

User's Manual

24A Charger

Important Safety Instructions

This manual contains important safety instructions. Read all safety and operating instructions before operating the Charger. Adhere to all warnings on the unit and in this manual. Follow all operating and user instructions. This equipment can be operated by individuals without previous training.

This Charger can be allowed to the maximum charge current, 24A. Installation instructions and warning notices are in this manual.



WARNING

Although the Charger has been designed and manufactured to ensure personal safety, improper use can result in electrical shock or fire. To ensure safety, observe the following precautions:

- Turn off and unplug the Charger before cleaning it.
- Clean the Charger with a dry cloth. Do not use liquid or aerosol cleaners.
- Never block or insert any objects into the ventilation holes or other openings of the Charger.
- Do not place the Charger's power wire where it might be damaged.

1. Introduction

The products are used for battery charged.

1.1 Appearance



Fig 1-1 Front Panel

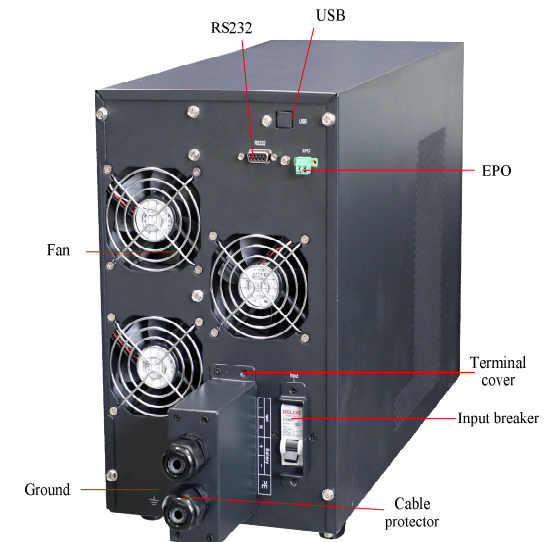


Fig1-2 Rear Panel

1.2 General Specification

Input Voltage	110-270VAC
Charge Current	1-24A
Battery number	16-20

NOTICE: If the Input Voltage is under 176VAC, the maximum Charge current may be derated.

2. Installation

2.1 Unpacking and Inspection

- 1) Unpack the packaging and check the package contents. The shipping package contains **1 Charger, 1 user’s manual.**
- 2) Inspect the appearance of the Charger to see if there is any damage during transportation. Do not turn on the unit and notify the carrier and dealer immediately if there is any damage or lacking of some parts.

2.2 Installation and wiring

Installation and wiring must be performed in accordance with the local electric code and the following instructions by professional personnel.
For safety, please cut off the mains power switch and the battery breaker before installation.

- 1) Open the terminal block cover located on the rear panel of the Charger, please refer to the appearance diagram.
- 2) It is recommended to select the UL1015 10AWG(6mm²) wire or other insulated wire which complies with AWG Standard for the Charger input and battery wirings.

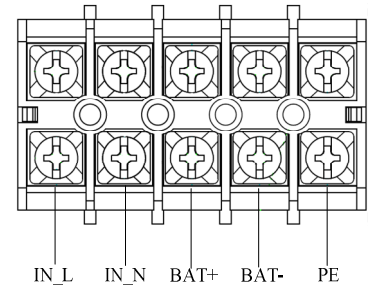


Fig 2-1 Terminal Block Wiring Diagram

- 3) The protective earth ground wire refers to the wire connection between the equipment which consumes electric equipment and the ground wire. The wire diameter of protective earth ground wire should be at least as above mentioned for each model and green wire or green wire with yellow ribbon wire is used.

NOTICE: Do not use the wall receptacle as the input power source for the Charger, as its rated current is less than the Charger’s maximum input current. Otherwise the receptacle may be burned and destroyed.

3. Controls and Indicators

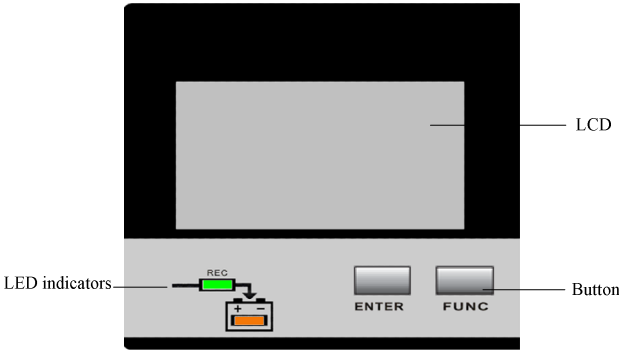
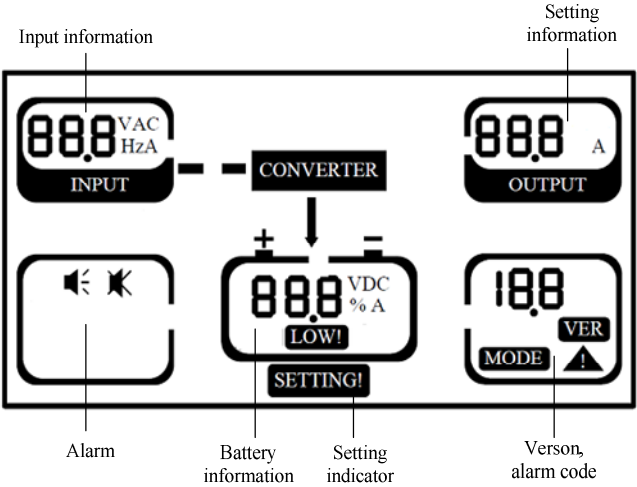


