Kdy series solar controller
Function description
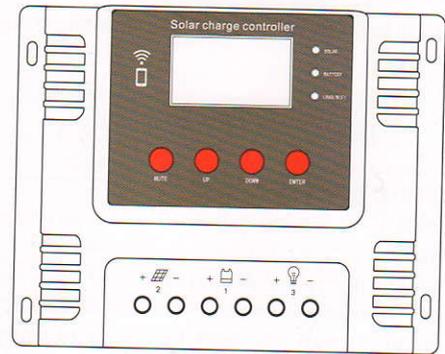
Parameter

Model	KDY10	KDY20	KDY30	KDY40	KDY50	KDY60
Rated charging current	10A	20A	30A	40A	50A	60A
Rated discharge current	10A	20A	30A	40A	50A	60A
MAX PV Volt	12V system <25V/24V system <50V/48V system <100V					
The USB output	5V2AMAX					
Stand-by Current	12V < 80ma，24V < 45ma，48V < 30ma		12V < 80ma，24V < 45ma，48V < 30ma		12V < 150ma，24V < 80ma，48V < 50ma	
Dimensions	115*145*57mm		135*170*70mm		155*197*86mm	
Work Temperature	-20°C～+50°C					

Lead-acid battery /BAT/ B1

System Volt	12V system		24Vsystem		48Vsystem	
Float charging Volt	Default 14.4V	Adjustable range 13-15V	Default 28.8V	Adjustable range 26–30V	Default 57.6V	Adjustable range 52–60V
Discharge cut-off Volt	Default 10.7V	Adjustable range 9.5-11V	Default 21.4V	Adjustable range 19-22V	Default 42.8V	Adjustable range 38-44V
Discharge recovery Volt	Default 12.6V	Adjustable range 11.5-13V	Default 25.2V	Adjustable range 23-26V	Default 50.4V	Adjustable range 46-52V

Ternary lithium battery /LIT1/ B2

System Volt	12V system 3 strings		24V system 7 strings		48V system 13 strings	
Float charging Volt	Default 12.6V	Unadjustable	Default 29.4V	Unadjustable	Default 54.6V	Unadjustable
Discharge cut-off Volt	Default 9V	Adjustable range 9-10.5V	Default 21V	Adjustable range 21-24.5V	Default 39V	Adjustable range 39-45.4V
Discharge recovery Volt	Default 10.5V	Adjustable range 10.5-11.7V	Default 24.5V	Adjustable range 24.5-27.3V	Default 45.4V	Adjustable range 45.5-50.7V

Lithium iron phosphate battery /LIT2/ B3

| System Volt	12V system 4 strings		24V system 8 strings		48V system 16 strings	
Float charging Volt	Default 14.6V	Unadjustable	Default 29.2V	Unadjustable	Default 58.4V	Unadjustable
Discharge cut-off Volt	Default 11.8V	Adjustable range 11.8-12.5V	Default 23.6V	Adjustable range 23.6-25V	Default 47.2V	Adjustable range 47.2-50V
Discharge recovery Volt	Default 12.5V	Adjustable range 12.5-13.5V	Default 25V	Adjustable range 25-27V	Default 50V	Adjustable range 50-54V

Advice for safe use

1. This charge controller is 12/24/48V auto identified, 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, to avoid affecting the judgment of normal voltage
3. This controller is suitable for Lithium Ternary，LiFePo4 and Lead acid battery.
4. The charge regulator is only suitable for regulating solar modules. Never connect another charging source to the charge regulator.
5. The controller will generate heat when it is running, please pay attention to install the controller on a flat, well-ventilated surface.

Product features

1. Adopt industrial-grade main chip.
2. Large screen, LCD display, adjustable charge and discharge parameters.
3. Complete 3-stage PWM charging management.
4. Built-in near-charge protection, short-circuit protection, open-circuit protection, and reverse connection protection , all self-recovery and will not damage the controller.
5. WIFI APP can check and set it at any time.
6. Battery temperature detection function (optional).

Ⅰ.Product description
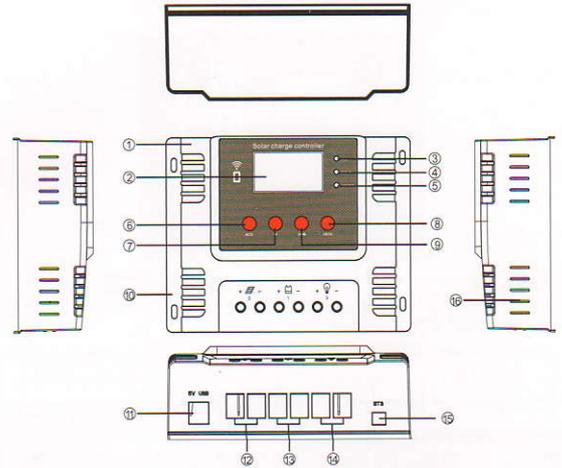
No	NAME	No	NAME
1	Housing case	9	Page Down
2	LCD display	10	Base Board
3	PV INPUT	11	USB port
4	Battery	12	PV Panel Terminal
5	Load and WIFI status indicator	13	Battery
6	Menu	14	Load port
7	Page Up	15	Temperature sensor
8	Confirm/load switch button	16	Cooling

