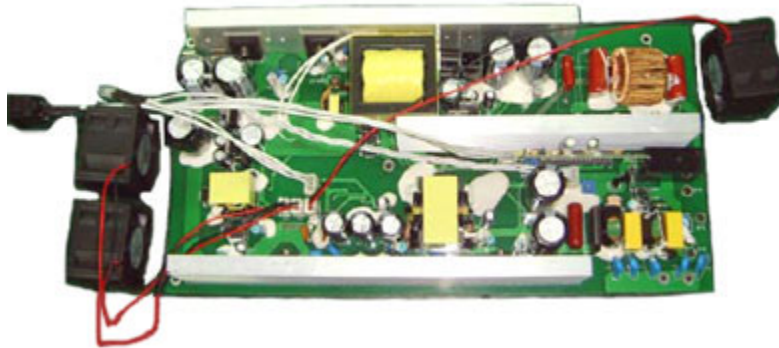


User Manual

400W Open-Frame UPS Control Modul with AC /DC output



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1. Product description:

An open frame Uninterrupted Power Supply (UPS) system with AC/DC output. The open frame make DIY easier.

2. Features:

- 1.1. Open Frame – It is easy to built in with various battery pack from 45VDC-55VDC.
- 1.2. The Off-line structure prolongs the machine's life.
- 1.3. The design is base on the requirement of 1U. It is easy to assemble.
- 1.4 Smart switch or manual switch between the AC supply mode and inverter mode (inverter mode).
 - Integrating battery charger, DC-AC converter and DC-DC into one module
- 1.5 Over current protection.
- 1.6 Over voltage protection.
- 1.7 Over temperature protection.
- 1.8 Smart indicator
- 1.9 10CFM cooling fan

3. Technical Specification:

- AC-AC
 - Rated Input voltage: 110VAC, 5.0A Max
 - Max Input current: 2A (110VAC)
 - Output ripple: $\leq 0.5\%$
 - Output voltage 110V AC Sine-Wave
 - Max Output power for AC-DC unit: 160W Max
 - PF: ≥ 0.9
- AC-DC
 - Output voltage: 58.4V (*58.88V for SLA, 54.6V for Li-Ion*)
 - Max output current: 3A
- DC-AC (inverter)
 - Battery voltage: 58.4V (*58.88V for SLA, 54.6V for Li-Ion*)
 - Rated Output voltage: 110V AC Sine-Wave
 - Max Output current: 1.8A
 - Max Output power: 400W
 - Efficiency: $\geq 85\%$
 - Over temperature protection: The inverter will stop while inner temperature is higher than 90°C.
- Meaning time between the inverter mode to AC supply mode $\leq 15\text{ms}$
- Safety and environmental requirements
- Operation Temperature: 0°C~ 40°C
- Store Temperature: -20°C~80°C
- Humidity: < 95% No condensation

3. Operation

- Make sure the battery pack is right. (*51.2V for LfFePO4, 48V for SLA, 48.1V for Li-Ion*).
- Make sure the load voltage is **110VAC**.
- In use for the first time, it is necessary to make sure the outlet voltage is 90-240VAC
- According to the Figure-1(System connection diagram), connect the UPS.

- Make sure that the AC supply, battery pack and load connection is right.
- System will switch to inverter mode (DC mode) to support load automatically. It is Inverter mode. If the AC input voltage is higher than 170V, the system will switch to AC supply mode in about 30 seconds. If the AC input voltage is lower than 165V, the Inverter mode will be activated automatically. The AC supplier will turn into charger mode. It can provide a max 3A current for battery pack.
 - To learn the state of the UPS
 - LED1= Red; Cooling Fan=on → charger mode
 - LED1= Green; Cooling Fan=off → battery is full or charge current <0.2A
 - LED2=Green; Cool Fan =off → inverter is normal.
 - LED2= Red; Fan= on → load is too high for inverter (>0.3A)
 - In inverter mode, if battery voltage is lower than 46.4V the buzzer alarm (*36V for SLA, 35.1V for Li-Ion*). If the battery voltage is lower than 58.4V (*58.88V for SLA, 54.6V for Li-Ion*), the inverter shut down until the voltage restore to 62.4V. (*61.2V for SLA, 55.9V for Li-Ion*)

Note: This specification is Subjected to change without prior notice, please contact us for the latest information.