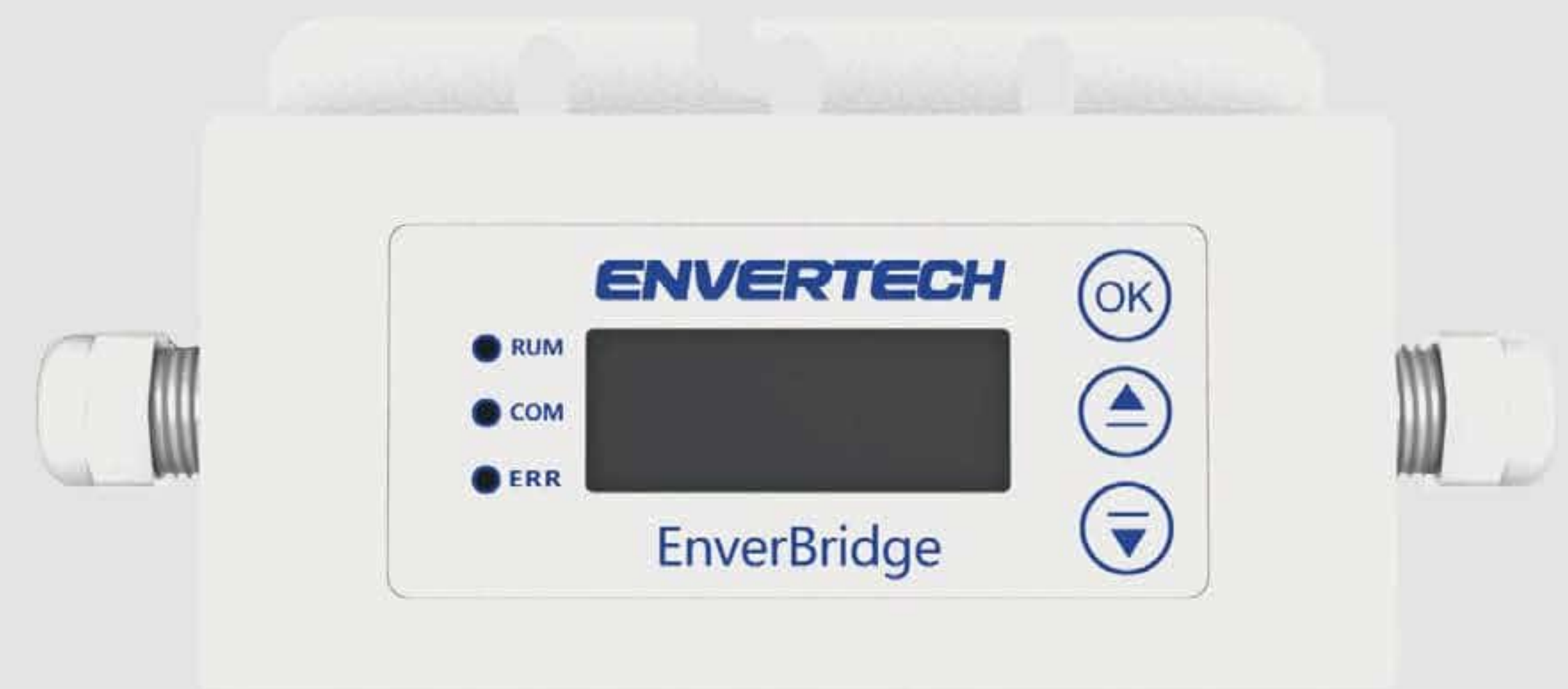# User Operating Manual

Model Number: EVB202

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Content

1 Overview

1.1 Brief Introduction

The monitoring device EVB202 is the commnication interface of microinverters, which can effectively communicate with any Envertech microinverter and transmit the latest information of the microinverter to the server. Users can have access to data through a simple, flexible and convenient way.
