

HIGHLIGHTS

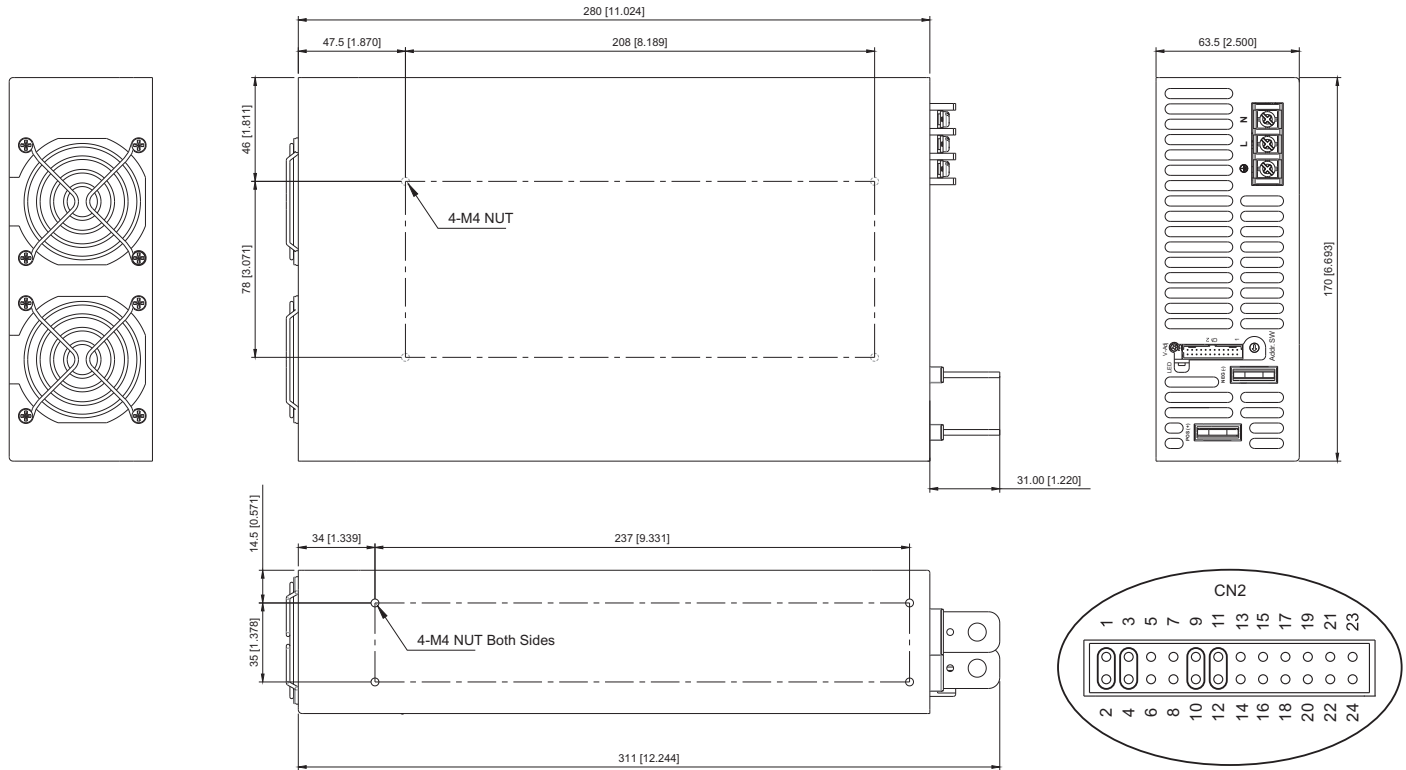
- Universal AC input / Full range
- Programmable output Voltage (0% ~ 105%)
- Programmable output Current (0% ~ 105%)
- High power density 16.3W / inch³
- Forced current sharing at parallel operation
- Constant current limit
- 3 years warranty
- Selectable +5V / 0.5A or +9V / 0.3A auxiliary output
- Global control via RS232
- Remote setting multiple PSU via RS232, RS485, & I²C
- Power OK signal
- Remote ON / OFF, Remote sense function
- Protection: OVP, OLP, OTP, SCP, Fan Failure



