

YEP750 SERIES 750W



YEP series are designed with lower profile housing and for wide range AC input from 90 VAC to 264V AC.

The series have build-in active function and operate for the temperature up to 70 °C .

The good performance can be used for industrial automation & control systems, varied equipments etc.



Features



Universal AC Input/ Full Range



Built-in Active PFC Function



Built-in Remote ON-OFF Control



High Efficiency Up To 92%



Protection: Short Circuit/Overload/
Over Voltage/Over Temperature



Three Years Warranty

Model Information

Yingjiao Part number	DC VOLTAGE	RATED CURRENT	RATED POWER	VOLTAGE ADJ. RANGE
YEP750-5	5V	100A	500W	4.75~5.5V
YEP750-12	12V	62.5A	750W	10~13.5V
YEP750-15	15V	50A	750W	13.5~16.5V
YEP750-24	24V	31.3A	751.2W	20~26.4V
YEP750-27	27V	27.8A	750.6W	24~30V
YEP750-48	48V	15.7A	753.6W	43~55V

Input

VOLTAGE RANGE	90-264VAC/127-370VDC	
FREQUENCY RANGE	47-63Hz	
POWER FACTOR(Typ.)	PF>0.97/230VAC at full load PF>0.98/115VAC at full load	
EFFICIENCY	82%	YEP750-5
	87%	YEP750-12
	89%	YEP750-15
	90.5%	YEP750-24
	90.5%	YEP750-27
	92%	YEP750-48
AC CURRENT(Typ.)	5.6A/115VAC	YEP750-5
	2.8A/230VAC	YEP750-5
	8.2A/115VAC	OTHERS
	3.9A/230VAC	OTHERS
INRUSH CURRENT(Typ.)	25A/115VAC 40A/230VAC	
LEAKAGE CURRENT	<2mA/240VAC	

Output

RIPPLE & NOISE(max.)	150mVp-p
VOLTAGE TOLERANCE	± 2.0% YEP750-5
	± 1.0% OTHERS
LINE REGULATION	± 0.5%
LOAD REGULATION	± 2.0% YEP750-5
	± 0.5% OTHERS
SETUP, RISE TIME	1000ms, 50ms/230VAC at full load
	1000ms, 50ms/115VAC at full load
HOLD UP TIME(Typ.)	16ms/230VAC at full load
	16ms/115VAC at full load

Protection

SHORT CIRCUIT	Protection type: Hiccup mode, recovers automatically after fault condition is removed
OVER LOAD	105%-130% Rated Output Power
	Protection type: Constant current limiting recovers automatically after fault condition is removed.
OVER VOLTAGE	5V: 5.75 ~ 6.75V
	12V: 13.8 ~ 16.8V
	15V: 17 ~ 20.5V
	24V: 27.6 ~ 32.4V
	27V: 31 ~ 36.5V
	48V: 55.2~ 64.6V
OVER TEMPERATURE	Protection type : Shut down o/p voltage, re-power on to recover.
	Protection type : Shut down o/p voltage, recovers automatically after temperature goes down.

Environment

WORKING TEMP.	-30 °C to +70 °C (Refer to "Derating Curve")
WORKING HUMIDITY	20 ~ 90% RH non-condensing
STORAGE TEMP., HUMIDITY	-40 °C to +85 °C , 10 ~ 95% RH non-condensing
TEMP. COEFFICIENT	± 0.03%/°C (0~50 °C)
VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes
MTBF	109.1K hrs min. MIL-HDBK-217F(25 °C)
OVER VOLTAGE CATEGORY	III;According to EN62368-1;altitude up to 2000 meters
SAFETY PROTECTION	CLASS I

