









Size:

Weight 11.024 x 6.693 x 2.500 in 8.38 lbs (3.8kg) 280.00 x 170.00 x 63.50 mm

FEATURES

- RoHS Compliant
- 3000 Watts Output Power
- High Efficiency up to 93%
- 3000VAC (4242VDC) I/O Isolation
- · Constant Current Limiting
- Global Control via RS232
- Power OK Signal
- High Power Density 16.3W/in³
- UL60950-1 & EN60950-1 Safety Approvals

- Remote Setting Multiple PSU via RS232, RS485 & I²C
- Programmable Output Voltage (0~105%)
- Programmable Output Current (0~105%)
- Universal Input Voltage Range: 90~264VAC (127~370VDC)
- Single Outputs Ranging from 150VDC to 400VDC
- Selectable +5V/0.5A or +9V/0.3A Auxiliary Output
- Forced Current Sharing at Parallel Operation
- Remote ON/OFF Function
- Protection: OLP, OVP, OTP, SCP, Fan Failure

DESCRIPTION

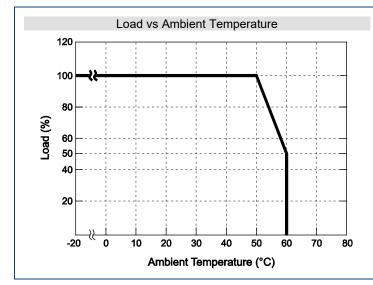
The PSAEK3000HV series of AC/DC switching power supplies provides 3000 Watts of output power in an 11.024" x 6.693" x 2.500" enclosed case. This series consists of single output models ranging from 150VDC to 400VDC with a universal input voltage range of 90~264VAC (127~370VDC). Standard features include high efficiency up to 93%, programmable output voltage and output current, remote on/off, and power OK signal. This series also has over temperature, over voltage, over load, and short circuit protection. All models are RoHS compliant and have UL60950-1 and EN60950-1 safety approvals.

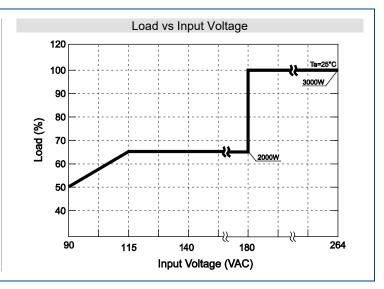
MODEL SELECTION TABLE								
Model Number	Input Voltage (2)	Output Voltage	Output Current	Line Regulation	Load Regulation	Output Power	Ripple & Noise	Efficiency
PSAEK-3000HV-150		150 VDC	20A	±1.0%	±1.0	3000W	1500mVp-p	93%
PSAEK-3000HV-200	90~264 VAC	200 VDC	15A	±1.0%	±1.0	3000W	1500mVp-p	93%
PSAEK-3000HV-250		250 VDC	12A	±1.0%	±1.0	3000W	1500mVp-p	93%
PSAEK-3000HV-300	(127~370 VDC)	300 VDC	10A	±1.0%	±1.0	3000W	1500mVp-p	93%
PSAEK-3000HV-400		400 VDC	7.5A	±1.0%	±1.0	3000W	1500mVp-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.
- 5. This product is Listed to applicable standards and requirements by UL.
- 6. For applications that require paralleling for higher power, see PSAEK3000HV-OR series.
- *Due to advances in technology, specifications subject to change without notice

DERATING CURVES





Wall Industries, Inc. • Tel: 603-778-2300 • Toll Free: 888-597-9255 • website: www.wallindustries.com • e-mail: sales@wallindustries.com



