

APS

Advanced Power Solutions

4/6/01

UNIVERSAL INPUT AC TO DC EXTERNAL WALLMOUNT & DESKTOP ADAPTORS MULTIPLE OUTPUT 15-16 WATTS SWITCHING POWER SUPPLIES APS15ES SERIES



FEATURES:

- SINGLE, DUAL, TRIPLE & QUAD OUTPUT
- WALLMOUNT OR DESKTOP ADAPTOR
- DIVERSE AC PLUGS AVAILABLE
- MEETS UNIVERSAL SAFETY STANDARDS
- EMI MEET EN 55022/FCC CLASS B
- CE MARKING COMPLIANCE

SPECIFICATION

INPUT SPECIFICATION

Input Voltage: 90-264Vac typical
Input Connector: Wallmount Format:
WM1,2(USA/JAPAN), WM3(Euro-stecker),
WM4 (Schuko-stecker), WM5(UK), WM6 (Australia)
Desktop Format: IEC320 –3P Type DT7
Input Frequency: 47-63Hz
Inrush Current: 20.0 to 50.0A typical
Input Current: 0.3 to 0.5A @ 115Vac typical
0.14 to 0.3A @ 230Vac typical
Dielectric Withstand: Meets IEC950
EMI: Meet EN 55022/FCC Class B
Hold-up Time: 15mS @ 115Vac typical
60mS @ 230Vac typical

OUTPUT SPECIFICATION

Output Voltage: See Ratings Chart
Output Currents: See Ratings Chart
Output Connection: Optional
Line Regulation: 0.1% typical
Load Regulation: Main O/P VO1 $\pm 1.5 \sim 3.0\%$ typical
Aux. O/P VO2 ± 2.0 to 4.0% typical. (Stacked on VO1)
Aux. O/P VO3 ± 1.0 to 2.0% typical. (PR. installed)
Aux. O/P VO4 ± 1.0 to 2.0% typical. (PR. installed)
Noise & Ripple: Typical 1% peak to peak
OVP: Built-in, Zener diode clamping
Adjustability: Factory set
Overload Protection: Typ. 125 to 150% of max. power
over-range or short circuit, power foldback & self-recovering

GENERAL SPECIFICATION

Efficiency: 65 to 75% typical
Switching Frequency: Approximate 33KHz
Circuit Topology: Fixed Frequency flyback circuit
Transient Response: Output voltage returns in
Less than 0.5mS following a 25% load change
Safety Standard: UL1950/ IEC950. CLASS I
Power Density: 0.68W. per Inch³

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 case
Wallmount or Desktop Format

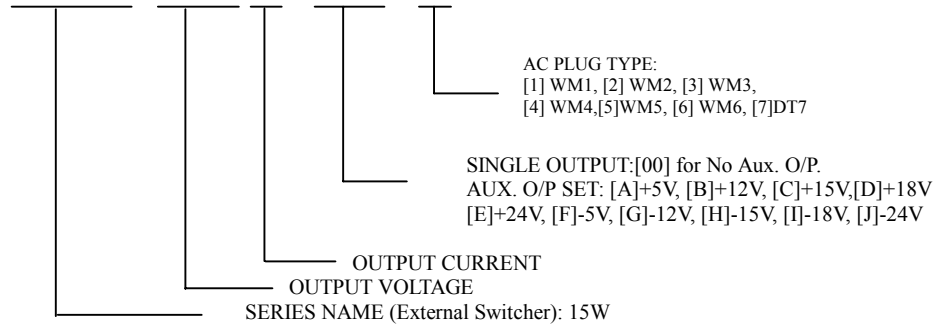
Notes: (1) All measurements are at nominal input, full load, and +25°C unless otherwise specified.

(2) Load regulation is measured at 115Vac or 230Vac in percentage to indicate the change in output voltage as the load varied from half load to full load (unit $\pm\%$).
For the multi-output, the main output remains 50% load and other aux. output remains 20% load.