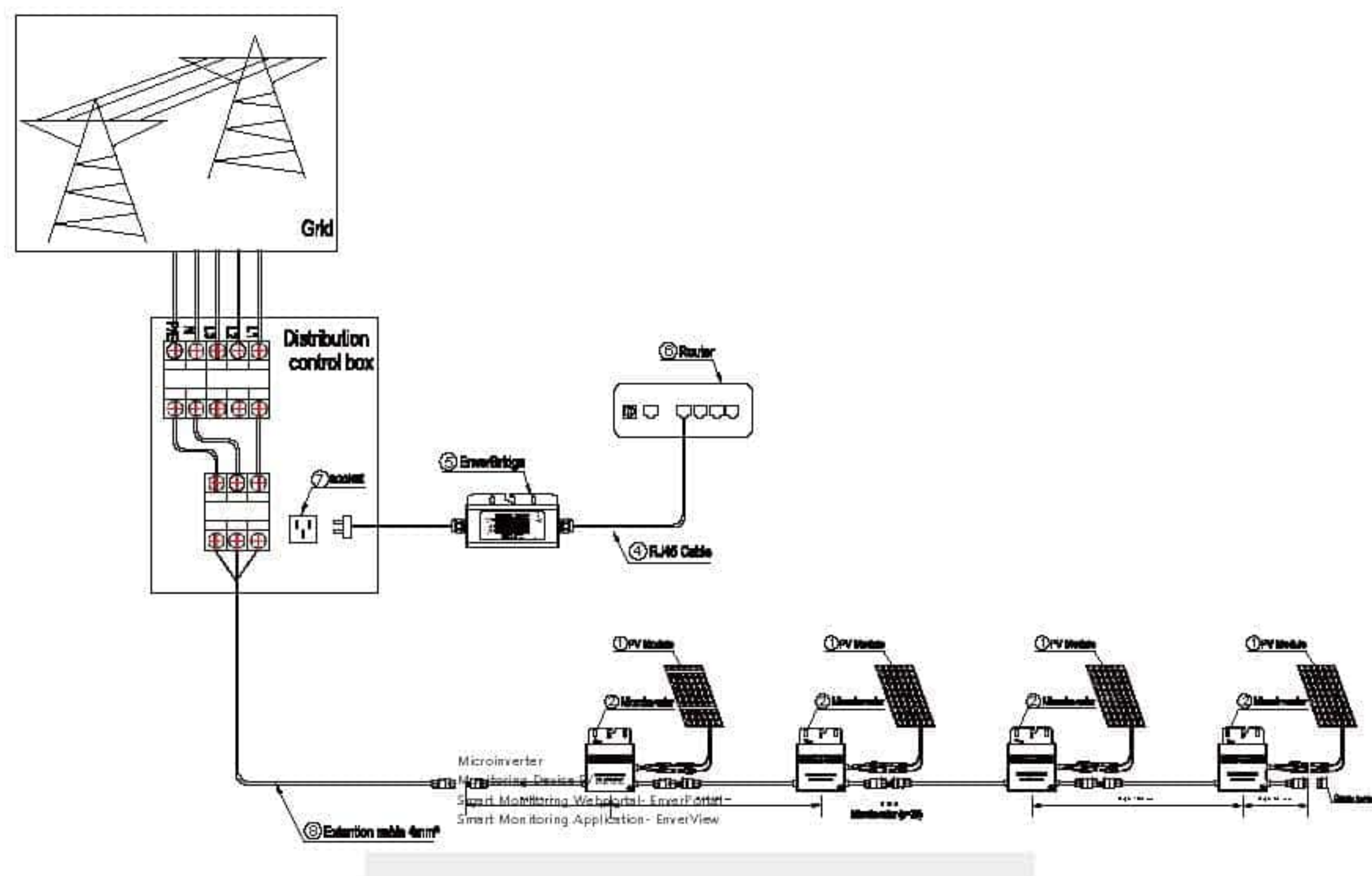
1.2 Features

- 5 Years Warranty
- Power Line Communication
- Simple Installation and Operation
- IP65 Protection Rating(Indoor&Outdoor)
- Real-time Monitoring through Website & App

1.3 Key Equipments

- Microinverter
- Monitoring Device EVB202
- Smart Monitoring Webportal- EnverPortal
- Smart Monitoring Application- EnverView

