

Features:

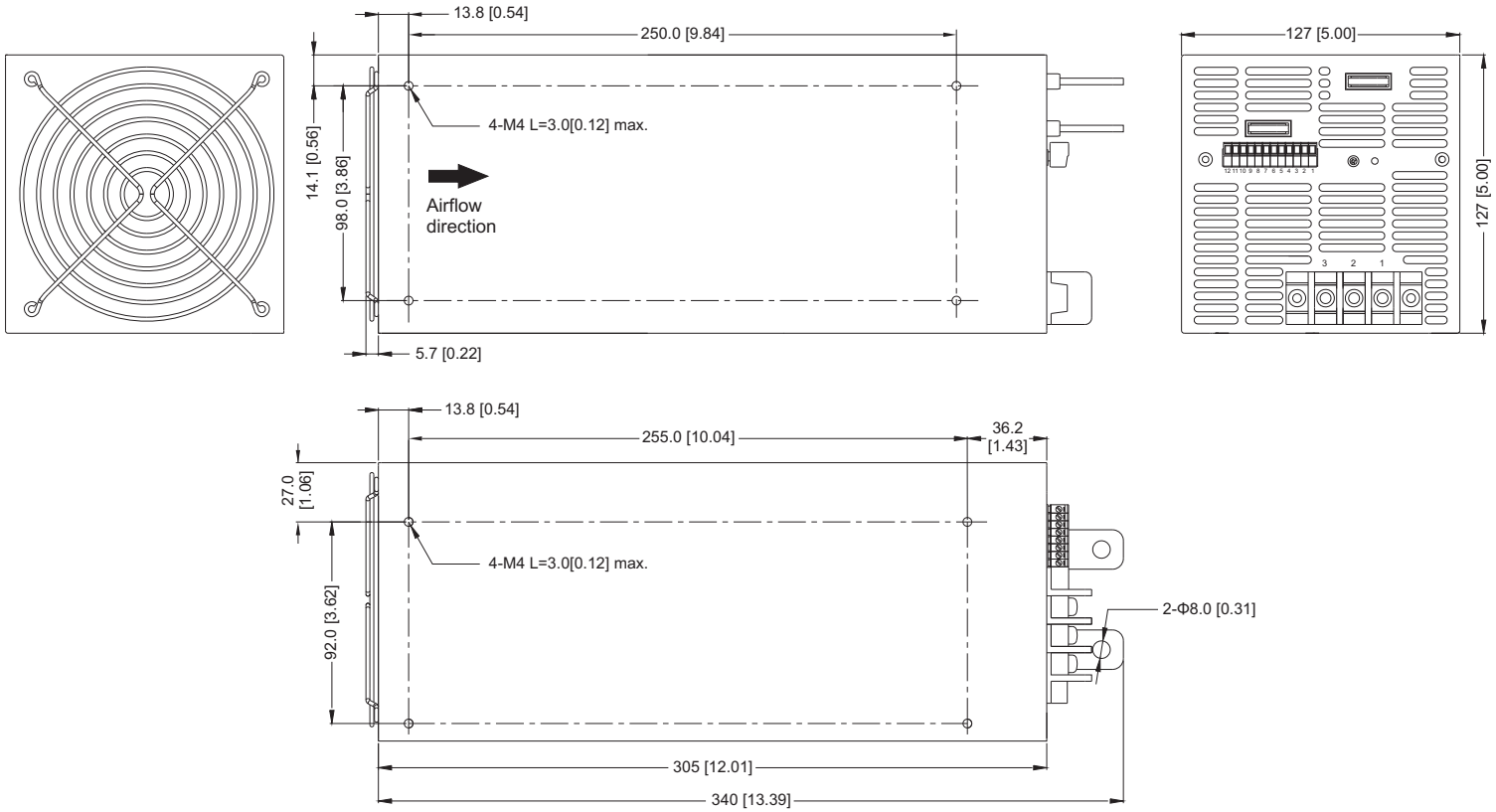
- Universal AC input / Full range
- Programmable output Voltage (30% ~ 105%)
- Programmable output Current (40% ~ 105%)
- +5V / 0.5A auxiliary output
- High power density 10.8w / in³
- Forced current sharing at parallel operation
- Power OK signal
- Remote ON / OFF, Remote sense function
- Protection: OVP, OLP, OTP, SCP, Fan failure
- 3 years warranty



