Total Power International, Inc.

UNIVERSAL AC INPUT HARMONIC CORRECTION AC-DC HOT-SWAP CompactPCI QUAD OUTPUT 175 WATTS CURRENT SHARING SWITCHING POWER SUPPLIES TPAC175P & TPAC175D SERIES



FEATURES:

- **175W IN 3U X 8HP EUROCARD PACKAGE**
- **UNIVERSAL AC INPUT WITH PFC**
- **INTERNAL OR-ING DIODES FOR N+1 REDUNDANCY**
- **HOT-SWAPPABLE**
- **DROOP CURRENT SHARING**
- **EMI MEET EN 55022 / FCC CLASS A**
- **CE MARKING COMPLIANCE**
- **FULLY COMPLIANT WITH PICMG**

SPECIFICATION

INPUT SPECIFICATION

Input Voltage: Typ. 90-264Vac with PFC.
Power Factor Correction: Meet Harmonic Correction IEC 61000-3-2. Power Factor typ. 0.98.
Input Connector: PCIH47M400A1 for TPAC175P. DIN41612 M24/8 for TPAC175D.
Input Frequency: 47-63Hz.
Inrush Current: < 30A at 230Vac by adding thermistor.
Input Current:
2.2A at 115Vac/1.1A at 230Vac for TPAC175D.
2.4A at 115Vac/1.2A at 230Vac for TPAC175P.
Dielectric Withstand: Meet IEC 60950-1 regulation.
EMI: Meet EN 55022 / FCC Class A.
Hold-up Time: 5mS at 115V & 230Vac after power fail signal.
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: Installed NTC for thermal sensor at [DEG#] pin.
Earth Leakage Current: Less than 0.5mA at 230Vac.

OUTPUT SPECIFICATION

Output Voltage: See Ratings Chart.
Output Current: See Ratings Chart.
Output Wattage: Typ. 175W continuous.
Output Connector: PCIH47M400A1 for TPAC175P. DIN41612 M24/8 for TPAC175D.
Line Regulation: Typ. 0.5%.
Load Regulation: VO1 & VO2 typ. ±1.0%. VO3 & VO4 typ. ±2.0%.
Noise & Ripple: Typ. 1% peak-peak or 50mV, whichever is greater.
OVP: Built-in at VO1 & VO2.
Adjustability: Available at VO1 & VO2. VO3 factory set.
Remote Sensing: Available at VO1 & VO2.
Hot-Swap: Available.
N+1 Redundancy: Installed with OR-ing diodes for N+1 redundancy operation.
Current Sharing: Droop current sharing at all output.
Power OK Signal: Available for VO1 & VO2.
Over Current Protection (OCP): Installed in all outputs.
Overload Protection (OLP):
Fully protected against output overload and short circuit. Consult factory for special OLP setting.

GENERAL SPECIFICATION

Efficiency: Typical 75%.
Switching Frequency: 100 KHz.
Circuit Topology: Half-bridge circuit.
Transient Response: Typ. 1.0mS for a 25% load change.
Safety Standard: IEC 60950-1/UL 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°C to +85°C.
Temperature Coefficient: Typ. ±0.02% /°C.
Cooling: At least 20CFM(600LFM) airflow is required to deliver full rating load.
Power Density: 3.2 Watts /Cubic Inch.

NOTE: (1) All measurement are at nominal input, full load and +25℃ 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.	Typ.	**Volt.**	Max.	Typ.	**Volt.**	Max.	Peak	Typ.	**Volt.**	Max.	Peak
TPAC175P-490(E)	2A	20A	**+5V**	35A	10A	**+3.3V**	20A	3.0A	**+12V #**	5.0A	6A	0.5A	**-12V**	1.0A	1.0A
TPAC175P-490(O)	2A	20A	**+5V**	35A	10A	**+3.3V**	20A	3.0A	**+12V #**	5.0A	6A	0.5A	**-12V**	1.0A	1.0A
TPAC175D-490(O)	2A	20A	**+5V**	35A	10A	**+3.3V**	20A	3.0A	**+12V**	5.0A	6A	0.5A	**-12V**	1.0A	1.0A

