



### ■ Features :

- AC input 180 ~ 264VAC
- AC input active surge current limiting
- High efficiency up to 90%
- Built-in active PFC function, PF>0.95
- Protections: Short circuit / Overload / Over voltage / Over temperature / Fan alarm
- Forced air cooling by built-in DC with fan speed control function
- Output voltage can be trimmed between 20~110% of the rated output voltage
- High power density 15.6W/inch<sup>3</sup>
- Current sharing up to 3 units
- Alarm signal output (relay contact and TTL signal)
- Built-in 12V/0.1A auxiliary output for remote control
- Built-in remote ON-OFF control
- Built-in remote sense function
- 3 years warranty



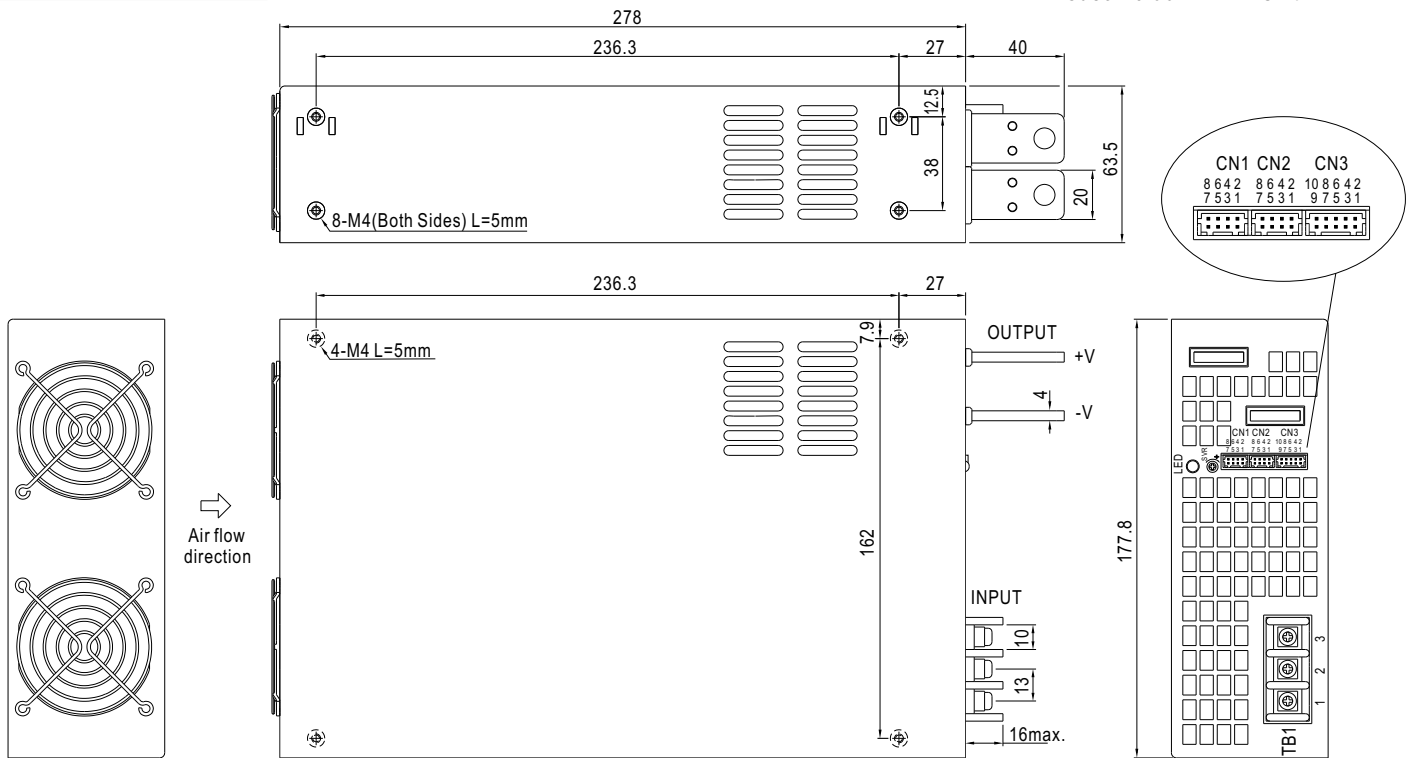
### SPECIFICATION

| MODEL                 | RSP-3000-12  | RSP-3000-24  | RSP-3000-48  |              |
|-----------------------|--|--|--------------|--------------|
| OUTPUT                | DC VOLTAGE   | 12V  | 24V          | 48V          |
|                       | RATED CURRENT  | 200A   | 125A         | 62.5A        |
|                       | CURRENT RANGE  | 0 ~ 200A   | 0 ~ 125A     | 0 ~ 62.5A    |
|                       | RATED POWER  | 2400W  | 3000W        | 3000W        |
|                       | RIPPLE & NOISE (max.) Note.2   | 150mVp-p   | 150mVp-p     | 200mVp-p     |
|                       | VOLTAGE ADJ. RANGE   | 10.8 ~ 13.2V   | 22 ~ 28V     | 43 ~ 56V     |
|                       | VOLTAGE TOLERANCE Note.3   | ±1.0%  | ±1.0%        | ±1.0%        |
|                       | LINE REGULATION  | ±0.5%  | ±0.5%        | ±0.5%        |
|                       | LOAD REGULATION  | ±0.5%  | ±0.5%        | ±0.5%        |
|                       | SETUP, RISE TIME   | 1000ms, 80ms at full load  |              |              |
|                       | HOLD UP TIME (Typ.)  | 10ms at full load  |              |              |
| INPUT                 | VOLTAGE RANGE  | 180 ~ 264VAC    254 ~ 370VDC   |              |              |
|                       | FREQUENCY RANGE  | 47 ~ 63Hz  |              |              |
|                       | POWER FACTOR (Typ.)  | 0.95/230VAC at full load   |              |              |
|                       | EFFICIENCY (Typ.)  | 86%  | 90%          | 90.5%        |
|                       | AC CURRENT (Typ.)  | 20A/180VAC    16A/230VAC   |              |              |
|                       | INRUSH CURRENT (Typ.)  | 60A/230VAC   |              |              |
| LEAKAGE CURRENT       | <2.0mA / 240VAC  |  |              |              |
