

※ Thanks for selecting the EPEVER RTU 4G A solar wireless collector.

Please read this manual carefully before using the product.

※ Please keep this manual for future reference.

## GPRS Transmission Terminal

EPEVER RTU 4G A

### 1. Important Safety Instructions

- Read the instructions and warnings in the manual carefully before installation.
- The product should be situated away from the rain, exposure, dust, vibration, corrosion, and intense electromagnetic environment.
- Please avoid water and other liquids entering the product.
- 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.
- Power supply: 9~48VDC can be customized according to customers' requirements.
- Enable GPRS service for the SIM card before installation.

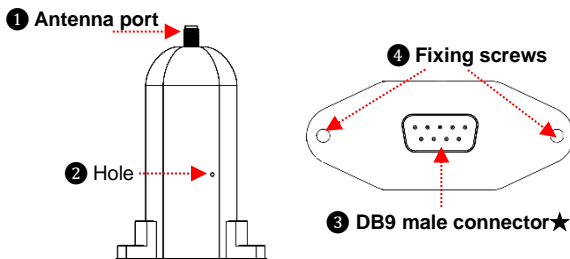
### 2. Overview

EPEVER RTU 4G A is a new wireless data transmission terminal based on the 4G network. With the GSM/GPRS SIM card, the connected devices can easily access the EPEVER cloud server to realize remote, wireless, and networked communication. EPEVER RTU 4G A is suitable for EPEVER solar controller, inverter, and inverter/charger.

#### Features:

- Extensive network coverage and flexible networking
- Low operating costs (charged by network flow)
- Adopt a non-standard DB9 male terminal
- Embedded in Modbus RTU protocol
- Automatic restore after disconnection
- Support RS485 communication

### 3. Appearance



★The pin definition of the terminal(DB9 female) connected to the DB9 male terminal (3) is follows.

Item	Terminal	Definition
1/2	NC	Floating
3	VCC2	Power2 (12V/200mA)
4	GND2	Power GND2
5	GND1	Power GND1
6	NC	Floating
7	RS485-A	RS485-A
8	RS485-B	RS485-B
9	VCC1	Floating

#### Indicators

You can observe the indicators' color and status through the hole (2).

Name	Color	Status	Instruction
Network indicator (LED2)	Red	On solid	Correct power supply Not registered to the network
		Slowly flashing (5s)	Successfully registered to the network

Sync. Indicator (LED1)	Green	Slowly flashing (5s)	Successfully registered to the network
Power indicator (LED2)	Green	Turn off after a flashing	Correct power supply

### 4. Parameter Configuration

**Step1:** Connect the DB9 male connector (3) to the PC through a DB9 to USB adapter.

**Note:** Connect an external power adapter to the DB9 female terminal to supply the EPEVER RTU 4G A.

**Step2:** Insert the SIM card and power on the EPEVER RTU 4G A. For detailed SIM card installation, refer to chapter **6, Installation**.

**Step3:** Open the configuration tool on the PC and click the "connect" button to connect the EPEVER RTU 4G A successfully.

**Step4:** Click the "Read" and "Write" buttons to configure the parameter.

**Step5:** After configuring, power on the product again to make the modified parameters take effect.

#### Common configuration parameters:

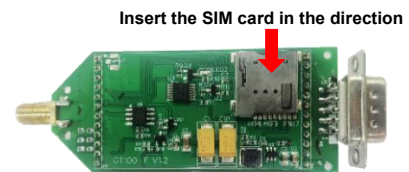
Parameters	Configuration
Server Info	No modifications are recommended
APN	Different countries have different APNs, and please make sure APN first. Products will not be connected to the Internet with fault APN. China APN: CMNET
APN User	Enter it according to the actual
APN Key	Enter it according to the actual
Baud	Set it according to the connected controller or inverter

**Note:** The "APN" will be identified automatically. If it cannot be identified, the end-user can configure it by the above procedures.

### 5. Installation

#### Step1: Install the SIM Card

- ① Purchase a SIM card and activate the GPRS service.
- ② Undo the three screws from the EPEVER RTU 4G A.
- ③ Push the shell upward and take out the circuit board.
- ④ Take out the small SIM card and insert it into the card slot correctly.



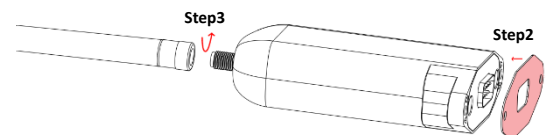
- ⑤ After installing successfully, reinstall the product shell.

#### Step2: Install the silicone pad

Tear off the silicone pad's adhesive and stick the silicone pad to the DB9 terminal of the EPEVER RTU 4G A.

#### Step3: Install the antenna

Connect the 4G antenna to the antenna port of the EPEVER RTU 4G A.



