

# JASPER ELECTRONICS

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## **UNIVERSAL INPUT AC-DC MEDICAL APPLICATION INTERNAL OPEN FRAME SWITCHING POWER SUPPLIES 40-42 WATTS SINGLE OUTPUT HMI43 SERIES**



### **FEATURES:**

- ACCOMMODATE UNIVERSAL AC INPUT
- COMPACT 4"x2"x1" PCB FORMAT
- MEET MEDICAL STANDARD IEC60601-1
- EMI MEET EN 55011 / FCC CLASS B
- CE MARKING COMPLIANCE

### **SPECIFICATION**

#### **INPUT SPECIFICATION**

**Input Voltage:** Range typical 90-264Vac.  
Rating 100 to 240Vac.  
**Input Connector:** Molex connector or equivalent.  
**Input Frequency:** 47-63Hz.  
**Inrush Current:**  $\leq 12A$  rms cold start at 230Vac.  
**Input Current:** Typical 0.7A at 115Vac, 0.35A at 230Vac.  
**Dielectric Withstand:** Meet IEC 60601-1.  
**EMI:** Meet EN55011 / FCC Class B.  
**Hold-up Time:** Typical 20mS at 115Vac,  
Typical 100mS at 230Vac.  
**Leakage Current:** Less than 0.1mA at 230Vac.

#### **OUTPUT SPECIFICATION**

**Output Voltage:** See Ratings Chart.  
**Output Current:** See Ratings Chart.  
**Output Connector:** Molex connector or equivalent  
**Output Wattage:** Typical 40-42 Watts.  
**Line Regulation:** Typical 0.2%.  
**Load Regulation:** Typical  $\pm 2-3\%$ .  
**Noise & Ripple:** Typical 1.0% peak to peak.  
**OVP:** Built-in at main output (Latch).  
**Adjustability:** Factory set.  
**Overload Protection (OLP):**  
Fully protected against outputs overload and short circuit.  
Typical OLP set at 105-120% of rating output power.  
Consult the factory for OLP setting.

#### **GENERAL SPECIFICATION**

**Efficiency:** Typical 85-90% (various with output voltage).  
**Switching Frequency:** 85 KHz.  
**Circuit Topology:** Fixed frequency flyback circuit.  
**Transient Response:** Output voltage returns in less than  
0.5mS following a 50% load change.  
**Safety Standard:** Meet Medical standards UL 60601-1/  
EN 60601-1 Class I.  
**Power Density:** 5-5.25Watts / Cubic Inch.  
**Operating Temperature:** 0 to +50 °C under forced air flow  
for full load. Derate by 1.3W/ °C  
from 40°C to 50 °C.  
**Storage Temperature:** -20 to +85°C.  
**Cooling:** At least 5 CFM(100LFM) direct forward air flow is  
required to achieve full rating power.  
**Construction:** 4 x2 x1 inch PCB format.

NOTE: (1) All measurements are at nominal input, full load, and +25°C unless otherwise specified.

(2) Due to requests in market and advances in technology, specifications subject to change without notification.



**OUTPUT VOLTAGE / CURRENT RATINGS CHART**

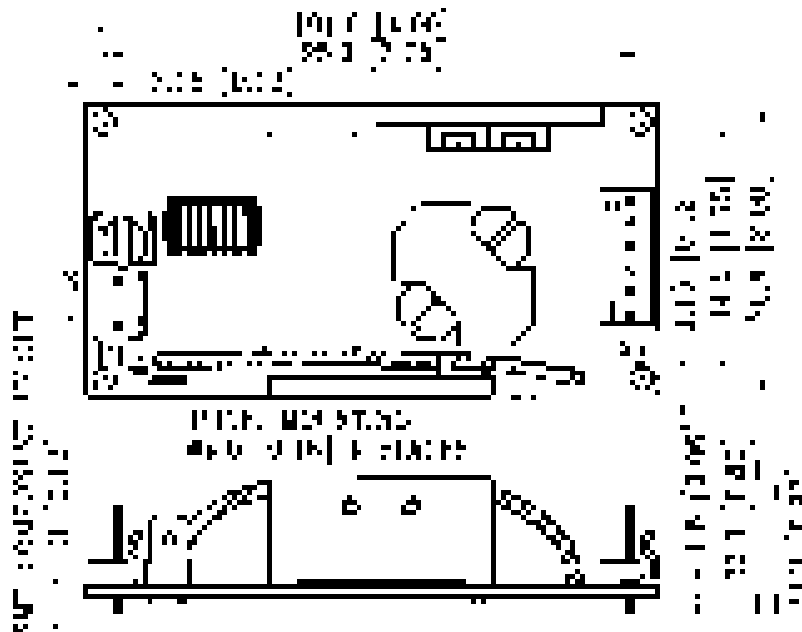
**SINGLE OUTPUT**

MODEL NO.	MAIN OUTPUT	
	Typ.	Volt.
HMI43-S120350	3.50A	12.0V
HMI43-S150270	2.70A	15.0V
HMI43-S240170	1.70A	24.0V
HMI43-S480085	0.85A	48.0V

Symbol: "★" OVP built-in.

**MECHANICAL DIMENSIONS: MM [INCHES]**

**WEIGHT: 145g (5.12 Oz.)**



**INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT**

ASSIGNMENT CNTR/PIN#	AC INPUT			SINGLE OUTPUT	
	AC-L	AC-N	AC-G	VO1	DC COM
	P1-L	P1-N	G	P2-1,2	P2-3,4

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