■ 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^3
- 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
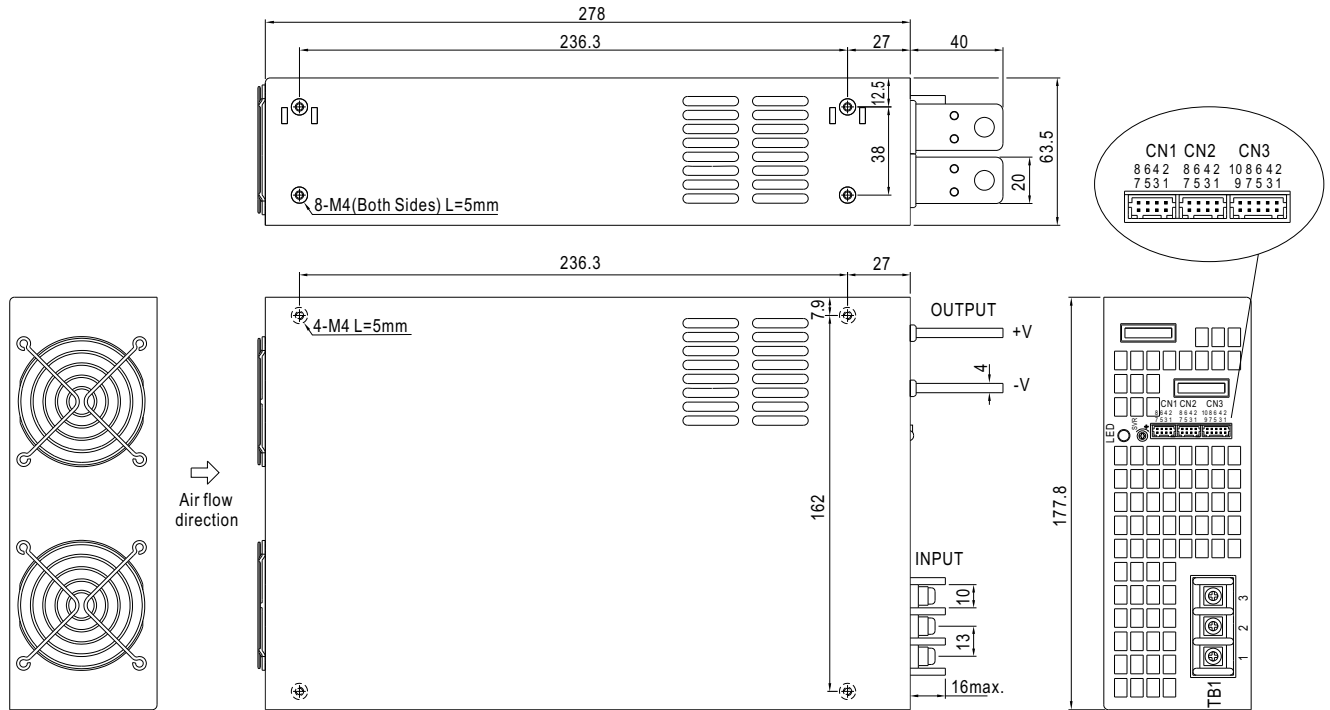- Built-in remote sense function
- 3 years warranty

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		
		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
		Protection type : Shut down o/p voltage, re-power on to recover		
	OVER TEMPERATURE	90℃±5℃(12V), 110℃±5℃(24V), 105℃±5℃(48V) (TSW1: detect on heatsink of power transistor)		
		90℃±5℃(12V), 85℃±5℃(24V), 75℃±5℃(48V) (TSW2 : detect on heatsink of o/p diode)		
		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℃ (Refer to output load derating curve)		
	WORKING HUMIDITY	20~90% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH		
	TEMP. COEFFICIENT	±0.05%/℃ (0 ~ 50℃)		
	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℃/ 70% RH		
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22)		
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3		
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, light industry level, criteria A		
OTHERS	**MTBF**	104.5K hrs min. MIL-HDBK-217F (25℃)		
	DIMENSION	278*177.8*63.5mm (L*W*H)		
	PACKING	4Kg; 4pcs/16Kg/1.89CUFT		
NOTE		1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 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 http://www.meanwell.com)		

