



## **AUTO-RANGING INPUT AC TO DC EXTERNAL DESKTOP ADAPTER MULTIPLE OUTPUT 100-120 WATTS SWITCHING POWER SUPPLIES HES100 SERIES**



### **FEATURES:**

- AUTO-RANGING ACCOMMODATE AC SOURCES IN THE WORLD
- IMPACT RESISTANT THERMO-PLASTIC LOW-PROFILE ENCLOSURE
- MEET UNIVERSAL SAFETY STANDARDS
- CONDUCTED EMI MEET EN55022 / FCC CLASS B, RADIATED EMI MEET CLASS A
- CE MARKING COMPLIANCE

### **SPECIFICATION**

#### **INPUT SPECIFICATION**

**Input Voltage:** Auto-ranging 115Vac for range 90-132Vac and 230Vac for range 180-264Vac.  
Transient threshold 150Vac typical.

**Input Connector:** IEC320 3P AC Inlet/Outlet receptacle, with AC On/Off switch.

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

**Inrush Current:** 20A peak. @115Vac, 40A @230Vac.

**Input Current:** 2.5A @115Vac, 1.1A @ 230Vac.

**Dielectric Withstand:** Meet IEC950.

**EMI:** Conducted EMI meet EN55022 / FCC Class B.  
Radiated EMI meet Class A,

**Hold-up Time:** 22mS @115Vac./ 27mS @230Vac.

**Power Fail Signal:** Option in all series.

**Logic Inhibit:** Optional in single & dual output series.

**Remote Sensing:** Optional for single & dual output series.

#### **OUTPUT SPECIFICATION**

**Output Voltage:** See Ratings Chart.

**Output Current:** See Ratings Chart.

**Output Wattage:** Typ.100-120 Watts.

**Output Connector & Cable:** Optional.  
Cord length typ. 3 ft.(1 meter).

**Line Regulation:** VO1, VO3 & VO4  $\pm 0.1\%$  typ.  
Aux.VO2  $\pm 0.5\%$  typ.

**Load Regulation:** At strain relief end.

Main O/P VO1  $\pm 1.0\%$  typ.

Aux. O/P VO2  $\pm 2.0\%$  typ. with Mag. Amp. or  $\pm 5.0\%$  typ. with Stacked on.

Aux. O/P VO3 & VO4  $\pm 1.5\%$  typ. with PR.

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

**OVP:** Main O/P only set @124%  $\pm 8\%$  VO1.

**Overload Protection:** 125-150% of max. power overrange or short circuit, power foldback & self-recovering.

#### **GENERAL SPECIFICATION**

**Efficiency:** Typ. 75%.

**Switching Frequency:** Fixed Frequency at 100K Hz.

**Circuit Topology:** Fixed Frequency Forward circuit.

**Transient Response:** Output voltage returns in less than 3mS following a 25% load change.

**Safety Standard:** UL1950/EN60950 Class I.

**Construction:** Desktop enclosure plastic box.

**Power Density:** 0.88Watts / Cubic Inch.

**Operating Temperature:** 0 to +40°C.

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

**Temperature Coefficient:** 0.04% /°C.

**Cooling:** Built-in 6.5CFM 40mm fan cooling.

**Long Term Stability:** After 20 minutes warm-up, 0.1% for 8 hours.

**Industrial or Commercial Grade Option:**

" Industrial" higher MTBF, " Commercial" lower cost.

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

(2) Cord length typical 3 ft. (or 1 meter).



# OUTPUT VOLTAGE/CURRENT RATINGS CHART

11/11/2002

## SINGLE OUTPUT

MODEL NO.	MAIN O/P VO1 ★#		
	Typ.	Volt.	Peak
HES100-11	8.3A	12.0V	10.0A
HES100-12	6.7A	15.0V	8.0A
HES100-13	4.2A	24.0V	5.0A
HES100-15	2.0A	48.0V	2.5A

## DUAL OUTPUT

MODEL NO.	MAIN O/P VO1 ★◇			AUX. O/P VO2 ▲◇		
	Typ.	Volt.	Max.	Typ.	Volt.	Max.
HES100-21	10.0A	5.0V	15.0A	4.0A	5.0V	3.5A
HES100-22	10.0A	5.0V	15.0A	3.0A	12.0V	3.0A
HES100-23	6.0A	5.0V	12.0A	3.0A	24.0V	3.0A
HES100-24	4.5A	12.0V	5.0A	4.5A	12.0V	5.0A
HES100-25	3.5A	15.0V	5.0A	3.4A	15.0V	4.0A

## TRIPLE OUTPUT

MODEL NO.	MAIN O/P VO1 ★			AUX. O/P VO2 †			AUX. O/P ±VO3 ●		
	Typ.	Volt.	Max.	Typ.	Volt.	Max.	Typ.	Volt.	Max.
HES100-30	12.0A	+5.0V	13.0A	3.0A	+12.0V	3.5A	0.8A	12.0V	1.0A
HES100-31	12.0A	+5.0V	13.0A	3.0A	+12.0V	3.5A	0.8A	5.0V	1.0A
HES100-32	12.0A	+5.0V	13.0A	1.5A	+24.0V	2.0A	0.8A	12.0V	1.0A
HES100-33	12.0A	+5.0V	13.0A	3.0A	+15.0V	3.3A	0.3A	15.0V	1.0A

## QUAD OUTPUT

MODEL NO.	MAIN O/P VO1 ★			AUX. O/P VO2 †			AUX. O/P ± VO3 ●			AUX. O/P ±VO4 ●		
	Typ.	Volt.	Max.	Typ.	Volt.	Max.	Typ.	Volt.	Max.	Typ.	Volt.	Max.
HES100-40	12.0A	+5.0V	13.0A	2.5A	+12.0V	3.0A	0.8A	12.0V	1.0A	0.5A	12.0V	1.0A
HES100-41	12.0A	+5.0V	13.0A	2.5A	+12.0V	3.0A	0.8A	5.0V	1.0A	0.6A	5.0V	1.0A
HES100-42	12.0A	+5.0V	13.0A	1.0A	+24.0V	1.5A	0.8A	12.0V	1.0A	0.5A	12.0V	1.0A
HES100-43	12.0A	+5.0V	13.0A	2.2A	+15.0V	2.7A	0.6A	12.0V	1.0A	0.4A	15.0V	1.0A

Symbols: "★"OVP built-in. "@"Adjustable. "◇" Floating(or isolated) output. "●" Installed with Post Regulator (PR). "†" Stacked on main output.  
 "#" Remote sensing. "▲" Installed with magnetic amplifier. "±" Positive or Negative selectable (factory set).

## MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: 1,242.0g (43.8 Oz.)

