

PAD1500

1500W Programmable Digital Power Supply



■ Features:

- Universal AC input/Full range (90~264Vac)
- Programmable output voltage and current force
Current sharing at parallel operation
- Constant current limit
- AUX POWER : +5.0V/1.0A auxiliary
- Built-in OR'ing FETs
- Support Parallel operation via CANBUS
built-in isolation circuit (A23 Version)
- Power OK signal (built-in isolation circuit)
- Remote on/off & sense
- Support PMBus, MODBUS, RS232/485, and I2C protocol
- Protection: OVP, OLP, OTP, UTP, AC Failure, Power and Fan Failures
- Linear output voltage & current control by external signal / resistor (C11 version)
- Optional Changeable interface cards: A23, C11 and Ethernet (coming soon!)
- Intelligent GUI to set and monitoring parameter (Coming Soon!)

■ Model Naming Rule:

PAD1500-XX-①②③

PAD : Product Series

1500 : Wattage **XX** :
Output voltage

①②③ : can be A23 or C11

Hardware (Interface changeable):

A23 : Support Parallel connection

C11 : Single unit only

Communication protocol :

A23 : UART (RS-485), and PMBus

C11 : UART (RS-485), and PMBus

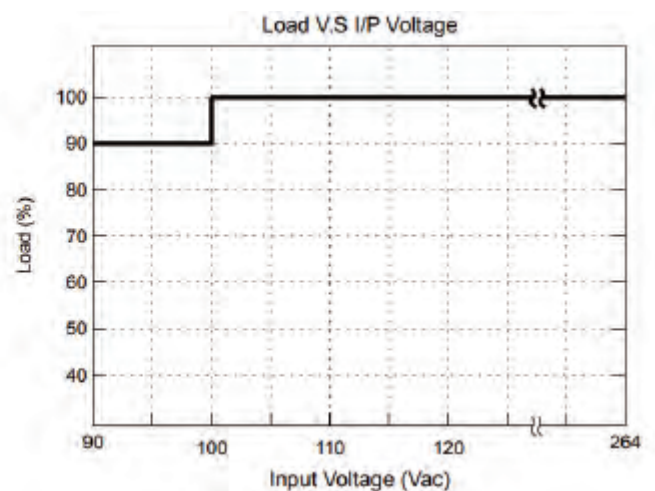
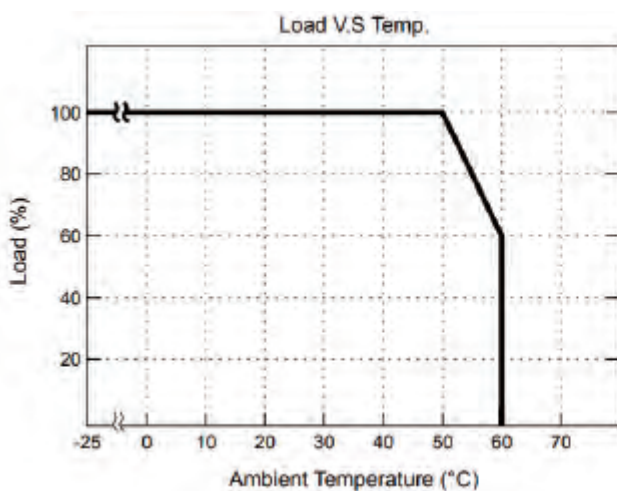
		PAD1500-12	PAD1500-15	PAD1500-24	PAD1500-30	PAD1500-36	PAD150048	PAD1500-60	
Output	DC Voltage Range	12V	15V	24V	30V	36V	48V	57V	
	Rated Current	125A	100A	62.5A	50A	41.7A	31.3A	26.3A	
	Current Range	0 ~ 125A	0 ~ 100A	0 ~ 62.5A	0 ~ 50A	0 ~ 41.7A	0 ~ 31.3A	0 ~ 26.3A	
	Rated Power	1500W	1500W	1500W	1500W	1500W	1500W	1500W	
	Ripple & Noise (Max.) (Note. 2)	150mVp-p	150mVp-p	240mVp-p	300mVp-p	360mVp-p	480mVp-p	570mVp-p	
	Voltage Adj. Range	±5.0% Typical adjustment							
	Voltage Tolerance (Note. 3)	±2.0% (rate output voltage of single unit)							
	Current Tolerance	±3.0% (rate output current of single unit)							
	Line Regulation	±1.0%							
	Load Regulation	±1.0%							
	Setup, Rise Time	1300ms, 100ms at full load (230V ac)							
	Hold Up Time (Typ.)	14ms / 230VAC at full load							
Input	Voltage Range (Note. 4)	90 ~ 264VAC, 250~370VDC *							
	Frequency Range	47 ~ 63Hz							
	Power Factor (Typ.)	0.95 / 230VAC, 0.99 / 115VAC at full load							
	Efficiency (Typ.)	89%	90%	92%	92%	92%	92%	93%	
	AC Current (Typ.)	18A / 115VAC, 9A / 230VAC							
	Inrush Current (Typ.)	30A / 115VAC, 45A / 230VAC (cold start)							
	Leakage Current	< 3.5mA / 240VAC							