Fig 3-1 Display Panel

Controls	Description
ENTER	Press ENTER to confirm setting when in setting mode
FUNC	Functional button: 1.Press FUNC to page down to see LCD menu. 2.Press FUNC for 2.5s at the page 1 to mute off, press again to mute on. 3.Press FUNC and ENTER together for 2.5s to enter in setting mode. 4.Press FUNC for 2.5s at the page 3 to fault clear.
Indicators	Description
REC	Rectifier indicator: green--rectifier is normal, green flicker--rectifier is starting, dark—rectifier is not working.
BAT	Battery indicator: yellow—battery charge, yellow flicker—No battery or battery alarm, dark—battery is connected.



Description of LCD Menu	
Menu	Information
Input information	Main input: voltage VAC, current A, frequency Hz
Battery information	Battery: voltage VDC, charger current A, remained capacity %, battery low alarm LOW!
Setting information	Setting information: battery number, current
Alarm	:mute on/off
Version/Code	VER: firmware version MODE: system mode, c mode : warning code, refer to “5. Trouble Shooting” to get detailed code list
Others	SETTING: LCD is in setting mode

Press **FUNC** to check menu:

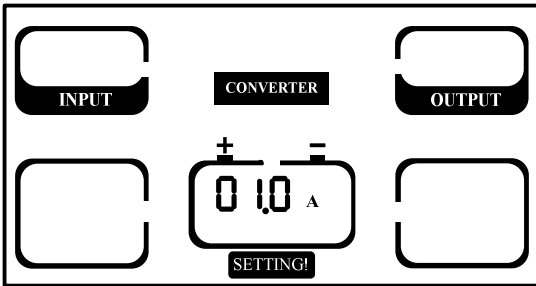
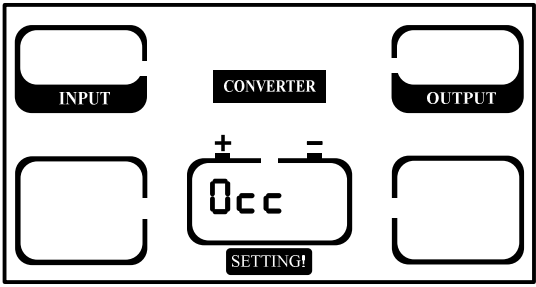
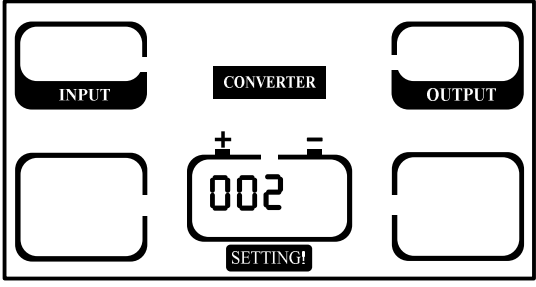
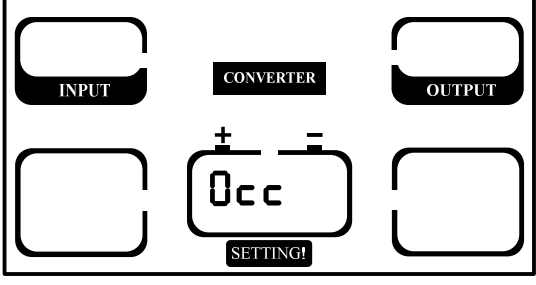
Page	Description
	Page1: INPUT voltage:237VAC Battery number:20 Battery voltage:258VDC System mode: c-charge <i>Press “FUNC” for 2.5s in this page to mute off</i>
	Page2: INPUT frequency:50Hz Remained battery capacity: 86% Firmware VERsion: V1.07 (7.1)

	Page3: INPUT current:5.1A Setting current:4A Charge current:4A (downwards arrow) alarm code: 00 <i>Press “FUNC” for 2.5s to manually fault clear</i>
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Parameters setting

If want to set rated parameters, press ENTER and FUNC buttons together for 2.5s to enter in setting mode, “SETTING” on the bottom of LCD present and all LEDs flicks.

