

Features:

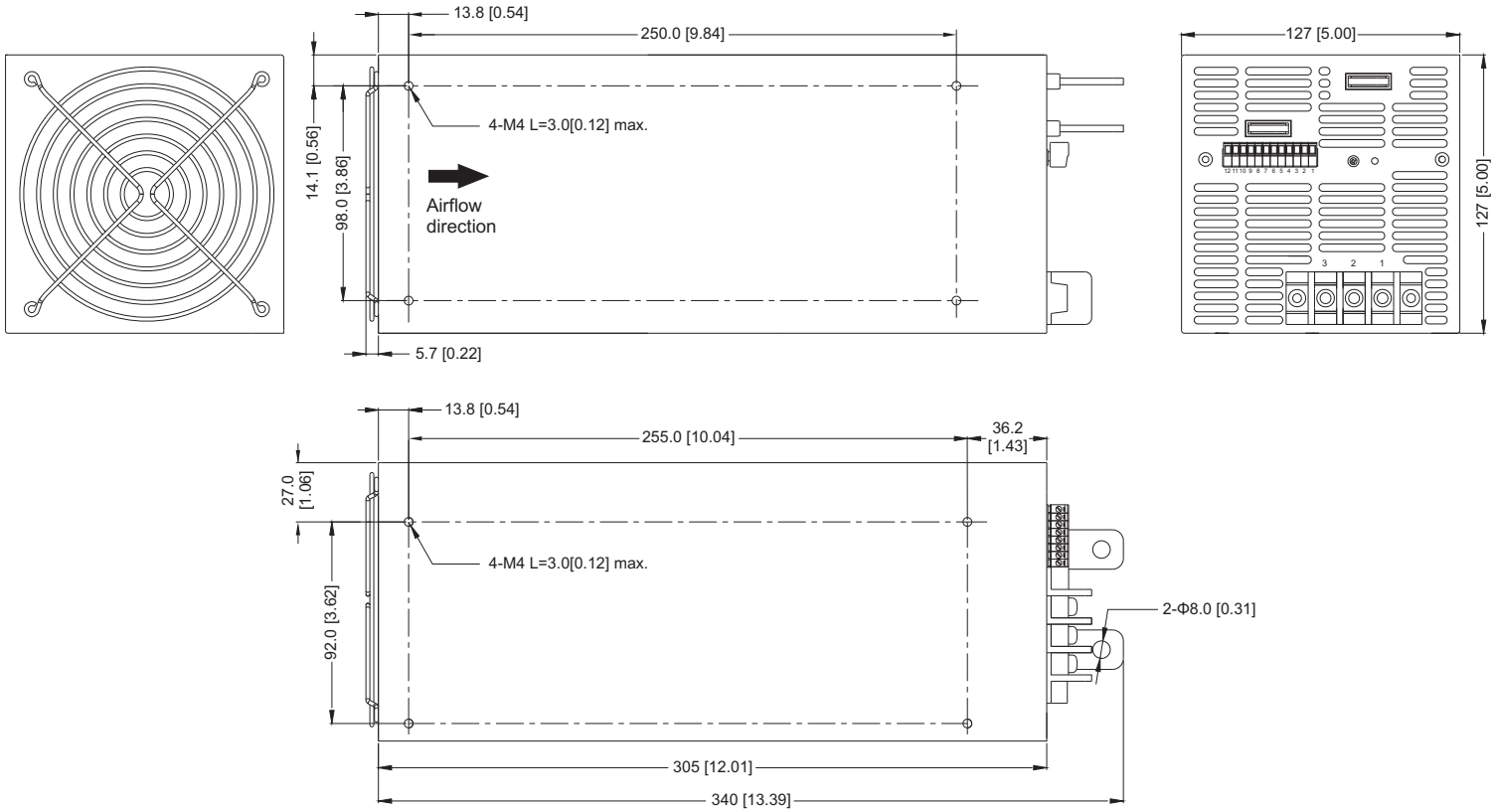
- Universal AC input / Full range
- Programmable output Voltage (30% ~ 105%)
- Programmable output Current (40% ~ 105%)
- +5V / 0.5A auxiliary output
- High power density 10.8w / in³
- Forced current sharing at parallel operation
- Power OK signal
- Remote ON / OFF, Remote sense function
- Protection: 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 | | | | |
| | Parallel (Current Sharing) | Note.5 | Please refer to Function Manual | | | |
| 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) | | | | |
| | Dimension (WxHxD) | 127x127x305 mm / 5.000x5.000x12.01 inch | | | | |
| | Packing | 6.6kg; 4pcs / 27.4kg / 2.1CUFT | | | | |
| Note | <ol style="list-style-type: none"> 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 | ⏏ |