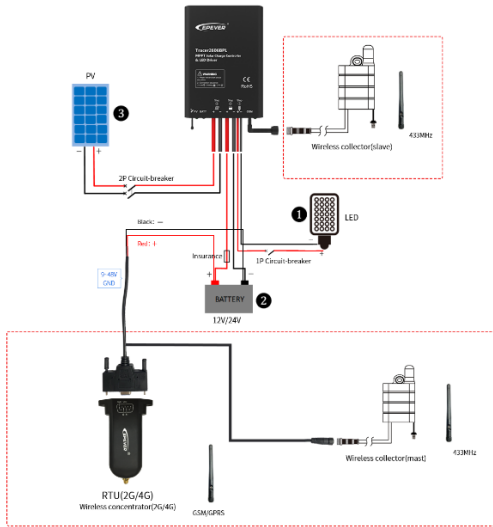
**Caution:** As a wireless terminal, keep the antenna away from the human body as far as possible during the operation process.

#### Step4: Connect the device

Take the connection with the solar controller as an example.

Connect the DB9 connector of the RS485 communication cable to the EPEVER RTU 4G A, then connect the ends of the RS485 communication cable to the master LORA module and the battery separately.

Note: The EPEVER RTU 4G A supports 9~48V DC power. While a larger transient current is needed when the wireless network sends the data, it is suggested to adopt a DC power of 12V/500mA or above.



Note: If the EPEVER RTU 4G A is connected with the inverter or inverter/charger. Connect the DB9 connector of the RS485 communication cable to the EPEVER

RTU 4G A. Then connect the ends of the RS485 communication cable to the battery and the device COM port. The master LORA module is no longer needed.

### 6. Specifications

Item	Specifications
Network type	GPRS class12
Coding method	CS1 – CS4(Comply with SMG31bis)
Frequency	GSM900/1800MHZ, CDMA: BC0, WCDMA: B1/B8, TD-SCDMA: B34/B39, LTE TDD: B38/B39/B40/B41, LTE FDD: B1/B3/B5/B8
GPRS transmission rate	150M
Network protocol	TCP/UDP/FTP/PPP/DNS
SIM card voltage	3V/1.8V
Antenna connector	50Ω IPX connector
Communication port	RS485
Serial port baud	9600~115200bps
Power	9~48VDC
Power consumption	Communication: <200mA/5V; Idle: <40mA/5V
Environment temperature	-40~85°C
Relative humidity	0~95%(Non-condensing)
Dimension (L x W x H)	101.2mm x 64mm x 26mm
Mounting hole size	∅3.2mm
Net Weight	54.0g
Electromagnetic compatibility	Electrostatic discharge immunity test, level 3 Anti-interference test, level 3

### 7. Connect the device to the EPEVER cloud server

The device connected with the EPEVER RTU 4G A can be added to the Cloud server by the PC or mobile APP. Take adding the device through the mobile APP as an example (For the operations of adding a device by PC, refer to the *EPEVER Cloud Server user manual*).

CAUTION: Please get the Android or IOS version of the EPEVER cloud APP according to your phone system and install it successfully.

Step 1: Connect the EPEVER RTU 4G A with the device as chapter 5, *Installation*.

<p><b>Step 2:</b> Open the APP, click the "EPEVER Cloud" icon, and input the account to log in.</p>	<p><b>Step 3:</b> Click the "Plant" icon (it is the "Light" icon instead when login in with the streetlight account), and select a project.</p>	<p><b>Step 4:</b> Click "+" &gt; Add Device" on the "Plant List" page.</p>	<p><b>Step 5:</b> Select the device to be added to the cloud server.</p>	<p><b>Step 6:</b> Select the connected module (the EPEVER RTU 4G A).</p>	<p><b>Step 7:</b> Input the ID (or scan the QR code) on the module label, and click "Confirm" to enter the Plant or Light project page directly.</p>
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### 8. Troubleshooting

Faults	Solutions
LED indicators are OFF	<ol style="list-style-type: none"> <li>1. Check whether to supply power to the EPEVER RTU 4G A.</li> <li>2. Check whether the power supply's poles are connected inversely. The EPEVER RTU 4G A is equipped with anti-reverse protection. The reverse connection does not cause fatal damage. However, it affects the normal use before the correct connection is restored.</li> </ol>
The network indicator is ON solid	<p>After power is on, the network indicator is on solid for 60 seconds. If it still cannot flash after 60 seconds, please check:</p> <ol style="list-style-type: none"> <li>1. Check whether the SIM card is inserted correctly. 2. Check whether the GPRS service is activated.</li> </ol> <p>The Network indicator is on solid again after running for a while:</p> <ol style="list-style-type: none"> <li>1. Check whether the server status is normal. 2. Check whether the SIM card is loose or arrear.</li> </ol>
Smoke emits along with a pungent smell	The connected battery voltage exceeds the rated voltage, causing the internal components to burn out. Don't hesitate to contact the supplier in time and send it to the manufacturer.
Unregister on the network	<ol style="list-style-type: none"> <li>1. Check whether the SIM card is inserted correctly. 2. Check whether the SIM card has activated the GPRS service.</li> <li>3. Check whether the input power is sufficient. Input power should be 12VDC/500mA.</li> </ol>
Parameters can't be configured	<ol style="list-style-type: none"> <li>1. Check whether the connection to the PC is correct. 2. Check whether the serial port selection is correct.</li> </ol>

Any changes without prior notice! Version number: 3.3