MODEL		AK-3000-12	AK-3000-15	AK-3000-24	AK-3000-27	AK-3000-48
Output	DC Voltage Range	12V	15V	24V	27V	48V
	Rated Current	250A	200A	125A	111A	62.5A
	Current Range	0 ~ 250A	0 ~ 200A	0 ~ 125A	0 ~ 111A	0 ~ 62.5A
	Rated Power	3000W	3000W	3000W	3000W	3000W
	Ripple & Noise (Max.)	Note.2 150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p
	Voltage Adj. Range	±5.0% Typical adjustment by potentiometer (VR1)				
	Voltage Tolerance	Note.3 ±1.0%				
	Line Regulation	±0.5%				
	Load Regulation	±0.5%				
	Setup, Rise Time	800ms, 200ms at full load				
Hold Up Time (Typ.)	16ms / 230VAC at full load					
Input	Voltage Range	Note.4 90 ~ 264VAC, 127 ~ 370VDC				
	Frequency Range	47 ~ 63Hz				
	Power Factor (Typ.)	0.98 / 230VAC, 0.99 / 115VAC at full load				
	Efficiency (Typ.)	87%	88%	89%	89%	90%
	AC Current (Typ.)	36A / 115VAC, 18A / 230VAC				
	Inrush Current (Typ.)	60A / 115VAC, 90A / 230VAC				
	Leakage Current	< 2.5mA / 240VAC				
Protection	Over Load	105 ~ 110% rated output power Protection type: Constant current limit, Latch-style (Recovery after reset AC power ON or inhibit)				
	Over Voltage	Variable OVP, 120 ±5% Vout. Protection type: Latch-style (Recovery after reset AC power ON or inhibit)				
	Over Temperature	80 ±5°C Protection type: Shut down o/p voltage, Recovery after reset AC power ON or inhibit.				
Function	Auxiliary Power	5V / 0.5A (±3%)				
	Remote ON / OFF Control	External switch or NPN Transistor to turn ON / OFF				
	Power OK Signal	Open drain signal low when PSU turns on, Max. sink current: 20mA, Max. drain voltage: 40V.				
	Output Voltage Trim	Adjustment of output voltage is between 30 ~ 105% of rated output				
	Output Current Trim	Adjustment of output current is between 40 ~ 105% of rated output				
Environment	Working Temp.	-25 ~ +60°C (Refer to de-rating 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, 1G 10min. / 1cycle, period for 60min. each along X, Y, Z axes Compliance to IEC 60068-2-6-2007				
Safety & EMC	Safety Standards	Certified UL 60950-1; EN 60950-1				
	Withstand Voltage	Note.7 I/P-O/P: 3KVAC (4242VDC), I/P-FG: 1.5KVAC (2121VDC), O/P-FG: 0.5KVAC (707VDC), 1min				
	Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms / 500VDC				
	EMI Conduction & Radiation	Certified EN 55022; EN 61000-6-4				
	Harmonic Current	Certified EN 61000-3-2; EN 61000-3-3				
Others	MTBF	36.517K HRS Certified MIL-HDBK-217F				
	Cooling	Controlled by Load & temperature (Internal ball bearing fan)				
Note	Dimension (WxHxD)	127x127x305 mm / 5.000x5.000x12.01 inch				
	Packing	6.6kg; 4pcs / 27.4kg / 2.1CUFT				
	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C 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 setup time tolerance, line regulation and load regulation.						
4. De-rating may apply in low input voltage. Please check the de-rating curve for more details.						
5. In parallel connection, only one unit will operate if the total output load is less than 5% of the rated load condition.						
6. 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.						
7. This test is done without enclosure.						
8. All tests were performed with maximum branch circuit breaker rating is 40 A, in the end-use application shall be considered when installing higher rated branch circuit breaker.						

