

### Features :

- Universal AC input with active PFC
- Programmable output Voltage ( 30% ~ 105% )
- Programmable output Current ( 40% ~ 105% )
- High efficiency up to 90%
- +5V / 0.5A auxiliary output
- Intelligent LED indicators
- 1.5U profile, High power density 10.8w / in<sup>3</sup>
- Forced current sharing at parallel operation
- Power OK signal ( Power good, Logic low)
- Remote ON-OFF, Remote sense function
- Protections : OVP, OLP, OTP, SCP, Fan failure
- 3 years warranty

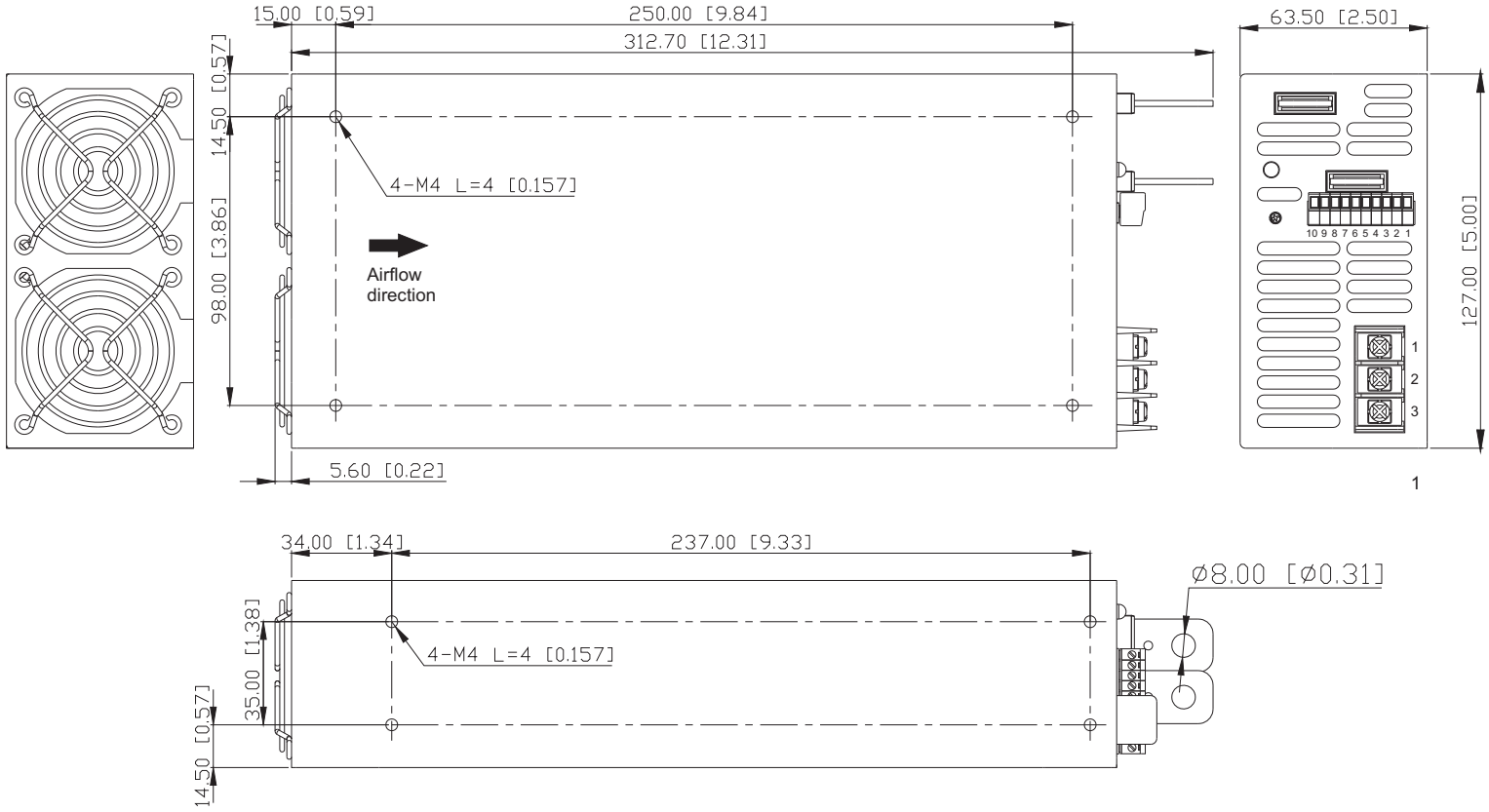


MODEL		AK-1500-12	AK-1500-15	AK-1500-24	AK-1500-27	AK-1500-48
Output	DC Voltage Range	12V	15V	24V	27V	48V
	Rated Current	125A	100A	62.5A	55.5A	31.3A
	Current Range	0~125A	0~100A	0~62.5A	0~55.5A	0~31.3A
	Rated Power	1500W	1500W	1500W	1500W	1500W
	Ripple & Noise (Max.)	Note.2 150mVp-p	150mVp-p	150mVp-p	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.)	EN61000-3-2 (0.98 / 230VAC, 0.99 / 115VAC at full load)				
	Efficiency (Typ.)	87%	88%	89%	89%	90%
	AC Current (Typ.)	18A / 115VAC, 9A / 230VAC				
	Inrush Current (Typ.)	30A / 115VAC, 45A / 230VAC				
Leakage Current	<2.5mA / 240VAC					
Protection	Over Load	105 % ~ 110% rated output power Protection type : Constant current limiting, 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 (Auto recovery after temperature goes down)				
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% R.H non-condensing				
	Storage Temp., Humidity	-40~+85°C, 10 ~ 95% R.H				
