

## **36-72VDC INPUT RANGE DC-DC CONVERTER HOT-SWAP CompactPCI QUAD OUTPUT 500 WATTS ACTIVE CURRENT SHARING SWITCHING POWER SUPPLIES TPDC500P-48B SERIES**



### **FEATURES:**

- 500W 6U 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 CLASS A
- CE MARKING COMPLIANCE
- FULLY COMPLIANT WITH PICMG

### **SPECIFICATION**

#### **INPUT SPECIFICATION**

**Input Voltage:** Typ. 36-72Vdc, nominal input 48Vdc.  
OVP shutdown at 75Vdc & UVP shutdown at 36Vdc.

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

**Soft Start:** Installed.

**Inrush Current:** Typ. 11A @ 48Vdc.

**Input Current:** 13.2A @ nominal input 48Vdc.

**Dielectric Withstand:** Meet IEC950 regulation.

**Transient Protection:** MOV withstands transient as specified by EN61000-4-4 level 3.

**EMI:** Meet CISPR EN55022 Class A.

**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. Thermostat will shutdown the PSU if >100°C.

**Overload Protection (OLP):** Fully protected against output overload or short circuit. Typ. set at 120-150% max. load. Consult the factory for special OLP setting.

#### **OUTPUT SPECIFICATION**

**Output Voltage:** See Ratings Chart.

**Output Current:** See Ratings Chart.

**Output Power:** Typ. 500W continuous.

**Output Connector:** Positronic 47-Pin PCIH47M400A1.

**Line Regulation:** Typ. 0.1%.

**Load Regulation:** VO1 & VO2 typ. ±0.5%.  
VO3 & VO4 typ. ±1.0-4.0%.

**Noise & Ripple:** Typ. 1% peak-peak or 50mV, which is greater.

**OVP:** Built-in at all outputs. (Latch).

**Adjustability:** Available at VO1, VO2, VO3 & VO4.

**Output Trim:** Electrical trim available at VO1/ VO2. [ADJ #].

**Remote Sensing:** Available at VO1, VO2 & VO3.

**Hot-Swap:** Available.

**N+1 Redundancy:** Available with OR-ing diodes at all outputs for N+1 redundancy.

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

**Power OK Signal:** Available for all outputs.

**Over Current Protection (OCP):** Installed at each rail.

#### **GENERAL SPECIFICATION**

**Efficiency:** Typ. 80 %.

**Switching Frequency:** 120K Hz.

**Circuit Topology:** Forward circuit.

**Transient Response:** Peak transient less than 220mV and recovers within 0.5mS after 50% load-change.

**Safety Standard:** IEC60950.

**Construction:** Eurocard 6U X 8HP X 160mm  
CompactPCI format. Front Panel with  
Extractor handle.

**Operating Temperature:** -30 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. ±0.02% / °C.

**Cooling:** At least 8lfm moving air is required to achieve full rating power 500W in a confined area.

**Power Density:** 4.50 Watts/ Cubic Inch.

Remark: All measurements are at nominal input, full load and +25°C unless otherwise specified.

# 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.
HDC500P-48B-490	0A	50A	+5V	60A	0A	30A	+3.3V	60A	0A	10A	+12V	14A	15A	0A	3A	-12V	4A	5A

Symbol: "★" OVP built-in. "@" Adjustable. "#" Remote sensing. "#=" 3rd-wire Load Sharing.

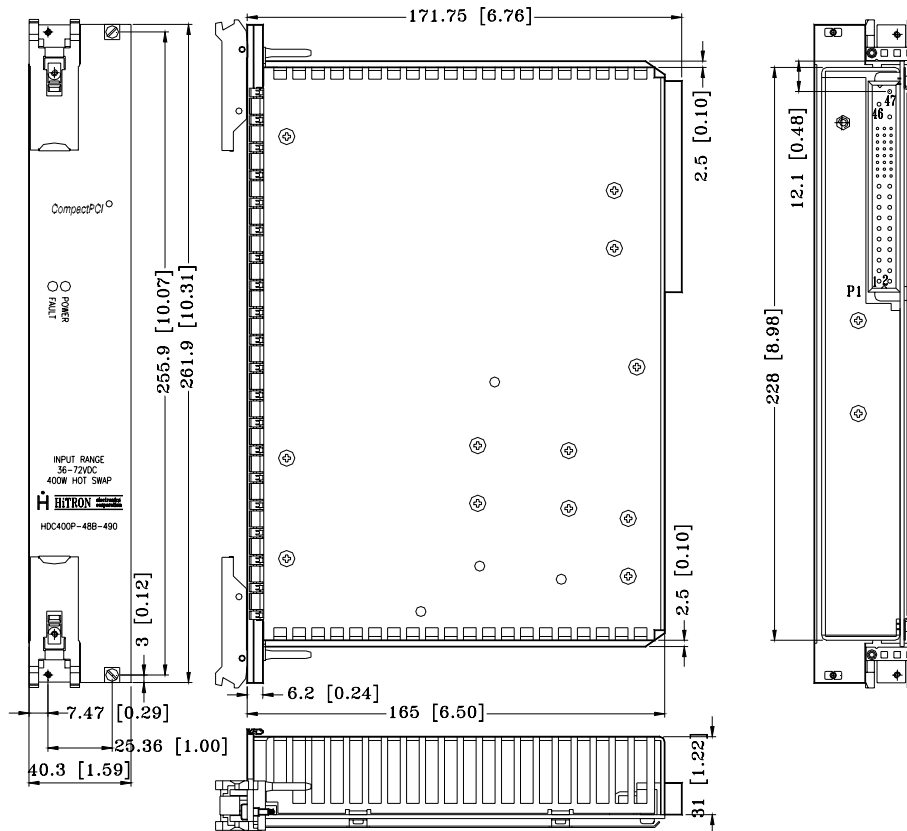
"○" Installed with Or-ing diode. "▲" Magnetic Amplifier. "●" Installed with Post-regulator. "■" Common Choke.

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: 1.42kg (3.13 lb.)



## INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT

ASSIGNMENT	DC INPUT			QUAD OUTPUT												STATUS/CONTROL					
	+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 #	46	47	45	1,2,3,4	30	34	29	35	13,14,15,16,17,18	33	32	41	20	36	44	21	5,6,7,8,9,10,11,12,19,24	27	38	39	42

Mating connector: PCIH47F400A1.