Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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SMH600

AC-DC Power Supplies

XP Power

600 Watts

- Single and Dual Outputs
- Up to 900 W Peak Power on Single Output Versions
- Power Good, Remote On/Off and Remote Sense
- Connector Options
- Forced-cooled
- U-Channel & End-Fan Versions Fit 1U Applications
- 3 Year Warranty

The SMH600 series provide up to 600 W in a low profile (1.6") chassis mount format. Single outputs are available from 3.3 – 60 VDC and there are three dual output models offering combinations from 5V to 24 VDC. The full power rating is available from 90 – 264 VAC input in ambient temperatures up to 50 °C providing power solutions for global use without the need for de-rating. All models comply with level B for both conducted and radiated emissions.

Dimensions:

SMH:
8.00 x 5.00 x 1.60" (203.0 x 127.0 x 40.64 mm)
SMH-EF:
9.10 x 5.00 x 1.60" (231.1 x 127.0 x 40.64 mm)
SMH-TF:
8.00 x 5.00 x 2.20" (203.0 x 127.0 x 55.8 mm)

Models & Ratings

Output	Output 1[3]		Output 2		Model Number[2]
	Voltage	Current	Voltage	Current	
330 W	3.3 VDC	100.00 A			SMH600PS03
500 W	5.0 VDC	100.00 A			SMH600PS05
600 W	12.0 VDC	50.00 A			SMH600PS12
600 W	15.0 VDC	40.00 A			SMH600PS15
600 W	18.0 VDC	33.33 A			SMH600PS18
600 W	24.0 VDC	25.00 A			SMH600PS24
600 W	36.0 VDC	16.60 A			SMH600PS36
600 W	48.0 VDC	12.50 A			SMH600PS48
600 W	54.0 VDC	11.10 A			SMH600PS54
600 W	60.0 VDC	10.00 A			SMH600PS60
500 W	+5.0 VDC	50.00 A	+12.0 V	33.33 A	SMH600PD0512
500 W	+5.0 VDC	50.00 A	+24.0 V	16.67 A	SMH600PD0524
600 W	+12.0 VDC	33.33 A	+24.0 V	16.67 A	SMH600PD1224

Notes

1. Add suffix '-EF' to model number for end fan type, '-TF' for top fan type.
2. Standard models have screw terminals.
For optional Molex input connector add suffix '-F-, for optional Molex output connector add suffix '-G' and for optional Molex input and output connectors add suffix '-FG'. Molex output terminals are not available on 3V3 and 5V single output versions or 0512 and 0524 dual output versions.
For optional IEC320-C14 inlet on end fan types add suffix '-K'
3. Output peak power of 900 W for 500 µs is available on single output models.

Summary

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Range	90		264	VAC	
Signals					Power Good
Efficiency		90 / 89		%	Single output / Dual output at 230 V and full load
Operating Temperature	0		+70	°C	Derate at 2.5%/°C from +50 °C to +70 °C
Weight		3.53 (1.6)		lb (kg)	End fan '-EF' version
EMC	EN55022 Level B Conducted & Radiated, EN61000-4, EN61000-3				
Safety Approvals	EN60950-1, UL60950-1, CSA22.2 No.60950-1				

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage	90		264	VAC	
Input Frequency	47		63	Hz	
Input Current		6		A	115 VAC (3.0 A at 230 VAC)
Inrush Current		70		A	230 VAC (35 A at 115 VAC)
Power Factor		>0.9			EN61000-3-2 class A
Earth Leakage Current		<1.0		mA	264 VAC
Input Protection	T10.0 A/250 V fuse				