		PAD1500-12	PAD1500-15	PAD1500-24	PAD1500-30	PAD1500-36	PAD1500-48	PAD1500-60
Protection	Over Load	105% rated output power		Protection type: Constant current limit				
	Over Voltage	Programmable OVP, 120 ± 7% Vout.		Protection type: Latch-style (Recovery after reset AC power ON or inhibit)				
	Over Temperature	Detect on NTC, Protection type: Auto recovery after temperature goes down						
Function	Auxiliary Power	+5.0V / 1.0A						
	Remote ON / OFF Control	By external switch / communication						
	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 (C11 Version)						
	Output Current Trim	Adjustment of output current is between 0% ~ 105% of rated output (C11 Version)						
	Parallel Connection (Note. 5)	Current sharing via CANBUS (A23 Version)						
Environment	Working Temp.	-25 ~ +60°C (Refer to load 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	UL 62368-1; EN 62368-1						
	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	EN 55032; EN 61204-3; EN 61000-6-3						
	Power Harmonic & Voltage Fluctuation and Flicker	EN 61000-3-2; EN 61000-3-3						
	EMS Immunity (Note. 6)	EN55035: 2017 / A11: 2020 ; IEC 61000-4-2,3,4,5,6,8,11						
	Others	Cooling	Load and temperature control fan					
Dimension (WxHxD)		127.8x64x280.4 mm / 5.03x2.52x11.04 inch						
Packing		2.2kg; 6pcs / 16kg / 1.86CUFT						

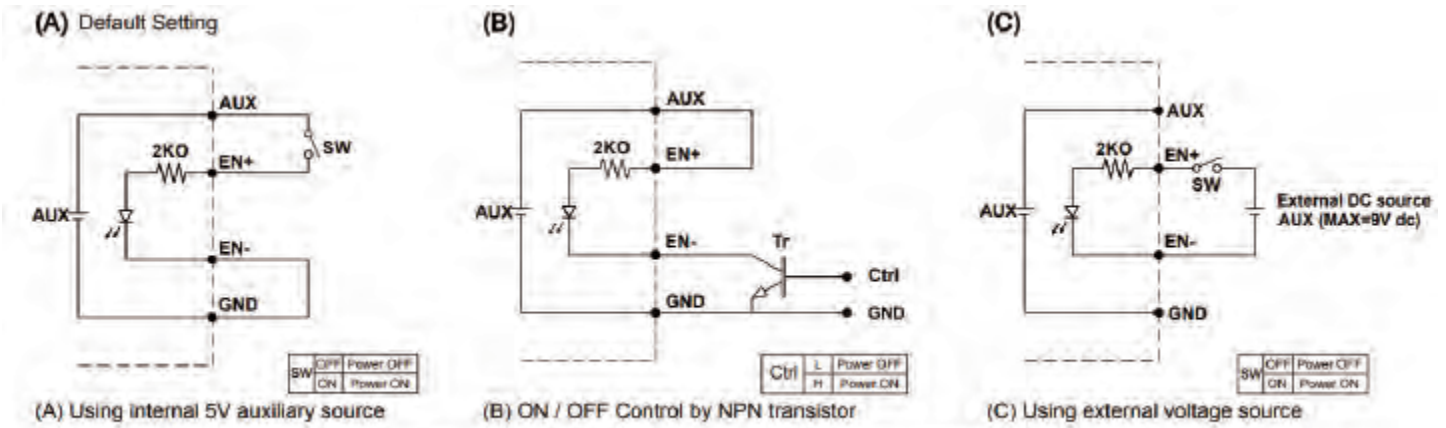
*Note:

- All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
- Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor.
- Tolerance: includes setup time tolerance, line regulation and load regulation.
- De-rating may apply in low input voltage. Please check the de-rating curve for more details.
- In parallel connection, only one unit will operate if the total output load is less than 10% of the rated power.
- 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.
- This test is done without enclosure: I/P-O/P 4242VDC. If with enclosure: I/P-O/P 2121VDC, I/P-FG:2121VDC, O/P-FG: 707VDC

