AC-DC Chassis Mount

300/400 Watts
SMQ300/400 Series

THE XPERTS IN POWER

- High Power Density
- High Peak Load Rating
- DC OK
- Universal Input
- Single Outputs from 12.0 V to 54.0 V
- Battery Charging Versions

Specification

Input

Input Voltage	•	*90-264 VAC*
Input Frequency	•	*47-63 Hz*
Power Factor	•	*0.99 typical*
Inrush Current	•	*35 A pk at 230 VAC*
Input Current	•	*5.00 A at 90 VAC - SMQ300* *6.35 A at 90 VAC - SMQ400*
Leakage Current	•	*<2.5 mA*

Output

Output Voltage	•	*12 VDC to 54 VDC - See Table*
Output Power	•	*See Tables*
Output Voltage Adjustment	•	*±10%*
Minimum Load	•	*No minimum load required*
Line & Load Regulation	•	*±1%*
Ripple & Noise	•	*1% - See Note 2*
Transient Response	•	*5% max deviation, 500 µs recovery time to within 1% for a 50% load change*
Hold-Up Time	•	*20 ms minimum at 120 VAC and 80% load*
Start Up Delay	•	*1 s max at 120 VAC*
Overvoltage Protection	•	*>130% recycle input to reset*
Overcurrent Protection	•	*110% to 140% with auto recovery*
Overtemperature Protection	•	*>85 °C ambient with auto recovery measured internally*
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% typical*
Power Density	•	*6.25 W/in³*
MTBF	•	*138,000 hrs per MIL-HDBK-217F*
Switching Frequency	•	*Typically 60 kHz for PFC stage, 30 kHz for main converter*
Isolation Voltage	•	*3000 VAC Input to Output* *1500 VAC Input to Ground* *500 VAC Output to Ground*
Signals	•	*DC OK TTL HIGH within 100-500 ms* *LOW ≥1 ms before loss of regulation* *Mating connectors supplied*
Size	•	*203.0 x 101.6 x 50.8 mm*

Environmental

Operating Temperature	•	*0 °C to +70 °C derate linearly from 100% load at +50°C to 50% at +70 °C*
Cooling	•	*Via internal fan*
Relative Humidity	•	*5% to 90%, non-condensing*
Storage Temperature	•	*-20 °C to +85 °C*

EMC & Safety

Safety Approvals	•	*UL60950, CSA C22.2 No 60950, EN60950, CE Mark LVD*
EMI/EMC	•	*Meets EN61000-3-2, -3, FCC Part 15 & CISPR 22 Class B conducted*
ESD Immunity	•	*IEC61000-4-2, Level 2 contact, Level 3 air, PC A*
Radiated Immunity	•	*IEC61000-4-3, 3 V/m, Perf Criteria A*
EFT/Burst	•	*IEC61000-4-4, Level 2, Perf Criteria A*
Surge	•	*IEC61000-4-5, Level 3, Perf Criteria A*
Conducted Immunity	•	*IEC61000-4-6, Level 2, Perf Criteria A*
Voltage Dips	•	*IEC61000-4-11, 70% U_T, Perf Criteria A*
Voltage Interruptions	•	*IEC61000-4-11, 0% U_T, Perf Criteria A*

OUTPUT VOLTAGE & CURRENT RATINGS - 300 WATT MODELS — SMQ300

Maximum Power	Output Voltage[3]	Output Current		Model Number[4][5]
		Maximum	Peak[1]	
300 W	12.0 V	25.00 A	46.66	SMQ300PS12-C*
300 W	15.0 V	20.00 A	46.66	SMQ300PS15-C*
300 W	18.0 V	16.66 A	33.33	SMQ300PS18-C
300 W	24.0 V	12.50 A	23.33	SMQ300PS24-C*
300 W	27.0 V	11.11 A	23.33	SMQ300PS27-C
300 W	36.0 V	8.33 A	17.07	SMQ300PS36-C
300 W	48.0 V	6.25 A	12.72	SMQ300PS48-C*
300 W	54.0 V	5.55 A	12.72	SMQ300PS54-C

