

SMR Series



- Up to 900 W Peak Output Power
- Single Outputs from 12 V to 60 V
- Active PFC
- Remote On/Off
- Semi F47 Compliant
- Optional Current Share
- Optional Input & Output Connectors

Specification

Input

Input Voltage	• 90-264 VAC (120-370 VDC)
Input Frequency	• 47-63 Hz
Input Current	• 12 A at 90 VAC, 6 A at 230 VAC
Inrush Current	• 70 A at 230 VAC
Power Factor	• 0.99 typical
Earth Leakage Current	• <2.4 mA max at 264 VAC
Input Protection	• Fitted with a T12 A/250 V fuse

Output

Output Voltage	• See tables
Output Voltage Trim	• $\pm 5\%$
Initial Set Accuracy	• $\pm 1\%$
Minimum Load	• 1% to meet ripple & noise spec
Start Up Delay	• 1.0 s at 230 VAC
Start Up Rise Time	• 40 ms typical
Hold Up Time	• 16 ms min at 120 VAC
Line Regulation	• $\pm 0.5\%$, low line to high line
Load Regulation	• $\pm 1\%$, 1-100% load (see note 4)
Over/Undershoot	• 5% max
Transient Response	• 5% max deviation, 500 μ s recovery to within 1% for a 50% load change
Ripple & Noise	• 50 mV ($V_o \leq 5$ V), 1% ($V_o \geq 12$ V) (see note 2)
Overvoltage Protection	• 110-130% recycle input to reset
Overtemperature Protection	• Measured internally with auto recovery
Overload Protection	• 110-140% with auto recovery
Short Circuit Protection	• Trip and restart (Hiccup mode)
Remote Sense	• Compensates for up to 0.5 V line drop
Remote On/Off	• On = TTL Logic HIGH, or open circuit Off = TTL Logic LOW or short circuit
Current Share	• Optional single wire current share within 10% for up to 4 units (add suffix '-I' to model number) Note that this option includes output blocking diodes. Remote sense is not available with current share.

General

Efficiency	• 80% min for 12 V model 82% min for others models at 230 VAC
Isolation	• 3000 VAC Input to Output 1500 VAC Input to Ground 250 VDC Output to Ground
Switching Frequency	• 25 kHz PWM, 60 kHz PFC
Power Density	• 8.2 W/In ³
Signals	• Green LED for Power On, Power Good TTL HIGH within 100-500 ms and LOW ≤ 1 ms before loss of regulation
Current Monitor	• 0.5 V to 3 V output denoting 0-100% output current
MTBF	• 150 kHrs min per MIL-HDBK-217F

Environmental

Operating Temperature	• 0 to +70 °C, derates from 100% load at +50 °C to 50% load at +70 °C
Cooling	• Internal fan
Operating Humidity	• 5-90%, non-condensing
Storage Temperature	• -20 °C to +85 °C
Operating Altitude	• 3000 m
Vibration	• 5-50 Hz, acceleration 7.35 ms ² on X, Y and Z axis

EMC & Safety

Emissions	• FCC Part 15 & EN55022 Level B conducted
Harmonic Currents	• EN61000-3-2-3-3
ESD Immunity	• EN61000-4-2, level 3 Perf Criteria A
Radiated Immunity	• 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 Immunity	• EN61000-4-6, 3V Perf Criteria A
Dips & Interruptions	• EN61000-4-11 70% U_T for 10 ms, 40% U_T for 100 ms, <5% U_T for 5000 ms Perf Criteria A, B, B
Safety Approvals	• UL60950, CSA C22.2 No. 950, EN60950-1:2001, CE Mark LVD, SEMI F47 compliant (high line only) at 100% rated power output

