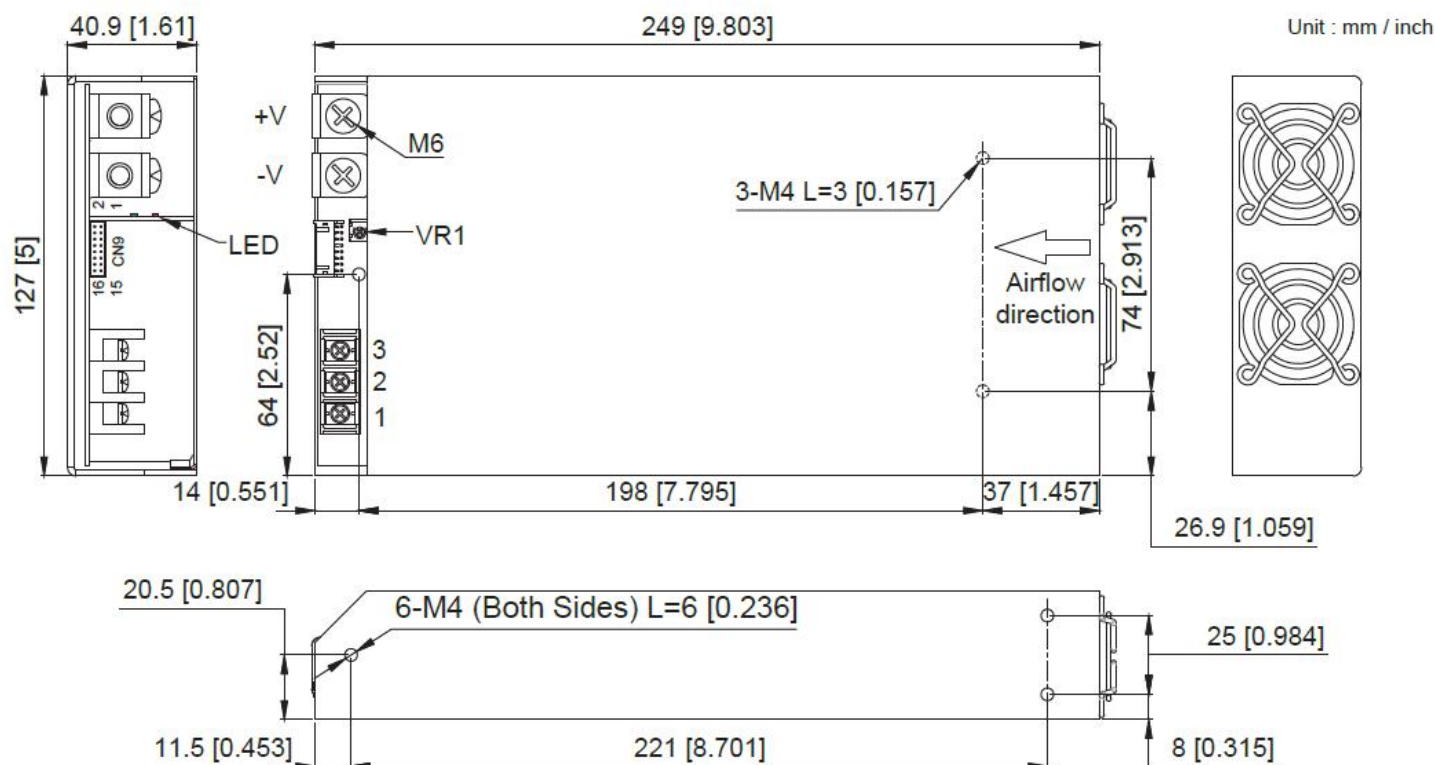


HIGHLIGHTS

- Universal AC input / Full range
- Programmable output Voltage (30% ~ 105%)
- Programmable output Current (40% ~ 105%)
- +5V / 0.5A auxiliary output
- 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



Mechanical Drawings:



AC Input Terminal
Pin No. Assignment

Pin No.	Assignment
1	ACL
2	ACN
3	⏏

Control pin number assignment (CN9) : JST S16B-PHDSS or equivalent

Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment	Mating Housing	Terminal
1	VS+	5	AUX	9	EN-	13	VCI	PHDR-16VS	SPHD-002T-P05
2	VO+	6	AUX	10	GND	14	GND		
3	VS-	7	EN+	11	P.O.K	15	PAR		
4	VO-	8	GND	12	GND	16	ACI		

MODEL	PART NUMBER	OUTPUT	VOLTAGE	ADJ. RANGE (VOLTS)	LOAD REGULATION	RATED CURRENT (A)	RATED POWER (W)	RIPPLE & NOISE (P-P)	EFFICIENCY	MTBF (HRS.)
PL650-05	400353-01-7	V1	5	±5%	±0.5%	100	500	150mV	83%	166,200
PL650-12	400353-02-5	V1	12	±5%	±0.5%	50	600	150mV	88%	166,200
PL650-15	400353-03-3	V1	15	±5%	±0.5%	40	600	150mV	88%	166,200
PL650-24	400353-04-1	V1	24	±5%	±0.5%	27	648	150mV	90%	166,200
PL650-27	400353-05-8	V1	27	±5%	±0.5%	24	648	150mV	90%	166,200
PL650-48	400353-06-6	V1	48	±5%	±0.5%	13.6	652	150mV	91%	166,200

Output	Voltage Tolerance	±1.0%	Note 3
	Setup, Rise Time	800ms, 60ms at full load	
	Hold Up Time	16ms at 230VAC and full load	
Input	Voltage Range	90 ~ 264VAC, 127 ~ 370VDC	Note 4
	Frequency Range	47 ~ 63Hz	
	Power Factor (Typical)	0.98 / 230VAC, 0.99 / 115VAC at full load	
	AC Current (Typical)	7.5A / 100VAC, 3.5A / 230VAC	
	Inrush Current (Typ.)	27A / 115VAC, 54A / 230VAC	
	Leakage Current	< 1.0mA / 240VAC	
Protection	Over Load	105 ~ 125% rated output power. Protection type: Total Power limit, Latch-style (Recovery after reset AC power ON or inhibit)	
	Over Voltage	Variable OVP, 125 ± 10% Vout. Protection type: Latch-style (Recovery after reset AC power ON or inhibit)	
	Over Temperature	By detecting primary and secondary heat sink. Protection type: Shut down o/p voltage (Recovers automatically after temperature goes down)	
Function	Auxiliary Power	5V / 0.5A (±3%)	
	Remote ON / OFF Control	By external switch or NPN transistor.	
	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)	Please refer to page 5	
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	
	T emp. Coefficient	±0.02% / °C (0 ~ 50°C)	
	Vibration	10 ~ 500Hz, 2G 10min. / 1cycle, period for 60min. each along X, Y, Z axes Compliance to IEC 68-2-6, IEC 68-2-64	
Safety & EMC	Safety Standards	Certified UL 60950-1; EN 60950-1	Note 7
	Withstand Voltage	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 61000-6-3	
	Harmonic Current	Certified EN 61000-3-2; EN 61000-3-3	
	EMS Immunity	Certified EN 55024; EN 61204-3; EN 61000-6-1; ENV 50204; IEC 61000-4-2, 3, 4, 5, 6, 8, 11	
Physical Characteristics	Cooling	Load and temperature control fan	Note 6
	Dimension (W x H x D)	127 x 40.9 x 249 mm / 5.00 x 1.61 x 9.80 inch	
	Packing	1.68kg; 9pcs / 16.1kg / 1.86CUFT	

Notes:








1. All parameters NOT specifically mentioned are measured at 230VAC input, rated load and 25°C ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF & 0.47uF parallel capacitor.
3. Voltage tolerance includes setup time tolerance, line regulation and load regulation
4. De-rating may apply in low input voltage. 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 unit of equipment. The equipment itself must also be certified as EMC compliant.
7. Conduct this test without enclosure.



