



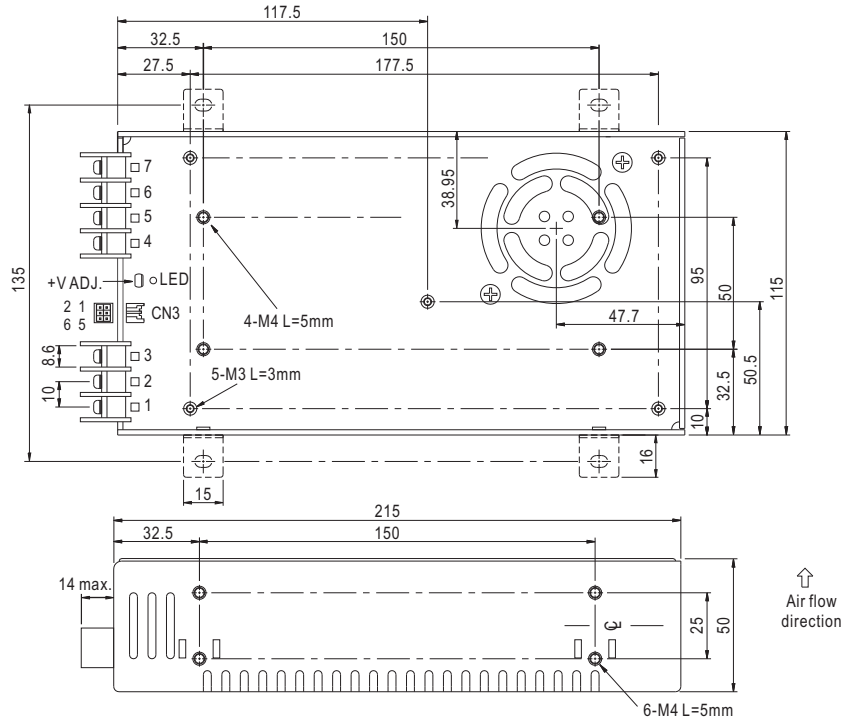
■ Features :

- DC input active surge current limiting
- Wide 4:1~2:1 DC input range (24V: 19~72VDC, 96V:72~144VDC)
- Protections: Short circuit / Overload / Over voltage / Over temperature / Input polarity(by fuse)
- 2000VAC I/O Isolation
- Forced air cooling by built-in DC fan with fan speed control function
- Output OK Signal
- Built-in remote ON-OFF control
- Built-in remote sense function
- 3 years warranty

**CB CE**

**SPECIFICATION**

| MODEL                 |  | SD-500L-12  | SD-500L-24   | SD-500L-48 | SD-500H-12      | SD-500H-24   | SD-500H-48 |
|-----------------------|--|---|--------------|------------|-----------------|--------------|------------|
| OUTPUT                | DC VOLTAGE   | 12V   | 24V          | 48V        | 12V             | 24V          | 48V        |
|                       | RATED CURRENT  | 40A   | 21A          | 10.5A      | 40A             | 21A          | 10.5A      |
|                       | CURRENT RANGE  | 0 ~ 40A   | 0 ~ 21A      | 0 ~ 10.5A  | 0 ~ 40A         | 0 ~ 21A      | 0 ~ 10.5A  |
|                       | RATED POWER  | 480W  | 504W         | 504W       | 480W            | 504W         | 504W       |
|                       | RIPPLE & NOISE (max.) Note.2   | 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 Note.3   | ±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 Note.5   | 19 ~ 72VDC  |              |            | 72 ~ 144VDC     |              |            |
|                       | EFFICIENCY (Typ.)  | 86%   | 88%          | 89%        | 87%             | 89%          | 90%        |
|                       | DC CURRENT (Typ.)  | 24.2A/19VDC   | 24.8A/24VDC  | 12A/48VDC  | 8A/72VDC        | 6A/96VDC     |            |
|                       | CURRENT (AT NO LOAD)   | Max. 0.2A/48VDC   |              |            | Max. 0.1A/96VDC |              |            |
|                       | INRUSH CURRENT (Typ.)  | 60A/48VDC   |              |            | 60A/96VDC       |              |            |
| PROTECTION            | OVERLOAD   | 105 ~ 125% rated output power<br>Protection type : Constant current limiting, shut down o/p voltage after about 5 sec., 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   | 80°C ±5°C (TSW1) detect on heatsink of power transistor<br>80°C ±5°C (L-48V,H-24V,H-48V), 85°C ±5°C (L-24V), 90°C ±5°C (L-12V), 95°C ±5°C (H-12V) (TSW2 : detect on heatsink of o/p diode)<br>Protection type : Shut down o/p voltage, recovers automatically after temperature goes down |              |            |                 |              |            |
| FUNCTION              | REMOTE ON/OFF CONTROL  | Please refer to function manual   |              |            |                 |              |            |
|                       | OUTPUT OK SIGNAL   | Open collector signal low when PSU turns on, max. sink current :10mA  |              |            |                 |              |            |
| ENVIRONMENT           | WORKING TEMP.  | -20 ~ +60°C (Refer to output load derating curve)   |              |            |                 |              |            |
|                       | WORKING HUMIDITY   | 20 ~ 90% RH non-condensing  |              |            |                 |              |            |
|                       | STORAGE TEMP., HUMIDITY  | -40 ~ +85°C, 10 ~ 95% RH  |              |            |                 |              |            |
|                       | TEMP. COEFFICIENT  | ±0.02%/°C (0 ~ 50°C)  |              |            |                 |              |            |
|                       | VIBRATION  | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes  |              |            |                 |              |            |
| SAFETY & EMC (Note 4) | 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°C 70%RH   |              |            |                 |              |            |
|                       | EMI CONDUCTION & RADIATION   | Compliance to EN55022 (CISPR22) Class B   |              |            |                 |              |            |
| OTHERS                | EMS IMMUNITY   | Compliance to EN61000-4-2,3,4,6,8; ENV50204, light industry level, criteria A   |              |            |                 |              |            |
|                       | MTBF   | 196.3K hrs min. MIL-HDBK-217F (25°C)  |              |            |                 |              |            |
|                       | DIMENSION  | 215*115*50mm (L*W*H)  |              |            |                 |              |            |
|                       | PACKING  | 1.15Kg; 12pcs/14.8Kg/0.92CUFT   |              |            |                 |              |            |
| NOTE                  | 1. All parameters NOT specially mentioned are measured at 48, 96VDC input, rated load and 25°C of ambient temperature. |   |              |            |                 |              |            |



