



SM84Q1R – SM90Q1R Series

84 - 90 Watt AC-DC Medical Desktop Power Supply
IEC 60601-1-2 4th Ed. EMC, DoE Level VI

Date: 10/9/18

Rev: 081618

Page: 1 of 3

The SM84Q1R – SM90Q1R Series switch mode power supply offers 84 Watts to 90 Watts output power, with an output voltage range of 12 Vdc – 48 Vdc. Case style is a desktop enclosure with choice of IEC-320 C6, C8, C14, or C18 input socket, with ES, EN and IEC 60601-1 3.1 Edition, IEC 60601-1-2 4th Edition EMC, IEC 60950-1 2nd Edition Safety approvals, and DoE Level 6 efficiency.

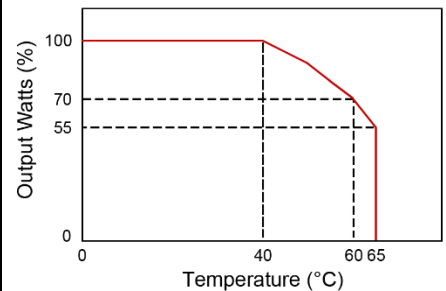


Input Voltage	90 to 264 Vac
Input Frequency	47 to 63 Hz
Input Current	1.2 – 0.5 A
Leakage Current	For C14 & C6 Models: < 300 μ A For C18 & C8 Models: < 100 μ A
Output Voltage & Current	See Table on Page 2
Ripple & Noise (P-P) ¹	1 – 2% Max.
Over-Voltage Protection	150% Max.
Over-Current Protection	170% Max.
Transient Response	50% Load Change: 0.5 ms Typ.
Efficiency	Meets DoE Level VI
No Load Power Consumption	< 0.21 Watts
Load Regulation	\pm 5% Typ.
Hold-Up Time	10 ms Min.
Withstanding Voltage	Primary to Secondary: 4,000 Vac Min. For C14 & C6 Models: Primary to Ground: 1,500 Vac Min.
Mean Time Between Failure	Full Load at 25°C Ambient: 300,000 Hours Min. (Telcordia)
Operating Temperature	See Derating Curve
Storage Temperature	-20 to 80°C
Industry Compliance	Directive 2011/65/EU (RoHS 2), DoE VI
Weight	450 - 460 g (Ref.)
EMC Requirements	IEC 60601-1-2: 2014 4 th Ed., EN 55024, EN 61000-3-2, -3-3
EMI Requirements	Meets Conduction and Radiation Limits of: FCC Part 18 Class B, CISPR-11 Class B, and EN 55011 Class B
Safety Compliance	UR/cUR (ES60601-1: 3.1 Ed.), TUV T- Mark (EN 60601-1: 3.1 Ed.), CB (IEC 60601-1: 3.1 Ed., IEC 60950-1: 2 nd Ed.), CE, PSE

Features:

- Universal Input 100 - 240 Vac
- IEC 320 C18, C14, C8, and C6 Input
- Over-Voltage, Over-Current, and Short Circuit Protection
- 2 x MOPP Protection
- < 100 μ A Touch Current
- 100% Burn-In
- RoHS 2 Compliant
- Energy Efficiency Level: VI
- Meets IEC 60950-1 2nd Edition
- Meets IEC 60601-1-2: 2014 4th Edition EMC Requirements

Derating Curve



Note:

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



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Page: 2 of 3

Output Voltage and Current Table

Model Number	Output Voltage	Output Current	Output Power
SM84Q1R_ 12R	12 Vdc	7.00 A	84 W
SM90Q1R_ 15R	15 Vdc	6.00 A	90 W
SM90Q1R_ 18R	18 Vdc	5.00 A	90 W
SM90Q1R_ 19R	19 Vdc	4.74 A	90 W
SM90Q1R_ 24R	24 Vdc	3.75 A	90 W
SM90Q1R_ 48R	48 Vdc	1.88 A	90 W

SM□□Q1R□□□R

→ Output Voltage: See Table

→ Input Plug: 6 = C6 Socket
7 = C18 Socket
8 = C8 Socket
9 = C14 Socket

→ Output Power: See Table



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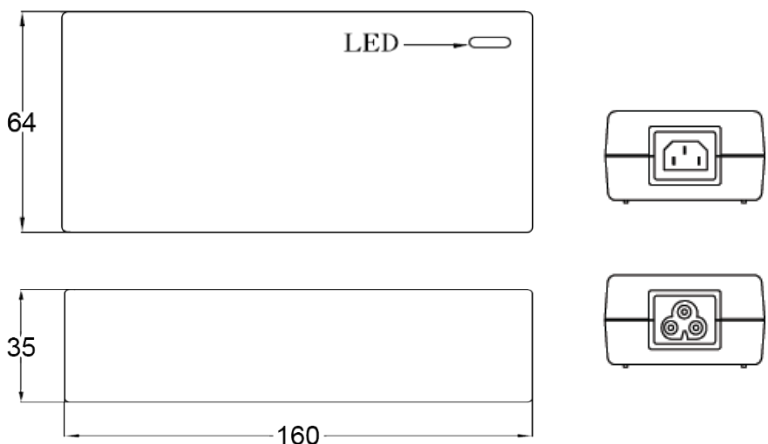
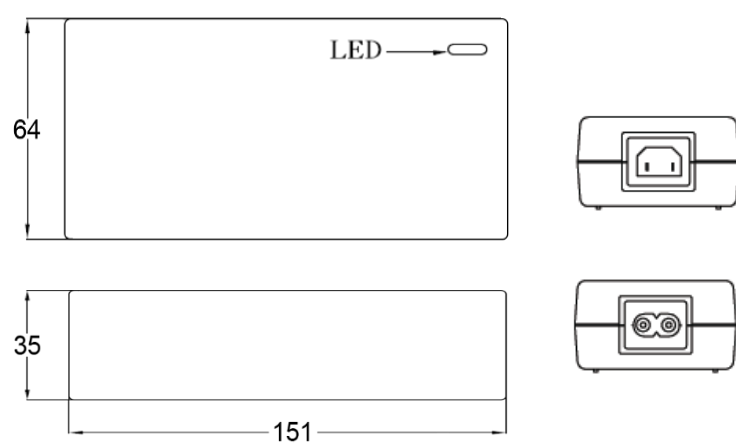
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Page: 3 of 3

Mechanical Specification (mm)

SM_ _ Q1R6: C6 Inlet	SM_ _ Q1R9: C14 Inlet
	
SM_ _ Q1R8: C8 Inlet	SM_ _ Q1R7: C18 Inlet
	
<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>	



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