Mechanical Drawings:

Unit:mm / inch



Recommended screw length is measured from the power supply surface

AC Input Terminal
Pin No. Assignment

Pin No.	Assignment
1	ACL
2	ACN
3	⏏

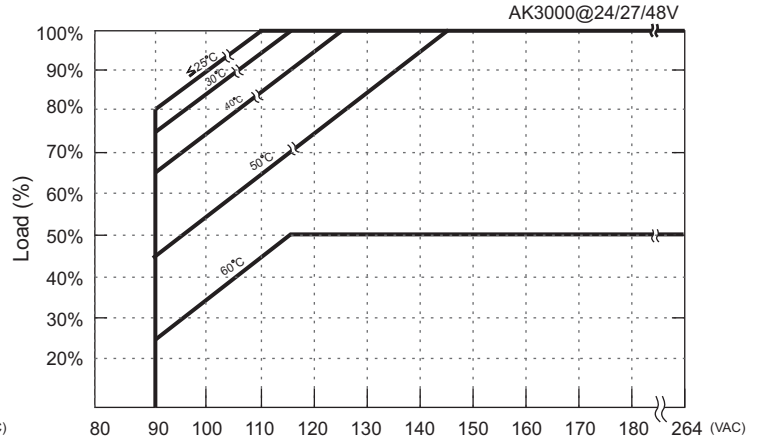
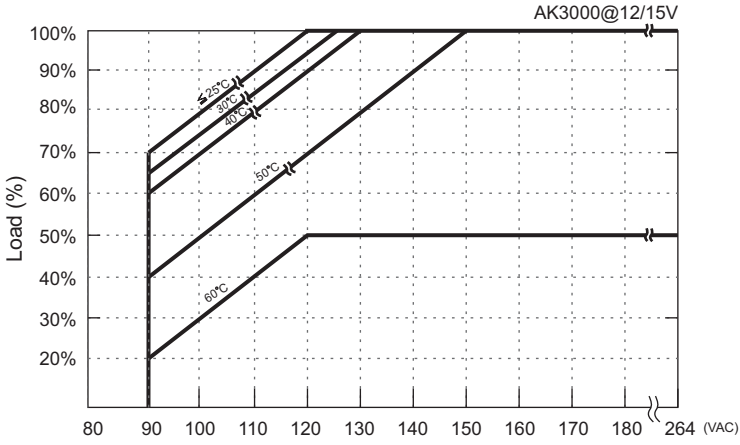
Control pin number assignment

Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment	Mating Housing	Terminal
1	VO+	5	AUX	9	P.OK	ECH350R-12P	EC350V-12P
2	VS+	6	EN+	10	VCI		
3	VS-	7	EN-	11	ACI		
4	VO-	8	GND	12	PAR		

Function Description:

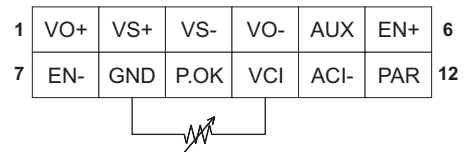
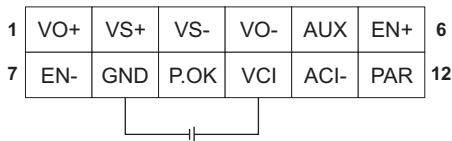
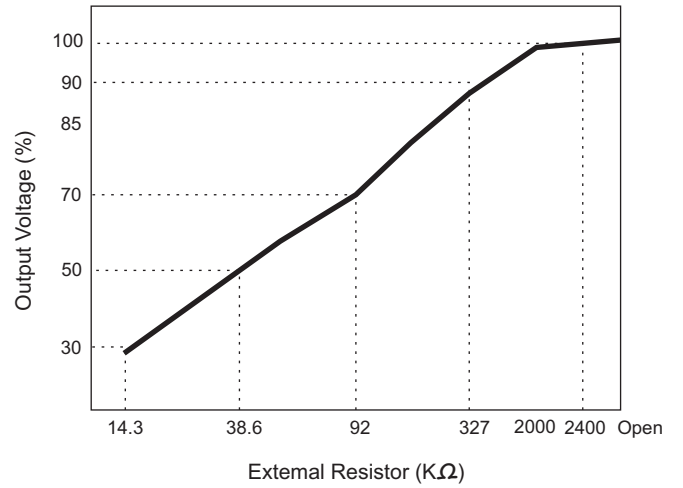
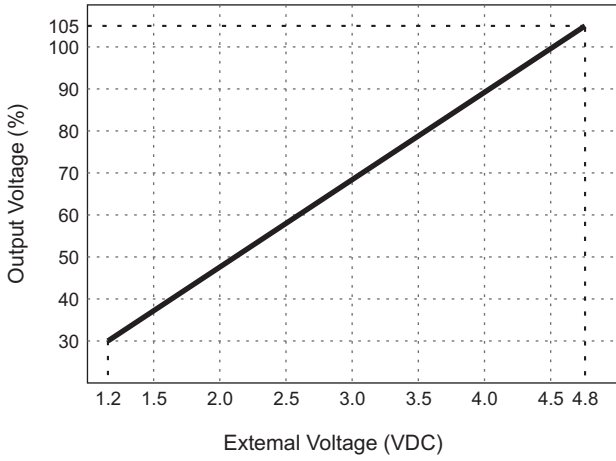
Pin No.	Function	Description
1	VO+	Local output voltage sense (+)
2	VS+	Remote voltage sense (+)
3	VS-	Remote voltage sense (-)
4	VO-	Local output voltage sense (-)
5	AUX	+5V / 0.5A Auxiliary power
6	EN+	Inhibit ON/OFF (+)
7	EN-	Inhibit ON/OFF (-)
8	GND	Ground
9	P.OK	Power OK
10	VCI	V Program
11	ACI	I Program
12	PAR	Parallel operation current share

De-rating Curve:

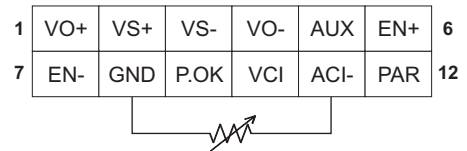
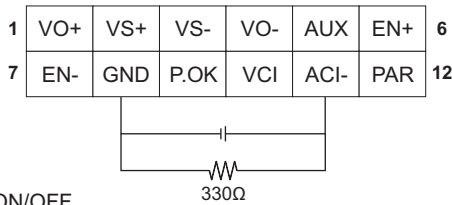
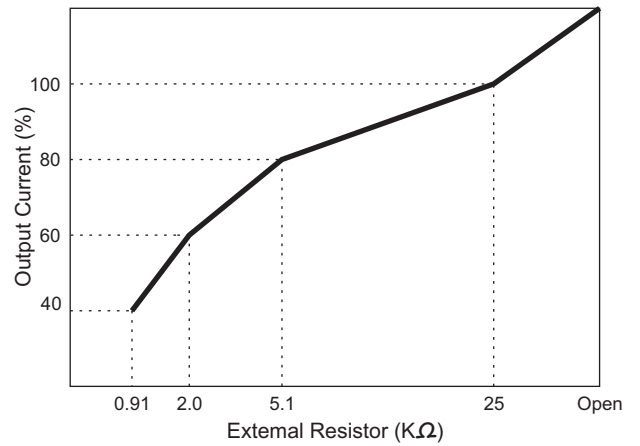
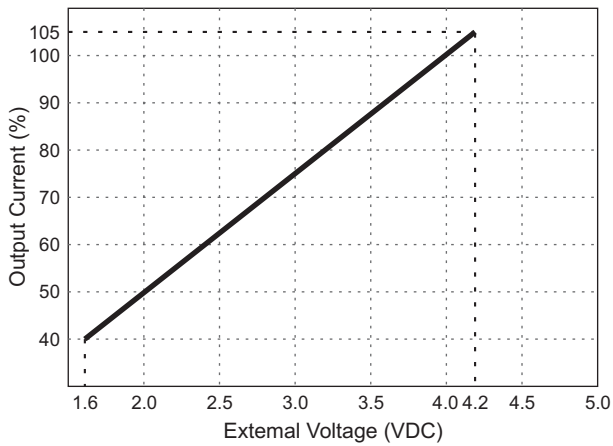