Ⅱ.Icon definition/button

Indicator light

| SOLAR	PV INPUT	The indicator lights up when solar energy is detected to charge,The light goes off when there is no solar energy.
BATTERY	Battery indicator light	When the battery is connected, the indicator light will flash at the switching frequency of 0.5 seconds after the load is protected for a long time. After the voltage rises to the recovery value, the indicator light will light up normally.
LOAD/WIFI	Load and WIFI indicator	The indicator light will be on when the load is turned on and off when the load is turned off. After the WIFI is turned on, the indicator light will flash 5 times at a frequency of 0.5 seconds, and then return to the load indicator state for 10 seconds, and then return to the WIFI indicator state again

Button

MUTE	Menu	Tap the button to cycle through the menus
UP	Page up	To set the function parameters after entering the menu setting
DOWM	Page Down	Scroll down to set the function parameters after entering the menu setting
ENTER	Function confirmation and load switch key	Confirm enter and exit menu setting items, load switch

Ⅲ.System connection

(1).Basic connection
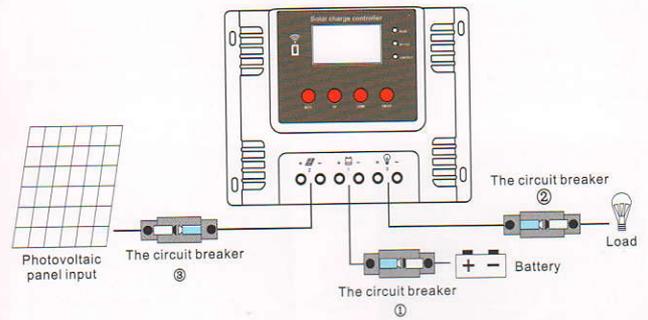
1. Connect the positive and negative poles of the battery to the controller as shown in the figure, and the controller will automatically detect the battery voltage.
2. Connect the positive and negative terminals of the load to the controller as shown , in the figure, taking care not to connect them reversely.
3. Connect the solar panel to the controller as shown in the figure.

Make sure the controller is installed correctly!
Step 1: First open the circuit breaker connected to the battery. ①Ensure that the controller is connected to the battery (the controller LCD will display the content) and set the battery type.
Step 2: If the DC output control load is required, set the output control mode first, and then open the DC output circuit breaker ②.
Step 3: then connect the circuit breaker ③ to open the PV input of the solar panel. If the VOLTAGE of the PV input is within the charging range of the controller, the controller will enter the charging state;
Closing process: Disconnect circuit breakers ③②① in turn.

(2).Select instructions for accessories

Connect the remote temperature sensor cable (model: RT300R47K) connect the remote temperature controller to the interface BTS, and the other end is close to the battery

Note: When the controller is not connected to the remote temperature sensor, it will work in 25 charging environment by default

⚠️ Note: If the controller is not connected to a remote temperature sensor, it charges or discharges the battery at 25°C by default without temperature compensation.

IV.Display/Set

Browsing interface

1: Main interface

2: Solar charging current

3: Discharge current

4: Solar charge power
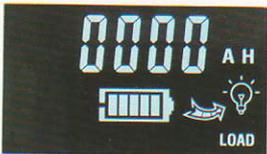
5: Load discharge power
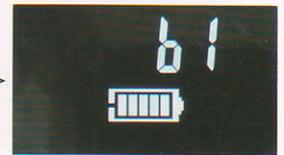

6.Floating charge voltage setting

7: Discharge recovery voltage setting

8: Discharge cut-off voltage setting

9: Load output control mode

10: Battery type

Cycle display in the 6th to 10th interface, press the enter key to enter the sub-menu, press the up and down keys to select the required adjustable value, after the selection is completed.

Press the confirm key to save the set value and exit the sub-menu, and return to the main interface, or you can automatically save after 3 seconds and return to the main interface without pressing the button

Load output control mode:
    00 pure light control, there will be a minute or so of delayed shutdown time after solar charging.
    01-23 Light control + delay, if set to 01, the load will automatically close after 1 hour after the solar charge is disconnected.
    24 In normally open mode, you can press "OK" to control the switch load in normally open mode (this function is unavailable in other modes).

