

**Features:**

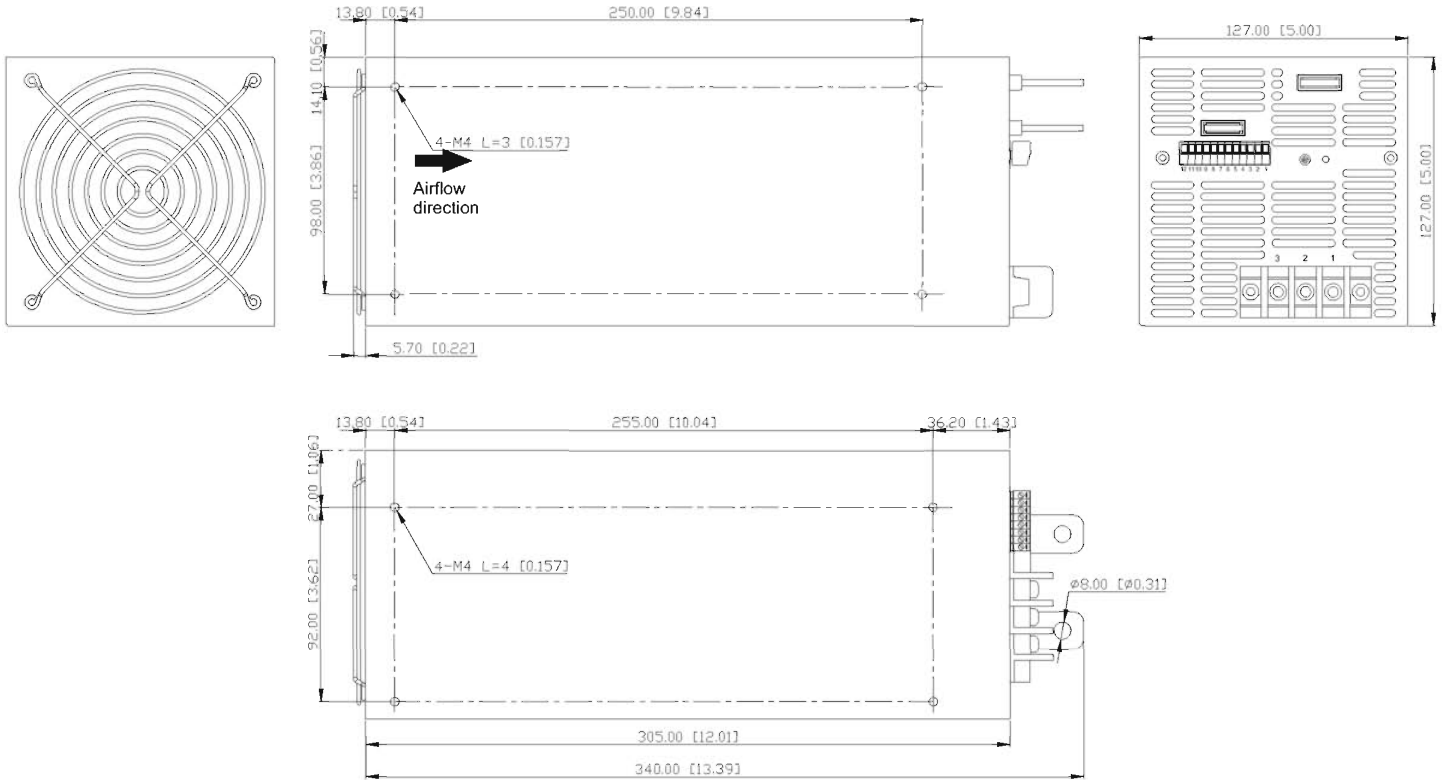
- Universal AC input / Full range
- Programmable output Voltage (30% ~ 105%)
- Programmable output Current (40% ~ 105%)
- +5V / 0.5A auxiliary output
- High power density 10.8w / in<sup>3</sup>
- Forced current sharing at parallel operation
- Power OK signal
- Remote ON / OFF, Remote sense function
- 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				
	Parallel (Current Sharing)	Note.5	Please refer to function			
Environment	Working Temp.	-25 ~ +60°C (Refer to output load 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				
	EMS Immunity	Note.6	Certified EN 61204-3; EN 55024; EN 61000-6-2; IEC 61000-4-2, 3, 4, 5, 6, 8, 11			
Others	MTBF	36.517K HRS Certified MIL-HDBK-217F				
	Cooling	Controlled by power rating & temperature (Internal ball bearing fan)				
	Dimension (WxHxD)	127x127x305 mm / 5.000x5.000x12.008 inch				
	Packing	6.6kg; 4pcs / 27.4kg / 2.1CUFT				
Note	<p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>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.</p> <p>3. Tolerance: includes set up tolerance, line regulation and load regulation.</p> <p>4. De-rating may apply in low input voltage. Please check the de-rating curve for more details.</p> <p>5. In parallel connection, only one unit will operate if the total output load is less than 5% of the rated load condition.</p> <p>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.</p> <p>7. Conduct this test without enclosure.</p>					



