

※ Thanks for selecting the EPEVER LORA solar wireless collector. Please read this manual carefully before using the product.
 ※ Please keep this manual for future reference.

Solar Wireless Collector

EPEVER LORA 433A/470A
 EPEVER LORA 868A/915A

1. Important Safety Instructions

- When you receive the product, please firstly check whether there is any damage that occurred in transportation. Contact the transportation company or our company in time for any problem.
- Read all the instructions and warnings carefully in the manual before installation;
- The product should be situated away from the rain, exposure, dust, vibration, corrosion, and strong electromagnetic of the environment;
- Never use the product at sites where electrostatic could occur, and avoid the antenna close to a metal object;
- DO NOT disassemble or attempt to repair the product.

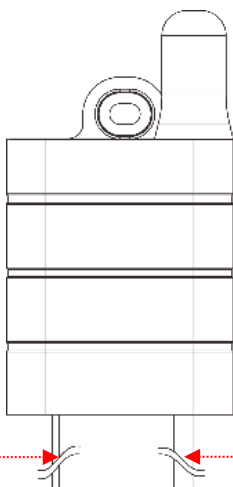
2. Overview

The EPEVER LORA is a new generation of the solar wireless collector, the core device in the wireless transmission system for street lamp monitoring. It communicates with the RS485 serial port of the controller by the downstream channel. It connects to the concentrator through the upstream Sub-1GHz wireless communication. The EPEVER LORA uploads the collected data to the server through the concentrator. The user can remotely monitor the real-time status of solar street lights, remotely switch on/off lights and adjust the brightness, query the historical data, etc.

Features:

- Upstream and downstream communication channel
- Low power consumption, average power consumption no higher than 0.3W
- Simply power supply methods, power supply through the controller's com. port
- Long wireless transmission distance, longest transmission distance up to 2.3 km
- Safe and reliable data transmission by the special EPEVER transmission protocol

3. Appearance



① Antenna cable ② RS485 com. cable

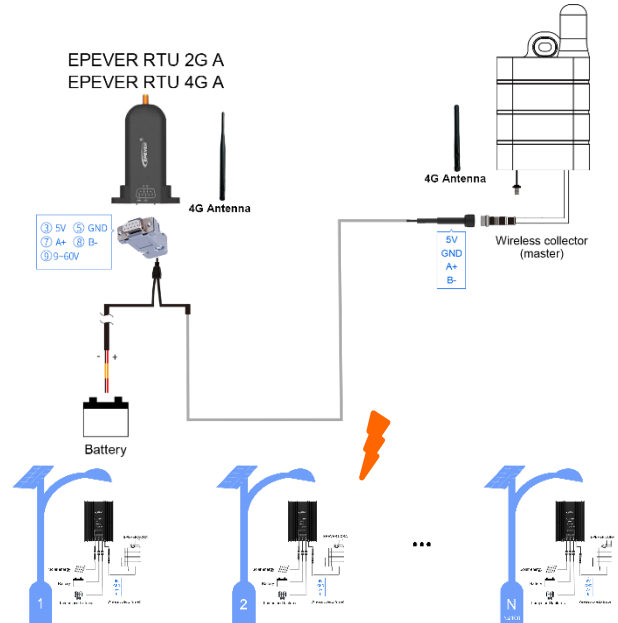
4. System Connection

The EPEVER LORA shall be used to match the cloud monitoring platform,

concentrator, and solar controller. To control multiple street lights over a longer distance, you can connect a concentrator and multiple EPEVER LORA devices in the "one-to-more" connection diagram below. The EPEVER LORA will collect all system data to upload to the server.

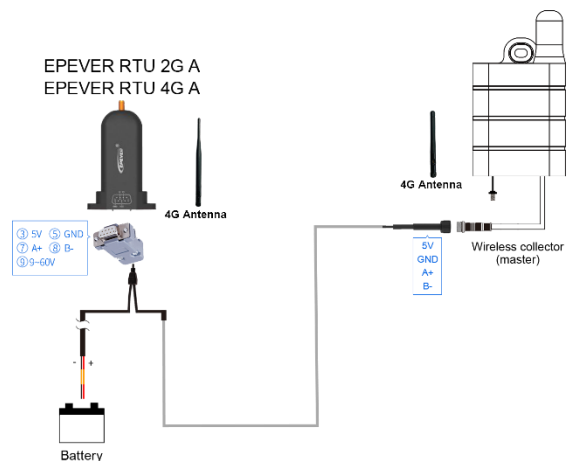
Notes:

1. In the "one to more" connection diagram, it is necessary to set one LORA as the master device and the remaining LORAs as the slave devices. The master-slave mode setting refers to chapter 5, *Configure EPEVER LORA (Optional)*.
2. The master LORA can connect 100 sets slave LORA at most, and the longest wireless transmission distance up to 2.3 km.



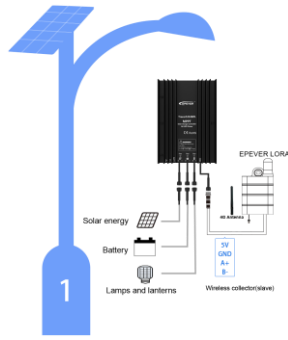
Step1 Connect master EPEVER LORA

In the "one to more" connection diagram, one LORA will be set as the master device. Through the Y-type LLT M12-4 cable, it will be connected to the concentrator directly. The other end of the Y-type LLT M12-4 cable will be connected with a battery to provide power.