■ Mechanical Specification

Case No.982B   Unit:mm

278
236.3   27   40
12.5
38
63.5
20
8-M4(Both Sides) L=5mm

CN1 CN2 CN3
8 6 4 2   8 6 4 2   10 8 6 4 2
7 5 3 1   7 5 3 1   9 7 5 3 1

236.3   27
7.9
4-M4 L=5mm

Air flow
direction

162

177.8

OUTPUT
+V
4
-V

INPUT
10
13
16max.

LED

CN1 CN2 CN3
8 6 4 2 8 6 4 2 10 8 6 4 2
7 5 3 1 7 5 3 1 9 7 5 3 1

TB1
3
2
1

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		
2	RC	6	CS(Current Share)	HRS DF11-8DS	HRS DF11-**SC
3	PV	8	+S	or equivalent	or equivalent
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

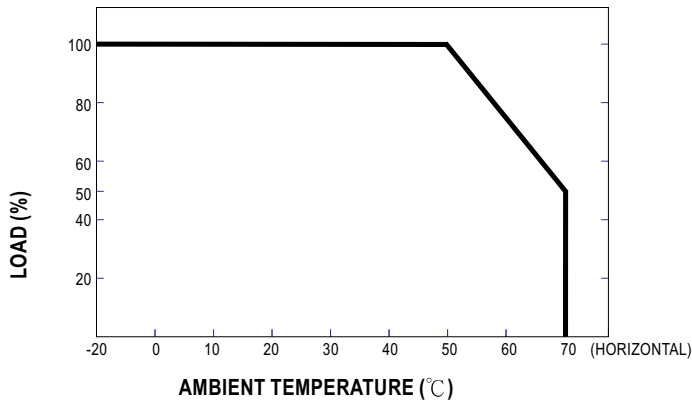### Control Pin No. Assignment(CN3) : HRS DF11-10DP-2DS or equivalent

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		
2	P OK	5	RCG	8	AUX			HRS DF11-10DS	HRS DF11-**SC
3	P OK GND2	6	RC	9	OLP			or equivalent	or equivalent

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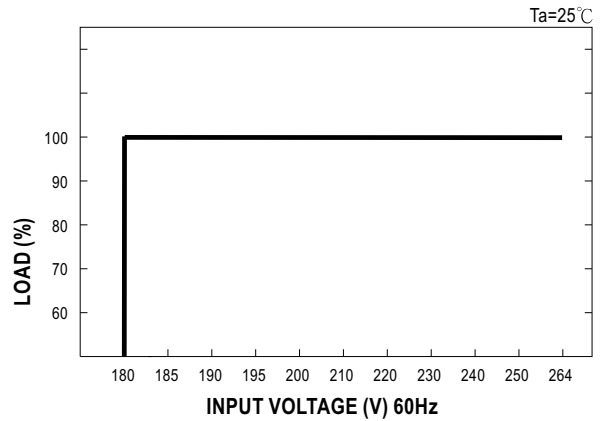P OK2: Power OK Signal (TTL Signal)   AUXG: Auxiliary Ground

■ Block Diagram

PFC fosc : 88KHz
PWM fosc : 100KHz

I/P — EMI FILTER — ACTIVE INRUSH CURRENT LIMITING — RECTIFIERS & PFC — POWER SWITCHING — RECTIFIERS & FILTER — +S, +V, -V, -S

PFC CONTROL
O.T.P.
O.L.P.
PWM CONTROL
LOAD SHARING
O.V.P.
DETECTION CIRCUIT — P OK
REMOTE CONTROL — RC
— CS
AUX POWER — FAN — RECTIFIERS & FILTER — AUX POWER (12V/0.1A)

