



# Total Power International, Inc.

## 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 at 48Vdc.

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

**Dielectric Withstand:** Meet IEC 60950-1 regulation.

**Transient Protection:** MOV withstands transient as specified by EN 61000-4-4 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.

#### 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 typ. ±1.0% , VO2 typ. ±1.5%.  
VO3 & VO4 typ. ±3.0-4.0%.

**Noise & Ripple:** Typ. 1% peak-peak or 50mV, whichever 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.

**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.

#### GENERAL SPECIFICATION

**Efficiency:** Typ. 80 %.

**Switching Frequency:** 120K Hz.

**Circuit Topology:** Forward circuit.

**Transient Response:** Peak transient less than 250mV and recovers within 1.0mS after 25% load-change.

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

**Construction:** Eurocard 6U X 8HP X 160mm CompactPCI format. Front Panel with 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. ±0.02% / °C.

**Cooling:** At least 800LFM moving air is required to achieve full rating power 500W in a confined area.

**Power Density:** 4.50 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.



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



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## 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.
TPDC500P-48B-490	4A	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.

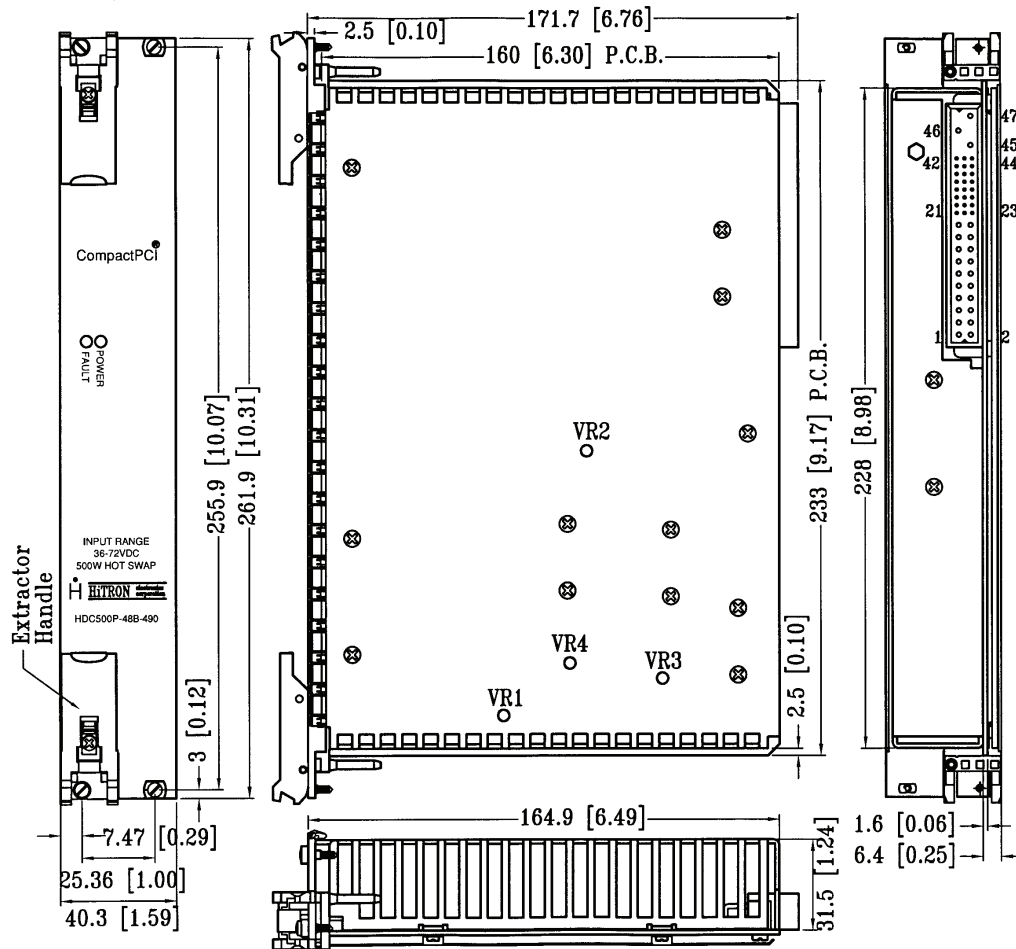
Remark: Peak load less than 60sec. with duty cycle <10%.

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.

Total max. power of VO1 and VO2 should be less than 350W.

### 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.