Current setting page	All current setting is displayed in turn, press ENTER to confirm and exit, press FUNC to enter pass word.	
Enter pass word	Enter a password to enter the Settings page, press FUNC to select, press ENTER to confirm selection and enter in next page. The pass word is 233.	
Battery number setting	Could select battery number as 16 blocks (192VDC) 18 blocks (216VDC) 20 blocks (240VDC) For low voltage system 144/168Vdc could be set, press FUNC to select, press ENTER to enter in next page.	

Charge current setting	Charge current could be set as 1 to 24A. Press FUNC to select, press ENTER to confirm and enter in next page.	
Communication protocol setting	0CC-MODBUS 1CC-SNT Press FUNC to select, press ENTER to confirm and enter in next page.	
Communication ID setting	002- Communication ID2 Communication ID could be set as 001 to 020. Press FUNC to select, press ENTER to confirm and enter in next page.	
Current setting page	All current setting is displayed together, press ENTER to confirm and exit, press FUNC to change selection. The setting will be activated immediately.	

3. Operation

- 1) Make sure that the power supply connection is correct, and then close the battery breaker, after that close the input breaker. At this time the REC and BAT led starts to flick and the fans rotate.
- 2) After REC led is already green and the BAT led is already yellow, the Charger starts to charge.

4. Control and Communication

This Charger includes several communication ports: RS232, EPO, USB.

NOTICE: Only one of RS232 and USB is available at the same time.

4.1 EPO (Forbidden default)

The remoted EPO is located on the rear panel of UPS shown as Fig 1-2. It's normal closed, if it's opened, the Charger will be shutdown completely.

NOTE: The EPO function is forbidden default, if want to enable the EPO function, set it via monitoring software.

5. Trouble Shooting

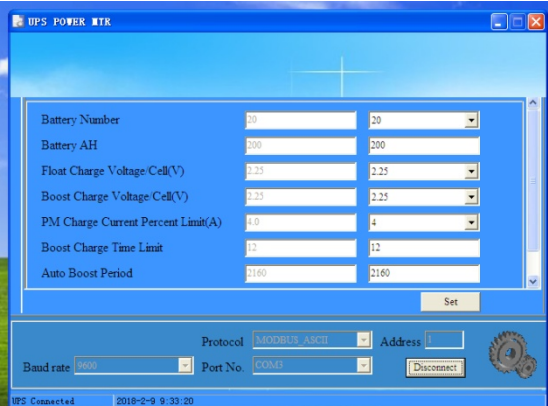
This chapter describes checking the Charger's status. This section also indicates various Charger symptoms a user may encounter and provides a troubleshooting guide in the event the Charger develops a problem. Use the following information to determine whether external factors caused the problem and how to remedy the situation.

If the Charger alarms and buzzer sound, please press "FUNC" to get alarm code on the menu of alarm code (page 41) on LCD. **And press "FUNC" for 2.5s when at page 3 to manually fault clear.** If alarms is still existent, please check the problem follow the Table 5-1:

Code	Cause	Solution
7	no battery	<ul style="list-style-type: none"> ● Check if the battery cables are connected correctly ● Check battery breaker or fuses are opened ● Check if batteries are damaged
10	EPO	<ul style="list-style-type: none"> ● Check if EPO is closed correctly ● Check if EPO is activated manually
16	Utility abnormal	UPS mains input is abnormal. <ul style="list-style-type: none"> ● Check if the input is normal ● Check if the input voltage and frequency is over the working range ● Check if the input breaker or external input breaker is opened
47	Rectifier fault	DC bus over voltage, low voltage, shorted or IGBT opened. Please manually clear the fault and if the fault is still on, please contact with local dealer
51	Rectifier over temperature	Rectifier heatsink is over temperature or the temp sensor is not connected correctly. <ul style="list-style-type: none"> ● Check if fans are working normally ● Check if anything block ventilation ● Check if the sensor is connected correctly ● Check if the environmental temp is over the range of Charger
67	Battery reversed	Check if battery cables are connected correctly Check if inverter cables of battery packs are connected correctly
81	Charger fail	Charger is faulty or over temperature or is not disconnected. Please manually clear the fault and if the fault is still on, please contact with local dealer.

Annex A. Setting

- 1. Connect the Charger with RS232 cable to PC. Connect the Charger with monitoring software.
- 2. Set Battery number, Battery AH, Charge Current Percent Limit, etc.
- 3. Press “set” to confirm setting.



Annex B. Mechanical Size

