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> [Y&H](#) /

> [Y&H 60A PWM Solar Charge Controller User Manual \(Model RBL-60A\)](#)

## Y&H RBL-60A

# Y&H 60A PWM Solar Charge Controller User Manual

Model: RBL-60A | Brand: Y&H

## 1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your Y&H 60A PWM Solar Charge Controller. Please read these instructions carefully before installation and use to ensure optimal performance and longevity of the product.

## 2. SAFETY INSTRUCTIONS

- Ensure the battery has sufficient voltage for the controller to recognize the battery type before the first installation.
- The battery cable should be as short as possible to minimize loss.
- The regulator is only suitable for lead-acid batteries (OPEN, AGM, GEL). It is not suitable for nickel metal hydride, lithium-ion, or other batteries.
- The charge regulator is only suitable for regulating solar modules. Never connect another charging source to the charge regulator.

## 3. PRODUCT FEATURES

- Built-in industrial micro-controller.
- Large LCD display with adjustable parameters for float charge voltage, low voltage discharge, low resistance, and load timer.

- Dual USB output (5V/2A) for charging mobile devices.
- Fully automatic PWM charge management.
- Multiple protection functions: power-off memory, over-heat, low voltage discharge, short circuit, open circuit, overload, and overcharge protection.
- MOSFET reverse current protection, low heat production.

## 4. SETUP AND INSTALLATION

Follow these steps for proper connection of the solar charge controller:

1. Connect the battery to the charge regulator (plus and minus).
2. Connect the photovoltaic module to the regulator (plus and minus).
3. Connect the consumer to the charge regulator (plus and minus).

**Important: Reverse order applies when uninstalling!**

*An improper sequence can damage the controller!*

### User's Manual

#### SAFETY INSTRUCTIONS

1. Make sure your battery has enough voltage for the controller to recognize the battery type before first installation.
2. The battery cable should be as short as possible to minimize loss.
3. The regulator is only suitable for lead acid batteries: OPEN, AGM, GEL. It is not suited for nickel metal hydride, lithium ions or other batteries.
4. The charge regulator is only suitable for regulating solar modules. Never connect another charging source to the charge regulator.

#### PRODUCT FEATURES

1. Build-in industrial micro controller.
2. Large-screen LCD display, charging and discharging current display, cumulative power generation and discharge power query, temperature display, light control + delay control; adjustable charge and discharge parameters, with power-off memory and other functions.
3. Dual USB output, the maximum current of 2.5A, to support Apple's mobile phone charging.
4. Fully 3-stage PWM charge management.
5. Build-in short-circuit protection, open-circuit protection, reverse protection, over-load protection.
6. Reverse current protection, low heat production.

#### SYSTEM CONNECTION

1. connect the battery to the charge regulator-plus and minus.
2. Connect the photovoltaic module to the regulator-plus and minus.
3. Connect the consumer to the charge regulator-plus and minus.

The reverse order applies when deinstalling!  
An improper sequence order can damage the controller!

#### LCD DISPLAY/KEY

The battery voltage or a light delay closing time display

Solar input indication  
Charging instructions: flashing when charging, often bright full or constant voltage charging  
Battery power indicator  
Load indication

MENU: switch between different display, or to enter/exit setting by long press.  
UP: press to increase value.  
DOWN: press to decrease value.

#### DISPLAY/SETTING

#### Operation instructions:

1. short press menu key to cycle through the interface and parameters;
2. long press the menu button for 3S to enter the settings manually, this number will be flashing, into the corresponding set project on turn, turn key adjustment parameters you want value, after the completion of the system of automatic memory setting value and exit setup menu;

#### Function declaration:

1. discharge recovery voltage: refers to the battery discharge protection, the battery voltage to restore voltage, open the output;
2. the discharge cut-off voltage: refers to the battery discharge to the voltage when the load off, to protect the battery, to prevent the battery over discharge damage.

#### load operation mode:

- [24H] Load output 24Hours (except for battery under voltage)
- [1-15H] Load on after sunset and closed after setting hours
- [0H] Dusk to dawn

[W666]

Note: 1. the light control function is controlled by the solar panel, the use of light control function must access the solar panel, otherwise the light had no effect.  
2. Load symbol [☀️] Light, only that the load output has been turned on, and there is no connection to the load.

