



AC/DC EXTERNAL WALLMOUNT & DESKTOP ADAPTER UNIVERSAL OR USA INPUT SINGLE & DUAL OUTPUT 10-12 WATTS SWITCHING POWER SUPPLIES HES10 & HES10B SERIES



FEATURES:

- UNIVERSAL INPUT
- WALLMOUNT OR DESKTOP ADAPTER
- DIVERSE AC PLUG AVAILABLE
- MEET UNIVERSAL SAFETY STANDARDS
- EMI MEET EN55022/FCC CLASS B
- CE MARKING COMPLIANCE

SPECIFICATION

INPUT SPECIFICATION

Input Voltage For HES10 Series: 90-264Vac typical.
Input Voltage For HES10B Series: 90-132Vac typical.
Input Connector for HES10 Series:
 Wallmount Format: WM0,1,2 (USA/Japan)/ WM3 (Euro-stecker)/
 WM4 (Schuko-stecker)/ WM5(UK)/WM6, 6G(Australia).
 Desktop Format: IEC320 Inlet Type DT7-3P or DT8-2P.
 Mouse Power Pig-Tail: PT1/2/3/4/5/6/7.
Input Connector for HES10B Series: WM1 (USA/Japan) only.
Input Frequency: 47-63Hz.
Inrush Current: 48A @230Vac or 27.8A @230Vac typical
 by adding thermister.
Input Current: 0.3A@115Vac/0.10A@230Vac typical.
Dielectric Withstand: Meet IEC60950.
EMI: Meet EN55022 / FCC Class B.
Hold-up Time: 15mS @115Vac or 60mS @230Vac typical.

OUTPUT SPECIFICATION

Output Voltage: See Ratings Chart.
Output Current: See Ratings Chart.
Output Wattage: 10-12Watts typical.
Output Connector: Optional.
Line Regulation: 0.1% typical.
Load Regulation for HES10 and HES10B Single O/P:
 $\pm 1.5-3.0\%$ typical.
Load Regulation for HES10 Series Dual O/P:
 Main O/P VO1 $\pm 1.5-3.0\%$ typical.
 Aux. O/P VO2 $\pm 3.0-5.0\%$ typical.
Noise & Ripple: 1.0% typical peak to peak.
OVP: Built-in, Zener diode clamp.
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: 70-75% typical.
Switching Frequency: HES10 approximate 40-50K Hz.
 HES10B approximate 50-200K Hz.
Circuit Topology: Fixed Frequency Flyback ckt. for HES10 series.
 Free Running Flyback ckt. for HES10B series.
Transient Response: Output voltage returns in less than 3mS
 following a 25% load change.
Power Density: 1.3-1.56Watts / Cubic inch.
Operating Temperature: 0 to +25/35/40°C
 without derating. (various with output voltage)
Storage Temperature: -20°C to +85°C.
Temperature Coefficient: 0.04% /°C.
Cooling: Free air convection.
Construction: Impact resistant thermo- plastic enclosure case.
Construction: Wallmount or Desktop Format.
Safety Standard: Meet UL1950/EN60950, Class II.
 Class I available for WM2,5,6G /DT7/PT2,4,5,7.

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

(2) Load regulation is measured at 115Vac or 230Vac in percentage to indicate the change in output voltage as the load is varied from half load to full load ($\pm\%$).

(3) The exact obtainable load regulation depends upon the output cord selected and load current. Upper data are for 6 ft. (2 m) cord AWG#18 wires.

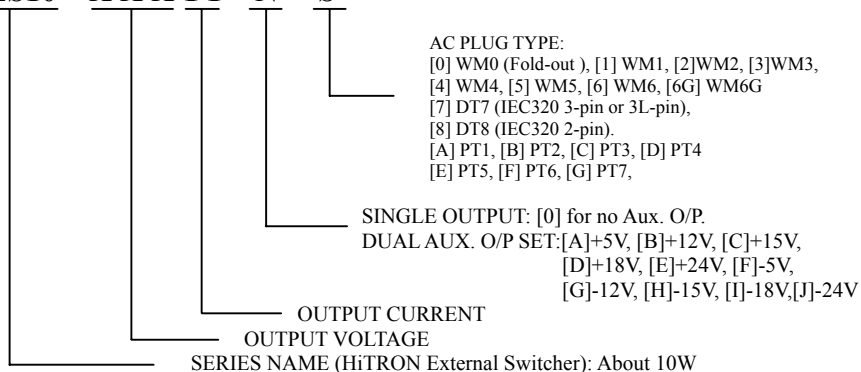
(4) Due to requests in market and advances in technology, specifications subject to change without notice.



