※ **Thanks for selecting the 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 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

EPEVER LORA, a new generation of wireless collectors, is the core device in the solar street light monitoring system. It is connected to the controller's RS485 port, communicating with the concentrator via the upstream LORA wireless technology. And then, the concentrator uploads the collected data to the EPEVER cloud server with the 2G/3G/4G technology. Users can remotely monitor the real-time status, switch on/off lights, dim the lights, query the historical data, etc.

Features:

- Equipped with an upstream and downstream communication channel

- Low power consumption, average power consumption no higher than 0.3W

- Power supply by the controller's communication port

- Long wireless transmission distance, up to 1.8 km

- Safe and reliable data transmission(EPEVER transmission protocol)

3. Appearance
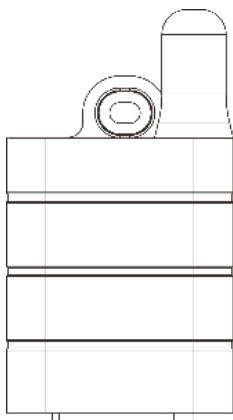
❶ Antenna cable   ❷ RS485 com. cable

4. System Connection

The EPEVER LORA shall be used to match the EPEVER cloud server, 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 of slave LORA at most, and the longest wireless transmission distance is up to 1.8 km.

Step1: Connect master EPEVER LORA

In the "one to more" connection diagram, one LORA will be set as the master device. By the RS485 communication cable, the master LORA is connected to the concentrator directly. The other end of the RS485 communication cable is connected to a battery.
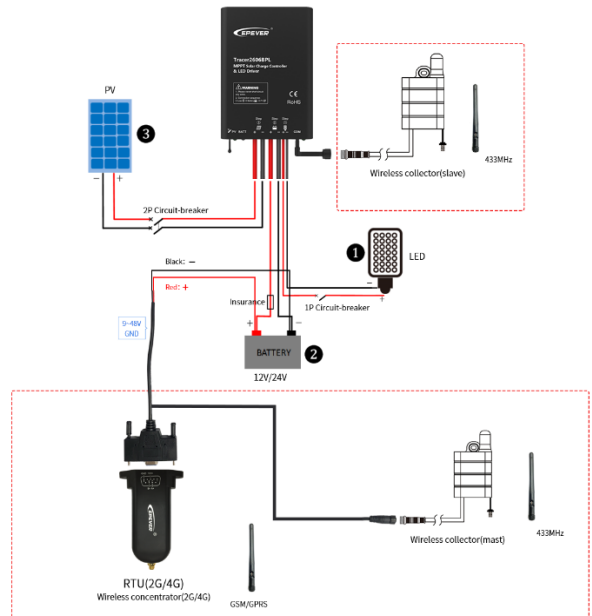
Note: Taking Tracer-BPL as an example, connected in the sequence of ❶LED > ❷Battery > ❸ PV. For other controllers' connections, refer corresponding user manual for detail.

Step2: Connect slave EPEVER LORA

In the "one to more" connection diagram, the slave LORA is directly connected to the solar controller through the local RS485 com. cable.
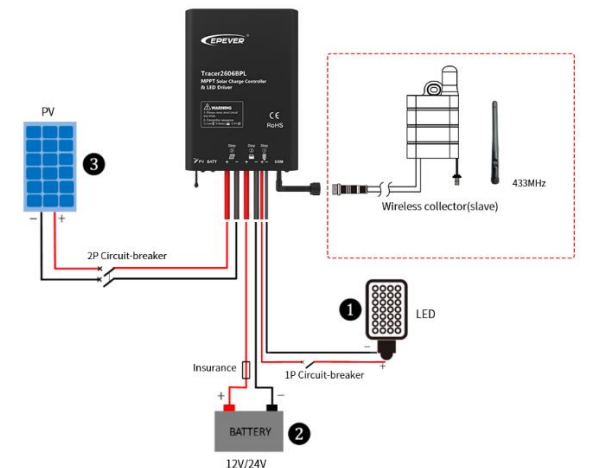
Step3: Connect antenna

The antenna adopts a 4G glue stick style connected to the LORA antenna cable. It varies with the working frequency. The antenna complying with the working frequency is a must; using mismatched antennas may affect product performance and severely damage the product.

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 is 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 one.

Note: The master-slave mode has been configured before the factory. Users can quickly distinguish the master and slave devices according to the configuration table (shipped with the EPEVER LORA). Suppose the user needs to change the parameters of the master and slave devices. In that case, you can configure them by the following process.

Configuring process:

Step1: Transform the LORA communication port into the USB port with RS485 communication cable and USB adapter. Then connect the USB port to the PC.

Note: The RS485 communication cable **and USB adapter are optional accessories. Please get in touch with the sales in advance for customizing.**

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

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

Note: The EPEVER LORA tool is a special configuration tool that is convenient to configure the terminal parameters. Customers get 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).
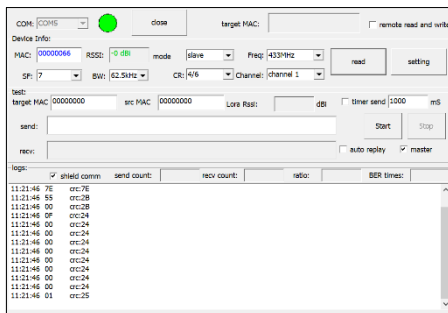
Step5: Click the "**mode**" drop-down box and select the "**slave**" to set other LORAs to the slave mode (**Note: The frequency and channel of the slave device must be consistent with the master device**).

Step6: Click the "**Setting**" button to 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 remote control the controllers and monitor the real-time status through the cloud platform.
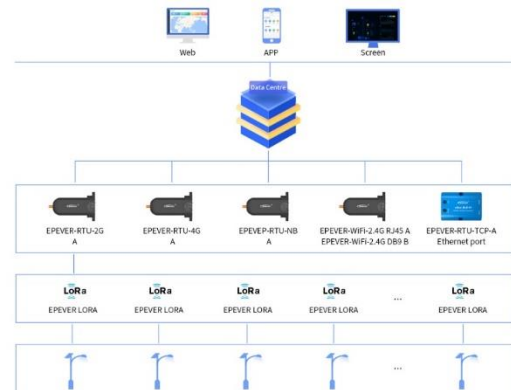
Login into the cloud platform (https://iot.epsolarpv.com), remote monitor the real-time status, or set the parameters.

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

7. Specifications

Item	Specifications
Working Frequency	433 MHz/470 MHz /868 MHz /915 MHz
Communication method	RS485
Antenna connector	50Ω IPX connector
Communication Distance	≤2300m
Power	5VDC
Average power consumption	≤0.3W
Environment temperature	-20℃~70℃

8. Dimension
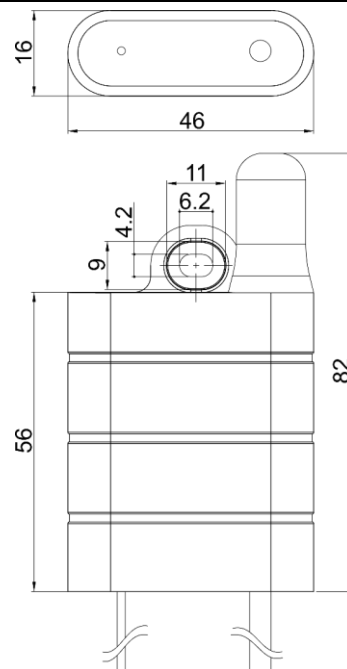
Any changes without prior notice! Version number: 3.1