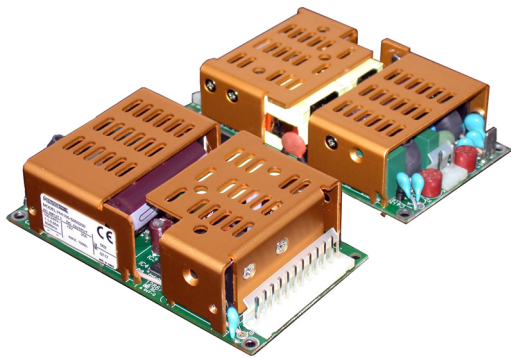


## **UNIVERSAL INPUT AC-DC MEDICAL APPLICATION OPEN FRAME SINGLE & MULTI-OUTPUT 100 WATTS INTERNAL SWITCHING POWER SUPPLIES HMI100 SERIES**



### **FEATURES:**

- ACCOMMODATE UNIVERSAL AC SOURCES
- COMPACT 4.5"x 2.5"x1.2" PCB FORMAT
- MEET MEDICAL STANDARD EN 60601-1/  
UL 2601-1
- EMI MEET EN 55011 & FCC CLASS B
- CE MARKING COMPLIANCE

### **SPECIFICATION**

#### **INPUT SPECIFICATION**

**Input Voltage:** 90-264Vac.  
**Input Connector:** V-M connector.  
**Input Frequency:** 47-63Hz.  
**Inrush Current:** Typ. 9.68Arms @230Vac.  
**Input Current:** Typ. 1.8A@115Vac, 0.9A @230Vac.  
**Dielectric Withstand:** Meet IEC 60601-1.  
**EMI:** Meet EN55011 & CISPR Class B.  
**Hold-up Time:** Typ. 12.8mS @115Vac, 76mS @ 230Vac.  
**Earth Leakage:** Less than 0.189mA @230Vac.

#### **OUTPUT SPECIFICATION**

**Output Voltage:** See Ratings Chart.  
**Output Current:** See Ratings Chart.  
**Output Connector:** V-M connector.  
**Output Wattage:** Typ. 100 watts.  
**Line Regulation:** Typ.  $\pm 0.5\%$ .  
**Load Regulation:** Main VO1 typ  $\pm 1\%$ .  
                           Aux. VO2 typ.  $\pm 1\%$ .  
                           Aux. VO3 typ.  $\pm 5\%$ .  
                           Aux. VO4 typ.  $\pm 5\%$ .  
**Noise & Ripple:** Typ. 1.0% peak to peak.  
**OVP:** Built-in at main output (Latch).  
**Adjustability:** Available at VO1 and VO2.  
**Overload Protection (OLP):**  
 Fully protected against outputs overload and short circuit.  
 Typ. OLP set at 110-150% of rating output power.  
 Consult the factory for OLP setting.

#### **GENERAL SPECIFICATION**

**Efficiency:** Typ. 74-80%(Various with output voltage).  
**Switching Frequency:** 68 KHz.  
**Circuit Topology:** Single-Forward circuit.  
                           Multiple-Fixed freq. flyback circuit.  
**Transient Response:** Output voltage returns in less than  
 14-44mS following a 25% load change.  
**Safety Standard:** Meet Medical standards UL 60601-1/  
 EN 60601-1 Class I.

**Operating Temperature:** 0 to +50 °C under forced air flow  
 for full load.(Various with output voltage).  
**Storage Temperature:** -20 to +85°C.  
**Temperature Coefficient:** Typ. 0.05%/°C.  
**Cooling:** Recommended 24CFM cooling fan for  
 full rating load.  
**Power Density:** 7.4 Watts / Cubic Inch.  
**Construction:** 4.5"x2.5"x1.2" PCB format.

Note: Due to requests in market and advances in technology, specifications subject to change without notification.

# OUTPUT VOLTAGE/CURRENT RATINGS CHART

2007/07/27

## SINGLE OUTPUT (under 20CFM or 800LFM)

MODEL NO.	MAIN +VO1 ★@	
	Typ.	Volt.
HMI100-S033160	16.0A	+3.3 V
HMI100-S050200	20.0A	+5.0 V
HMI100-S070143	14.3A	+7.0 V
HMI100-S090111	11.1A	+9.0 V
HMI100-S120075	7.5A	+12.0 V
HMI100-S150060	6.0A	+15.0 V
HMI100-S180050	5.0A	+18.0 V
HMI100-S240041	4.1A	+24.0 V
HMI100-S330030	3.0A	+33.0 V
HMI100-S480021	2.1A	+48.0 V

