



# SP20QY - SP24QY Series

20 - 24 Watt AC - DC Wall Plug-In Power Supply  
 UL/EN/IEC 62368-1 2<sup>nd</sup> Ed., DoE VI, CoC v5 Tier 2

Date: 9/27/18

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The SP20QY – SP24QY Series switch mode power supply offers 20 Watts to 24 Watts output power, with an output voltage range of 5 Vdc - 48 Vdc. Case styles include US/Japan, European, British, Australian, and China input prongs, with UL/EN/IEC 62368-1 2<sup>nd</sup> Edition and 60950-1 2<sup>nd</sup> Edition safety approvals, DoE Level 6 and CoC v5 Tier 2.



<b>Input Voltage</b>	90 to 264 Vac
<b>Input Frequency</b>	47 to 63 Hz
<b>Input Current</b>	0.58 A Max.
<b>Leakage Current</b>	0.25 mA Max.
<b>Output Voltage &amp; Current</b>	See Table on Page 2
<b>Ripple &amp; Noise (P-P)<sup>1</sup></b>	2% Max.
<b>Over-Voltage Protection</b>	Unit is protected from over-voltage conditions
<b>Over-Current Protection</b>	Unit is protected from over-current conditions
<b>Transient Response Time</b>	50% Load Change: 0.5 ms
<b>Efficiency</b>	Meets DoE Level VI and CoC v5 Tier 2 Criteria
<b>No Load Power Consumption</b>	Meets DoE Level VI and CoC v5 Tier 2 Criteria
<b>Load Regulation</b>	± 5% Typ.
<b>Hold-Up Time</b>	10 ms Min.
<b>Withstanding Voltage</b>	Primary to Secondary: 3000 Vac
<b>Mean Time Between Failure</b>	Full Load at 25°C Ambient: 300,000 Hours Min. (Telcordia)
<b>Operating Temperature</b>	0 to 40°C
<b>Storage Temperature</b>	-20 to 80°C
<b>Weight</b>	US & China Models: 148 g European Model: 154 g British Model: 158 g Australian Model: 150 g
<b>Industry Compliance</b>	RoHS 2, DoE VI, CoC v5 Tier 2
<b>EMI Requirements</b>	Meets Conduction and Radiation Limits of: FCC Part 15 Class B, CISPR-32 Class B, and EN 55032 Class B
<b>Safety Compliance</b>	US/Japan Model: UL/cUL (UL/CSA 62368-1:2 <sup>nd</sup> Ed., 60950-1:2 <sup>nd</sup> Ed.), PSE, BSMI, CB (IEC 62368-1:2 <sup>nd</sup> Ed.), LPS British & Europe Model: CE (EN 60950-1:2 <sup>nd</sup> Edition), TUV/GS, CB (EN/IEC 62368-1), LPS Australia Model: RCM, CB (IEC 62368-1:2 <sup>nd</sup> Ed.), LPS China Model: CCC, CB (IEC 62368-1:2 <sup>nd</sup> Ed.), LPS

## Features:

- Universal Input 100 - 240 Vac
- Available with US, European, British, Australian, and China case styles
- Over-Voltage Protection
- Over-Current Protection
- Short Circuit Protection
- 100% Burn-In
- RoHS 2 Compliant
- Efficiency: DoE VI, CoC v5 Tier 2

**Note:**

1. Ripple & Noise are measured with a 0.1 µF multilayer capacitor & 10 µF low ESR electrolytic capacitor in parallel and a 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
SP21Q_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_07R	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

SP□□Q□□□R

Output Voltage: See Table (Output Voltage)

Input Plug:

U = U.S. Plug (US)

E = European Plug (EU)

B = British Plug (UK)

A = Australian Plug (AU)

C = China Plug (CN)

Output Power: See Table (Model Number)



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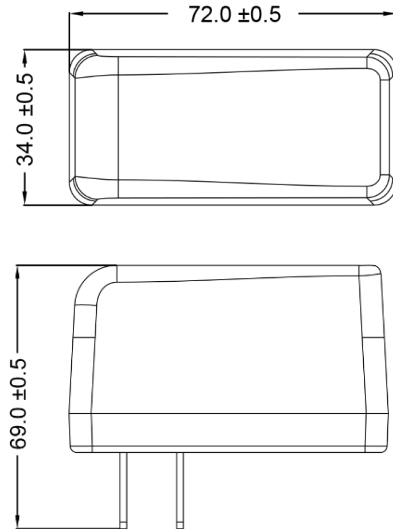
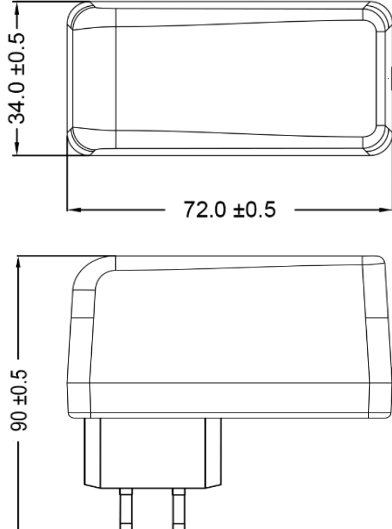
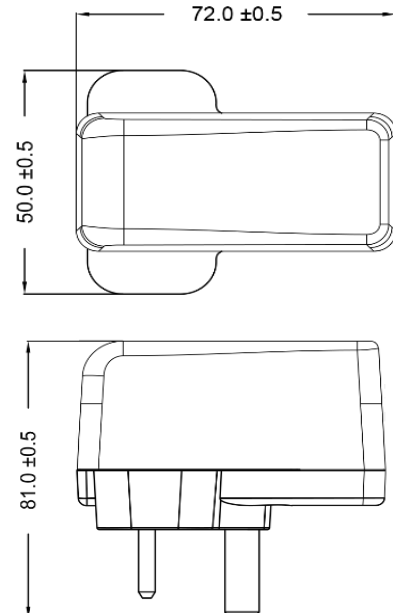
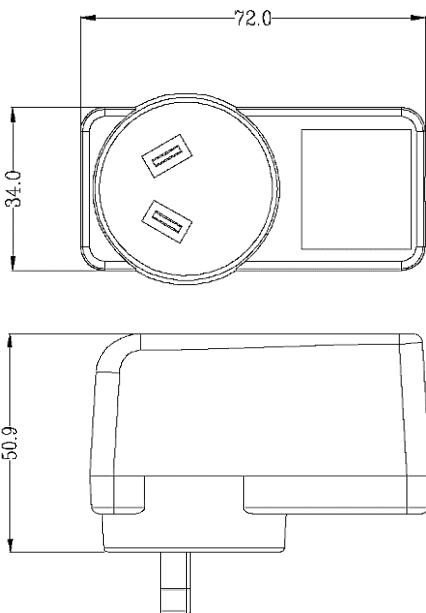
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## Mechanical Specification (mm)

SP__QU: US Prongs	SP__QC: China Prongs	SP__QE: European Prongs
		
SP__QB: British Prongs	SP__QA: Australian Prongs	
		
<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>		