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



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

MODEL NO. DESCRIPTION: APS15ES – X X X YY – N2N3 – S**OUTPUT VOLTAGE/CURRENT RATINGS CHART****SINGLE OUTPUT V/A CHART**

DEFINED OUTPUT VOLTAGE (Vdc)	OUTPUT VOLTAGE (Vdc) / CURRENT(A)
3.3 Vdc < Any Voltage > 10.0 Vdc	3.3V/3.5A, 3.4-3.6V/3.4A, 3.7-3.9V/3.3A, 4.0-4.2V/3.2A, 4.3-4.6V/3.1A, 4.7-5.0V/3.0A, 5.1V/2.9A, 5.2-5.3V/2.8A, 5.4-5.5V/2.7A, 5.6-5.7V/2.6A, 5.8-6.0V/2.5A, 6.1-6.2V/2.4A, 6.3-6.5V/2.3A, 6.6-6.8V/2.2A, 6.9-7.1V/2.1A, 7.2-7.5V/2.0A, 7.6-7.8V/1.9A, 7.9-8.3V/1.8A, 8.4-8.8V/1.7A, 8.9-9.3V/1.6A, 9.4-10.0V/1.5A
10.0Vdc<Any Voltage > 24.0 Vdc	10.1-10.7V/1.4A, 10.8-11.5V/1.3A, 11.6-12.5V/1.2A, 12.6-13.6V/1.1A, 13.7-15.0V/1.0A, 15.1-16.6V/0.9A, 16.7-18.7V/0.8A, 18.8-21.4V/0.7A, 21.5-24.0V/0.6A

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 VOLT.	O/P AMP.	FORMAT
APS15ES-03335-00-1	90-264Vac	WM1	3.3V	3.5 A	Wallmount
APS15ES-05030-00-2	90-264Vac	WM2	5.0V	3.0 A	Wallmount
APS15ES-09216-00-3	90-264Vac	WM3	9.2V	1.6 A	Wallmount
APS15ES-12112-00-4	90-264Vac	WM4	12.1V	1.2 A	Wallmount
APS15ES-15209-00-5	90-264Vac	WM5	15.2V	0.9 A	Wallmount
APS15ES-18508-00-6	90-264Vac	WM6	18.5V	0.8 A	Wallmount
APS15ES-20007-00-7	90-264Vac	DT7	20.0V	0.7 A	Desktop
APS15ES-22306-00-7	90-264Vac	DT7	22.3V	0.6 A	Desktop
APS15ES-24006-00-7	90-264Vac	DT7	24.0V	0.6 A	Desktop

DUAL OUTPUT V/A CHART

OUTPUT RAIL	OUTPUT VOLTAGE (Vdc) /CURRENT (A)
Main O/P VO1 ★	3.3V/2.5A, 5.0V/2.0A, 5.1-5.5V/1.9-1.8A, 5.6-6.2V/1.7-1.6A, 6.3-7.1V/1.5-1.4A, 7.2-8.3V//1.3-1.2A, 8.4-10.0V/1.1-1.0A, 10.1-11.1V/0.9A, 11.2-12.5V/0.8A, 12.6-14.2V/0.7A, 14.3-15.0V/0.6A.
Aux. O/P ±VO2 †	5V/1.0A, 12V/0.4A, 15V/0.3A, 18V/0.25A, 24V/0.2A.

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 ★ (Vdc) (A)		AUX. O/P VO2 † (Vdc) (A)		CONSTRUCTION FORMAT
APS15ES-03325-A0-1	90-264Vac	WM1	+3.3V	2.5A	+5.0V	1.00A	Wallmount
APS15ES-05020-B0-2	90-264Vac	WM2	+5.0V	2.0A	+12.0V	0.40A	Wallmount
APS15ES-06615-C0-3	90-264Vac	WM3	+6.6V	1.5A	+15.0V	0.30A	Wallmount
APS15ES-07712-D0-4	90-264Vac	WM4	+7.7V	1.2A	+18.0V	0.25A	Wallmount
APS15ES-09011-E0-5	90-264Vac	WM5	+9.0V	1.1A	+24.0V	0.20A	Wallmount
APS15ES-05020-F0-6	90-264Vac	WM6	+5.0V	2.0A	- 5.0V	1.00A	Wallmount
APS15ES-10010-G0-7	90-264Vac	DT7	+10.0V	1.0A	-12.0V	0.40A	Desktop
APS15ES-11009-H0-1	90-264Vac	WM1	+11.0V	0.9A	-15.0V	0.30A	Wallmount
APS15ES-12008-I0-2	90-264Vac	WM2	+12.0V	0.8A	-18.0V	0.25A	Wallmount
APS15ES-15006-J0-7	90-264Vac	DT7	+15.0V	0.6A	-24.0V	0.20A	Desktop

Symbol: "★" OVP built-in, "†" Stacked on main output.

