Solar Charger Controller

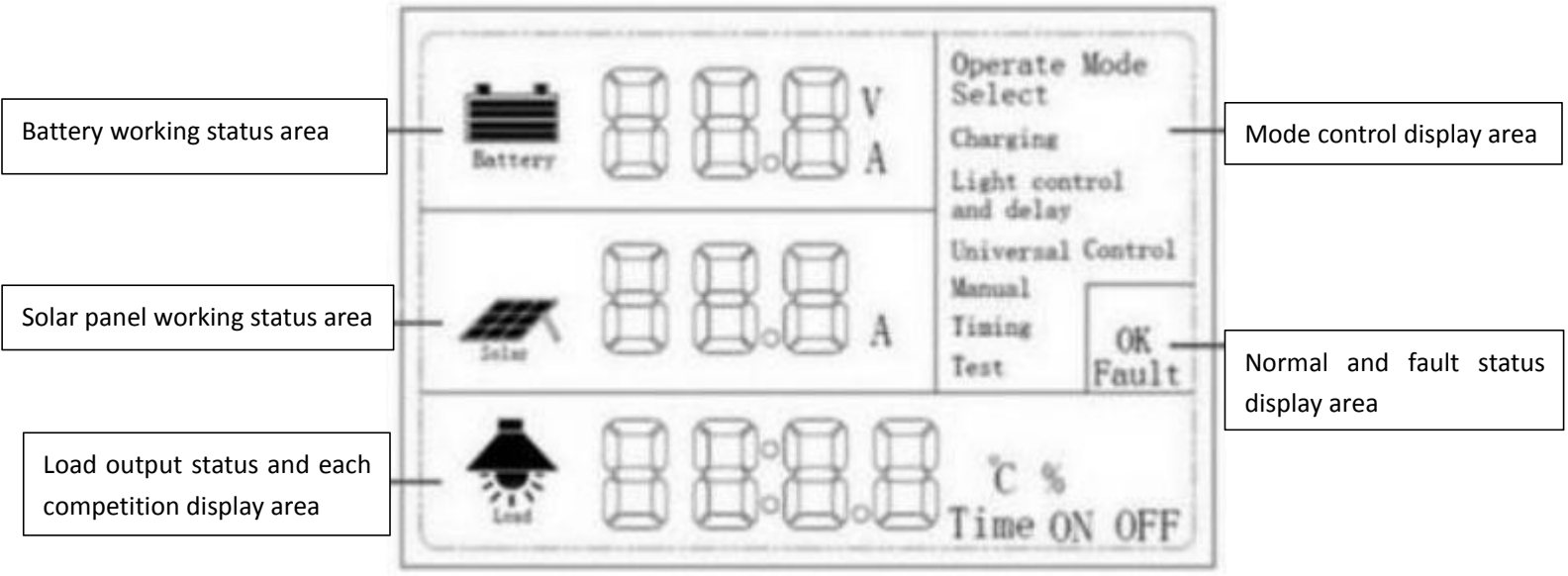
Model Specifications
Model: SY-SLCD
Input voltage: DC12V/24V, DC36V, DC48V
Output voltage: DC12V/24V, DC36V, DC48V, DC5V/1.5AX2USB
Operating temperature: -25℃~65℃

Product Function Description

This product is a multifunctional LCD display solar controller with a clock display function. It has 7 operating modes, namely charging mode, light control mode, light control + delay control mode, general control mode, manual control mode, timing control mode and test mode. Among them, the test mode is only suitable for factory testing.
The charging control function is not limited to any mode restrictions. As long as the charging conditions are met, it will charge immediately.
The discharge control function varies according to different control modes. In the absence of faults, the specific instructions are as follows:
1. Charging mode: Discharge is not allowed under any conditions.
2. Light control mode: When the controller detects that it is night, it will delay 10 minutes to start discharging; when it detects that it is daytime, it will delay 10 minutes to stop discharging.
3. Light control + delay control mode: When the controller detects that it is night, it will delay 10 minutes to start discharging and start counting down. When the timer is 0, the discharge stops. The longest delay time is 23:59.
4. General control mode: In the absence of faults, the discharge state is always maintained.
5. Manual control mode: use "▼" to start or stop discharging.
6. Timing control mode: start discharging at a fixed time, and stop discharging at a fixed time:
7. Test: Same as light control + delay control mode, except that the delay time is 10 minutes less.
8. If the controller still needs to discharge after low voltage protection, press and hold "▼" for 5 seconds, and it can still output, but it can only stop discharging manually. Please note that this function may damage the battery, so please use it with caution!

Display and operation instructions

1. Display screen
(1) Full screen display



(2) Working status display area description

Battery charging status and voltage indication. When the battery is charging, it indicates the battery voltage statically:

The display of battery voltage and discharge current switches the display every 5 seconds.

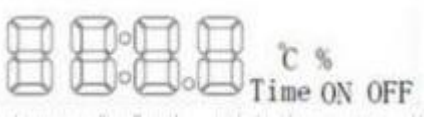
(3) Solar panel working status area

When the solar panel is displayed, it means it is in the charging state. When it is not displayed, it means charging is stopped.

A displays the charging current.

(4) Load output status and various parameter display areas

When discharging, the load icon is on. When not discharging, it means discharging is stopped.



When "℃" is displayed, the 4-digit value displays the temperature of the controller; when "%" is displayed, the 4-digit value displays the battery power in percentage; when "Time" is displayed, the 4-digit value displays the 24-hour time; when "Time

ON" is displayed, the 4-digit value displays the timer start time in the timing control mode; when "Time OFF" is displayed, the 4-digit value displays the timer stop time in the timing control mode or the timer stop time in the light control + delay control mode.