MODEL		Note.1	PL3000-12	PL3000-15	PL3000-24	PL3000-30	PL3000-36	PL3000-48	PL3000-60
Output	DC Voltage Range		12V	15V	24V	30V	36V	48V	60V
	Rated Current		200A	160A	125A	100A	83.5A	62.5A	50A
	Current Range		0~200A	0~160A	0~125A	0 ~ 100A	0 ~ 83.5A	0 ~ 62.5A	0 ~ 50A
	Rated Power		2400W	2400W	3000W	3000W	3006W	3000W	3000W
	Ripple & Noise (Max.)	Note.2	150mVp-p	150mVp-p	240mVp-p	300mVp-p	360mVp-p	480mVp-p	600mVp-p
	Voltage Adj. Range		±5.0% Typical adjustment by potentiometer. (VR1)						
	Voltage Tolerance	Note.3	±2.0%						
	Line Regulation		±1.0%						
	Load Regulation		±1.0%						
	Setup, Rise Time		800ms, 50ms at full load						
Input	Hold Up Time (Typ.)		14ms / 230VAC at full load						
	Voltage Range	Note.4	90 ~ 264VAC, 127 ~ 370VDC						
	Frequency Range		47 ~ 63Hz (Refer to de-rating curve)						
	Power Factor (Typ.)		0.95 / 230VAC, 0.98 / 115VAC at full load						
	Efficiency (Typ.)		88%	89%	91%	91%	92%	92%	93%
	AC Current (Typ.)		19.7A / 115VAC (2000W), 14.5A / 230VAC (3000W)						
	Inrush Current (Typ.)		33A / 115VAC, 65A / 230VAC						
Protection	Leakage Current		< 1.0mA / 240VAC						
	Over Load		105% rated output power. Protection type: Constant current limit						
	Over Voltage		Variable OVP, 120 ± 7% Vout. Refer to VCI VS OVP curve.						
Function	Over Temperature		Protection type: Latch-style (Recovery after reset AC power ON or inhibit) 85 ±5°C detect on heat sink of primary & secondary side. Protection type: Auto recovery after temperature goes down						
	Auxiliary Power		Selectable +5V / 0.5A or +9V / 0.3A auxiliary output						
	Remote ON / OFF Control		By external switch						
	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 0 ~ 105% of rated output						
	Output Current Trim		Adjustment of output current is between 0 ~ 105% of rated output						
Environment	Parallel (Current Sharing)	Note.5	Please refer to page 5						
	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, 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		Meet 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)						
	Isolation Resistance		I/P-O/P, I/P-FG, O/P-FG: 100M Ohms / 500VDC						
	EMI Conduction & Radiation		Certified EN 55022; EN 61204-3; EN 61000-6-3						
	Harmonic Current		Certified EN 61000-3-2; EN 61000-3-3						
	EMS Immunity	Note.6	Certified EN 55024; EN 61204-3; EN 61000-6-1; IEC 61000-4-2, 3, 4, 5, 6, 8, 11						
Others	Cooling		Load and temperature control fan						
	Dimension (WxHxD)		170x63.5x280 mm / 6.69x2.50x11.02 inch						
	Packing		3.8kg; 4pcs / 16.2kg						

Notes: 1. All parameters NOT especially 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 & 0.47uF parallel capacitor.
3. 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. Conduct this test without enclosure.
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. In parallel connection, only one unit will operate if the total output load is less than 5% of the rated load condition.

Mechanical Drawings:



AC Input Terminal Pin No. Assignment

Pin No.	Assignment
1	ACL
2	ACN
3	⏏

Control pin number assignment (CN2): JST S24B-PHDSS or equivalent

Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment	Mating Housing / Contact	
1	VS+	9	EN-	17	AUX	JST PHDR-24VS or equivalent	JST SPHD-002T-P0.5 or equivalent
2	VO+	10	GND	18	GND		
3	VS-	11	EN+	19	SCL		
4	VO-	12	AUX	20	SDA		
5	POK	13	ACI	21	AUX		
6	GND	14	GND	22	GND		
7	PAR	15	VCI	23	NC.		
8	VSET	16	GND	24	NC.		