| PROTECTION            | OVERLOAD   | 100 ~ 112% rated output power<br>User adjustable continuous constant current limiting or constant current limiting with delay shutdown after 5 seconds, re-power on to recover   |              |              |
|                       | OVER VOLTAGE   | 13.8 ~ 16.8V   | 28.8 ~ 33.6V | 57.6 ~ 67.2V |
|                       | OVER TEMPERATURE   | 90°C ±5°C (12V), 110°C ±5°C (24V), 105°C ±5°C (48V) (TSW1: detect on heatsink of power transistor)<br>90°C ±5°C (12V), 85°C ±5°C (24V), 75°C ±5°C (48V) (TSW2: detect on heatsink of o/p diode)<br>Protection type : Shut down o/p voltage, recovers automatically after temperature goes down |              |              |
| FUNCTION              | AUXILIARY POWER(AUX)   | 12V@0.1A(Only for Remote ON/OFF control)   |              |              |
|                       | REMOTE ON/OFF CONTROL  | Please see the Function Manual   |              |              |
|                       | ALARM SIGNAL OUTPUT  | Please see the Function Manual   |              |              |
|                       | OUTPUT VOLTAGE TRIM  | 2.4 ~ 13.2V  | 4.8 ~ 28V    | 9.6 ~ 56V    |
|                       | CURRENT SHARING  | Please see the Function Manual   |              |              |
| ENVIRONMENT           | WORKING TEMP.  | -20 ~ +70°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  | ±0.05%/°C (0 ~ 50°C)   |              |              |
|                       | VIBRATION  | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes   |              |              |
| SAFETY & EMC (Note 4) | SAFETY STANDARDS   | UL60950-1, TUV EN60950-1 approved  |              |              |
|                       | WITHSTAND VOLTAGE  | I/P-O/P:3KVAC    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  |              |              |
|                       | HARMONIC CURRENT   | Compliance to EN61000-3-2,-3   |              |              |
| EMS IMMUNITY          | Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, light industry level, criteria A  |  |              |              |
| OTHERS                | MTBF   | 104.5K hrs min.    MIL-HDBK-217F (25°C)  |              |              |
|                       | DIMENSION  | 278*177.8*63.5mm (L*W*H)   |              |              |
|                       | PACKING  | 4Kg; 4pcs/16Kg/1.89CUFT  |              |              |
| NOTE                  | <ol style="list-style-type: none"> <li>1. All parameters NOT specially mentioned are measured at 230VAC 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. 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> </ol> |  |              |              |

