



#### ■ Features :

- 1U low profile 41mm
- High power density 10.7w/inch<sup>3</sup>
- 2000VAC I/O Isolation
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Output OK signal
- Built-in remote ON-OFF control
- Built-in remote sense function
- Forced air cooling by built-in DC fan with fan speed control
- 12V, 0.25A auxiliary output
- 3 years warranty

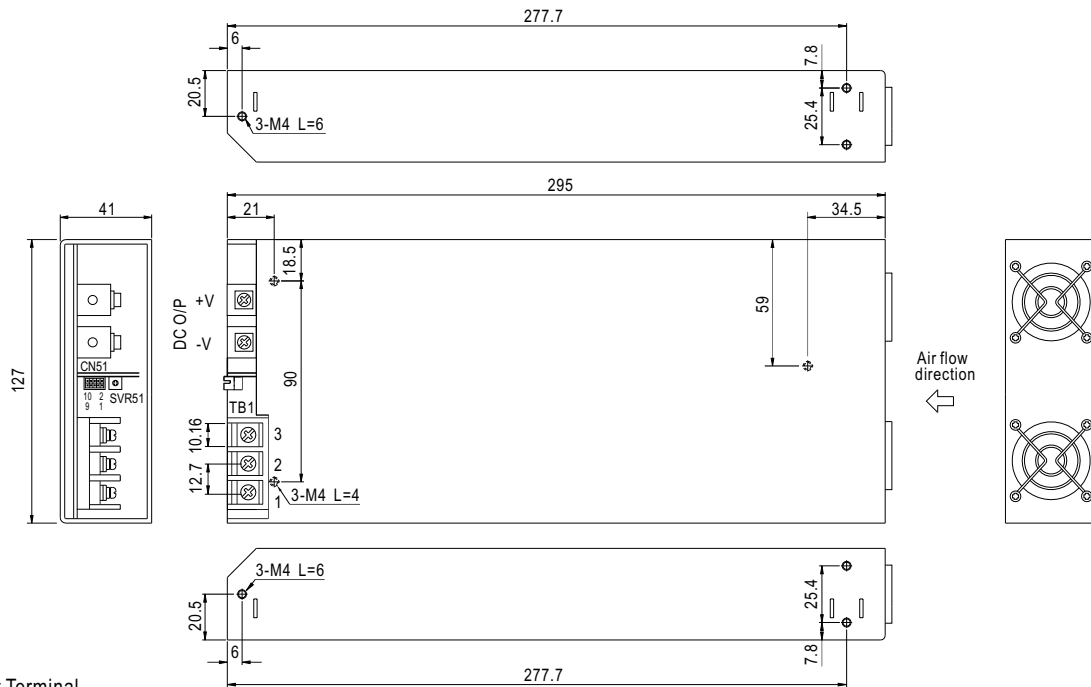
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#### SPECIFICATION