CN2 Function Description:

Pin No.	Function	Description	Pin No.	Function	Description	Mating Housing / Contact	
1	VS+	Remote sense (+)	13	ACI	I Program	JST PHDR-24VS or equivalent	JST SPHD-002T-P0.5 or equivalent
2	VO+	Positive output voltage	14	GND	Ground		
3	VS-	Remote sense (-)	15	VCI	V Program		
4	VO-	Negative output voltage	16	GND	Ground		
5	POK	Power OK	17	AUX	+5V / 0.5A or +9V / 0.3A Auxiliary power		
6	GND	Ground	18	GND	Ground		
7	PAR	Parallel operation current share	19	SCL	Serial Clock used in the I ² C interface		
8	VSET	Aux output setting	20	SDA	Serial Data used in the I ² C interface		
9	EN-	Inhibit ON/OFF (-)	21	AUX	+5V / 0.5A or +9V / 0.3A Auxiliary power		
10	GND	Ground	22	GND	Ground		
11	EN+	Inhibit ON/OFF (+)	23	NC.	For RS232 Receiver function		
12	AUX	+5V / 0.5A or +9V / 0.3A Auxiliary power	24	NC.	For RS232 Transmission function		

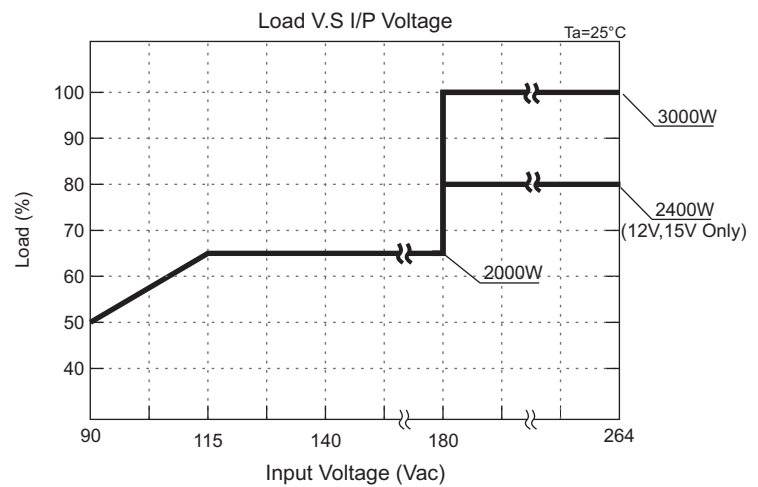
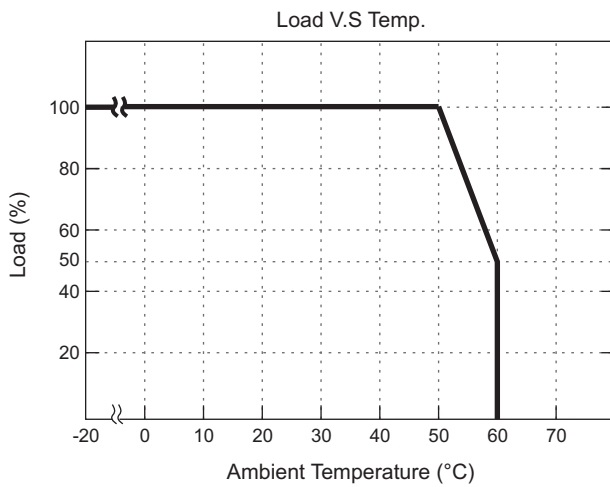
LED Status:

LED	LED Signal	Status
Solid(Green)		Power OK (Local mode)
Solid(Orange)		Power OK (Remote mode)
Slow Blink(Green)		Power Standby
Fast Blink(Red)		Over Voltage Protection (OVP)
Solid(Red)		Over Load Protection (OLP)
Slow Blink(Red)		Over Temperature Protection (OTP)
Intermittent Blink(Red)		Fan Failure
Interlace Blink(Red)		Power Failure

