# TOTAL POWER INT'L

## UNIVERSAL AC INPUT HARMONIC CORRECTION AC-DC HOT-SWAP CompactPCI QUAD OUTPUT 200 WATTS ACTIVE CURRENT SHARING SWITCHING POWER SUPPLIES TPAC200P SERIES



## FEATURES:

- **200W 3U X 8HP EUROCARD PACKAGE**
- **MEET IEC1000-3-2 HARMONIC CORRECTION**
- **INTERNAL OR-ING DIODES FOR N+1 REDUNDANCY**
- **HOT-SWAPPABLE**
- **THIRD-WIRE CURRENT SHARING**
- **EMI MEET EN 55022 / FCC CLASS A**
- **CE MARKING COMPLIANCE**
- **FULLY COMPLIANT WITH PICMG**

## SPECIFICATION

### INPUT SPECIFICATION

**Input Voltage:** Typ. 90-264Vac.
**Power Factor Correction:** Meet Harmonic Correction IEC1000-3-2.Power Factor typ. 0.96-0.98.
**Input Connector:** Positronic 47-pin PCIH47M400A1.
**Input Frequency:** 47-63Hz.
**Inrush Current:** Less than 30.6A @ 230Vac.
**Input Current:** 2.3A @115Vac/1.2A @230Vac.
**Dielectric Withstand:** Meet IEC950 regulation.
**EMI:** Meet EN55022 / FCC Class A.
**Hold-up Time:** 10mS after power fail signal.
**Turn-on Delay/Rise Time:** 1 Sec./20 mS.
**Earth Leakage:** Less than 0.5mA @230Vac.
**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 and thermostat. for thermal sensor at [DEG#] pin.
**Leakage Current:** Typ. 0.5A.
**Power OK Signal:** Available at all output.
**Over Current Protection (OCP):** Installed in each rail.

### OUTPUT SPECIFICATION

**Output Voltage:** See Ratings Chart.
**Output Current:** See Ratings Chart.
**Output Wattage:** Typ. 200W continuous.
**Output Connector:** Positronic 47-PIN PCIH47M400A1 connector.
**Line Regulation:** Typ. 0.1%.
**Load Regulation:** VO1 & VO2 typ. ±1.0%. VO3 & VO4 typ. ±2.0%.
**Noise & Ripple:** Typ. 1% peak to peak or 50mV, which 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.
**Overload Protection (OLP):** Fully protected against output overload or short circuit. Typ. set at 130% max. load. Consult the factory for special OLP setting.

### GENERAL SPECIFICATION

**Efficiency:** Typ. 76-79 %.
**Switching Frequency:** 130K Hz.
**Circuit Topology:** Forward circuit.
**Transient Response:** Peak transient less than 100mV and recovers within 3mS after 25% load-change.
**Safety Standard:** IEC60950 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. ±0.02% / °C.
**Cooling:** At least 20cfm (600 lfm) moving air is required to achieve full rating power 200W in a confined area.
**Power Density:** 3.73 Watts/ Cubic Inch.

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

In application

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# OUTPUT VOLTAGE/CURRENT RATINGS CHART

