



#### ■ 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

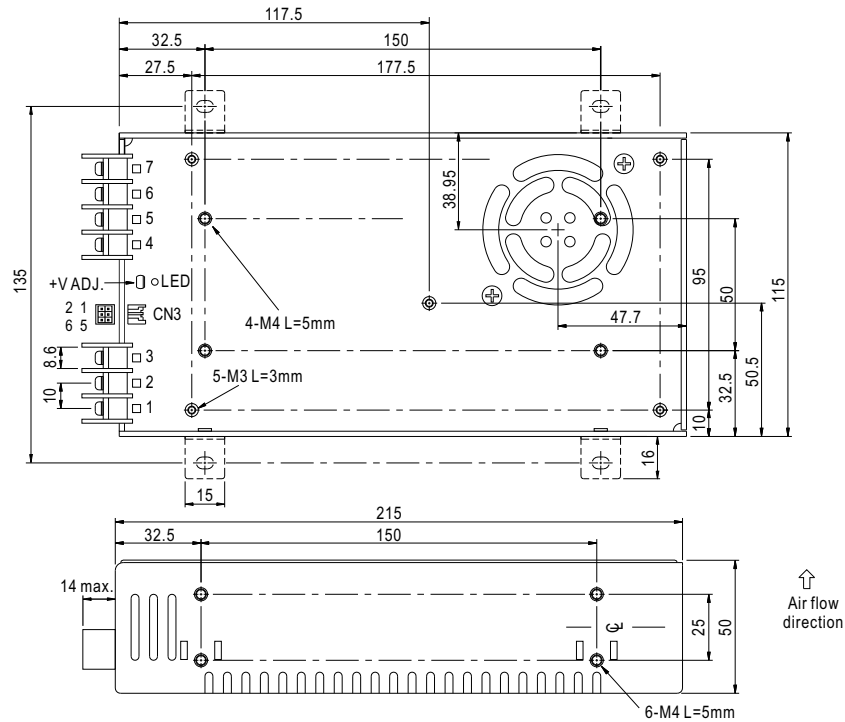
CB CE

#### 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  |              |            |                 |              |           |
|                       | EMS IMMUNITY  | Compliance to EN61000-4-2,3,4,6,8; ENV50204, light industry level, criteria A  |              |            |                 |              |           |
| OTHERS                | 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                  | <ol style="list-style-type: none"> <li>1. All parameters NOT specially mentioned are measured at 48, 96VDC input, rated load and 25°C of ambient temperature.</li> <li>2. 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>3. Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>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.</li> <li>5. Derating may be needed under low input voltages. Please check the derating curve for more details.</li> </ol> |  |              |            |                 |              |           |

**Mechanical Specification**

Case No. 912A Unit:mm



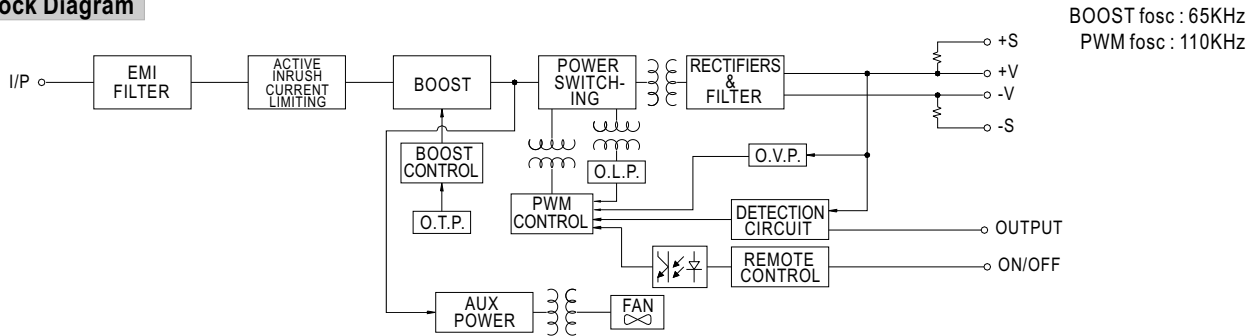
DC Input Terminal Pin No. Assignment

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

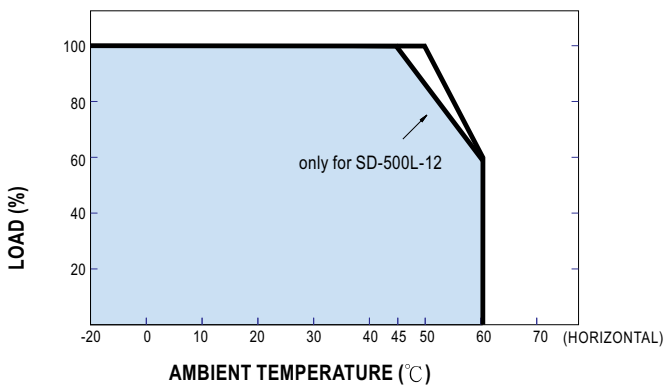
Control Pin No. Assignment (CN3) : JST B6B-PHDSS or equivalent

