



Size:
9.80 x 5.00 x 1.61 inches
(249.0 x 127.0 x 41.0 mm)



FEATURES

- RoHS Compliant
- Active PFC > 0.95 at 230VAC
- Up to 804 Watts Output Power
- High Efficiency up to 93%
- 4242VDC I/O Isolation
- Constant Current Limiting
- Intelligent LED Indicators
- Optional RS232 Function
- Built-in I²C Serial Data Bus
- 1U Profile, High Power Density
- Protection: OLP, OVP, OTP, Fan Failure
- Programmable Output Voltage (0~105%)
- Programmable Output Current (0~105%)
- Power OK Signal (Power Good, Logic Low)
- Remote ON/OFF, Remote Sense Functions
- Universal Input Voltage Range: 90-264VAC
- Single Outputs Ranging from 12~60VDC
- +5V/0.5A or +8V/0.3A Auxiliary Output
 Selectable by User
- Forced Current Sharing at Parallel Operation
- UL 60950-1, 2nd edition, TUV EN60950-1:
 2006+A11 Approvals

DESCRIPTION

The PSAE800 series of AC/DC switching power supplies provides up to 804 Watts of output power in a 9.80" x 5.00" x 1.61" enclosed case. This series consists of single output models ranging from 12~60VDC with an input voltage range of 90~264VAC. Standard features include high efficiency up to 93%, active PFC, programmable output voltage and output current, remote on/off, remote sense, power OK signal, and internal ball bearing fan. This series also has over voltage, over load, and over temperature protection. All models are RoHS compliant and have UL 60950-1, 2nd edition and TUV EN60950-1: 2006+A11 safety approvals.

MODEL SELECTION TABLE

Model Number	Input Voltage	Output Voltage	Output Current	Output Power	Ripple & Noise ⁽¹⁾	Efficiency
PSAE-800-12	90~264 VAC	12 VDC	66.7A	800W	120mVp-p	89%
PSAE-800-15		15 VDC	53.4A	801W	150mVp-p	90%
PSAE-800-24		24 VDC	33.5A	804W	240mVp-p	92%
PSAE-800-30		30 VDC	26.7A	801W	300mVp-p	92%
PSAE-800-36		36 VDC	22.3A	802.8W	360mVp-p	92%
PSAE-800-48		48 VDC	16.7A	801.6W	480mVp-p	92%
PSAE-800-60		60 VDC	13.4A	804W	600mVp-p	93%

