

# HiTRON

## UNIVERSAL INPUT AC-DC OPEN FRAME SINGLE & MULTI-OUTPUT 40-50 WATTS INTERNAL SWITCHING POWER SUPPLIES HVI48 SERIES



### FEATURES:

- ACCOMMODATE UNIVERSAL AC SOURCES
- SMALL, COMPACT PCB OR BOX FORMAT
- MEET UNIVERSAL SAFETY STANDARDS
- EMI MEET CISPR PUB. 22 & FCC CLASS B
- CE MARKING COMPLIANCE

### SPECIFICATION

#### INPUT SPECIFICATION

**Input Voltage:** Range 90-264Vac.

Rating 100 to 240Vac.

**Input Connector:** PCB Format Molex 5273(vertical).

**Box Format** IEC320 AC inlet receptacle  
with on/off switch.

**Input Frequency:** 47-63Hz.

**Inrush Current:**  $\leq 30.6A$  peak @230Vac.

**Input Current:** Typ. 1.32A @115Vac, 0.65A @230Vac.

**Dielectric Withstand:** Meet IEC 60950-1.

**EMI:** Meet CISPR PUB. 22 & FCC Class B.

**Hold-up Time:** Typ. 10mS @115Vac, 50mS @230Vac.

**Earth Leakage:** Less than 0.3mA @230Vac.

#### OUTPUT SPECIFICATION

**Output Voltage:** See Ratings Chart.

**Output Current:** See Ratings Chart.

**Output Connector:** PCB Format Molex 5273(vertical).

**Box Format** Optional for output cord.

**Output Wattage:** With fan cooling typ. 50 Watts.

Without fan cooling 40 Watts.

**Line Regulation:** Typ. 0.1%.

**Load Regulation:** Main VO1 typ.  $\pm 1.0\%$ .

Aux. VO2 typ.  $\pm 2-5\%$  (stacked).

VO3 typ.  $\pm 1-3\%$  (P.R.).

VO4 typ.  $\pm 5-8\%$  (semi-regulated).

**Noise & Ripple:** Typ. 1.0% peak to peak.

**OVP:** Built-in at main VO1.

**Adjustability:** Available at main VO1.

**Remote Sense:** Option for VO1.

**Overload Protection (OLP):**

Fully protected against output overload and short circuit.

OLP set at about 125-150% rating output wattage.

Consult the factory for OLP setting.

#### GENERAL SPECIFICATION

**Efficiency:** Typ. 75%.

**Switching Frequency:** Fixed frequency 38K Hz.

**Circuit Topology:** Fixed frequency flyback 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:** 2.7 Watts / Cubic Inch (PCB Format).

**Operating Temperature:** 0 to +50°C.

**Storage Temperature:** -20 to +85°C.

**Temperature Coefficient:** Typ. 0.03%/°C.

**Cooling:** Free air convection for 40W.  
20cfm fan cooling for 50W.

**Construction:** Open frame PCB format or  
enclosure metal box 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

## SINGLE OUTPUT

MODEL NO.	MAIN VO1 @★		
	Typ.	Volt.	Fan
HVI48-S033080	8.0A	3.3V	10.0A
HVI48-10	7.0A	5.0V	9.0A
HVI48-10B	6.0A	5.0V	8.0A
HVI48-11	3.3A	12.0V	4.0A
HVI48-12	2.7A	15.0V	3.4A
HVI48-13	1.8A	24.0V	2.1A
HVI48-S480010	1.0A	48.0V	1.2A

## DUAL OUTPUT

MODEL NO.	MAIN VO1 @★			AUX.+VO2 †or-VO3•		
	Typ.	Volt.	Fan	Typ.	Volt.	Fan
HVI48-20	6.0A	+5V	7.0A	0.5A	-5V	1.0A
HVI48-21	4.0A	+5V	5.0A	1.5A	+12V	1.7A
HVI48-22	4.0A	+5V	5.0A	1.2A	+15V	1.3A
HVI48-23	4.0A	+5V	5.0A	0.8A	+24V	0.9A