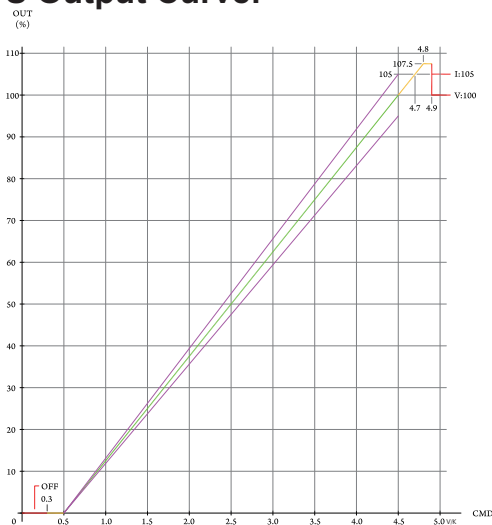
*Local mode : Use ACI/VCI control output current and voltage.

Remote mode : Use RS-232 or I²C command control output current and voltage.

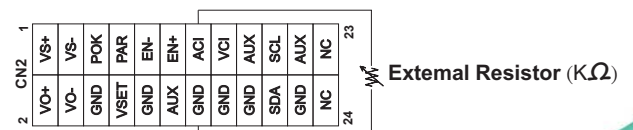
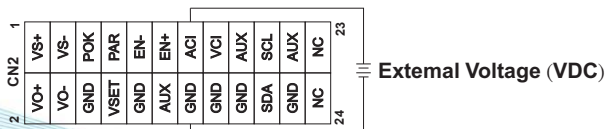
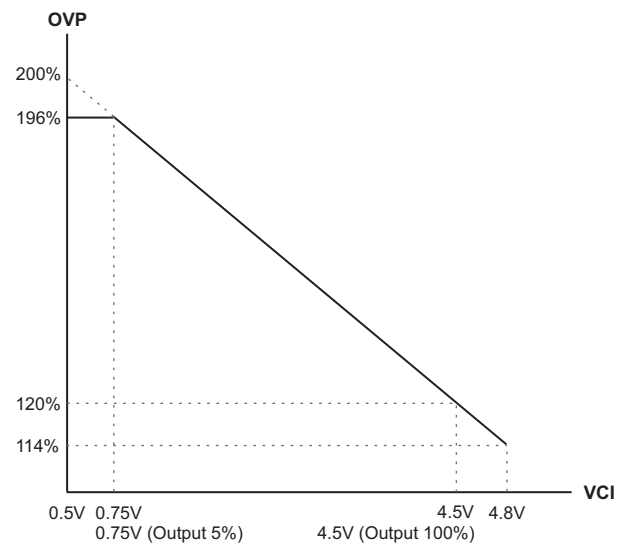
De-rating Curve:

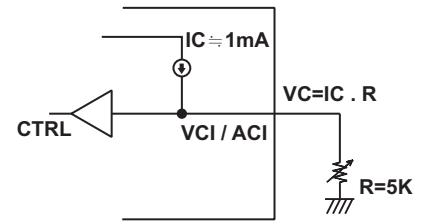
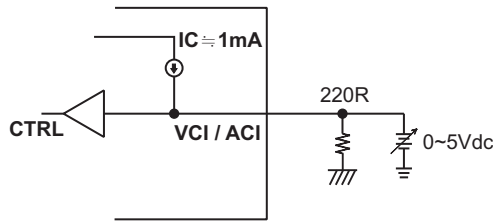
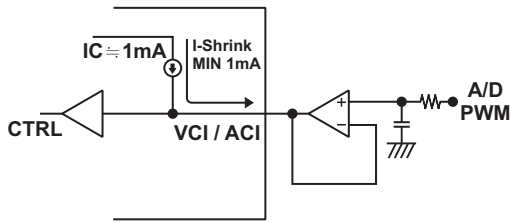


CMD VS Output Curve:



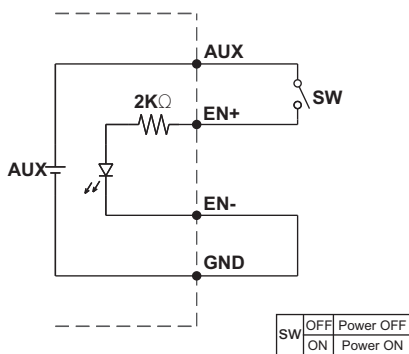
VCI VS OVP Curve:





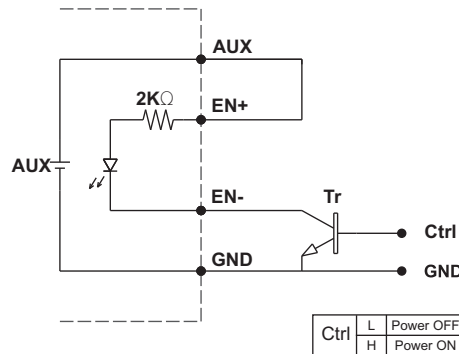
Remote ON/OFF:

(A) Default Setting



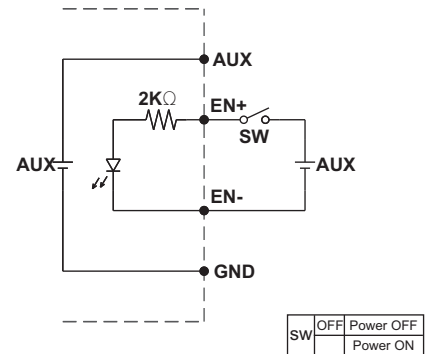
(A) Using internal 5V auxiliary source

(B)



(B) ON / OFF Control by NPN transistor

(C)



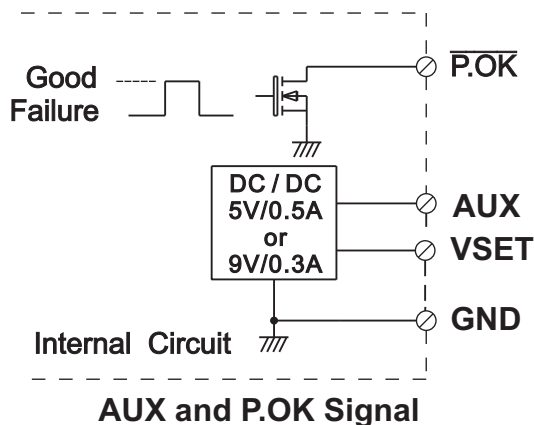
(C) Using external voltage source

GND shown in above diagram is referring to the GND of CN2, not the Grounding from main power (NEG-).

Power OK Signal & Auxiliary Power Setting:

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

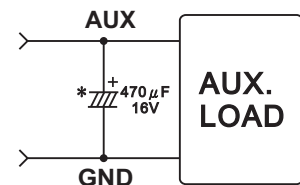
Open drain signal low when PSU turns on, Max.
P.OK sink current: 20mA, Max. drain voltage: 40V.



AUX and P.OK Signal

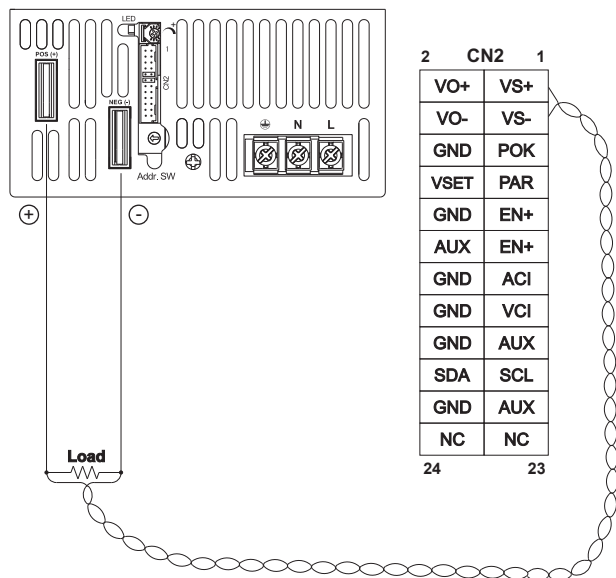
GND shown in above diagram is referring to the GND of CN2, not the Grounding from main power(NEG-).