Function Manual:

1. Output Voltage Trim

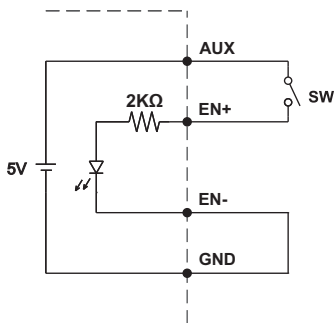


2. Output Current Trim

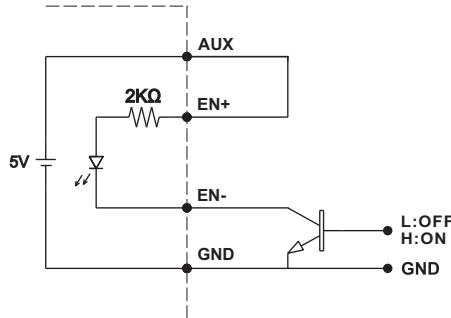


3. Remote ON/OFF

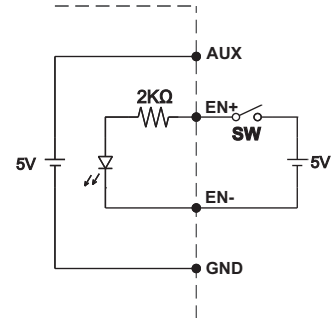
(A)



(B)



(C)

