

# Jasper Electronics

## UNIVERSAL INPUT AC-DC MEDICAL APPLICATION OPEN FRAME SINGLE & MULTI-OUTPUT 19-20 WATTS INTERNAL SWITCHING POWER SUPPLIES HMI19 SERIES



### FEATURES:

- ACCOMMODATE UNIVERSAL AC SOURCES
- 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 typical.  
**Input Connector:** Molex 5273 or equivalent.  
**Input Frequency:** 47-63Hz.  
**Inrush Current:** 16A @ 230Vac.  
**Input Current:** 0.4A@115Vac & 0.22A@230Vac.  
**Dielectric Withstand:** Meet IEC 60601-1.  
**EMI:** Meet EN55011 & FCC Class B.  
**Hold-up Time:** Typ. 14mS @ 115Vac.  
 Typ. 70mS @ 230Vac.  
**Earth Leakage:** Less than 0.10 mA.

#### OUTPUT SPECIFICATION

**Output Voltage:** See Ratings Chart.  
**Output Current:** See Ratings Chart.  
**Output Wattage:** Typ. 19-20W.  
**Output Connector:** Molex 5273 or 41671.  
**Line Regulation:** Typ. 0.2-1.0%.  
**Load Regulation:** Main VO1 typ.  $\pm 1.0\%$ .  
 Aux. VO2 typ.  $\pm 2-3.0\%$  (Stacked).  
 Aux. VO3 typ.  $\pm 1-2.0\%$  (P.R.).  
**Noise & Ripple:** Typ. 1% peak to peak.  
**OVP:** Built-in at main output VO1.  
**Adjustability:** Factory set.  
**Over Load Protection (OLP):**  
 Fully protected against overload or short circuit.  
 Typ. 120-150% max. load.  
 Consult the factory for special OLP setting.

#### GENERAL SPECIFICATION

**Efficiency:** Typ. 73%.  
**Switching Frequency:** Typ. 67K Hz.  
**Circuit Topology:** Fixed-frequency Flyback Circuit.  
**Transient Response:** Output voltage returns in less than 0.2mS following a 25% load change.  
**Safety standard:** Meet Medical standards UL2601-1/EN 60601-1 Class I.  
**Operating Temperature:** 0 to +50°C.  
**Storage Temperature:** -20 to +85°C.  
**Temperature Coefficient:** Typ. 0.04% /°C.  
**Cooling:** Free air convection.  
**Construction:** L-Bracket open frame format.  
**Power Density:** 3.3 Watts / Cubic Inch.

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



In application

## OUTPUT VOLTAGE/CURRENT RATINGS CHART

### SINGLE OUTPUT

MODEL NO.	MAIN VO1@★		
	Typ.	Volt.	Max.
HMI19-S033050	5.0A	+3.3V	6.0A
HMI19-S050043	4.3A	+5.0V	5.0A
HMI19-S120017	1.7A	+12.0V	2.0A
HMI19-S240009	0.9A	+24.0V	1.0A

### DUAL OUTPUT

MODEL NO.	MAIN VO1@★			AUX. VO2 † or ●			
	Typ.	Volt.	Max.	Typ.	Volt.	Max.	Pk.
HMI19-D033I	4.0A	+3.3V	5.0A	0.3A	+12V	0.6A	1A
HMI19-D033M	4.0A	+3.3V	5.0A	0.3A	+24V	0.5A	1A
HMI19-D050M	4.0A	+5.0V	5.0A	0.3A	+24V	0.5A	1A
HMI19-D050I	4.0A	+5.0V	5.0A	0.3A	+12V	0.6A	1A

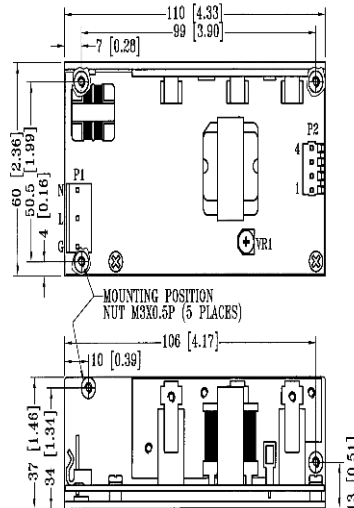
### TRIPLE OUTPUT

MODEL NO.	MAIN VO1@★			AUX. VO2 †				AUX. VO3 ●			
	Typ.	Volt.	Max.	Typ.	Volt.	Max.	Pk.	Typ.	Volt.	Max.	Pk.
HMI19-T033II	4.0A	+3.3V	5.0A	0.5A	+12V	1.0A	2A	0.3A	+12V	0.6A	1A
HMI19-T033MI	4.0A	+3.3V	5.0A	0.3A	+24V	0.5A	1A	0.3A	+12V	0.6A	1A
HMI19-T050II	3.0A	+5.0V	4.0A	0.5A	+12V	1.0A	2A	0.3A	+12V	0.6A	1A
HMI19-T050MI	3.0A	+5.0V	4.0A	0.3A	+24V	0.5A	1A	0.3A	+12V	0.6A	1A
HMI19-T050KK	3.0A	+5.0V	4.0A	0.4A	+15V	0.8A	1A	0.3A	-15V	0.6A	1A

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

### MECHANICAL DIMENSIONS: MM [INCHES]

**WEIGHT: 373.0g (13.2 Oz.)**



HMI19  
B00322B

### INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT

ASSIGNMENT	AC INPUT			SINGLE OUTPUT			DUAL OUTPUT				TRIPLE OUTPUT			
	AC-L	AC-N	AC-G	VO1	N/A	DC COM.	VO1	VO2	N/A	DC COM.	VO1	VO2	VO3	DC COM.
CNTR & PIN#	P1-L	P1-N	P1-G	P2-2	P2-3,4	P2-1	P2-2	P2-4	P2-3	P2-1	P2-2	P2-3	P2-4	P2-1

Mating connector: P1: Molex 5195 or 5239 series. P2: Molex 5195 or 5239 series/ 3069 series.