	Temp. Coefficient	±0.02%/°C (0 ~ 50°C)				
	Vibration	10 ~ 500Hz, 5G 10min./1 cycle, period for 60 min each along X,Y,Z axes Compliance to IEC 60068-2-6-2007				
Safety & EMC	Safety Standards	UL 60950-1, 2 <sup>nd</sup> Edition, TUV EN60950-1 : 2006+A11 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: 100MΩ / 500VDC				
	EMI Conduction & Radiation	EN55022: 2006 Class B				
	Harmonic Current	EN61000-3-2: 2006 Class A, EN61000-3-3: 1995+A1: 2001+A2: 2005				
	EMS Immunity	EN61204-3: 2000, EN55024: 1998+A1: 2001+A2: 2003 light industry level, criteria A				
Other	Cooling	Controlled by power rating & temperature (Internal ball bearing fan)				
	Dimension (L*W*H)	280x127x63.5 mm / 11.02x5.00x2.50 inch				
	Packing	3.2 kg ; 6pcs / 19.2kg / 0.98 CUFT				

- 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 at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47 uf parallel capacitor.
  3. Tolerance: includes set up tolerance, line regulation and load regulation.
  4. De-rating may be needed under low input voltages. Please check the de-rating curve for more details.
  5. In parallel connection, maybe only one unit operate if the total output load is less than 5% of 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.

### Mechanical Specification

Unit:mm/inch



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	VS+	5	EN-	9	ACI	ECH350R-10P	EC350V-10P
2	VO+	6	GND	10	PAR		
3	AUX	7	P.OK				
4	EN+	8	VCI				

