

Single, Dual & Triple Output

External Supplies **AES** SERIES

20-40 Watts



CE Marked - LVD & EMC

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90-264 V AC Universal Input

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Fixed Switching Frequency

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Short Circuit Protected

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Sturdy Moulded Enclosure

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EN55022 Level B EMC

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International Safety Approvals

Specification

(All specifications are typical at nominal input, full load and +25 °C unless otherwise stated)

Input Voltage	• 90-264 V AC (127-375 V DC)
Input Frequency	• 47-440 Hz
Input Current	• 0.3 A rms @ 230 V input
Hold Up Time	• 8 ms @ 110 V AC and full load for 20 W models 5 ms @ 110 V @ full load for 40 W models
Output Voltage	• See Table
Line Regulation	• See Table
Load Regulation	• See Table
Minimum Load Current	• See Table
Ripple & Noise	• See Table
Overload Protection	• Continuous with auto-restart
Overvoltage Protection	• On main outputs - See Table
Temperature Coefficient	• $\pm 0.02\%/^{\circ}\text{C}$
Efficiency	• 70% typical @ 110 V AC full load 20 W, 83 % typical @ 100 V AC full load 40 W
Operating Temperature	• 0 °C to +40 °C
Storage Temperature	• -40 °C to +85 °C
Relative Humidity	• 5% to 95% non-condensing
Isolation	• 3000 V AC input to output 1500 V AC input to chassis
Vibration	• 2.4G rms 5 Hz to 500 Hz, 10 min. on each axis
Shock	• To MIL-STD-810E 516.4 pt IV
EMI/RFI	• EN55022/11 level B conducted & radiated
Safety Approvals	• EN60950, IEC950, UL1950, CSA 22.2/950
Immunity	• EN61000-4-4 & -5, IEC801-2 & -3
MTBF	• 150,000 hrs min. to MIL-HDBK-217F
Switching Frequency	• 60 kHz fixed ± 10 kHz
Case Material	• G.E. Lexan, black
Flammability Rating	• UL94V-0

Output Voltage & Current Ratings - 20 Watt Models

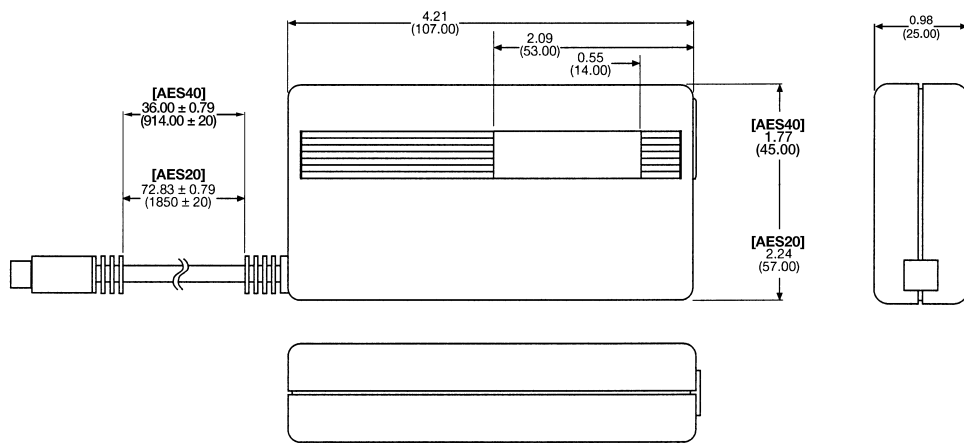
Output Voltage	Output Current			Ripple ⁽²⁾	OVP Threshold ⁽⁵⁾	Total Regulation ⁽³⁾	Model Number
	Min	Max ⁽⁶⁾	Peak ⁽¹⁾				
+5 V	0.00 A	4.00 A	4.5 A	50 mV	5.6 V to 6.9 V	±2.0%	AES20US05
+12 V	0.00 A	1.60 A	1.9 A	120 mV	14.0 V to 16.7 V	±2.0%	AES20US12
+15 V	0.00 A	1.33 A	1.50 A	150 mV	17.5 V to 21 V	±2.0%	AES20US15
+24 V	0.00 A	0.83 A	1.0 A	150 mV	29.0 V to 34.2 V	±2.0%	AES20US24
+48 V	0.00 A	0.42 A	0.5 A	150 mV	55.0 V to 64.0 V	±2.0%	AES20US48
+5 V	0.20 A	1.20 A	1.5 A	50 mV	5.6 V to 6.9 V	±2.0%	AES20UD29
+12 V	0.10 A	0.80 A	1.2 A	120 mV	–	±5.0%	
+5 V	0.20 A	1.00 A	1.5 A	50 mV	5.6 V to 6.9 V	±2.0%	AES20UT07
+12 V	0.10 A	0.80 A	1.2 A	120 mV	–	±5.0%	
-5 V	0.00 A	0.10 A	1.0 A	50 mV	–	±5.0%	

