

# SML Series

## 150-300W AC/DC Chassis Mount Power Supplies

CoolPower  
Solutions



- Small Size, 4" x 6" Footprint
- Single Outputs 12-54 VDC
- High Power Density
- 150 W Convection Cooled
- 300 W Fan Cooled
- PFD & Fan Fail Signals

### Specification

#### Input

- Input Voltage • 90-132/180-264 VAC Autoranging
- Input Frequency • 47-63 Hz
- Input Current • 3.15 A at 230 VAC
- Inrush Current • 70 A at 230 VAC
- Power Factor • Complies with EN61000-3-2 Class A
- Earth Leakage Current • <3.5 mA at 230 VAC
- Input Protection • Internal 6.3 A/250 VAC

#### Output

- Output Voltage • See Tables
- Output Voltage Adjustment •  $\pm 5\%$
- Minimum Load • See Tables
- Start Up Delay • 1 s max
- Start Up Rise Time • 20 ms max
- Hold Up Time • 20 ms min at 120 VAC
- Initial Set Accuracy •  $\pm 1\%$
- Regulation •  $\pm 1\%$
- Over/Under Shoot • 5% max at turn on/off
- Transient Response • 5% max deviation, recovery to within 1% in 500  $\mu$ s for a 50% load change
- Ripple & Noise • 1% pk-pk, See Note 1
- Overvoltage Protection • 130% Vnom, recycle input to reset
- Overload Protection • 110% to 130%, constant current with auto recovery
- Overtemperature Protection • Shuts down at 85 °C measured internally, auto recovery
- Fan Output • 12 VDC at 160 mA, temperature controlled on 150 W only

#### General

- Efficiency • 75% minimum
- Isolation • 3000 VAC Input to Output  
1500 VAC Input to Ground  
250 VDC Output to Ground
- Switching Frequency • Typically 30 kHz
- Power Density • Up to 6.25W/Cu inch
- PFD • Open collector signal is LOW when DC is OK
- Indications • Green LED to indicate supply on
- MTBF • 100,000 hrs to MIL-HDBK-217F
- Dimensions • 101.6 x 152.4 x 50.8 mm
- Weight • 800 g

#### Environmental

- Operating Temperature • -20 °C to +70 °C, derate linearly from +50 °C at 2.5%/°C
- Storage Temp • -20 °C to +85 °C
- Cooling • 150 W convection cooled, 300 W via internal fan
- Operating Humidity • 5-95% RH, non-condensing
- Operating Altitude • 3000 m
- Vibration • 5-50 Hz, 7.35 ms<sup>2</sup> on X, Y & Z axis

#### EMC & Safety

- Emissions • EN55022 Level B conducted  
FCC Part 15 Subject J Class B
- ESD Susceptibility • EN61000-4-2 Level 2 Contact, Level 3
- Radiated Susceptibility • EN61000-4-3 Level 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 Susceptibility • EN61000-4-6 Level 3 V Perf Criteria A
- Safety Approvals • EN60950, UL1950, CSA22.2 No950-95

| OUTPUT VOLTAGE & CURRENT RATINGS - 150 WATT MODELS |                |                |         |            |                               | SML          |
|--|----------------|----------------|---------|------------|-------------------------------|--------------|
| Output Power                                       | Output Voltage | Output Current |         | Regulation | Ripple & Noise <sup>(1)</sup> | Model Number |
|  |                | Min            | Max     |            |                               |              |
| 150 W  | 12.0 V         | 1.25 A         | 12.50 A | ±1%        | 1%                            | SML150PS12   |
|  | 13.5 V         | 1.11 A         | 11.10 A | ±1%        | 1%                            | SML150PS13   |
|  | 15.0 V         | 1.00 A         | 10.00 A | ±1%        | 1%                            | SML150PS15   |
|  | 18.0 V         | 0.85 A         | 8.33 A  | ±1%        | 1%                            | SML150PS18   |
|  | 24.0 V         | 0.63 A         | 6.70 A  | ±1%        | 1%                            | SML150PS24   |
|  | 27.0 V         | 0.55 A         | 5.55 A  | ±1%        | 1%                            | SML150PS27   |
|  | 30.0 V         | 0.50 A         | 5.00 A  | ±1%        | 1%                            | SML150PS30   |
|  | 36.0 V         | 0.42 A         | 4.17 A  | ±1%        | 1%                            | SML150PS36   |
|  | 48.0 V         | 0.32 A         | 3.13 A  | ±1%        | 1%                            | SML150PS48   |
|  | 54.0 V         | 0.28 A         | 2.78 A  | ±1%        | 1%                            | SML150PS54   |

