

SOLAR CONTROLLER

User-Manual



Model No.: CLL12/2408LI-WB

1. DESCRIPTION

CLL12/2408LI-WB is solar light controller for lithium battery with microwave induction. This solar light controller is integrated with LED driver, so the led light can't have LED driver. And this also can save the cost of LED driver. Adopting advanced circuit design and intelligent driving program, this controller has high charging/discharging efficiency and stability. This controller can be microwave induct by external microwave detector to save battery power greatly. With fully sealed waterproof design and wide output voltage, the product applies to most LED solar street lights.

2. FEATURES

- 1) Adopt the integrating technology of control and LED driver, and save the cost of the LED driver power supply for users.
- 2) Adopting advanced and intelligent circuit design, this controller still can work even after the lithium battery enters under-voltage protection state.
- 3) Designed for lithium battery, input voltage is 9V-32V and automatically recognized.
- 4) Max output voltage reaches 70V. Most values, such as over-charging protection, over-discharging protection and exit over-charging protection are adjustable, which matches lithium battery's characteristics highly.
- 5) With the function of 3 time frames power regulation, Users can dim LED lamps' output power.

- 6) The controller adopts fully sealed waterproof design. The IP grade reaches IP67. The controller can be used in the water.
- 7) This controller can withstand from -20℃ to 60℃ high and low temperature, so it can adapt to extreme temperature.
- 8) This controller can drop load's power automatically according to the left capacity of battery, and this feature helps the solar street light work for more days.
- 9) Automatic time controlling at dusk and dawn.

3. INSTALLATION

- 1) Connect the lamp to the controller;
- 2) Connect the battery to the controller. At the moment, the IDLE indicator is on. After 30 seconds, the lamp is turned on;
- 3) Connect the solar panel to the controller. If at daytime, after 70 seconds, the CHARGE indicator is on and the lamp will be turned off.

4. NOTES

- 1) The controller is wide voltage output. Before using the controller, make sure the LED light can match the controller.
- 2) Please connecting wires in order. Wrong wire connection lead to system's misjudgment and controller's damage.

5. INDICATORS

| State | Idle (green) | Charge (green) | Discharge (red) | Remarks |
|----------------------------------|-----------------|-------------------|--------------------|--|
| Idle | on | off | off | Normal |
| Charge | off | on | off | Normal |
| Discharge | off | off | on | Normal |
| finish discharging | on | on | off | Normal |
| output end over power protection | off | on | Slow flicker | Abnormal. Check whether the output power is less than rated power. |

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|---|--------------|--------------|--------------|--|
| Low voltage of Battery | on | on | Slow flicker | Normal |
| output hardware open circuit protection | on | on | Fast flicker | Abnormal. Check whether output end is open circuit. |
| Abnormal input voltage protection | on | Fast flicker | off | Abnormal. Check whether battery's wiring is correct. |
| Over current protection of Charging | off | Slow flicker | off | Abnormal. Check whether solar panel is out of the range of this model. |
| wrong model | Fast flicker | Fast flicker | Fast flicker | Abnormal. Reset right model No. or return to factory. |
| 1) No flicker means OK; 2) Slow flicker (2 seconds) means recoverable error. There is no need to solve the error manually; 3) Fast flicker (0.5 seconds) means unrecoverable error. The error need to be solved manually. | | | | |

6. SPECIFICATIONS

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|----------------------------|---|
| Model | CLL12/2408LI-WB |
| Input voltage | DC 9V-32V auto adaptive |
| Output voltage | Battery's peak volt plus 1V~70V |
| Self consumption | 10mA |
| Max. charging current | 8A |
| Max. output power | 40W |
| Max. conversion efficiency | 96% |
| Output current error | ±3% |
| Output current | 50mA - 2600mA (programmable) |
| Max. solar panel | 130WP (12V system) / 260WP (24V system) |
| Max. solar panel voltage | DC55V |
| Working temperature | -20°C ~ 60°C |
| Charging mode | PWM mode |
| Working mode | Induction mode; power saving mode |

| | |
|----------------------------------|----------------------|
| Delay time | 0-200 seconds |
| Over-charging protection voltage | DC 9V-32V adjustable |
| Under voltage protection | DC 9V-32V adjustable |
| Exit under voltage protection | DC 9V-32V adjustable |
| Weight | 150g |
| Size | 67mm×77mm×18mm |
| Battery type | Lithium |

7. APPLICATION

12V system: Solar LED light with max 40W LED light (LED should be 15V-70V)

24V system: Solar LED light with max 40W LED light (LED should be 29V-70V)

8. SAFETY AND PROTECTION

Lightning protection, overcharge and over discharge protection, reverse polarity protection, reverse current protection at night, output end protection(open circuit, over current, over voltage, over power), and over temperature protection.

9. WARRANTY

Three years since the date of ex-factory.