SPECIFICATIONS: PSAEK3000HV SERIES

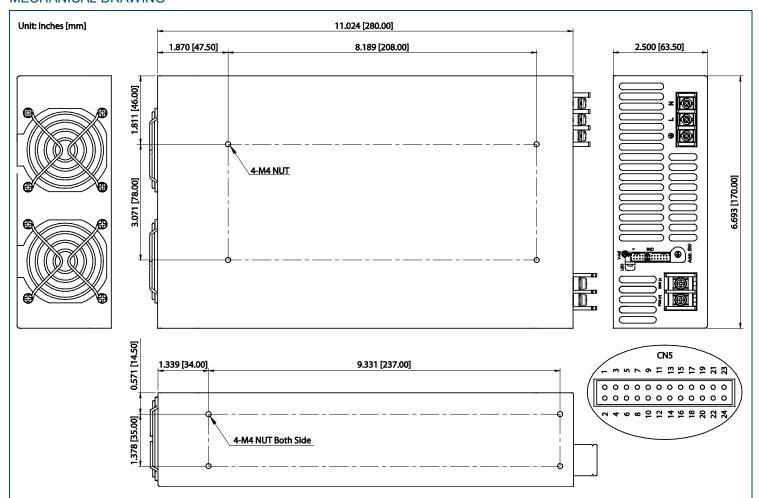
All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted.

We reserve the right to change specifications based on technological advances.