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

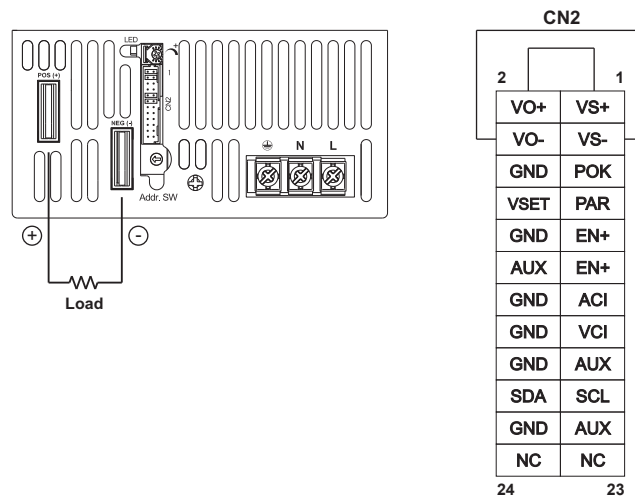


Do NOT exceed 5V/0.5A or 9V/0.3A

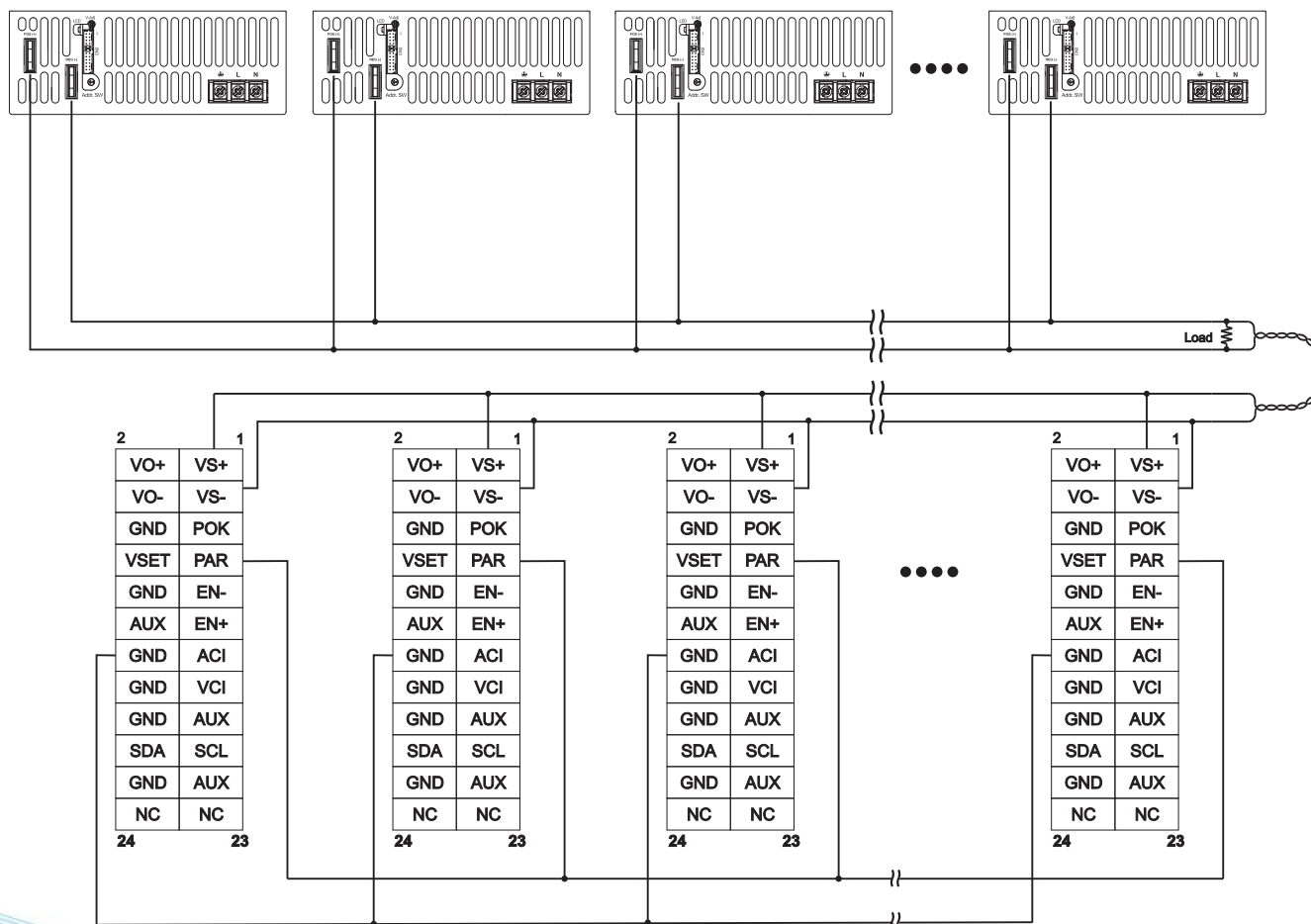
1. Remote Sense



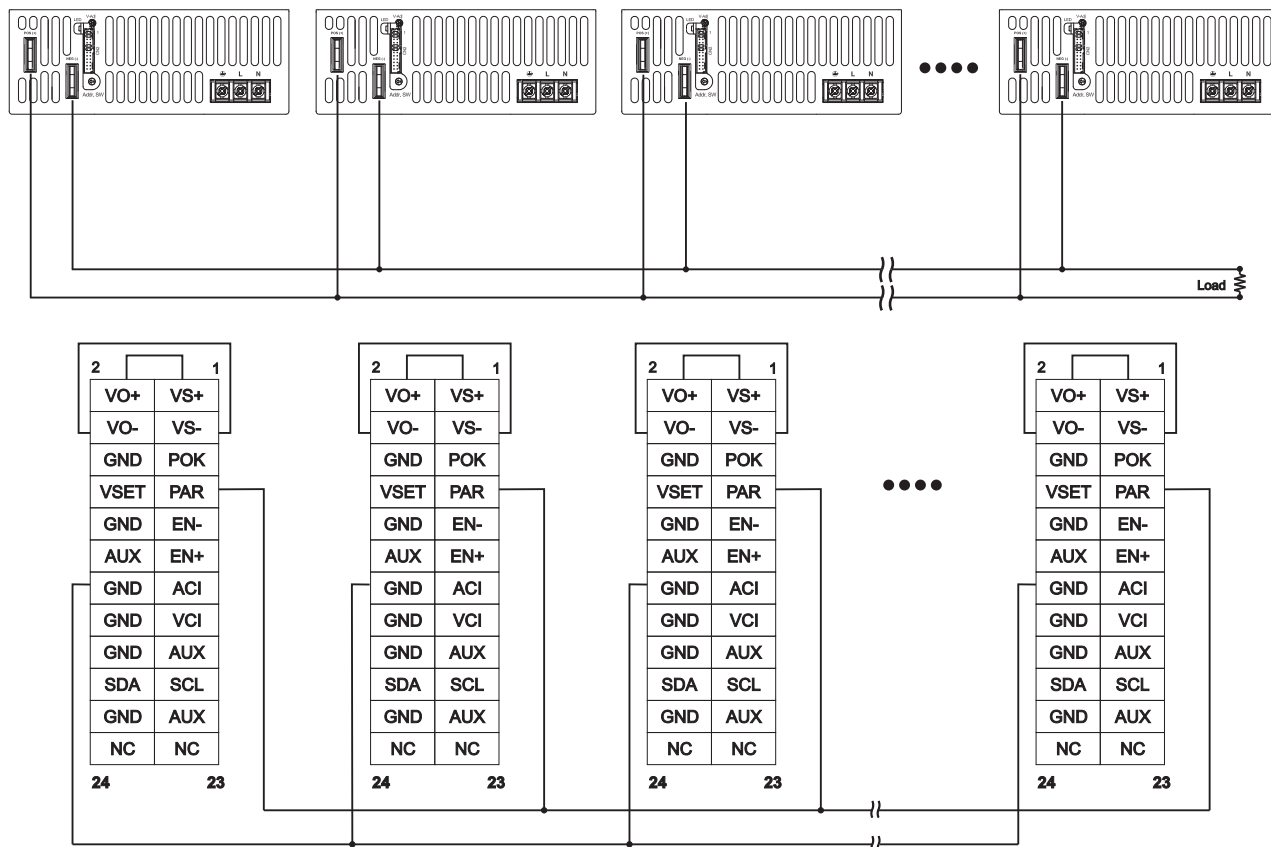
2. Local Sense (Default setting)