| OUTPUT VOLTAGE & CURRENT RATINGS - 300 WATT MODELS |                |                |         |            |                               | SML          |
|--|----------------|----------------|---------|------------|-------------------------------|--------------|
| Output Power                                       | Output Voltage | Output Current |         | Regulation | Ripple & Noise <sup>(1)</sup> | Model Number |
|  |                | Min            | Max     |            |                               |              |
| 300 W  | 12.0 V         | 1.25 A         | 25.00 A | ±1%        | 1%                            | SML300PS12   |
|  | 13.5 V         | 1.11 A         | 22.20 A | ±1%        | 1%                            | SML300PS13   |
|  | 15.0 V         | 1.00 A         | 20.00 A | ±1%        | 1%                            | SML300PS15   |
|  | 18.0 V         | 0.85 A         | 16.66 A | ±1%        | 1%                            | SML300PS18   |
|  | 24.0 V         | 0.63 A         | 12.55 A | ±1%        | 1%                            | SML300PS24   |
|  | 27.0 V         | 0.55 A         | 11.00 A | ±1%        | 1%                            | SML300PS27   |
|  | 30.0 V         | 0.50 A         | 10.00 A | ±1%        | 1%                            | SML300PS30   |
|  | 36.0 V         | 0.42 A         | 8.33 A  | ±1%        | 1%                            | SML300PS36   |
|  | 48.0 V         | 0.32 A         | 6.25 A  | ±1%        | 1%                            | SML300PS48   |
|  |                | 54.0 V         | 0.28 A  | 5.55 A     | ±1%                           | 1%           |

Notes

1. Measured at 20 MHz bandwidth with 0.1 µF ceramic capacitor in parallel with 22 µF electrolytic capacitor.

### Mechanical Details

The mechanical drawings include a top view showing a rectangular chassis with dimensions 6.00 (152.4) by 4.00 (101.6). It features four mounting holes (A) and a fan connector (CN1) with pins 1 and 2. A side view shows the height of 2.00 (50.8) and the fan connector pins. A detail view shows the fan connector pins with dimensions 0.24 (6.3), 0.20 (5.2), and 0.10 (2.7). The fan connector is labeled M4.

| CN1 FAN |          |
|---------|----------|
| Pin     | Function |
| 1       | Return   |
| 2       | +12 V    |

| CN2 SIGNALS |                      |
|-------------|----------------------|
| Pin         | Function             |
| 1           | +12 V, 1 A Auxiliary |
| 2           | Return               |
| 3           | PFD LED Drive +      |
| 4           | Fan LED Drive +      |
| 5           | PFD                  |
| 6           | Fan Fail             |

**NOTES:**

1. Fan drive connector CN1 mates with Molex 22-01-1022 or equivalent with Series 2759 or 5159 crimps.
2. Signal connector CN2 mates with JST XHP-6 or equivalent with JST SXH-002T-P0.6 crimps.
3. Auxiliary 12 V 160 mA supply is regulated between 12 V to 14.5 V.
4. External LED can be connected between 'PFD LED Drive +' and 'PFD', max current is 5 mA.
5. External LED can be connected between 'Fan LED Drive +' and 'Fan Fail', max current is 5 mA.
6. Dimensions in inches (mm).