NOTES

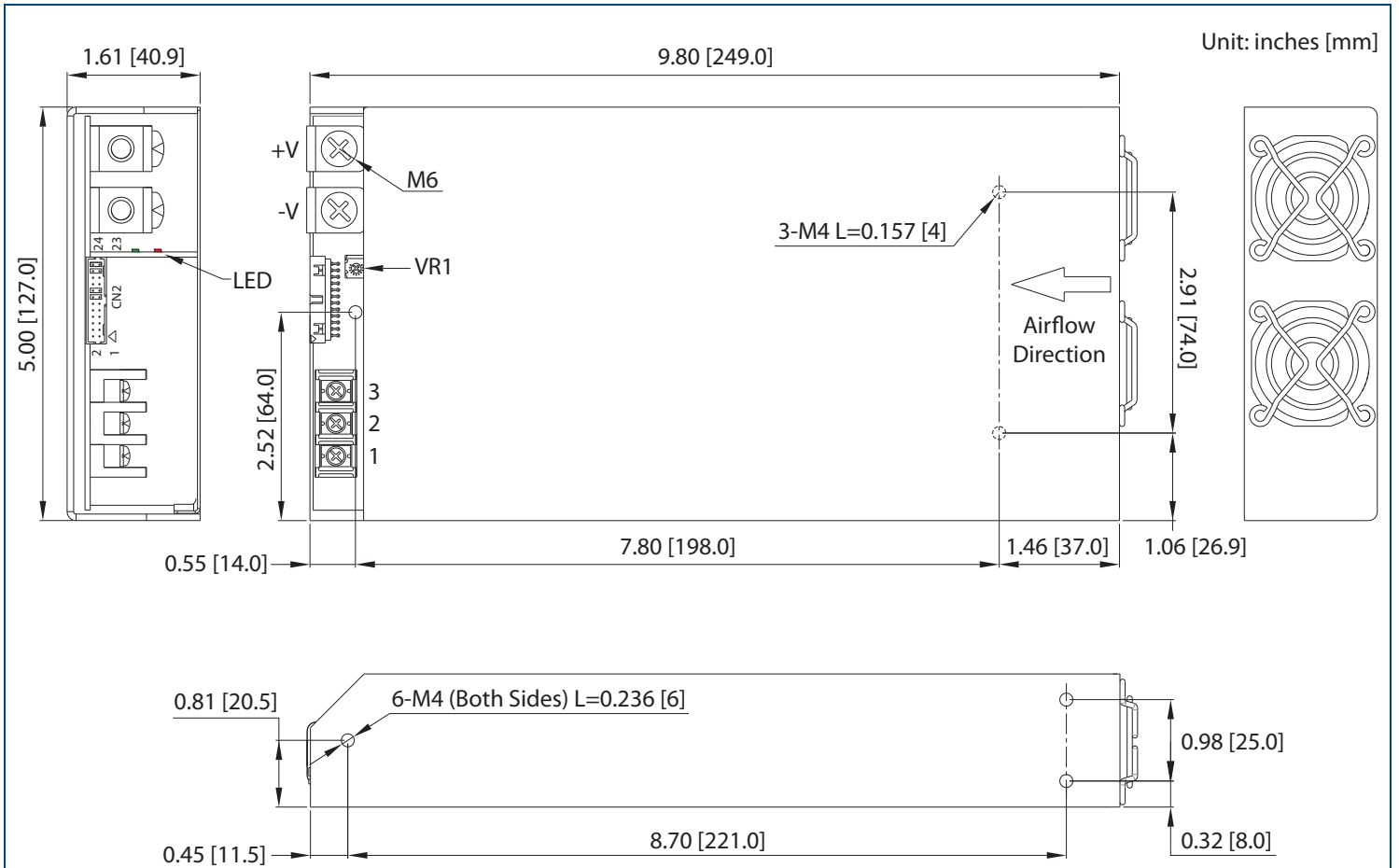
1. Ripple & noise is measured at 20MHz limited bandwidth and using a 12" twisted pair-wire terminated with a 0.1µF & 47µF capacitors in parallel.
2. For voltages near the low end of the input voltage range, see the derating curve for the power supply output rating.
3. When in parallel operation only one unit might operate if the total output load is less than 5% of the rated load condition.
4. The power supply is considered a component which will be installed into final equipment. The final equipment must be re-confirmed that it still meets EMC directives.

SPECIFICATIONS: PSAE800 SERIES

All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted.
 We reserve the right to change specifications based on technological advances.