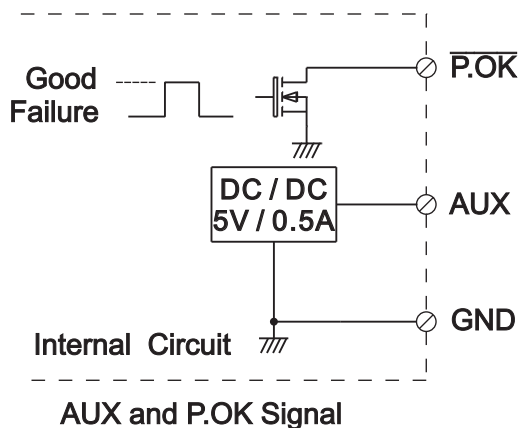


(A) Using internal 5V auxiliary source

(B) ON / OFF Control by NPN transistor

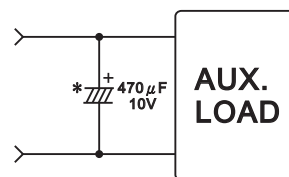
(C) Using external voltage source

4. Power OK Signal

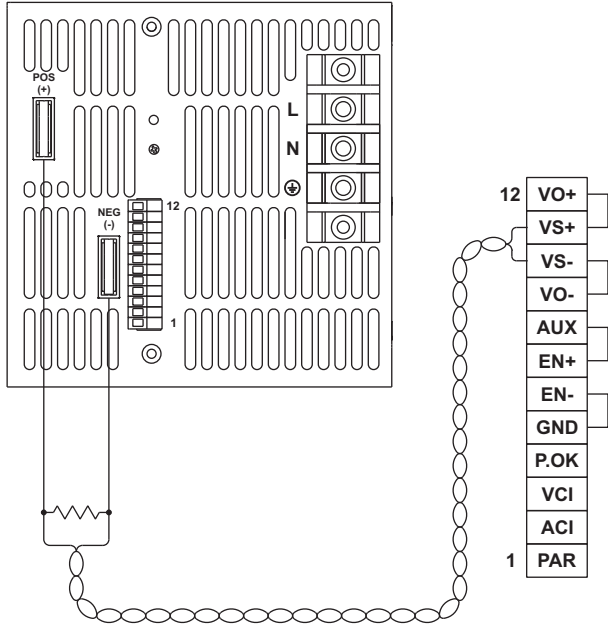


*Place an additional capacitor to have a better performance of auxiliary power operation.

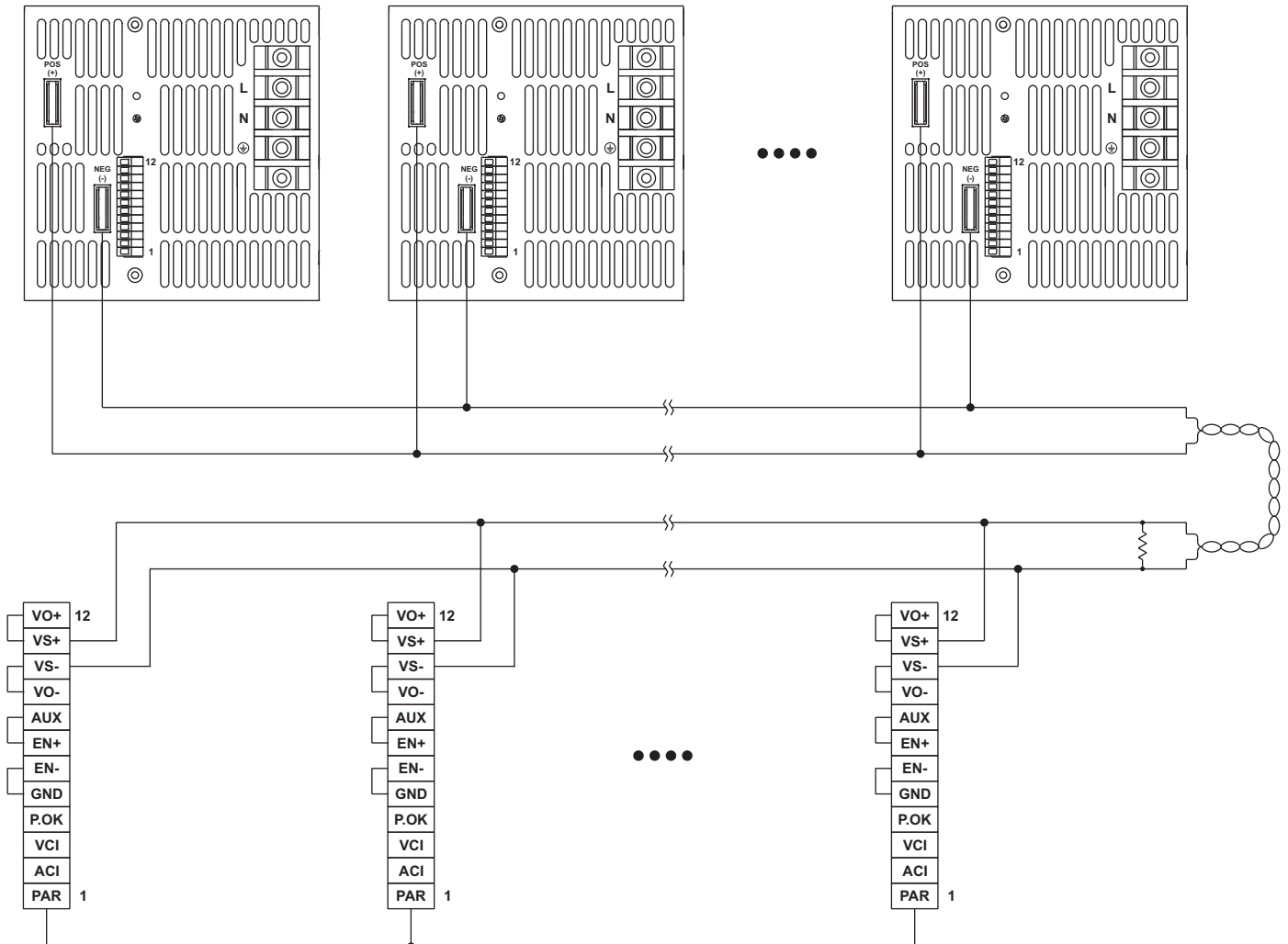
*The grounding of "AUX" power should be connected to "GND" port. If "V-" is connected as Grounding, make sure to short the GND and V- ports.



