

## 15 Watt Desktop Switching Power Adapters

## SPU16 series



- Universal 90-264VAC Input
- 5 Input Connection Options
- Single Outputs from 3.3 to 48VDC
- 3000V Isolation
- Splash Proof Case
- DoE VI (Except 3.3V out)



Model Number	Output Watts	Output Voltage	Output Amps	Total Regulation
*SPU16(A, B, C, D or E)-101	8.25	3.3V	2.5A	±5%
*SPU16(A, B, C, D or E)-102	12	5V	2.4A	±5%
*SPU16(A, B, C, D or E)-103	12	6V	2.0A	±5%
*SPU16(A, B, C, D or E)-104	15	10V	1.5A	±5%
*SPU16(A, B, C, D or E)-105	15	12V	1.25A	±5%
*SPU16(A, B, C, D or E)-106	15	15V	1.0A	±5%
*SPU16(A, B, C, D or E)-107	15	18V	0.83A	±5%
*SPU16(A, B, C, D or E)-108	15	24V	0.62A	±5%
*SPU16(A, B, C, D or E)-109	15	30V	0.5A	±5%
*SPU16(A, B, C, D or E)-110	15	36V	0.41A	±3%
*SPU16(A, B, C, D or E)-111	15	48V	0.31A	±3%

\* Note:

The Asterisk \* denotes a choice of AC input connectors (A, B, C, D or E option; i.e. SPU16E-101). Please see Mechanical Dimensions. If not denoted, option "A" IEC-320-C14 connector is used.

Low cost 3 Wire IEC320/C13 (Part Number ACCRD-C13) and 2 Wire IEC320/C7 (Part Number ACCRD-C7) Input Power Cords are available for these products. Inquire to the Astrodyne Sales Depart.

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### INPUT SPECIFICATIONS

Input Voltage Range	90-264 VAC (100-240V nominal)	
Frequency Range	47-63 Hz	
Input Current	Low Line (100VAC)	0.4A
	High Line (240VAC)	0.26A
Inrush Current, typ (Cold Start)	Low Line (115VAC)	15A max.
	High Line (230VAC)	30A max.
Leakage Current	0.75mA max.	
	@ 240 VAC, 60 Hz.	
No Load Power Consumption	0.3W max., 230VAC Input	

### OUTPUT SPECIFICATIONS

Voltage and Current	See Selection Chart	
Output Power Range	0 to FL Rating	
Load Regulation (230Vin)	± 7%, max.	
Line Regulation	± 1%, max.	
Transient Response	100Vin, FL to 1/2L	4mS
Hold Up (100VAC)	8mS	
Start Up	2S	
Temperature Coefficient	±0.04%/°C, typ	
Ripple/Noise (FL, 90Vin)	100mV Pk-Pk typ.	
Short Circuit Protection	Continuous, self-recovering *	
Start Up / Hold Up Time	100Vin, FL	2S max. / 8 mS min.

### ENVIRONMENTAL SPECIFICATIONS

Oper. Temperature	0 to +40°C (FL) *	
	50% Load @ 70°C	
	(See Derate Curve)	
Cooling	Free Air Convection	
Storage Temperature	-40 to +85°C, 10~95% RH *	
Operating/Storage Humidity	0% to 95%, non-cond *	
EMC	EN55022 (CISPR22) Class B	
ESD IEC61000-4-2	Air: 8kV, Contact: 6kV	
MTBF (MIL-HDBK-217F, 25°C)	100,000 Hrs	
Efficiency Level	VI, Except 3.3 Vout	
Operating Altitude (Elevation)	2000m	
Vibration	10~500Hz, 10 min./cycle, 60 min.	
	along each axis, X, Y, Z	
Surge Voltage	L-N: 1kV, L & N-PE: 2 kV	