SPECIFICATION	TEST CONDITIONS	Min	Typ	Max	Unit
INPUT SPECIFICATIONS					
Input Voltage	See Note 2	90		264	VAC
Input Frequency		47		63	Hz
AC Current	At 100VAC and full load		9.3		A
	At 230VAC and full load		4.7		
Inrush Current	At 115VAC and cold start		30		A
	At 230VAC and cold start		60		
Power Factor	At 115VAC and full load		0.98		
	At 230VAC and full load		0.95		
OUTPUT SPECIFICATIONS					
Output Voltage		See Table			
Voltage Tolerance	Includes set-up tolerance, line regulation, and load regulation	-2.0		+2.0	%
Voltage Adjustability	Typical adjustment by potentiometer (VR1)	-5.0		+5.0	%
Line Regulation	Low Line to High Line	-1.0		+1.0	%
Load Regulation	0% to 100% full load	-1.0		+1.0	%
Output Power		See Table			
Output Current		See Table			
Ripple & Noise (20MHz BW)	Measured with 0.1µF and 47µF capacitors in parallel	See Table			
Hold-up Time	At 230VAC and full load		14		ms
Setup Time	full load		800		ms
Rise Time	full load		100		ms
Temperature Coefficient	0~50°C	-0.02		+0.02	%/°C
PROTECTION					
Over Voltage Protection (see page 4)	Protection type: latch-style. Recovery after reset AC power ON or inhibit	Variable OVP, 120%±7% Vout			
Over Load Protection	Protection type: constant current limiting	105% rated output power			
Over Temperature Protection	Protection type: shutdown output voltage (auto-recovery after temp. goes down)	85°C±5°C detect on heatsink of sec. side			
GENERAL SPECIFICATIONS					
Efficiency		See Table			
Isolation Voltage	Input to Output	4242VDC (3000VAC)			
	Input to FG	2121VDC (1500VAC)			
	Output to FG	707VDC (500VAC)			
Isolation Resistance	Input to output, input to FG, output to FG; 500VDC	100			MΩ
Leakage Current	At 240VAC			1	mA
FUNCTIONS					
Auxiliary Power		+5V/0.5A or +8V/0.3A auxiliary output selectable by user			
Remote ON/OFF Control		External switch or NPN transistor to turn ON/OFF			
Power OK Signal		Open drain signal low when PSU turns on; sink current: 20mA max.; drain voltage: 40V max.			
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			
Parallel Operation (Current Sharing)		See page 6			
ENVIRONMENTAL SPECIFICATIONS					
Operating Temperature	With derating (see derating curve)	-20		+60	°C
Storage Temperature		-40		+85	°C
Operating Humidity	Non-condensing	20		90	% RH
Storage Humidity		10		95	% RH
Cooling		Controlled by power rating and temperature (internal ball bearing fan)			
Vibration		10~500Hz, 2G 10 min./1 cycle, period for 60 min. each along X, Y, Z axes. Compliance to IEC 68-2-6, IEC 68-2-64			
PHYSICAL SPECIFICATIONS					
Weight		3.75 lbs (1700g)			
Dimensions (W x H x D)		9.80 x 5.00 x 1.61 inches (249.0 x 127.0 x 41.0 mm)			
SAFETY & EMC (See Note 4)					
Safety Approvals		UL 60950-1, 2nd edition, TUV EN60950-1: 2006+A11			
EMI (Conduction & Radiation)		EN55022: 2006+A1:2007 Class B, EN61204-3:2000, EN61000-6-3: 2007			
Harmonic Current		EN61000-3-2: 2006+A2: 2009 Class A, EN61000-3-3: 2008			
EMS Immunity		EN55024: 1998+A1: 2001+A2: 2003 light industry level, criteria A, EN61204-3: 2000, EN61000-6-1: 2007			