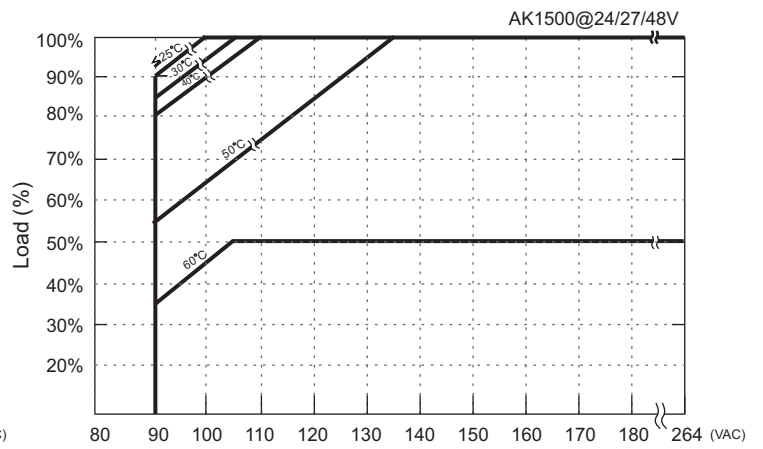
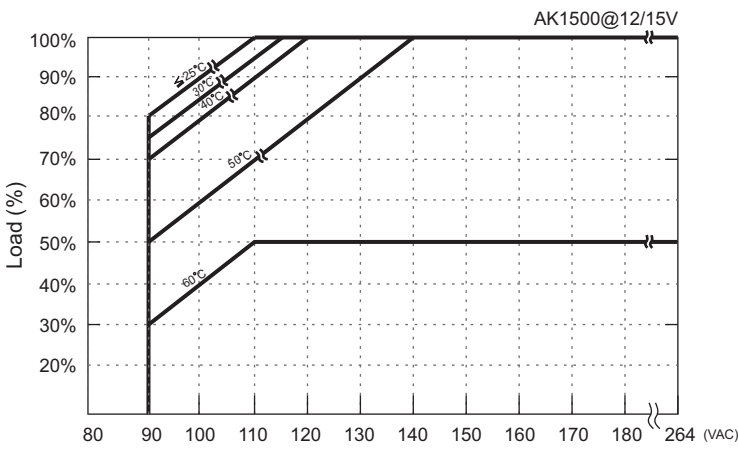
### Function Description

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

### LED Status

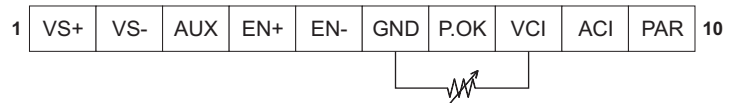
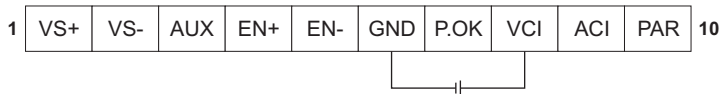
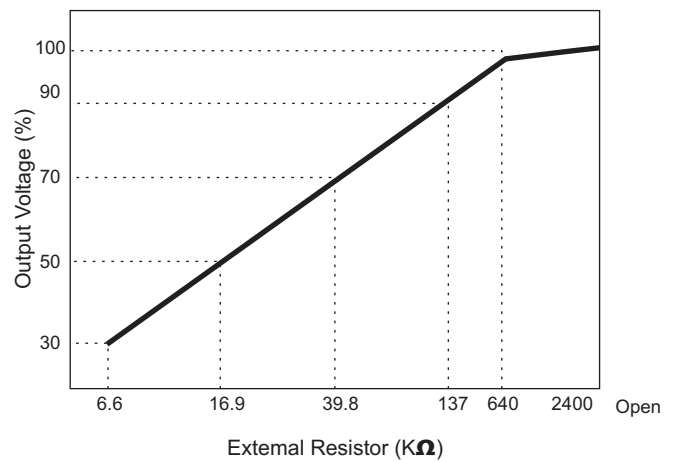
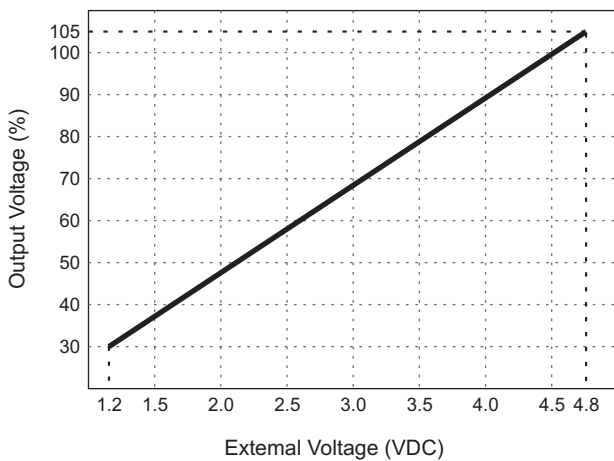
Green LED	LED Signal	Status
Solid		Power OK
Slow Blink		Power Standby
Red LED	LED Signal	Status
Fast Blink		Over Voltage Protection ( OVP )
Solid		Over Load Protection ( OLP )
		Output Shorted Circuit Protection ( SCP )
		Under Voltage Protection ( UVP )
Slow Blink		Over Temperature Protection ( OTP )
Intermittent Blink		Fan Failure
Interlace Blink		Power Failure

