



SP408DS - SP480DS Series

408 - 480 Watt AC - DC Desktop Power Supply

UL/CSA/EN/AS/NZS/JIS/IEC 62368-1 2nd Ed., DoE Level VI

Date: 7/11/19

Rev: 053119

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The SP408DS – SP480DS Series switch mode power supply offers 408 – 480 Watts output power, with an output voltage range of 12 to 54 Vdc. Case style is a desktop enclosure with an IEC-320 C14 input socket and active fan cooling, with UL/ CSA/ EN/ AS/ NZS/ JIS/ IEC 62368-1 2nd Edition safety approvals and DoE Level 6 efficiency.



Input Voltage	90 to 264 Vac
Input Frequency	47 to 63 Hz
Input Current	7.0 A Max.
Safety Ground Leakage Current	3.5 mA Max.
Withstanding Voltage	Primary to Secondary: 2121 Vdc
Output Voltage & Current	See Table on Page 2
Ripple & Noise (P-P) ¹	1% - 1.25% Max.
Over-Voltage Protection	Unit is protected from over-voltage conditions
Over-Current Protection	Unit is protected from over-current conditions
Over-Temperature Protection	Unit is protected from over-temperature conditions
Temperature Coefficient	± 0.04% / °C Max.
Transient Response	Load Change from 20% - 80% with 0.5 A/μs @ 100 Hz: 8 ms
Efficiency	Meets DoE Level VI Criteria
No Load Power Consumption	Meets DoE Level VI Criteria
Line Regulation	± 3% Max at Full Load
Load Regulation	± 5% Typ.
Hold-Up Time	5 ms Min.
Mean Time Between Failure	Full Load at 25°C Ambient: 50,000 Hrs. Min. (MIL-HDBK-217F)
Operating Temperature	0 to 70°C with derated load (See Page 2)
Storage Temperature	-20 to 80°C
Weight	1,750 g (Ref.)
Industry Compliance	RoHS 2, DoE Level VI
EMC Requirements	EN 55035, 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 nd Ed.), GS (EN 60950-1:2 nd Ed.), CE, RCM (AS/NZS 62368.1:2018), PSE (J62368-1:2018), CB (IEC 62368-1:2 nd Ed.), FCC, LVD

Features:

- Universal Input 100 - 240 Vac
- IEC 320 C14 Input
- Internal Fan Cooling
- Over-Voltage Protection
- Over-Current Protection
- Over-Temperature Protection
- Short Circuit Protection
- 100% Burn-In
- RoHS 2 Compliant
- 62368-1 2nd Ed. Safety Approvals
- Efficiency: DoE Level VI

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 Range	Output Current <i>Limited to Output Power *</i>	Maximum Output Power
SP408DS9 __ R	12 – 14 Vdc	29.14 – 34.00 A	408 W
SP420DS9 __ R	15 – 17 Vdc	24.70 – 28.00 A	420 W
SP450DS9 __ R	18 – 23 Vdc	19.56 – 25.00 A	450 W
SP480DS9 __ R	24 – 54 Vdc	8.88 – 20.00 A	480 W

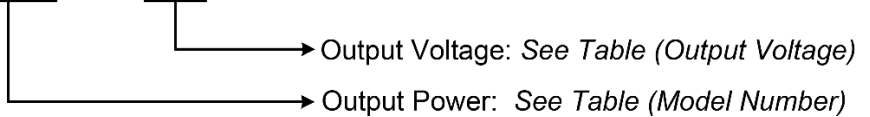
*** To find Output Current:**

Output Current = Max Power ÷ Output Voltage

Example: Output Current for 30 Vdc Output at 480 Watts

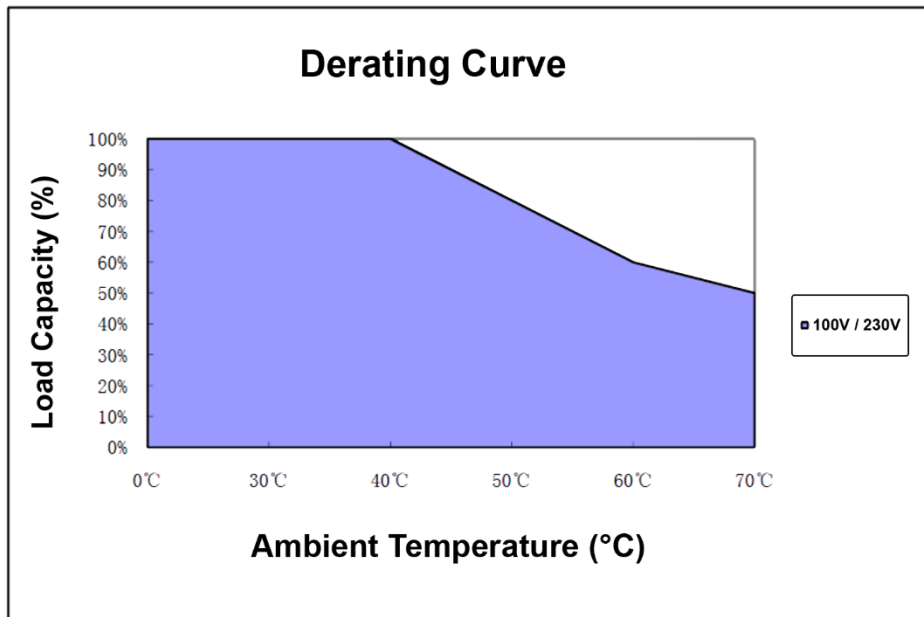
*Output Current = 480 W ÷ 30 V
 Output Current = 16 A*