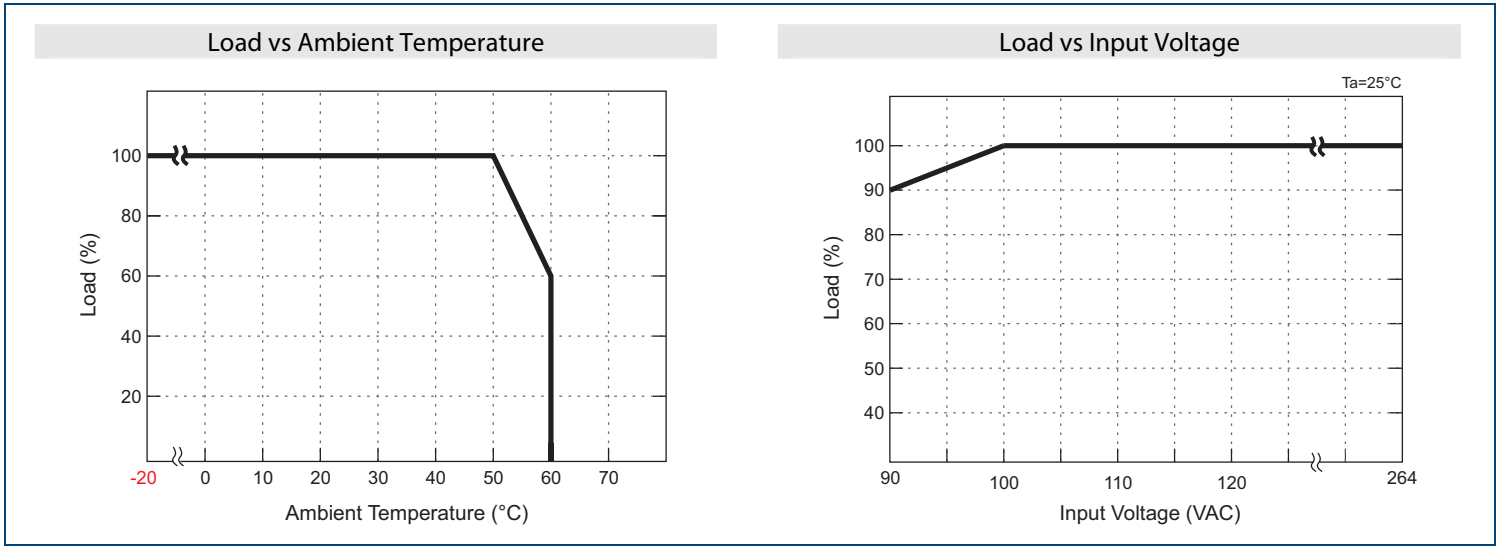
MECHANICAL DRAWING



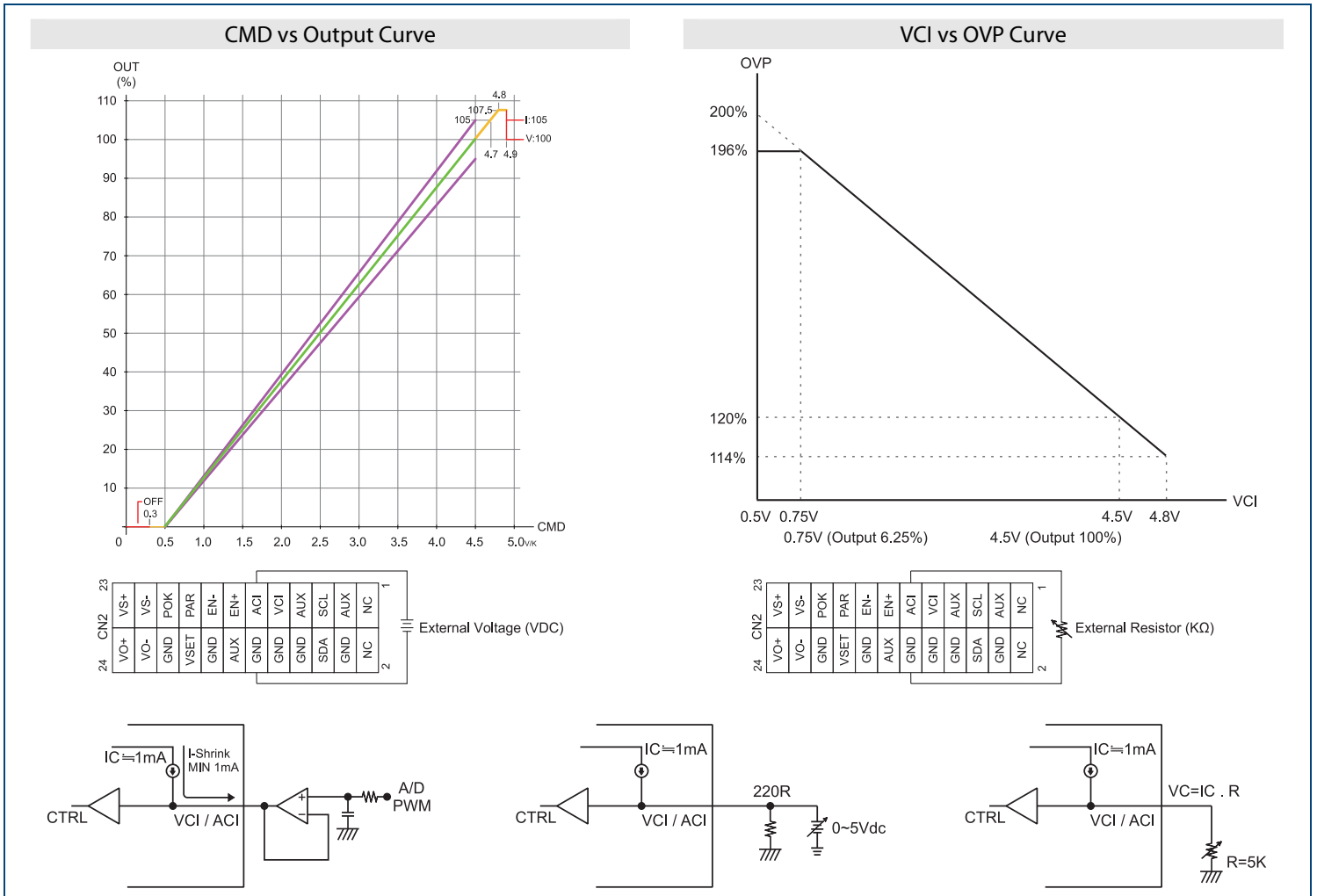
AC Input Terminal	
Pin No.	Function
1	ACL
2	ACN
3	⏏