Unit:mm/inch

**Mechanical Specification:**



AC Input Terminal  
Pin No. Assignment

Pin No.	Assignment
1	ACL
2	ACN
3	⊥

Control pin number assignment

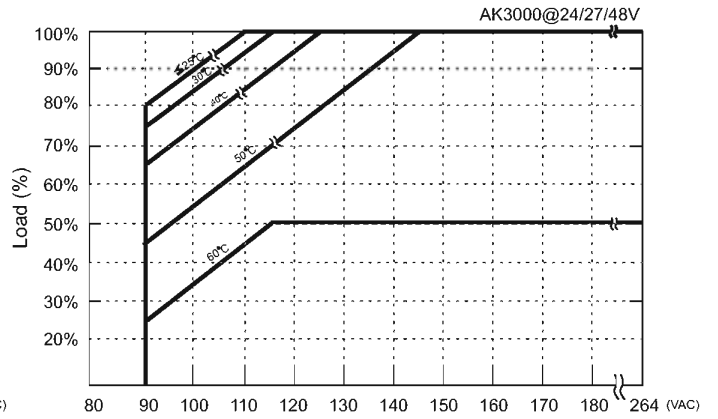
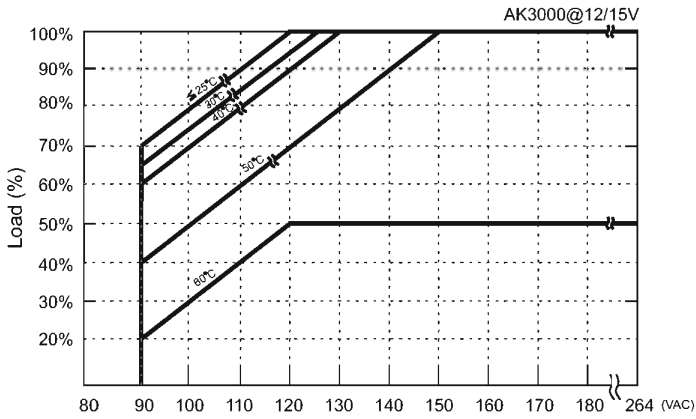
Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment	Mating Housing	Terminal
1	VO+	5	AUX	9	P.OK	ECH350R-12P	EC350V-12P
2	VS+	6	EN+	10	VCI		
3	VS-	7	EN-	11	ACI		
4	VO-	8	GND	12	PAR		

**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

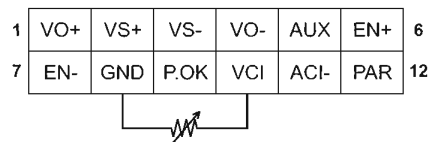
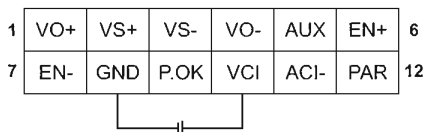
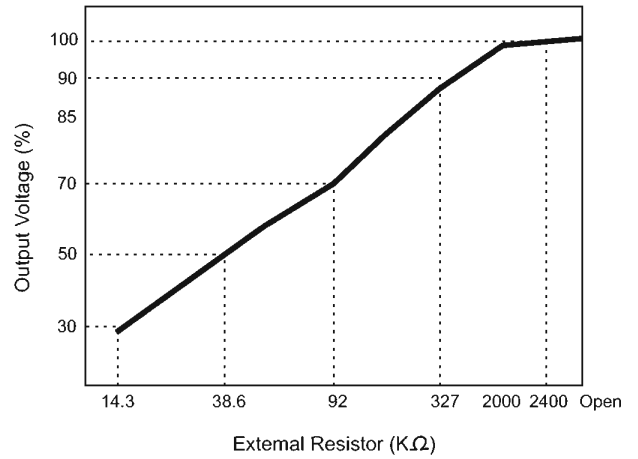
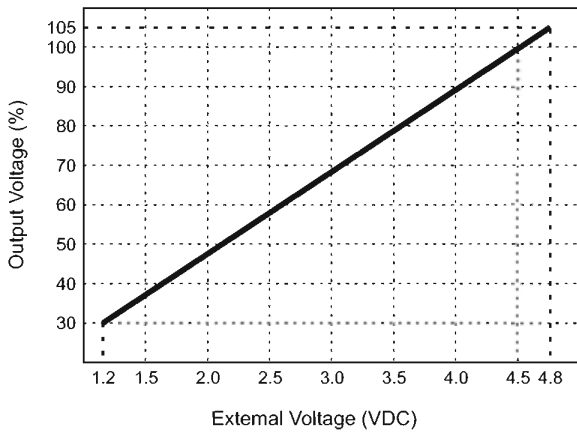