3. Current Sharing with Remote Sensing



4. Current Sharing with Local Sensing

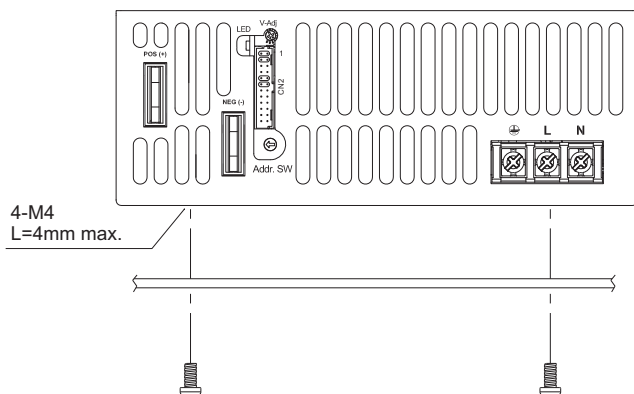


Installation Instruction:

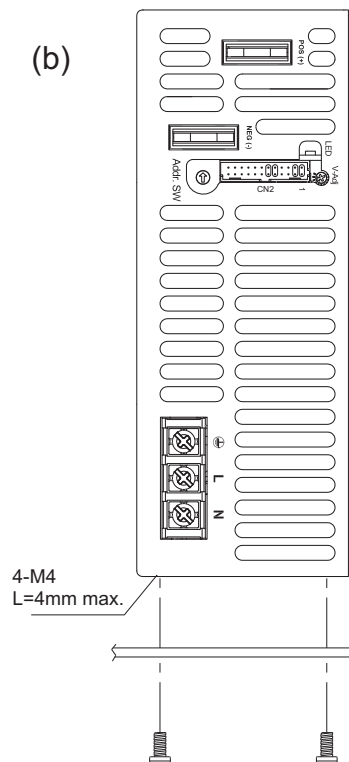
1. Mounting Directio

1-1 Recommended standard mounting methods:

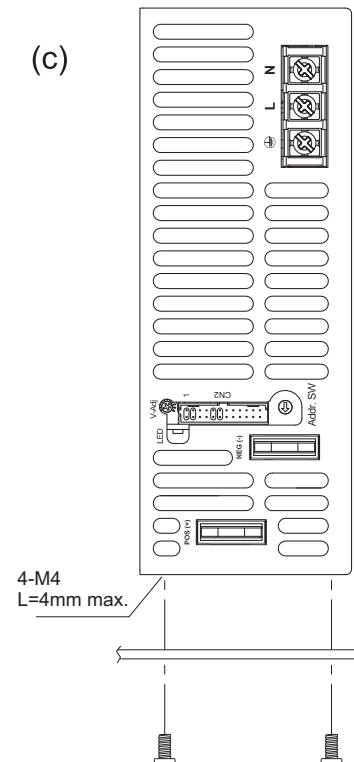
(a)



(b)



(c)



2. Mounting Meth

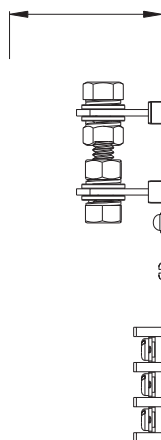
2-1 There are ventilating holes on the front and back side panels, do not obstruct; allow 50mm at least for air flow.

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: $1.27\text{N} \cdot \text{m}$ (13.0kgf $\cdot$ cm)

More than 50mm



Air flow



More than 50mm