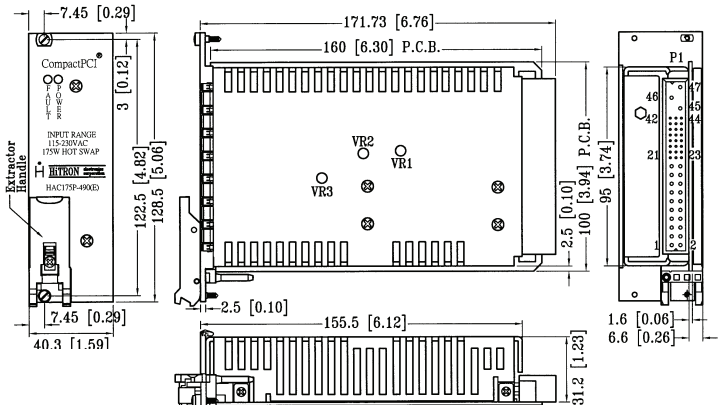
Symbol: "★" OVP built-in. "@" Adjustable. "(@)" Adjustable factory set.. "#" Remote sensing. "=" Droop Load Sharing. "⊙" Installed with Or-ing diode.
"▲" Magnetic Amplifier. "●" Installed with Post Regulator.

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.

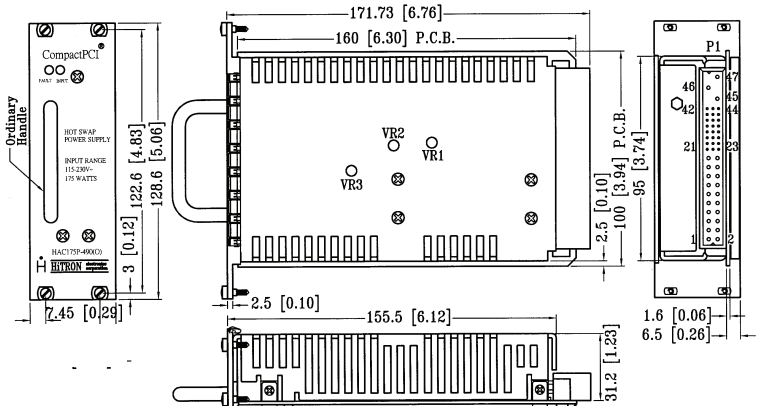
MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: 666.0g (23.5 Oz.)

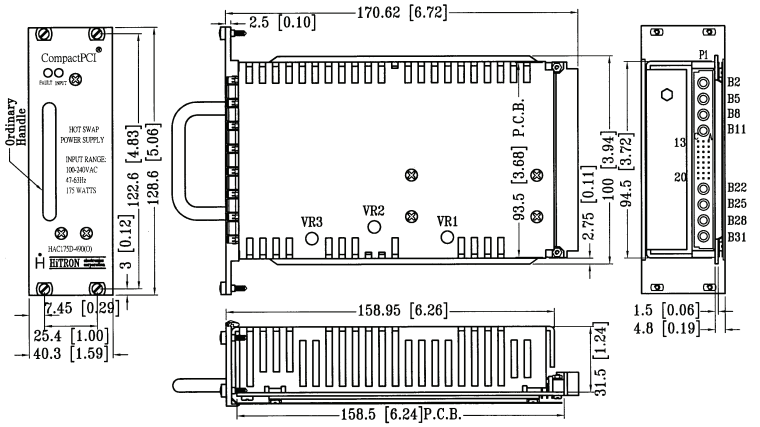
TPAC175P-490(E)



TPAC175P-490(O)



TPAC175D-490(O)



INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT

ASSIGNMENT	PIN NO.
AC-L	47
AC-N	46
AC-GND	45
VO1	1,2,3,4.
VO1 S +	30
VO1 S -	34
VO2	13, 14, 15, 16, 17, 18.
VO2 S+	33
VO3	20
VO3 S+	36
VO4	21
DC COM	5, 6, 7, 8, 9, 10, 11, 12, 19 ,24.
EN#	27
DEG #	38
INH #	39
FAL #	42

Mating connector: PCIH47F400A1

INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT

ASSIGNMENT	PIN NO.
AC-L	B2
AC-N	B5
AC-GND	B11
VO1	B22
VO1 S +	A17
VO1 S -	A16
VO2	B13,14,15,16, 17,18.
VO2 S+	A18
VO3	B19
VO4	B20
DC COM	B25
EN#	C13
DEG #	C14
INH #	A14
FAL #	C15

Mating connector: DIN 41612 M24/8-F