■ **De-rating Curve:**

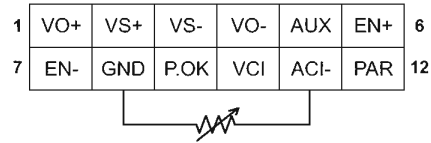
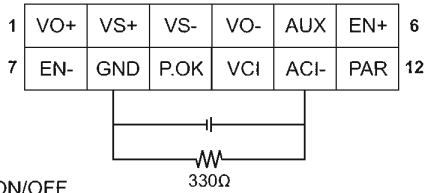
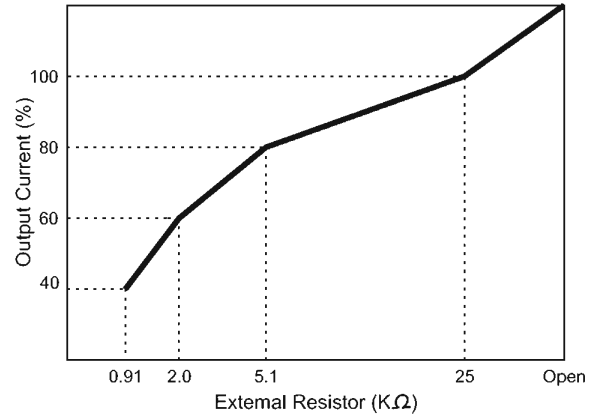
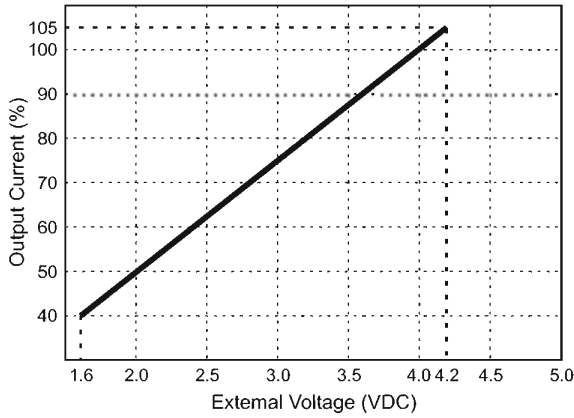


■ **Function Manual:**

1. Output Voltage Trim

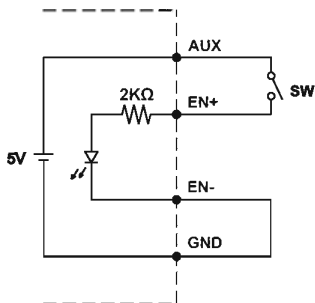


2. Output Current Trim



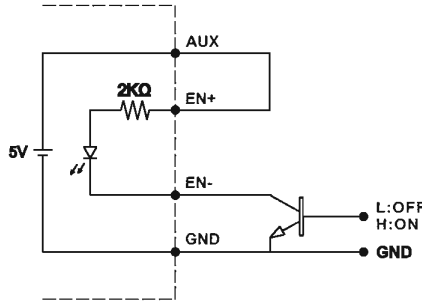
3. Remote ON/OFF

(A)



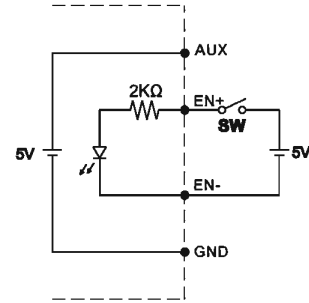
(A) Using internal 5V auxiliary source

(B)



