

SMQ300 & SMQ400 Series

500 / 600 W AC/DC High Power Density Single Output Supplies

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Solutions



- High Power Density
- High Peak Load Rating
- Active PFC
- Universal Input
- Single Outputs from 3.3 V to 54 V
- International Safety Approvals

Specification

Input		Remote Sense	• Compensates for up to 0.5 V drop
Input Voltage	• 90-264 VAC	General	
Input Frequency	• 47-63 Hz	Efficiency	• 70% minimum at 230 VAC, 65% min for $V_o \leq 5V$
Power Factor	• 0.99 typical	Power Density	• 6.93 W/in ³
Inrush Current	• 70 A Peak at 230 VAC	MTBF	• 100,000 hrs per MIL-HDBK-217F
Input Current	• 8 A at 90 VAC - SMQ500 • 10 A at 90 VAC - SMQ600	Isolation Voltage	• 3000 VAC Input to Output • 1500 VAC Input to Ground • 500 VAC Output to Ground
Leakage Current	• <3.5 mA	Signals	• Green LED for Power On • DC OK TTL HIGH within 100-500 ms • LOW at least 1 ms before loss of regulation
Remote On/Off	• On = TTL Logic HIGH, or open circuit • Off = TTL Logic LOW or short circuit	Size	• 233.0 x 108.0 x 63.5 mm
Output		Weight	• 1.1 kg approx
Output Voltage	• 3.3 VDC to 54 VDC	Environmental	
Output Power	• See Tables	Operating Temperature	• 0 °C to +70 °C derate linearly from 100% load at +50 °C to 50% load at +70 °C
Output Voltage Adjustment	• $\pm 5\%$	Cooling	• Via internal fan
Minimum Load	• No minimum load required	Relative Humidity	• 5% to 90%, non-condensing
Line Regulation	• $\pm 0.5\%$ from low line to high line	Storage Temperature	• -20 °C to +85 °C
Load Regulation	• $\pm 1\%$	EMC & Safety	
Ripple & Noise	• 50mV ($V_o \leq 5V$), 1% ($V_o \geq 12V$)	Safety Approvals	• UL1950, CSA C22.2 No 950 • EN60950, CE Mark LVD
Transient Response	• 5% max deviation, 2.5 ms recovery time to within 1% for a 50% load change	EMC	• Meets EN61000-3-2, -3 • FCC Part 15 and CISPR 22 Class B conducted • EN61000-4-2, -3, -4, -5, -6, -8, -11 immunity
Hold up Time	• 20ms minimum at 120 VAC and 80% load		
Turn On Time	• 1 second max at 120 VAC		
Overshoot Protection	• 130% recycle input to reset		
Overcurrent Protection	• 110% to 135% with auto recovery		
Overtemperature Protection	• >85 °C ambient with auto recovery measured internally		
Undervoltage Protection	• Shutdown below 80 VAC ($\pm 5 V$), restart above 80 VAC		