As long as it is not set to [1-15H] Or [0H] model, (The optical delay model), Battery not under pressure condition (Battery symbol does not blink), Single short press the turn key can open /Close load output.

#### TROUBLE SHOOTING

Situation	Probable cause	Solution
Charge icon not on when sunny	Solar panel opened or reversed	Reconnect
Load icon off	Mode setting wrong	Set again
	Battery low	Recharge
	Over load	Reduce load watt
Load icon slow flashing	Short circuit protection	Remove short circuit, 1 minutes or so automatic recovery
Power off	Battery too low/reverse	Check battery/connection

#### TECHNICAL PARAMETER

MODEL	W666A	W666B	W666C	W666D
Batt voltage	12V/24V auto			
Charge current	30A	40A	50A	60A
Discharge current	10A	20A	30A	30A
Max solar input	12V battery, the highest 23V; 24V battery when the highest 46V			
Equalization	14.4V			
Float charge	13.7V (default, adjustable)			
Discharge stop	10.7V (default, adjustable)			
Discharge reconnect	12.6V (default, adjustable)			
Charge reconnect	13V			
Voltage of open light	Solar panel 8V (Light lights delay)			
Voltage of close light	Solar panel 8V (Light off delay)			
USB output	2 way USB output. 5V/2.5A (MAX)			
Self-consume	<10mA			
Operating temperature	-35 ~ +60C			
Size/Weight	193 * 51 * 98mm / 390g			

\* All red color voltage x2 while using 24V system  
\* This instruction is a general manual, such as a slight difference in the physical.  
\* Product specifications are subject to change without prior notice

Figure 4.1: Connection diagram for the Y&H 60A Solar Charge Controller.

Video 4.2: Demonstration of connecting a solar charge controller to a battery and solar panel. Note: This video features a similar product from a different brand, but the connection principles are applicable.

## 5. OPERATING INSTRUCTIONS

## 5.1. LCD Display and Key Functions

The large LCD screen displays all parameters. The controller features three buttons for navigation and settings:

- **MENU Button:** Short press to switch between different display interfaces. Long press for 3 seconds to enter the settings page.
- **UP Button:** Press to increase values.
- **DOWN Button:** Press to decrease values.

The display shows various parameters including battery voltage, solar panel charging status, load status, accumulated charge/discharge ampere-hours, ambient temperature, and load mode.



Figure 5.1: LCD display interfaces and parameter adjustment flow.

## 5.2. Parameter Settings

To adjust parameters:

1. Long press the MENU button for 3 seconds to enter the settings page.
2. Use the UP/DOWN buttons to adjust the desired value.
3. Long press the MENU button again to save the setting and exit.

Parameters that can be adjusted include float charge voltage, low voltage disconnect, low voltage reconnect, and load timer settings.

Video 5.2: Demonstration of LCD display navigation and parameter adjustment on a Y&H 60A Solar Charge Controller. Note: The video title mentions MPPT, but this product is a PWM controller. The display and setting functions are generally similar.

## 5.3. Dual USB Output

The controller is equipped with dual 5V/2A USB ports, allowing for convenient charging of mobile phones, tablets, and other USB-powered devices.

