



# SM300Q1R Series

300 Watt AC-DC Medical Desktop Power Supply  
IEC 60601-1-2 4th Ed. EMC, DoE Level VI, RoHS 2

Date: 10/5/18

Rev: 070918

Page: 1 of 2

The SM300Q1R Series switch mode power supply offers 300 Watts output power, with an output voltage range of 12 Vdc – 48 Vdc. Case style is a desktop enclosure with IEC-320 C14 input socket, with ES, EN and IEC 60601-1 3.1 Edition safety approvals, IEC 60601-1-2 4th Edition EMC, IEC 60950-1 2nd Edition, and DoE Level 6 Efficiency.

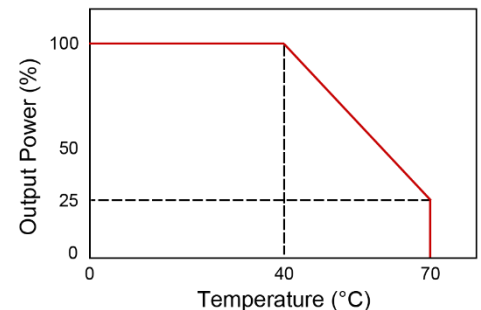


|                                   |  |
|-----------------------------------|--|
| Input Voltage                     | 90 to 264 Vac  |
| Input Frequency                   | 47 to 63 Hz  |
| Input Current                     | 3.5 – 1.5 A  |
| Power Factor Correction           | > 0.9  |
| Leakage Current                   | < 100 $\mu$ A  |
| Output Voltage & Current          | See Table on Page 2  |
| Ripple & Noise (P-P) <sup>1</sup> | 2% Max.  |
| Over-Voltage Protection           | 150% Max   |
| Over-Current Protection           | 150% Max   |
| Transient Response                | 50% Load Change at 110 Vac Input: 0.5 ms Typ.  |
| Efficiency                        | Meets DoE Level VI   |
| No Load Power Consumption         | < 0.1 Watts  |
| Load Regulation                   | $\pm$ 5% Typ.  |
| Hold-Up Time                      | 10 ms Min.   |
| Withstanding Voltage              | Primary to Secondary: 4,000 Vac 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               | Directive 2011/65/EU (RoHS 2), DoE Level VI  |
| Weight                            | 1600 g (Ref.)  |
| EMC Requirements                  | IEC 60601-1-2: 2014 4 <sup>th</sup> Edition  |
| EMI Requirements                  | Meets Conduction and Radiation Limits of:<br>CISPR-11 Class B, EN 55011 Class B, and FCC Part 15 Class B                                     |
| Safety Compliance                 | UR/c-UR (ANSI/AAMI/ES 60601-1:2012 3.1 Edition),<br>TUV, CE, FCC, PSE<br>CB (IEC 60601-1: 3.1 Edition, IEC 60950-1: 2 <sup>nd</sup> Edition) |

## Features:

- Universal Input 100 - 240 Vac
- IEC320 C14 or C18 Input Socket
- 2 x MOPP Protection
- < 100  $\mu$ A Touch Current
- Over-Voltage, Over-Current, and Short Circuit Protection
- 100% Burn-In
- RoHS 2 Compliant
- Energy Efficiency Level: DoE VI
- Meets IEC 60950-1 2<sup>nd</sup> Edition
- Meets IEC 60601-1-2: 2014 4<sup>th</sup> Edition EMC Requirements

## Derating Curve



Derate Linearly from 100% at 40°C to 25% at 70°C

### Note:

1. Ripple & Noise are measured with a 0.1  $\mu$ F multilayer capacitor & 0.10  $\mu$ F low ESR electrolytic capacitor in parallel and a 20 MHz bandwidth-limited scope.



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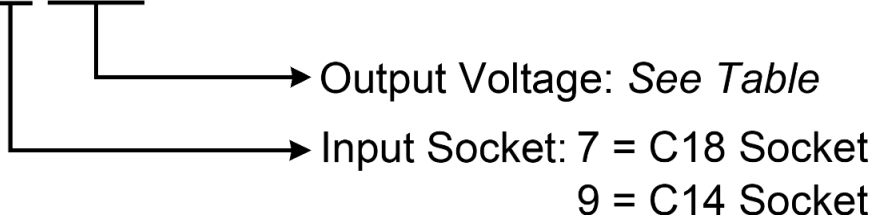
Rev: 070918

Page: 2 of 2

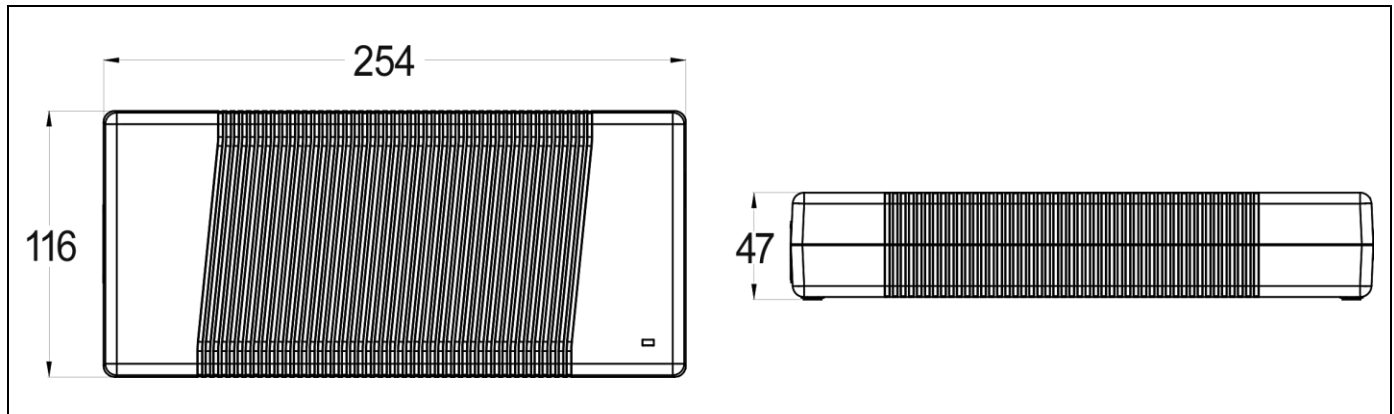
## Output Voltage and Current Table

| Model Number | Output Voltage | Output Current | Output Power |
|--------------|----------------|----------------|--------------|
| SM300Q1R_12R | 12 Vdc         | 25.00 A        | 300 W        |
| SM300Q1R_15R | 15 Vdc         | 20.00 A        | 300 W        |
| SM300Q1R_24R | 24 Vdc         | 12.50 A        | 300 W        |
| SM300Q1R_48R | 48 Vdc         | 6.25 A         | 300 W        |

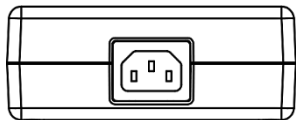
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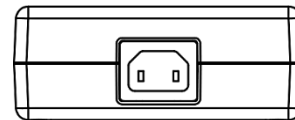
## Mechanical Specification (mm)



SM300Q1R<sub>9</sub>: C14 Inlet



SM300Q1R<sub>7</sub>: C18 Inlet



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.



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