

AC/DC Chassis Mount

500/600 Watts SMQ500/600 Series



THE XPERTS IN POWER

- High Power Density
- High Peak Load Rating
- Active PFC
- Universal Input
- Single Outputs from 3.3 V to 54 V
- Optional Current Share & ORing Diode

Specification

Input

- *Input Voltage* 90-264 VAC
- *Input Frequency* 47-63 Hz
- *Input Current* 8 A/10 A at 90 VAC - SMQ500/600
- *Inrush Current* 70 A pk at 230 VAC
- *Power Factor* 0.99 typical
- *Leakage Current* <3.5 mA

Output

- *Output Power* See Tables
- *Output Voltage* 3.3 VDC to 54 VDC
- *Output Voltage Adj.* ±5%
- *Minimum Load* No minimum load required
- *Start Up Delay* 1 s max at 120 VAC
- *Hold up Time* 20 ms min at 120 VAC & 80% load
- *Initial Set Accuracy* ±1%
- *Line Regulation* ±0.5% from low line to high line
- *Load Regulation* ±1%
- *Over/Under Shoot* 5% max
- *Current Share* 10% where fitted
- *Ripple & Noise* 50mV (Vo<=5V), 1% (Vo>=12V)
- *Transient Response* 5% max deviation, 500 µs recovery to within 1% for a 50% load change
- *Overvoltage Protection* >130% recycle input to reset
- *Overload Protection* 110% to 135% with auto recovery
- *Overtemperature Protection* >85°C ambient with auto recovery measured internally
- *Undervoltage Protection* Shutdown below 80 VAC (±5 V), restart above 86 VAC
- *Remote Sense* Compensates for up to 0.5 V drop
- *Remote On/Off* On = TTL Logic HIGH, or open circuit
Off = TTL Logic LOW or short circuit

General

- *Efficiency* 80% min at 230 VAC, 70% min for Vo <=5V
- *Isolation* 3000 VAC Input to Output
1500 VAC Input to Ground
125 VAC Output to Ground
- *Switching Frequency* PFC stage 100 kHz,
PWM stage 60 kHz typically
- *Power Density* 6.93 W/in³
- *Signals* Green LED for Power On
DC OK TTL HIGH within 100-500 ms
LOW ≤1 ms before loss of regulation
- *MTBF* 100,000 hrs per MIL-HDBK-217F

Environmental

- *Operating Temperature* 0 °C to +70 °C derate from 100% load at +50 °C to 50% load at +70°C
- *Storage Temp* -20 °C to +85 °C
- *Cooling* Via internal temperature controlled fan
- *Relative Humidity* 5% to 90%, non-condensing
- *Operating Altitude* 3000 m
- *Vibration* 5-50 Hz, acc. 7.35 ms² on X, Y & Z axis

EMC & Safety

- *Safety Approvals* UL1950, CSA C22.2 No 950, EN60950, CE Mark LVD
- *EMC* Meets EN61000-3-2, -3, FCC Part 15 & CISPR 22 Class B conducted
- *ESD Susceptibility* EN61000-4-2 Level 3 Perf Criteria A
- *Radiated Susceptibility* EN61000-4-3 3 V/m Perf Criteria A
- *EFT/Burst* EN61000-4-4 Level 2 Perf Criteria A
- *Surge* EN61000-4-5 Level 3 Perf Criteria A
- *Conducted* EN61000-4-6 3 V Perf Criteria A

OUTPUT VOLTAGE & CURRENT RATINGS - 500 WATT MODELS

SMQ500

Maximum Power	Output Voltage ⁽⁴⁾	Output Current		Ripple & Noise ⁽³⁾	Model Number ^(5, 8)
		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	41.67 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	20.83 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	10.42 A	18.80 A	480 mV	SMQ500PS48-C*
500 W	54.0 V	9.25 A	18.80 A	540 mV	SMQ500PS54-C

OUTPUT VOLTAGE & CURRENT RATINGS - 600 WATT MODELS

SMQ600

Maximum Power	Output Voltage ⁽⁴⁾	Output Current		Ripple & Noise ⁽³⁾	Model Number ^(5, 8)
		Maximum	Peak ⁽¹⁾		
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 ⁽⁶⁾	12.0 V	50.00 A	75.00 A	120 mV	SMQ600PS12-C*
600 W ⁽⁷⁾	15.0 V	40.00 A	56.00 A	150 mV	SMQ600PS15-C*
600 W ⁽⁷⁾	24.0 V	25.00 A	40.00 A	240 mV	SMQ600PS24-C*
600 W ⁽⁷⁾	27.0 V	22.20 A	40.00 A	270 mV	SMQ600PS27-C
600 W ⁽⁷⁾	48.0 V	12.50 A	18.80 A	480 mV	SMQ600PS48-C*
600 W ⁽⁷⁾	54.0 V	11.10 A	18.80 A	540 mV	SMQ600PS54-C

Notes

- Standard models have trip & restart 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.
 - Other output voltages are available, contact Sales for details.
 - For optional current share add suffix 'I' to model number, for optional ORing diode add suffix 'O'.
 - Optional high power version available giving 720 W with input above 180 VAC only, add suffix '-H' to model number.
 - Optional high power version available giving 800 W with input above 180 VAC only, add suffix '-H' to model number.
 - For optional IEC320 inlet replace 'C' in model number with 'D'.
- * Also available from Farnell InOne, see pages 350 & 351.

Mechanical Details

