



SP90Q2R Series

90 Watt AC - DC Desktop Power Supply

UL, EN, IEC 62368-1 2nd Edition, DoE Level VI

Date: 10/04/18

Rev: 060118

Page: 1 of 3

The SP90Q2R Series switch mode power supply offers 84 Watts to 90 Watts output power, with an output voltage range of 12 Vdc - 56 Vdc. Case style is a desktop enclosure with choice of C6 and C14 input socket, with UL/EN/IEC 62368-1 2nd Edition and 60950-1 2nd Edition safety approvals, DoE Level 6, and CoC v5 Tier 2 efficiency.

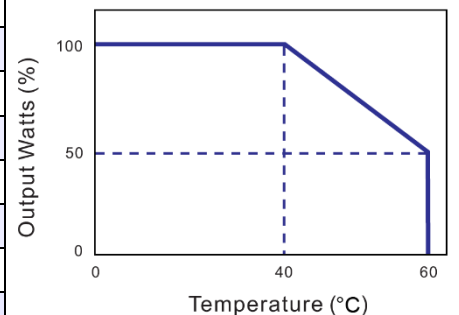


Input Voltage	90 to 264 Vac
Input Frequency	47 to 63 Hz
Input Current	1.2 A Max.
Power Factor Correction	0.9 Min.
Safety Ground Leakage Current	3.5 mA Max.
Output Voltage & Current	See Table on Page 2
Ripple & Noise (P-P) ¹	1% Max.
Over-Voltage Protection	Unit is protected from over-voltage conditions
Over-Current Protection	Unit is protected from over-current conditions
Temperature Coefficient	± 0.04% / °C Max.
Transient Response	50% Load Change from: 0.5 ms
Efficiency	Meets DoE Level VI Criteria
No Load Power Consumption	< 0.21 Watts
Line Regulation	± 1% Max. at Full Load
Load Regulation	± 5% Typ.
Hold-Up Time	10 ms 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
Industry Compliance	RoHS, DoE VI
EMC Requirements	EN 55024, EN 61000-3-2, -3-3
EMI Requirements	Meets Conduction 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 nd Ed., 60950-1:2 nd Ed.), GS (EN 60950-1:2 nd Ed.), CB (EN/IEC 62368-1:2 nd Ed.), CE, RCM, PSE, CCC, BSMI, KC (12V and 24V only), LPS

Features:

- Universal Input 100 - 240 Vac
- IEC 320 C14 & C6 Input Only
- Active PFC Function
- Over-Voltage Protection
- Over-Current Protection
- Short Circuit Protection
- 100% Burn-In
- RoHS 2 Compliant
- Energy Efficiency Level: VI

Derating Curve



Derate Linearly from 100% at 40°C to 50% at 60°C

Note:

1. Ripple & Noise are measured with a 0.1 µF multilayer capacitor & 47 µF low ESR electrolytic capacitor in parallel and a 20 MHz bandwidth-limited scope.



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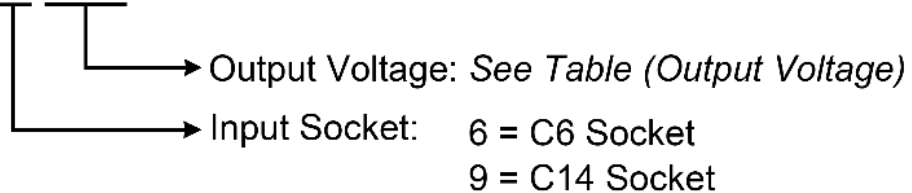
Rev: 060118

Page: 2 of 3

Output Voltage and Current Table

Model Number	Output Voltage	Output Current	Output Power
SP90Q2R_ 12R	12 Vdc	7.00 A	84 W
SP90Q2R_ 15R	15 Vdc	6.00 A	90 W
SP90Q2R_ 16R	16 Vdc	5.63 A	90 W
SP90Q2R_ 18R	18 Vdc	5.00 A	90 W
SP90Q2R_ 19R	19 Vdc	4.74 A	90 W
SP90Q2R_ 20R	20 Vdc	4.50 A	90 W
SP90Q2R_ 24R	24 Vdc	3.75 A	90 W
SP90Q2R_ 30R	30 Vdc	3.00 A	90 W
SP90Q2R_ 48R	48 Vdc	1.88 A	90 W
SP90Q2R_ 56R	56 Vdc	1.60 A	90 W