### GENERAL SPECIFICATIONS

Isolation	I/P - O/P: 4242 VDC
	I/P - GND: 2594 VDC
Isolation Resistance	50 MΩ min., Test Voltage=500VDC
Efficiency (FL, 230Vin)	75~85%, typ.
Switching Frequency	89 KHz
Safety	(c)UL60950-1 2nd Edition

### PHYSICAL SPECIFICATIONS

Size	3.58" x 1.5" x 1.42"
Construction	Desktop Style
Weight	5.8oz (165g)
Flammability Rating	UL94V-1

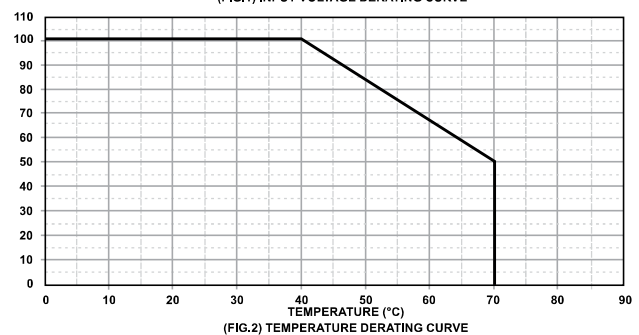
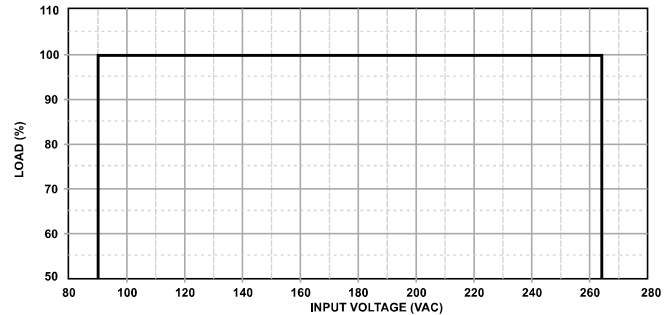
*All specifications are typical at nominal input, full load, and 25°C unless otherwise noted*

\* These are stress ratings. Exposure of the devices to any of these conditions may adversely affect long term reliability. Proper operation under conditions other than the standard operating conditions is neither warranted nor implied.

## NOTES AND CURVES

### SPECIFICATION NOTE :

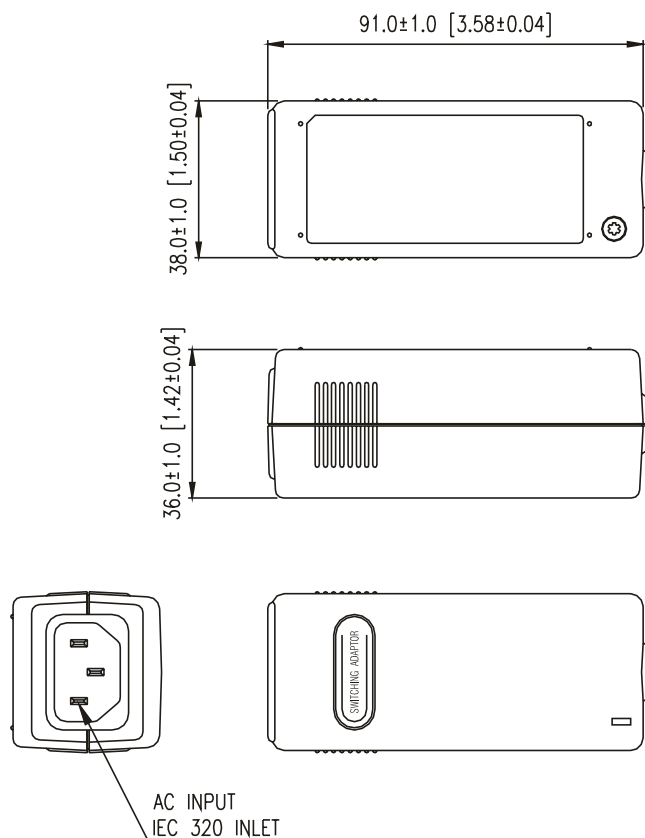
1. Output can provide up to peak load when the power supply starts up. Continuous staying in more than rated load is not allowed.
2. At factory, in 60% rated load condition, each output is checked to be within voltage accuracy.
3. Line regulation is defined by changing  $\pm 10\%$  of input voltage from nominal line at rated load.
4. Load regulation is defined by changing  $\pm 40\%$  of measured output load from 60% rated load.
5. Ripple & noise is measured by using 20MHz bandwidth limited oscilloscope and terminated each output with a 0.47uF capacitor at rated load and nominal line.
6. Hold up time is measured from the end of the last charging pulse to the time which the main output drops down to low limit of main output at rated load and nominal line.
7. Efficiency is measured at rated load, and nominal line.
8. The specifics for testing the energy efficiency of this Series are outlined in a separate document titled "Test Method for Calculating the Energy Efficiency of Single-Voltage Interchangeable AC-DC and AC-AC Power Supplies (August 11, 2004)," which is available on the ENERGY STAR Website.



