



# SP16P Series

12 - 15 Watt AC - DC Desktop Power Supply  
Energy Efficiency Level VI, CoC Tier 2, RoHS 2

Date: 10/31/18

Rev: 070118

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The SP16P Series switch mode power supply offers 12 - 15 Watts output power, with an output voltage range of 5 Vdc – 48 Vdc. Case style is a desktop enclosure with an IEC-320 C14, C8, C6 input socket or a fixed input cable with a U.S. 2-Prong or 3-Prong Input plug. Approved to UL/cUL, EN and IEC 60950-1 2<sup>nd</sup> Edition safety approvals, Energy Efficiency Level 6, and CoC v5 Tier 2 efficiency.

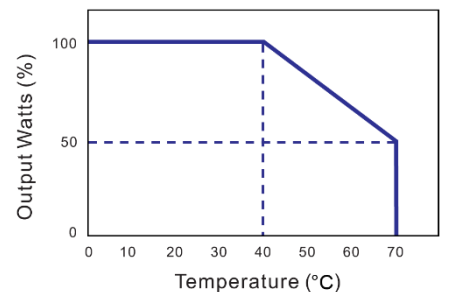


<b>Input Voltage</b>	90 to 264 Vac
<b>Input Frequency</b>	47 to 63 Hz
<b>Input Current</b>	0.4 A Max. at 100 Vac, Full Load 0.16 A Max. at 240 Vac, Full Load
<b>Leakage Current</b>	Models without a Ground: 0.25 mA Max. at 240 Vac, Full Load Models with a Ground: 0.75 mA Max. at 240 Vac, Full Load
<b>Output Voltage &amp; Current</b>	See Table on Page 2
<b>Temperature Coefficient</b>	± 0.04% / °C Max.
<b>Transient Response</b>	100% - 50% Load Change at 110 Vac Input: 4 ms Max.
<b>Efficiency</b>	69 - 86%
<b>No Load Power Consumption</b>	< 0.5 Watts
<b>Line Regulation</b>	± 1% Max. at Full Load
<b>Load Regulation</b>	± 7% Max. at 230 Vac
<b>Start-Up Time</b>	2 s Max.
<b>Hold-Up Time</b>	8 ms Min.
<b>Withstanding Voltage</b>	Primary to Secondary: 4,242 Vdc For Models with a Ground: Primary to Ground: 2,121 Vdc
<b>Inrush Current</b>	15 A Max. @ 100 Vac at 25°C Cold Start 36 A Max. @ 240 Vac at 25°C Cold Start
<b>Mean Time Between Failure</b>	Full Load at 25°C Ambient: 100,000 Hours Min.
<b>Operating Temperature</b>	See Derating Curve
<b>Storage Temperature</b>	-40 to 85 °C
<b>Weight</b>	165 g (Ref.)
<b>Industry Compliance</b>	RoHS 2, DoE Level VI CoC v5 Tier 2 (C14 Only)
<b>EMI Requirements</b>	Meets Conduction and Radiation Limits of: FCC Part 15 Class B, CISPR-22 Class B, and EN 55022 Class B
<b>Safety Compliance</b>	UL/cUL (UL 60950-1:2nd Ed.), TUV/GS (EN 60950-1:2nd Edition), CB, CCC, CE, FCC, PSE Fixed Input Cable: UL/cUL (UL 60950-1:2nd Ed.), Models Only: CB, CCC, FCC

## Features:

- Universal Input 100 - 240 Vac
- IEC 320 C14, C8, C6 or Fixed Input Cable
- Short Circuit Protection
- 100% Burn-In
- RoHS 2 Compliant
- DoE Level VI

## Derating Curve



Derate Linearly from 100% at 40°C to 50% at 70°C



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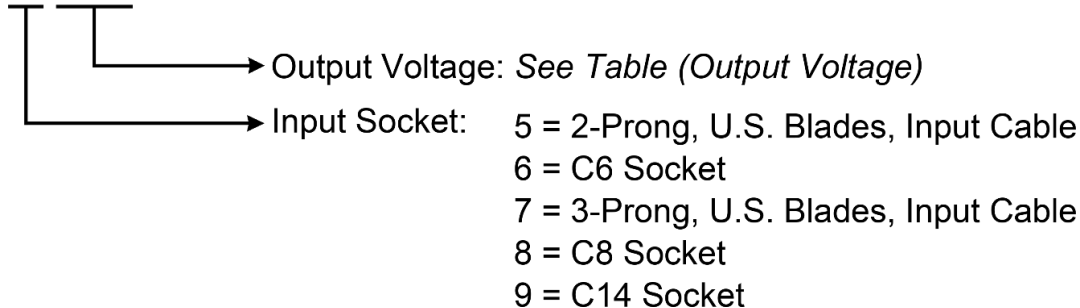
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## Output Voltage and Current Table