■ Derating Curve
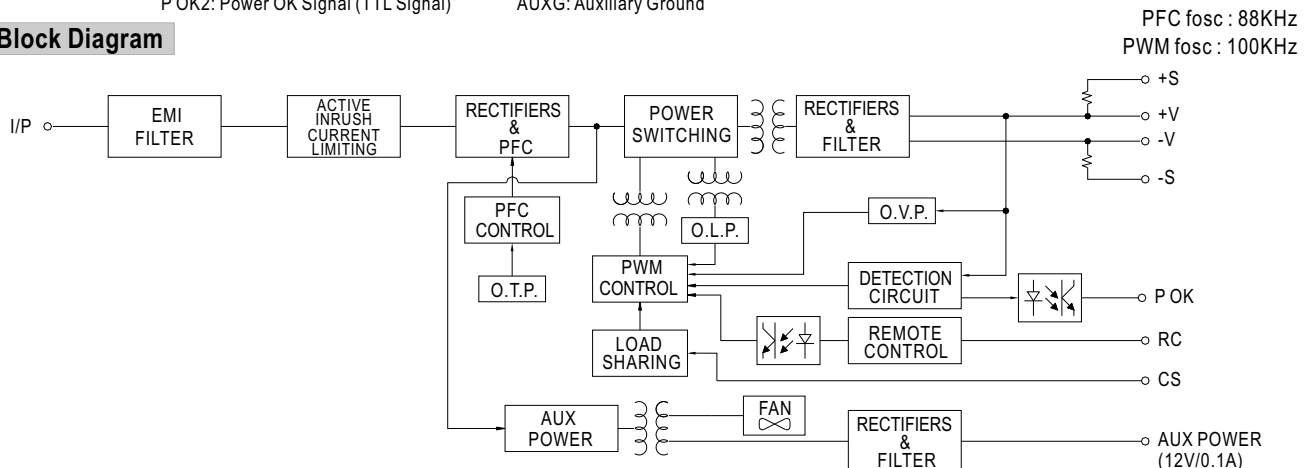
AMBIENT TEMPERATURE (℃)

■ Static Characteristics

Ta=25℃

**INPUT VOLTAGE (V) 60Hz**

■ 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.
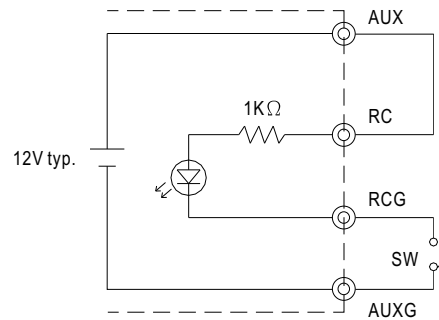
Table 1.1 Specification of Remote ON/OFF

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
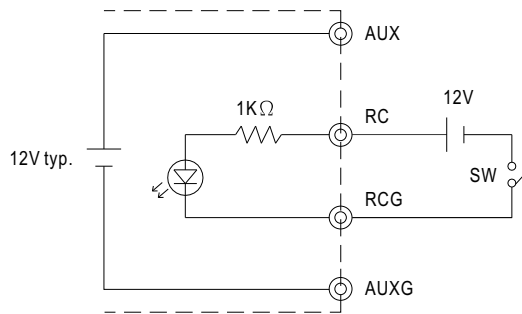
(B)Using internal 12V auxiliary output

(C)Using internal 12V auxiliary output
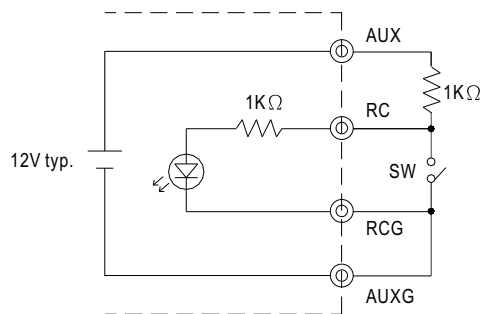
2.Alarm Signal Output

(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 (External applied voltage, 500mA max.)	High or open (External applied voltage, 10mA max.)

