www.solariscontroller.com

**LC-C /CU series Solar Intelligent Charging Controller**
**Operation instruction manual**

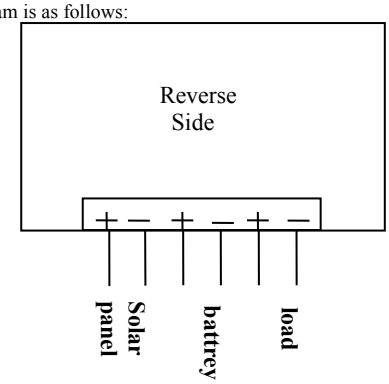
## Ⅰ. Main features

Identify 12V/24V system voltage automatically.

1. LED indicates the working status of battery and load.
2. Double USB output charging for various electronic products. Max load current reach up to 1.2A.
3. LCD screen could show charge current, discharge current and capacity of the battery.
4. Adopting advanced ternary form charging algorithm, equalizing charge for battery once a week to prevent battery from imbalance and vulcanization effectively so that the battery service life will be extended.
5. Manual control for the load.
6. External temperature sensor can realize high-precision temperature compensation
7. Various protections: Over charging protection, over discharging protection, over load, short circuit protection, reverse polarity protection, TVS lightning protection

## Ⅱ. Installation and wiring

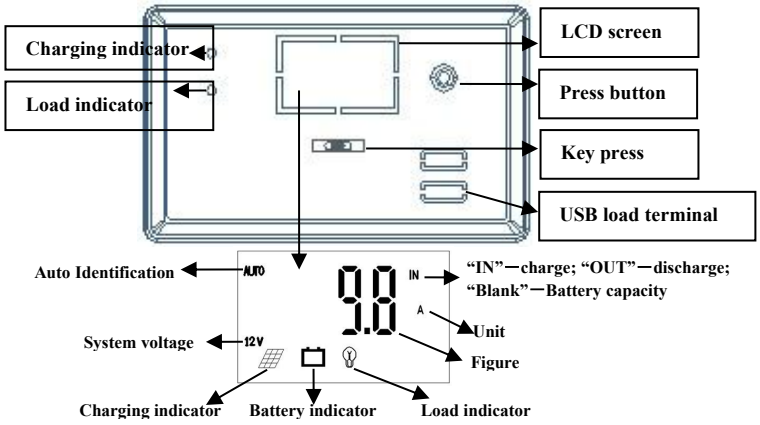
1. 12V or 24V voltage worked, the storage battery connected first, controller will work after recognize the battery volt automatically. If 12 V system, “12” showed on LCD screen. If 24V system, “24.” showed on LCD screen
2. Connecting the solar panel: if connection is right, indicator of solar panel will twinkle. If no, please check the connection.
3. Connecting the load: connect the load wire to the controller’s load output terminal. Ensure the load current no exceed rate current..
   Wiring diagram is as follows:




## Ⅲ. Suggestions for use

1. When the battery over discharged, please cut off the USB load. Otherwise the USB only supply the emergency charging and it is bad for the battery.
2. Controller will fever during working. Therefore, it is suggested to install it in a ventilated environment.
3. Temperature compensation function needs to test the ambient temperature. Therefore, please place the storage battery and the controller in the same environment.
4. Choosing the cable with enough capacities for connection to avoid excessive loss on circuit which may cause the controller wrong judgment.
5. Common anode designed. If grounding, please use the anode.

## Ⅳ. Status indications



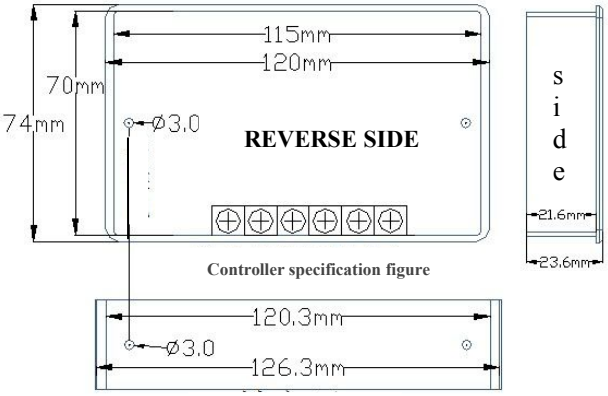

| LED indicator | Indications | Status | Functions |
|---|---|---|---|
| | Charging indication | Long-term On | There is voltage on solar panel |
| | | Long-term Off | No voltage on solar panel |
| | Load indication | Long-term On | Load open |
| | | Long-term Off | Load close |
| | | Slow twinkling | Overload protection |
| | | Fast twinkling | Short circuit protection |
| | battery indication | Long-term On | Battery normal operation |
| | | Long-term Off | Battery cut-off |
| | | Slow twinkling | Over-discharge or over-voltage |
| Key press | Status indication | First gear | Charge current |
| | | Second gear | Battery capacity |
| | | Third gear | Discharge current |

## Ⅴ. Instructions for parameters

| | |
|---|---|
| System voltage | 12V/24V Auto |
| System current | 10A;20A |
| No-load loss | < 12mA |
| Solar energy input voltage | < 55V |
| Overvoltage protection | 17.0V；×2/24V |
| Equal charging voltage | 14.6V；×2/24V（25℃）, duration:1h |
| Ascending charging voltage | 14.4V；×2/24V（25℃）, duration:2h |
| Float charging voltage | 13.8V；×2/24V （25℃） |
| Charging recovery voltage | 13.2V；×2/24V （25℃） |
| over-discharging recovery voltage | 12.5V；×2/24V |
| Under voltage | 12.0V；×2/24V |
| Over-discharging voltage | 11.1V；×2/24V |
| USB load cut-off voltage | 10.6V；×2/24V |
| Total USB load rated current | 1.2A |
| Temperature compensation | -4.0mv/℃/2V； |
| Overload and short circuit protection | 1.25 times of rated current: 30s;<br>≥1.5 times of rated current: short circuit protection |
| Working temperature | -20℃to +50℃ |
| Protection level | IP30 |
| Weight | 140g(10A);170g(20A) |
| Dimensions | 120×74×23.6(mm);<br>（L×W×H)） |

## Ⅵ. Installation size

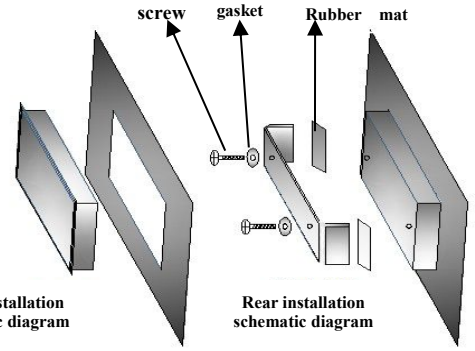
1. Installation of controller should be stable and dimensions are as follows:
   Overall dimension: 120×74×23.6(mm)
   Installation dimension: 115×70(mm)
   Installation hole diameter: 3.0(mm)




Controller specification figure

**Locking ring**

2.Installation method：
First put the controller into the panel then fix the controller with the locking ring by screw:




## Ⅶ. Methods for setting

1. After installation, short press the button to turn on or off the load
2. Slide the switch below the LCD screen to show controller’s parameters.
3. When over load or short circuit, please cut off the load and ensure the load power satisfy the requirement before connecting again. Long press for 2 seconds to remove the load protection.
4. When over voltage or over discharge, load will be cut-off. It will be recovered after the system voltage return to normal.