NPUT SPECIFICATIONS	SPECIFICATION		TEST CONDITIONS	Min	Тур	Max	Unit		
Input Voltage (See Note 2)			TEST CONDITIONS	IVIIII	Тур	IVIAX	Offic		
Input Frequency	INFUT SELCIFICA	TIONS	AC input voltage range	00		264	\/ \ C		
Input Frequency At 15VAC (2000W) At 230VAC (3000W) At 230VAC (3000W) At 35VAC (3000W) At 35VAC (3000W) At 35VAC and cold start At 230VAC and cold start At 230VAC and full load 0.98 65 A	Input Voltage (See Note 2)								
AC Current	Input Fraguency		DC input voltage range						
Accorded Accorde	input Frequency		At 115\/AC (2000\A\)	41	10.7	03	П		
Intrush Current	AC Current						Α		
Infusion A 230/AC and doul date A 230/AC and full load 0.98 0.95 A A 115/AC and full load 0.98 A 230/AC and full load 0.98 A 20 % 42.0 %					_				
A 230VAC and full load	Inrush Current				-		Α		
A 230VAC and full load					65				
OUTPUT SPECIFICATIONS	Power Factor								
Output Voltage Colerance Includes set-up tolerance, line regulation, and load regulation 2-2.0 \$ 2-2.0 \$ 5.0 \$			At 230VAC and full load	0.95					
Voltage Adjustability Vo		CATIONS							
Voltage Adjustability					See Tab				
Low Line to High Line Low Line to High Line .1.0 .1.0 .1.0 .5.0 .5.0									
Load Regulation 0% to 100% full load -1.0 +1.0 % 5	Voltage Adjustabilit	у	Typical adjustment by potentiometer (VR1)	-5.0		+5.0	%		
Output Power Courtput Univer Courtput Current See Table	Line Regulation		Low Line to High Line	-1.0		+1.0	%		
Output Current Rippie & Noise (20MHz BW) Measured with 0.1 µF and 47 µF capacitors in parallel 1500 mVp-p	Load Regulation		0% to 100% full load	-1.0		+1.0	%		
Ripple & Noise (20MHz BW)	Output Power				See Tab	ole			
Hold-up Time	Output Current				See Tab	ole			
Hold-up Time	Ripple & Noise (20)	MHz BW)	Measured with 0.1µF and 47µF capacitors in parallel		1500		mVp-p		
Setup Time	Hold-up Time	,		14					
Rise Time			full load		800		ms		
Protection Protection Protection See page 4 Protection Pr									
PROTECTION Protection (see page 4) Inhibit (which is protection (see page 4) Protection (spe: latch-style. Recovery after reset AC power ON or inhibit (which is protection) Protection (spe: constant current limit) 105% rated output power (special current limit) 105% rated output	Temperature Coeffi	cient		-0.02		+0.02			
Thick Thi									
Over Load Protection	Over Voltage Prote	ction (see page 4)		Variable OVP 120%+7% Vout					
Over Temperature Protection GENERAL SPECIFICATIONS Serication type: auto-recovery after temperature goes down 88°C±5°C detect on heats ink of pri. & sec. side GENERAL SPECIFICATIONS Efficiency Input to Output Input to FG Output to FG S00VDC 100 DVDC 100 DVDC 100 DVDC MΩΩ Leakage Current FUNCTIONS FUNCTIONS Auxiliary Power At 240VAC Selectable +5V/0.5A or +9V/0.3A aux. output to FG S00VDC 100 Dependence on Follow of Follow output FG S00VDC Selectable +5V/0.5A or +9V/0.3A aux. output FG FG S00VDC Selectable +5V/0.5A or +9V/0.3A aux. output FG		,		·					
Selectance S			7.						
Efficiency Input to Output Isolation Voltage Input to FG Output to FG Output to FG Output to FG Input to Output to FG Output to FG Output to FG Input to	Over Temperature	Protection	Protection type: auto-recovery after temperature goes down	85°C±5°C dete	ect on heatsi	nk of pri. 8	sec. side		
Input to Output Input to FG Test is done without enclosure 3000VAC (4242VDC) 1500VAC (2121VDC) 500VAC (2121VDC)	GENERAL SPECIF	ICATIONS							