TRIPLE OUTPUT V/A CHART

OUTPUT RAIL	OUTPUT VOLTAGE (Vdc) / CURRENT (A)	
Main O/P +VO1 ★	+5.0-15.0V/1.5-0.5A. <i>Max. output power: 7.5W.</i>	
Aux. O/P ±VO2 †	12V,15V,18V,24V/0.25-0.1A <i>Max. output power: 3.0W.</i>	
Aux. O/P -VO3 •	5,12,15,18,24Vdc/0.5-0.1A. <i>Max. output power: 3.0W.</i>	

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

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

MODEL NO.	AC PLUG	MAIN O/P VO1 ★ (Vdc) (A)		AUX.O/P VO2 † (Vdc) (A)		AUX.O/P VO3 • (Vdc) (A)		FORMAT
APS15ES-05015-BF-1	WM1	+5.0V	1.5A	+12.0V	0.25A	-5.0V	0.50A	Wallmount
APS15ES-07510-BG-2	WM2	+7.5V	1.0A	+12.0V	0.25A	-12.0V	0.25A	Wallmount
APS15ES-08309-CH-3	WM3	+8.3V	0.9A	+15.0V	0.2 A	-15.0V	0.20A	Wallmount
APS15ES-09308-CI-4	WM4	+9.3V	0.8A	+15.0V	0.2 A	-18.0V	0.15A	Wallmount
APS15ES-10707-DI-5	WM5	+10.7V	0.7A	+18.0V	0.15A	-18.0V	0.15A	Wallmount
APS15ES-12506-DJ-6	WM6	+10.7V	0.7A	+18.0V	0.15A	-24.0V	0.10A	Wallmount
APS15ES-15005-EJ-7	DT7	+15.0V	0.5A	+24.0V	0.10A	-24.0V	0.10A	Desktop

Symbol: "★" OVP built-in, "†" Stacked on main output, "•" Installed with Post Regulator (PR).