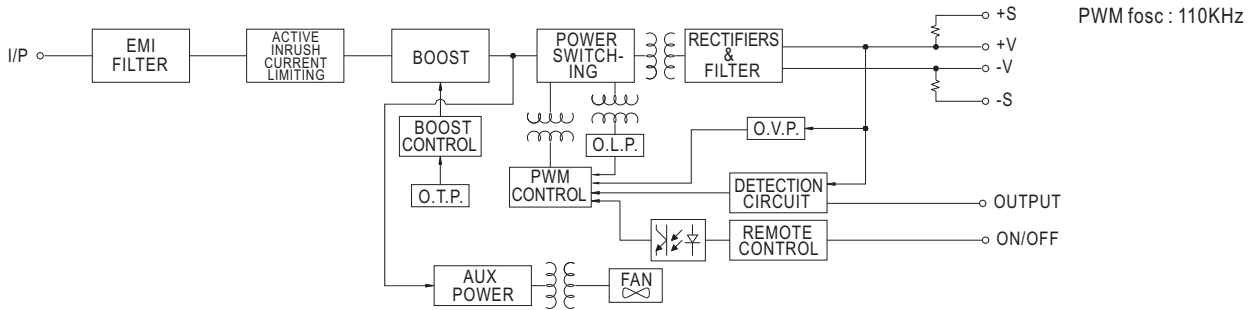
DC Input Terminal Pin No. Assignment

| Pin No. | Assignment  | Pin No. | Assignment |
|---------|-------------|---------|------------|
| 1       | DC INPUT V+ | 4,5     | -V         |
| 2       | DC INPUT V- | 6,7     | +V         |
| 3       | FG $\equiv$ |         |            |

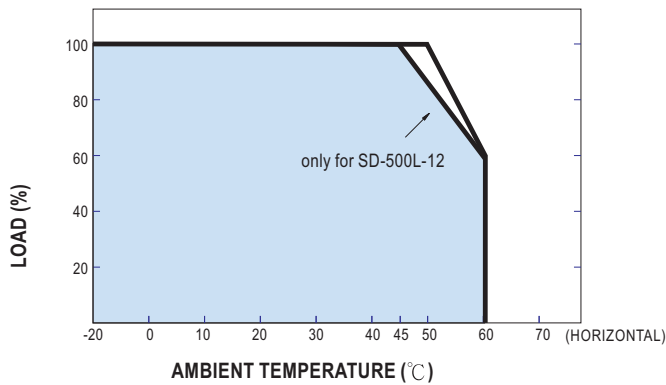
Control Pin No. Assignment (CN3) : JST B6B-PHDS or equivalent

| Pin No. | Assignment | Pin No. | Assignment | Mating Housing                 | Terminal                            |
|---------|------------|---------|------------|--------------------------------|-------------------------------------|
| 1       | +S         | 4       | GND        | JST PHDR-06VS<br>or equivalent | JST SPHD-002T-P0.5<br>or equivalent |
| 2       | -S         | 5       | RC         |                                |                                     |
| 3       | OUTPUT OK  | 6       | RCG        |                                |                                     |