Solation Voltage	Efficiency				93		%		
Solation Voltage	-	Input to Output		3000VAC (4242VDC)					
Solution Input to Output Input to Output Solv DC Solv	Isolation Voltage						VDC)		
Input to FG		Output to FG							
Resistance	loolotion	Input to Output	500VDC	100					
Output to FG At 240VAC		Input to FG	500VDC	100			ΜΩ		
FUNCTIONS Auxiliary Power Selectable +5V/0.5A or +9V/0.3A aux. output	Resistance	Output to FG	500VDC	100					
Auxiliary Power Selectable +5V/0.5A or +9V/0.3A aux. output Remote ON/OFF Control (see page 5) Isolated from output By external switch Power OK Signal Open drain signal low when PSU turns on Output Voltage Trim Open drain signal low when PSU turns on Output Voltage Trim Open drain signal low when PSU turns on Output Voltage Trim Open drain signal low when PSU turns on Output Voltage Trim Open drain signal low when PSU turns on Output Voltage Trim Open drain signal low when PSU turns on Output Voltage Trim Open drain signal low when PSU turns on Output Voltage Trim Open drain signal low when PSU turns on Output Voltage Trim Open drain signal low when PSU turns on Output Voltage Turns on Output Voltage Trim Open drain signal low when PSU turns on Output Voltage Turns on Output Outpu	Leakage Current		At 240VAC			1.0	mA		
Remote ON/OFF Control (see page 5) Isolated from output Sink Current: 20mA max.; Drain Voltage: 40V max. Open drain signal low when PSU turns on Output Voltage Trim	FUNCTIONS								
Power OK Signal Sink Current: 20mA max.; Drain Voltage: 40V max. Open drain signal low when PSU turns on Output Voltage Trim 0 105 %Vo Output Current Trim 0 105 %Vo Output Current Trim 0 105 %Vo Output Current Trim 0 105 %lo Parallel Operation (Current Sharing) See page 5	Auxiliary Power			Selectable +5	5V/0.5A or +9	9V/0.3A au	x. output		
Power OK Signal Sink Current: 20mA max.; Drain Voltage: 40V max. Open drain signal low when PSU turns on Output Voltage Trim 0 105 %Vo Output Current Trim 0 105 %Vo Output Current Trim 0 105 %Vo Output Current Trim 0 105 %lo Parallel Operation (Current Sharing) See page 5	Remote ON/OFF C	ontrol (see page 5)	Isolated from output				·		
Output Voltage Trim 0 105 %Vo Output Current Trim 0 105 %Vo Parallel Operation (Current Sharing) See page 5 See page 5 ENVIRONMENTAL SPECIFICATIONS See derating curve -20 +60 °C Storage Temperature See derating curve -40 +85 °C Operating Humidity Non-condensing 20 90 % RH Storage Humidity 10 95 % RH Cooling Load and temperature control fan Vibration 10~500Hz, 5G 10 min./1 cycle, period for 60 min. each along X, Y, Z axes. Certified IEC60068-2-6, IEC60068-2-64 PHYSICAL SPECIFICATIONS 8.38 lbs (3.8kg) Weight 8.38 lbs (3.8kg) Dimensions (W x H x D) 8.38 lbs (3.8kg) SAFETY & EMC (See Note 4) Safety Approvals UL60950-1(5); EN60950-1 EMI (Conduction & Radiation) EN55022, EN61204-3, EN61000-6-3 Harmonic & Flicker EN61000-3-2; EN61000-3-2; EN61000-3-2		, , ,					urns on		
Output Current Trim 0 105 %lo Parallel Operation (Current Sharing) See page 5 See page 5 ENVIRONMENTAL SPECIFICATIONS See derating curve -20 +60 °C Storage Temperature -40 +85 °C Operating Humidity Non-condensing 20 90 % RH Storage Humidity 10 95 % RH Cooling Load and temperature control fan Vibration 10~500Hz, 5G 10 min./1 cycle, period for 60 min. each along X, Y, Z axes. Certified IEC60068-2-6, IEC60068-2-64 PHYSICAL SPECIFICATIONS 8.38 lbs (3.8kg) Weight 8.38 lbs (3.8kg) Dimensions (W x H x D) 11.024 x 6.693 x 2.500 inches (280.00 x 170.00 x 63.50 mm) SAFETY & EMC (See Note 4) Safety Approvals UL60950-1(5); EN60950-1 EMI (Conduction & Radiation) EN55022, EN61204-3, EN61000-6-3 Harmonic & Flicker EN61000-3-2; EN61000-3-2; EN61000-3-3		n		0		105	%Vo		
