	Available

#### Environmental

Operating Temperature	$-40^{\circ}\text{C}$ to $+70^{\circ}\text{C}$ derate linearly (see note 3) (Refer to derating curve)
Storage Temperature	$-45^{\circ}\text{C}$ to $+85^{\circ}\text{C}$
Cooling	200 LFM moving air

#### Safety/EMC

Emissions	(conducted) EN55032, FCC Class B
Harmonic Current	IEC61000-3-2
Safety Standard	IEC62368-1 Class I

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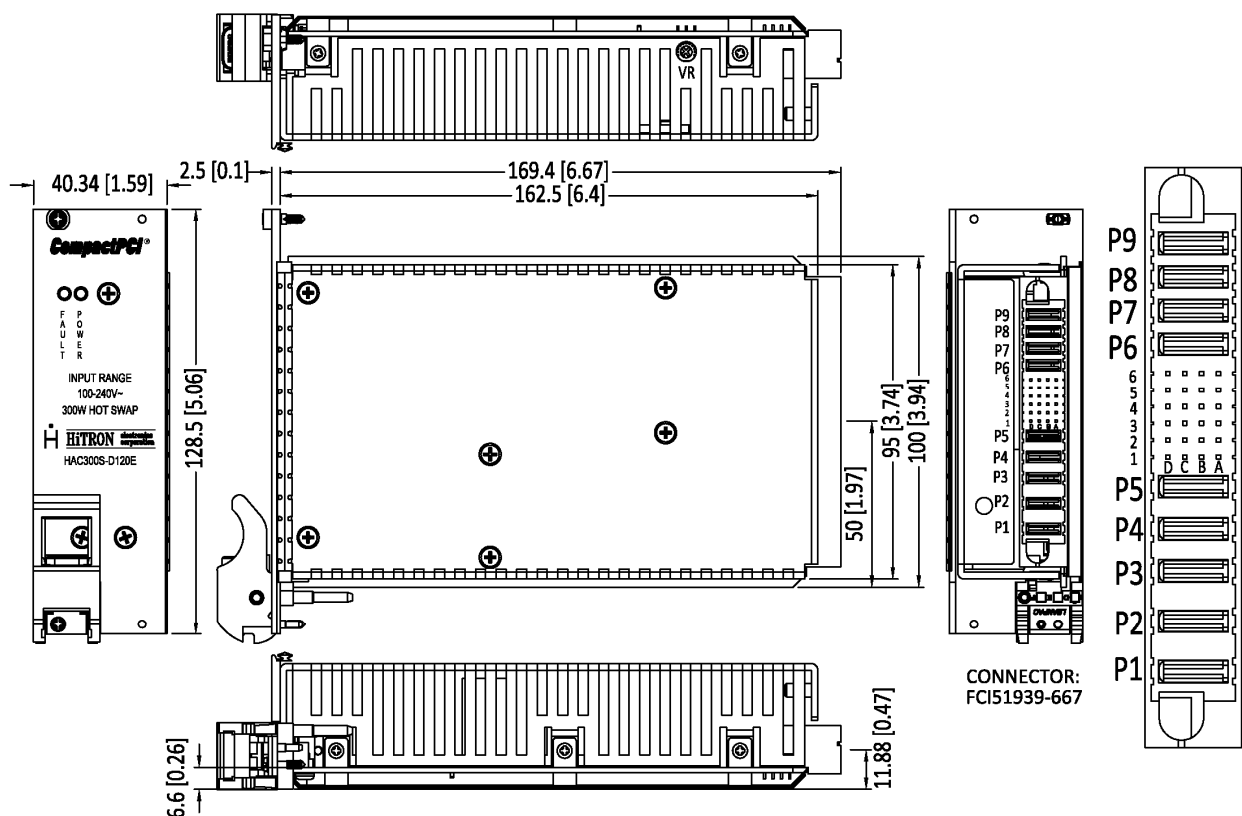
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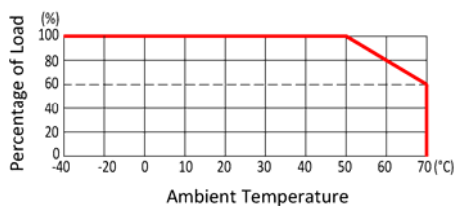
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					C1	C2	C3	C4	C5	C6				
					N/A	ALERT	COM	A0	N/A	5Vsb				
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