



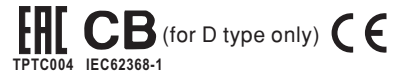
# 100W Single Output DC-DC Converter

# SD-100 series



### ■ 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



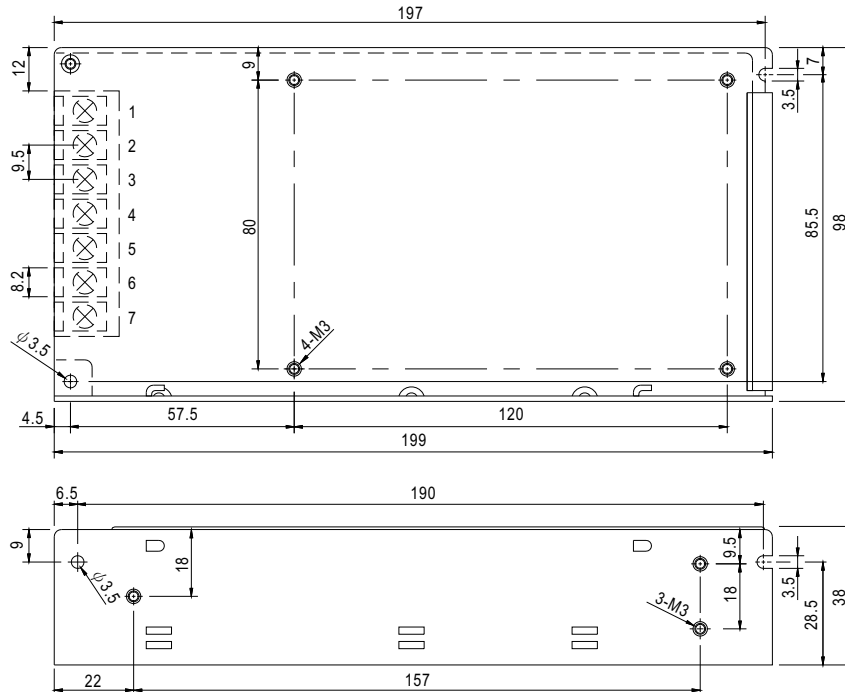
TPTC004 IEC62368-1

### 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<br>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 |            |  |
| ENVIRONMENT           | WORKING TEMP.   | -15 ~ +60°C(SD-100A), -10 ~ +60°C(SD-100B/C/D) (Refer to "Derating Curve")  |           |                          |           |                          |            |                              |            |                      |            |                       |            |  |
|                       | WORKING HUMIDITY  | 20 ~ 90% RH non-condensing  |           |                          |           |                          |            |                              |            |                      |            |                       |            |  |
|                       | STORAGE TEMP., HUMIDITY   | -20 ~ +85°C, 10 ~ 95% RH non-condensing   |           |                          |           |                          |            |                              |            |                      |            |                       |            |  |
|                       | TEMP. COEFFICIENT   | ±0.03%/°C (0 ~ 50°C)  |           |                          |           |                          |            |                              |            |                      |            |                       |            |  |
|                       | VIBRATION   | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes  |           |                          |           |                          |            |                              |            |                      |            |                       |            |  |
| SAFETY & EMC (Note 4) | SAFETY STANDARDS  | IEC62368-1 CB approved by TUV (for D type only), EAC TP TC 004 approved   |           |                          |           |                          |            |                              |            |                      |            |                       |            |  |
|                       | 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°C / 70% RH  |           |                          |           |                          |            |                              |            |                      |            |                       |            |  |
|                       | EMC EMISSION  | Compliance to EN55032 (CISPR32) Class B, EAC TP TC 020  |           |                          |           |                          |            |                              |            |                      |            |                       |            |  |
|                       | EMC IMMUNITY  | Compliance to EN61000-4-2,3,4,6,8, light industry level, criteria A, EAC TP TC 020                                      |           |                          |           |                          |            |                              |            |                      |            |                       |            |  |
| OTHERS                | MTBF  | 399.9K hrs min.(SD-100A)  |           | 356.7K hrs min.(SD-100B) |           | 355.5K hrs min.(SD-100C) |            | 341.9K Hrs min.(SD-100D)     |            | MIL-HDBK-217F (25°C) |            |                       |            |  |
|                       | DIMENSION   | 199*98*38mm (L*W*H)   |           |                          |           |                          |            |                              |            |                      |            |                       |            |  |
|                       | PACKING   | 0.65Kg; 20pcs/13.8Kg/0.8CUFT  |           |                          |           |                          |            |                              |            |                      |            |                       |            |  |
| NOTE                  | <ol style="list-style-type: none"> <li>All parameters NOT specially mentioned are measured at 12,24,48,96VDC input, rated load and 25°C of ambient temperature.</li> <li>Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF &amp; 47uF parallel capacitor.</li> <li>Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>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 <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</li> <li>The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</li> </ol> |   |           |                          |           |                          |            |                              |            |                      |            |                       |            |  |

