

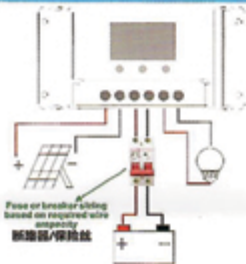
SAFETY INSTRUCTIONS

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, lithium ions and LiFePO4 battery.
4. The charge regulator is only suitable for regulating solar modules. Never connect another charging source to the charge regulator.

PRODUCT FEATURES

1. Built-in Industrial micro controller.
2. Large LCD display, all adjustable parameter.
3. PWM charge management.
4. Built-in short-circuit protection, open-circuit protection, reverse protection, over-load protection.
5. Dual mode Reverse current protection Low heat production.

SYSTEM CONNECTION



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

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

KEY FUNCTION



- F1: click to enter setting NO.1-5.
F2: hold 5s to reset and restore factory setting.

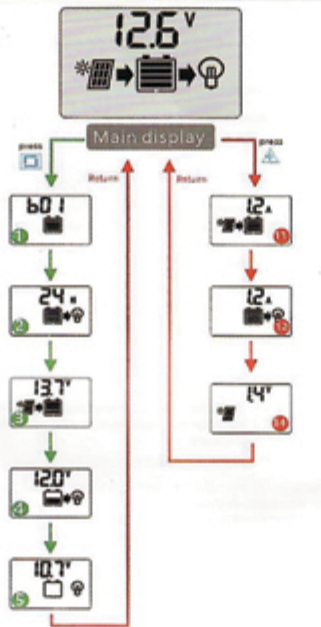


- F1: click to enter setting NO.11-14.
F2: hold 5s to reset.



- F1: click to control output manually.
F2: click to exit if an error happened.

DISPLAY



- NO.1 Battery type
B02=General (lead-acid)(default)
B02=35 X 3.7V 11.5V lithium ion Battery
B02=35 X 3.7V 11.5V lithium ion Battery
Settings hold left key until number flash, click [F1] to adjust and hold left key again until number stop flashing, the setting is saved.

- NO.2 Load output timer control
[24H] - output turn on all the time.
[0H] - output turn on only during Dusk to Dawn(D2D).
[1~23H] - output turn on after sunset and turn off after 1~23H.

- NO.3 Charge voltage setting
Different battery types have different maximum charging voltage. Consult your battery supplier for more information. Default setting is recommended. The setting is the same as above.

- NO.4 Low voltage re-connect (VDR) setting
When a low voltage disconnect happens, the controller will wait until the voltage rises more than this voltage, then it will re-connect the load again.
Default setting is recommended. The setting is the same as above.

- NO.5 Low voltage disconnect (VDR) setting.
When battery voltage is lower than this voltage, the controller will cut off the output automatically. Default setting is recommended. The setting is the same as above.
- NO.11 Charging ampere display (only for some mode)
- NO.12 Discharging ampere display (only for some mode)
- NO.14 Real time PV voltage display.

UNUSUAL DISPLAY

- E01 Battery low voltage warning.
To prevent damage of the battery, Output automatic disconnect when battery voltage drop below VDR voltage and automatic re-connect if it rises above VDR voltage.
press [F1] to ignore for one time and force to work again.
- E02 Battery high voltage warning.
To prevent damage of the load equipment, Output automatic disconnect when battery voltage rises above HVD voltage and automatic re-connect if it drops below HVD voltage.
press [F1] to ignore for one time and force to work again.
- E05 High temperature warning.
when the temperature of the controller exceeds 80°C, it will enter stand-by mode and stop charging or discharging until the temperature falls to 70°C.
press [F1] to ignore for one time and force to work again.
- E06 PV over-voltage warning.
In order to protect the internal circuit, Charging automatic stop when PV voltage exceed 50V and automatic recover when voltage drop below 45V (for 12V/24V system)

FAQ

Why the controller is not charging when I connect the solar panel?
Please carefully check the solar panel wires are connected correctly, and there is no reverse. The PV voltage should be higher than the voltage of the battery, any reverse or shadow on the PV will cause the voltage drop, please use a 50V PV to charge a 52V battery under normal circumstances.

Why is my charging current very small?
Avoid more solar panel and stronger sun light will increase the charging current, otherwise, using the wrong PV voltage or reverse or shadow on the PV will reduce the charging current. In addition, when the battery voltage is high it will enter fast charging mode, so the charging current will become smaller.

Why my consumer is off?
It could be wrong working mode, like setting the work mode to D2D, but you are asking why my consumer is off during the daytime. As battery is not enough and a low-voltage disconnect has happened or your consumer is broken. In short, you can directly connect your consumer to the battery to see if it is working, please carefully check the wires and so.

Is the solar power stored is not enough to supply the consumer?
All the power generated by the solar panel is less than the consumer used, the consumer will have to get the power from the battery storage, and day by day it will cause a VDR finally at some moment, please use more solar panel and add more battery capacity to prevent cloudy or rainy days, you can reduce the watt of the consumer or working time to balance the system.

Why my battery runs out of power very quickly after it is fully charged?
Any battery could have been used for a very long time, and after few hundred of cycling, its dying. A dying battery will not have the capacity to keep the electricity, run a simple test like this, when you charge your battery, the voltage rises very quickly, and when you discharge it again, it drops very quickly, this means you should change your battery.

TECHNICAL PARAMETER

System voltage	12V/24V
MAX PV input	<50V
Rated current	10~60A
USB output	5V/2A
Charge control	PWM
Standby loss	<15mA@12V
Working temp.	-30~+60 °C

Size/Weight	VOLTAGE PARAMETER		
	B01	B02	B03
Battery type	General Lead acid	Li-Ion	LiFePO4
HVD	36V	36V	36V
HVR	35V	35V	35V
Bulk/Absorption	13.7V	12.8V	14.0V
Equalize	-	-	-
Float	13.7V	12.8V	14.0V
Charge return	13V	12V	13V
VDR	12.6V	10.5V	12.6V
VDR	13.7V	9.9V	11.2V

*all voltage X2, X4 while using 24V/48V system.

*Product specifications are subject to change without prior notice.