### De-rating Curve

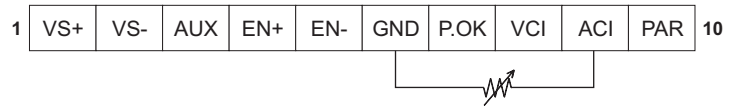
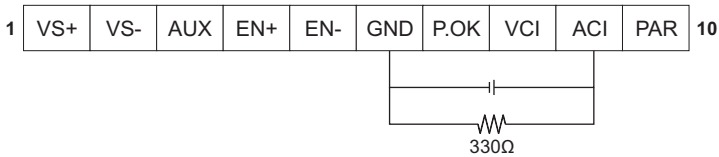
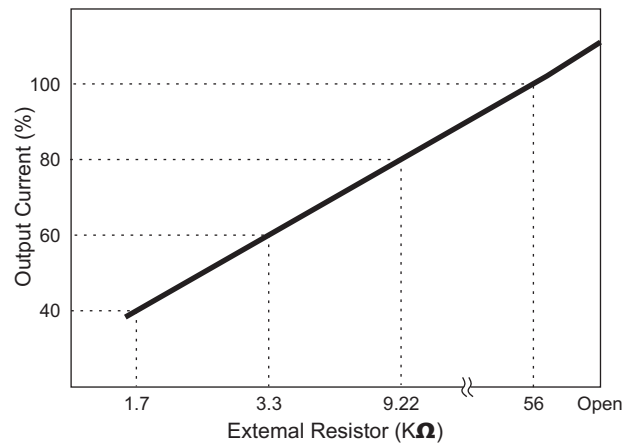
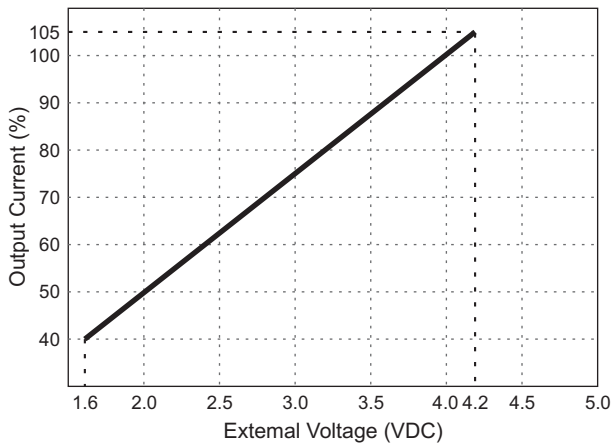


### Function Manual

#### 1. Output Voltage Trim

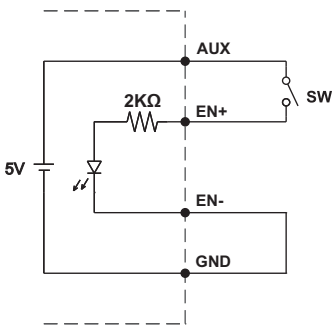


### 2. Output Current Trim



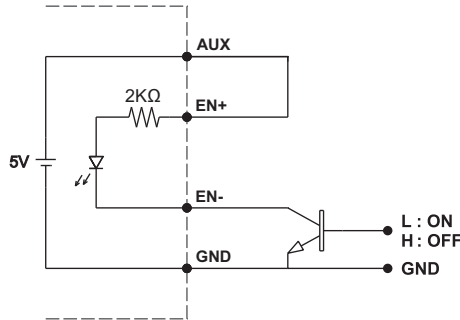
### 3. Remote ON/OFF

(A)



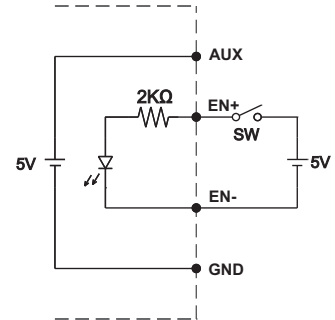
(A) Using internal 5V auxiliary source

(B)



