

# AC/DC U-Channel

## 600 Watts SMQ600 Series

**XPiQ inc.**  
Intelligent Design Quality Product



- 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

- **Input Voltage** 90-264 VAC
- **Input Frequency** 47-63 Hz
- **Power Factor** 0.99 typical
- **Inrush Current** 70 A Peak at 230 VAC
- **Input Current** 10 A at 90 VAC
- **Leakage Current** <3.5 mA
- **Remote On/Off** On = TTL Logic HIGH, or open circuit  
Off = TTL Logic LOW or short circuit

### Output

- **Output Voltage** 3.3 VDC to 54 VDC
- **Output Power** See Table
- **Output Voltage Adjustment** ±5%
- **Minimum Load** No minimum load required
- **Line Regulation** ±0.5% from low line to high line
- **Load Regulation** ±1%
- **Ripple & Noise** 50mV (Vo<=5V), 1% (Vo>=12V)
- **Transient Response** 5% max deviation, 2.5 ms recovery time to within 1% for a 50% load change
- **Hold up Time** 20ms minimum at 120 VAC and 80% load
- **Turn On Time** 1 second max at 120 VAC
- **Overvoltage Protection** 130% recycle input to reset
- **Overcurrent Protection** 110% to 135% with auto recovery
- **Overtemperature Protection** >85°C ambient with auto recovery measured internally
- **Remote Sense** Compensates for up to 0.5 V drop

### General

- **Efficiency** 70% minimum at 230 VAC, 65% min for Vo <=5V
- **Power Density** 6.16 W/in<sup>3</sup>
- **MTBF** 100,000 hrs per MIL-HDBK-217F
- **Isolation Voltage** 3000 VAC Input to Output  
1500 VAC Input to Ground  
500 VAC Output to Ground
- **Signals** Green LED for Power On  
DC OK TTL HIGH within 100-500 ms  
LOW at least 1 ms before loss of regulation
- **Size** 9.17" x 4.25" x 2.50"
- **Weight** 0.5 lb (1.1 kg) approx

### Environmental

- **Operating Temperature** 0°C to +70°C derate linearly from 100% load at +50 °C to 50% load 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** UL1950, CSA C22.2 No 950  
EN60950, CE Mark LVD
- **EMI/EMC** Meets EN61000-3-2, -3  
FCC Part 15 and CISPR 22 Class B conducted

