

## UNIVERSAL INPUT AC TO DC EXTERNAL DESKTOP ADAPTORS MULTIPLE OUTPUT SWITCHING POWER SUPPLIES 50-60 WATTS APS60ES SERIES



### FEATURES:

- ACCOMMODATES UNIVERSAL AC SOURCES IN THE WORLD
- DESKTOP ADAPTOR WITH IEC 320 INPUT RECEPTACLE
- INPUT & OUTPUT LAMPS INDICATION
- DESIGNED TO MEET UNIVERSAL SAFETY STANDARDS
- EMI/RFI MEET CISPR PUB. 22 CLASS B
- CE MARKING COMPLIANCE

### SPECIFICATIONS

#### INPUT SPECIFICATIONS:

**Input Voltage:** Typ. 90-265VAC  
**Input Connector:** IEC 320 3P-AC receptacle  
 Option for Rocker switch with lamp  
**Input Frequency:** 47-63Hz  
 (Consult factory for 440Hz operation)  
**Inrush Current:** Cool start 20A max.  
**Input Current:** 1.4A @ 115VAC, 0.7A @ 230VAC  
**Dielectric Withstand:** Meets IEC950  
**EMI/RFI:** Meets CISPR PUB. 22 Class B  
**Hold-up Time:** 15ms typ. @ 115VAC  
 75ms typ. @ 230VAC  
**No Load Operation:** No damage at no load

#### GENERAL SPECIFICATIONS:

**Efficiency:** Typ. 70%  
**Switching Frequency:** 37-100KHz  
**Circuit Topology:** Free-running flyback circuit  
**Transient Response:** Output voltage returns in less than 5mS following a 50% load change  
**Safety Standard:** UL1950/EN60950

#### OUTPUTS SPECIFICATIONS:

**Output Voltage:** See RATINGS CHARTS  
**Output Currents:** See RATINGS CHARTS  
**Output Wattage:** Typ. 50-60 Watts  
**Output Connection:** Optional  
**Line Regulation:** ±0.1% typ.  
**Load Regulation:** Main O/P VO1 ±5%  
 Aux. O/P VO2 ±10%, VO3 ±1.5%  
**Noise & Ripple:** Typ. 1 % peak to peak  
**OVP:** Built-in in main +5V @ +6.2V ±0.4V  
**Adjustability:** Factory set  
**Overload Protection:** 125-150% max. power

**Operating Temperature:** 0 to 40°C  
**Storage Temperature:** -20 to +85°C  
**Temperature Coefficient:** 0.04% per °C  
**Cooling:** Free air convection  
**Construction:** Impact resistant thermo-plastic enclosure with venting slots Desktop format

**Remark:** The exact obtainable voltage regulation depends upon the cord selected and load current.

The typical cord length is from 2ft. to 6ft. (less than 1m to 2m), AWG #18/20 for various load conditions.



## VOLTAGE/CURRENT RATINGS CHART

### SINGLE OUTPUT:

MODEL NO.	MAIN O/P VO1 @ ★ TYP. VOLT. PEAK	
APS60ES-10	10.0A 5V	11.0A
APS60ES-11	4.15A 12V	5.0A
APS60ES-11A	4.0A 13.2V	4.5A
APS60ES-12	3.3A 15V	4.0A
APS60ES-13	2.1A 24V	2.5A
APS60ES-13PF	2.3A 24V	2.5A

### DUAL OUTPUT:

MODEL NO.	MAIN O/P VO1 @ ★ TYP. VOLT. PEAK			AUX. O/P +VO2 † or -VO3 • TYP. VOLT. PEAK		
APS60ES-20	9.0A +5V	10.0A		0.75A -5V		1.0A
APS60ES-21	5.0A +5V	6.0A		2.0A +12V		3.0A
APS60ES-22	5.0A +5V	6.0A		1.5A +15V		2.0A
APS60ES-23	5.0A +5V	6.0A		1.0A +24V		1.5A

### TRIPLE OUTPUT:

MODEL NO.	MAIN O/P VO1 @ ★ TYP. VOLT. PEAK			AUX. O/P VO2 † TYP. VOLT. PEAK			AUX. O/P VO3 • TYP. VOLT. PEAK		
APS60ES-30	5.0A +5V	6.0A		1.5A +12V	2.0A		0.5A -12V		1.0A
APS60ES-31	5.0A +5V	6.0A		1.5A +12V	2.0A		0.75A -5V		1.0A
APS60ES-32	5.0A +5V	6.0A		0.75A +24V	1.0A		0.5A -12V		1.0A
APS60ES-33	5.0A +5V	6.0A		1.5A +15V	2.0A		0.5A -5V		1.0A

Symbols: "†" stacked on main output. "•" Installed with Post Regulator (PR).

"@" Adjustable. "★" OVP built-in. "#" Remote sense.

Remarks: (1) At least 20% of typ. main output current is required to maintain stated regulations.

(2) Peak output, less than 60 Sec., Peak currents can't be drawn from all output at the same time.

**MECHANICAL DIMENSIONS:** MM (INCHES)

**WEIGHT:** 918 g (32.4 Oz.)