SP DS9 R



Derating Curve

	0°C	30°C	40°C	50°C	60°C	70°C
100V/230V	100%	100%	100%	80%	60%	50%





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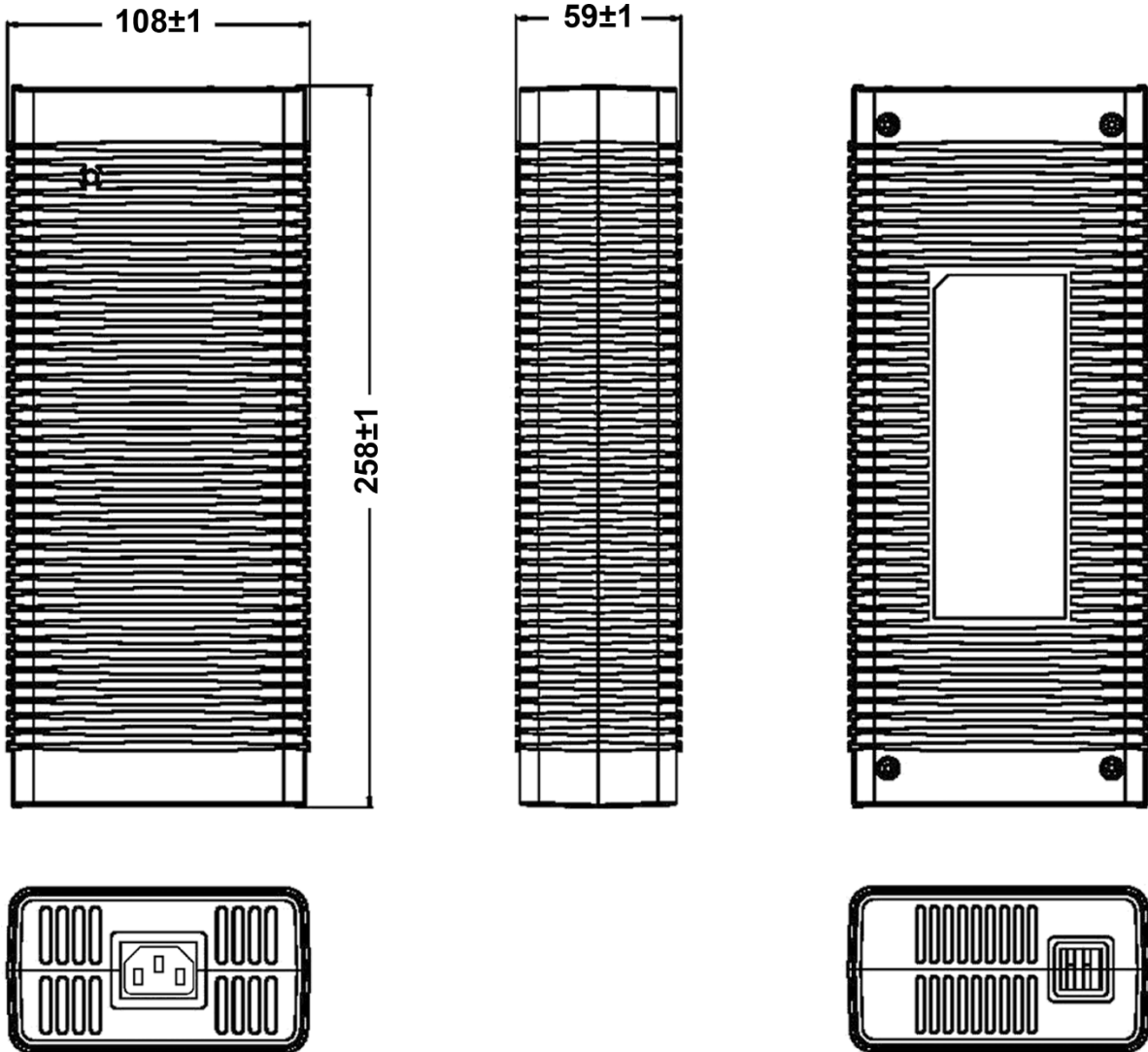
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Mechanical Specification (mm)



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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Specification subject to
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