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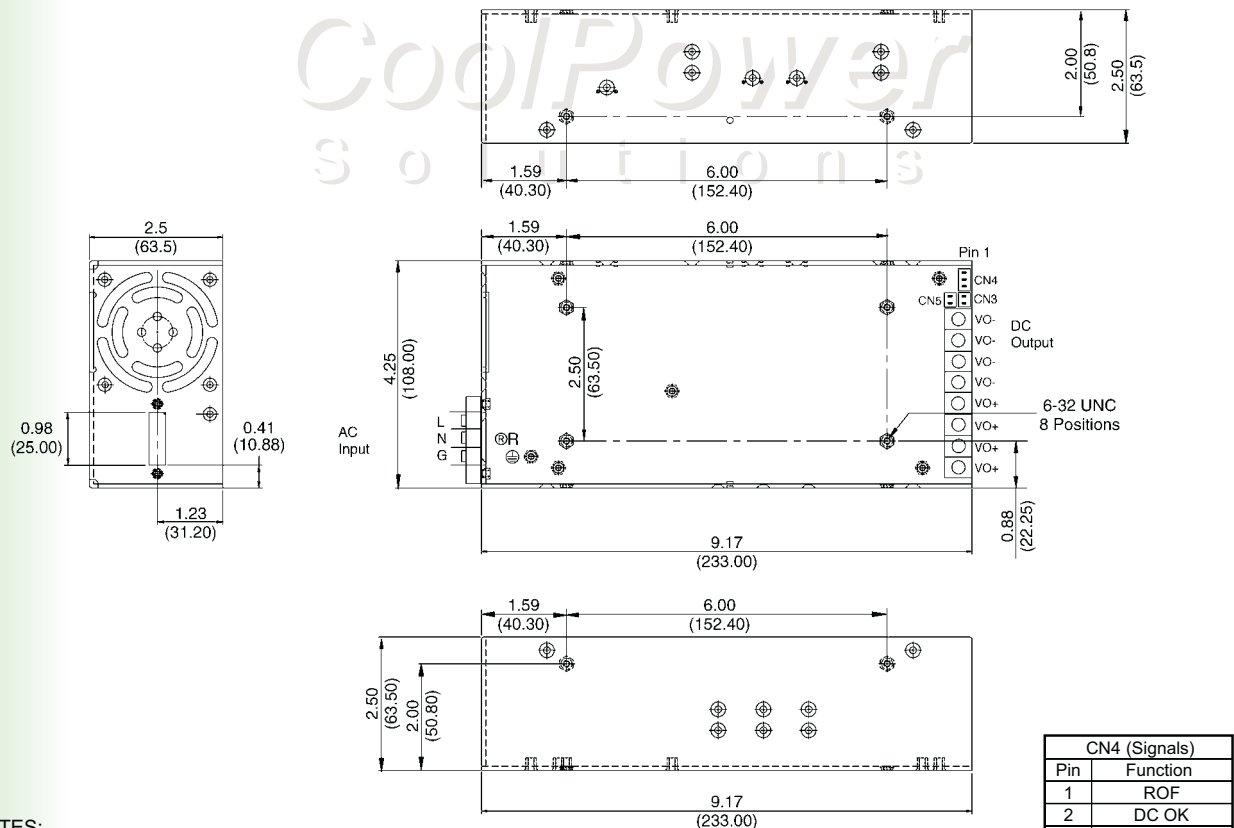
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OUTPUT VOLTAGE & CURRENT RATINGS				SMQ500/600	
Maximum Power	Output Voltage	Output Current		Ripple & Noise ⁽³⁾	Model Number
		Maximum	Peak ⁽¹⁾		
330 W	3.3 V	100.00 A	180.00 A	50 mV	SMQ500PS03-C
400 W	5.0 V	80.00 A	160.00 A	50 mV	SMQ500PS05-C
500 W	12.0 V	41.00 A	75.00 A	120 mV	SMQ500PS12-C
500 W	15.0 V	31.00 A	56.00 A	150 mV	SMQ500PS15-C
500 W	24.0 V	22.00 A	40.00 A	240 mV	SMQ500PS24-C
500 W	27.0 V	18.50 A	40.00 A	270 mV	SMQ500PS27-C
500 W	48.0 V	10.00 A	18.80 A	480 mV	SMQ500PS48-C
500 W	54.0 V	9.25 A	18.80 A	540 mV	SMQ500PS54-C
396 W	3.3 V	120.00 A	180.00 A	50 mV	SMQ600PS03-C
500 W	5.0 V	100.00 A	160.00 A	50 mV	SMQ600PS05-C
600 W	12.0 V	50.00 A	75.00 A	120 mV	SMQ600PS12-C
600 W	15.0 V	40.00 A	56.00 A	150 mV	SMQ600PS15-C
600 W	24.0 V	25.00 A	40.00 A	240 mV	SMQ600PS24-C
600 W	27.0 V	22.20 A	40.00 A	270 mV	SMQ600PS27-C
600 W	48.0 V	12.50 A	18.80 A	480 mV	SMQ600PS48-C
600 W	54.0 V	11.10 A	18.80 A	540 mV	SMQ600PS54-C

Notes

- Standard models have foldback mode current protection with a high peak load capability. This peak can be taken for 1 ms only.
- For optional constant current versions, add suffix 'B' to model number (current limit range is 95-105% of max output current)
- Ripple and noise measured using 0.1 μ F ceramic and 22 μ F electrolytic capacitor, 20 MHz bandwidth.
- Part numbers in bold are stocking models. Others are build to order.
- Other output voltages are available, contact factory for details.

Mechanical Details



NOTES:

- Dimensions in inches (mm).
- Remote ON/OFF CN4 mates with JST XHP-3 or equivalent
- Remote sense CN5 and fan CN3 mates with JST XHP-2 or equivalent.
- Weight: 1.1 kg.