Function

OUTPUT VOLTAGE PROGRAMMABLE(PV)	Adjustment of output voltage is allowable to 40 ~ 110% of nominal output voltage. Please refer to the Function Manual.
CONSTANT CURRENT LEVEL PROGRAMMABLE(PC)	Adjustment of constant current level is allowable to 40 ~ 110% of rated current. Please refer to the Function Manual.
AUXILIARY POWER	12V @ 0.1A ; tolerance : 10%
REMOTE ON-OFF CONTROL	Power on : short between Remote ON-OFF(pin13) & 12V-AUX(pin14) on CN4 Power off : open between Remote ON-OFF(pin13) & 12V-AUX(pin14) on CN4
DC OK SIGNAL	The TTL signal out, power supply turn on = 0 ~ 1V power supply turn off = 3.3 ~ 5.6V

Safety & EMC

SAFETY STANDARDS	UL62368-1, TUV BS EN/EN62368-1 (Pending)
WITHSTAND VOLTAGE	I/P-O/P: 3KVAC I/P-FG: 2KVAC O/P-FG: 0.5KVAC
ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25 °C / 70% RH

EMC

EMC EMISSION	Parameter	Standard	Test Level/ Note
	Conducted	BS EN/EN55032(CISPR32)	CLASS B
	Radiated	BS EN/EN55032(CISPR32)	CLASS B
	Harmonic Current	BS EN/EN61000-3-2	CLASS A
	Voltage Flicker	BS EN/EN61000-3-3
EMC IMMUNITY	BS EN/EN55024, BS EN/EN61000-6-2, CCC GB17625.1, GB/T9254, BSMI CNS13438		
	Parameter	Standard	Test Level/ Note
	ESD	BS EN/EN61000-4-2	Level 3, 8KV air; Level 2, 4KV contact
	Radiated	BS EN/EN61000-4-3	Level 3
	EFT/Burest	BS EN/EN61000-4-4	Level 3
	Surge	BS EN/EN61000-4-5	Level 4, 4KV/L-E, Level 3, 2KV/L-L
	Conducted	BS EN/EN61000-4-6	Level 3
	Magnetic Field	BS EN/EN61000-4-8	Level 4
	Voltage Dips and interruptions	BS EN/EN61000-4-11	> 95% dip 0.5 periods, 30% dip 25 periods > 95% interruptions 250 periods

Note

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25 °C of ambient temperature.
2. Ripple&noise are measured from peak to peak with band width limit of 20MHz(0.1uf and 47uf /50V parallel capacitor under DC output full load, AC nominal input 25 °C ambient temperature).
3. Derating may be needed under low input voltages. Please check the derating curve for more details.
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.
5. The ambient temperature derating of 3.5 °C/1000m with fanless models and of 5 °C/1000m with fan models for operating altitude higher than 2000m(6500ft).
6. There is high possibility to trigger the floating over voltage protection when PV voltage is trimmed from a high voltage level to a lower voltage level at light load or no load condition. It is suggested that turn off the power supply and set PV voltage to the lowest level, then adjust output voltage to a desired value.
7. Strongly recommended that external output capacitance should not exceed 5000uF. (Only for: YEP750-5)