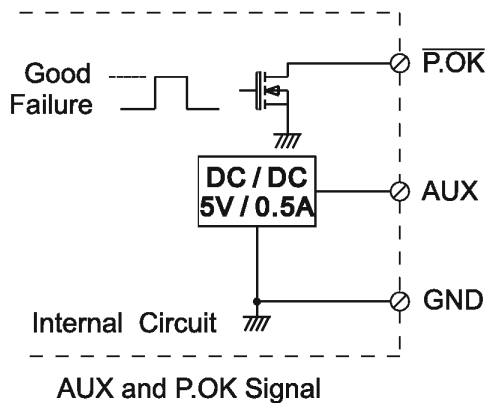
(B) ON / OFF Control by NPN transistor

(C)



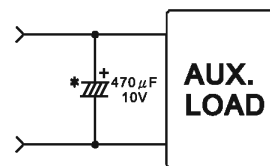
(C) Using external voltage source

4. Power OK Signal



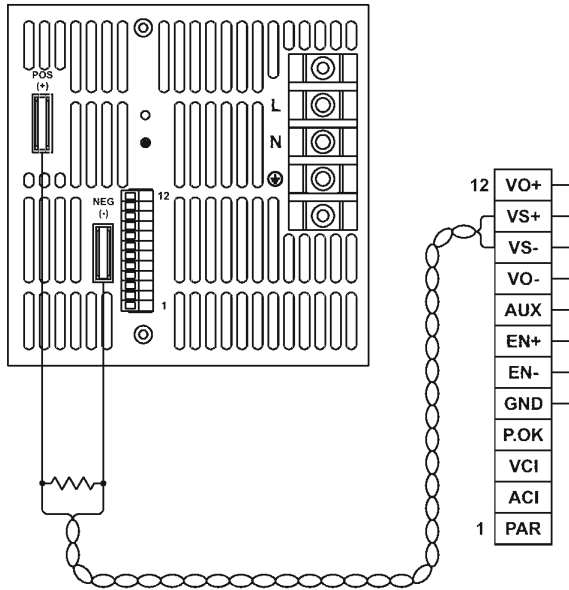
\*Place an additional capacitor to have a better performance of auxiliary power operation.

\*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.