Table 2.1 Explanation of alarm

P OK

R

V

P OK GND   External voltage and R
(The max. sink is 500mA and 20V)
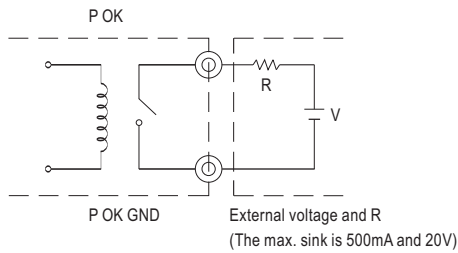
Fig. 2.2 Internal circuit of P OK (Relay, total is 10W)

P OK2

0.1uF

R

V

P OK GND2   External voltage and R
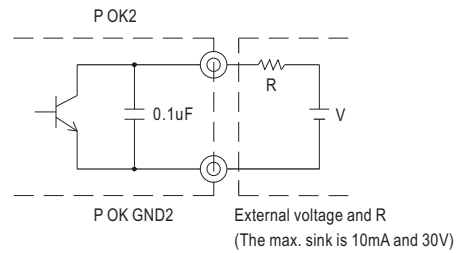(The max. sink is 10mA and 30V)

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.
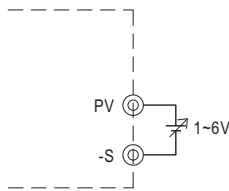
PV

1~6V

-S

Fig. 3.1 Add on 1~6V external voltage

Vout

120

100

80

60

40

20

OVP >120%

Non-Linear

OUTPUT VOLTAGE (%)

1   2   3   4   5   6   V

EXTERNAL VOLTAGE (DC)

100

80

60

40

20

OUTPUT CURRENT (%)

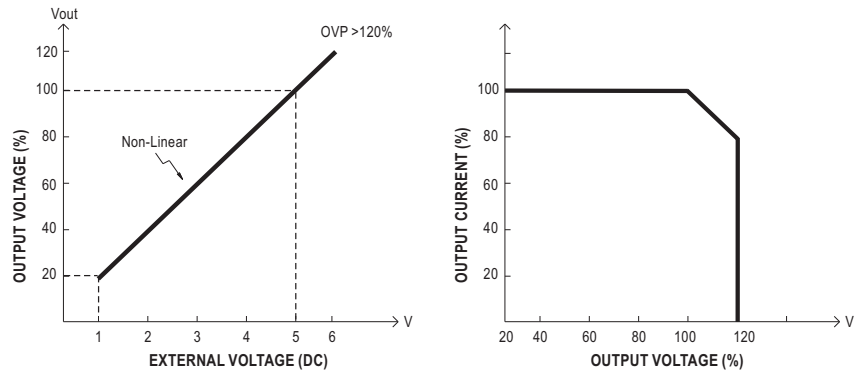20 40 60 80 100 120   V

OUTPUT 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 ±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.

No.1(Master)

No.2(Slave)