| MODEL                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | SD-1000L-12                                                                                                                                                                                            | SD-1000L-24  | SD-1000L-48 | SD-1000H-12 | SD-1000H-24  | SD-1000H-48 |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------|-------------|--------------|-------------|
| OUTPUT                                  | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 12V                                                                                                                                                                                                    | 24V          | 48V         | 12V         | 24V          | 48V         |
|                                         | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 60A                                                                                                                                                                                                    | 40A          | 21A         | 60A         | 40A          | 21A         |
|                                         | CURRENT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0 ~ 60A                                                                                                                                                                                                | 0 ~ 40A      | 0 ~ 21A     | 0 ~ 60A     | 0 ~ 40A      | 0 ~ 21A     |
|                                         | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 720W                                                                                                                                                                                                   | 960W         | 1008W       | 720W        | 960W         | 1008W       |
|                                         | RIPPLE & NOISE (max.) <small>Note.2</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 150mVp-p                                                                                                                                                                                               | 150mVp-p     | 150mVp-p    | 150mVp-p    | 150mVp-p     | 150mVp-p    |
|                                         | VOLTAGE ADJ. RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 11 ~ 15V                                                                                                                                                                                               | 23 ~ 30V     | 46 ~ 60V    | 11 ~ 15V    | 23 ~ 30V     | 46 ~ 60V    |
|                                         | VOLTAGE TOLERANCE <small>Note.3</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ±1.0%                                                                                                                                                                                                  | ±1.0%        | ±1.0%       | ±1.0%       | ±1.0%        | ±1.0%       |
|                                         | LINE REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ±0.5%                                                                                                                                                                                                  | ±0.5%        | ±0.5%       | ±0.5%       | ±0.5%        | ±0.5%       |
|                                         | LOAD REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ±0.5%                                                                                                                                                                                                  | ±0.5%        | ±0.5%       | ±0.5%       | ±0.5%        | ±0.5%       |
| SETUP, RISE TIME                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 500ms, 50ms at full load                                                                                                                                                                               |              |             |             |              |             |
| INPUT                                   | VOLTAGE RANGE <small>Note.5</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 19 ~ 72VDC                                                                                                                                                                                             |              |             | 72 ~ 144VDC |              |             |
|                                         | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 84%                                                                                                                                                                                                    | 88%          | 90%         | 85%         | 89%          | 92%         |
|                                         | DC CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 23.5A/48VDC                                                                                                                                                                                            |              |             | 11.6A/96VDC |              |             |
|                                         | INRUSH CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | -----                                                                                                                                                                                                  |              |             | 100A/96VDC  |              |             |
| PROTECTION                              | OVERLOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 105 ~ 125% rated output power<br>Protection type : Constant current limiting, unit will shut down o/p voltage after about 5sec. Re-power on to recover                                                 |              |             |             |              |             |
|                                         | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 16 ~ 19V                                                                                                                                                                                               | 30.8 ~ 35.2V | 62 ~ 68V    | 16 ~ 19V    | 30.8 ~ 35.2V | 62 ~ 68V    |
|                                         | OVER TEMPERATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 85℃ ±5℃ (TSW2 ) detect on heatsink of O/P diode; 75℃ ±5℃ (TSW1 ) detect on heatsink of power transistor<br>Protection type : Shut down o/p voltage, recovers automatically after temperature goes down |              |             |             |              |             |
|                                         | REMOTE ON/OFF CONTROL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Please refer to function manual                                                                                                                                                                        |              |             |             |              |             |
| FUNCTION                                | OUTPUT OK SIGNAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Open collector signal low when PSU turns on, maximum, sink current :10mA                                                                                                                               |              |             |             |              |             |
| ENVIRONMENT                             | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | -20 ~ +60℃ (Refer to output load derating curve)                                                                                                                                                       |              |             |             |              |             |
|                                         | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 20 ~ 90% RH non-condensing                                                                                                                                                                             |              |             |             |              |             |
|                                         | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -40 ~ +85℃, 10 ~ 95% RH                                                                                                                                                                                |              |             |             |              |             |
|                                         | TEMP. COEFFICIENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ±0.02%/℃ (0 ~ 50℃)                                                                                                                                                                                     |              |             |             |              |             |
|                                         | VIBRATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes                                                                                                                                           |              |             |             |              |             |
| SAFETY & EMC<br><small>(Note 4)</small> | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | IEC60950-1 CB approved by TUV                                                                                                                                                                          |              |             |             |              |             |
|                                         | WITHSTAND VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | I/P-O/P:2KVAC 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                                                                                                                                              |              |             |             |              |             |
|                                         | EMI CONDUCTION & RADIATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Compliance to EN55022 (CISPR22)                                                                                                                                                                        |              |             |             |              |             |
|                                         | EMS IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Compliance to EN61000-4-2,3,4,6,8; ENV50204, light industry level, criteria A                                                                                                                          |              |             |             |              |             |
| OTHERS                                  | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 32K hrs min. MIL-HDBK-217F (25℃)                                                                                                                                                                       |              |             |             |              |             |
|                                         | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 295*127*41mm (L*W*H)                                                                                                                                                                                   |              |             |             |              |             |
|                                         | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1.94Kg; 6pcs/12.6Kg/0.99CUFT                                                                                                                                                                           |              |             |             |              |             |
| NOTE                                    | 1. All parameters NOT specially mentioned are measured at 48, 96VDC input, rated load and 25℃ of ambient temperature.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation.<br>4. The power supply is considered a component which will be installed into a final equipment. 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."<br>(as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a> )<br>5. Derating may be needed under low input voltages. Please check the derating curve for more details. |                                                                                                                                                                                                        |              |             |             |              |             |

