

# HiTRON

## UNIVERSAL INPUT HARMONIC CORRECTION AC-DC OPEN FRAME AND ACTIVE CURRENT SHARING MULTI-OUTPUT 200 WATTS INTERNAL SWITCHING POWER SUPPLIES HVP200 SERIES



### FEATURES:

- ACCOMMODATE UNIVERSAL AC SOURCES
- MEET IEC 61000-3-2 HARMONIC CORRECTION
- THIRD-WIRE LOADING SHARING
- MEET UNIVERSAL SAFETY STANDARDS
- EMI MEET CISPR PUB.22 CLASS B
- +5V STAND-BY GREEN POWER
- CE MARKING COMPLIANCE

### SPECIFICATION

#### INPUT SPECIFICATION

**Input Voltage:** Typ. 90-264Vac with PFC.  
**Input Connector:** Molex #5273 V-M connector.  
**Input Frequency:** 47-63Hz.  
**Inrush Current:** Typ. 33A @230Vac.  
**Input Current:** 2.25A @115Vac, 1.0 A@230Vac.  
**Dielectric Withstand:** Meet IEC 60950-1.  
**EMI:** Meet CISPR PUB.22 Class B.  
**Hold-up Time:** 18mS @115Vac & 230Vac.  
**Power Fail Signal:** Installed.  
**DC OK Signal:** Installed in VO1 & VO2.  
**Power Factor Correction:** Meet Harmonic Correction per IEC 61000-3-2 PF typ. 0.97-0.99.  
**Remote Inhibit:** Installed. Enable active high.  
**Over Temperature Protection:** Thermostat @ 95°C.  
**Earth Leakage:** Less than 0.75mA.

#### OUTPUT SPECIFICATION

**Output Voltage:** See Ratings Chart.  
**Output Current:** See Ratings Chart.  
**Output Connector:** Molex #5273 V-M connector.  
**Output Wattage:** Convection 150 watts.  
With 30 cfm forced air 200W.  
**Line Regulation:** Typ. 0.1%.  
**Load Regulation:** Main O/P VO1: Typ.  $\pm 1.0\%$ .  
Aux. O/P VO2: Typ.  $\pm 1.0\%$ . (Magnetic Amp).  
Aux. O/P VO3,4,5: Typ.  $\pm 2-3.0\%$ . (P.R.).  
**Stand-By Green Power:** +5V/50mA available.  
**Noise & Ripple:** Typ. 1.0% peak to peak.  
**OVP:** Available at VO1 & VO2.  
**Remote Sense:** Installed in VO1 & VO2.  
**Adjustability:** Available at VO1 & VO2.  
**Load Sharing:** Active current sharing circuit at VO1.  
**Overload Protection (OLP):** Fully protected against output overload and short circuit.  
Consult the factory for OLP setting.

#### GENERAL SPECIFICATION

**Efficiency:** Typ. 65-70%.  
**Switching Frequency:** Fixed frequency at 70K Hz.  
**Circuit Topology:** PWM fixed-frequency forward circuit.  
**Transient Response:** Output voltage returns in less than 3mS following a 25% load change.  
**Safety Standard:** UL 60950-1/EN 60950-1 Class I.  
**Power Density:** 3.0 Watts / Cubic Inch.

**Operating Temperature:** 0 to +50°C under forced air flow for full load.  
**Storage Temperature:** -20 to +85°C.  
**Temperature Coefficient:** Typ.  $\pm 0.04\%/^{\circ}\text{C}$ .  
**Cooling:** 30 cfm air flow is required to deliver the full power 200W.  
**Construction:** U-bracket construction format.

Note: 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

## DUAL OUTPUT (Under forced air cooling)

| MODEL NO.   | MAIN VO1 @★#≡ |       | AUX. +VO2 @★#▲ |        |
|-------------|---------------|-------|----------------|--------|
|             | Typ.          | Volt. | Typ.           | Volt.  |
| HVP200-20   | 25.0A         | +5.0V | 10.0A          | +5.0V  |
| HVP200-21   | 25.0A         | +5.0V | 5.0A           | +12.0V |
| HVP200-22   | 25.0A         | +5.0V | 4.0A           | +15.0V |
| HVP200-23   | 25.0A         | +5.0V | 2.5A           | +24.0V |
| HVP200-290A | 25.0A         | +5.0V | 15.0A          | +3.3V  |
| HVP200-290B | 30.0A         | +3.3V | 15.0A          | +5.0V  |
| HVP200-291  | 30.0A         | +3.3V | 5.0A           | +12.0V |
| HVP200-292  | 30.0A         | +3.3V | 4.0A           | +15.0V |
| HVP200-293  | 30.0A         | +3.3V | 2.5A           | +24.0V |

## TRIPLE OUTPUT (Under forced air cooling)

| MODEL NO. | MAIN VO1 @★#≡ |       | AUX. VO2 @★#▲ |        | AUX. VO3 ◇■● |       |
|-----------|---------------|-------|---------------|--------|--------------|-------|
|           | Typ.          | Volt. | Typ.          | Volt.  | Typ.         | Volt. |
| HVP200-30 | 25.0A         | +5.0V | 4.0A          | +12.0V | 1.0A         | 12.0V |
| HVP200-31 | 25.0A         | +5.0V | 4.0A          | +12.0V | 2.0A         | 5.0V  |
| HVP200-32 | 25.0A         | +5.0V | 10.0A         | +3.3V  | 1.0A         | 12.0V |
| HVP200-33 | 25.0A         | +5.0V | 10.0A         | +3.3V  | 1.0A         | 15.0V |