# OUTPUT VOLTAGE & CURRENT RATINGS

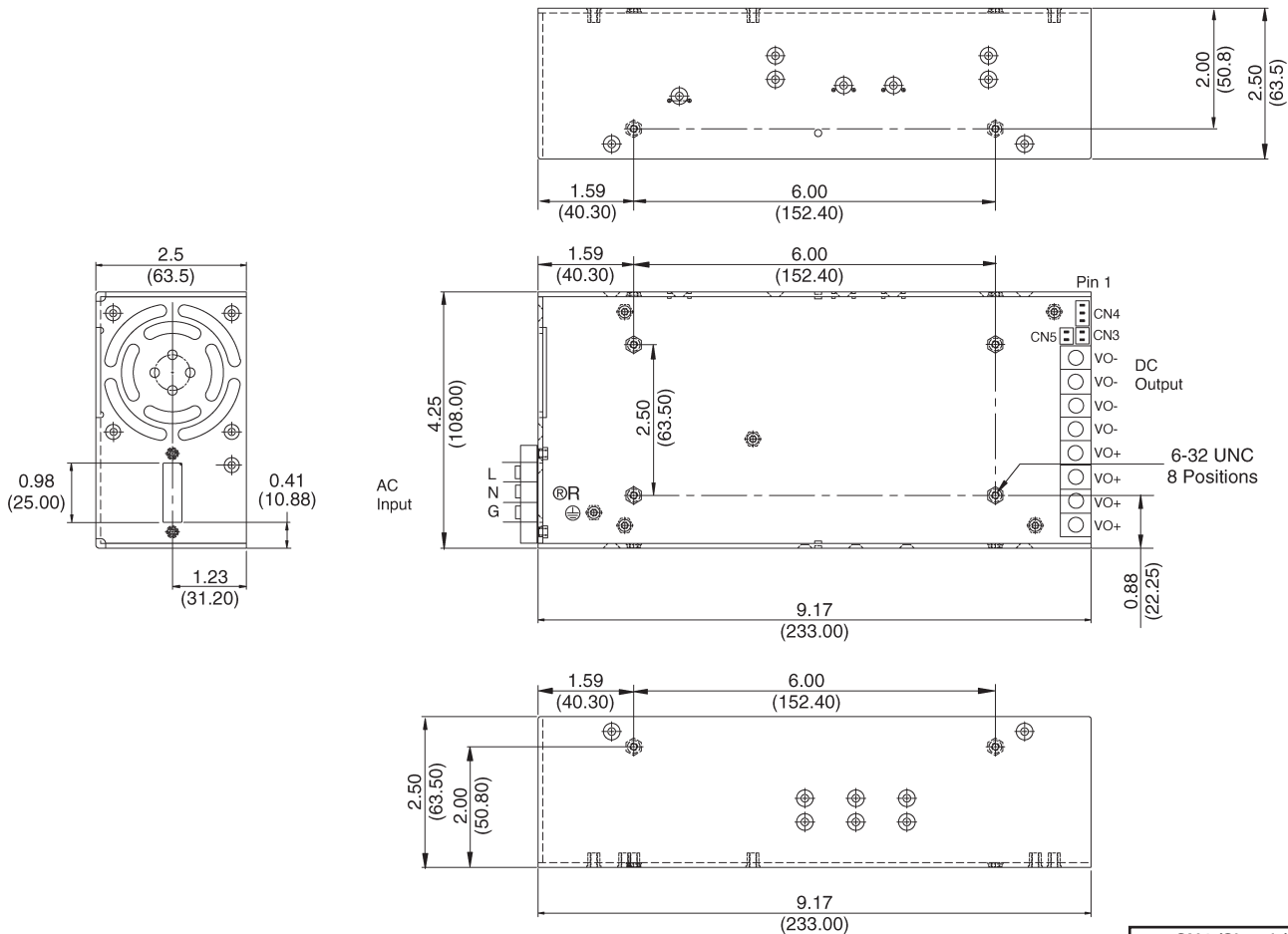
**SMQ600**

Maximum Power	Output Voltage	Output Current		Ripple & Noise <sup>(3)</sup>	Model Number
		Maximum	Peak <sup>(1)</sup>		
396 W	3.3 V	120.00 A	180.00 A	50 mV	<b>SMQ600PS03-C</b>
500 W	5.0 V	100.00 A	160.00 A	50 mV	<b>SMQ600PS05-C</b>
600 W	12.0 V	50.00 A	75.00 A	120 mV	<b>SMQ600PS12-C</b>
600 W	15.0 V	40.00 A	56.00 A	150 mV	<b>SMQ600PS15-C</b>
600 W	18.0 V	33.33 A	54.00 A	180 mV	SMQ600PS18-C
600 W	24.0 V	25.00 A	40.00 A	240 mV	<b>SMQ600PS24-C</b>
600 W	27.0 V	22.20 A	40.00 A	270 mV	<b>SMQ600PS27-C</b>
600 W	48.0 V	12.50 A	18.80 A	480 mV	<b>SMQ600PS48-C</b>
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). Not available on 3.3 V and 5 V models.
- Ripple and noise measured using 0.1  $\mu$ F ceramic and 22  $\mu$ 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
- Fan Connector CN3 is wired in parallel to the internal fan. No auxiliary output is available.
- Remote sense CN5 mates with JST XHP-2 or equivalent.
- Weight: 0.5 lb (1.1 kg) approx.

CN4 (Signals)	
Pin	Function
1	ON/OFF
2	DC OK
3	RTN

CN5 (Remote Sense)	
Pin	Function
1	+ RS
2	- RS