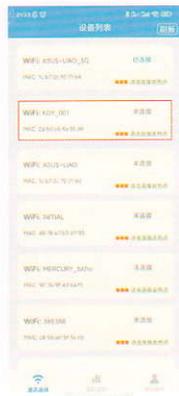## V.APP Connection Instruction

   wifi connection steps

1. Open the phone wifi settings

2. Click on the APP icon

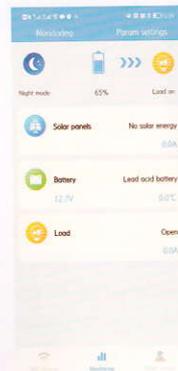5. For mobile phones with Android version 10 or above, the following connection interface will appear, click the Allow button, and then click the wifi name to connect to the device

3. Click the wifi name that contains KDY

4. Enter password 12345678 (original password)

6. After the connection is successful, you can enter the real-time monitoring page of the device;

WLAN+

设为
关闭

智能选择 WLAN 或移动数据

自动开启或关闭 WLAN

时可连接的热点进行质量评测

优化免费热点登入体验

Implementation monitoring page:

you can view the real-time status of solar panels, batteries, and loads separately.

Solar panels	Battery	Load
Charging current		0.0A
Cumulative charge		1ah

Solar panels	Battery	Load
Battery voltage		12.7V
Battery type		Lead acid battery
State of charge		Close
Discharge state		Open

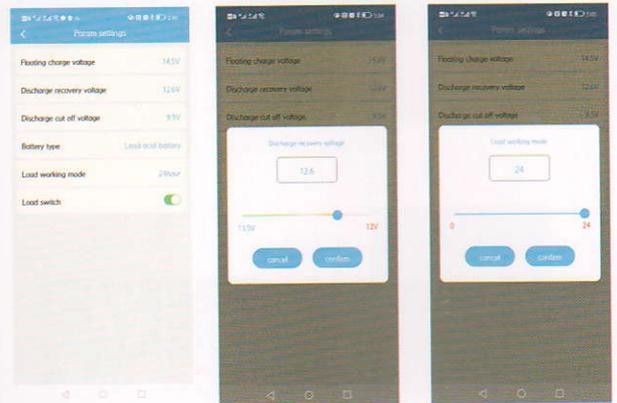| Solar panels	Battery	Load
Load current		0.0A
Cumulative discharge		1ah
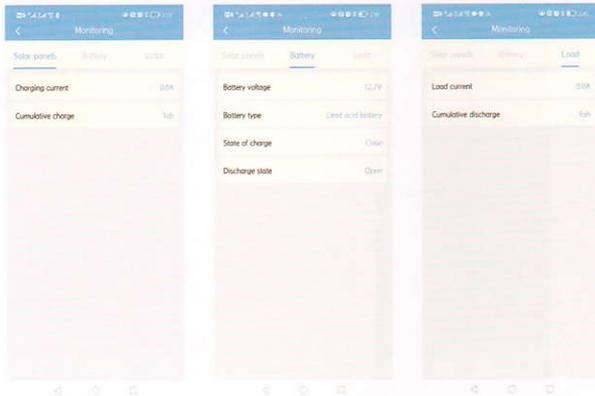
Parameter setting:

Click the option to set the device parameters.

Floating charge voltage, discharge recovery voltage, discharge cut-off voltage, adjustable parameters.

The floating charge voltage of ternary lithium battery and lithium iron phosphate battery cannot be adjusted.

The adjustable parameter range of load working mode is 0~24.

When the load working mode is 24, the load switch can be remotely switched, otherwise the operation is prohibited.

Param settings	
Floating charge voltage	14.5V
Discharge recovery voltage	12.6V
Discharge cut off voltage	9.5V
Battery type	Lead acid battery
Load working mode	24hour
Load switch	

Discharge recovery voltage
12.6
11.5V — 12V
cancel confirm

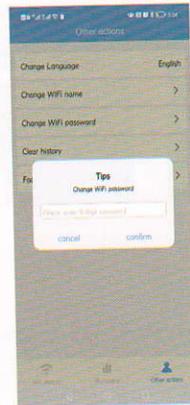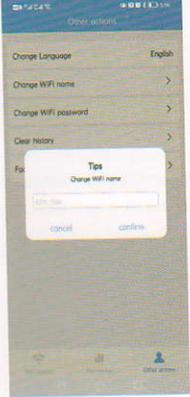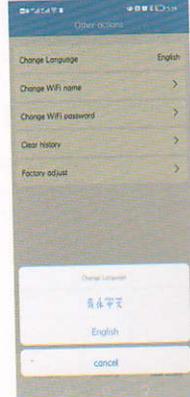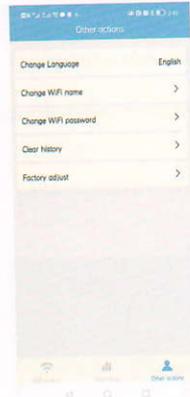Load working mode
24
0 — 24
cancel confirm

Other operations:

Chinese and English available.

To change the wifi name, you can enter a custom wifi name, and the modified wifi name is an 8-digit string number starting with KDY (Chinese is not allowed).

To modify the wifi password, you can enter a custom 8-digit password.

Scan the QR code above
to download the APP