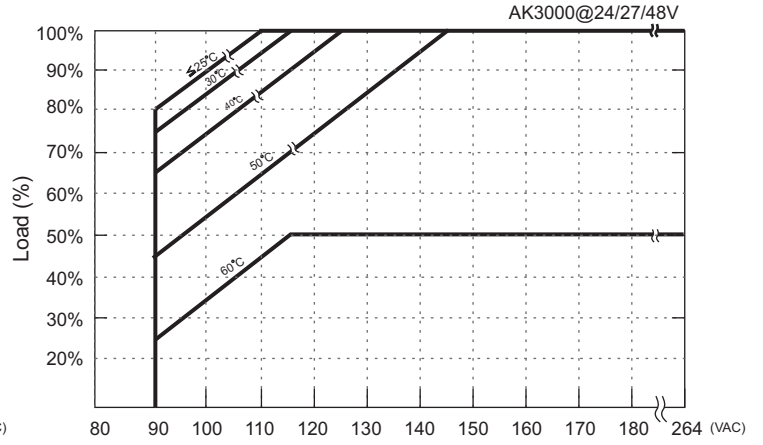
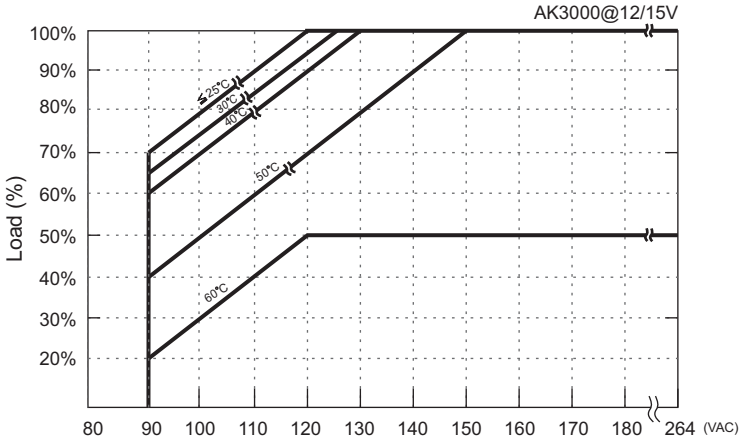
Control pin number assignment

| 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:

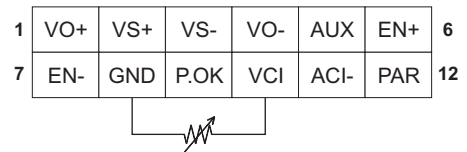
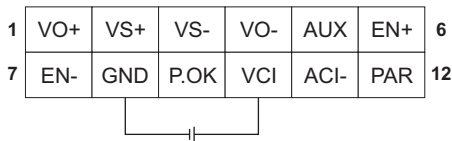
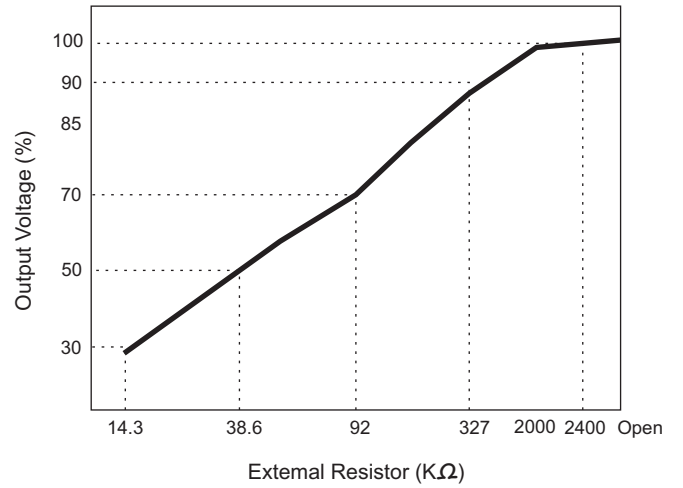
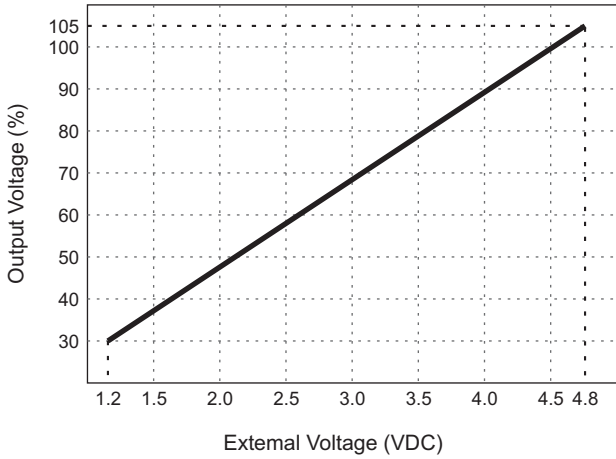
| Pin No. | Function | Description |
|---------|----------|----------------------------------|
| 1 | VO+ | Local output voltage sense (+) |
| 2 | VS+ | Remote voltage sense (+) |
| 3 | VS- | Remote voltage sense (-) |
| 4 | VO- | Local output voltage sense (-) |
| 5 | AUX | +5V / 0.5A Auxiliary power |
| 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:

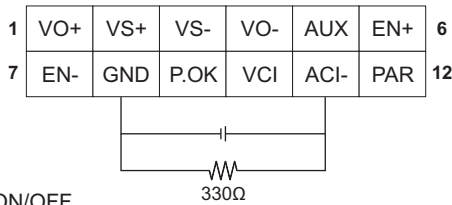
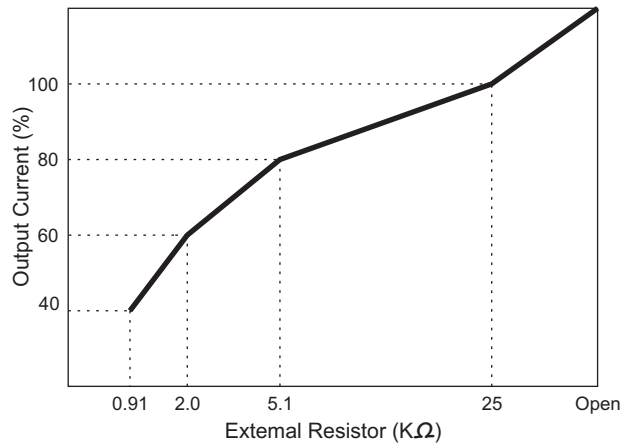
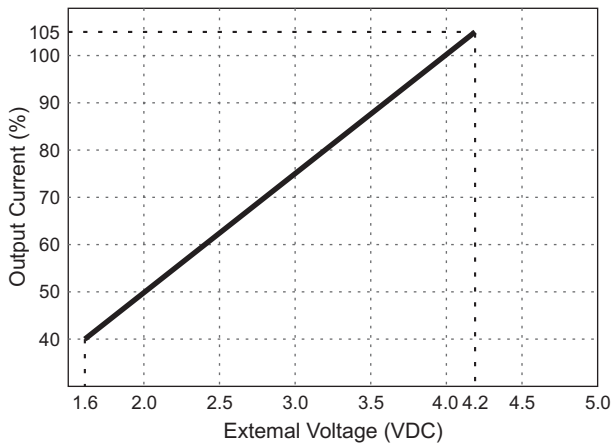