Model Number	Output Voltage	Output Current <i>Limited to Output Power</i> <sup>1</sup>	Ripple & Noise (mV P-P) <sup>2</sup>	Output Power
SP16P___R	3 – 5 Vdc	2.50 A	66	12 Watts
SP16P___R	5 – 5.99 Vdc	2.00 – 2.40 A	60	12 Watts
SP16P___R	6.5 – 8.0 Vdc	1.50 – 1.85 A	80	12 Watts
SP16P___R	9 – 11 Vdc	1.36 – 1.67 A	110	15 Watts
SP16P___R	12 – 13 Vdc	1.15 – 1.25 A	130	15 Watts
SP16P___R	14 – 16 Vdc	0.94 – 1.07 A	150	15 Watts
SP16P___R	17 – 21 Vdc	0.71 – 0.88 A	150	15 Watts
SP16P___R	22 – 27 Vdc	0.56 – 0.68 A	200	15 Watts
SP16P___R	28 – 33 Vdc	0.45 – 0.54 A	200	15 Watts
SP16P___R	34 – 40 Vdc	0.38 – 0.44 A	250	15 Watts
SP16P___R	41 – 48 Vdc	0.31 – 0.37 A	250	15 Watts

SP16P    R



### Notes:

1. To find Output Current:

$$\text{Output Current} = \text{Max Power} \div \text{Output Voltage}$$

Example: Output Current for SP16P615R (15 Vdc Output, 15 Watts)

$$\text{Output Current} = 15 \text{ W} \div 15 \text{ V}$$

$$\text{Output Current} = 1.00 \text{ A}$$

2. Measured w/ 0.1  $\mu\text{F}$  ceramic capacitor & 47  $\mu\text{F}$  electrolytic capacitor in parallel and a 20 MHz Bandwidth-limited scope.



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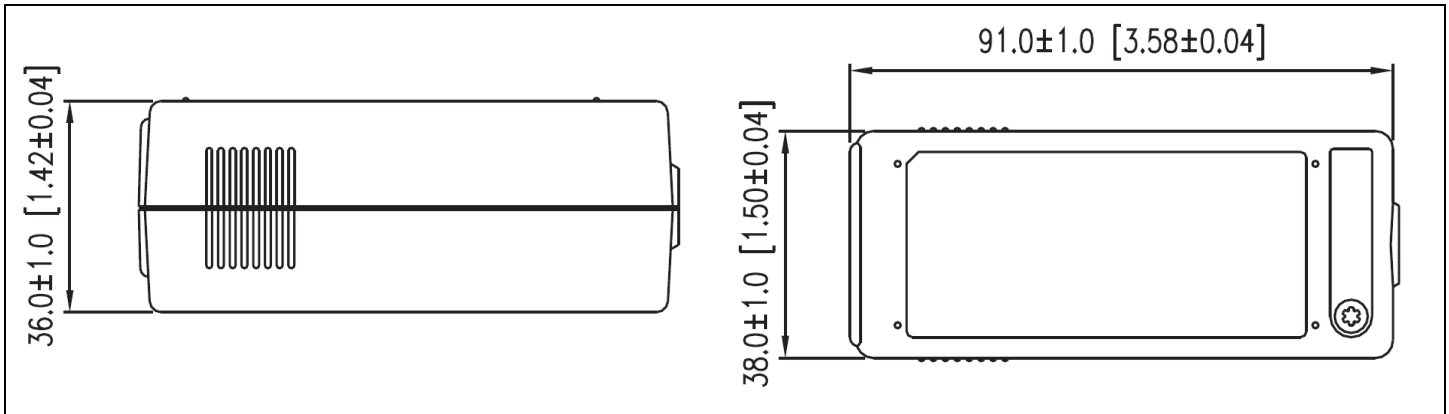
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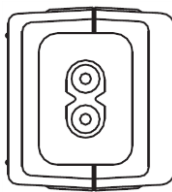
## Mechanical Specification (mm)



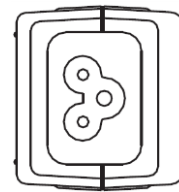
**SP16P9:** C14 Socket



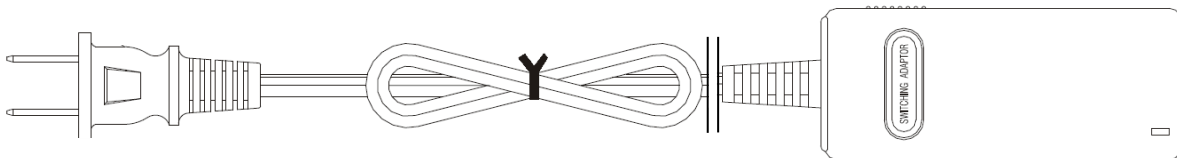
**SP16P8:** C8 Socket



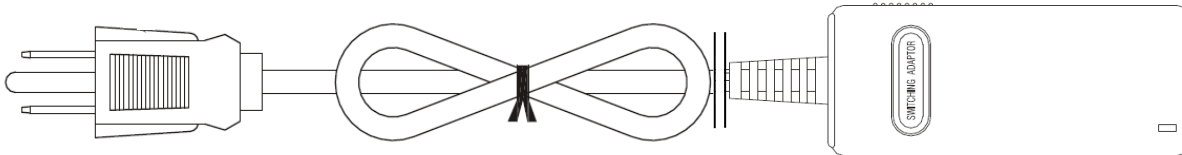
**SP16P6:** C6 Socket



**SP16P5:** 2-Prong, U.S. Blades, Input Cable



**SP16P7:** 3-Prong, U.S. Blades, Input Cable



### Note:

Output connector to be specified by customer.

Standard connector is a 2.5 x 5.5 x 11 mm Female Barrel Connector

The cable length and wire gauge will be dependent on the Energy Efficiency Level requirements.