HiTRON

16.6-36VDC Input DC-DC Converter Half size hot-swappable conduction-cooled CompactPCI quad-output 205 Watts active current sharing switching power supplies HDC202C-24B-490(E)

Features

- **Half size 3U x 4HP package**
- **Conduction-cooled**
- **N+1 redundancy, hot-swappable & active current sharing**
- **Wide operating temperature**
- **EN55032 Class A**
- **Fully compliant with PICMG**
- **CE marking level 3 compliance**
- **EN50155 standard compliance**

CE

Specification

Input

Input Voltage	16.6-36VDC, nominal 24/28VDC
Input Current	Typical 10.67A at 24VDC
Inrush Current	Active inrush current limit circuit Peak 28A (300uS) at 36VDC
Input Connector	Positronic 47-pin PCIH47M400A1

Output

Output Connector	Positronic 47-pin PCIH47M400A1
Line Regulation	Typical ±0.5-3%
Load Regulation	Typical ±1-5%
Total Regulation	V1 typical ±1%, V2 typical ±2% V3 typical ±3%, V4 typical ±5%
Noise & Ripple	1% pk to pk or 50mV, whichever is greater
Remote Sense	Available at V1,V2,V3
Adjustability	Available at V1,V2,V3
Current Sharing	V1, V2,V3

Protection

Over Voltage	Built-in at all outputs
Over Current	Installed at each rail
Over Load	Typical 105-130% max. load fully protected against output overload or short circuit
Over Temperature	Installed NTC for thermal sensor at [DEG#] pin
Under Voltage	Built-in
Input/Output reverse Voltage	Built-in
Conformal Coating	Available

General

Efficiency	Typical 82% at 24VDC
Switching Frequency	210-240KHz
Dielectric Withstand	IEC60950-1/62368-1 regulation
Circuit Topology	Active clamp forward with M.A.
Transient Response	Pk. transient < 300mV & recovers within 2mS after 50% load-change
Remote ON/OFF	Available at [INH#] & [EN#] pins
Power Fail Signal	Available at [FAL#] pin
Power OK Signal	Available for all output
N+1 Redundancy	Internal OR-ing diodes
Hot-Swappable	Available
Power Density	7.8 Watts/Cubic Inch
Wedge Lock	ACCR MVBA260-4.80ETM2.5LK x 2pcs
(Option or Consigned by Customer)	Calmark MVA260-4.80ETM2.5LK x2pcs
	ELMA 325-04.80MVBA3TM2.5LK x 2pcs

Environmental

Operating Temperature	-40°C to +100°C without air flow &
(Temp. measured at top cover or card edge)	derate linearly from 100% load
(Refer to derating curve)	at +85 °C to 70% load at +100 °C
Storage Temperature	-55°C to +100°C
Cooling	Top-cover conduction cooled

Safety/EMC

Emissions (conducted)	CISPR EN55032 Class A
Safety Standard	IEC60950-1/IEC 62368-1 Class I
CE Standard	Meet Level 3 Criteria A
Shock	45G max.
Vibration	Random vibration, 10G max.
Radiated Susceptibility	EN61000-4-3 Level X (20V/m)
Surge	EN6100-4-5 Level 3,L-L 2KV,L-G 2KV
Conducted Disturbance	EN61000-4-6 Level X (20V/m)

Notes:
(1) All measurement are at nominal input, full load and +25°C unless otherwise specifications.
(2) Constant Current limit for each o/p & 3-7 seconds shutdown. Peak Current Timer is installed.
(3) Due to requests in market and advances in technology, specifications subject to change without notification.
(4) 125°C OS-CON Long-life Solid capacitors are installed.

