

HiTRON

18-36VDC/36-72VDC INPUT RANGE DC-DC CONVERTER HOT-SWAP CompactPCI QUAD OUTPUT 250 WATTS ACTIVE CURRENT SHARING SWITCHING POWER SUPPLIES HDC250P-24B/48B SERIES



FEATURES:

- 250W 3U X 8HP EUROCARD PACKAGE
- 18-36VDC/36-72VDC INPUT
- WIDE OPERATING TEMPERATURE RANGE OF -40°C TO +70 °C
- INTERNAL OR-ING DIODES FOR N+1 REDUNDANCY
- HOT-SWAPPABLE
- THIRD-WIRE CURRENT SHARING
- EMI MEET EN 55022 / FCC CLASS B
- FULLY COMPLIANT WITH PICMG

SPECIFICATION

INPUT SPECIFICATION

Input Voltage: Typ. 18-36Vdc, nominal input 24Vdc.
Typ. 36-72Vdc, nominal input 48Vdc.

Input Connector: Positronic 47-pin PCIH47M400A1.

Inrush Current: Peak 32.6A at nominal 24Vdc.
Typ. 20A at nominal 48Vdc.

Input Current: 13.7A at nominal input 24Vdc.
6.6A at nominal input 48Vdc.

Dielectric Withstand: Meet IEC 60950-1 regulation.

EMI: Meet EN 55022 / FCC Class B.

Remote ON/OFF: Available at [INH#] & [EN#] pins.

Power Fail Signal: Available at [FAL#] pin.

Status LED: <Green> means valid input voltage.
<Amber> means a critical fault.

Thermal Protection (OTP): Installed NTC for thermal sensor at [DEG#] pin.

OUTPUT SPECIFICATION

Output Voltage: See Ratings Chart.

Output Current: See Ratings Chart.

Output Wattage: Typ. 250W continuous.

Output Connector: Positronic 47-pin PCIH47M400A1.

Line Regulation: Typ. 0.1%.

Load Regulation: Typ. ±2.0%.

Noise & Ripple: Typ. 1% Pk.-Pk. or 50mV, whichever is greater.

OVP: Built-in at all outputs.

Adjustability: Available at VO1, 2 & 3.

Output Trim: Electrical trim available at VO1/2.[ADJ #]

Remote Sensing: Available at VO1, VO2 & VO3.

Hot-Swap: Available.

N+1 Redundancy: Installed with internal OR-ing diodes at all outputs for N+1 redundancy operation.

Current Sharing: Third-wire current sharing at VO1,2&3.

Power OK Signal: Available for all outputs.

Over Current Protection (OCP): Installed in each rail.

Overload Protection (OLP): Fully protected against output overload or short circuit. Typical 120% max. load. Consult the factory for special OLP setting.

GENERAL SPECIFICATION

Efficiency: Typ. 74%-77 %.

Switching Frequency: 120K Hz.

Circuit Topology: Forward circuit.

Transient Response: Peak transient less than 100mV and recovers within 2mS for 25% load-change.

Construction: Eurocard 3U X 8HP X 160mm
CompactPCI format. Front panel with either Ordinary handle or Extractor handle.

Operating Temperature: -40 °C to +70 °C (see note 3) , derate linearly from 100% power at +50 °C to 60% power at +70 °C (Refer to derating curve).

Storage Temperature: -45°C to +85 °C.

Cooling: At least 600LFM moving air is required to achieve full rating power 250W in a confined area.

Safety Standard: IEC 60950-1 Class I.

Power Density: 4.58 Watts/ Cubic Inch.