Control Pin Number Assignment (CN2)					
Pin No.	Function	Description	Pin No.	Function	Description
1	NC	For RS232 Receiver Function	13	EN+	Inhibit ON/OFF (+)
2	NC	For RS232 Transmission Function	14	AUX	+5V/0.5A, +8V/0.3A Auxiliary Power
3	AUX	+5V/0.5A, +8V/0.3A Auxiliary Power	15	EN-	Inhibit ON/OFF (-)
4	GND	Ground	16	GND	Ground
5	SCL	Serial Data used in the I ² C Interface	17	PAR	Parallel Operation Current Sharing
6	SDA	Serial Data used in the I ² C Interface	18	VSET	AUX Output Set
7	AUX	+5V/0.5A, +8V/0.3A Auxiliary Power	19	POK	Power OK
8	GND	Ground	20	GND	Ground
9	VCI	V Program	21	VS-	Remote Sense (-)
10	GND	Ground	22	VO-	Negative Output Voltage
11	ACI	I Program	23	VS+	Resremote Sense (+)
12	GND	Ground	24	VO+	Positive Output Voltage

DERATING CURVES



CURVES



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 to control output current and voltage

Remote Mode: Use RS232 or I2C command to control output current and voltage

REMOTE ON/OFF

(1) Using Internal 5V Auxiliary Source

SW	OFF	Power OFF
	ON	Power ON

Default setting

(2) ON/OFF Control by NPN Transistor

Ctrl	L	Power OFF
	H	Power ON

(3) Using External Voltage Source

SW	OFF	Power OFF
	ON	Power ON

POWER OK SIGNAL

AUX and P.OK Signal

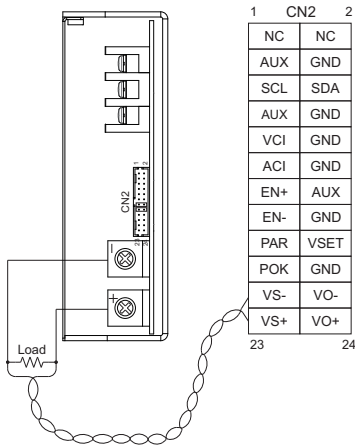
* Place an additional capacitor to have a better performance of auxiliary power operation.

* 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.