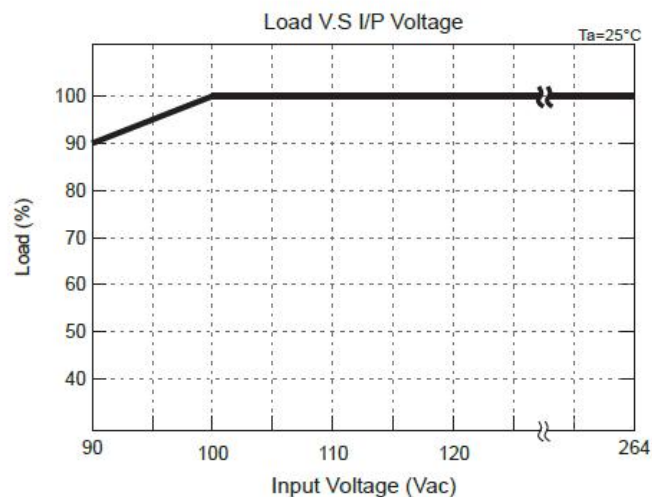
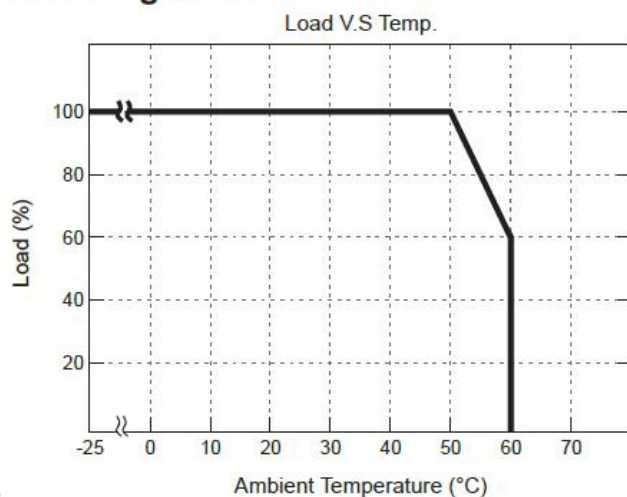
Function Description of CN9:

Pin No.	Function	Description
1	VS+	Remote voltage sense (+)
2	VO+	Local output voltage sense (+)
3	VS-	Remote voltage sense (-)
4	VO-	Local output voltage sense (-)
5,6	AUX	+5V / 0.5A Auxiliary power
7	EN+	Remote ON/OFF (+)
8,10,12,14	GND	Ground
9	EN-	Remote ON/OFF (-)
11	P.OK	Power OK
13	VCI	V Program
15	PAR	Parallel operation current share
16	ACI	I Program

LED Status:

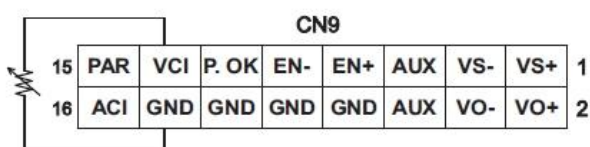
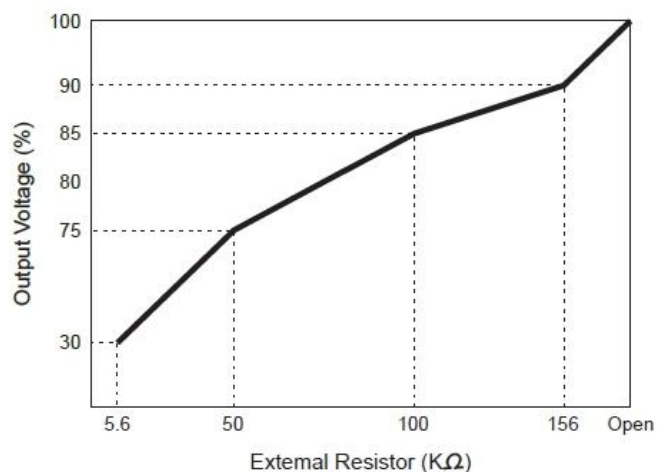
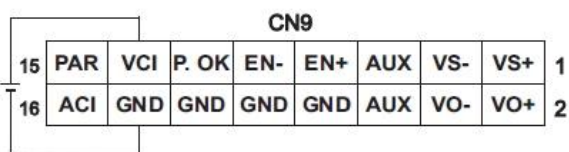
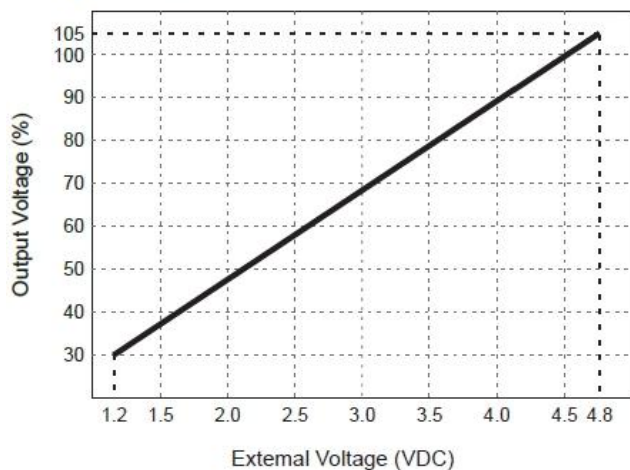
Green LED	LED Signal	Status
Solid		Power OK
Slow Blink		Power Standby
Red LED	LED Signal	Status
Fast Blink		Over Voltage Protection (OVP)
Solid		Over Load Protection (OLP)
		Output Short Circuit Protection (SCP)
		Under Voltage Protection (UVP)
Slow Blink		Over Temperature Protection (OTP)
Intermittent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