Dimensions & Weight

Length: 268mm / 10.55 in

Width: 130.6mm / 5.14 in

Height: 40mm / 1.57 in

Weight: 1.4kg

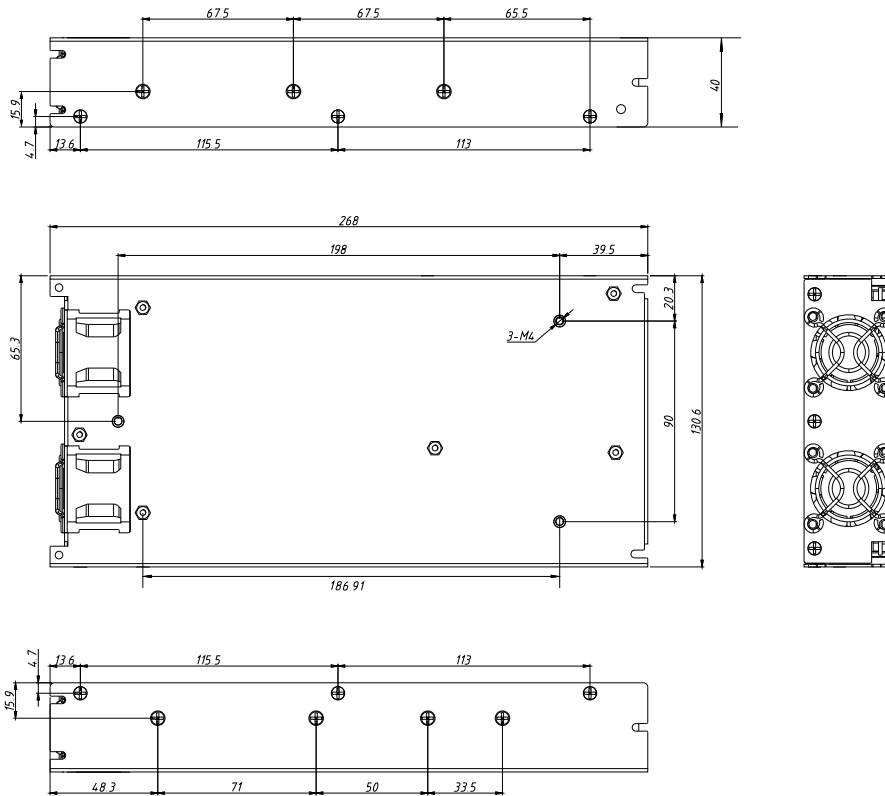
Packing

Carton Size: 40 x 30 x 24 CM

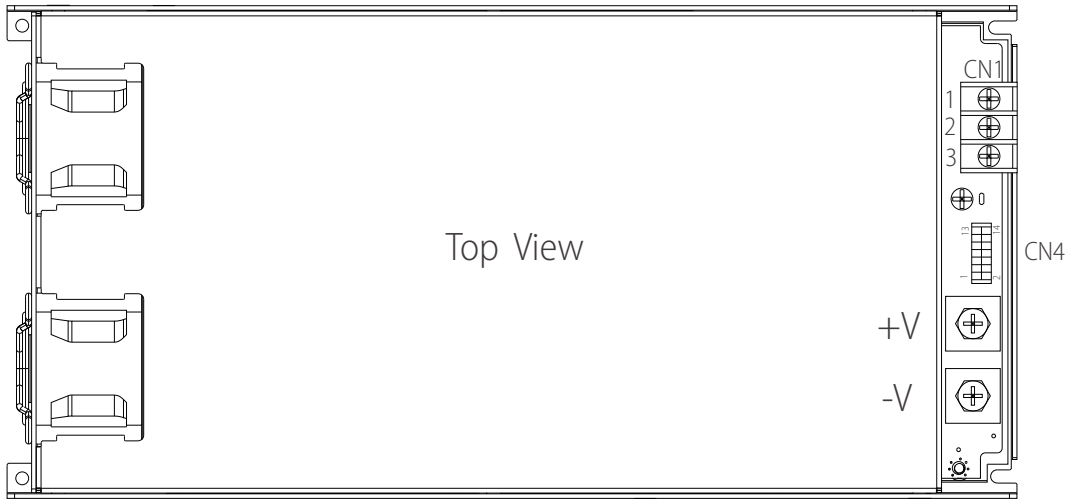
15.75 x 11.81 x 9.45 in

Master Carton Quantities: 8pcs / Carton

Mechanical Specification



Control foot definition



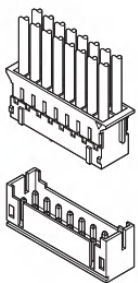
Input (CN1)

