

SOLAR CONTROLLER

User-Manual



Model No.: CLLM12/2408LI-40W

1. DESCRIPTION

CLLM12/2408LI-40W is solar controller for LED solar street light adopting MPPT technology. The max tracking reaches 99.95%. The max conversion efficiency reaches 96%. Compared to ordinary controller, this controller can improve the conversion efficiency by 15%-20%.

Besides MPPT technology, this product also integrates solar controller and LED driver in one. This can help customers save the cost of LED driver.

2. FEATURES

- 1) Advanced MPPT algorithm with the max. tracking efficiency of 99.95%
- 2) realizing peak conversion efficiency 96%
- 3) Light controlling, time controlling and output power dimmable in 4 time intervals.
- 4) Integration with LED driver. So the led light can't have driver.
- 5) Automatically recognize voltage.
- 6) full protection function
- 7) Temperature compensation to battery

- 8) Excellent waterproof protection
- 9) Standing high/low temperature: our controller can work stably for a long time at the temperature from -35°C to 60°C
- 10) Optional function one: the controller can automatically drop load's power when battery is lower than 12.5V/25V. This function let the lights work for longer days in rainy season.
- 11) Optional function two: the controller can adjust the working time automatically in different seasons. In winter, the working time becomes long, while in summer, the working time becomes short automatically.

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

State	Idle (green)	Charge (green)	Discharge (red)	Remarks
Over temperature	off	off	Slow flicker	Abnormal. High internal temperature, access to protection state, self-recovery.
Low voltage of Battery	on	on	Slow flicker	Normal
output end over power protection	off	on	Slow flicker	Abnormal. Check whether the parameters settings are reasonable.
output end open circuit protection	on	on	Fast flicker	Abnormal. Check whether the lamps are connected and whether the quantities of LED lamps are out of range.
Abnormal input voltage protection	on	Fast flicker	off	Abnormal. Check whether wiring is correct or the rated peak voltage 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.
Abnormal wiring (reverse connected / not connected)	on	Slow flicker	off	Abnormal. Check whether wiring is correct.
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

Model	CLLM12/2408LI-40W
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 charge conversion efficiency	96%
Max discharge conversion efficiency	96%
Output current error	±3%
Output current	150mA - 2600mA (programmable)
Max. solar panel	100WP (12V system) / 200WP (24V system)
Max. solar panel voltage	DC55V
Working temperature	-35℃ ~ 60℃
Charging mode	MPPT
Working mode	Light controlling, time controlling, output current adjustable in 4 time intervals
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	83mm×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.