De-rating Curve:

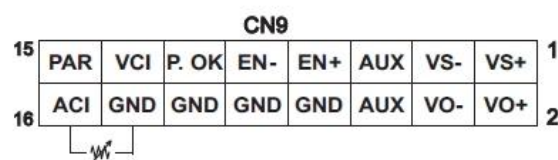
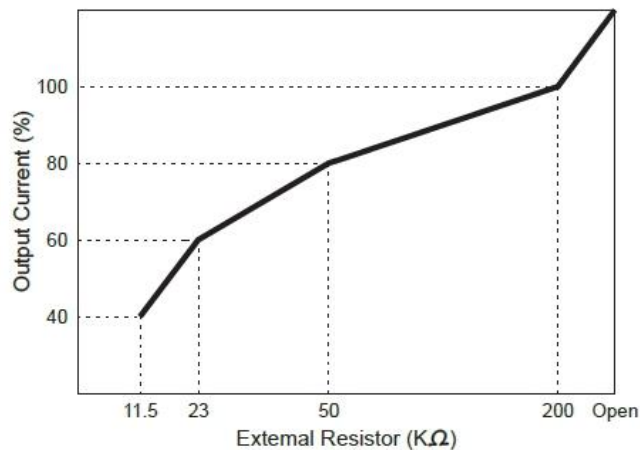
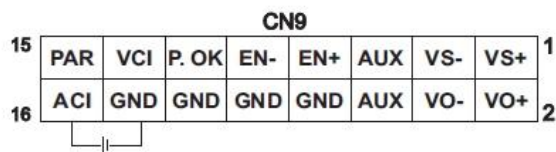
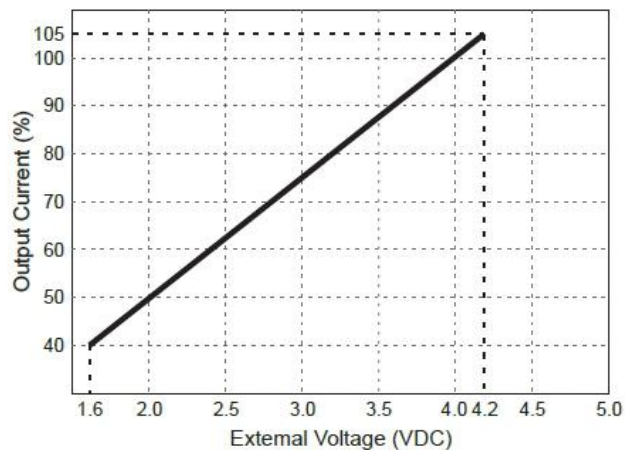


Function Manual:

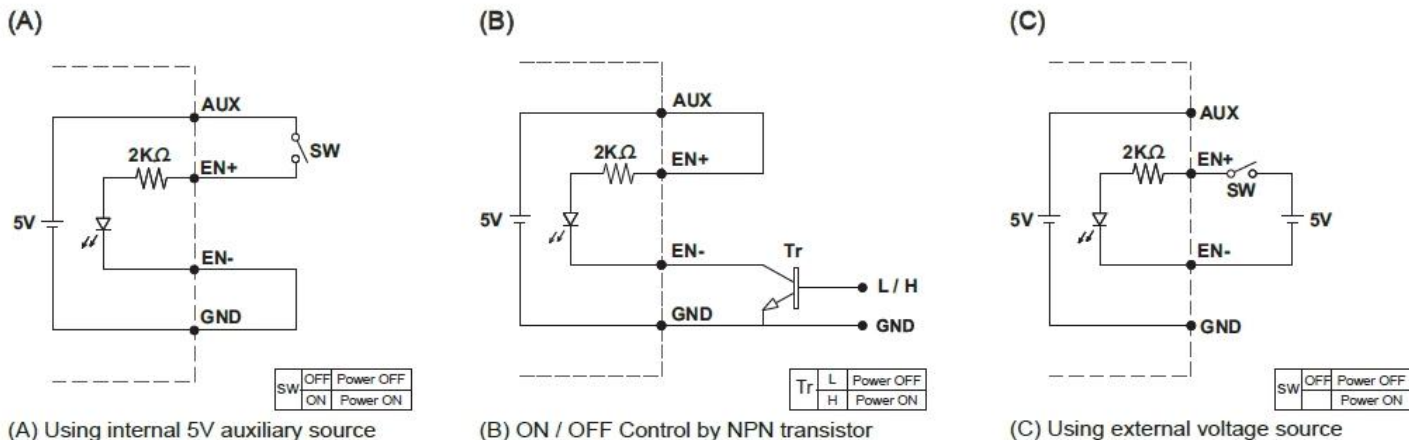
1. Output Voltage Trim



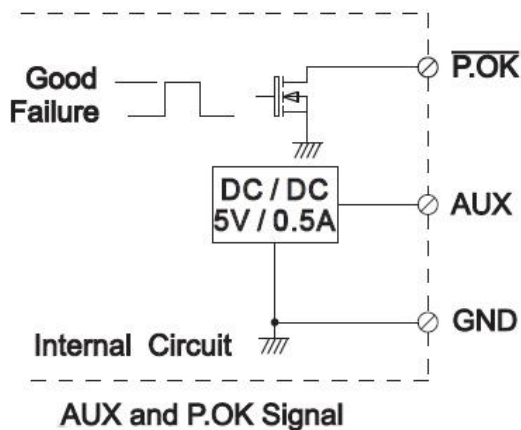
2. Output Current Trim (For Reference Only)



3. Remote ON/OFF

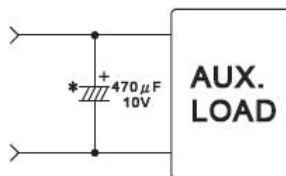


4. Power OK Signal

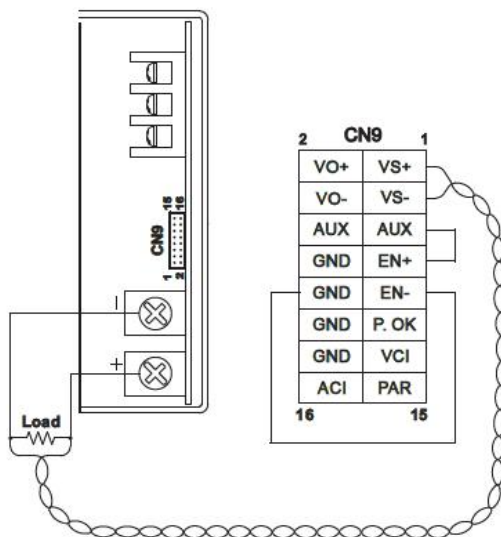


*Place an additional capacitor to have a better performance of auxiliary power operation.