ENVIRONMENTAL SPECIFICATIONS				0		105	%lo		
ENVIRONMENTAL SPECIFICATIONS	Parallel Operation (Current Sharing)			See page	e 5			
Storage Temperature -40 +85 °C Operating Humidity Non-condensing 20 90 % RH Storage Humidity 10 95 % RH Cooling Load and temperature control fan Vibration 10~500Hz, 5G 10 min./1 cycle, period for 60 min. each along X, Y, Z axes. Certified IEC60068-2-6, IEC60068-2-64 PHYSICAL SPECIFICATIONS 8.38 lbs (3.8kg) Weight 8.38 lbs (3.8kg) Dimensions (W x H x D) 11.024 x 6.693 x 2.500 inches (280.00 x 170.00 x 63.50 mm) SAFETY & EMC (See Note 4) Safety Approvals Safety Approvals UL60950-1 ⁽⁵⁾ ; EN60950-1 EMI (Conduction & Radiation) EN55022, EN61204-3, EN61000-6-3 Harmonic & Flicker EN61000-3-2; EN61000-3-3									
Operating Humidity Non-condensing 20 90 % RH Storage Humidity 10 95 % RH Cooling Load and temperature control fan Vibration 10~500Hz, 5G 10 min./1 cycle, period for 60 min. each along X, Y, Z axes. Certified IEC60068-2-6, IEC60068-2-64 PHYSICAL SPECIFICATIONS Weight 8.38 lbs (3.8kg) Dimensions (W x H x D) 11.024 x 6.693 x 2.500 inches (280.00 x 170.00 x 63.50 mm) SAFETY & EMC (See Note 4) UL60950-1 ⁽⁵⁾ ; EN60950-1 Safety Approvals UL60950-1 ⁽⁵⁾ ; EN60950-1 EMI (Conduction & Radiation) EN55022, EN61204-3, EN61000-6-3 Harmonic & Flicker EN61000-3-2; EN61000-3-3				-20		+60	°C		
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Storage Humidity 10 95 % RH Cooling Load and temperature control fan Vibration 10~500Hz, 5G 10 min./1 cycle, period for 60 min. each along X, Y, Z axes. Certified IEC60068-2-6, IEC60068-2-64 PHYSICAL SPECIFICATIONS Weight 8.38 lbs (3.8kg) Dimensions (W x H x D) 11.024 x 6.693 x 2.500 inches (280.00 x 170.00 x 63.50 mm) SAFETY & EMC (See Note 4) UL60950-1 ⁽⁵⁾ ; EN60950-1 Safety Approvals UL60950-1 ⁽⁵⁾ ; EN60950-1 EMI (Conduction & Radiation) EN55022, EN61204-3, EN61000-6-3 Harmonic & Flicker EN61000-3-2; EN61000-3-3			Non-condensing	20		90	% RH		
Cooling Load and temperature control fan Vibration 10~500Hz, 5G 10 min./1 cycle, period for 60 min. each along X, Y, Z axes. Certified IEC60068-2-6, IEC60068-2-64 PHYSICAL SPECIFICATIONS Weight 8.38 lbs (3.8kg) Dimensions (W x H x D) 11.024 x 6.693 x 2.500 inches (280.00 x 170.00 x 63.50 mm) SAFETY & EMC (See Note 4) UL60950-1 ⁽⁵⁾ ; EN60950-1 Safety Approvals UL60950-1 ⁽⁵⁾ ; EN60950-1 EMI (Conduction & Radiation) EN55022, EN61204-3, EN61000-6-3 Harmonic & Flicker EN61000-3-2; EN61000-3-3				10		95			
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Dimensions (W x H x D) 11.024 x 6.693 x 2.500 inches (280.00 x 170.00 x 63.50 mm) SAFETY & EMC (See Note 4) UL60950-1 ⁽⁵⁾ ; EN60950-1 EMI (Conduction & Radiation) EN55022, EN61204-3, EN61000-6-3 Harmonic & Flicker EN61000-3-2; EN61000-3-3			8 38 lhe (3 8kg)						
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ENS Immunity EN55024; EN61204-3; EN61000-6-1; IEC61000-4-2, 3, 4, 5, 6, 8, 11			·						
	EMS Immunity		EN55024; EN61204	I-3; EN61000-6-	1; IEC61000)-4-2, 3, 4,	5, 6, 8, 11		