No.	Description
1	AC/N
2	AC/L
3	FG

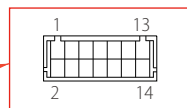
CN4

No.	Function	Description
1	+S	Positive sensing for remote sense.
2	+VS	+V Signal. The +VS should be connected to the +S to reduce the noise when "output voltage programming" function is in use.
3	-S	Negative sensing for remote sense.
4	-VS	-V Signal. The -VS should be connected to the -S to reduce the noise when "output voltage programming" function is in use.
5	PV	Connect to external DC voltage source for output voltage programming, referenced to pin 10,11 (GND).
6	PS	Reference pin regarding output voltage programming. Please refer to the Function Manual.
7	PC	Connect to external DC voltage source for output current programming.
8	PO	Reference pin regarding output current programming. Please refer to the Function Manual.
9	DC OK	Open collector signal, referenced to pin10,11(GND). Low when PSU turns on. The maximum sink current is 10mA and the maximum external voltage is 5.6V.
10,11	GND	These pins connect to the negative terminal (-V). Return for DC_OK Signal output.
12	G-AUX	Auxiliary voltage output ground. The signal return is isolated from the output terminals (+V & -V).
13	REMOTE ON-OFF	Turns the output on and off by electrical or dry contact between pin 13 (ON/OFF) and pin 14 (12V-AUX). Short: Power ON, Open: Power OFF.
14	12V-AUX	Auxiliary voltage output, 10.8~13.2V, referenced to pin 12(G-AUX). The maximum load current is 0.1A. This output is not controlled by the "remote ON/OFF control".

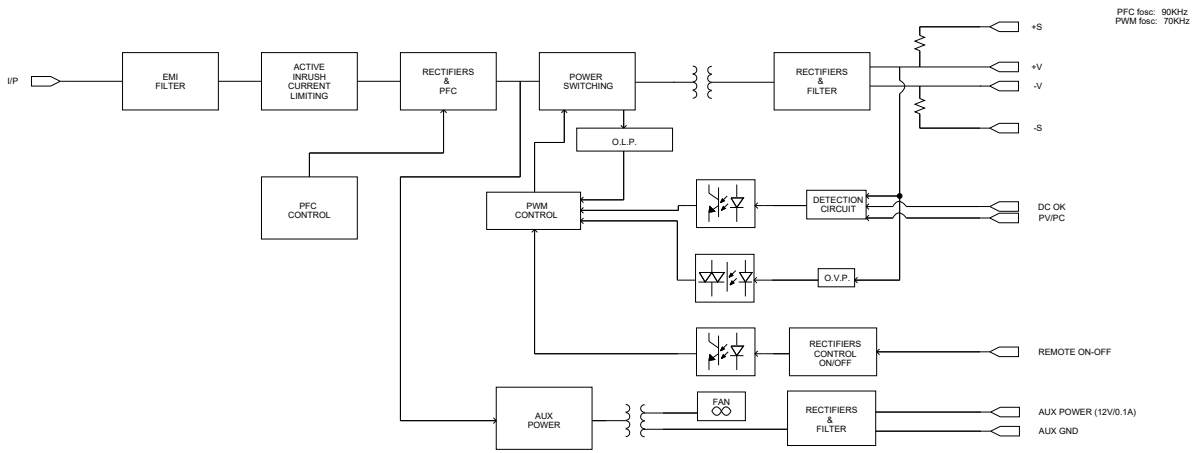
Control Pin No. Assignment (CN4) : HC-PHD-2x7A or equivalent



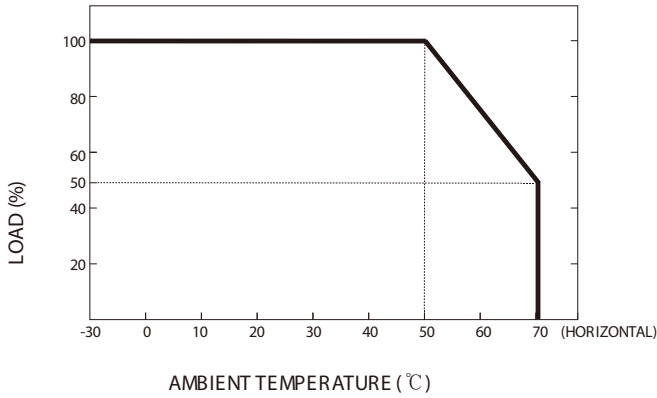
Mating Housing	HC-PHD-2x7A or equivalent
Terminal	B14B-PHDSS or equivalent