## QUAD OUTPUT (Under forced air cooling)

| MODEL NO.   | MAIN VO1 @★#≡ |       | AUX. VO2 @★#▲ |        | AUX. VO3 ◇■● |       | AUX. VO4 ◇■● |       |
|-------------|---------------|-------|---------------|--------|--------------|-------|--------------|-------|
|             | Typ.          | Volt. | Typ.          | Volt.  | Typ.         | Volt. | Typ.         | Volt. |
| HVP200-40   | 20.0A         | +5.0V | 4.0A          | +12.0V | 3.0A         | 12.0V | 3.0A         | 12.0V |
| HVP200-41   | 20.0A         | +5.0V | 4.0A          | +12.0V | 3.0A         | 5.0V  | 3.0A         | 5.0V  |
| HVP200-42   | 20.0A         | +5.0V | 2.0A          | +24.0V | 3.0A         | 12.0V | 3.0A         | 12.0V |
| HVP200-43   | 20.0A         | +5.0V | 3.5A          | +15.0V | 3.0A         | 12.0V | 3.0A         | 12.0V |
| HVP200-490A | 20.0A         | +5.0V | 15.0A         | +3.3V  | 3.0A         | 12.0V | 3.0A         | 12.0V |
| HVP200-490B | 20.0A         | +3.3V | 15.0A         | +5.0V  | 3.0A         | 12.0V | 3.0A         | 5.0V  |
| HVP200-491A | 20.0A         | +5.0V | 15.0A         | +3.3V  | 2.5A         | 15.0V | 2.5A         | 15.0V |
| HVP200-491B | 20.0A         | +3.3V | 15.0A         | +5.0V  | 2.5A         | 15.0V | 2.5A         | 15.0V |

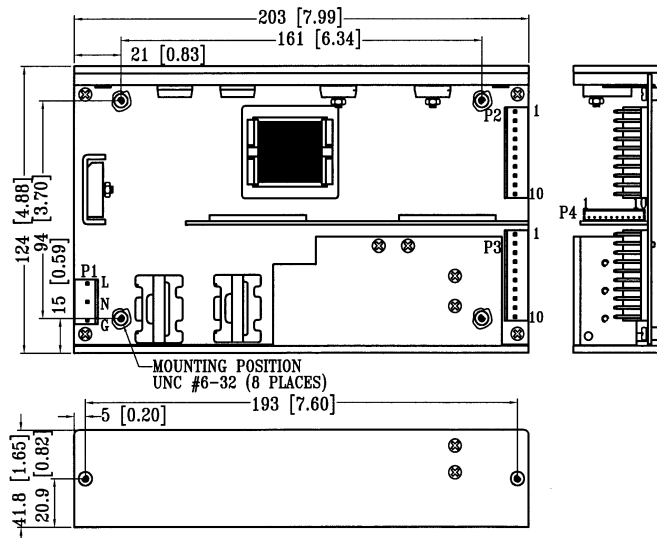
## PENTAD OUTPUT (Under forced air cooling)

| MODEL NO.  | MAIN VO1 @★#≡ |       | AUX. VO2 @★#▲ |        | AUX. VO3 ◇■● |       | AUX. VO4 ◇■● |       | AUX. VO5 ■● |        |
|------------|---------------|-------|---------------|--------|--------------|-------|--------------|-------|-------------|--------|
|            | Typ.          | Volt. | Typ.          | Volt.  | Typ.         | Volt. | Typ.         | Volt. | Typ.        | Volt.  |
| HVP200-590 | 20.0A         | +3.3V | 12.0A         | +5.0V  | 1.0A         | 12.0V | 1.0A         | 12.0V | 1.0A        | +15.0V |
| HVP200-591 | 20.0A         | +3.3V | 5.0A          | +12.0V | 1.0A         | 12.0V | 1.0A         | 12.0V | 2.0A        | +5.0V  |
| HVP200-592 | 20.0A         | +3.3V | 12.0A         | +5.0V  | 1.0A         | 15.0V | 1.0A         | 15.0V | 1.0A        | +12.0V |
| HVP200-593 | 8.0A          | +3.3V | 5.0A          | +12.0V | 3.0A         | 12.0V | 3.0A         | 12.0V | 2.0A        | +5.0V  |

Symbol: "★" OVP built-in. "@" Adjustable. "■" Couple filter inductor. "#" Remote sensing. "◇" Floating (or isolated) output.  
 "●" Installed with Post Regulator (P.R.). "▲" Installed with magnetic amplifier. "≡" Active current sharing.

## MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: 1,164.0g (41.0 Oz.)



## INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT

| ASSIGNMENT  | AC INPUT |      |      | DUAL/TRIPLE/QUAD/PENTAD OUTPUT |             |            |        |        |          |        |        | ASSORTED SIGNALS |        |            |       |          |        |        |       |        |        |
|-------------|----------|------|------|--------------------------------|-------------|------------|--------|--------|----------|--------|--------|------------------|--------|------------|-------|----------|--------|--------|-------|--------|--------|
|             | AC-L     | AC-N | AC-G | +VO1                           | DC-COM      | VO2        | VO5    | VO3    | VO4      | -VO3   | -VO4   | DC-COM           | Enable | Power Fail | DC-OK | +5V S.B. | VO1 +S | VO1 -S | VO1 ≡ | VO2 +S | VO2 -S |
| CNTR & PIN# | P1-L     | P1-N | P1-G | P2-1, 2,3                      | P2-4, 5,6,7 | P2-8, 9,10 | P3-1,2 | P3-3,4 | P3-9, 10 | P3-5,6 | P3-7,8 | P4-5             | P4-3   | P4-1       | P4-2  | P4-4     | P4-7   | P4-8   | P4-6  | P4-10  | P4-9   |

Mating connector: P1,2,3 Molex # 5195 or 5239 series.  
 P4 Molex # 5264 series or equivalent.