MECHANICAL DRAWING-



AC Input Terminal				
Pin	Function			
1	ACL			
2	ACN			
3	-			

Control Pin Number Assignment (CN5): JST S24B-PHDSS or Equivalent						
Pin	Function	Description	Pin	Function	Description	
1	NC	No Connect	13	ACI	l Program	
2	NC	No Connect	14	GND	Ground	
3	NC	No Connect	15	VCI	V Program	
4	NC	No Connect	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 Sharing	19	SCL	Serial Clock used in the I ² C Interface	
8	VSET	AUX Output Set	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 Transmission Function	
12	AUX	+5V/0.5A or +9V/0.3A Auxiliary Power	24	NC	For RS232 Receiver Function	

Mating Housing / contact: JST PHDR-24VS or equivalent and JST SPHD-002T-P0.5 or equivalent

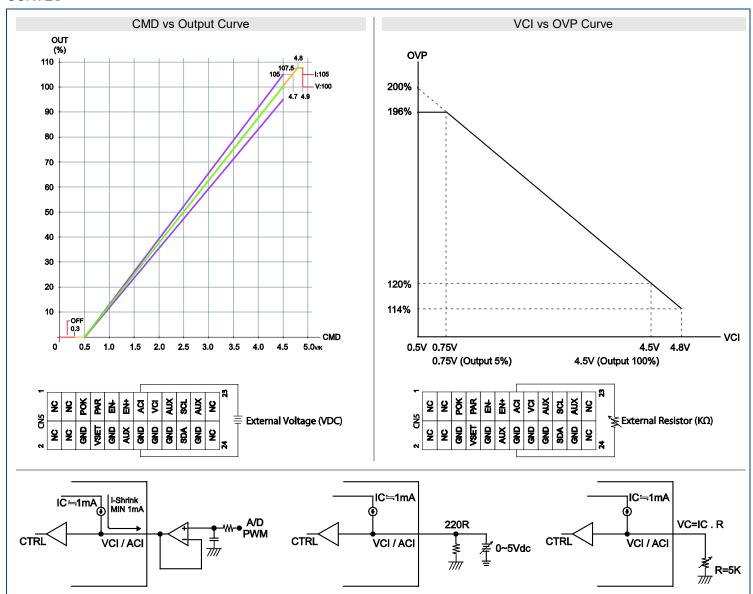


LED STATUS

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

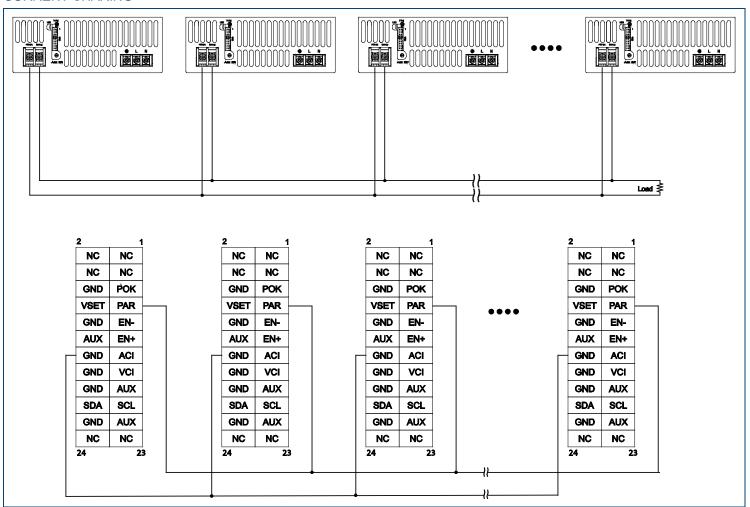
CURVES



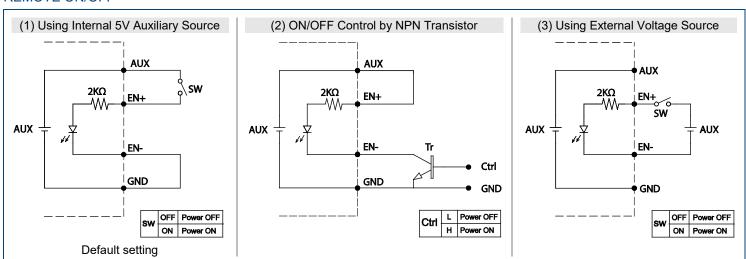
^{*} Remote Mode: Use RS232 or I²C command to control output current and voltage



CURRENT SHARING •



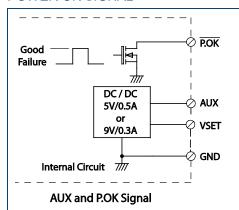
REMOTE ON/OFF -



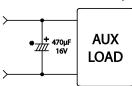
AC/DC Switching Power Supplies



POWER OK SIGNAL



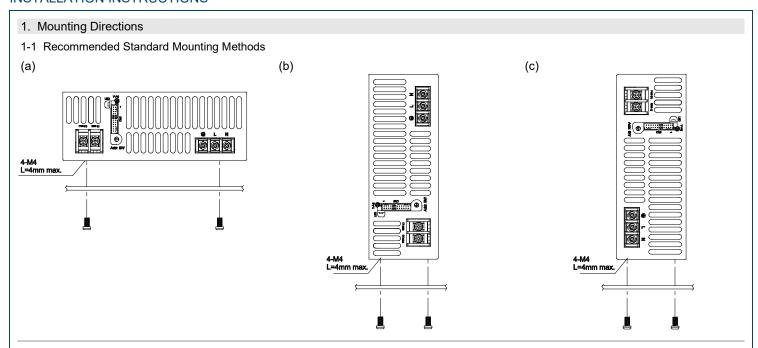
* Place an additional capacitor to have a better performance of auxiliary power operation.



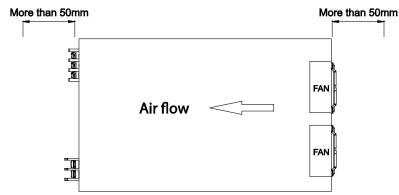
* The grounding of "AUX" power should be connected to "GND" port. If "V-" is connected as Grounding make sure to short the "GND" and "V-" ports.

VSET	Open (Default Setting)	5V
	Short to GND	9V

INSTALLATION INSTRUCTIONS -



- 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: 2015 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.

Contact Wall Industries for further information:

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