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Voltage	3.3		60	VDC	See Models and Ratings table
Output Voltage Trim		±5		%	V1 (V2 of dual output models will track by same % of adjustment)
Initial Set Accuracy		±1		%	
Minimum Load	1 / 10			%	Single / Dual (for regulation)
Start Up Delay			2.0	s	115 VAC
Start Up Rise Time		40		ms	PD1224 model typically 50 ms
Hold Up Time	10	13		ms	115 VAC
Drift			±0.5	%	After 20 min warm up
Line Regulation			±0.5	%	
Load Regulation		±1 / ±3 / ±5		%	Single / Dual V1 / Dual V2 outputs
Over/Undershoot		1.5	5	%	
Transient Response			±5	%	Deviation, recovery to within 1% in 500 µs for a 50% load change
Ripple & Noise			1	% pk-pk	Measured at 20 MHz BW and 10 µF electrolytic and 0.1 µF ceramic at terminals
Overvoltage Protection			130	%	V1 recycle AC input to reset
Overload Protection	110		140	%	
Short Circuit Protection - V1					Trip and restart, auto recovery
Remote On/Off	Applying short circuit between Remote On/Off pin and signal return turns output off.				
Remote Sense	Compensates for 0.5 V max. voltage drop on single output models only.				

General

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency		90 / 89		%	Single output / Dual output at 230 V and full load
Isolation: Input to Output			3000	VAC	
Input to Ground			1500	VAC	
Output to Ground			250	VDC	
Switching Frequency		60 / 28		kHz	PFC / PWM
Power Density	9.37			W/in^3	For U Channel Versions
Signals					Power Good
Mean Time Between Failure	115			kHrs	MIL-HDBK-217F at 25 °C GB
Weight		3.53 (1.6)		lb (kg)	End fan '-EF' version

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating Temperature	0		+70	°C	Derate at 2.5%/°C from +50 °C to +70 °C
Storage Temperature	-20		+85	°C	
Cooling					Forced-cooled. -EF and -TF versions have inbuilt two speed fan. Speed increases when output exceeds 2 A approx. 25 CFM is required for U channel version.
Operating Altitude			3000	m	
Vibration	5		50	Hz	Acceleration 7.35 ms^2 on 3 axes

EMC: Emissions

Phenomenon	Standard	Test Level	Notes & Conditions
Conducted	EN55022	Level B	
Radiated	EN55022	Level B	
Harmonic Current	EN61000-3-2	Class A	Class C for loads ≥70%
Voltage Flicker	EN61000-3-3		

EMC: Immunity

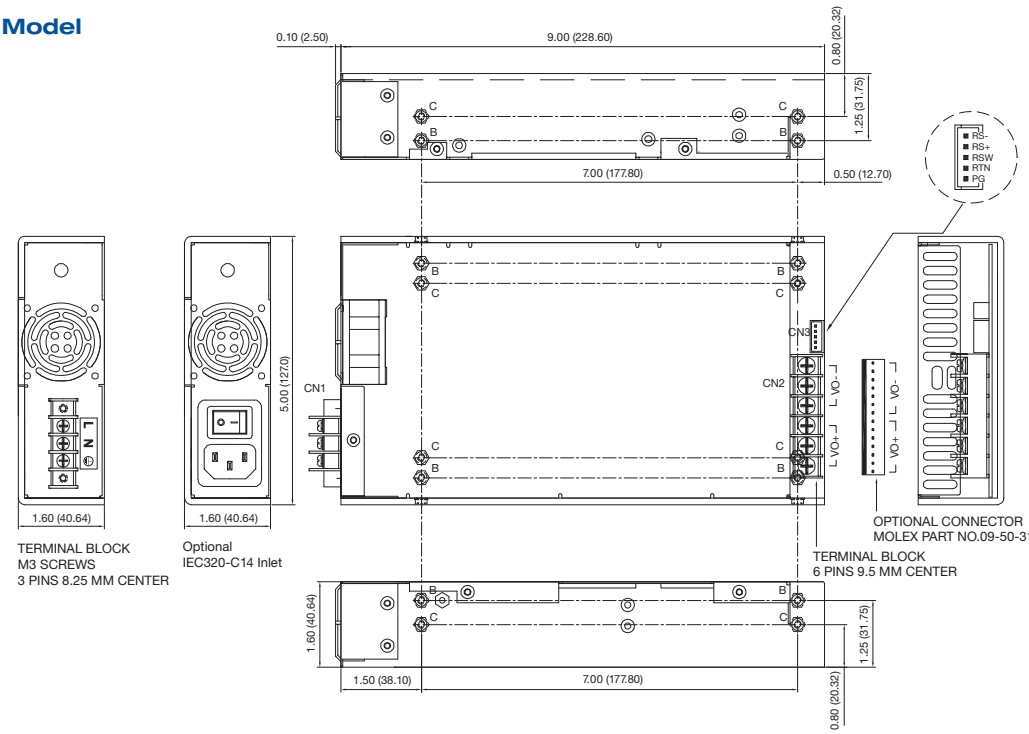
Phenomenon	Standard	Test Level	Criteria	Notes & Conditions
ESD	EN61000-4-2	Level 3	A	
Radiated	EN61000-4-3	Level 2	A	
EFT	EN61000-4-4	Level 2	A	
Surges	EN61000-4-5	Installation class 3	A	
Conducted	EN61000-4-6	Level 2	A	
Dips and Interruptions	EN61000-4-11	DIP: 30% 10 ms DIP: 60% 100 ms INT: 100% 5000 ms	A A/B B	Highline (<420 W) / Lowline

