600–800 Watts
SMR Series

- Up to 900 W Peak Output Power
- Single Outputs from 12 V to 48 V
- Compact Size
- Remote On/Off
- SEMI F47 Compliant
- Optional Current Share
- 3 Year Warranty

Specification

Input

Input Voltage	• 90-264 VAC (120-370 VDC)
Input Frequency	• 47-63 Hz
Input Current	• SMR600: 9 A at 90 VAC, 3.5 A at 230 VAC SMR800: 11 A at 90 VAC, 5 A at 230 VAC
Inrush Current	• 70 A at 230 VAC
Power Factor	• >0.9
Earth Leakage Current	• <2.4 mA max at 264 VAC
Input Protection	• Fitted with a T12 A/250 V fuse

Output

Output Voltage	• See table
Output Voltage Trim	• ±5%
Initial Set Accuracy	• ±1%
Minimum Load	• 1% (see note 9)
Start Up Delay	• 1.5 s at 230 VAC
Start Up Rise Time	• 40 ms typical
Hold Up Time	• 16 ms min at 120 VAC
Line Regulation	• ±0.5%, low line to high line
Load Regulation	• ±1%, 1-100% load (see note 8)
Over/Undershoot	• 5% max
Transient Response	• 5% max deviation, 500 µs recovery to within 1% for a 50% load change
Ripple & Noise	• 1% of nominal output voltage (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 (not available with current share)
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	• See model table
Isolation	• 3000 VAC Input to Output 1500 VAC Input to Ground 250 VDC Output to Ground
Switching Frequency	• 60 kHz PFC, 25 kHz PWM typical
Power Density	• SMR600: 6.16 W/In^3, SMR800: 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 to MIL-HDBK-217F at 25 °C, GB

Environmental

Operating Temperature	• 0 °C to +70 °C, derates from 100% load at +50 °C to 50% load at +70 °C
Cooling	• Integral 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 and radiated
Harmonic Currents	• EN61000-3-2 class A EN61000-3-2 class C for loads ≥20%
Voltage Flicker	• EN61000-3-3
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, installation class 3 Perf Criteria A
Conducted Immunity	• EN61000-4-6, 3V Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 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

SMR600–800

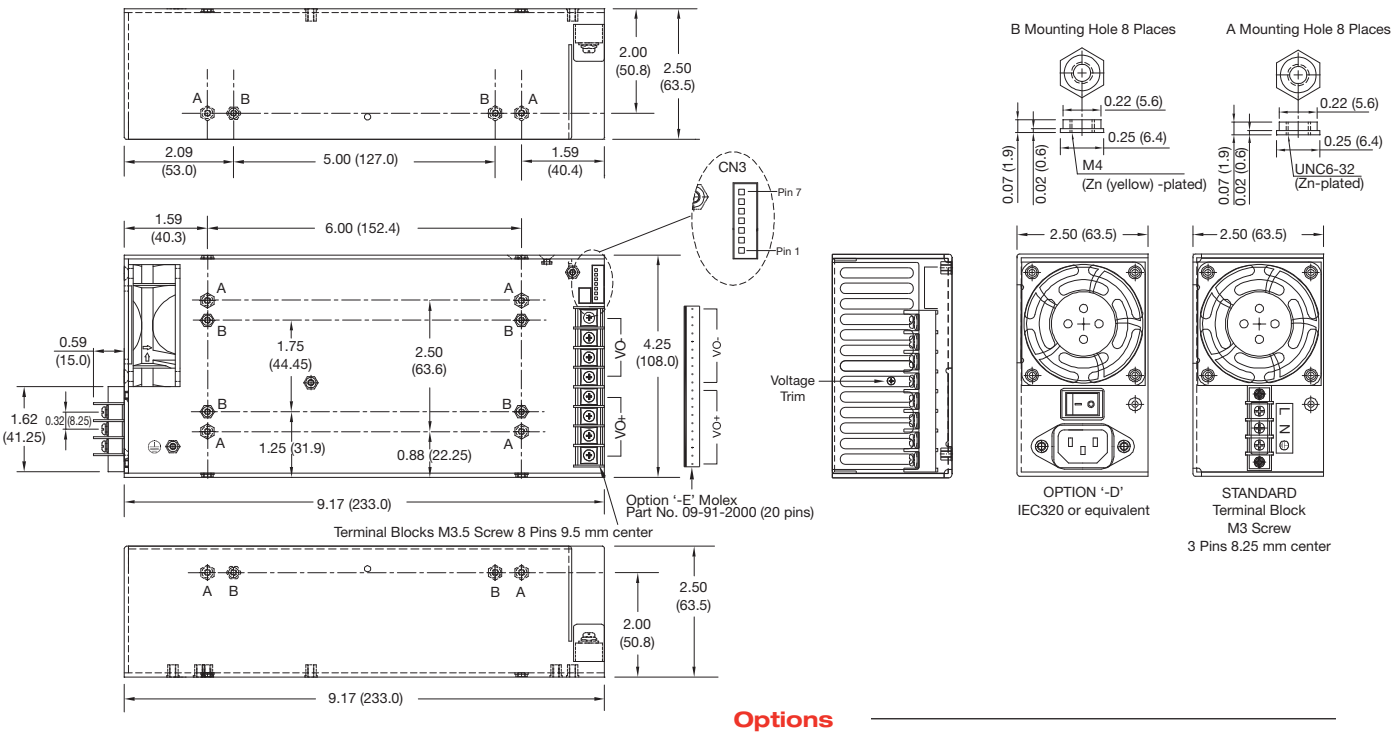
Output Power	Output Voltage[7]	Output Current		Ripple & Noise[2]	Efficiency		Model Number
		Maximum	Peak[1]		115 VAC	230 VAC	
600 W	12 V	50.00 A	75.00 A	120 mV	79%	83%	SMR600PS12
600 W	24 V	25.00 A	37.50 A	240 mV	80%	85%	SMR600PS24
600 W	48 V	12.50 A	18.75 A	480 mV	81%	86%	SMR600PS48
750 W	12 V	62.50 A	75.00 A	120 mV	79%	83%	SMR800PS12
800 W	24 V	33.33 A	37.50 A	240 mV	80%	85%	SMR800PS24
800 W	48 V	16.67 A	18.75 A	480 mV	81%	86%	SMR800PS48