Edited on Aug. 13, 2020

Output voltage & current rating chart

Quad. Output

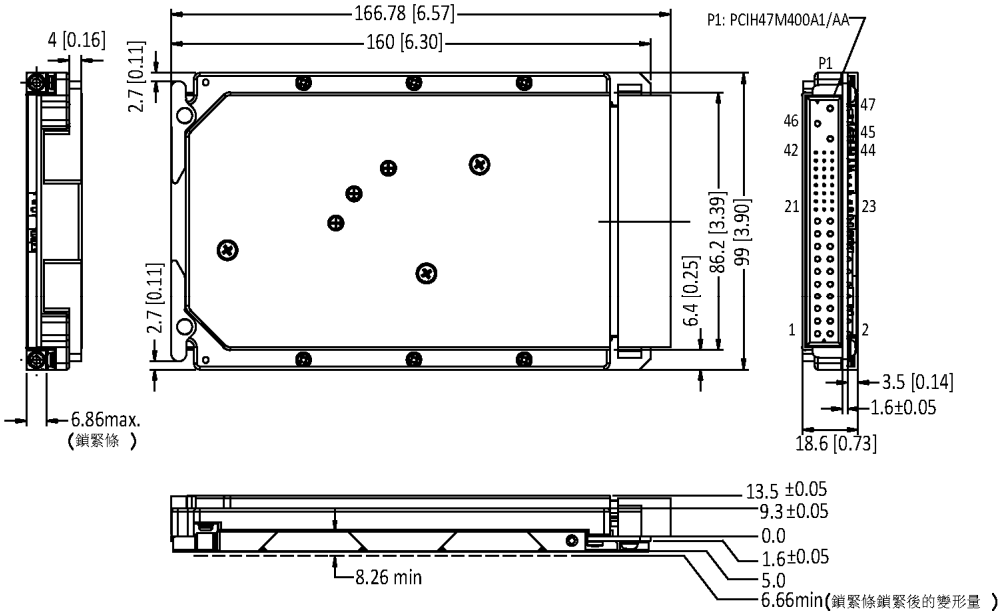
Model No.	V1 @★#≡⊙					V2 ▲★#≡⊙@					V3▲★#≡⊙@					V4 ▲⊙★				
	Min.	Typ.	**Volt.**	Max.	Pk.	Min.	Typ.	**Volt.**	Max.	Pk.	Min.	Typ.	**Volt.**	Max.	Pk.	Min.	Typ.	**Volt.**	Max.	Pk.
HDC202C-24B-490(E)	1A	20A	**+5V**	27A	30A	0A	10A	**+3.3V**	15A	20A	0A	5A	**+12V**	6A	7A	0A	1A	**-12V**	1.5A	2A

Symbol: "★" OVP "@" Adjustable "#" Remote sensing "≡" Active Load Sharing "⊙" Installed with Or-ing diode "▲" Magnetic Amplifier

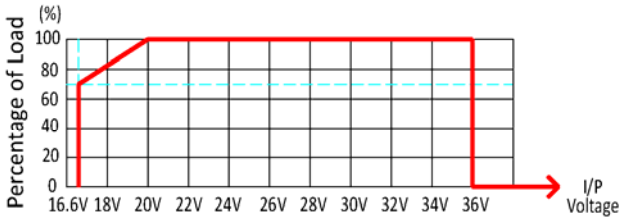
Notes: (1) Total maximum power of V1 and V2 should be less than 150W.

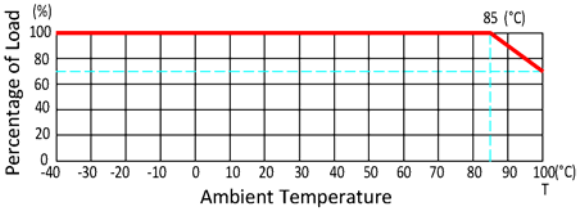
(2) Maximum load is the continuous operating load of each rail, but the maximum load of each rail cannot be drawn from all outputs at the same time.

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



Derating Chart





Pin assignment

Assignment	Pin No.	Assignment	Pin No.
-Vin	47	**V1 +Remote Sense**	30
+Vin	46	**V2 +Remote Sense**	33
GND	45	**V3 +Remote Sense**	36
V1	1,2,3,4	**V1 Current Sharing**	35
V2	13,14,15,16, 17,18	**V2 Current Sharing**	41
V3	20	**V3 Current Sharing**	44
V4	21	**EN#(Enable)**	27
DC COM	5,6,7,8,9,10,	**DEG # (Degrade Signal)**	38
	11,12,19,22, 24	**INH #(Inhibit Signal)**	39
V1/V2 –Remote Sense	34	**FAL #(Fail Signal)**	42

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