Safety Approvals

Safety Agency	Safety Standard	Notes & Conditions
UL	UL60950-1 (2007), CSA 22.2 No.60950-1-1:08	
CSA	C22.2 No.60950-1	
TUV	EN60950-1	

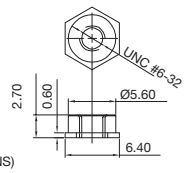
Mechanical Details - End Fan (-EF)

Single Model

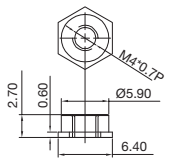


Pin	Description
RS-	Negative remote sense
RS+	Positive remote sense
RSW	Remote On/Off
RTN	Signal Return
PG	Power Good

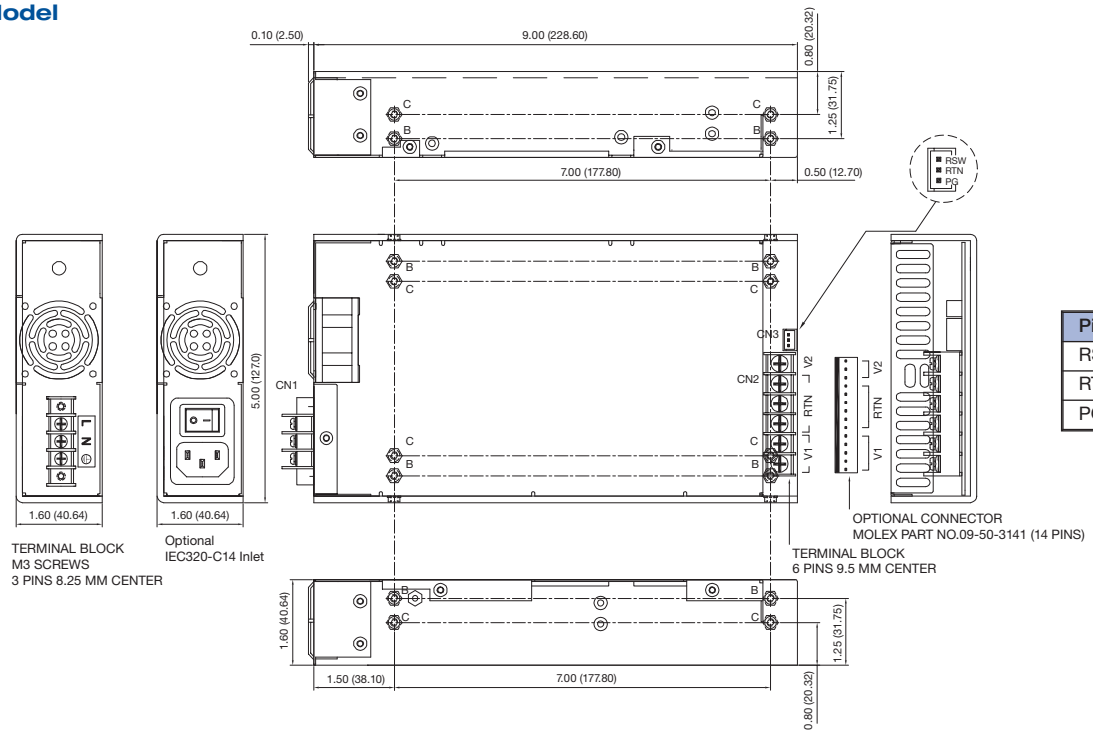
B: MOUNTING HOLE 8 PLACE
6-32 UNC(ZN-PLATED)



