SM100-xxP2 series

100W single Output Swithching power

Features:

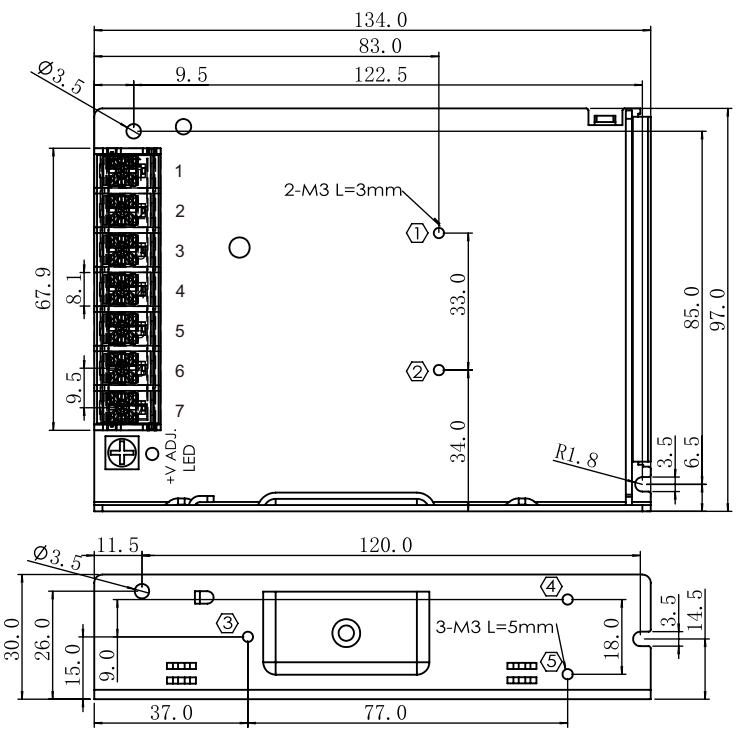
- Universal AC input range
- Withstand 300VAC surge input for 5 second
- Small size, 1U low profile
- High operating temperature up to 70 ℃
- Protections: Short circuit / Overload / Over voltage
- Natural air cooling
- Compliance to IEC/EN 60335-1(PD3)&IEC/EN61558-1,-2,-16
- Suitable for household applications
- Operating altitude up to 5000m
- Withstanding 5G vibration
- High efficiency、High reliability
- LED indicator for power on
- Overvoltage level III
- 100% full load burn-in test
- 3 years warranty

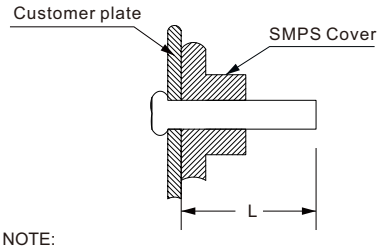
Specification

MODEL		SM100-5P2	SM100-12P2	SM100-15P2	SM100-24P2	SM100-36P2	SM100-48P2
INPUT	VOLTAGE RANGE	85～264Vac 120～370Vdc(refer to 'static characteristic')					
	FREQUENCY RANGE	47～63Hz					
	EFFICIENCY(Typ.)	84%	88%	88.5%	90%	90%	90.5%
	AC CURRENT(Typ.)	2.1A/115Vac 1.2A/230Vac					
	INRUSH CURRENT(Typ.)	50A/230Vac (cold start)					
	LEAKAGE CURRENT	<0.75mA/240Vac					
OUTPUT	DC VOLTAGE	5V	12V	15V	24V	36V	48V
	RATED CURRENT	18A	8.5A	7A	4.5A	2.8A	2.3A
	CURRENT RANGE	0~18A	0~8.5A	0~7A	0～4.5A	0～2.8A	0~2.3A
	RATED POWER	90W	102W	105W	108W	100.8W	110.4W
	RIPPLE&NOISE(max.)	100mVp-p	120mVp-p	120mVp-p	150mVp-p	200mVp-p	200mVp-p
	VOLTAGE ADJ.RANGE	4. 5～5.5V	10.2～13.8V	13.5～18V	21.6～28.8V	32.4～39.6V	43.2～52.8V
	VOLTAGE TOLERANCE	±2%	±1%	±1%	±1%	±1%	±1%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±1%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME	1000ms,30ms/230Vac 2000ms,30ms/115Vac full-load					
	HOLD UP TIME(Typ.)	55ms/230Vac 10ms/115Vac full-load					
PROTECTION	OVER LOAD	110%～150% rated output power					
		Protection type: Hiccup mode ,recovers automatically after fault condition is removed.					
	OVER VOLTAGE	5.75~9V	13.8~19V	18.8~21.8V	28.8~33.6V	41.4~48.6V	55.2~64.8V
		Protection type: Hiccup mode ,recovers automatically after fault condition is removed.					
ENVIRONIMENT	WORKING TEMP.	-30～+70℃ (Refer to "Derating curve")					
	WORKING HUMIDITY	20～90% RH non-condensing					
	STORAGE TEMP.,HUMIDITY	-40～+85℃, 10～95% RH non-condensing					
	TEMP. COEFFICIENT	±0.03%/℃ (0～50℃)					
	VIBRATION	10～500Hz, 5G 10min./1 cycle, period for 60 min. each along X、Y、Z axes					
	OVERVOLTAGE LEVEL	III; Refer to UL61558; EN50178; EN60664-1,EN62477-1; altitude up to 2000 meters					