## Mechanical Specification

Case No. 952B Unit:mm



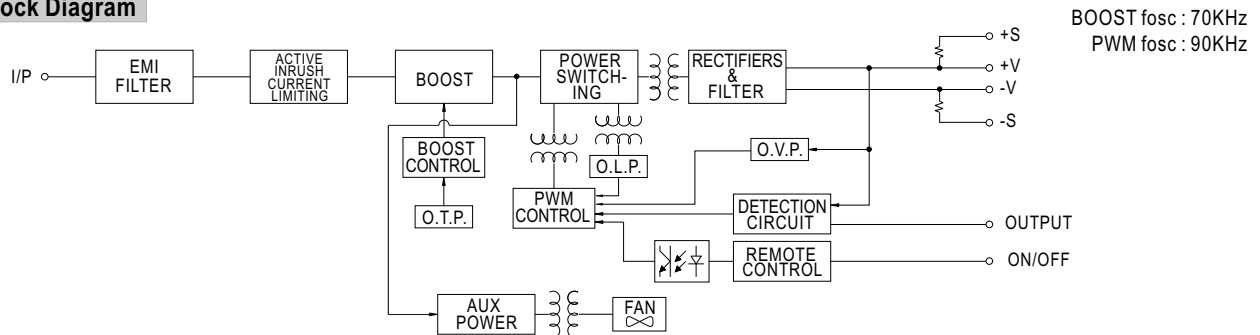
DC Input Terminal  
Pin No. Assignment

| Pin No. | Assignment  |
|---------|-------------|
| 1       | DC INPUT V+ |
| 2       | DC INPUT V- |
| 3       | FG $\perp$  |

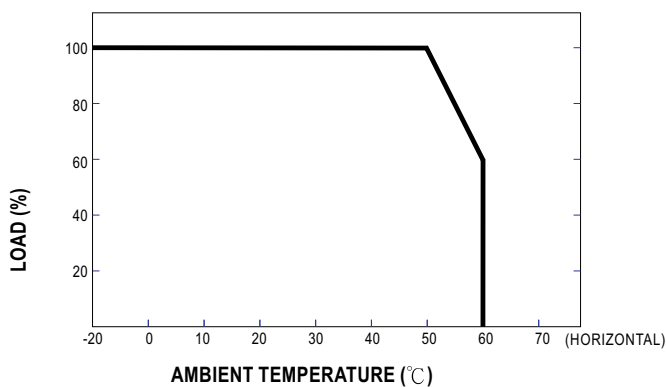
Control pin number assignment (CN51) : HRS DF11-10DP-2DS or equivalent

| Pin No. | Assignment | Pin No. | Assignment | Pin No. | Assignment | Mating Housing                 | Terminal                            |
|---------|------------|---------|------------|---------|------------|--------------------------------|-------------------------------------|
| 1       | +S         | 5       | AUX        | 9       | RCG        | HRS DF11-10DS<br>or equivalent | JST SPHD-002T-P0.5<br>or equivalent |
| 2       | -S         | 6       | AUXG       | 10      | NC         |                                |                                     |
| 3       | OUTPUT OK  | 7       | RC1        |         |            |                                |                                     |
| 4       | GND        | 8       | RC2        |         |            |                                |                                     |