## Mechanical Specification

Case No.982B

Unit:mm



AC Input Terminal Pin No. Assignment

| Pin No. | Assignment |
|---------|------------|
| 1       | AC/L       |
| 2       | AC/N       |
| 3       | FG $\perp$ |

Control Pin No. Assignment(CN1, CN2) : HRS DF11-8DP-2DS or equivalent

| Pin No. | Assignment | Pin No. | Assignment        | Mating Housing             | Terminal                    |
|---------|------------|---------|-------------------|----------------------------|-----------------------------|
| 1       | RCG        | 5,7     | -S                | HRS DF11-8DS or equivalent | HRS DF11-**SC or equivalent |
| 2       | RC         | 6       | CS(Current Share) |                            |                             |
| 3       | PV         | 8       | +S                |                            |                             |
| 4       | PS         |         |                   |                            |                             |

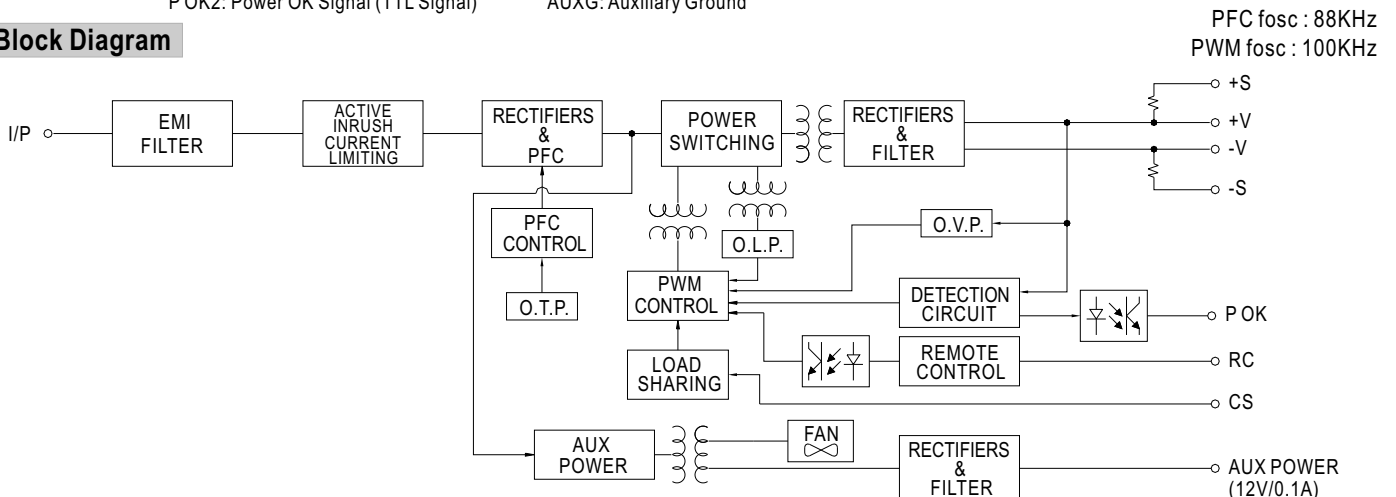
RCG: Remote ON/OFF Ground      -S: -Remote Sensing  
 RC : Remote ON/OFF                CS: Load Share  
 PV :Output Voltage External Control      +S: +Remote Sensing  
 PS : Reference Voltage Terminal