Function Manual:

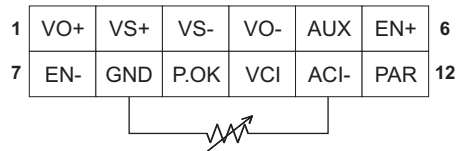
1. Output Voltage Trim



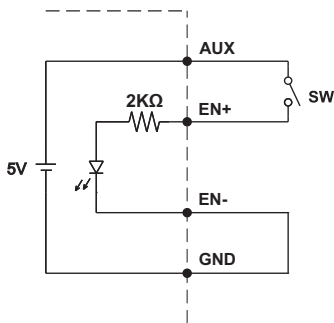
2. Output Current Trim



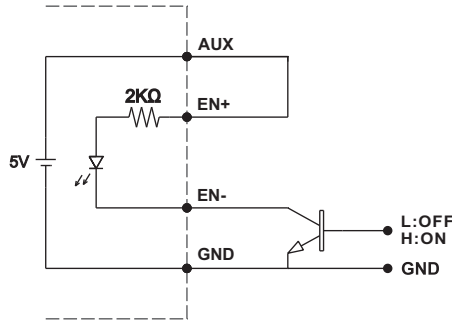
3. Remote ON/OFF



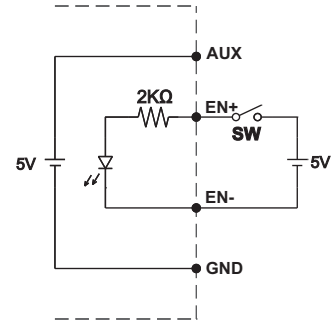
(A)



(B)



(C)