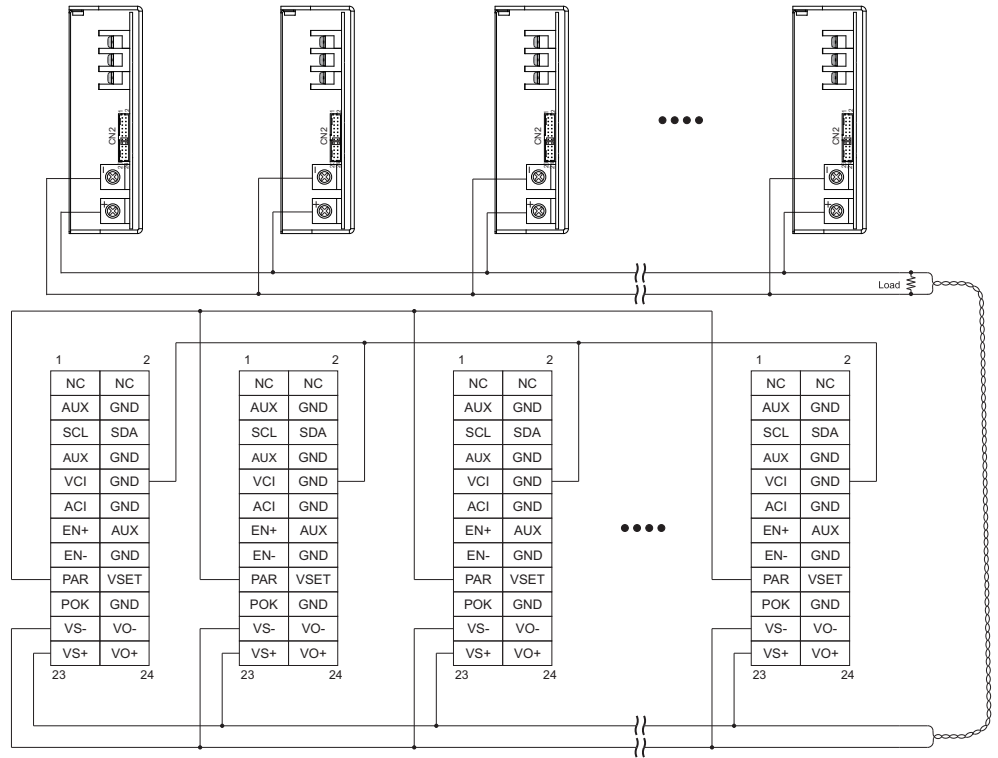
Vset	Open	5V	(Default Setting)
	Short to GND	8V	