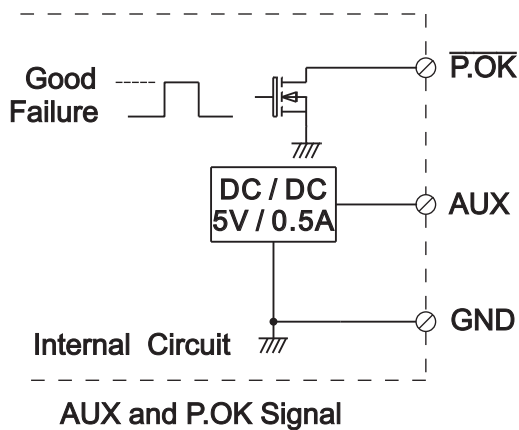
(B) ON / OFF Control by NPN transistor

(C)



(C) Using external voltage source

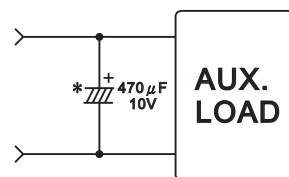
### 4. Power OK Signal



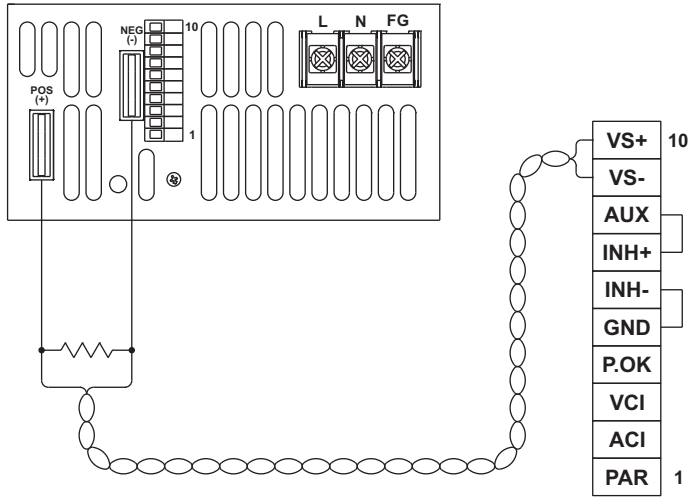
AUX and P.O.K Signal

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

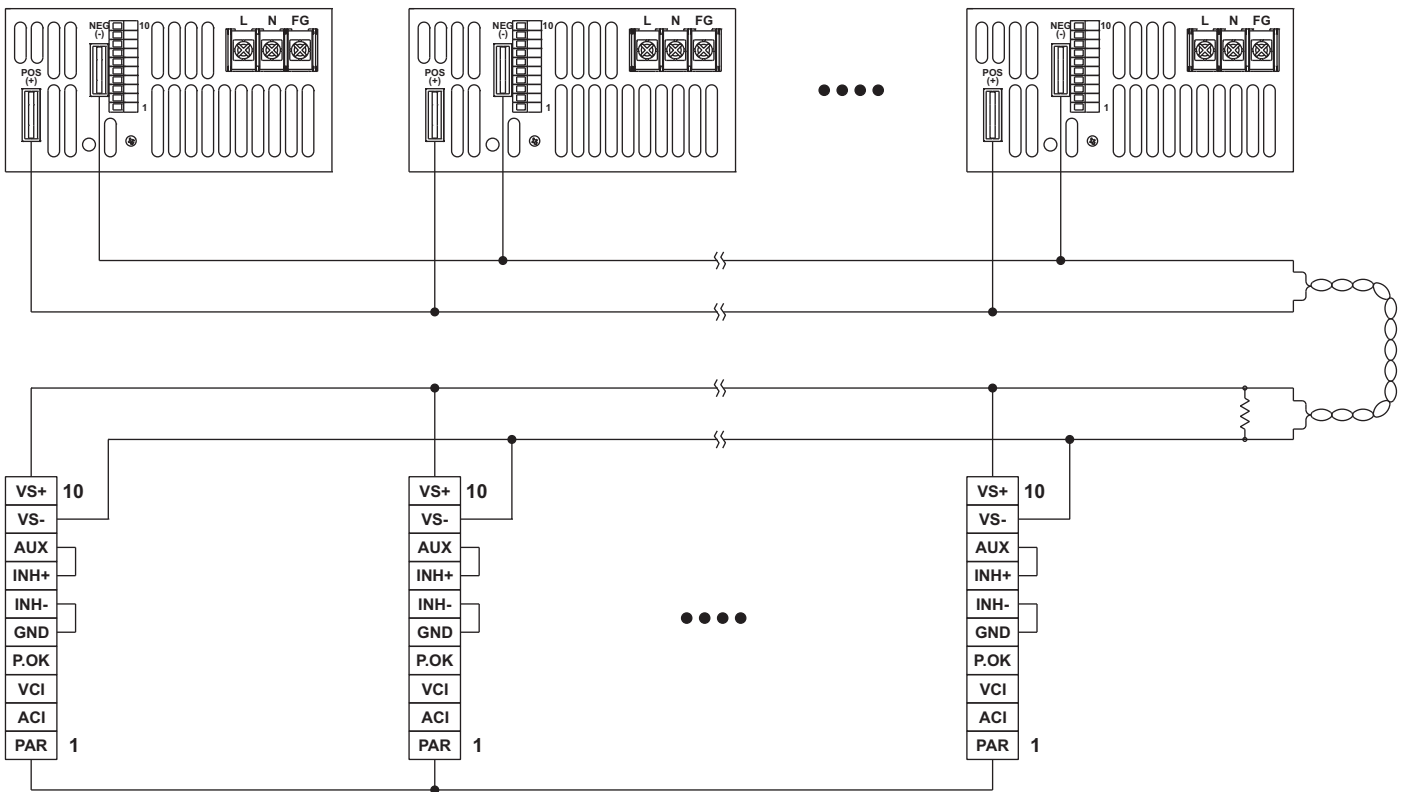
\*The grounding of "AUX" power should be connected to "GND" port. If "V-" is connected as Grounding, make sure to short the GND and V- ports.