Control Pin No. Assignment(CN3) : HRS DF11-10DP-2DS or equivalent

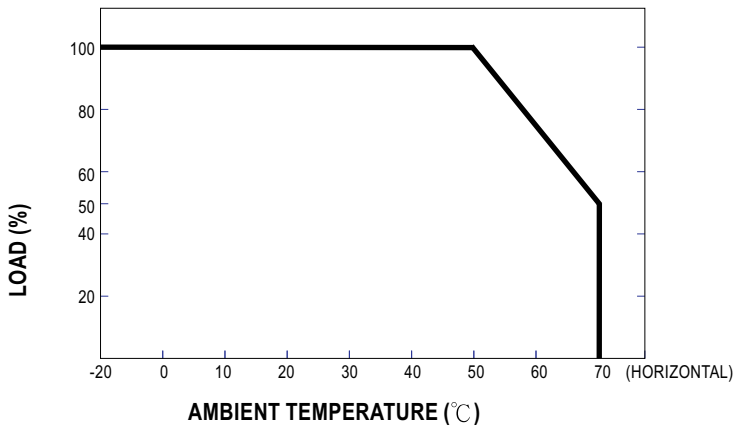
| Pin No. | Assignment | Pin No. | Assignment | Pin No. | Assignment | Pin No. | Assignment | Mating Housing              | Terminal                    |
|---------|------------|---------|------------|---------|------------|---------|------------|-----------------------------|-----------------------------|
| 1       | P OK GND   | 4       | P OK2      | 7       | AUXG       | 10      | OL-SD      | HRS DF11-10DS or equivalent | HRS DF11-**SC or equivalent |
| 2       | P OK       | 5       | RCG        | 8       | AUX        |         |            |                             |                             |
| 3       | P OK GND2  | 6       | RC         | 9       | OLP        |         |            |                             |                             |

P OK GND: Power OK Ground      RCG: Remote ON/OFF Ground      AUXG: Auxiliary Output  
 P OK: Power OK Signal (Relay Contact)      RC: Remote ON/OFF      OLP: OLP/OL-SD:OLP mode select  
 P OK2: Power OK Signal (TTL Signal)      AUXG: Auxiliary Ground

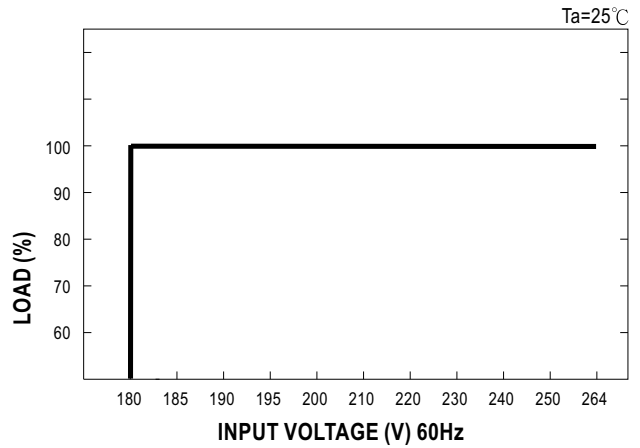
## Block Diagram



Derating Curve



Static Characteristics



Function Manual

1. Remote ON/OFF

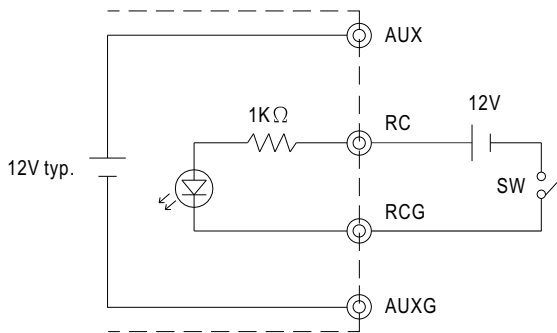
- (1) Remote ON/OFF control becomes available by applying voltage in CN1 & CN2 & CN3.
- (2) Table 1.1 shows the specification of Remote ON/OFF function.
- (3) Fig. 1.2 shows the example to connect Remote ON/OFF control function.