■ Mechanical Specification

Case No. 902 Unit:mm



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 |

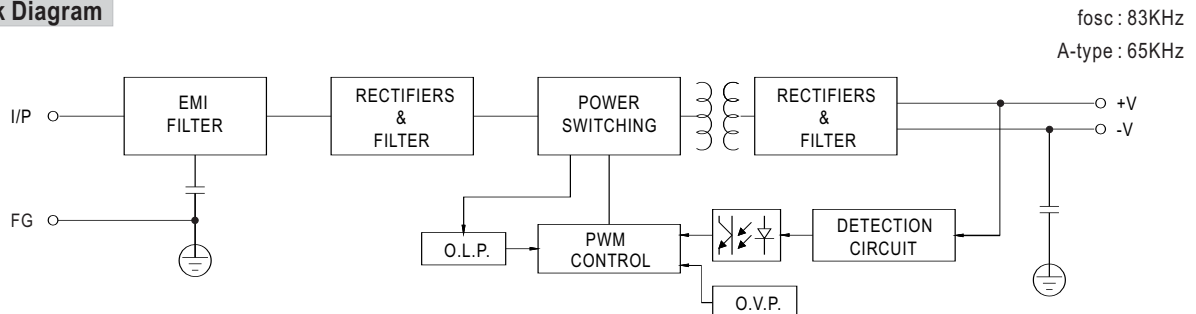
※ SD-100A,B,C

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

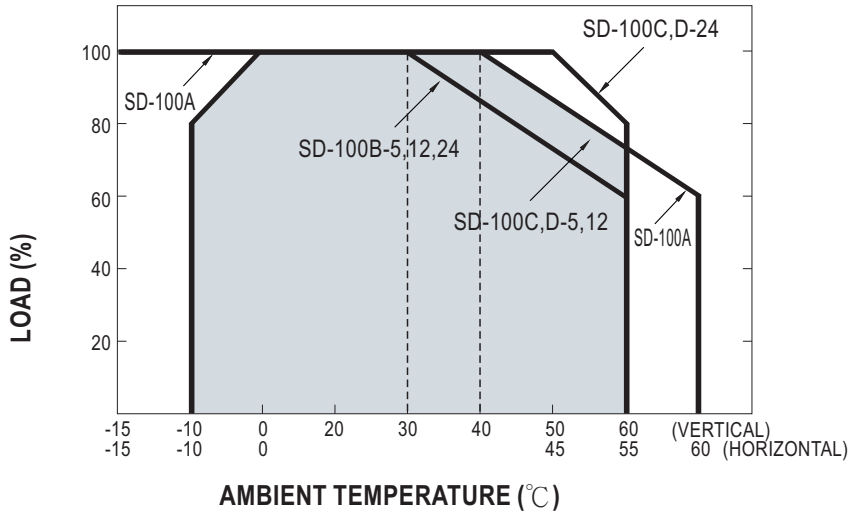
※ SD-100D

| Pin No. | Assignment  |
|---------|-------------|
| 1,2     | AC/DC INPUT |

■ Block Diagram



■ Derating Curve



■ Output Derating VS Input Voltage