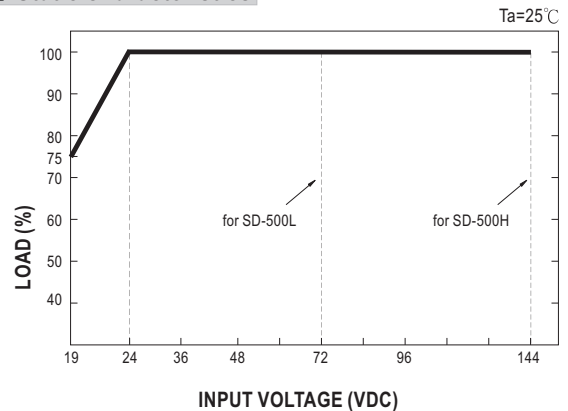
### Block Diagram



### Derating Curve



### Static Characteristics



### Function Description of CN3

| 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, reference 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       | RC       | Remote ON/OFF   |
| 6       | RCG      | Remote ON/OFF ground  |

### Function Manual

#### 1. Remote ON/OFF

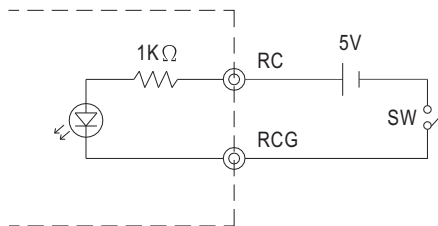
- (1) Remote ON/OFF control becomes available by applying voltage in CN3
- (2) Table 1.1 shows the specification of Remote ON/OFF function
- (3) Fig.1.2 shows the example to connect Remote ON/OFF control function

Table 1.1 Specification of Remote ON/OFF

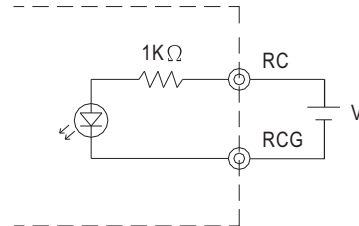
| Connection Method | Fig. 1.2(A) | Fig. 1.2(B) |
|-------------------|-------------|-------------|
| Output on         | SW Open     | V=0~0.8Vdc  |
| Output off        | SW Close    | V=4~10Vdc   |

Fig.1.2 Examples of connecting remote ON/OFF

(A) Using external voltage source



(B) Using external voltage source



#### 2. Output OK signal

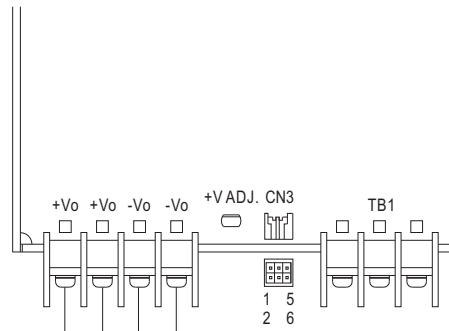
"Output OK" is an open collector signal. It indicates the output status of the PSU. It can operate in two ways : One is sinking current from external signal ; the other is sending out a voltage signal.

##### 2-1 Sink current :

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

##### 2-2 Voltage signal :

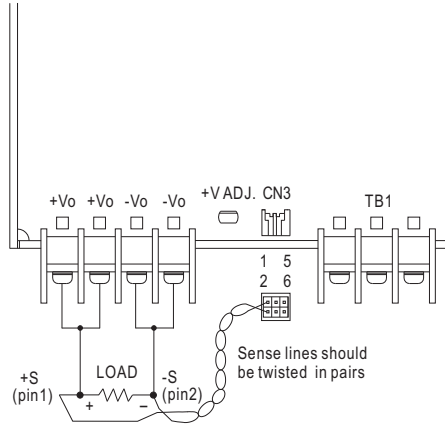
| Between O/P OK(pin3) and GND(pin4) | Output Status |
|------------------------------------|---------------|
| 0 ~ 0.5V                           | ON            |
| 12 ~ 13V                           | OFF           |



| 1 CN3 5 |        |     |
|---------|--------|-----|
| +S      | O/P OK | RC  |
| -S      | GND    | RCG |
| 2       |        | 6   |

### 3.Remote Sense

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



|    |        |     |
|----|--------|-----|
| 1  | CN3    | 5   |
| +S | O/P OK | RC  |
| -S | GND    | RCG |
| 2  |        | 6   |