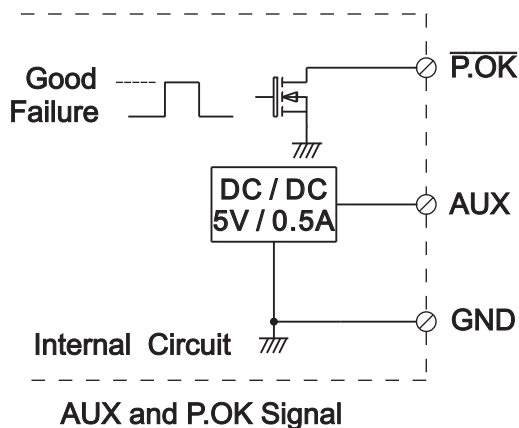


(A) Using internal 5V auxiliary source

(B) ON / OFF Control by NPN transistor

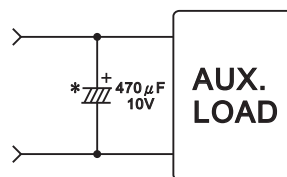
(C) Using external voltage source

4. Power OK Signal



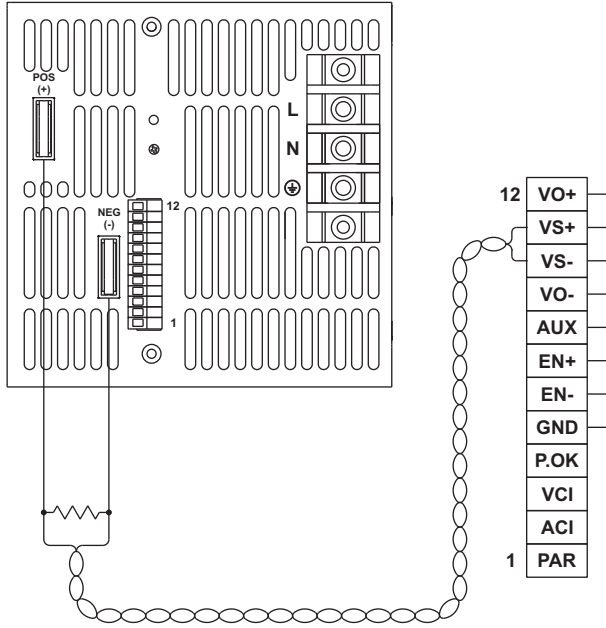
*Place an additional capacitor to have a better performance of auxiliary power operation.

*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.