■ De-rating Curve

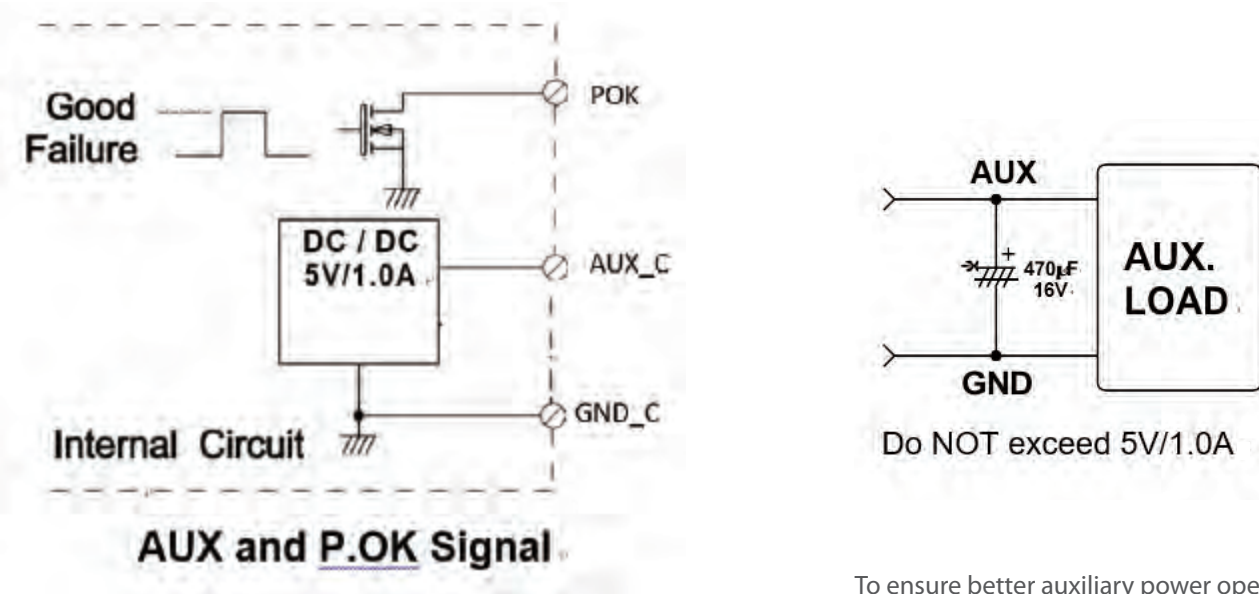


■ REMOTE ON/OFF



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



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

To ensure better auxiliary power operation performance, place an additional capacitor per diag. as shown above

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

■ **Function LED**

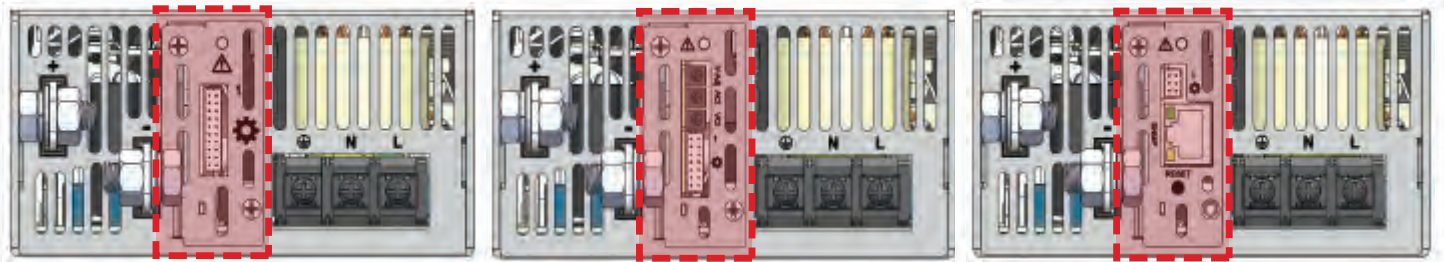
LED	LED Signal	Status
Solid(Green)		Power OK (Local mode)
Solid(Orange)		Power OK (Remote mode)
Slow Blink(Green)		Power Standby
Fast Blink(Red)		Over Voltage Protection (OVP)
Solid(Red)		Over Load Protection (OLP)
Slow Blink(Red)		Over Temperature Protection (OTP / UTP)
Intermittent Blink(Red)		Fan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

■ **Interface card (Changeable)**

1. **A23** (Support Parallel Connection)

2. **C11** (Single unit)

3. **Ethernet** (Coming soon!)