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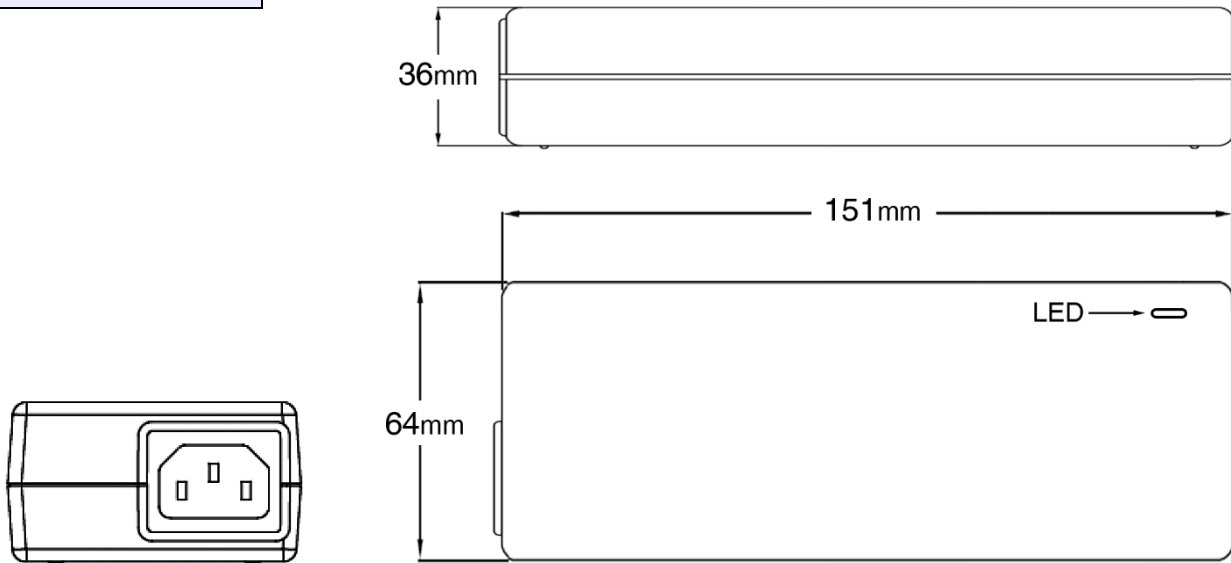
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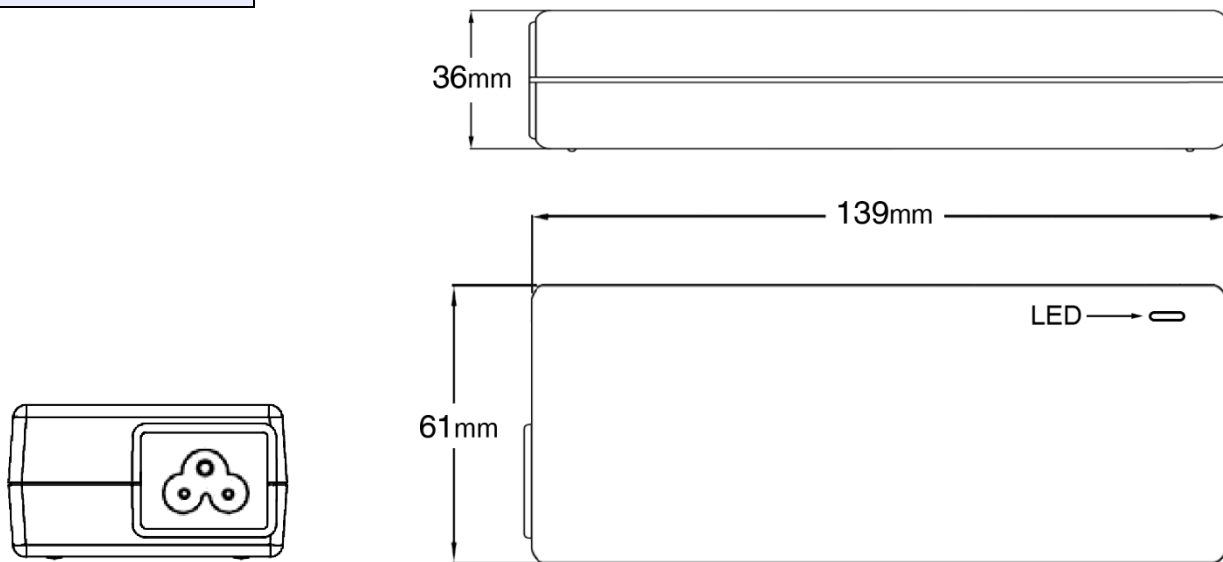
Page: 3 of 3

Mechanical Specification (mm)

SP90Q2R9 (C14 Input)



SP90Q2R6 (C6 Input)



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.