5. Remote sense



6. Current sharing with remote sensing



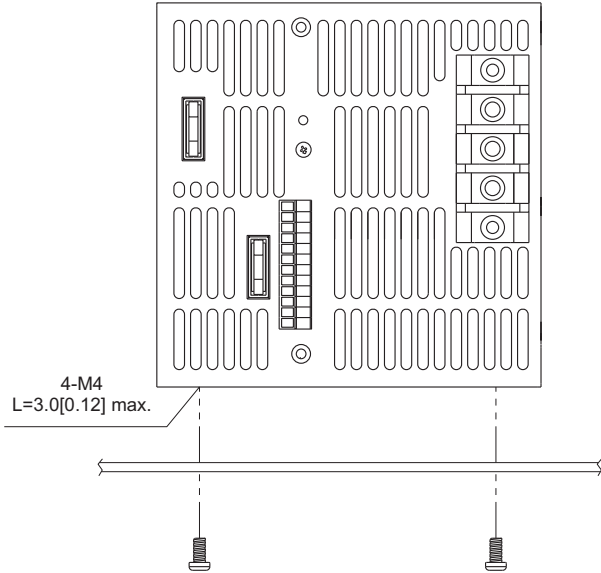
Please connect PAR pins together for current sharing function

Installation Instruction:

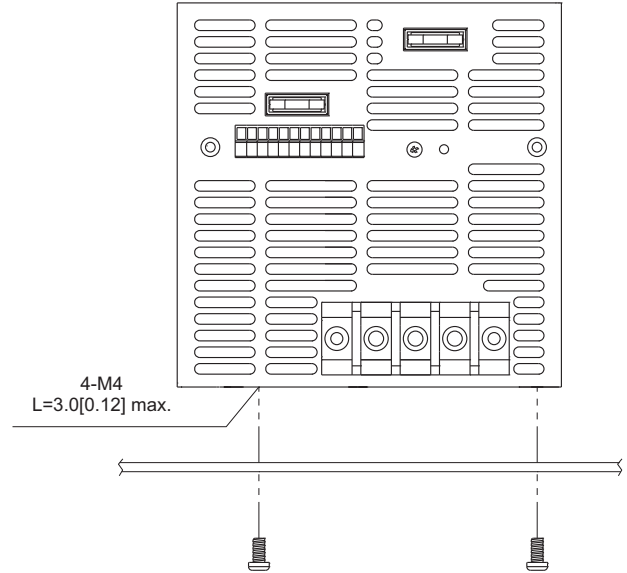
1. Mounting Directions

1-1 Recommended standard mounting methods:

(a)



(b)



Recommended screw length is measured from the power supply surface

2. Mounting Method

2-1 There are ventilating holes on the front and back side panels, do not obstruct; allow 50mm at least for air flow.

2-2 The Maximum allowable penetration of screw is 4mm. Incomplete threading should not be penetrated.

2-3 Recommended the torque of mounting screw:
M4 screw: 1.27N · m (13.0kgf · cm)