PIN Function Description:

1. **A23** (Support Parallel Connection)

Pin No.	Function	Description	Pin No.	Function	Description	Mating Housing / Contact	
1	VS+	Remote sense (+)	2	VS -	Remote sense (-)	JST PHDR-20VS or equivalent	JST SPHD-002T-P0.5 or equivalent
3	X	Reserve	4	X	Reserve		
5	EN+	Inhibit ON/OFF (+)	6	AUX	5V / 1A Auxiliary power		
7	EN-	Inhibit ON/OFF (-)	8	GND_C	Communication Ground		
9	H_TERM	CAN Termination	10	L_TERM	CAN Termination		
11	CANH	Dedicated in parallel (CAN BUS High-level)	12	CANL	Dedicated in parallel (CAN BUS Low-level)		
13	SCL	Serial Clock used in the I2C interface	14	SDA	Serial Data used in the I2C interface		
15	POK	Power OK (40V / 20mA / <0.5W Open collector)	16	GND_C	Communication Ground		
17	RS485-A	Driver Output / Receiver Input Non-inverting	18	RS485-B	Driver Output / Receiver Input Inverting		
19	AUX_C	5V / 1A Auxiliary power	20	GND_C	Communication Ground		

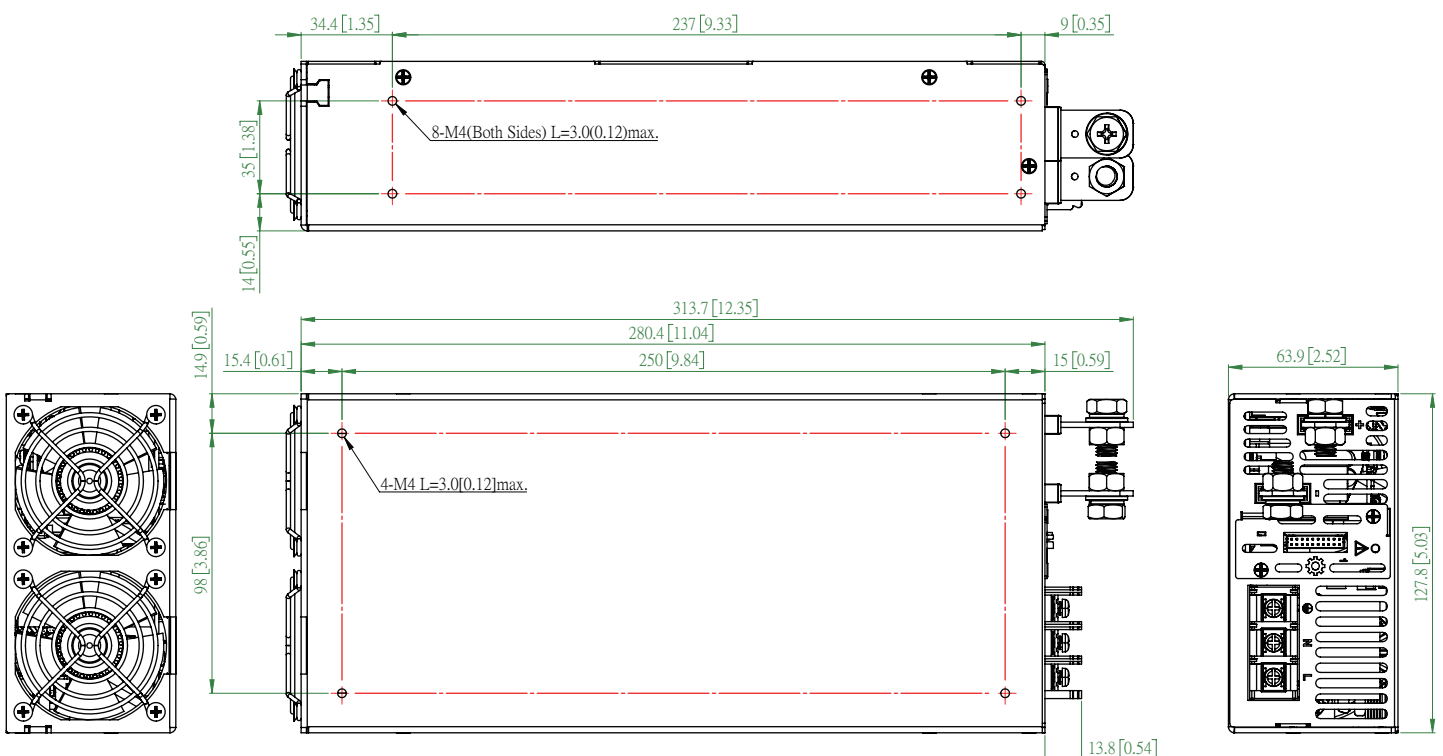
2. C11 (Single Unit)