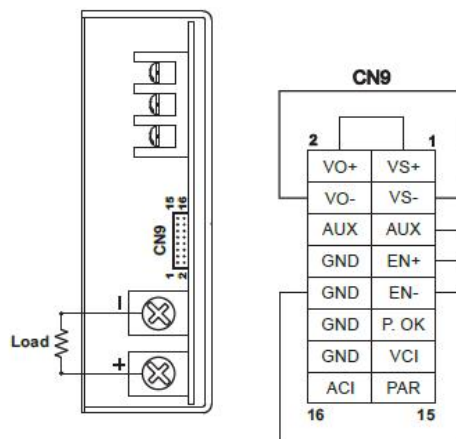
*The grounding of "AUX" power should be connected to "GND" port. If "V-" is connected as Grounding, make sure to short the GND and V- ports.



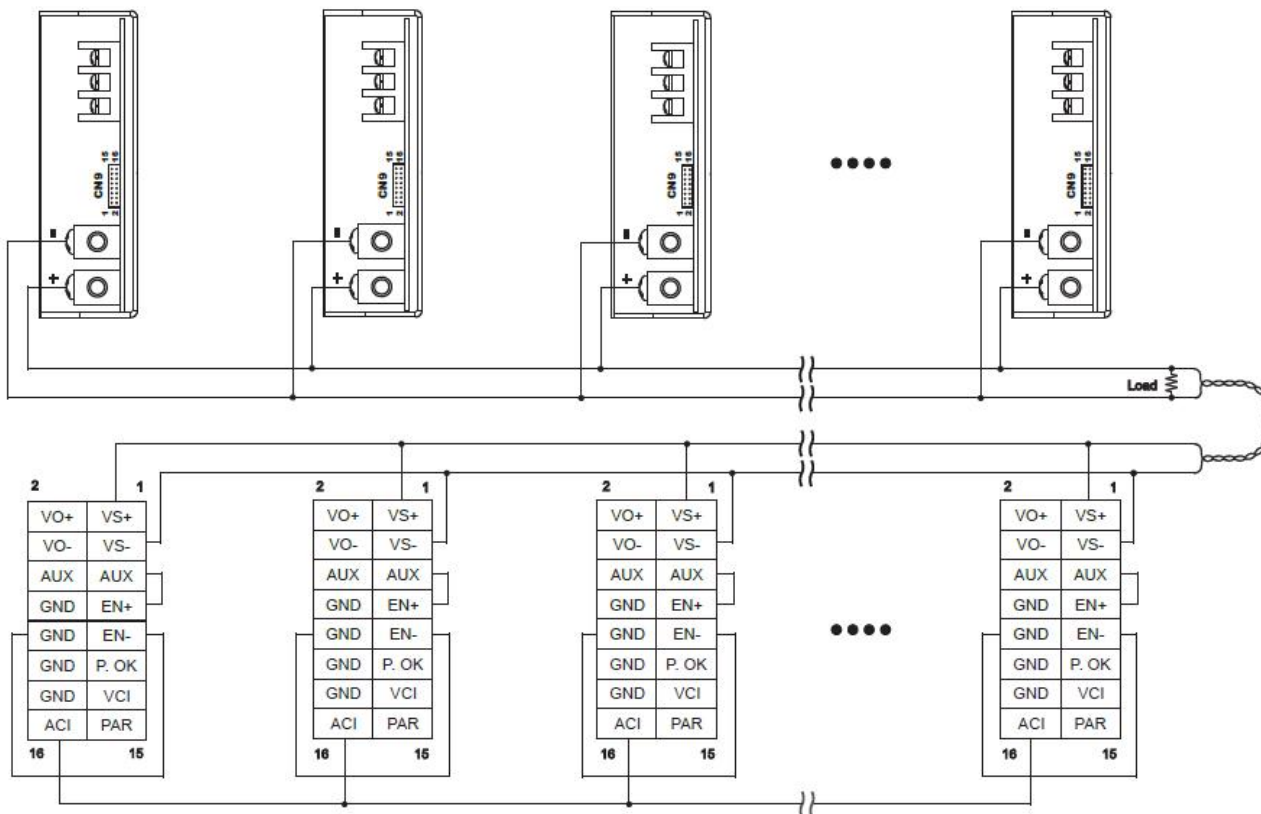
5. Remote Sense