C: MOUNTING HOLE 8 PLACE
M4X0.7 (BRASS)



Dual Model



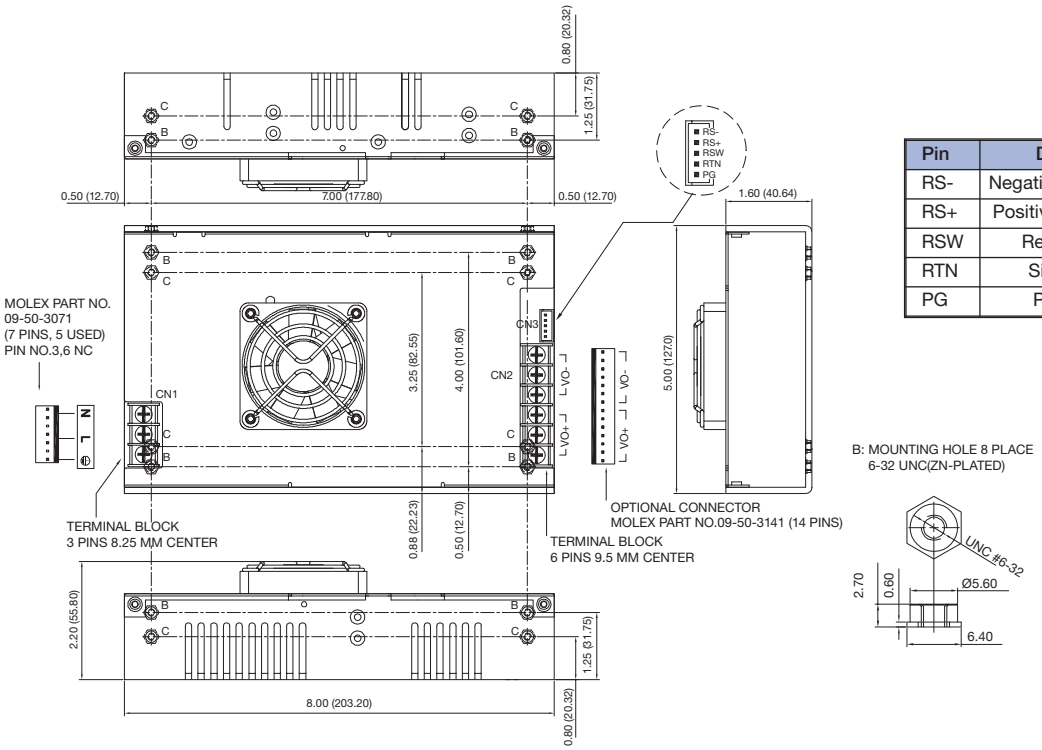
Pin	Description
RSW	Remote On/Off
RTN	Signal Return
PG	Power Good

Notes

1. All dimensions in inches (mm).
2. Tolerance .xx = ±0.02 (0.50); .xxx = ±0.01 (0.25)
3. Weight: 3.53 lbs (1.6 kg)
4. Fan output not available