Pin No.	Function	Description	Pin No.	Function	Description	Mating Housing / Contact	
1	VS+	Remote sense (+)	2	VS -	Remote sense (-)	JST PHDR-14VS or equivalent	JST SPHD-002T-P0.5 or equivalent
3	ENB+	Inhibit ON/OFF (+)	4	AUX	5V / 1A Auxiliary power		
5	ENB-	Inhibit ON/OFF (-)	6	GND	Communication Ground		
7	A_TERM	RS-485 Termination	8	B_TERM	RS-485 Termination		
9	RS485_A	Driver Output / Receiver Input Non-inverting	10	RS485_B	Driver Output/Receiver Input Inverting		
11	POK	Power OK (40V / 20mA / <0.5W Open collector)	12	GND	Communication Ground		
13	AUX	5V / 1A Auxiliary power	14	GND	Communication Ground		

3. Ethernet (Coming soon!)

Pin No.	Function	Description	Pin No.	Function	Description	Mating Housing / Contact	
1	H_TERM +	Remote sense (+)	2	L_TERM	CAN Termination	JST PHDR-6VS or equivalent	JST SPHD-002T-P0.5 or equivalent
3	CANH	Dedicated in parallel (CAN BUS High-level)	4	CANL	Dedicated in parallel (CAN BUS Low-level)		
5	GND_C	Communication Ground	6	GND_C	Communication Ground		

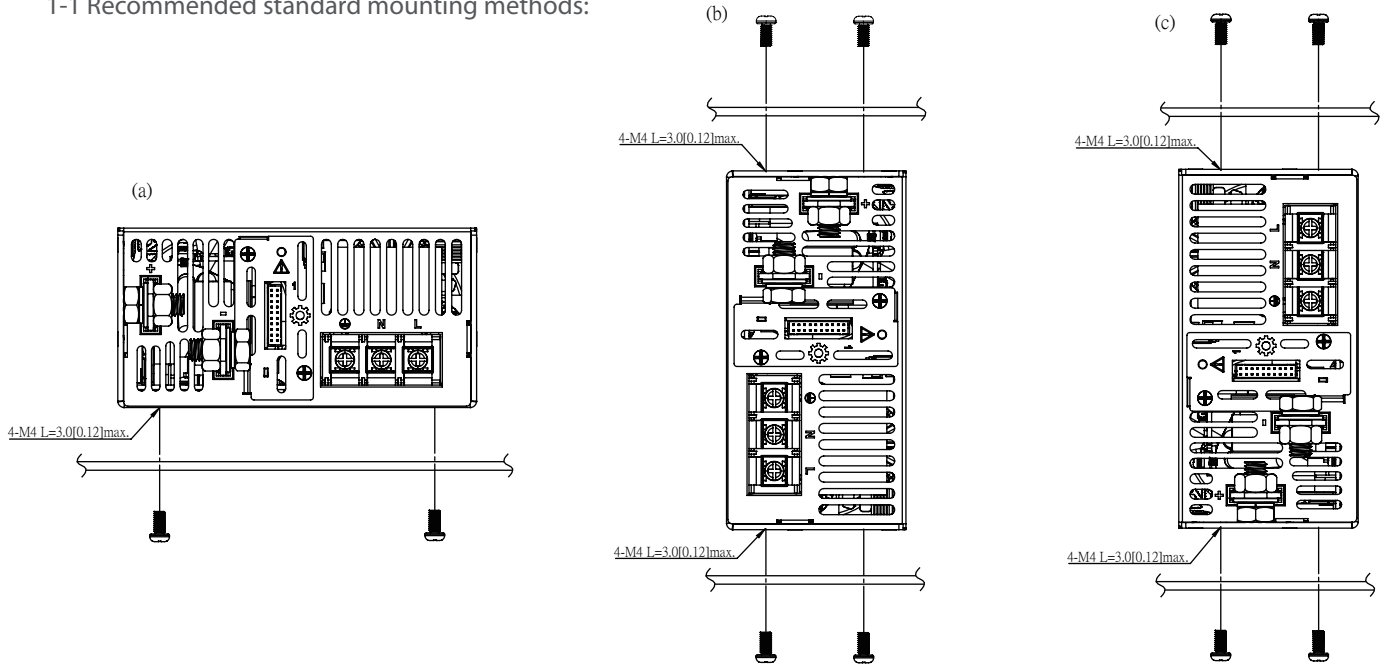
■ Mechanical Drawings : Unit: mm [inch]



■ **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 Recommended the torque of mounting screw: M4 screw: 1.27N • m (13.0kgf • cm)

