

300 W CompactPCI quad output active current sharing switching power supply, hot-swappable with wide range AC input



Part-No.: 13100-143

Features

300 W 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



Specifications

Input

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

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 50 mV, whichever is greater
Remote Sense	Available at V1, V2, V3
Adjustability	Available at V1, V2, V3
Hold-up Time	10 ms at 115 VAC 13 ms at 230 VAC
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 115 VAC
Over Temperature	Installed NTC for thermal sensor at [DEG#] pin

General

Efficiency	Typical 85 % at 230 VAC
Switching Frequency	100 KHz
Dielectric Withstand	IEC62368-1 regulation
Circuit Topology	ZVS & LLC circuit
Transient Response	Peak transient < 200 mV and recovers within 0.5 ms 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
I ² C interface	Optional

Environmental

Operating Temperature	-40 °C to +70 °C derate linearly (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 +12 V 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

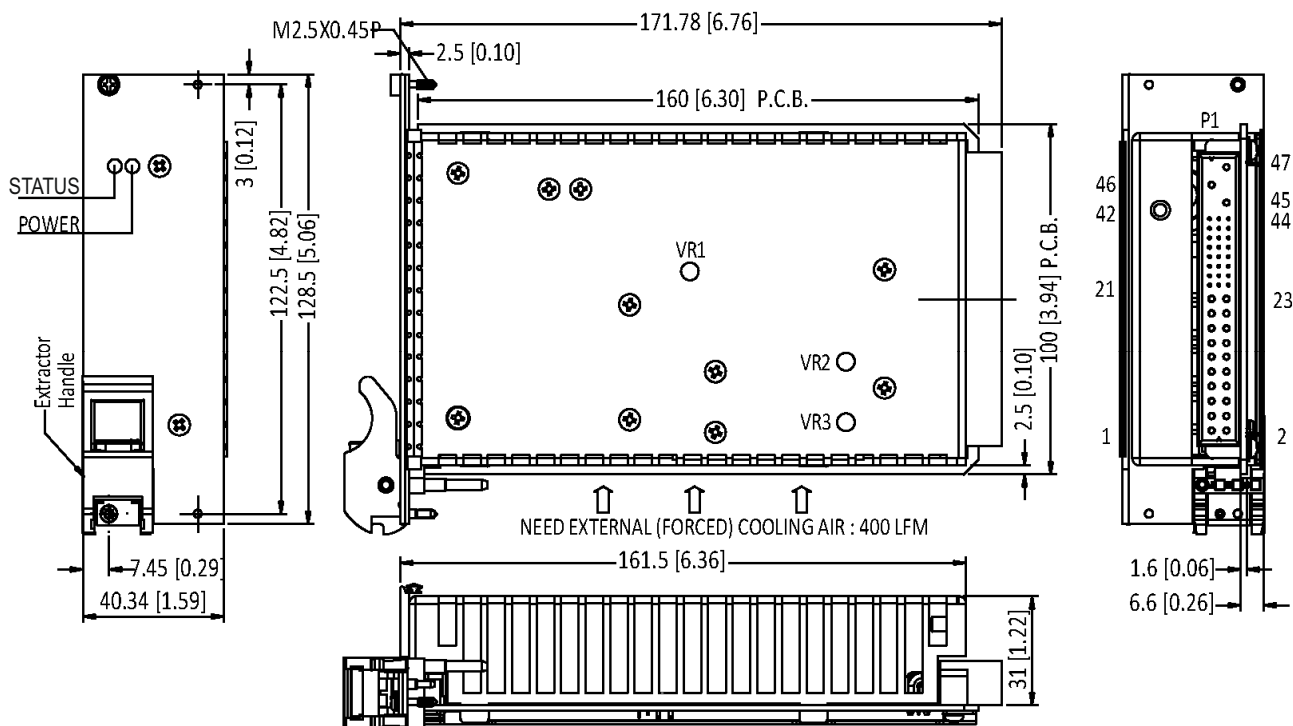
Model No.	Main V1 @★#≡○▼					Aux. V2 ▼@★#≡○					Aux. V3 ≡#○★@※					Aux. V4 ○★▼				
	Min.	Typ.	Volt.	Max.	Pk.	Min.	Typ.	Volt.	Max.	Pk.	Min.	Typ.	Volt.	Max.	Pk.	Min.	Typ.	Volt.	Max.	Pk.
13100-143	0 A	25 A	+5 V	40 A	45 A	0 A	25 A	+3.3 V	40 A	45 A	0 A	7 A	+12 V	10 A	12 A	0 A	1 A	-12 V	2 A	2 A

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

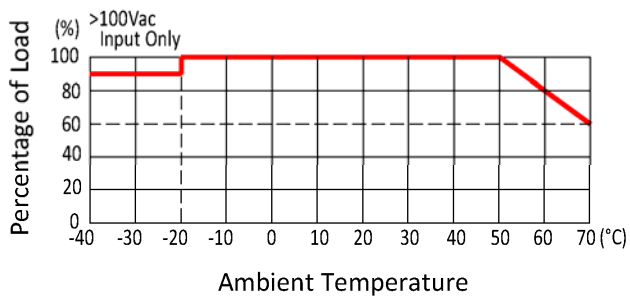
Notes: (1) Peak load less than 60 sec. with duty cycle <10 %.
 (2) Maximum load is the continuous operating load of each rail, but the maximum load of each rail can't be drawn from all outputs at the same time.
 (3) Total maximum output power: 300 W and total combined current of +V1 and +V2 are not larger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

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		

AC IN	V1/V2/V3 OUTPUT	OCP	OVP	OTP	EN	INH	FAL	DEG	frontpanel STATUS LED	frontpanel POWER LED
90~264VAC	Normal	OFF	OFF	OFF	ON	OFF	off	off	green on	green on
90~264VAC	No output	OFF	OFF	OFF	OFF	ON	on	off	amber on	green on
90~264VAC	No output	OFF	OFF	ON	ON	OFF	on	on	amber on	green on
90~264VAC	No output	OFF	OFF	OFF	OFF	OFF	on	off	amber on	green on
90~264VAC	No output	ON	OFF	OFF	ON	OFF	on	off	amber on	green on
90~264VAC	No output	OFF	ON	OFF	ON	OFF	on	off	amber on	green on
90~264VAC	4% lower than the spec.	OFF	OFF	OFF	ON	OFF	on	off	amber on	green on
90~264VAC	No output	OFF	OFF	OFF	ON	ON	on	off	amber on	green on