No.3(Slave)
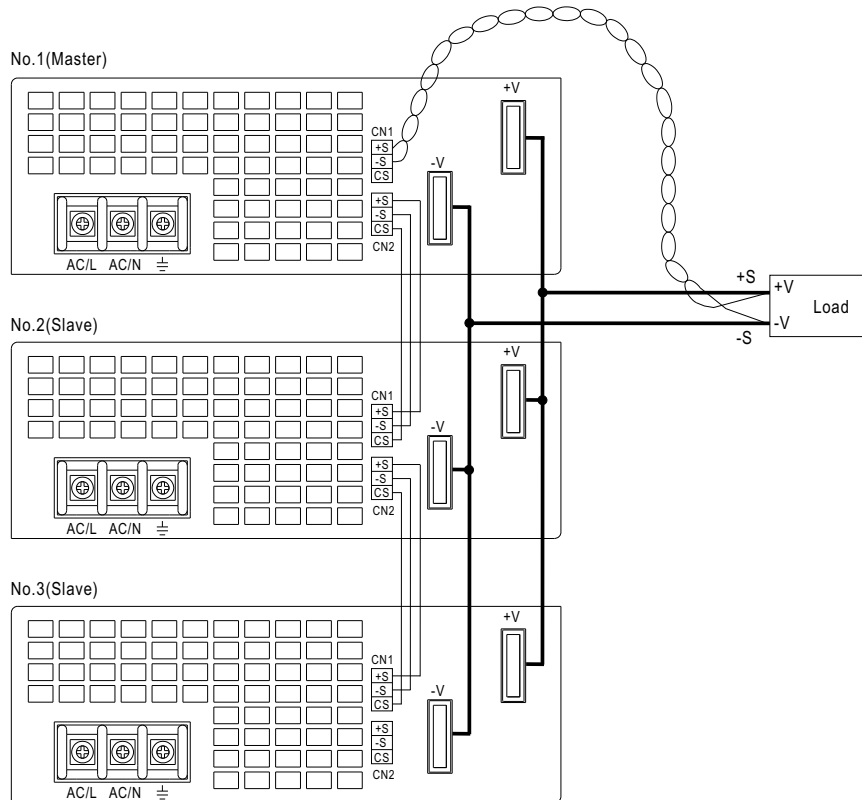
(7) When in parallel operation, the minimum output load should be greater than 2% of total output load.
   (Min. Load >3% rated current per unit×number of unit)

(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.
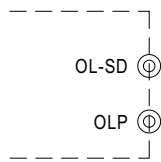
OL-SD

OLP

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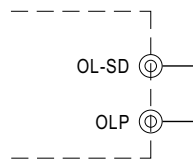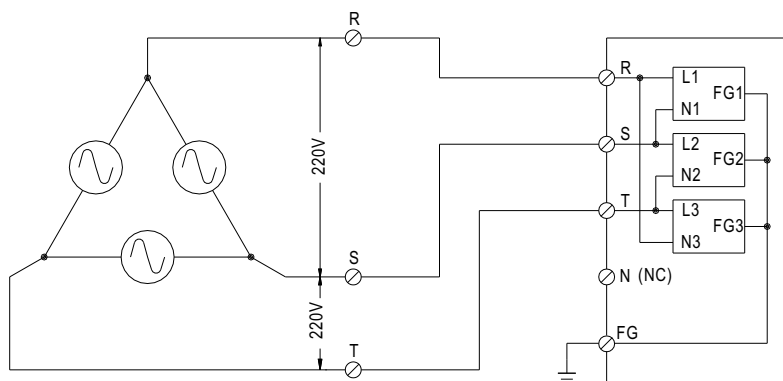OLP Mode : constant current limiting

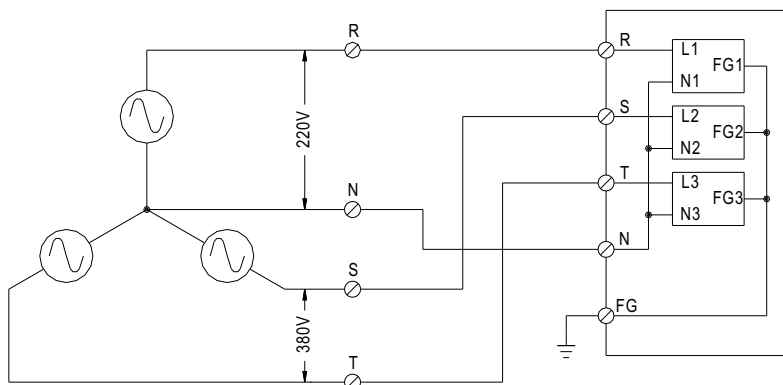OL-SD

OLP

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

6.Three Phase Connect

■ **FIG. A: 3ϕ 3W 220VAC SYSTEM** **(STANDARD MODEL FOR STOCK)**

■ **FIG. B: 3ϕ 4W 220/380VAC SYSTEM**

■ **FIG. C: 3ϕ 4W 190/110VAC SYSTEM**