Notes

1. *Peak current can be taken for 500 µs, 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. *Load regulation increases to 2% for 0-100% load change.*
4. *For Top Fan versions replace SMR with SMT.*
5. *For U-channel versions replace SMR with SMS.*
6. *For output currents >50 A please use remote sense to meet load regulation ratings.*
7. *Other output voltages available in OEM quantities, please contact sales.*
8. *Minimum load required to meet ripple and noise specification.*

Mechanical Details

Covered Version



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.

Options

Option	SMR	SMT	SMS
Current Share + output blocking diodes[1]	-I	-I	-I
Molex Output Connector[1]	-E	-E	-E
Molex Input Connector[1]		-F	-F
Molex Input Molex Output[1]		-G	-G
IEC320 Inlet	-D		
IEC Inlet Molex Outlet[1]	-F		

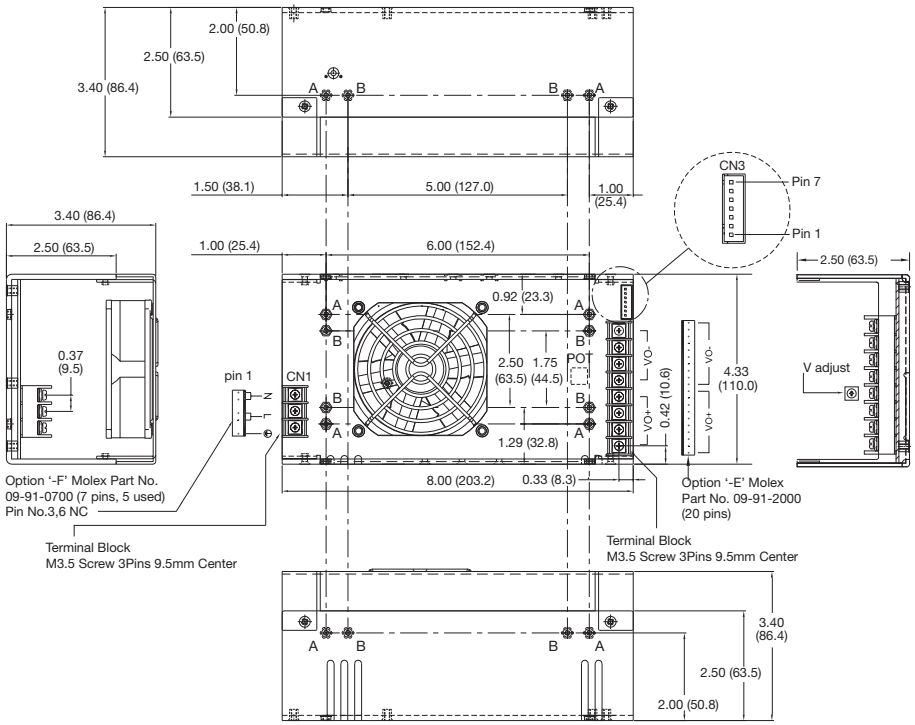
(1) Available for OEM quantities, contact Sales.
For multiple option codes, place codes in alphabetical order, e.g SMR800PS12-EI