### PACKING :

1. Net weight: 165g approx.
2. Optional output connectors available contact sales for details.

**MECHANICAL DIMENSIONS - SPU16A-XXX (IEC-320-C14 3 PRONG INPUT RECEPTACLE)**

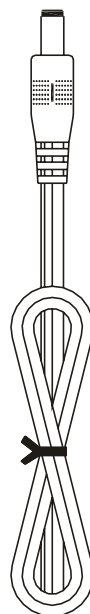


**DC OUTPUT CONNECTIONS**

**Coaxial Plug**

5.5mm outer diameter  
2.1mm inner diameter, female  
11mm length, center "+"

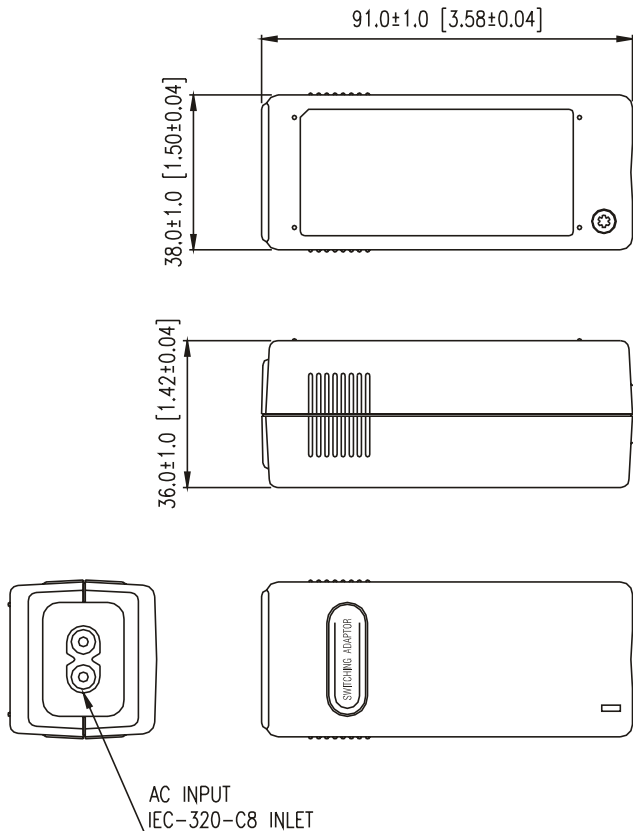
-Vout —  +Vout



SPU16x-101~103 Output Cord Length 48" 16AWG

SPU16x-104~111 Output Cord Length 48" 18AWG

**MECHANICAL DIMENSIONS - SPU16B-XXX (IEC-320-C8 2 PRONG INPUT RECEPTACLE)**



**DC OUTPUT CONNECTIONS**

**Coaxial Plug**

5.5mm outer diameter  
2.1mm inner diameter, female  
11mm length, center "+"

