



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



### FEATURES:

- 250W 3U X 8HP EUROCARD PACKAGE
- 36-72VDC NOMINAL 48VDC INPUT
- INTERNAL OR-ING DIODES FOR N+1 REDUNDANCY
- HOT-SWAPPABLE
- THIRD-WIRE CURRENT SHARING
- EMI MEET EN 55022 / FCC CLASS B
- CE MARKING COMPLIANCE
- FULLY COMPLIANT WITH PICMG

### SPECIFICATION

#### INPUT SPECIFICATION

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

**Input Connector:** Positronic 47-pin PCIH47M400A1.

**Inrush Current:** Typ. 20A @ nominal 48Vdc.

**Input Current:** 6.6A @ 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.  $\pm 2.0\%$ .

**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. 79 %.

**Switching Frequency:** 120K Hz.

**Circuit Topology:** Forward circuit.

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

**Safety Standard:** IEC 60950-1 Class I.

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

**Operating Temperature:** 0 to +50 °C at full load with specified air flow.  
Derates linearly to 50% at +70°C.

**Storage Temperature:** -40 to +85 °C.

**Temperature Coefficient:** Typ.  $\pm 0.02\%$  / °C.

**Cooling:** At least 16 cfm (500 lfm) moving air is required to achieve full rating power 250W in a confined area.

**Power Density:** 4.58 Watts/ Cubic Inch.

Note: Due to requests in market and advances in technology, specifications subject to change without notification.



For the details of safety approval, please consult the factory.

## 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-48B-490(E) | 0A              | 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) | 0A              | 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.

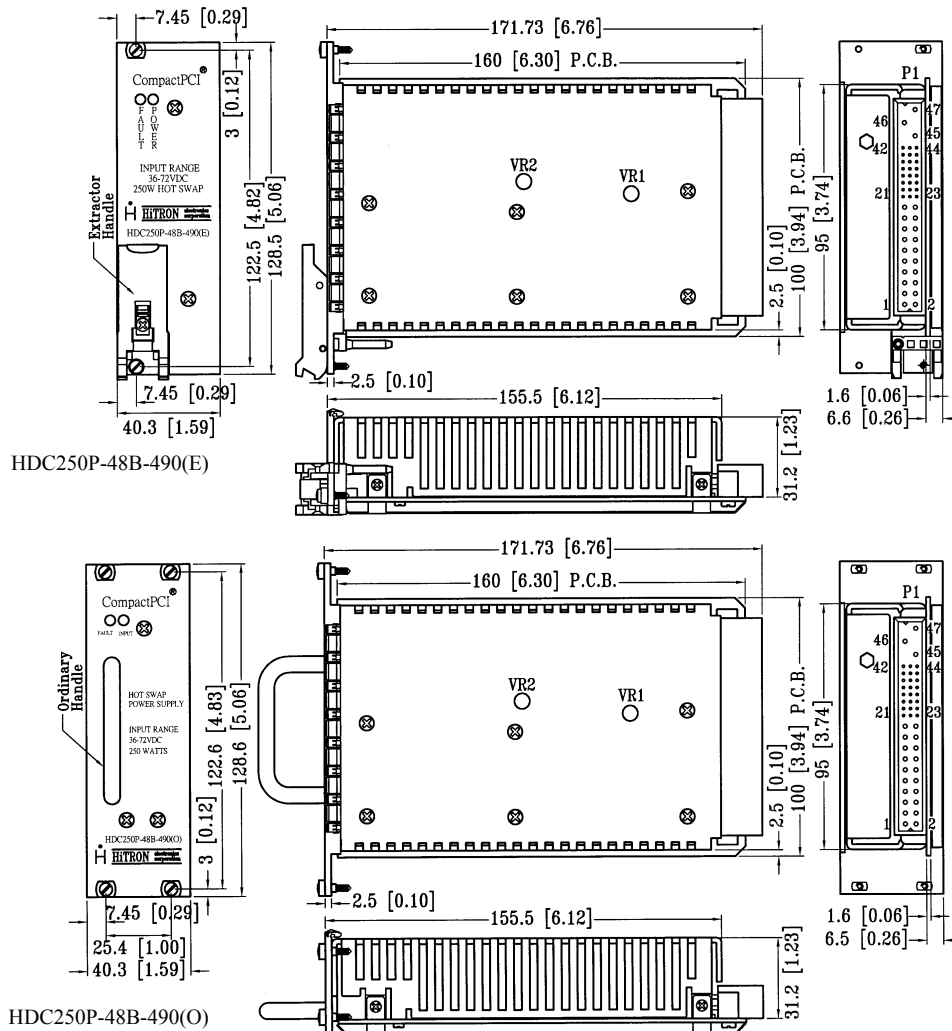
"▲" Magnetic Amplifier. "●" Installed with Post-regulator. "■" Common Choke.

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.)



### INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT

|              | DC INPUT |      |    | QUAD OUTPUT |    |    |      |      |                   |    |      |      |     |    |      |     |                             | STATUS/CONTROL |      |      |      |
|--------------|----------|------|----|-------------|----|----|------|------|-------------------|----|------|------|-----|----|------|-----|-----------------------------|----------------|------|------|------|
| ASSIGNMENT   | -Vin     | +Vin | G  | VO1         | S+ | S- | Adj. | C.S. | VO2               | S+ | Adj. | C.S. | VO3 | S+ | C.S. | VO4 | DC COM                      | EN#            | DEG# | INH# | FAL# |
| CNTR & PIN # | 47       | 46   | 45 | 1,2,3,4     | 30 | 34 | 29   | 35   | 13,14,15,16,17,18 | 33 | 32   | 41   | 20  | 36 | 44   | 21  | 5,6,7,8,9,10,11,12,19,22,24 | 27             | 38   | 39   | 42   |

Mating connector: PCIH47F400A1.