100W Single Output DC-DC Converter

SD-100 series

User's Manual



■ Features :

- 2:1 wide input range
- Protections: Short circuit / Overload / Over voltage
- 1500VAC I/O isolation
- Built-in EMI filter, low ripple noise
- Low cost
- High reliability
- 2 years warranty

■ GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

AS/NZS62368-1 BS EN/EN62368-1 (for D type only) TPTC004 IEC62368-1 (for D type only)

SPECIFICATION

MODEL		SD-100A-5	SD-100B-5	SD-100C-5	SD-100D-5	SD-100A-12	SD-100B-12	SD-100C-12	SD-100D-12	SD-100A-24	SD-100B-24	SD-100C-24	SD-100D-24
OUTPUT	DC VOLTAGE	5V				12V				24V			
	RATED CURRENT	18A	20A			8.5A				4.2A			
	CURRENT RANGE	0 ~ 18A	0 ~ 20A			0 ~ 8.5A				0 ~ 4.2A			
	RATED POWER	90W	100W			102W				100.8W			
	RIPPLE & NOISE (max.) Note.2	100mVp-p				120mVp-p				150mVp-p			
	VOLTAGE ADJ. RANGE	4.5 ~ 5.5VDC				11 ~ 16VDC				23 ~ 30VDC			
	VOLTAGE TOLERANCE Note.3	±2.0%				±1.0%				±1.0%			
	LINE REGULATION	±0.5%				±0.3%				±0.2%			
	LOAD REGULATION	±0.5%				±0.3%				±0.2%			
	SETUP, RISE TIME	2s, 50ms(only D mode) at full load											
	HOLD UP TIME (Typ.)	20ms(only D mode) at full load											
INPUT	VOLTAGE RANGE	A:9.5 ~ 18VDC		B:19 ~ 36VDC		C:36 ~ 72VDC		D:72 ~ 144VDC or 85 ~ 132VAC					
	EFFICIENCY (Typ.)	78%	74%	75%	76%	82%	75%	77%	80%	84%	78%	81%	83%
	DC CURRENT (Typ.)	9.7A/12V	4.8A/24V	2.4A/48V	1.8A/96V	10.4A/12V	4.8A/24V	2.4A/48V	1.8A/96V	10A/12V	4.8A/24V	2.4A/48V	1.8A/96V
	INRUSH CURRENT (Typ.)	D:18A/96VDC											
	LEAKAGE CURRENT	<0.75mA/120VAC(SD-100D)											
PROTECTION	OVERLOAD	105 ~ 135% rated output power											
		Protection type : Hiccup mode, recovers automatically after fault condition is removed											
	OVER VOLTAGE	5.75 ~ 6.75V/10% load				16.8 ~ 20V/10% load				31.5 ~ 37.5V 5% load	31.5 ~ 37.5V/10% load		
		Protection type : Hiccup mode, recovers automatically after fault condition is removed											
ENVIRONMENT	WORKING TEMP.	-15 ~ +60℃(SD-100A), -10 ~ +60℃(SD-100B/C/D) (Refer to "Derating Curve")											
	WORKING HUMIDITY	20 ~ 90% RH non-condensing											
	STORAGE TEMP., HUMIDITY	-20 ~ +85℃, 10 ~ 95% RH non-condensing											
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)											
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes											
SAFETY & EMC (Note 4)	SAFETY STANDARDS	IEC/BS EN/EN 62368-1(for D type only), EAC TP TC 004 approved, design refer to AS/NZS 62368.1											
	WITHSTAND VOLTAGE	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC											
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH											
	EMC EMISSION	Compliance to BS EN/EN55032 (CISPR32) Class B, EAC TP TC 020											
	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,6,8, BS EN/EN55035, light industry level, EAC TP TC 020											
OTHERS	MTBF	2600.2K hrs min. Telcordia SR-332 (Bellcore) ; 399.9K hrs min. MIL-HDBK-217F (25℃)											
	DIMENSION	199*98*38mm (L*W*H)											
	PACKING	0.65Kg; 20pcs/13.8Kg/0.85CUFT											