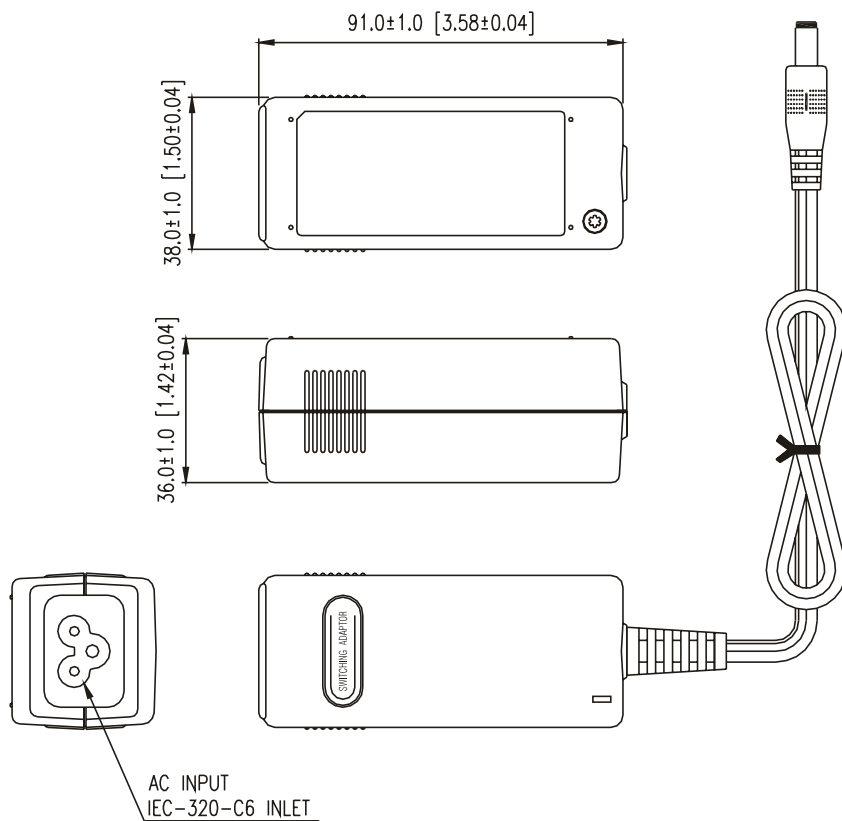
-Vout —  +Vout



SPU16x-101~103 Output Cord Length 48" 16AWG

SPU16x-104~111 Output Cord Length 48" 18AWG

**MECHANICAL DIMENSIONS - SPU16C-XXX (IEC-320-C6 3 PRONG INPUT RECEPTACLE)**



**DC OUTPUT CONNECTIONS**

**Coaxial Plug**

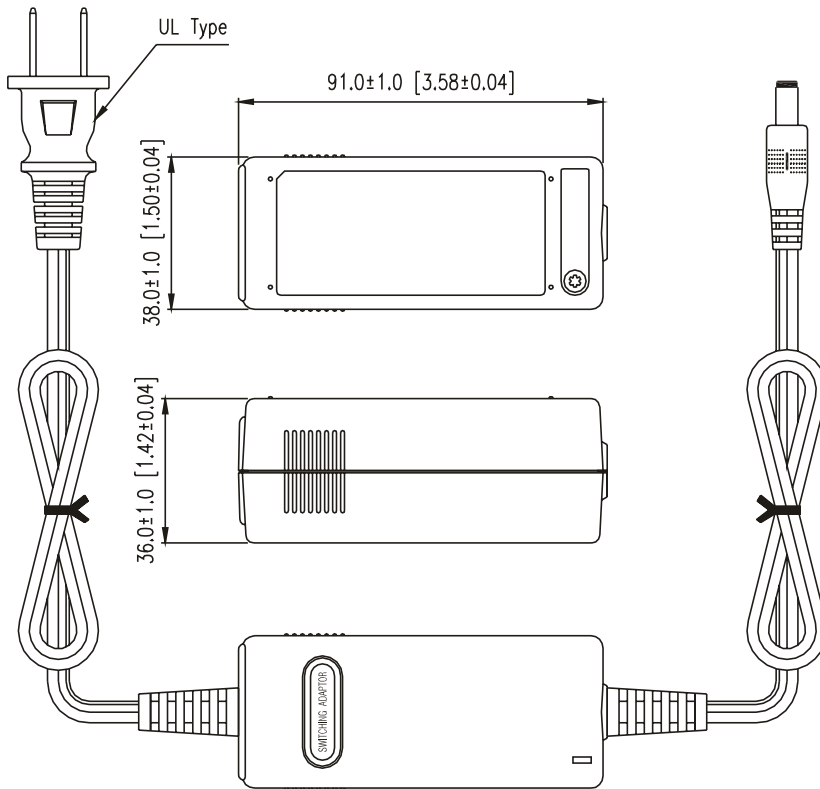
5.5mm outer diameter  
2.1mm inner diameter, female  
11mm length, center "+"

-Vout —  +Vout

SPU16x-101~103 Output Cord Length 48" 16AWG

SPU16x-104~111 Output Cord Length 48" 18AWG

