

# AC/DC U-Channel

## 400 Watts SMQ400 Series

**XPiQ inc.**

Intelligent Design Quality Product



- High Power Density
- High Peak Load Rating
- Active PFC - Meets EN61000-3-2, -3
- Universal Input
- Single Outputs from 12.0 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 • 35 A peak at 230 VAC
- Input Current • 6.35 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 • 12 VDC to 54 VDC
- Output Power • 400 Watts
- Output Voltage Adjustment •  $\pm 5\%$
- Minimum Load • 20 Watts required, see table
- Line Regulation •  $\pm 0.5\%$  from low line to high line
- Load Regulation •  $\pm 1\%$
- Ripple & Noise •  $\pm 1\%$
- 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 140% with auto recovery
- Overtemperature Protection •  $>85^{\circ}\text{C}$  ambient with auto recovery measured internally
- Remote Sense • Compensates for up to 0.5 V drop

#### General

- Efficiency • 75% minimum at 230 VAC, 65% min for  $V_o \leq 5V$
- Power Density • 6.25 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 • 8.0" x 4.0" x 2.0"
- Weight • 900 grams approx.

#### Environmental

- Operating Temperature •  $0^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$  derate linearly from 100% load at  $+50^{\circ}\text{C}$  to 50% load at  $+70^{\circ}\text{C}$
- Cooling • Via internal fan
- Relative Humidity • 5% to 90%, non-condensing
- Storage Temperature •  $-20^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$

#### EMC & Safety

- Safety Approvals • UL60950, CSA C22.2 No 60950, EN60950, CE Mark LVD
- EMI/EMC • Meets EN61000-3-2, -3  
FCC Part 15 and CISPR 22 Class B conducted

## OUTPUT VOLTAGE & CURRENT RATINGS

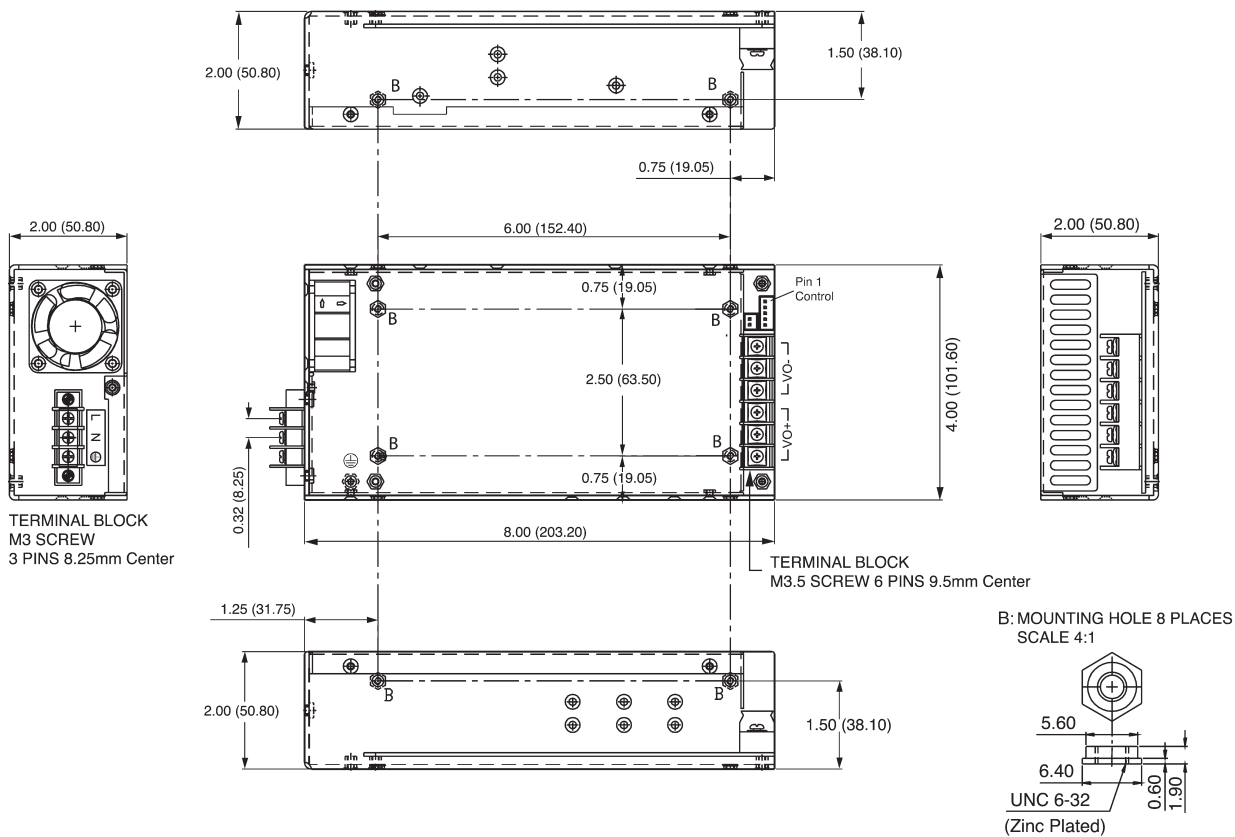
**SMQ400**

Maximum Power	Output Voltage	Min Load	Output Current		Model Number
			Maximum	Peak <sup>(1)</sup>	
400 W	12.0 V	1.50 A	33.33 A	46.66	<b>SMQ400PS12-C</b>
400 W	15.0 V	1.50 A	26.66 A	46.66	<b>SMQ400PS15-C</b>
400 W	18.0 V	1.25 A	22.22 A	33.33	SMQ400PS18-C
400 W	24.0 V	1.00 A	16.66 A	23.33	<b>SMQ400PS24-C</b>
400 W	27.0 V	1.00 A	14.81 A	23.33	<b>SMQ400PS27-C</b>
400 W	36.0 V	0.65 A	11.11 A	17.07	<b>SMQ400PS36-C</b>
400 W	48.0 V	0.50 A	8.33 A	12.72	<b>SMQ400PS48-C</b>
400 W	54.0 V	0.50 A	7.40 A	12.72	SMQ400PS54-C

### Notes

1. Standard models have foldback mode current protection with a high peak load capability. This peak can be taken for 500us only.
2. For optional constant current versions, add suffix 'B' to model number (current limit range is 95-105% of max output current).
3. Ripple and noise measured using 0.1  $\mu$ F ceramic and 22  $\mu$ F electrolytic capacitor, 20 MHz bandwidth.
4. Part numbers in bold are stocking models. Others are build to order.
5. Other output voltages are available, contact factory for details.
6. Output is isolated.

### Mechanical Details



### NOTES:

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 auxiliary output is available.
4. Weight: 900 grams approx.

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