Table 1.1 Specification of Remote ON/OFF

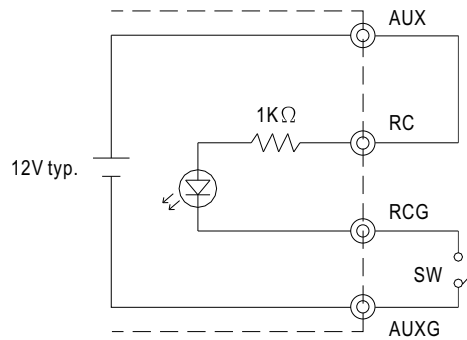
| Connection Method |            | Fig. 1.2(A) | Fig. 1.2(B) | Fig. 1.2(C) |
|-------------------|------------|-------------|-------------|-------------|
| SW Logic          | Output on  | SW Open     | SW Open     | SW Close    |
|                   | Output off | SW Close    | SW Close    | SW Open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

Fig. 1.2 Examples of connecting remote ON/OFF

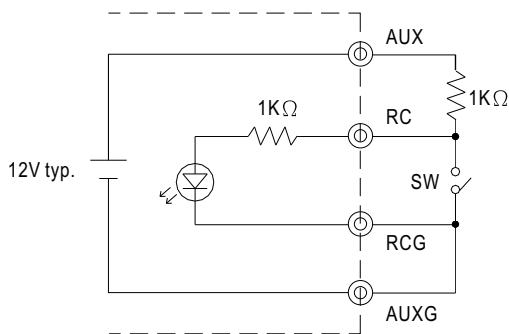
(A) Using external voltage source



(B) Using internal 12V auxiliary output



(C) Using internal 12V auxiliary output



**2. Alarm Signal Output**

- (1) Alarm signal is sent out through "P OK" & "P OK GND" and P OK2 & P OK GND2 pins.
- (2) An external voltage source is required for this function.
- (3) Table 2.1 explain the alarm function built-in the power supply.

| Function | Description   | Output of alarm(P OK, Relay Contact)                   | Output of alarm(P OK2, TTL Signal)                    |
|----------|---|--|---|
| P OK     | The signal is "Low" when the power supply is above 80% of the rated output voltage-Power OK             | Low (0.5V max at 500mA)                                | Low (0.5V max at 10mA)                                |
|          | The signal turns to be "High" when the power supply is under 80% of the rated output voltage-Power Fail | High or open<br>(External applied voltage, 500mA max.) | High or open<br>(External applied voltage, 10mA max.) |

Table 2.1 Explanation of alarm

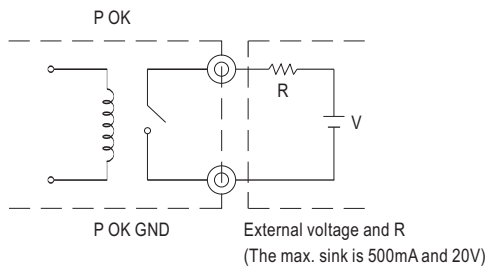


Fig. 2.2 Internal circuit of P OK (Relay, total is 10W)

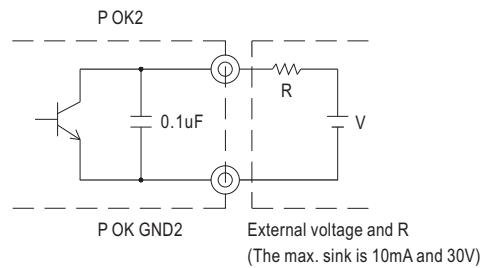


Fig. 2.3 Internal circuit of P OK2 (Open collector method)

**3. Output Voltage TRIM**

- (1) Connecting an external DC source between PV and-S on CN1 or CN2 that is shown in Fig. 3.1.
- (2) Adjustment of output voltage is possible between 20~110%(Typ.) of the rated output which is shown in Fig. 3.2. Reducing output current is required when the output voltage is trimmed up.