## QUAD OUTPUT

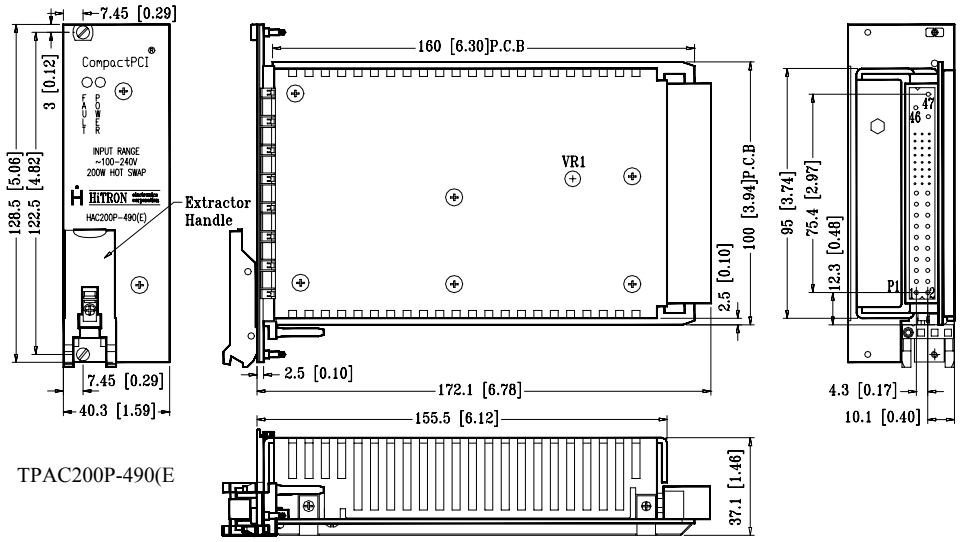
| MODEL NO. | MAIN +VO1 @★#≡⊙ | | | | AUX. +VO2 ▲@★#≡⊙ | | | AUX. +VO3 ▲≡#⊙@ | | | | AUX. –VO4 ●⊙■= | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Min. | Typ. | **Volt.** | Max. | Typ. | **Volt.** | Max. | Typ. | **Volt.** | Max. | Peak | Typ. | **Volt.** | Max. | Peak. |
| **TPAC200P-490(E)** | 2.0A | 25.0A | **+5V** | 33.0A | 10.0A | **+3.3V** | 33.0A | 3.0A | **+12V** | 5.0A | 6.0A | 0.5A | **-12V** | 1.0A | 1.0A |
| **TPAC200P-490(O)** | 2.0A | 25.0A | **+5V** | 33.0A | 10.0A | **+3.3V** | 33.0A | 3.0A | **+12V** | 5.0A | 6.0A | 0.5A | **-12V** | 1.0A | 1.0A |

**Symbol:** "★" OVP built-in. "@" Adjustable. "#" Remote sensing. "≡" 3rd- wire Load Sharing. "=" Droop Current Sharing.
"⊙" Installed with Or-ing diode. "▲" Magnetic Amplifier. "●" Installed with Post-regulator. "■" Common Choke.

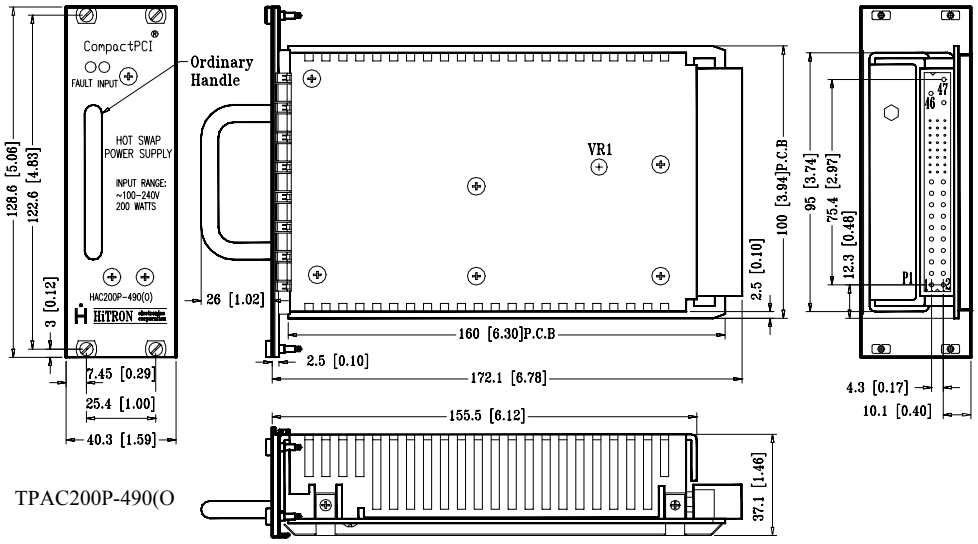
**Remark:** Peak load less than 60sec. with duty cycle <10%.
Max. load is the continuous operating load of each rail. But the max. load of each rail can't be drawn from all outputs at the same time.

## MECHANICAL DIMENSIONS: MM [INCHES]

**WEIGHT:** 666.0 g (23.5 Oz.)




TPAC200P-490(E




TPAC200P-490(O

## INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT

| | AC INPUT | | | QUAD OUTPUT | | | | | | | | | | | | | STATUS/CONTROL | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ASSIGNMENT** | **L** | **N** | **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.