### 5. Remote Sensel



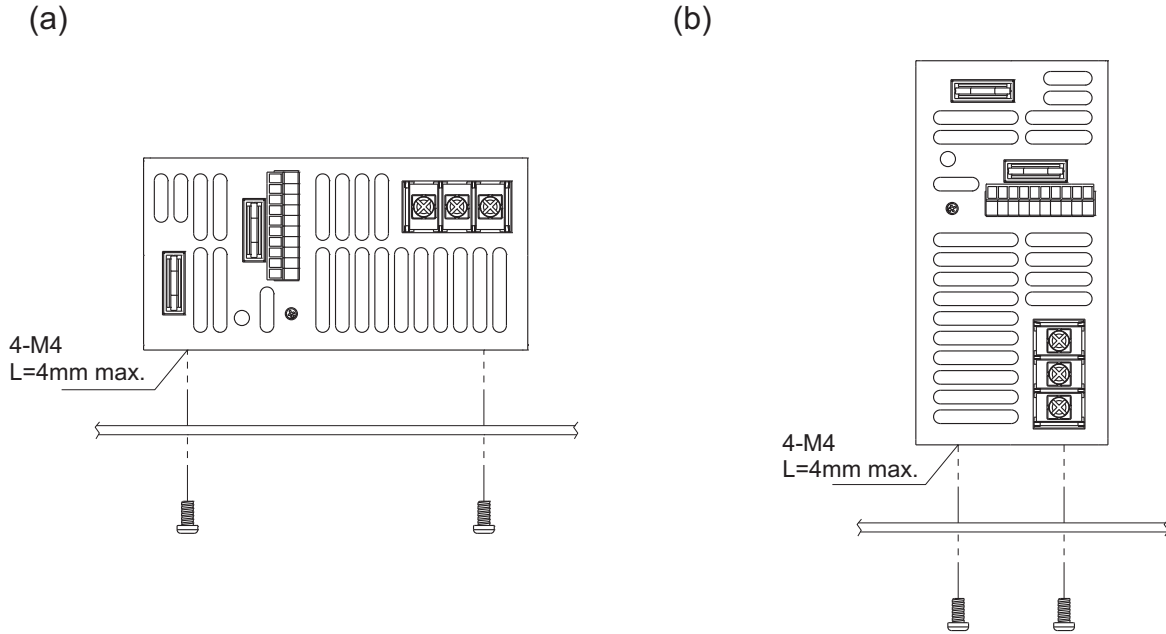
### 6. Current sharing with remote sensing



### 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)