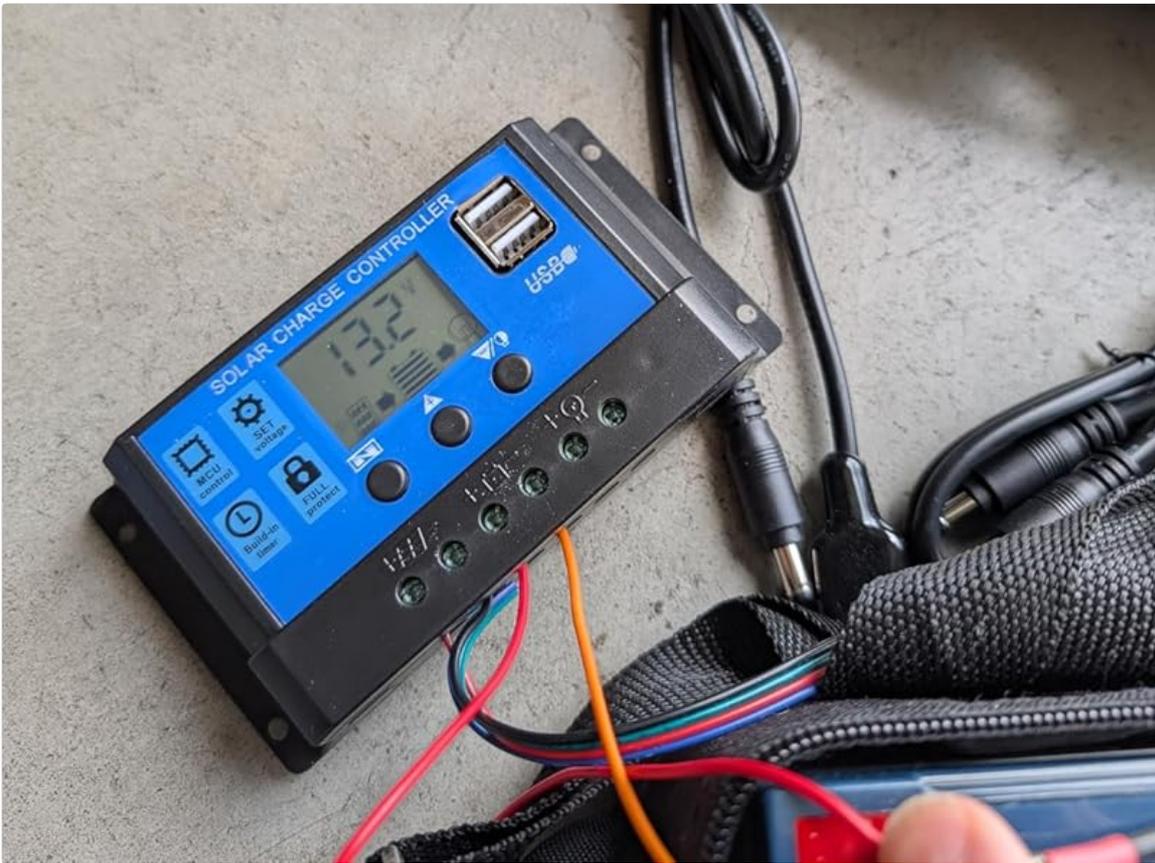


Figure 5.3: Charging a smartphone using the controller's dual USB ports.

## 6. MAINTENANCE

To ensure the long-term performance and reliability of your solar charge controller, regular maintenance is recommended:

- Keep the controller clean and free from dust and debris.
- Periodically check all wire connections to ensure they are secure and free from corrosion.
- Ensure adequate ventilation around the controller to prevent overheating.

## 7. TROUBLESHOOTING

Refer to the table below for common issues and their solutions:

Situation	Probable Cause	Solution
Charge icon not on when sunny	Solar panel opened / Wiring set again	Reconnect
Load icon on	Battery low	Recharge

Situation	Probable Cause	Solution
Load icon slow flashing	Over load / Short circuit protection	Reduce load watts / Remove short circuit, 1 minute or automatic recovery
Power off	Battery too low / protection	Check battery/connection

## 8. SPECIFICATIONS

Feature	Value
Model	RBL-60A
Battery Voltage	12V/24V Auto
Charge Current	60A
Discharge Current	30A
Max Solar Input	12V battery: 23V; 24V battery: 46V
Equalization	14.4V
Float Charge	13.7V (adjustable)
Discharge Stop	10.7V (adjustable)
Discharge Reconnect	12.6V (adjustable)
USB Output	5V/2A (MAX)
Self-consume	<10mA
Operating Temperature	-35°C to +60°C
Size/Weight	19.3 x 19.3 x 9.8 cm / 360 g
Manufacturer	Y&H
ASIN	B07L6GD5JB
UPC	721821482959

## 9. WARRANTY AND SUPPORT

For warranty information or technical support, please contact the manufacturer, Shenzhen Yonghui Fashion Co., Ltd, or refer to the product's purchase platform for specific details.