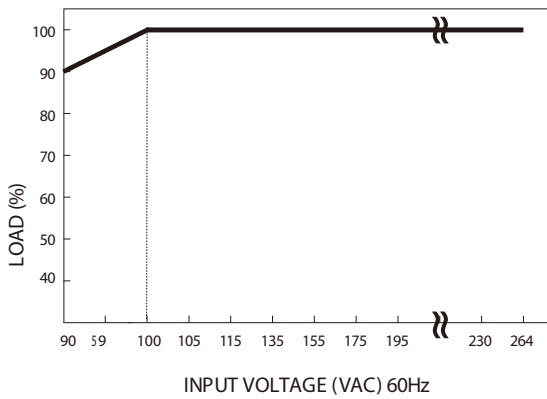
Block Diagram



Derating Curve



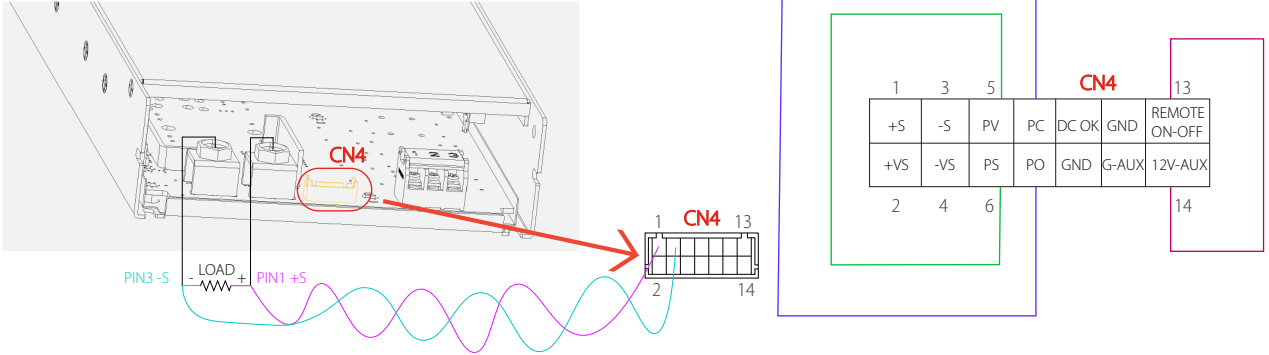
Static Characteristics



Function Manual

1.Remote Sense

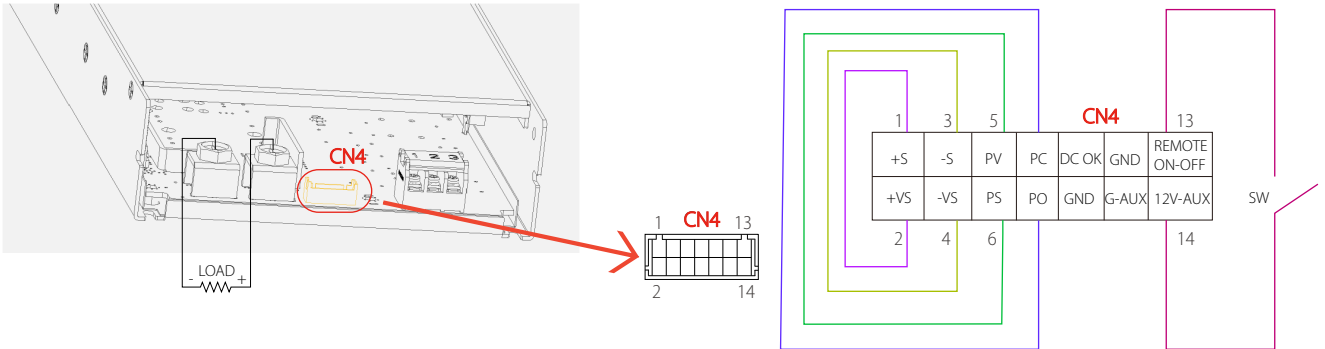
The remote sensing compensates voltage drop on the load wiring up to 0.5V.