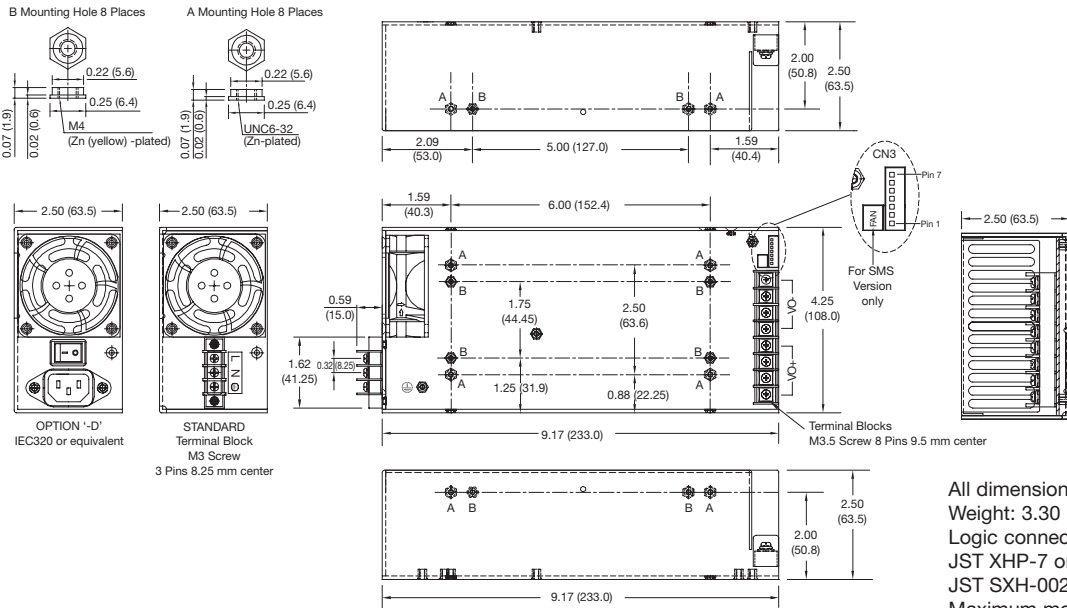
Models and Ratings

Output Power	Output Voltage ^(3,4)	Output Current		Ripple & Noise ⁽²⁾	Model Number
		Maximum	Peak ⁽¹⁾		
750 W	12 V	62.50 A	75.00 A	120 mV	SMR800PS12
	15 V	50.00 A	56.00 A	150 mV	SMR800PS15
	18 V	41.67 A	50.00 A	180 mV	SMR800PS18
800 W	24 V	33.39 A	37.50 A	240 mV	SMR800PS24
	27 V	29.62 A	33.33 A	270 mV	SMR800PS27
	36 V	25.00 A	29.60 A	360 mV	SMR800PS36
	48 V	16.67 A	18.75 A	480 mV	SMR800PS48
	54 V	14.81 A	16.67 A	540 mV	SMR800PS54
	60 V	13.33 A	15.00 A	600 mV	SMR800PS60

Notes

1. This peak can be taken for 500 μs only, average power should not exceed the maximum power.
2. Ripple & Noise is measured using 0.1 μF ceramic and 22 μF electrolytic capacitor, 20 MHz bandwidth.
3. Alternative output voltages available. Consult sales.
4. Load regulation increases to 2% for 0-100% load change.

Mechanical Details



CN3 (Signals)	
Pin	Function
1	Current monitor
2*	Current share
3	Return
4	Power good
5	Remote On/Off
6*	-Remote sense
7*	+Remote sense

*If optional current share is fitted then remote sense function is excluded.

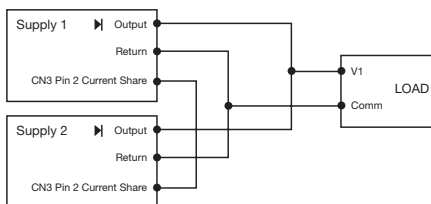
All dimensions are in inches (mm).
 Weight: 3.30 lbs (1.5 kg) approx.
 Logic connector CN3 mates with:
 JST XHP-7 or equivalent &
 JST SXH-002T-P0.6 crimp terminals.
 Maximum mounting screw penetration:
 0.12 (3.0) on base & 0.25 (6.3) on each side.

Options

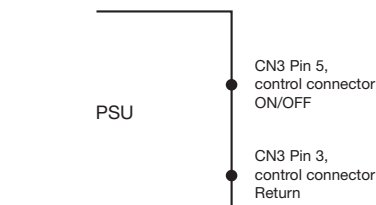
- Current share and internal oring diode add suffix '-I' to model number. Note that this option includes output blocking diodes. Remote sense is not available with current share.
- Optional IEC320 inlet add suffix '-D' to model number.
- Optional Molex output connector add suffix '-E' to model number.
- For U-Channel version replace 'SMR' in the model number with 'SMS' e.g. SMS800PS12 (note that 25 CFM cooling air is required). Dimensions are 8.00(l) x 4.33(w) x 2.56(h) (203.2 x 110.0 x 65.0).
- For top mounting fan version replace 'SMR' in the model number with 'SMT' e.g; SMT800PS12. Dimensions are 8.00(l) x 4.33(w) x 3.40(h) (203.2 x 110.0 x 86.4).
- For multiple option codes place codes in alphabetical order. e.g. SMR800PS12-DI.

Application Notes

Parallel Connect with Current Share Option

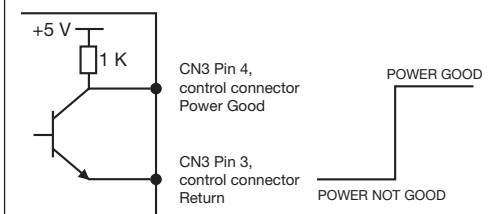


Remote On/Off



Note:
 Applying <0.3 V or short between pins 5 and 3 turns the output OFF. Applying >4.5 V or open circuit between pins 5 and 3 turns output ON.

Power Good



Sink current = 6 mA
 Source current = 4 mA