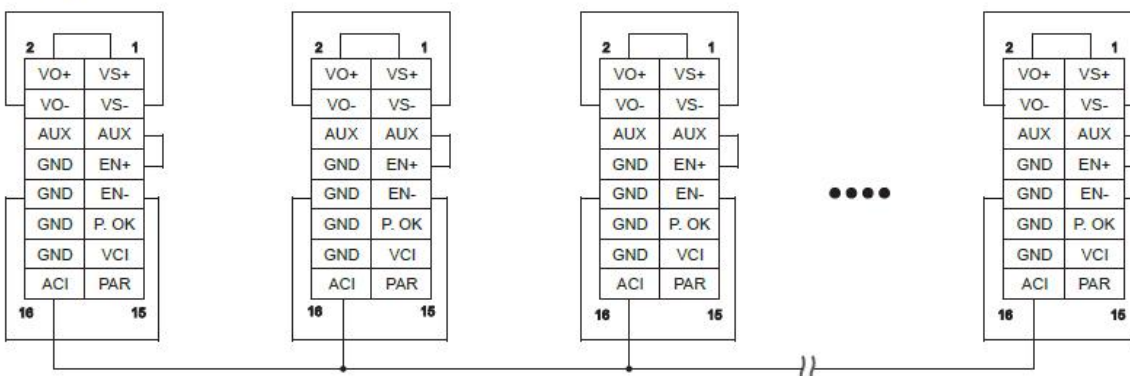
6. Local Sense



7. Current Sharing with Remote Sensing



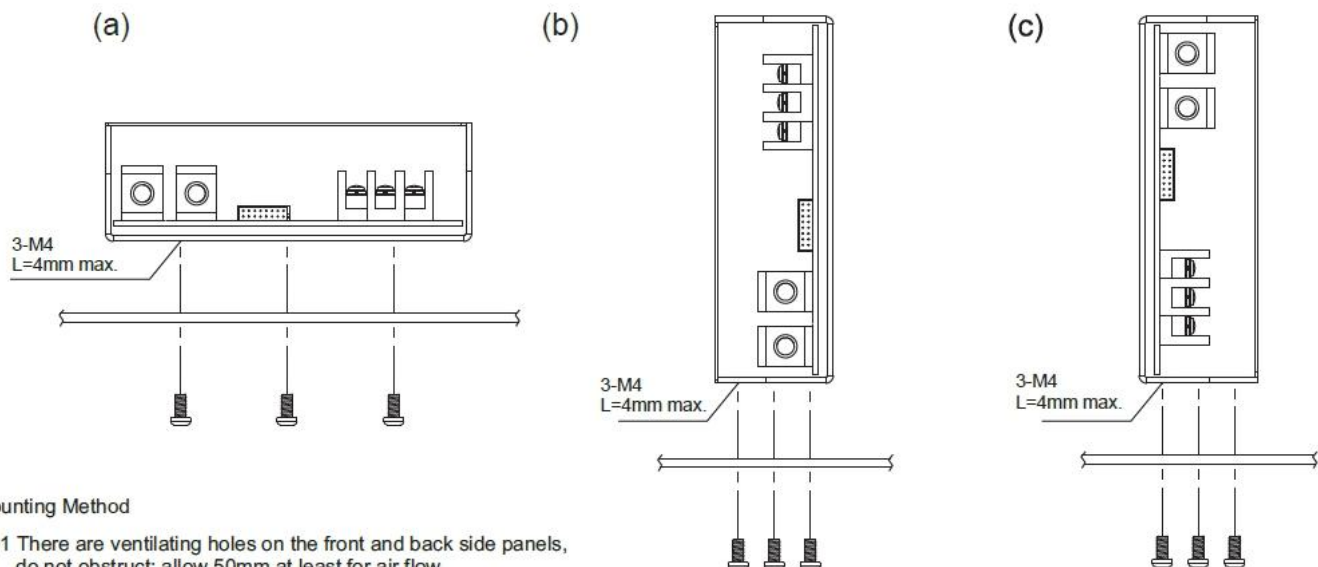
8. Current Sharing with Local Sensing



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)