(5) Mode control display area

"Operate Mode Select" is always on, indicating that this area is the control mode selection area.

"Charging" is always on, indicating that the controller is working in charging mode.

"Light Control" is always on, indicating that the controller is working in light control mode..

"Light Control and delay" is always on, indicating that the controller is working in light control start + delay stop control mode.

"Universal Control" is always on, indicating that the controller is working in universal control mode.

"Manual" is always on, indicating that the controller is working in manual control mode.

"Timing" is always on, indicating that the controller is working in timing control mode.

"Test" is always on, indicating that the controller is working in test mode.

(6) Normal and fault status display area

"0K- always on, indicating that the controller is working normally.

"Fault" flashes, indicating that the controller detects abnormal battery voltage, discharge current or humidity.

When the battery voltage is abnormal, "Fault" flashes, and the voltage value also flashes.

When the discharge current is too large, "Fault" flashes, and the abnormal current value also flashes.

When the control temperature exceeds 75℃, "Fault" flashes and the temperature value also flashes.

2. Operation instructions

(1)

"▲" value and mode adjustment button;

"■" set/confirm button;

"▼" shift and forced start/stop button.

(2) Time setting

After power on, the time setting state is entered immediately. The first digit (the leftmost digit) of the 4-digit value displayed in the load output status and each parameter display area flashes, indicating that this digit can be adjusted. Press "▲" to adjust the value. To adjust other digits, press "▼" to shift and adjust. If you need to adjust the time again, press and hold "■" 5s to enter the time setting state.

(3) Mode adjustment

Press "■", the current control mode will flash, then press "▲" to call out the desired control mode, and then press "■" to confirm.

(4) Adjustment of the delay stop time of the light control start + delay stop control mode

When the "Light Control and delay" control mode is selected and confirmed, the delay stop time parameter will pop up automatically. The operation method is the same as the time setting operation. The load output status and each parameter display area will display "Time OFF". After adjustment, press "■" to return to the display mode. If you need to modify the delay stop time

parameters again, press "■" twice to enter the delay stop time parameter adjustment.
(5) Start time and stop time adjustment in timing control mode
After selecting the "Timing" control mode and confirming it, the start time parameters will pop up automatically. The operation method is the same as the time setting operation. "TimeON" will be displayed in the load output status and each parameter display area. After adjusting the start time, press "■" to automatically enter the stop time parameter adjustment. The load output status and each parameter display area will display "Time OFF". After adjustment, press "■" to return to the display mode.

Protection parameters

(1) Voltage protection description
When using a 12V battery, if the battery voltage is lower than 10.5V, the low voltage protection will be delayed for 6 seconds, the voltage value will flash, "Fault" will flash, and the discharge will stop. When the voltage returns to 11.5V, it returns to normal. When the voltage reaches 16.0V, the voltage value will flash, "Fault" will flash, and the discharge will stop. When the voltage returns to 15.0V, it returns to normal.
When using a 24V battery, the battery voltage is lower than 21.0V, the low voltage protection is delayed for 6 seconds, the voltage value flashes, "Faulf flashes, and the discharge stops. When the voltage returns to 23.0V, it returns to normal. When the voltage is high at 32.0V, the voltage value flashes, "Fault" flashes, and the discharge stops. When the voltage returns to 30.0V, it returns to normal.
When using a 36V battery, the battery voltage is lower than 31.5V, the low voltage protection is delayed for 6 seconds, the voltage value flashes, "Faulf flashes, and the discharge stops. When the voltage returns to 34.5V, it returns to normal. When the voltage is high at 48.0V, the voltage value flashes, "Fault" flashes, and the discharge stops. When the voltage returns to 45.0V, it returns to normal.
When using a 48V battery, the battery voltage is lower than 42.0V, the low voltage protection is delayed for 6 seconds, the voltage value flashes, "Fault" flashes, and the discharge stops. When the voltage returns to 46.0V, it returns to normal. When the voltage is high voltage 64.0V, the voltage value flashes, "Fault" flashes, and the discharge stops. When the voltage returns to 60.0V, it returns to normal.
(2) Discharge current protection instructions
When the discharge current is greater than 150% of the rated current, protection is immediately activated, the protection current value flashes, "Fault" flashes, and the discharge stops.
When the discharge current is 110%~150% of the rated current, the protection is delayed for 10 seconds, the protection current value flashes,
"Fault" flashes, and the discharge stops.
When the discharge current is 100%~110% of the rated current, the protection is delayed for 10 minutes, the protection current value flashes,
"Fault" flashes, and the discharge stops.
(3) Charging protection instructions
When using a 12V battery, the battery voltage is lower than 13.0V, start charging, and stop charging when the voltage is 14.8V. When using a 24V battery, the battery voltage is lower than

26.0V, start charging, and stop charging when the voltage is 29.6V. When using a 36V battery, the battery voltage is lower than 39.0V, start charging, and stop charging when the voltage is 44.8V. When using a 48V battery, the battery voltage is lower than 52.0V, start charging, and stop charging when the voltage is 59.2V:

△Precautions

1. Do not throw this product into fire to prevent permanent damage to the product;
2. Do not throw this product into water to prevent permanent damage to the product;
3. Do not use this product in a humid or high temperature environment;
4. Do not try to disassemble this product to prevent damage;
5. Do not short-circuit the output side directly to avoid danger.

Lithium batteries must be shipped from regular manufacturers with built-in protection boards, and the full power parameters must be set before they can be charged.