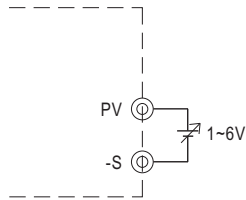


Fig. 3.1 Add on 1~6V external voltage

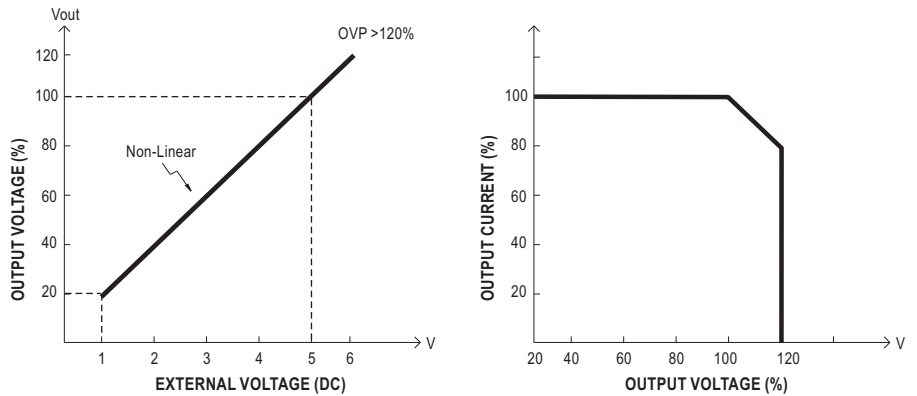
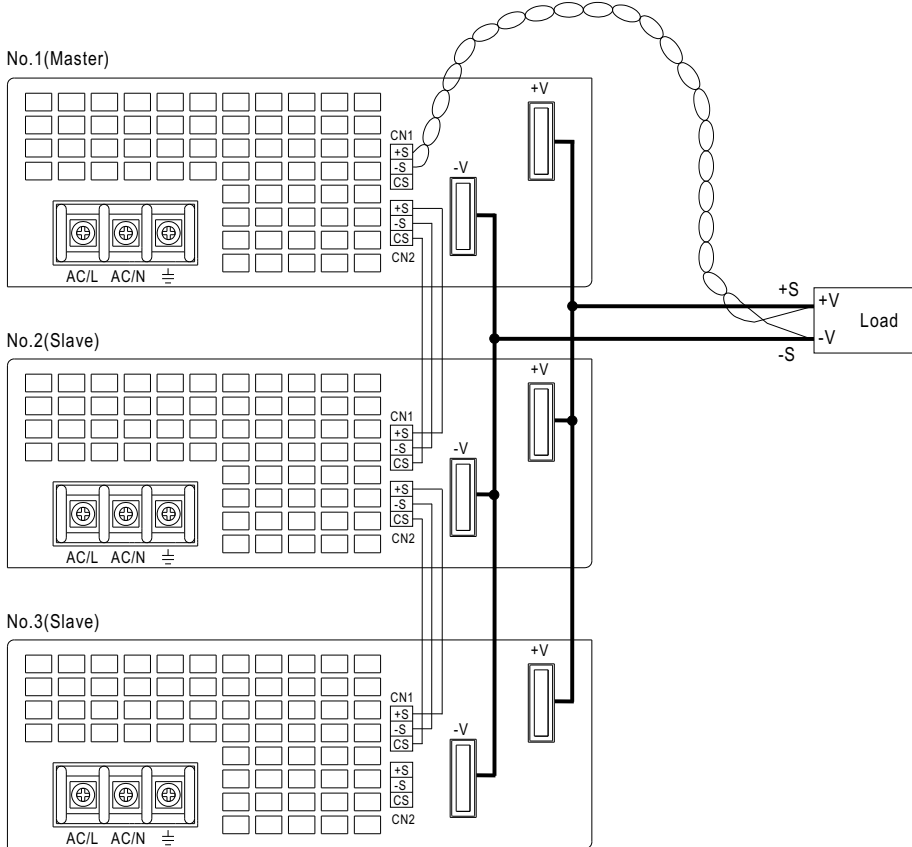


Fig. 3.2 Output voltage trimming

**4. Current Sharing**

- (1) Parallel operation is available by connecting the units shown as below (+S, -S and CS are connected mutually in parallel):
- (2) The voltage difference among each output should be minimized that less than  $\pm 2\%$  is required.
- (3) The total output current must not exceed the value determined by the following equation.  
(Output current at parallel operation) = (The rated current per unit) x (Number of unit) x 0.9
- (4) In parallel operation 3 units is the maximum, please consult the manufacturer for other applications.
- (5) When remote sensing is used in parallel operation, the sensing wire must be connected only to the master unit.
- (6) Wires of remote sensing should be kept at least 10 cm from input wires.