OUTPUT VOLTAGE & CURRENT RATINGS - 400 WATT MODELS — SMQ400

Maximum Power	Output Voltage[3]	Output Current		Model Number[4][5]
		Maximum	Peak[1]	
400 W	12.0 V	33.33 A	46.66	SMQ400PS12-C*
400 W	15.0 V	26.66 A	46.66	SMQ400PS15-C*
400 W	18.0 V	22.22 A	33.33	SMQ400PS18-C
400 W	24.0 V	16.66 A	23.33	SMQ400PS24-C*
400 W	27.0 V	14.81 A	23.33	SMQ400PS27-C
400 W	36.0 V	11.11 A	17.07	SMQ400PS36-C
400 W	48.0 V	8.33 A	12.72	SMQ400PS48-C*
400 W	54.0 V	7.40 A	12.72	SMQ400PS54-C

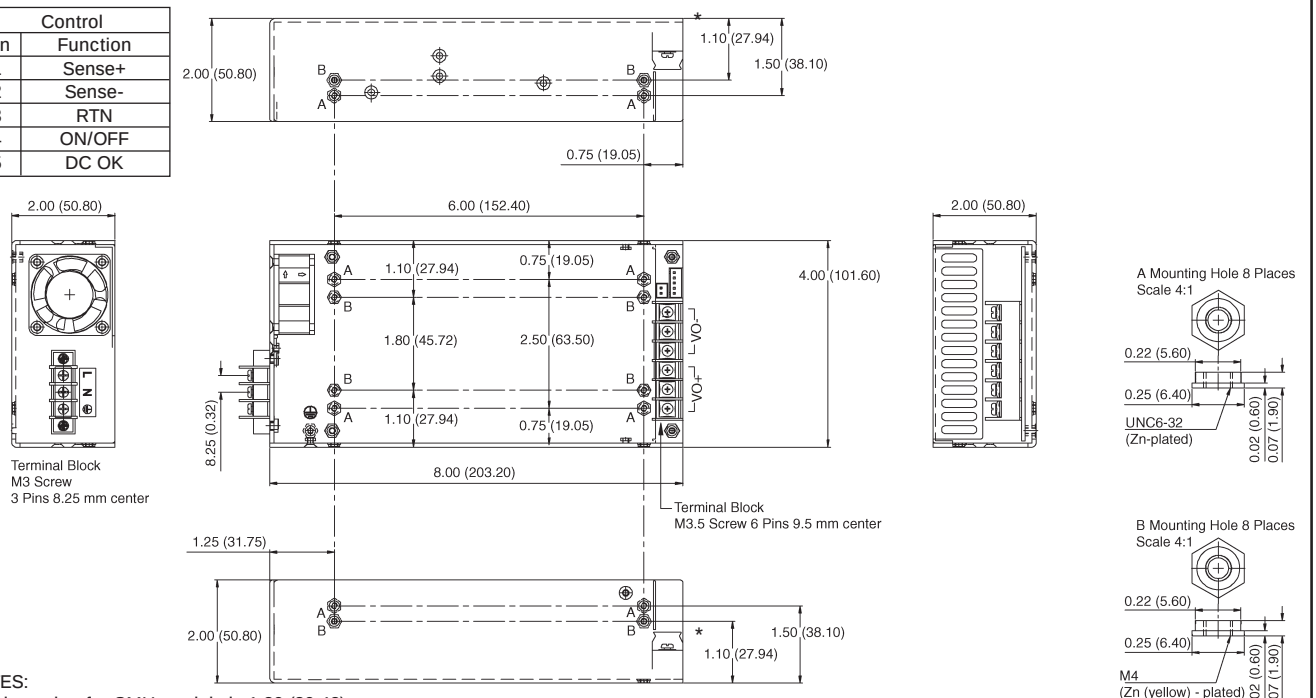
Notes

1. *Standard models have trip & restart mode current protection with a high peak load capability. This peak can be taken for 500 µs max.*
2. *Ripple and noise measured using 0.1 µF ceramic and 22 µF electrolytic capacitor, 20 MHz bandwidth.*
3. *Other output voltages are available, contact sales office for details.*
4. *For optional constant current versions, (battery charging) add suffix 'B' to model number (current limit range is 95-105% of max output current).*
5. *For optional U-channel versions without fan/cover, change SMQ prefix to SMU and delete suffix 'C' from model number.*

* *Also available from Farnell InOne, see pages 350 & 351.*

Mechanical Details - SMQ300 & SMQ400

Control	
Pin	Function
1	Sense+
2	Sense-
3	RTN
4	ON/OFF
5	DC OK



NOTES:

* Dimension for SMU models is 1.20 (30.48).

1. Dimensions in inches (mm).
2. Control connector mates with JST XHP-5 or equivalent.
3. Fan Connector is wired in parallel to the internal fan.
   No auxilary output is available.
4. Weight: 800 grams approx.