



# SP20Q – SP24Q Series

20 -24 Watt AC - DC Desktop Power Supply

UL/EN/IEC 62368-1 2<sup>nd</sup> Ed., DoE VI, CoC v5 Tier 2

Date: 9/27/18

Rev: 073118

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The SP20Q – SP24Q Series switch mode power supply offers 20 Watts to 24 Watts output power, with an output voltage range of 5 Vdc – 48 Vdc. Case style is a desktop enclosure with choice of IEC-320 C6, C8, C14 input socket, with UL/EN/IEC 62368-1 2<sup>nd</sup> Edition and 60950-1 safety approvals, and DoE Level 6 and CoC v5 Tier 2 efficiency.



Input Voltage	90 to 264 Vac
Input Frequency	47 to 63 Hz
Input Current	0.58 A Max.
Leakage Current	0.25 mA Max. (C8 Input) 3.5 mA Max. (C6, C14 Input)
Output Voltage & Current	See Table on Page 2
Ripple & Noise (P-P) <sup>1</sup>	2% Max.
Over-Voltage Protection	Unit is protected from over-voltage conditions
Over-Current Protection	Unit is protected from over-current conditions
Transient Response Time	50% Load Change: 0.5 ms
Efficiency	Meets DoE Level VI and CoC v5 Tier 2 Criteria
No Load Power Consumption	< 0.075 W
Load Regulation	± 5% Typ.
Hold-Up Time	10 ms Min.
Withstanding Voltage	Primary to Secondary: 3,000 Vac for 1 min. (C6, C14 Input) Primary to Ground: 1,500 Vac for 1 min.
Mean Time Between Failure	Full Load at 25°C Ambient: 300,000 Hours Min (Telcordia)
Operating Temperature	0 to 40°C
Storage Temperature	-20 to 80°C
Weight	166 g (Ref.)
Industry Compliance	RoHS 2, DoE VI, CoC v5 Tier 2
EMC Requirements	EN 55024, EN 61000-3-2, -3-3
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 62368-1:2 <sup>nd</sup> Ed., 60950-1:2 <sup>nd</sup> Ed.), GS (EN 60950-1:2 <sup>nd</sup> Ed.), CE, CB (EN/IEC 62368-1:2 <sup>nd</sup> Ed.), PSE, BSMI, CCC, RCM, LPS

## Features:

- Universal Input 100 - 240 Vac
- IEC 320 C6, C8, and C14 Input
- Over-Voltage Protection
- Over-Current Protection
- Short Circuit Protection
- 100% Burn-In
- RoHS 2 Compliant
- DoE Level VI
- CoC v5 Tier 2

### Note:

1. Measured w/ 0.1 µF ceramic capacitor & 47 µF electrolytic capacitor in parallel and 20 MHz bandwidth limited scope.



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## Output Voltage and Current Table

Model Number	Output Voltage	Output Current	Output Power
SP20Q _ 05R	5.0 Vdc	4.0 A	20.00 W
SP20Q _ 06R	5.9 Vdc	3.5 A	20.65 W
SP24Q _ 06R	5.9 Vdc	4.0 A	23.60 W
SP21Q _ 07R	7.0 Vdc	3.0 A	21.00 W
SP23Q _ 08R	7.5 Vdc	3.0 A	22.50 W
SP23Q _ 09R	9.0 Vdc	2.5 A	22.50 W
SP24Q _ 12R	12.0 Vdc	2.0 A	24.00 W
SP24Q _ 15R	15.0 Vdc	1.6 A	24.00 W
SP24Q _ 24R	24.0 Vdc	1.0 A	24.00 W
SP24Q _ 48R	48.0 Vdc	0.5 A	24.00 W

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Output Voltage: See Table (Output Voltage)

Input Socket: 6 = C6 Socket  
8 = C8 Socket  
9 = C14 Socket

Output Power: See Table (Model Number)



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## Mechanical Specification (mm)

2-Pin Input (C8 Input)		3-Pin Input (C6 & C14 Input)	
<b>SP__Q9: C14 Input</b>		<b>SP__Q8: C8 Input</b>	
<p>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.</p>			