- (7) When in parallel operation, the minimum output load should be greater than 2% of total output load.  
(Min. Load > 3% rated current per unit x number of unit)
- (8) Under parallel operation, the "output voltage trim" function is not available.

**5. Select O.L.P mode**

- (1) Remove the shorting connector on CN3 that is shown in Fig 5.1, the O.L.P. mode will be "continuous constant current limiting".
- (2) Insert the shorting connector on CN3 that is shown in Fig 5.2, the O.L.P. mode will be "constant current limiting with delay shutdown after 5 seconds, re-power on to recover".

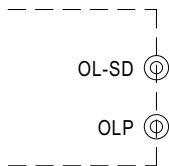


Fig. 5.1 Remove the CN3  
OLP Mode : constant current limiting

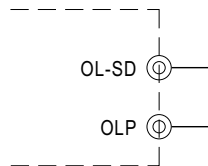
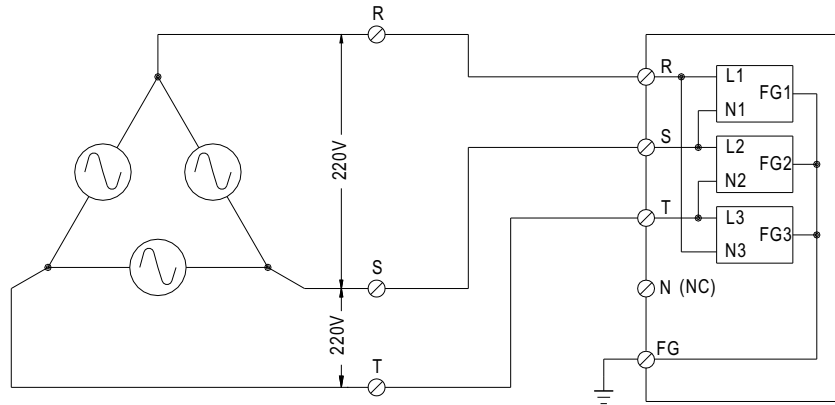


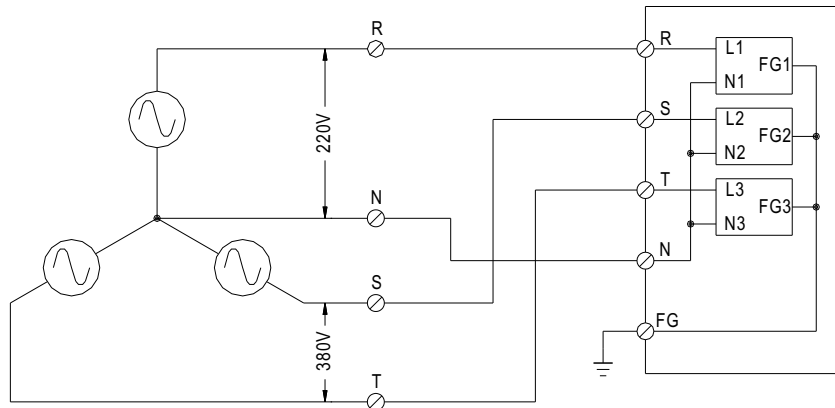
Fig. 5.2 Insert the CN3  
OLP Mode : constant current limiting with delay shutdown after 5 seconds

6. Three Phase Connect

■ FIG. A: 3 $\phi$  3W 220VAC SYSTEM (STANDARD MODEL FOR STOCK)



■ FIG. B: 3 $\phi$  4W 220/380VAC SYSTEM



■ FIG. C: 3 $\phi$  4W 190/110VAC SYSTEM