Step2 Connect slave EPEVER LORA

In the "one to more" connection diagram, the slave LORA is connected to the solar controller through the RS485 com. Cable directly. It shows as the following figure.



Step3 Connect antenna

The antenna connector of the EPEVER LORA adopts a 4G glue stick antenna, which varies with the working frequency. An external antenna complied with the working frequency is irreplaceable; other mismatched antennas will affect product performance and damage the product severely.

Working Frequency	Applicable Antenna	
LORA 433/470MHZ	Include	
LORA 868/915MHZ	Include	
	Optional	

Caution: As a wireless terminal, keep the antenna away from the human body as far as possible during the operation process.

5. Configure EPEVER LORA (Optional)

In the "one to more" connection diagram, one LORA needs to be set as the master mode, and the remaining devices are in slave mode. The frequency and channel of the slave devices must be consistent with the master device.

Note: The master-slave mode of the EPEVER LORA has been configured at the factory. Users can quickly distinguish the master and slave devices according to the master-slave device number provided in the configuration table (shipped with the EPEVER LORA). This chapter generally does not need to be performed. Suppose the user needs to change the parameters of the master device and slave devices. In that case, you can configure them according to the following process.

Configuring process:

Step1: First, transform the communication port of the EPEVER LORA into the USB port by LLT M12-4 cable, USB adapter, and then connect the USB port to the PC.

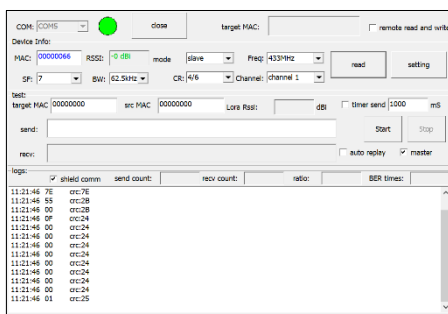
Note: The LLT M12-4 cable and USB adapter are optional accessories. Please contact the sales in advance for customizing.

Step2: Click to open the EPEVER LORA tools in the PC and connect EPEVER LORA successfully.

Step3: Click the "Read" button to display the EPEVER LORA's parameters.

Note: The EPEVER LORA tool is a special configuration tool, which is convenient to configure the parameters of terminals. Customers can apply for it from our business or technical personnel after purchasing our products.

Step4: Click the "mode" drop-down box and select the "master" to set the current EPEVER LORA to the master mode (the factory default mode).

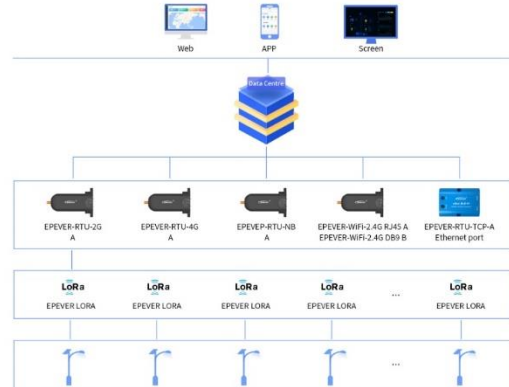


Step5: Click the "mode" drop-down box and select the "slave" to set other LORAs to the slave mode (**Note:** The frequency and channel of the slave device must be consistent with the master device).

Step6: Finish the master-slave mode setting.

6. Applications

In the "one to more" connection diagram, one EPEVER concentrator matched with several LORAs can connect the solar controller flexibly. The user can remotely control the devices through the cloud platform and monitor the real-time status.



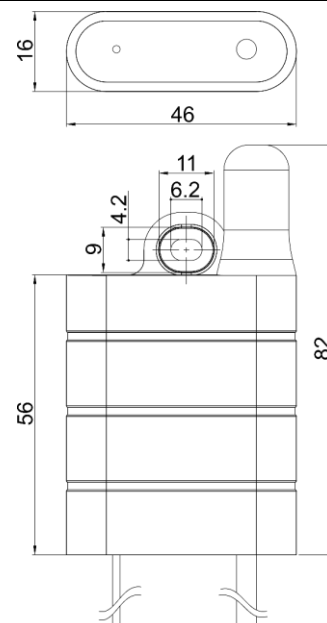
Login into the cloud platform (<https://iot.epsolarpv.com>), remotely monitor the real-time condition, or set the parameters.

Note: For new accounts, devices need to be manually added in the EPEVER cloud before monitoring.

7. Specifications

Item	Specifications
Working Frequency	433 MHz/470 MHz /868 MHz /915 MHz
Communication channel	Upstream: Sub-1GHz Downstream: RS485
Antenna connector	50Ω IPX connector
Communication Distance	≤2300m
Power	5VDC
Average power consumption	≤0.3W
Data transformer protocol	Special EPEVER transmission protocol
Environment temperature	-20°C~70°C
Guarantee period	two-year

8. Dimension



Any changes without prior notice! Version number: 3.0