For the details of safety approval, please consult the factory.

HES10 SERIES

MODEL NO. DESCRIPTION: HES10 – X X X YY – N – S



OUTPUT VOLTAGE/CURRENT RATINGS CHART

DEFINED OUTPUT VOLTAGE (Vdc)	OUTPUT VOLTAGE (Vdc) / CURRENT (A)
3.3 Vdc ≤ Any Voltage ≤ 12.0Vdc	3.3V/2.5A, 3.4-5.0V/2.0A, 5.1-5.9V/1.9-1.7A, 6.0-6.3V/ 1.6A, 6.4-6.7V/1.6-1.5A, 6.8-7.2V/1.4A, 7.4-7.7V/1.3A, 7.8-8.4V/1.2A, 8.5-8.9V/1.1A, 9.0-12V/1.0A. Special: 6.0-6.5V/2.0A
12.0Vdc < Any Voltage ≤ 24.0Vdc	12.1-13.3V/0.9A, 13.4-15.0V/0.8A, 15.1-17.1V/0.7A, 17.2-20.0V /0.6A, 20.1-24.0V/0.5A. Max. Output: 12.0 W.

Note: Refer to the upper Chart or specify the V/A ratings and consult factory for the exact Model No.

SINGLE OUTPUT *(Model No. for examples.)*

MODEL NO.	AC INPUT	AC PLUG	O/P VOLTAGE	O/P CURRENT	FORMAT
HES10-03325-0-1	90-264Vac	WM1	3.3Vdc	2.5A	Wallmount
HES10-03420-0-3	90-264Vac	WM3	3.4Vdc	2.0A	Wallmount
HES10-05020-0-5	90-264Vac	WM5	5.0Vdc	2.0A	Wallmount
HES10-06016-0-6	90-264Vac	WM6	6.0Vdc	1.6A	Wallmount
HES10-12010-0-0	90-264Vac	WM0	12.0Vdc	1.0A	Wallmount
HES10-07014-0-7	90-264Vac	DT7	7.0Vdc	1.4A	Desktop
HES10-08511-0-8	90-264Vac	DT8	8.5Vdc	1.1A	Desktop
HES10-09010-0-A	90-264Vac	PT1	9.0Vdc	1.0A	Mouse-PT
HES10-10010-0-B	90-264Vac	PT2	10.0Vdc	1.0A	Mouse-PT
HES10-12010-0-C	90-264Vac	PT3	12.0Vdc	1.0A	Mouse-PT
HES10-13808-0-D	90-264Vac	PT4	13.8Vdc	0.8A	Mouse-PT
HES10-15008-0-E	90-264Vac	PT5	15.0Vdc	0.8A	Mouse-PT
HES10-16007-0-F	90-264Vac	PT6	16.0Vdc	0.7A	Mouse-PT
HES10-18006-0-G	90-264Vac	PT7	18.0Vdc	0.6A	Mouse-PT
HES10-06020-0-0	90-264Vac	WM0	6.0Vdc	2.0A	Wallmount
HES10-06020-0-1	90-264Vac	WM1	6.0Vdc	2.0A	Wallmount
HES10-24005-0-2	90-264Vac	WM2	24.0Vdc	0.5A	Wallmount

DUAL OUTPUT V/A CHART

OUTPUT RAIL	OUTPUT VOLTAGE (Vdc) / CURRENT (A)
Main O/P VO1★	5.0V/1.0A, 5.1-5.9V/0.9A, 6.0-7.5V/0.8A, 7.6-9.0V/0.7A, 9.1-12.0V/0.6A, 12.1-14.0V/0.5A, 14.1-20.0V/0.4A.
Aux. O/P ±VO2 =	5V/0.6A, 12V/0.3A, 15V/0.2A, 18V/0.2A, 24V/0.1A.

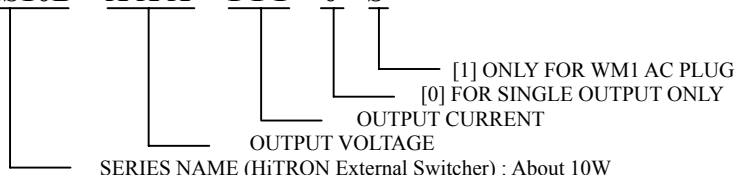
Note: Refer to the upper Chart or specify the V/A ratings and consult factory for the exact Model No.