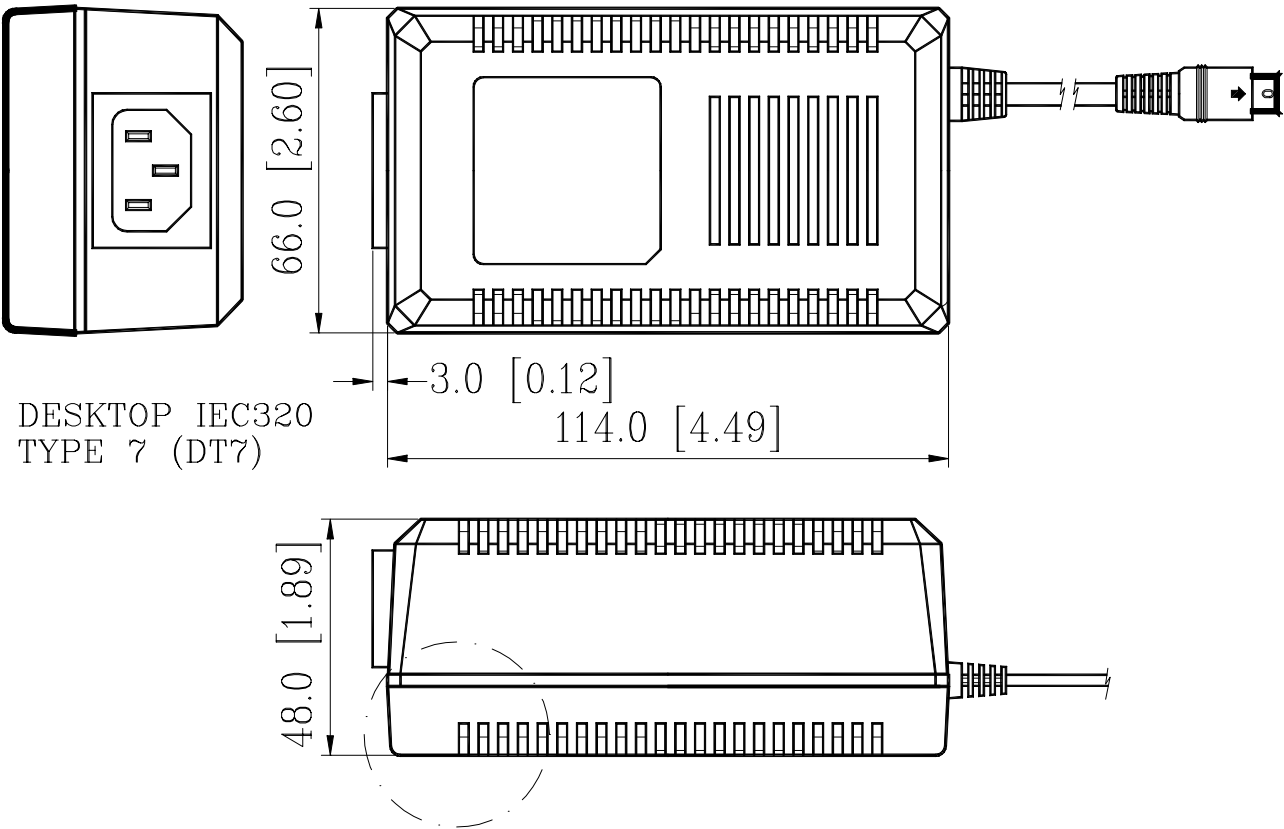
QUAD OUTPUT V/A CHART

MODEL NO.	AC PLUG	MAIN O/P VO1 ★ (Vdc) (A)		AUX.O/P VO2 † (Vdc) (A)		AUX. O/P VO3 • (Vdc) (A)		AUX. O/P VO4 • (Vdc) (A)	
APS15ES-490	DT7	+3.3V	1.5A	+5.0V	1.5A	+12.0V	0.1A	-12.0V	0.10A
APS15ES-491	DT7	+3.3V	1.5A	+5.0V	1.5A	+15.0V	0.1A	-15.0V	0.10A
APS15ES-492	DT7	+3.3V	1.5A	+5.0V	1.5A	+24.0V	0.05A	-12.0V	0.10A
APS15ES-493	DT7	+3.3V	1.5A	+5.0V	1.5A	+24.0V	0.05A	-15.0V	0.10A
APS15ES-494	DT7	+3.3V	1.5A	+5.0V	1.5A	+24.0V	0.05A	-24.0V	0.05A
APS15ES-495	DT7	+3.3V	1.5A	+5.0V	1.5A	+15.0V	0.1A	-12.0V	0.10A
APS15ES-495	DT7	+3.3V	1.5A	+5.0V	1.5A	+12.0V	0.1A	-15.0V	0.10A

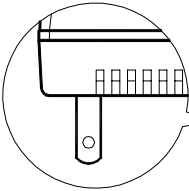
Symbol: "★" OVP built-in, "†" Stacked on main output, "•" Installed with Post Regulator (PR).

MECHANICAL DIMENSIONS: MM [INCHES]

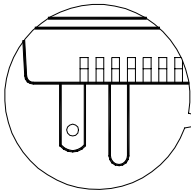
WEIGHT: 270g (9.52 Oz).
443g for APS15ES-4X-WM3



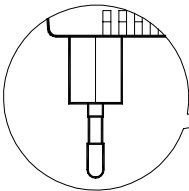
DESKTOP IEC320
TYPE 7 (DT7)



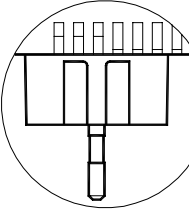
USA 2-BLADE
TYPE 1 (WM1)



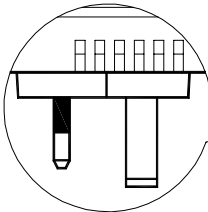
USA 3-BLADE
TYPE 2 (WM2)



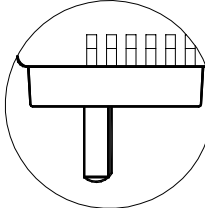
EURO-STECKER
TYPE 3 (WM3)



SCHUKO-STECKER
TYPE 4 (WM4)



UK
TYPE 5 (WM5)



AUSTRALIA
TYPE 6 (WM6)