SP30P1R – SP50P1R Series

30 - 50 Watt AC - DC Desktop Power Supply
DoE Level VI, CoC v5 Tier 2, RoHS 2 Compliant

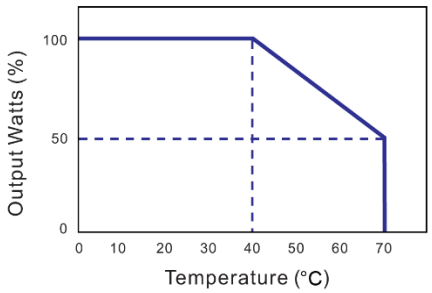
The SP30P1R – SP50P1R Series switch mode power supply offers 30 – 50 Watts output power, with an output voltage range of 5 Vdc - 48 Vdc. Case style is a desktop enclosure with a C14 input socket, with UL/cUL, EN and IEC 60950-1 2nd Edition safety approvals, DoE Level 6, and CoC v5 Tier 2 efficiency.

Input Voltage	*90 to 264 Vac*
Input Frequency	*47 to 63 Hz*
Input Current (Low Line)	*1.2 A Typ. at 100 Vac*
Input Current (High Line)	*0.8 A Typ. at 240 Vac*
Safety Ground Leakage Current	*0.75 mA Max. at 240 Vac, Full Load*
Output Voltage & Current	*See Table on Page 2*
Temperature Coefficient	*±0.04% / °C Max.*
Transient Response	*100% - 50% Load Change at 110 Vac Input: 4 ms Max.*
Efficiency	*85.00 – 88.03%*
No Load Power Consumption	*< 0.15 W*
Line Regulation	*±1% Max. at Full Load*
Load Regulation	*±5% Max.*
Start-Up Time	*2.7 s*
Hold-Up Time	*10 - 12 ms Typ.*
Withstanding Voltage	*Primary to Secondary: 4,242 Vdc* *Primary to PE: 2,550 Vdc*
Inrush Current	*54 A Max. @ 100 Vac at 25°C Cold Start* *108 A Max. @ 240 Vac at 25°C Cold Start*
Mean Time Between Failure	*100,000 Hours Min. (MIL-HDBK-217F, Full Load @ 25°C)*
Operating Temperature	*See Derating Curve*
Storage Temperature	*-40 to 85 °C*
Weight	*265 - 280 g Typ.*
Industry Compliance	*Directive 2011/65/EU (RoHS 2), DoE Level VI*
EMI Requirements	*Meets Conduction and Radiation Limits of:* *FCC Part 15 Class B, CISPR-32 Class B, and EN 55032 Class B*
Safety Compliance	*UL/cUL (UL/CSA 60950-1:2nd Ed.), TUV/GS (EN 60950-1:2nd Ed.)* *CE, CB, CCC, PSE*

Features:

- Universal Input 100 - 240 VAC
- IEC 320 C14
- Over-Current Protection
- 100% Burn-In
- RoHS 2 Compliant
- DoE Level VI
- CoC v5 Tier 2