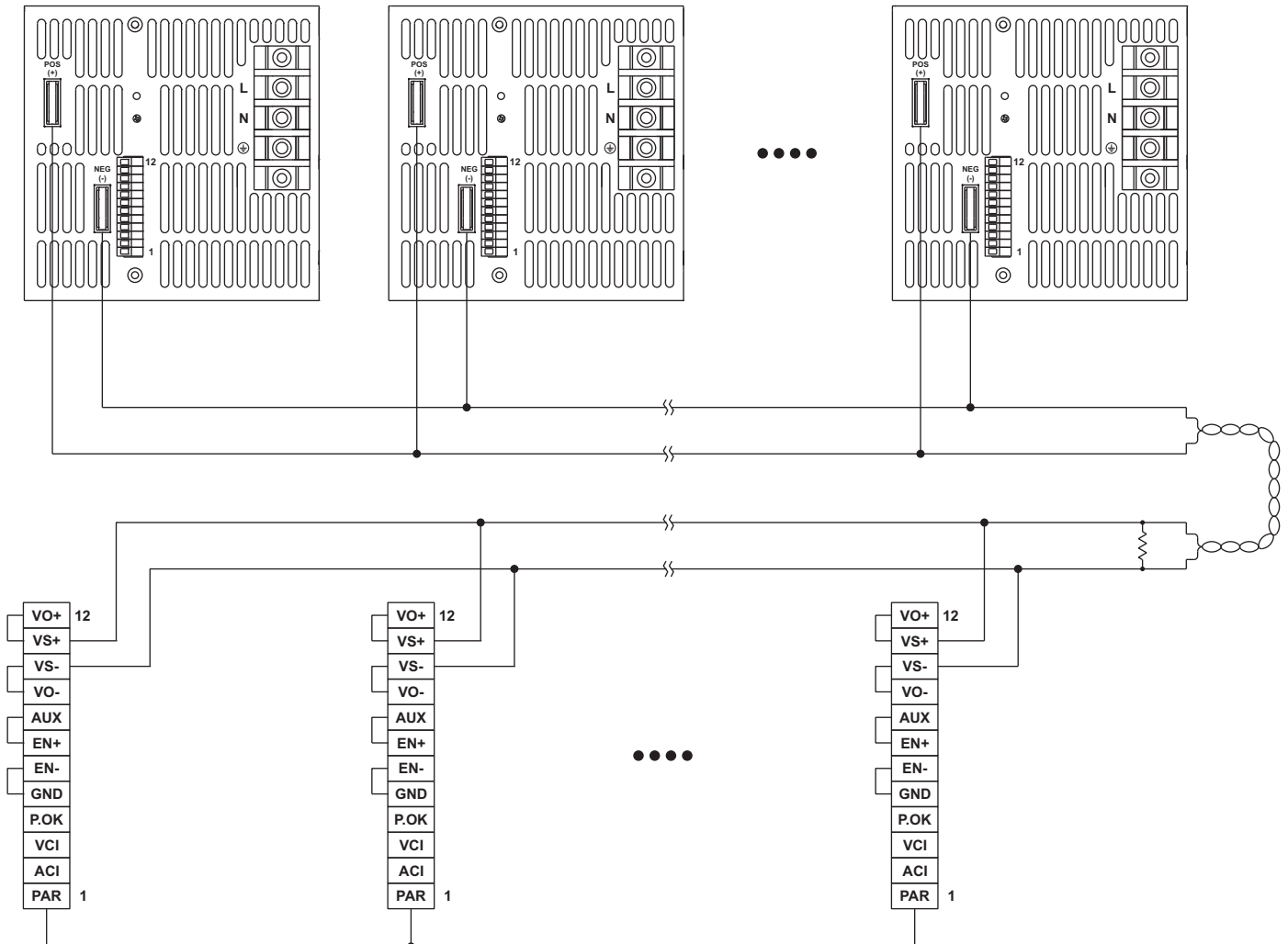


AUX and P.OK Signal

5. Remote sense



6. Current sharing with remote sensing

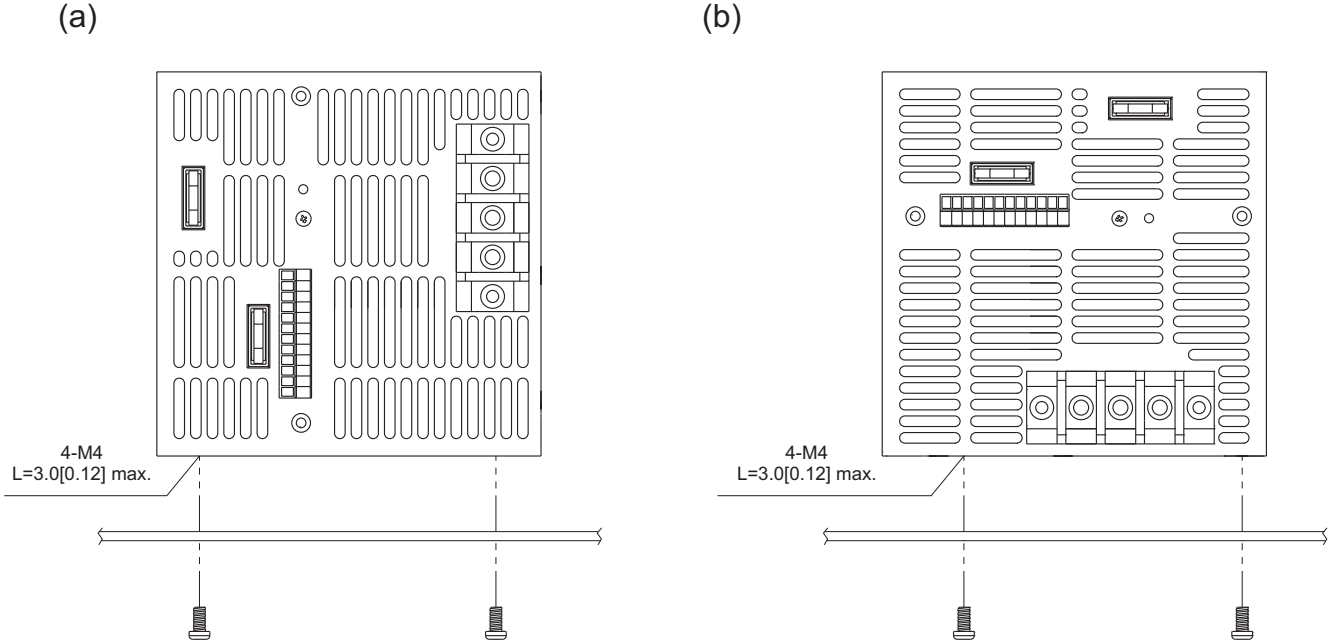


Please connect PAR pins together for current sharing function

Installation Instruction:

1. Mounting Directions

1-1 Recommended standard mounting methods:



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)