## TRIPLE OUTPUT

MODEL NO.	MAIN VO1@★			AUX. VO2 †			AUX. VO3 •		
	Typ.	Volt.	Fan	Typ.	Volt.	Fan	Typ.	Volt.	Fan
HVI48-30	3.5A	+5V	4.0A	1.5A	+12V	2.0A	0.4A	-12V	0.4A
HVI48-31	3.5A	+5V	4.0A	1.5A	+12V	2.0A	0.5A	-5V	0.4A
HVI48-32	3.5A	+5V	4.0A	0.8A	+24V	1.0A	0.4A	-12V	0.4A
HVI48-33	3.5A	+5V	4.0A	1.2A	+15V	1.4A	0.4A	-15V	0.4A

## QUAD OUTPUT

MODEL NO.	MAIN VO1@★		AUX. VO2 †		AUX. VO3		AUX. VO4	
	Typ.	Volt.	Typ.	Volt.	Typ.	Volt.	Typ.	Volt.
HVI48-49	2.2A	3.3V	0.8A	5.1V	1.2A	-23V	0.13A	-57V
HVI48-Q033EMS	2.2A	3.3V	0.8A	5.0V	1.2A	-24V	0.13A	-72V
HVI48-Q033EMQ	2.5A	3.3V	0.8A	5.0V	1.2A	-24V	0.15A	-48V

Symbol: "★" OVP built-in. "@" Adjustable. "†" Stacked on main O/P. "•" Installed with Post Regulator (P.R.).

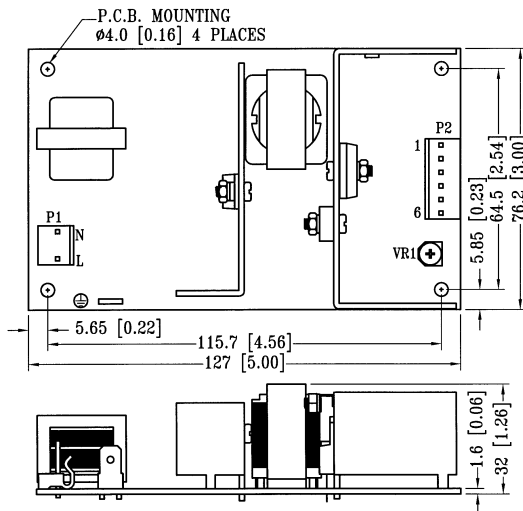
Remark:(1) At least 20% of typical main output current is required to maintain stated regulation.

(2) FAN: Installed with 20 CFM FAN cooling.

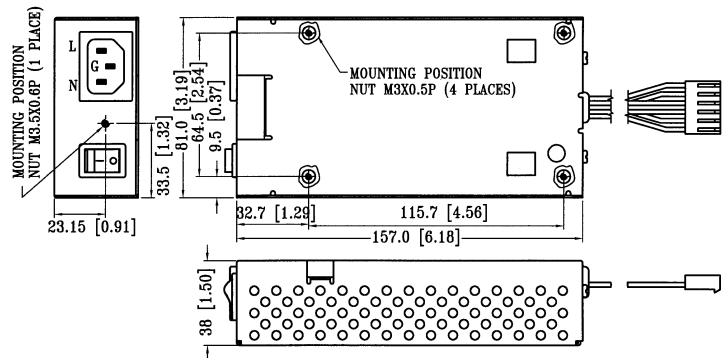
## MECHANICAL DIMENSIONS: MM [INCHES]

**WEIGHT: PCB 262.0g (9.24 Oz.)**

**BOX 616.0g (21.7 Oz.)**



**PCB FORMAT**



**BOX FORMAT**

## INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT FOR PCB VERSION

ASSIGNMENT	AC INPUT			SINGLE O/P		DUAL O/P			TRIPLE O/P			
	AC-LINE	AC-NEUTRAL	AC-GROUND	+VO1	DC COM	+VO1	VO2	DC COM	+VO1	VO2	-VO3	DC COM
CONNECTOR & PIN #	P1-L	P1-N	FASTON	P2-1,2,3	P2-4,5,6	P2-2,3	P2-1	P2-4,5,6	P2-2,3,	P2-1	P2-6	P2-4,5

Mating connector: Molex 5195 or 5239 series.