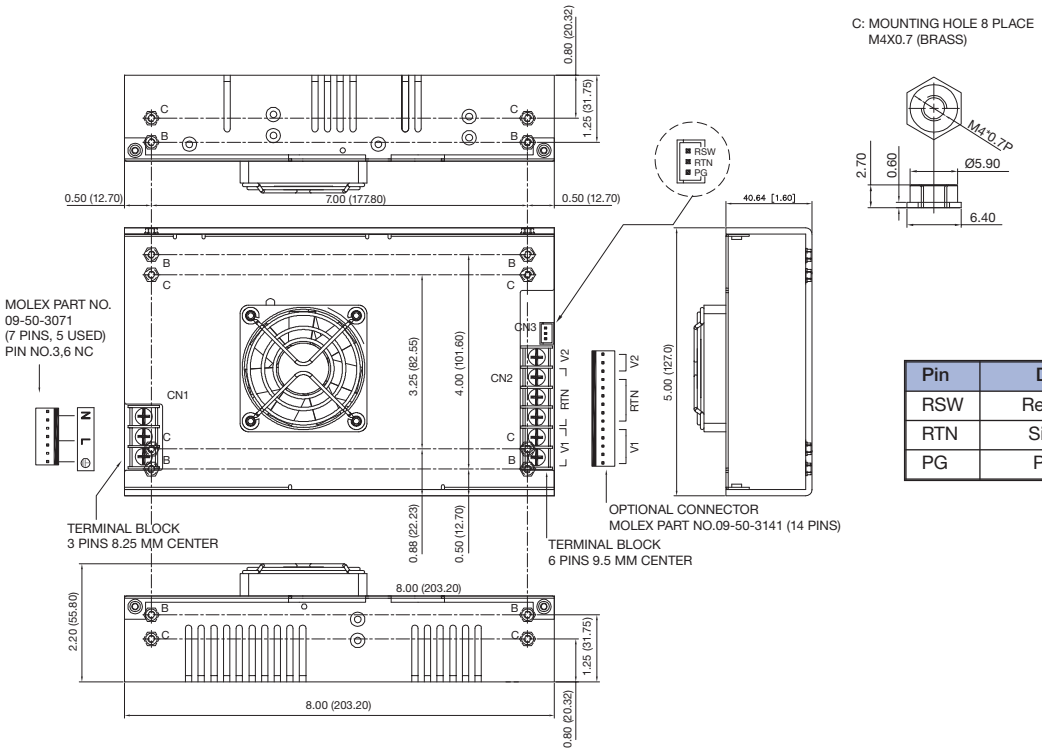
Mechanical Details - Top Fan (-TF)

Single Model



Pin	Description
RS-	Negative remote sense
RS+	Positive remote sense
RSW	Remote On/Off
RTN	Signal Return
PG	Power Good

Dual Model



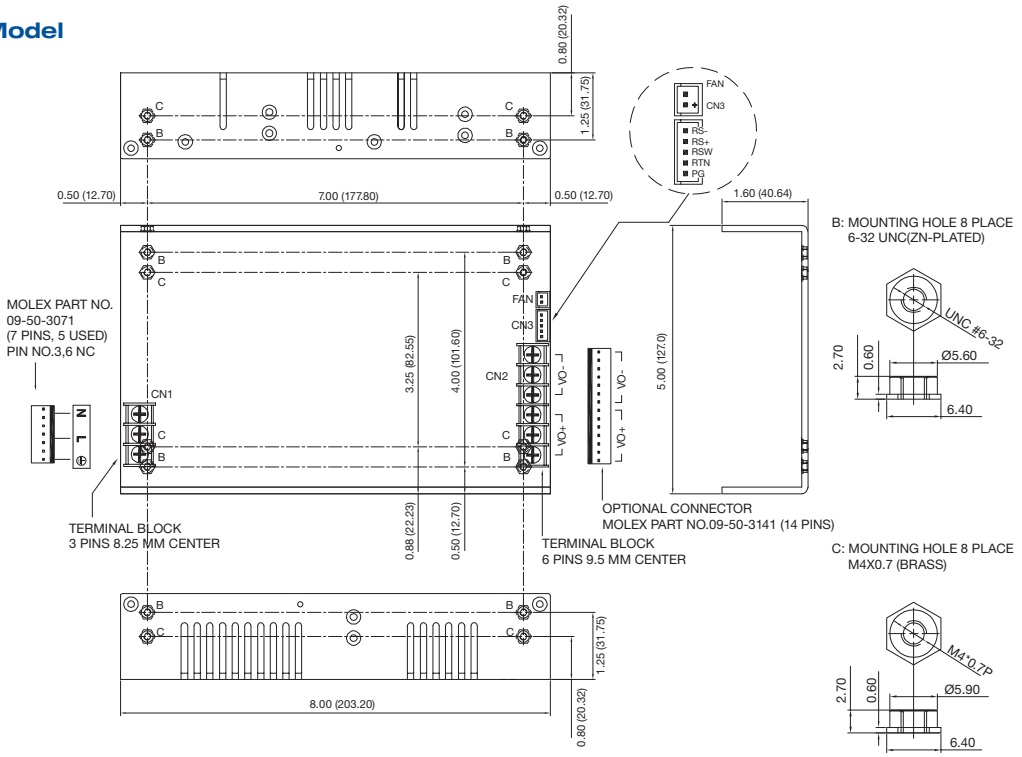
Pin	Description
RSW	Remote On/Off
RTN	Signal Return
PG	Power Good