Notes

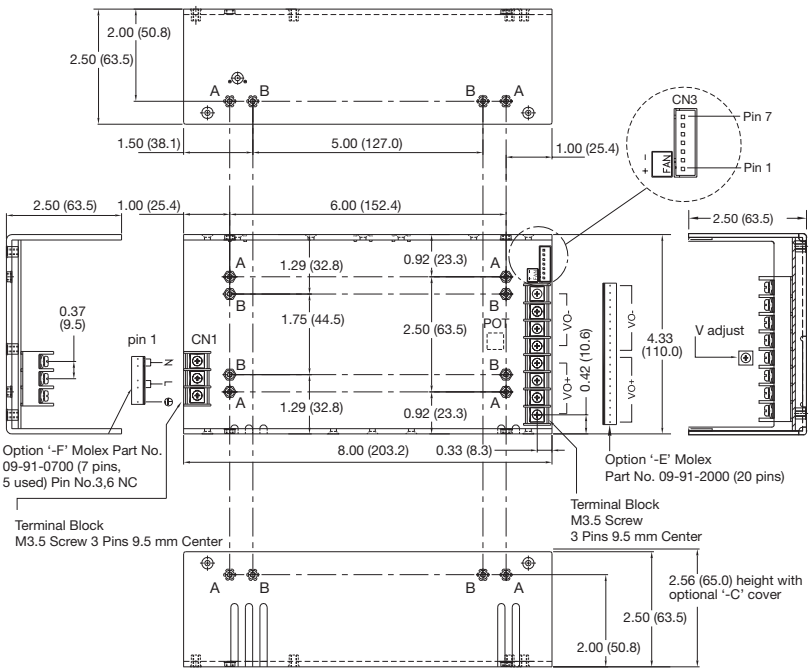
1. All dimensions are in inches (mm).
2. Weight: 3.30 lbs (1.5 kg) approx.
3. Tolerance: ±0.012 (±0.3)
4. Logic connector CN3 mates with: JST XHP-7 or equivalent & JST SXH-002T-P0.6 crimp terminals.
5. Maximum mounting screw penetration: 0.12 (3.0) on base & 0.25 (6.3) on each side.
6. Maximum screw terminal torque: Output: 15.7 lbs-in (1.8 Nm) Input: 7 lbs-in (0.8 Nm)

Mechanical Details

Top Fan Version – SMT



U Channel Version – SMS



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

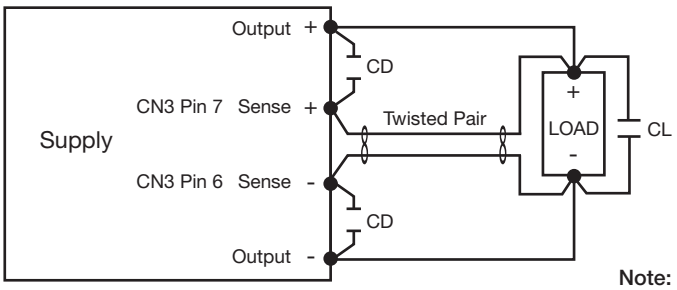
*If optional current share if fitted then remote sense function is excluded.

Notes

All dimensions are in inches (mm). Weight: 3.30 lbs (1.5 kg) approx.
Maximum mounting screw penetration: 0.12 (3.0) on base & 0.25 (6.3) on each side.

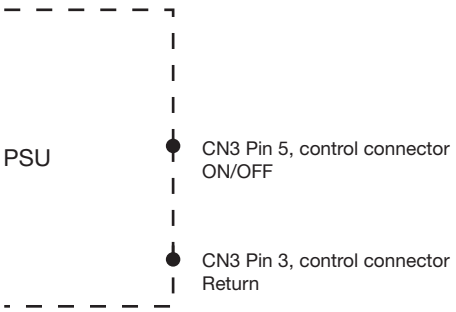
Logic connector CN3 mates with: JST XHP-7 or equivalent & JST SXH-002T-P0.6 crimp terminals.

Remote Sense



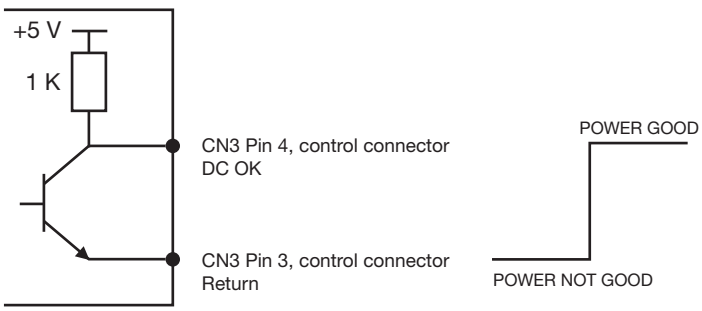
Note:
1. CL is 47 µF electrolytic capacitor.
2. CD is 0.1 µF ceramic capacitor.

Remote On/Off



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

Power Good



Parallel Connection with Current Share Option