**MECHANICAL DIMENSIONS - SPU16D-XXX (IEC-320 2 PRONG MOLDED INPUT CORD)**



**DC OUTPUT CONNECTIONS**

**Coaxial Plug**

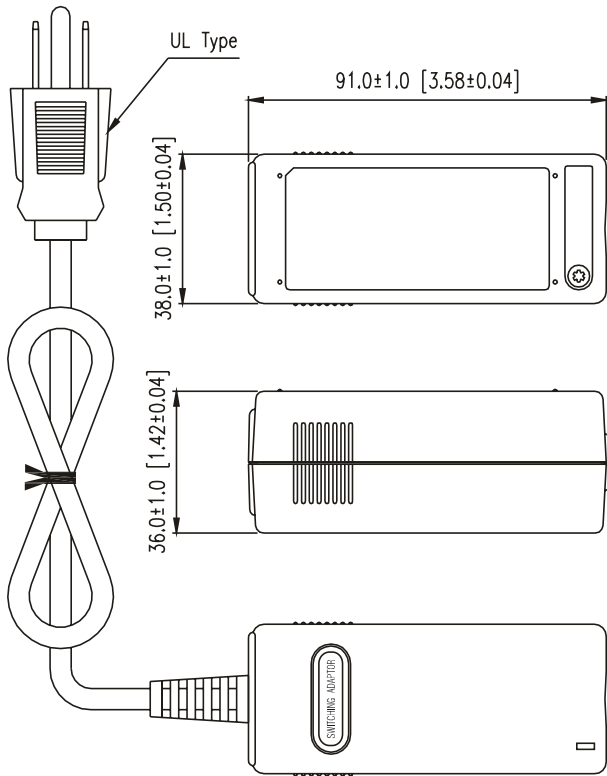
5.5mm outer diameter  
2.1mm inner diameter, female  
11mm length, center "+"

-Vout —  +Vout

SPU16x-101~103 Output Cord Length 48" 16AWG

SPU16x-104~111 Output Cord Length 48" 18AWG

**MECHANICAL DIMENSIONS - SPU16E-XXX (IEC-320 3 PRONG MOLDED INPUT CORD)**



**DC OUTPUT CONNECTIONS**

**Coaxial Plug**

5.5mm outer diameter  
2.1mm inner diameter, female  
11mm length, center "+"



SPU16x-101~103 Output Cord Length 48" 16AWG

SPU16x-104~111 Output Cord Length 48" 18AWG