## DUAL OUTPUT (under 20CFM or 800LFM)

MODEL NO.	MAIN +VO1 ★@		AUX. +VO2@	
	Typ.	Volt.	Typ.	Volt.
HMI100-D050I	12.0A	+ 5.0V	3.0A	+12.0V
HMI100-D050K	12.0A	+5.0V	3.0A	+15.0V

Symbol: "★" OVP built-in "@" Adjustable

## TRIPLE OUTPUT (under 20CFM or 800LFM)

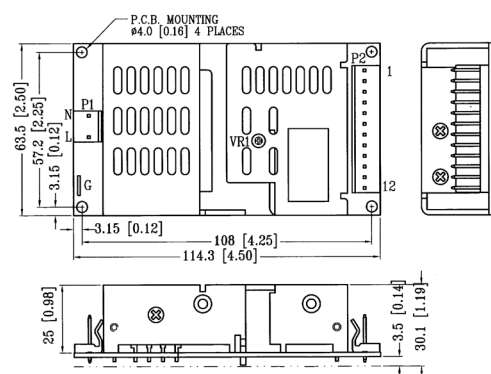
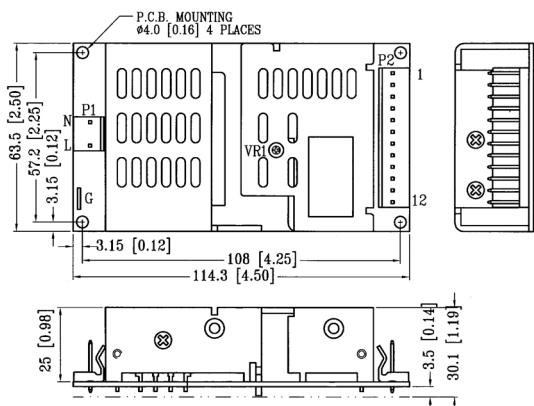
MODEL NO.	MAIN +VO1 ★@		AUX. +VO2@		AUX. +/-VO3	
	Typ.	Volt.	Typ.	Volt.	Typ.	Volt.
HMI100-T033EI	8.0A	+3.3V	7.0A	+5.0 V	0.8A	+12.0 V
HMI100-T050DI	8.0A	+5.0V	6.0A	+3.3 V	0.8A	+12.0 V
HMI100-T050II	10.0A	+5.0V	3.0A	+12.0 V	0.8A	-12.0 V
HMI100-T050IE	10.0A	+5.0V	3.0A	+12.0 V	0.8A	-5.0 V
HMI100-T050KK	10.0A	+5.0V	2.5A	+15.0 V	0.8A	-15.0 V
HMI100-T050KE	10.0A	+5.0V	3.0A	+15.0 V	0.8A	- 5.0 V
HMI100-T050MI	10.0A	+5.0V	1.5A	+24.0 V	0.8A	-12.0 V

## QUAD OUTPUT (under 20CFM or 800LFM)

MODEL NO.	MAIN +VO1 ★@		AUX. +VO2@		AUX. VO3		AUX. +VO4	
	Typ.	Volt.	Typ.	Volt.	Typ.	Volt.	Typ.	Volt.
HMI100-Q033EII	7.0A	+3.3V	8.0A	+5.0 V	0.5A	+12.0V	0.5A	-12.0 V
HMI100-Q050DII	8.0A	+5.0V	7.0A	+3.3 V	0.5A	+12.0V	0.5A	-12.0 V
HMI100-Q050IIE	10.0A	+5.0V	3.0A	+12.0 V	0.8A	-12.0V	0.5A	-5.0 V
HMI100-Q050KKE	10.0A	+5.0V	3.0A	+15.0 V	0.8A	-15.0V	0.5A	-5.0 V
HMI100-Q050MII	10.0A	+5.0V	1.5A	+24.0 V	0.8A	+12.0V	0.5A	-12.0 V
HMI100-Q050MKK	10.0A	+5.0V	1.5A	+24.0 V	0.8A	+15.0V	0.5A	-15.0 V

## MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: 240g (8.11 Oz.)



## INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT

ASSIGNMENT	AC INPUT			SINGLE		DUAL			TRIPLE				QUAD				
	AC-L	AC-N	AC-G	VO1	DC COM	VO1	VO2	DC COM	VO1	VO2	VO3	DC COM	VO1	VO2	VO3	VO4	DC COM
CNTR/PIN#	P1-L	P1-N	G	P2-1,2 P2-3,4	P2-5,6 P2-7,8	P2-1,2 P2-3,4	P2-9,10	P2-5,6 P2-7,8	P2-1,2 P2-3,4	P2-9,10	P2-12	P2-5,6 P2-7,8	P2-1,2 P2-3,4	P2-9,10	P2-11	P2-12	P2-5,6 P2-7,8

Mating connector: P1,2 Molex # 5195 or 5239 series.