



# Total Power International, Inc.

## 18-36VDC/36-72VDC INPUT RANGE DC-DC CONVERTER HOT-SWAP CompactPCI QUAD OUTPUT 250 WATTS ACTIVE CURRENT SHARING SWITCHING POWER SUPPLIES TPDC250P-24B/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. 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.  $\pm 2.0\%$ .

**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. 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.

**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 16CFM(500LFM) moving air is required to achieve full rating power 250W in a confined area.

**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.



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.
TPDC250P-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
TPDC250P-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
TPDC250P-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.

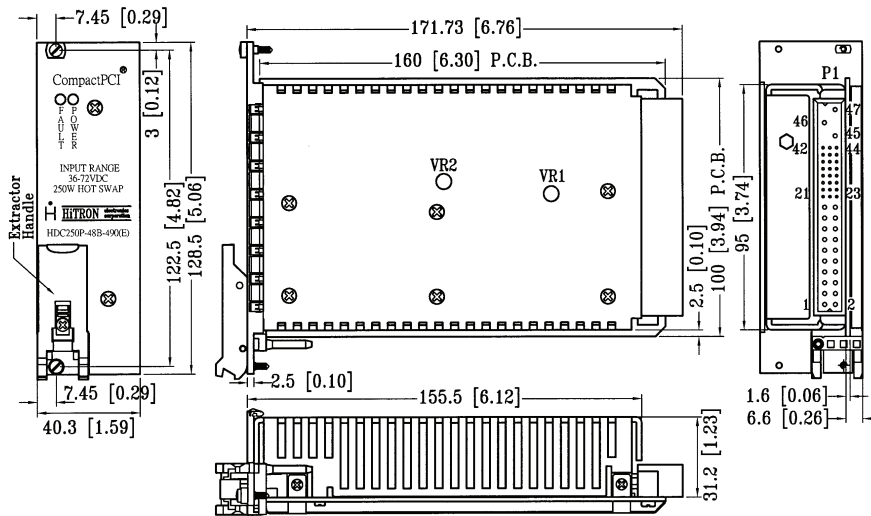
Remark: Peak load less than 60sec. with duty cycle <10%.

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.

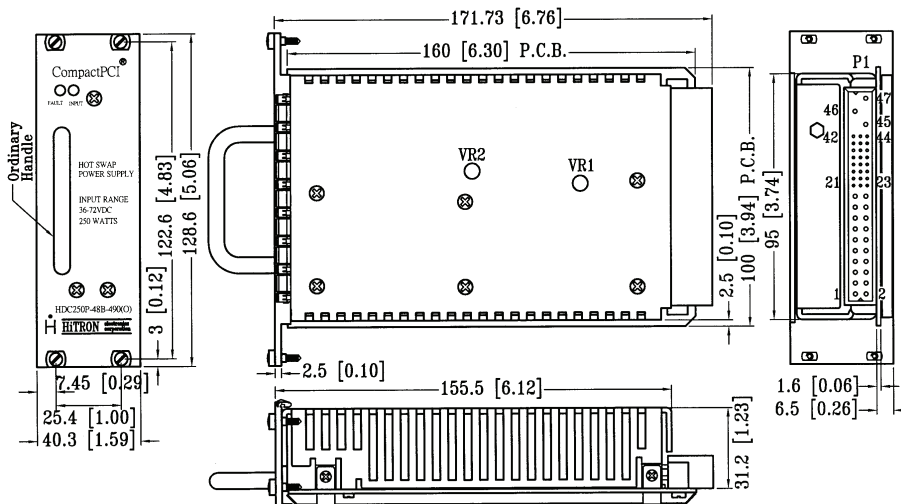
### MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: 666.0 g (23.5 Oz.)

TPDC250P-24B/48B-490(E)



TPDC250P-48B-490(O)



### 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 #	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.