- ⊗ The signal should be connected to the positive terminal of the load whereas signal to the negative terminal
- ⊗ By factory default, on CN4, Remote ON-OFF (pin13) and 12V-AUX (pin14), PV (pin5) and PS (pin6), and PC (pin7) and PO (pin8), respectively are shorted when shipped. The power supply will have no output if the shorting connector is not assembled unless certain function needs to be activated.

2.Remote ON-OFF

The power supply can be turned ON/OFF by using the "Remote ON-OFF" function.



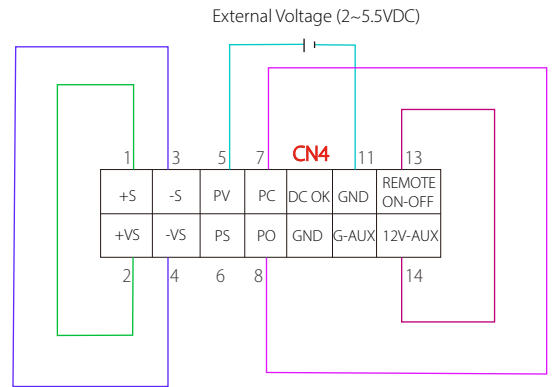
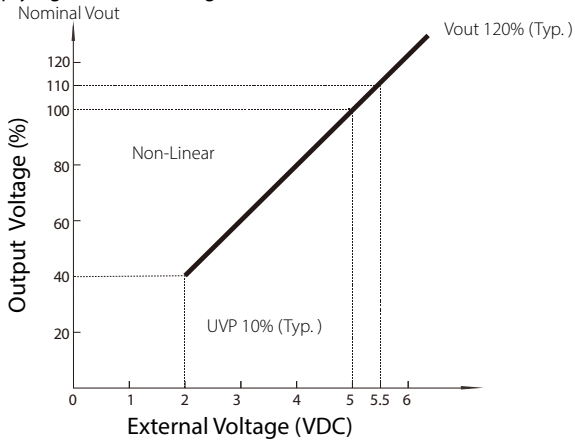
Between Remote and ON-OFF (pin13) 12V-AUX (pin14)	Power Supply Status
SW close (Short)	ON
SW open (Open)	OFF

- ⊗ When multiple power supplies need to turn ON/OFF simultaneously by Remote ON-OFF control, -S & -V on CN4, as well as +S & +V, on each power supply should be connected.

Function Manual

3. Output Voltage Programming (or, PV / remote voltage programming / remote adjust / margin programming / dynamic voltage trim)

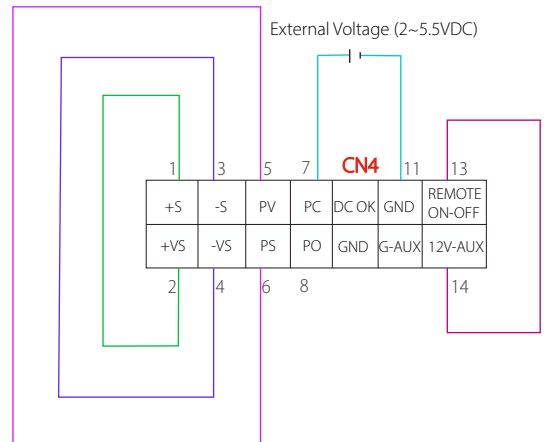
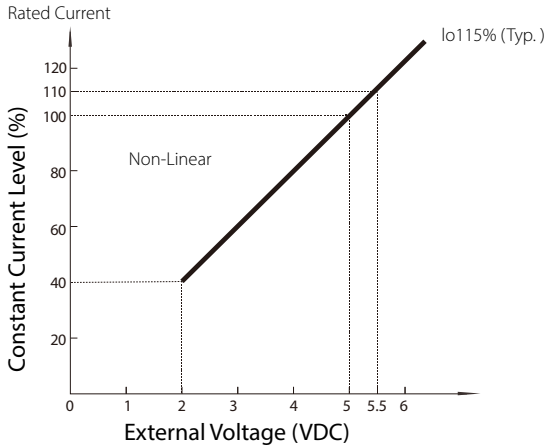
In addition to the adjustment via the built-in potentiometer, the output voltage can be trimmed to 40~110% of the nominal voltage by applying External Voltage.