DUAL OUTPUT (Model No. for examples.)

MODEL NO.	AC INPUT	AC PLUG	MAIN O/P VO1 ★ VOLT. TYP.	AUX. O/P VO2† VOLT. TYP.	FORMAT
HES10-03310-A-1	90-264Vac	WM1	+3.3Vdc 1.0A	+ 5.0Vdc 0.6A	Wallmount
HES10-05010-B-3	90-264Vac	WM3	+5.0Vdc 1.0A	+12.0Vdc 0.3A	Wallmount
HES10-05209-C-5	90-264Vac	WM5	+5.2Vdc 0.9A	+15.0Vdc 0.2A	Wallmount
HES10-06008-D-6	90-264Vac	WM6	+6.0Vdc 0.8A	+18.0Vdc 0.2A	Wallmount
HES10-09007-E-7	90-264Vac	DT7	+9.0Vdc 0.7A	+24.0Vdc 0.1A	Desktop
HES10-12006-F-A	90-264Vac	PT1	+12.0Vdc 0.6A	-5.0Vdc 0.6A	Mouse PT
HES10-13505-G-B	90-264Vac	PT2	+13.5Vdc 0.5A	-12.0Vdc 0.3A	Mouse PT
HES10-15004-H-C	90-264Vac	PT3	+15.0Vdc 0.4A	-15.0Vdc 0.2A	Mouse PT
HES10-18004-I-E	90-264Vac	PT5	+18.0Vdc 0.4A	-18.0Vdc 0.2A	Mouse PT
HES10-20004-J-G	90-264Vac	PT7	+20.0Vdc 0.4A	-24.0Vdc 0.1A	Mouse PT

HES10B SERIES

MODEL NO. DESCRIPTION: **HES10B - X X X YYY - 0 - S**



OUTPUT VOLTAGE/CURRENT RATINGS CHART

DEFINED OUTPUT VOLTAGE (Vdc)	OUTPUT VOLTAGE (Vdc) / CURRENT (A)
3.0Vdc ≤ Any voltage < 9.0Vdc	3.0-5.0V/2.0A, 5.1-5.3V/1.9A, 5.4-5.6V/1.8A, 5.7-5.9V/1.7A, 6.0-6.3V/1.6A, 6.4V-6.7V/1.5A, 6.8-7.2V/1.4A, 7.3-7.7V/1.3A, 7.8-8.4V/1.2A, 8.5-8.9V/1.1A.
9.0Vdc ≤ Any voltage ≤ 30.0Vdc	9.0-12.0V/1.0A, 12.1-13.3V/0.9A, 13.4-15.0V/0.8A, 15.1-17.1V /0.7A, 17.2-20.0V/0.6A, 20.1-24.0V/0.5A, 24.1-30.0V/0.4A.

Note: Refer to the upper Chart or specify the V/A ratings and consult factory for the exact Model No.

SINGLE OUTPUT (Model No. for examples)

MODEL NO.	AC INPUT	AC PLUG	O/P VOLTAGE	O/P CURRENT	FORMAT
HES10B-03320-0-1	90-132Vac	WM1	3.3Vdc	2.0A	Wallmount
HES10B-05020-0-1	90-132Vac	WM1	5.0Vdc	2.0A	Wallmount
HES10B-06316-0-1	90-132Vac	WM1	6.3Vdc	1.6A	Wallmount
HES10B-07014-0-1	90-132Vac	WM1	7.0Vdc	1.4A	Wallmount
HES10B-09510-0-1	90-132Vac	WM1	9.5Vdc	1.0A	Wallmount
HES10B-12010-0-1	90-132Vac	WM1	12.0Vdc	1.0A	Wallmount
HES10B-15008-0-1	90-132Vac	WM1	15.0Vdc	0.8A	Wallmount
HES10B-18006-0-1	90-132Vac	WM1	18.0Vdc	0.6A	Wallmount
HES10B-24005-0-1	90-132Vac	WM1	24.0Vdc	0.5A	Wallmount
HES10B-30004-0-1	90-132Vac	WM1	30.0Vdc	0.4A	Wallmount

MECHANICAL DIMENSIONS: MM [INCHES]

HES10/WM: 168.0g (5.93Oz.)

HES10/DT: 232.0g (8.18Oz.)

HES10/PT: 210.0g (7.41Oz.)