Output Voltage & Current Ratings - 40 Watt Models

Output Voltage	Output Current			Ripple ⁽²⁾	OVP Threshold ⁽⁵⁾	Total Regulation ⁽³⁾	Model Number
	Min	Max	Peak ⁽¹⁾				
+12 V	0 A	3.00 A	3.5 A	250 mV	15.0 V to 18.0 V	±2.0%	AES40US12
+14 V	0 A	2.70 A	3.2 A	250 mV	16.5 V to 19.5 V	±2.0%	AES40US14
+15 V	0 A	2.60 A	3.0 A	250 mV	17.5 V to 21.0 V	±2.0%	AES40US15
+18 V	0 A	2.20 A	2.6 A	250 mV	22.0 V to 25.5 V	±2.0%	AES40US18
+24 V	0 A	1.60 A	1.9 A	250 mV	29.0 V to 34.2 V	±2.0%	AES40US24
+48 V	0 A	0.83 A	1.0 A	250 mV	55.0 V to 64.0 V	±2.0%	AES40US48

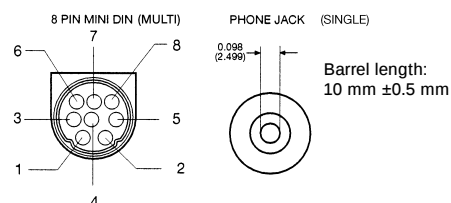
Notes:-

- 1 Peak output current lasting less than 60 seconds with duty cycle less than 5.0%. During peak loading, output voltage may exceed total regulation limits.
- 2 20 MHz bandwidth, peak to peak, measured using a 12 inch twisted pair terminated with a 47 μ F electrolytic capacitor.
- 3 Total regulation is defined as the static output regulation at 25 °C, including initial tolerance, line voltage within stated limits, load currents within stated limits, and output voltages adjusted to their factory settings.
- 4 To maintain user-system safety approvals, the input power cable must be appropriately rated and approved.
- 5 Output voltage protected by Zener diode.
- 6 Maximum output power of 20 Watts for single AES20 output models and 15 Watts for multiple output models.
- 7 IEC320/C8 type input connector.

Mechanical Details**AES20 & AES40 Units**

ALL DIMENSIONS IN INCHES (mm)
WEIGHT
AES20 - 120g AES40 - 200g

PIN CONNECTIONS MINI DIN PLUG			
Pin No.	Dual Output	Triple Output	Mating Connector
1	VA	VA	AMP shielded Miniature circular DIN Plug 8 Pin P/N 749179-1 or equivalent
2	VA	VA	
3	VA	VA	
4	VB	VB	
5	Return	VC	
6	Return	Return	
7	Return	Return	
8	Return	Return	
PIN CONNECTIONS 2.5 mm JACK PLUG Single O/P			
Inner	VA		Switchcraft Power Jack, P/N 712A or equivalent
Outer	Return		



AC INPUT LEADS	
Description	Model Number
2 M black UK plug fitted with 3 A fuse, terminated with figure 8 connection.	UK-MAINS-8
2 M black Euro plug fitted with 3 A fuse, terminated with figure 8 connection.	EU-MAINS-8