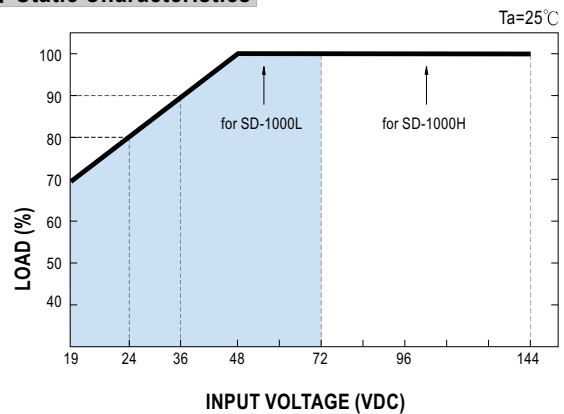
## Block Diagram



## Derating Curve



## Static Characteristics



## Function Description of CN51

| Pin No. | Function | Description                                                                                                                                                                                                           |
|---------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | +S       | Positive sensing. The +S signal should be connected to the positive terminal of the load. The +S and -S leads should be twisted in pair to minimize noise pick-up effect. The maximum line drop compensation is 0.5V. |
| 2       | -S       | Negative sensing. The -S signal should be connected to the negative terminal of the load. The -S and +S leads should be twisted in pair to minimize noise pick-up effect. The maximum line drop compensation is 0.5V. |
| 3       | O/P OK   | Open collector signal, referenced to pin4(GND). Low when PSU turns on. The maximum sink current is 10mA and the maximum external voltage is 13V.                                                                      |
| 4       | GND      | These pins connect to the negative terminal (-V).                                                                                                                                                                     |
| 5       | AUX      | Auxiliary voltage output, 10.8~13.2V referenced to pin6(AUXG). The maximum load current is 0.25A.                                                                                                                     |
| 6       | AUXG     | Auxiliary voltage output ground. The signal return is isolated from the output terminals(+V & -V).                                                                                                                    |
| 7       | RC1      | Remote ON/OFF                                                                                                                                                                                                         |
| 8       | RC2      | Remote ON/OFF                                                                                                                                                                                                         |
| 9       | RCG      | Remote ON/OFF ground                                                                                                                                                                                                  |
| 10      | NC       | No connection                                                                                                                                                                                                         |

## Function Manual

### 1.Remote ON/OFF

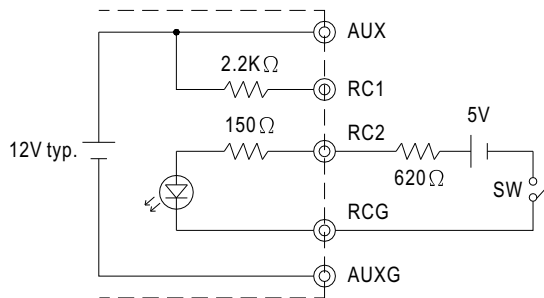
- (1) Remote ON/OFF control becomes available by applying voltage in CN51
- (2) Table 1.1 shows the specification of Remote ON/OFF function
- (3) Fig.1.2 shows the example to connect Remote ON/OFF control function

Table 1.1 Specification of Remote ON/OFF

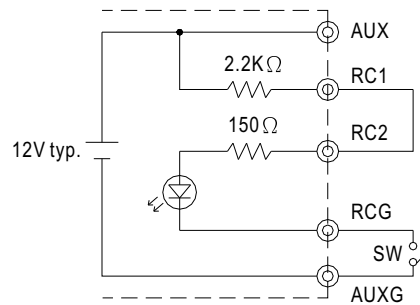
| Connection Method | Fig. 1.2(A) | Fig. 1.2(B) | Fig. 1.2(C) |
|-------------------|-------------|-------------|-------------|
| SW Logic          | Output on   | SW Open     | SW Close    |
|                   | Output off  | SW Close    | SW Open     |