Safety and electromagnetic compatibility	Safety standards	Refer to UL62368-1,TUV EN62368-1,CCC GB4943.1,IEC/EN 60335-1(PD3) and IEC/EN61558-1,-2,-16		
	Withstand voltage and isolation resistance	I/P-O/P: 4KVac; 100MΩ / 500Vdc / 25℃ / 70%RH		
		I/P-FG: 2KVac; 100MΩ / 500Vdc / 25℃ / 70%RH		
		O/P-FG: 1.25KVac; 100MΩ / 500Vdc / 25℃ / 70%RH		
	Electromagnetic compatibility emission	**Parameter**	**Standard**	**Test Level / Note**
		Conducted emission	BS EN/EN55032(CISPR32),FCC PART 15 / CISPR22 ,GB9254.1	Class B
		Radiated emission	BS EN/EN55032(CISPR32),FCC PART 15 / CISPR22 ,GB9254.1	Class B
		Harmonic current	BS EN/EN61000-3-2,GB17625.1	Class A
		Voltage flicker	BS EN/EN61000-3-3	----
	Electromagnetic compatibility immunity	BS EN/EN55035		
		Parameter	**Standard**	**Test Level /Note**
		ESD	BS EN/EN61000-4-2	Level 4, 8KV air, Level 2, 4KV contact, criteria A
		RF field susceptibility	BS EN/EN61000-4-3	Level 3, criteria A
		EFT bursts	BS EN/EN61000-4-4	Level 3, criteria A
		Surge susceptibility	BS EN/EN61000-4-5	Level 4, 2KV/L-N, 4KV/L/N-FG criteria A
		Conducted susceptibility	BS EN/EN61000-4-6	Level 3, criteria A
		Magnetic field immunity	BS EN/EN61000-4-8	Level 4, criteria A
		Voltage dips and interruptions	BS EN/EN61000-4-11	>95% dip 0.5 periods, 30% dip 25 periods , >95% interruptions 250 periods
OTHERS	MTBF	≥750Khrs MIL-HDBK-217F(25℃)		
	DIMENSION	134*97*30mm(L*W*H)		
	PACKING	0.25Kg; 36pcs/10Kg/ 0.97CUFT		
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor. 3. Tolerance: includes set up tolerance, line regulation and load regulation. 4. Line regulation is measured from low line to high line at rated load. 5. Load regulation is measured from 0% to 100% rated load 6. Length of set up time is measured at cold first start, Turning ON/OFF the power supply very quickly may lead to increase of the set up time. 7. The ambient temperature derating of 5℃/1000m is needed for operating altitude great than 2000m(6500ft). 8. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives.			

Mechanical specification



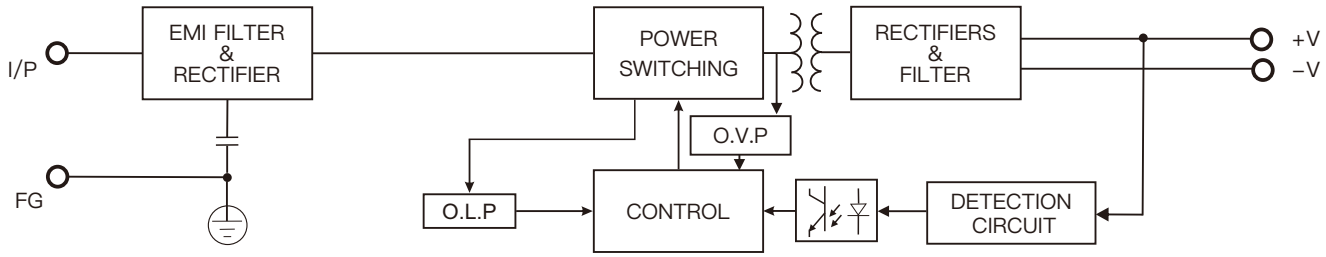


NOTE:
Unit: mm
ADJ:Output adjustable resistor
Torque:M3.5, 0.8N • m Max
TOL: ±1.00
Terminal protection cover optional
(not provided for standard products)

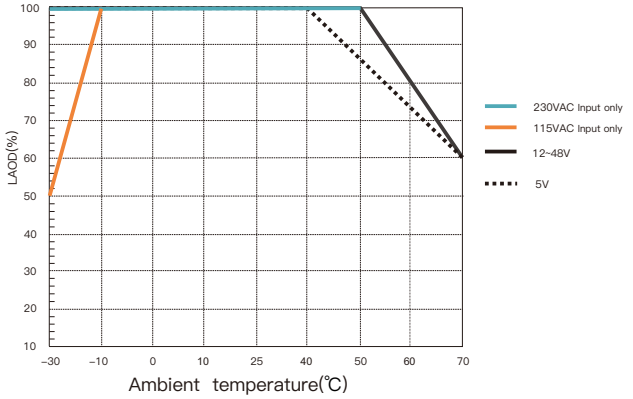
Position No	Screw Size	L max	Torque max
1-2	M3	3mm	0.4N • m
3-5		5mm	

Screw Terminal			
Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4,5	DC OUTPUT –
2	AC/N	6,7	DC OUTPUT +
3	FG		

Block diagram



Derating curve



Static characteristics