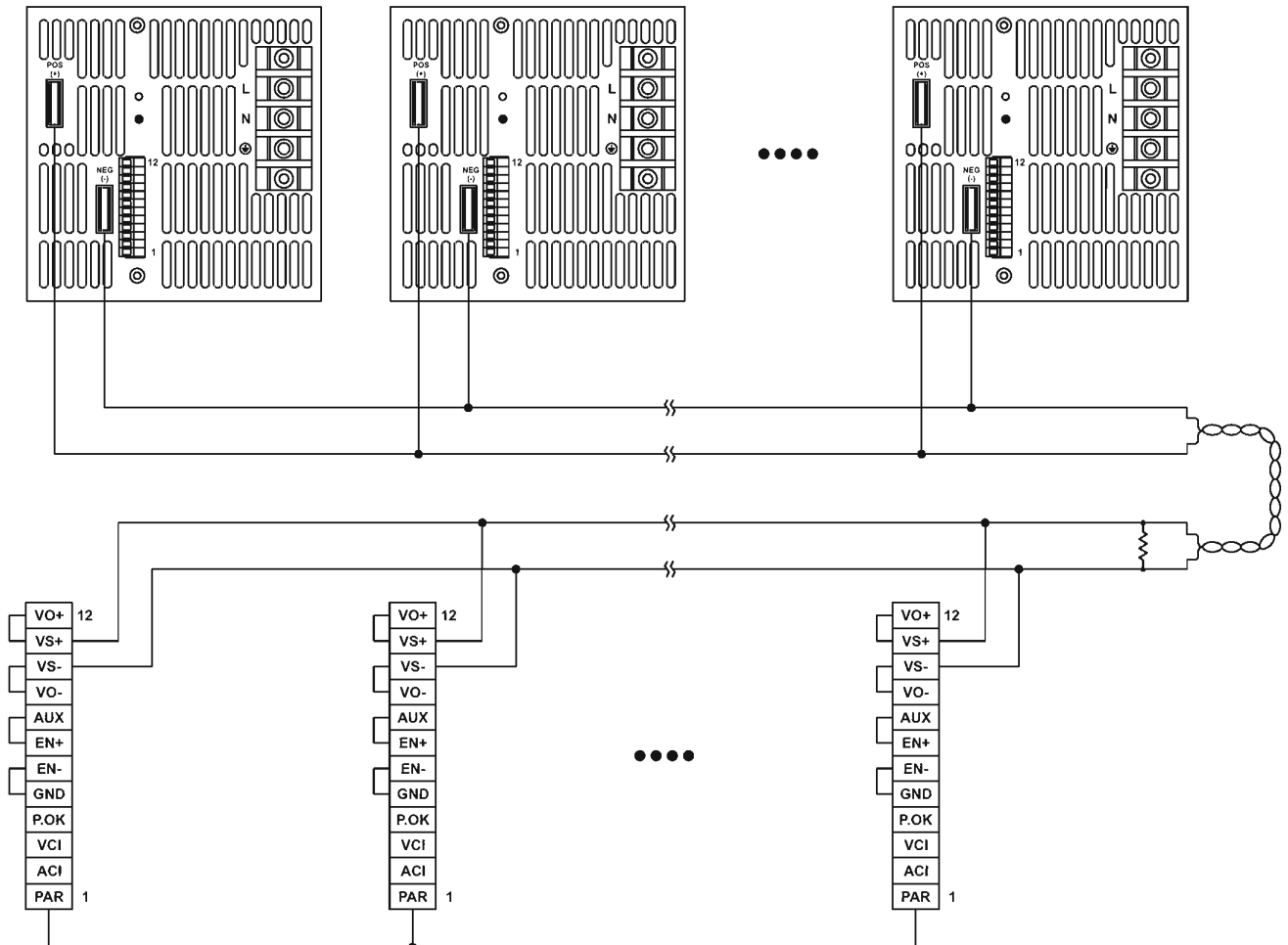




5. Remote sense



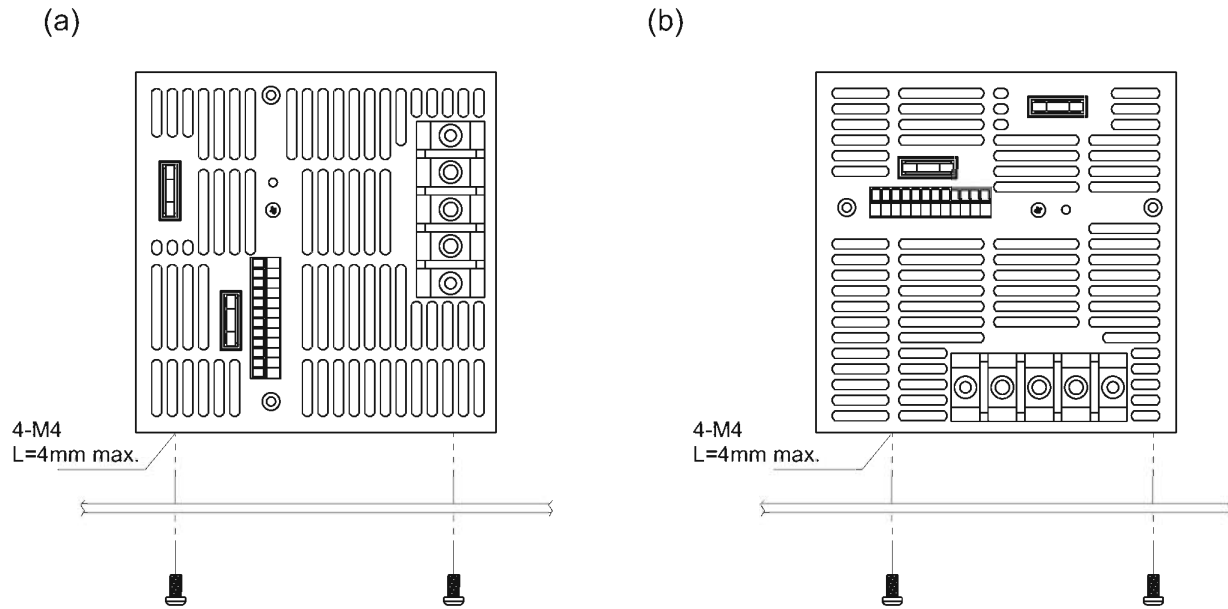
6. Current sharing with remote sensing



■ **Installation Instruction:**

1. Mounting Directions

1-1 Recommended standard mounting methods:



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)