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

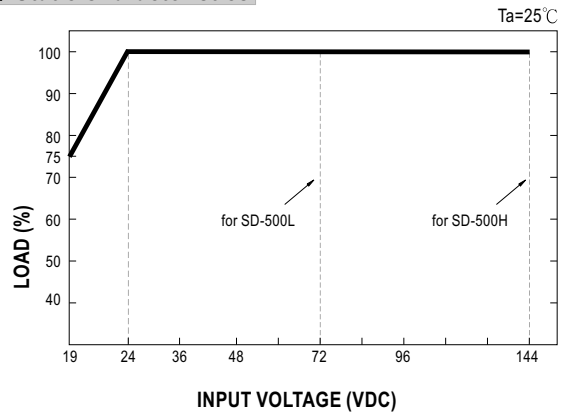
**Block Diagram**



**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**

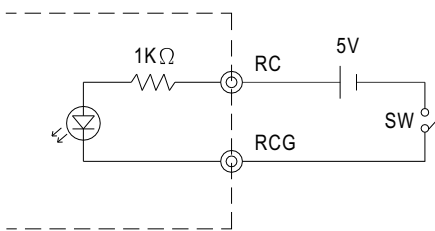
- (1)Remote ON/OFF control becomes available by applying voltage in CN3
- (2)Table 1.1 shows the specification of Remote ON/OFF function
- (3)Fig.1.2 shows the example to connect Remote ON/OFF control function

Table 1.1 Specification of Remote ON/OFF

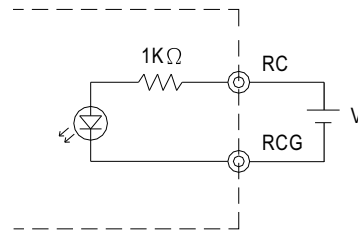
| Connection Method | Fig. 1.2(A) | Fig. 1.2(B) |
|-------------------|-------------|-------------|
| Output on         | SW Open     | V=0~0.8Vdc  |
| Output off        | SW Close    | V=4~10Vdc   |

Fig.1.2 Examples of connecting remote ON/OFF

(A)Using external voltage source



(B)Using external voltage source



**2.Output OK signal**

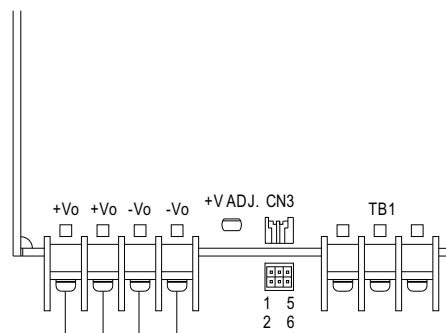
"Output OK" is an open collector signal. It indicates the output status of the PSU. It can operate in two ways : One is sinking current from external signal ; the other is sending out a voltage signal.

**2-1 Sink current :**

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

**2-2 Voltage signal :**

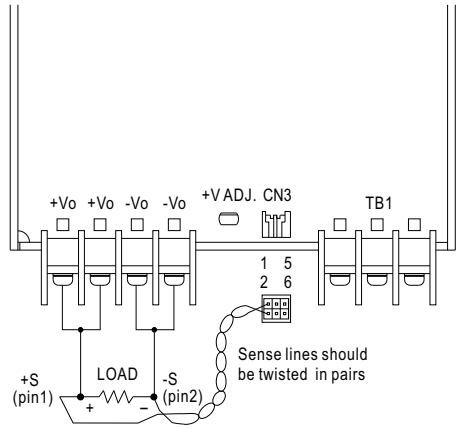
| Between O/P OK(pin3) and GND(pin4) | Output Status |
|------------------------------------|---------------|
| 0 ~ 0.5V                           | ON            |
| 12 ~ 13V                           | OFF           |



| 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   |