NOTE: (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 VO3 +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 RATINGS CHART

QUAD OUTPUT

MODEL NO.	MAIN +VO1 @★#≡⊙				AUX. +VO2 ▲@★#≡⊙				AUX. +VO3 ▲@★#≡⊙				AUX. -VO4 ●⊙■★=					
	Min.	Typ.	Volt.	Max.	Min.	Typ.	Volt.	Max.	Min.	Typ.	Volt.	Max.	Pk.	Min.	Typ.	Volt.	Max.	Pk.
HDC250P-24B-490(E)	2A	25A	+5V	33A	0A	18A	+3.3V	33A	0A	5A	+12V	5.5A	6A	0A	0.5A	-12V	1A	1.5A
HDC250P-48B-490(E)	2A	25A	+5V	33A	0A	18A	+3.3V	33A	0A	5A	+12V	5.5A	6A	0A	0.5A	-12V	1A	1.5A
HDC250P-48B-490(O)	2A	25A	+5V	33A	0A	18A	+3.3V	33A	0A	5A	+12V	5.5A	6A	0A	0.5A	-12V	1A	1.5A

Symbol: "★" OVP built-in. "@" Adjustable. "#" Remote sensing. "≡" 3rd wire Load Sharing. "⊙" Installed with Or-ing diode.

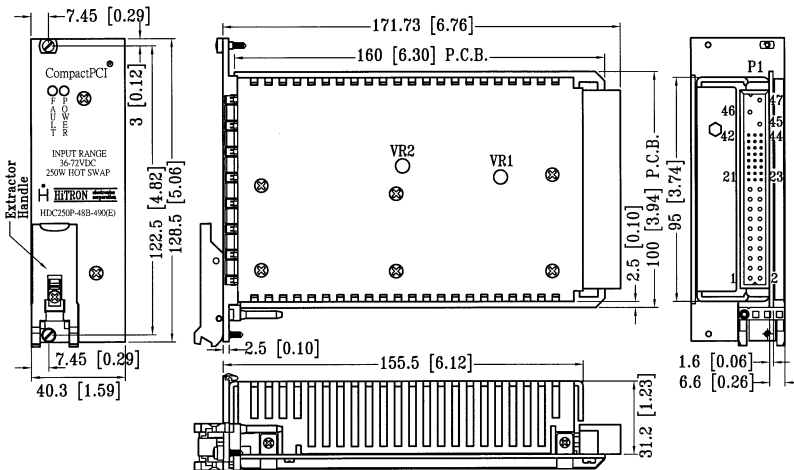
"▲" Magnetic Amplifier. "●" Installed with Post-regulator. "■" Common Choke.

Remark: Peak load less than 60sec. with duty cycle <10%.

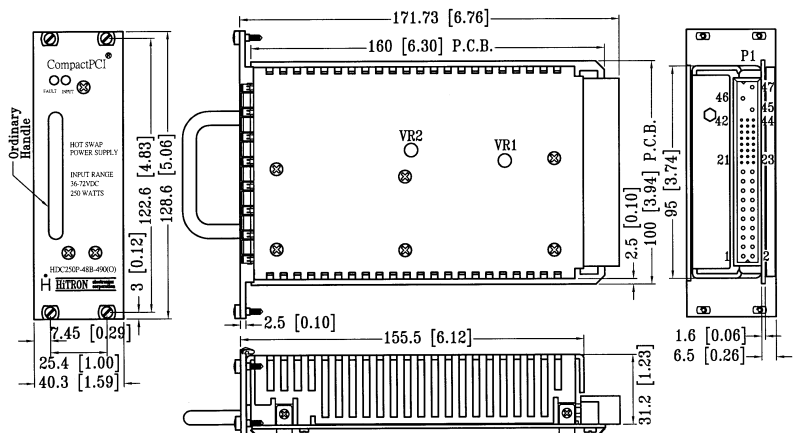
Max. load is the continuous operating load of each rail. But the max. load of each rail can't be drawn from all outputs at the same time.

MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: 666.0 g (23.5 Oz.)



HDC250P-24B/48B-490(E)



HDC250P-48B-490(O)

INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT

ASSIGNMENT	PIN NO.
-Vin	47
+Vin	46
GND	45
VO1	1,2,3,4
VO1 S +	30
VO1 S -	34
VO1 ADJ.	29
VO1 C.S.	35
VO2	13, 14, 15, 16, 17, 18.
VO2 S+	33
VO2 ADJ.	32
VO2 C.S.	41
VO3	20
VO3 S+	36
VO3 C.S.	44
VO4	21
DC COM	5, 6, 7, 8, 9, 10, 11, 12, 19, 24.
EN#	27
DEG #	38
INH #	39
FAL #	42

Mating connector: PCIH47F400A1

DERATING CURVE