Fig.1.2 Examples of connecting remote ON/OFF

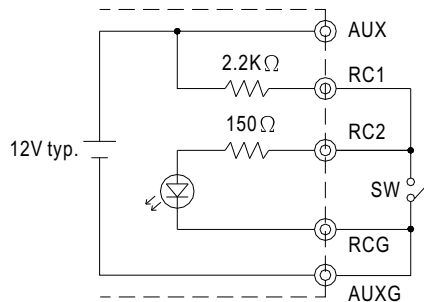
(A) Using external voltage source



(B) Using internal 12V auxiliary output



(C) Using internal 12V auxiliary output



## 2. Output OK signal

"Output OK" is an open collector signal.

It indicates the output status of the PSU. It can operate in two ways : One is sinking current from external signal ; the other is sending out a voltage signal.

### 2-1 Sink current :

The maximum sink current is 10mA and the maximum external voltage is 13V.

### 2-2 Voltage signal :

| Between O/P OK(pin3) and GND(pin4) | Output Status |
|------------------------------------|---------------|
| 0 ~ 0.5V                           | ON            |
| 12 ~ 13V                           | OFF           |

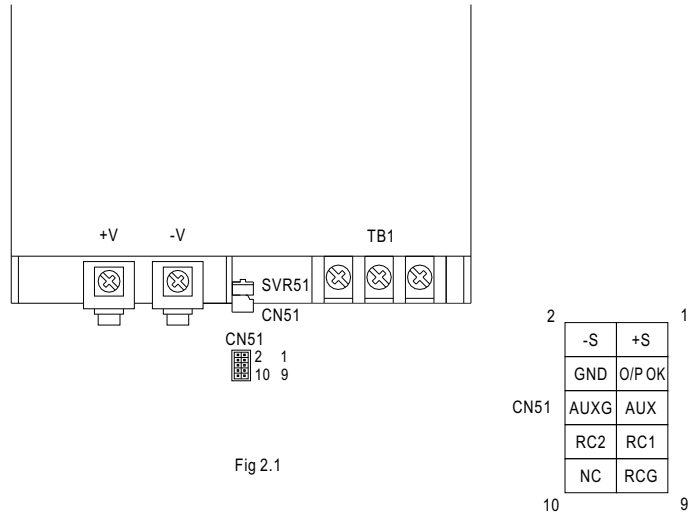


Fig 2.1

## 3. Remote Sense

The remote sensing compensates voltage drop on the load wiring up to 0.5V.

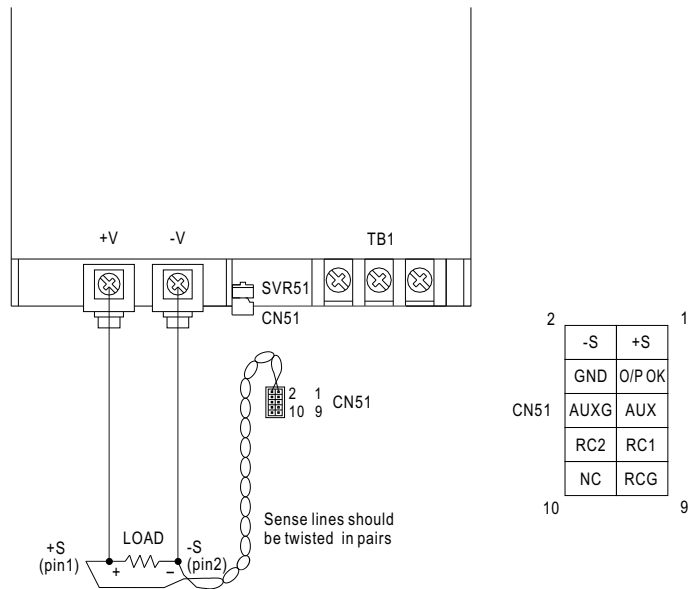


Fig 3.1