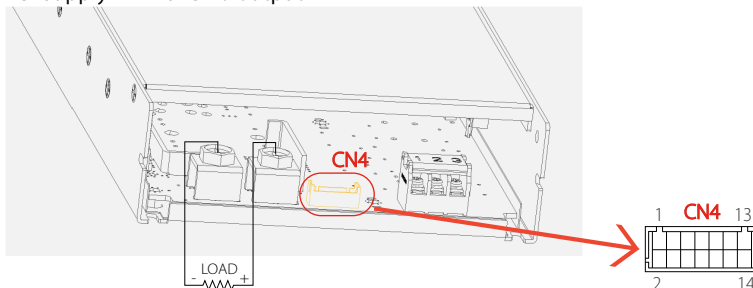
- ⊗ If External Voltage (VDC) < 0.5V, the power supply may enter under voltage protection; it needs to be restarted to work.
- ⊗ Caution: By factory default, the Output Voltage Programming is not activated, and pins 5 and 6 are shorted by connector. Whenever this PV (pin5) PS(pin6) function is not needed to activate, as assumed in other sections' diagrams, please keep pins 5 and 6 shorted; otherwise, the PV (pin5) PS(pin6) power supply will have no output.

4. Constant Current Level Programming (or, PC / remote current programming / dynamic current trim)

The constant current level can be trimmed to 40~110% of the rated current by applying External Voltage.



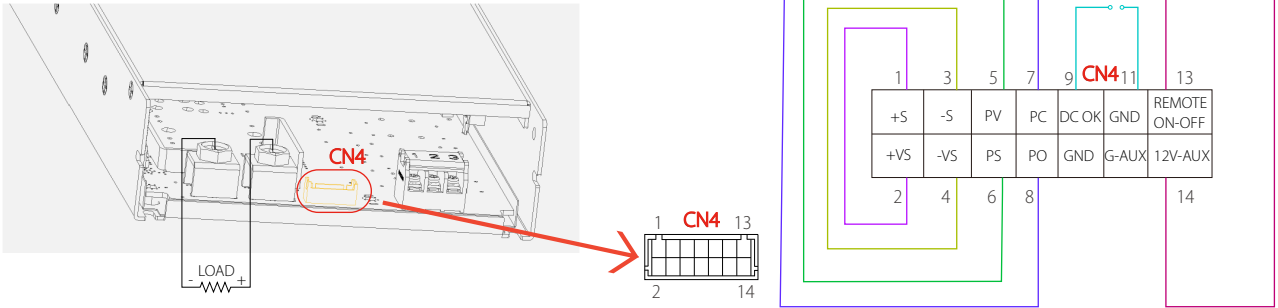
- ⊗ Caution: By factory default, the Output Current Programming is not activated, and pins 7 and 8 are shorted by connector. Whenever this function is not needed to activate, as assumed in other sections' diagrams, please keep pins 7 and 8 shorted; otherwise, the power supply will have no output.



Function Manual

5.DC_OK signal

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



☉ Sinking current from external TTL signal: The maximum sink current is 10mA and the maximum external voltage is 5.6V.

☉ Sending out TTL voltage signal :

Between and DC- OK(pin9) and GND(pin10&11)	Output Status
0 ~ 1V	Power supply ON
3.3 ~ 5.6V	Power supply OFF