CURRENT SHARING

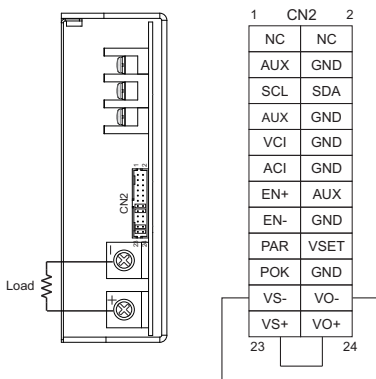
1) Remote Sense



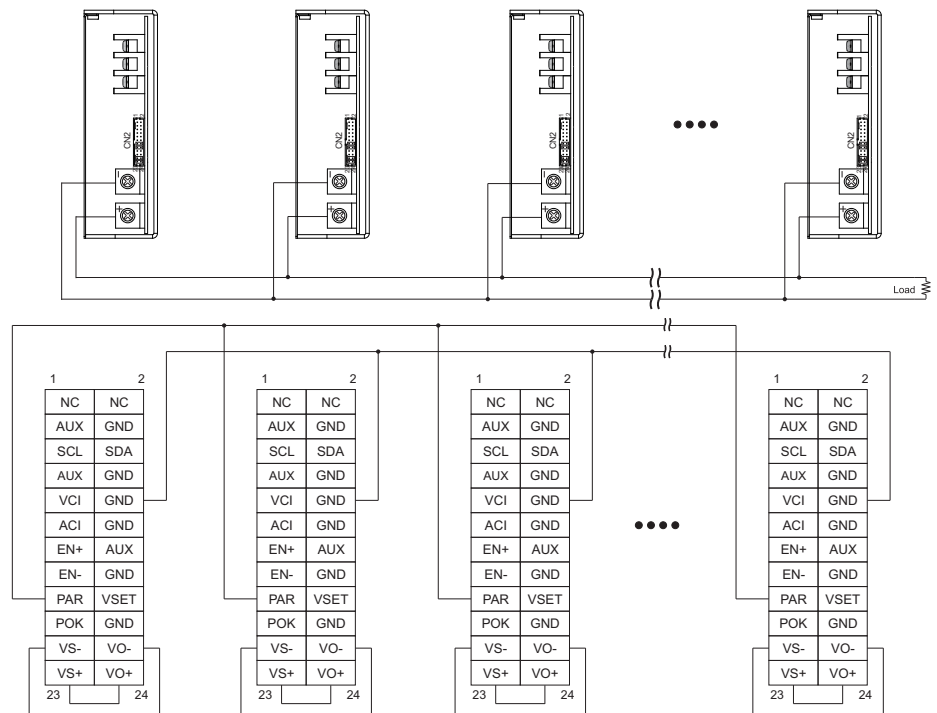
2) Current Sharing with Remote Sensing



3) Local Sense (Default Setting)