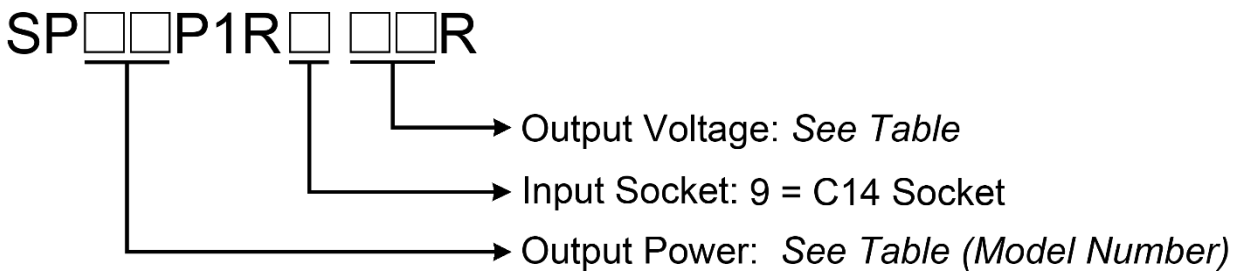
Derating Curve



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

Output Voltage and Current Table

Model Number	Output Voltage	Output Current *Limited to Output Power* [1]	Ripple & Noise (mV P-P) [2]	Output Power
SP30P1R9 _ _R	5 – 5.99 Vdc	5.00 A	60	30 Watts
SP30P1R9 _ _R	6.5 – 8.0 Vdc	3.75 – 4.62 A	80	30 Watts
SP35P1R9 _ _R	9 – 11 Vdc	3.18 – 3.89 A	110	35 Watts
SP40P1R9 _ _R	12 – 13 Vdc	3.08 – 3.33 A	130	40 Watts
SP40P1R9 _ _R	14 – 16 Vdc	2.50 – 2.86 A	150	40 Watts
SP40P1R9 _ _R	17 – 21 Vdc	1.90 – 2.35 A	150	40 Watts
SP50P1R9 _ _R	22 – 27 Vdc	1.85 – 2.27 A	150	50 Watts
SP50P1R9 _ _R	28 – 33 Vdc	1.52 – 1.79 A	200	50 Watts
SP50P1R9 _ _R	34 – 40 Vdc	1.25 – 1.47 A	200	50 Watts
SP50P1R9 _ _R	41 – 48 Vdc	1.04 – 1.22 A	400	50 Watts



Notes:

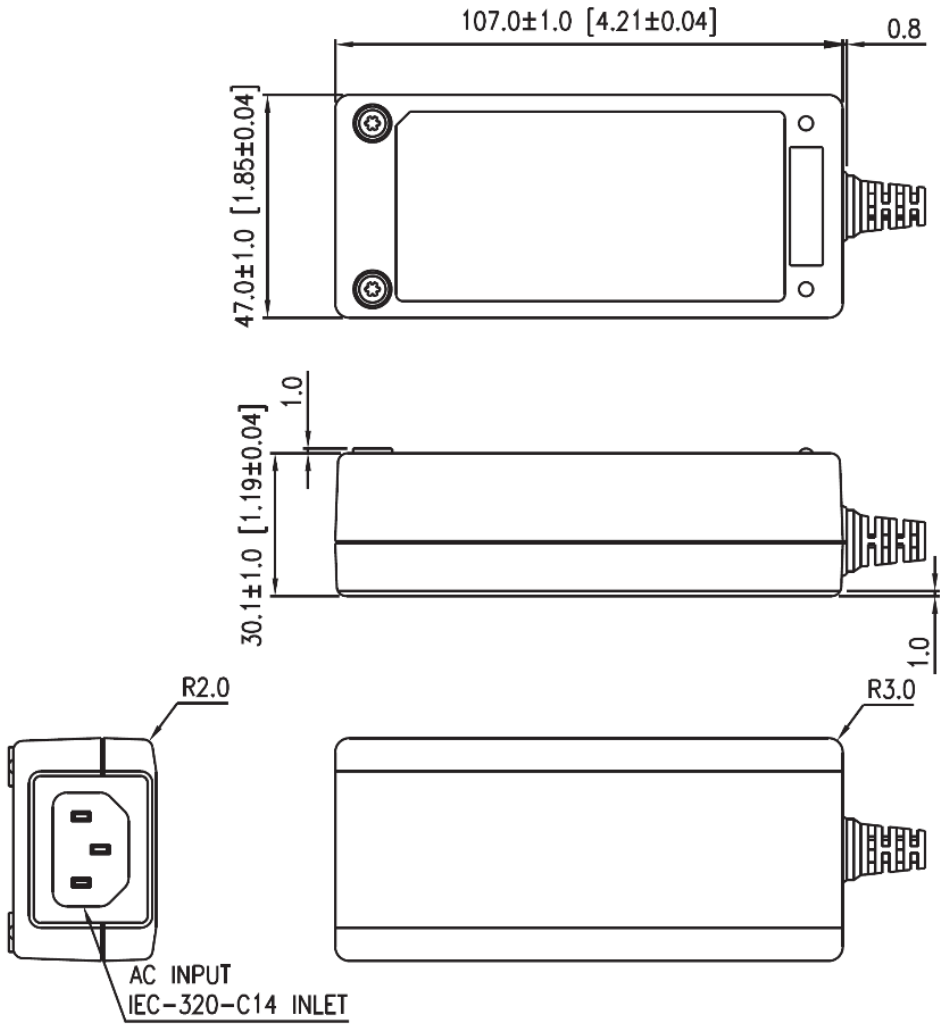
1. To find Output Current:
Output Current = Max Power ÷ Output Voltage

*Example: Output Current for SP40P1R9**15**R (15 Vdc Output, 40 Watts)*

Output Current = 40 W ÷ 15 V
Output Current = 2.67 A

2. Measured w/ 0.1 µF ceramic capacitor & 47 µF electrolytic capacitor in parallel and a 20 MHz Bandwidth-limited scope.

Mechanical Specification *(mm, [in])*



Note: Output connector to be specified by customer.
APX will be happy to recommend the appropriate connector for your application needs.
The cable length and wire gauge will be dependent on the Energy Efficiency level requirements.