NOTE

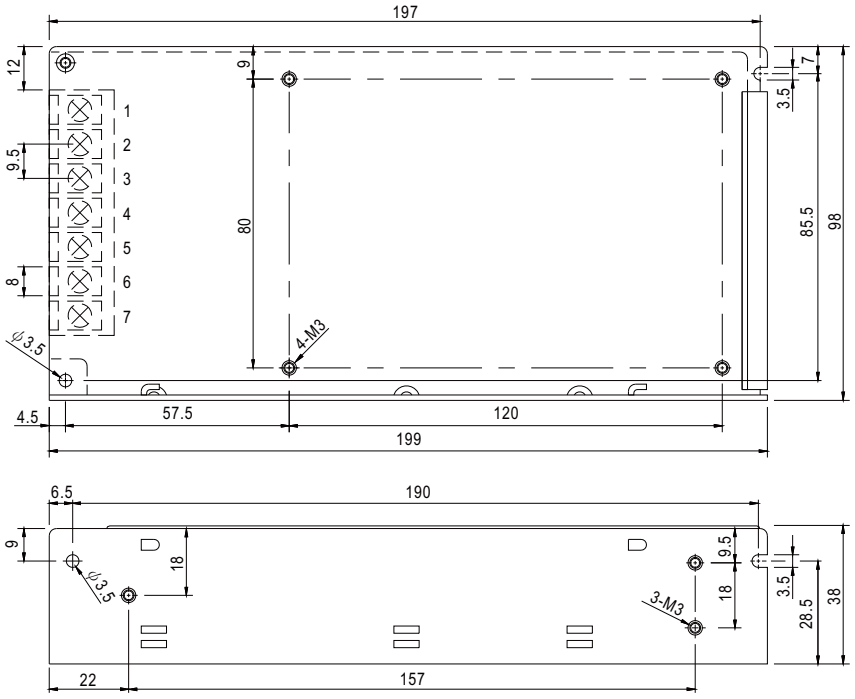
1. All parameters NOT specially mentioned are measured at 12,24,48,96VDC input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μF & 47 μF parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. 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. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies."
   (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
5. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ Mechanical Specification

(Unit: mm , tolerance ± 1mm)

Case No. 902



Terminal Pin No. Assignment

Pin No.	Assignment	Pin No.	Assignment
1,2	INPUT ※	4,5	DC OUTPUT -V
3	FG ⏚	6,7	DC OUTPUT +V

※ SD-100A,B,C

Pin No.	Assignment
1	DC INPUT V+
2	DC INPUT V-

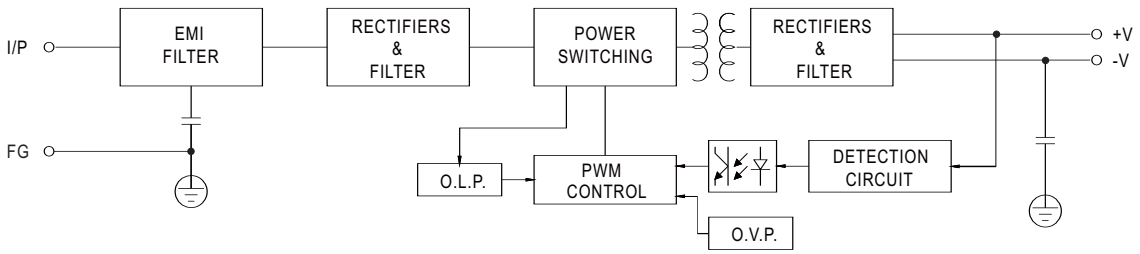
※ SD-100D

Pin No.	Assignment
1,2	AC/DC INPUT

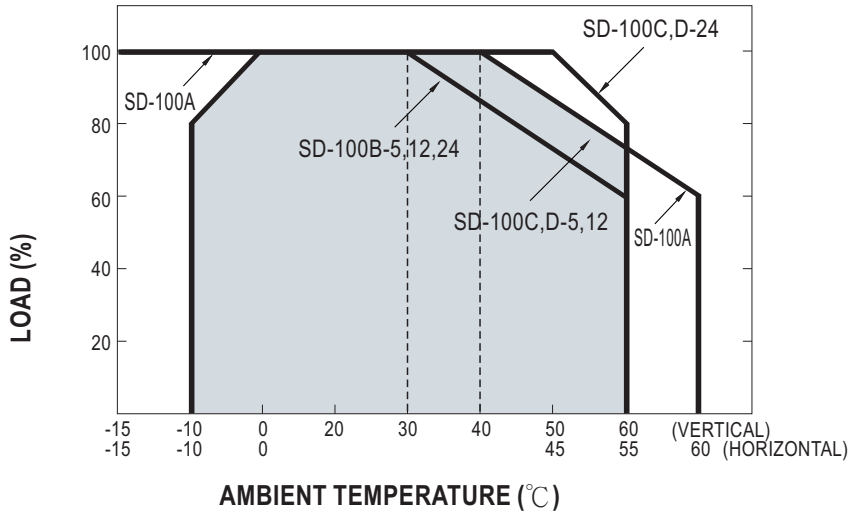
■ Block Diagram

fosc : 83KHz

A-type : 65KHz



■ Derating Curve



■ Output Derating VS Input Voltage