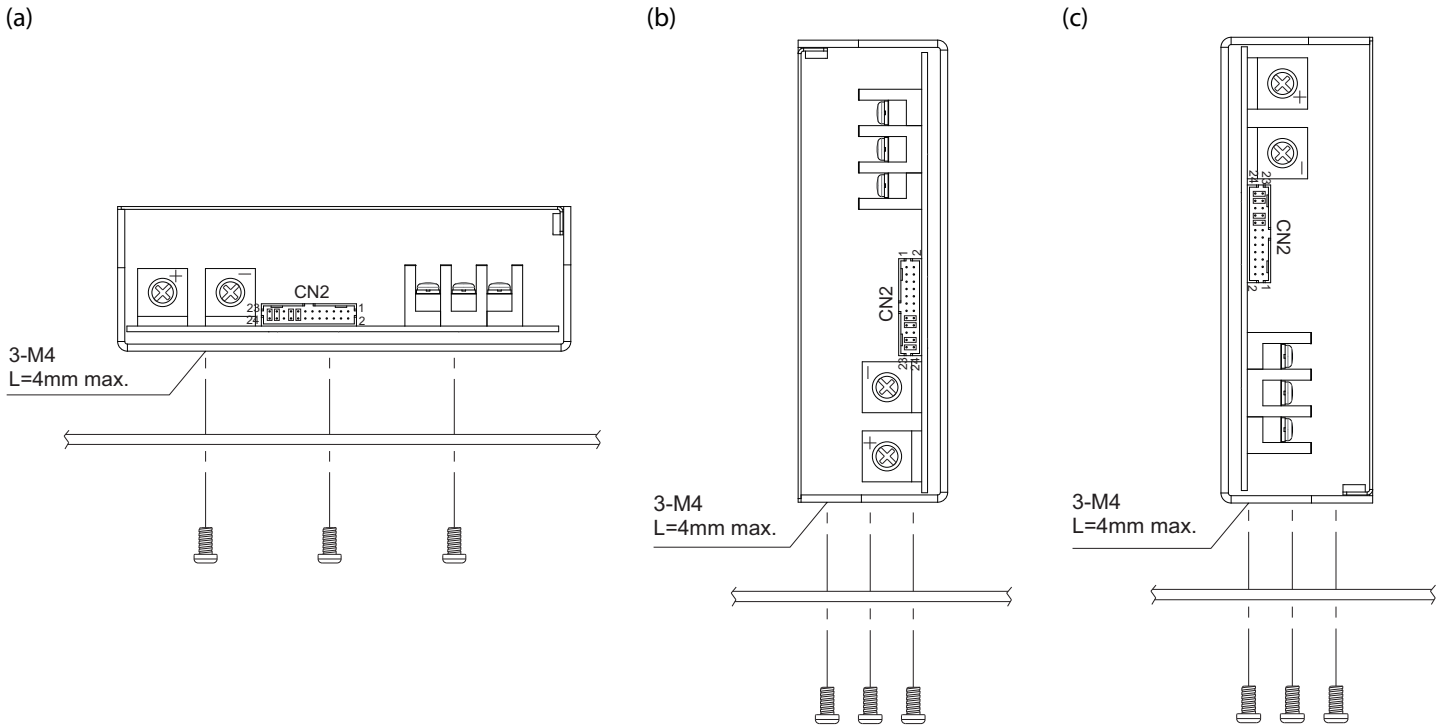
4) Current Sharing with Local Sensing



INSTALLATION INSTRUCTIONS

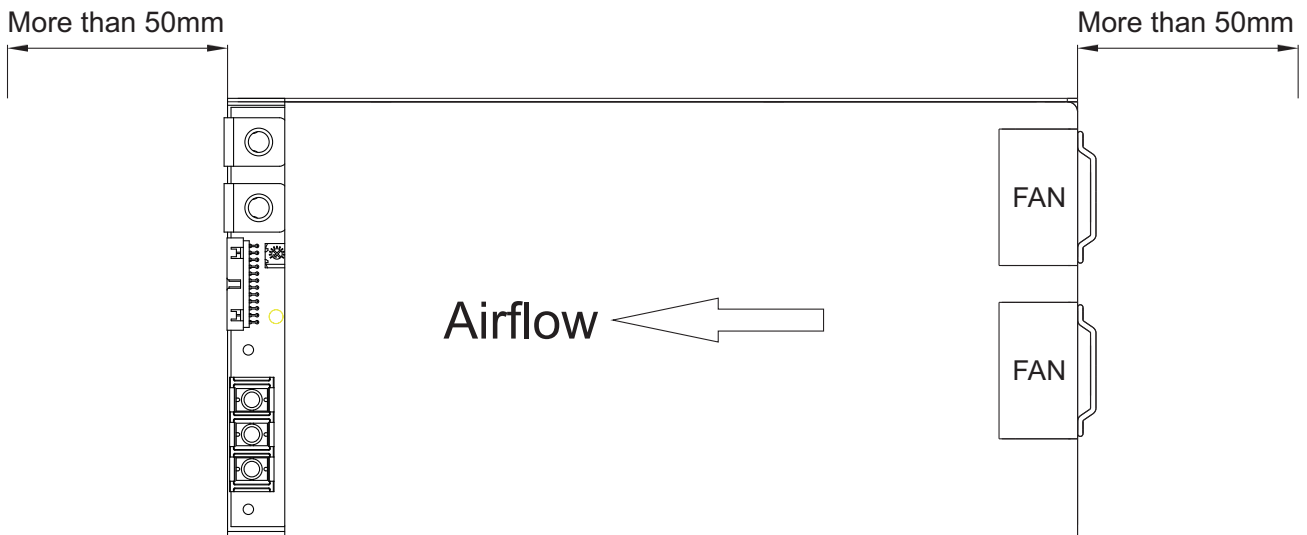
1. Mounting Directions

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 at least 50mm for airflow
- 2-2 The maximum allowable penetration for the screw is 4mm. Incomplete threading should not be penetrated.
- 2-3 Recommended torque of mounting screw: M4 screw: 1.27N • m (13.0kgf • cm)



COMPANY INFORMATION

Wall Industries, Inc. has created custom and modified units for over 50 years. Our in-house research and development engineers will provide a solution that exceeds your performance requirements on-time and on budget. Our ISO9001-2008 certification is just one example of our commitment to producing a high quality, well-documented product for our customers.

Our past projects demonstrate our commitment to you, our customer. Wall Industries, Inc. has a reputation for working closely with its customers to ensure each solution meets or exceeds form, fit and function requirements. We will continue to provide ongoing support for your project above and beyond the design and production phases. Give us a call today to discuss your future projects.

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