Notes

1. All dimensions in inches (mm).
2. Tolerance .xx = ±0.02 (0.50); .xxx = ±0.01 (0.25)
3. Weight: 2.87 lbs (1.3 kg)
4. Fan output not available

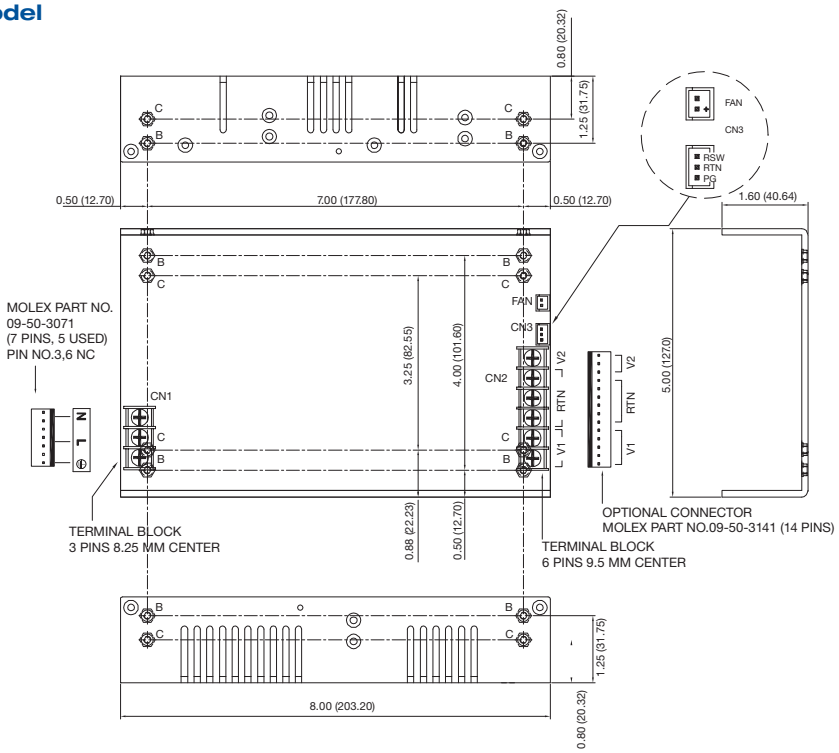
Mechanical Details - U-Channel

Single Model



Pin	Description
RS-	Negative remote sense
RS+	Positive remote sense
RSW	Remote On/Off
RTN	Signal Return
PG	Power Good

Dual Model



Pin	Description
RSW	Remote On/Off
RTN	Signal Return
PG	Power Good

Notes

1. All dimensions in inches (mm).
2. Tolerance .xx = ±0.02 (0.50); .xxx = ±0.01 (0.25)
3. Weight: 2.65 lbs (1.2 kg)