

HiTRON

UNIVERSAL AC INPUT HARMONIC CORRECTION AC-DC HOT-SWAP CompactPCI QUAD OUTPUT 175 WATTS CURRENT SHARING SWITCHING POWER SUPPLIES HAC175P & HAC175D 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 HAC175P.
 DIN41612 M24/8 for HAC175D.
Input Frequency: 47-63Hz.
Inrush Current: < 30A at 230Vac by adding thermistor.
Input Current:
 2.2A at 115Vac/1.1A at 230Vac for HAC175D.
 2.4A at 115Vac/1.2A at 230Vac for HAC175P.
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 HAC175P.
 DIN41612 M24/8 for HAC175D.
Line Regulation: Typ. 0.5%.
Load Regulation: VO1 & VO2 typ. $\pm 1.0\%$.
 VO3 & VO4 typ. $\pm 2.0\%$.
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. $\pm 0.02\%/^{\circ}\text{C}$.
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°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.

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
HAC175P-490(E)	2A	20A	+5V	35A	10A	+3.3V	20A	3.0A	+12V #	5.0A	6A	0.5A	-12V	1.0A	1.0A
HAC175P-490(O)	2A	20A	+5V	35A	10A	+3.3V	20A	3.0A	+12V #	5.0A	6A	0.5A	-12V	1.0A	1.0A
HAC175D-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.

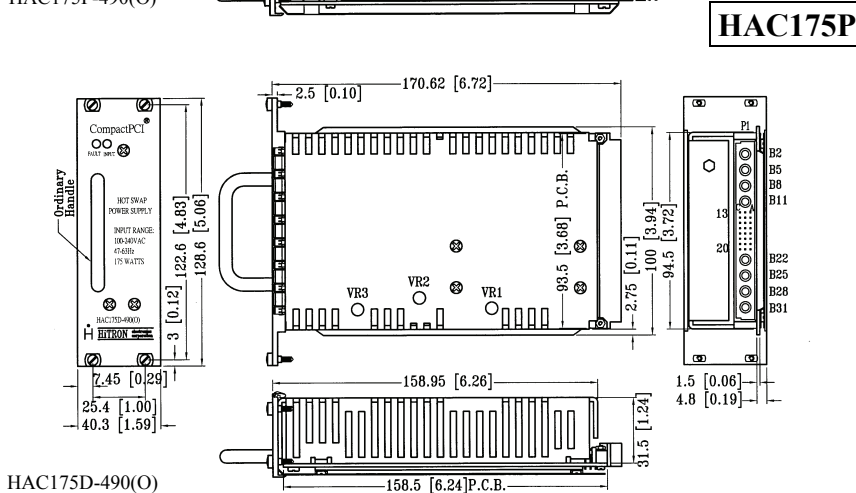
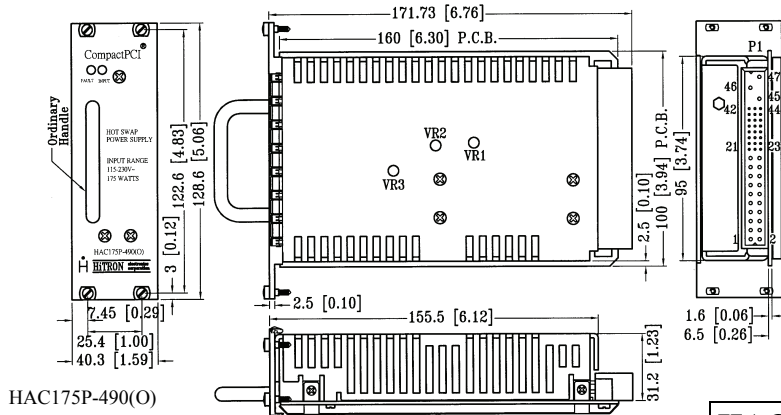
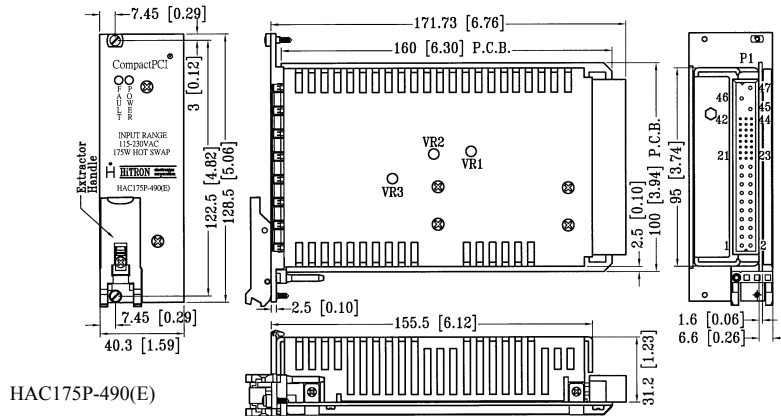
"▲" Magnetic Amplifier. "●" Installed with Post Regulator.

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.)



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