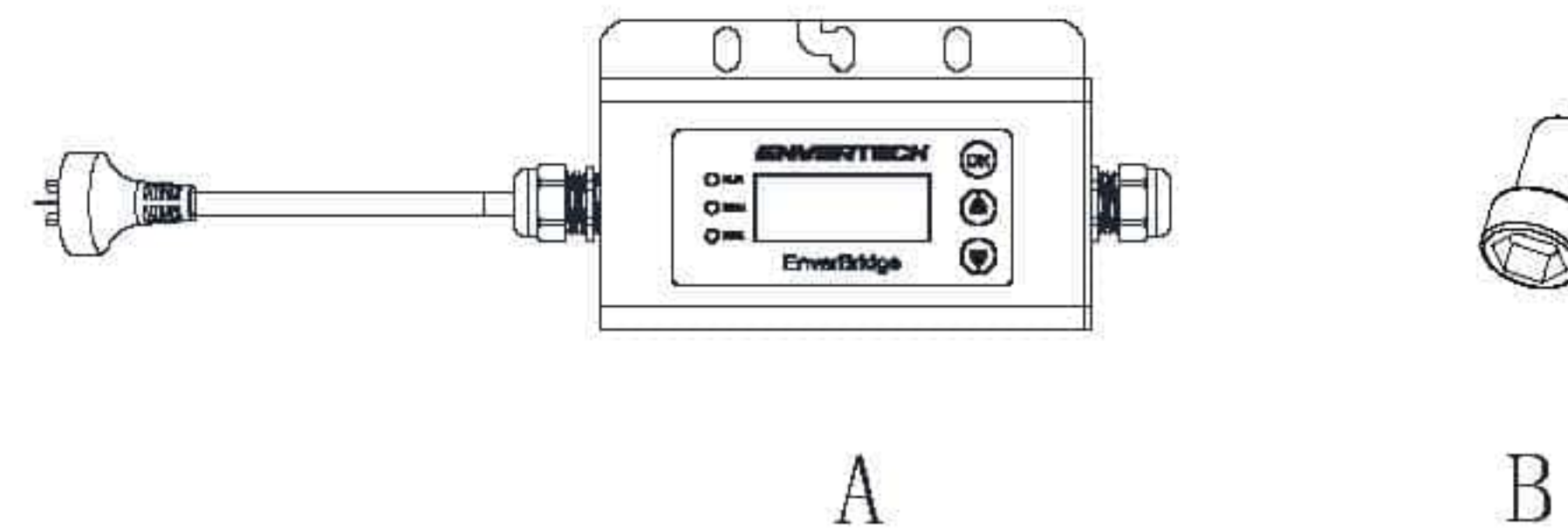# 2 Installation Guide

2.1 System Diagram

2.2 Parts and Features

2.2.1 Parts

A   B

Items	Quantity	Description
A	1	Monitoring Device
B	1	Screw

2.2.2 Structure of EVB202

7   6   5 4 3   2   1
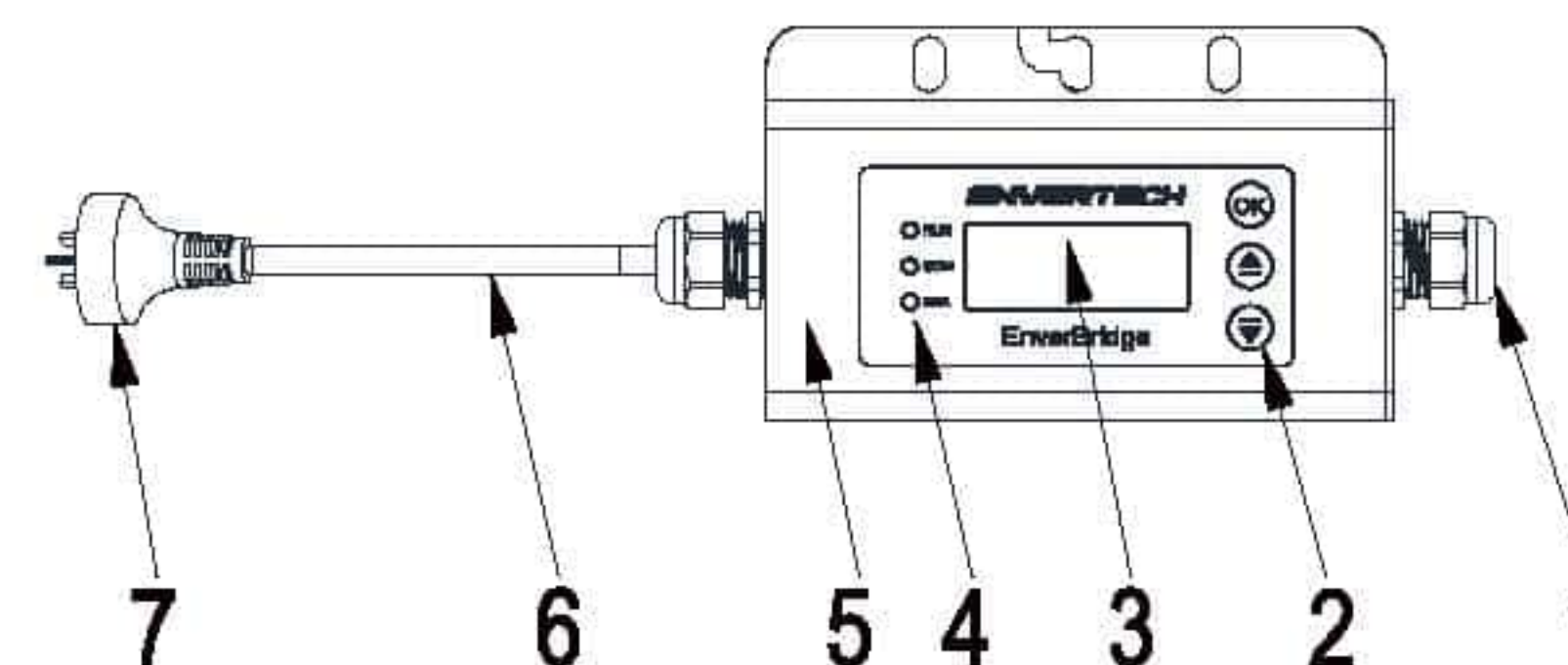
Number	Description
1	Gland Connector
2	Touch Key
3	LCD Screen
4	LED
5	Casing
6	AC Cable
7	Plug

2.2.3 Installation Steps

Step 1:
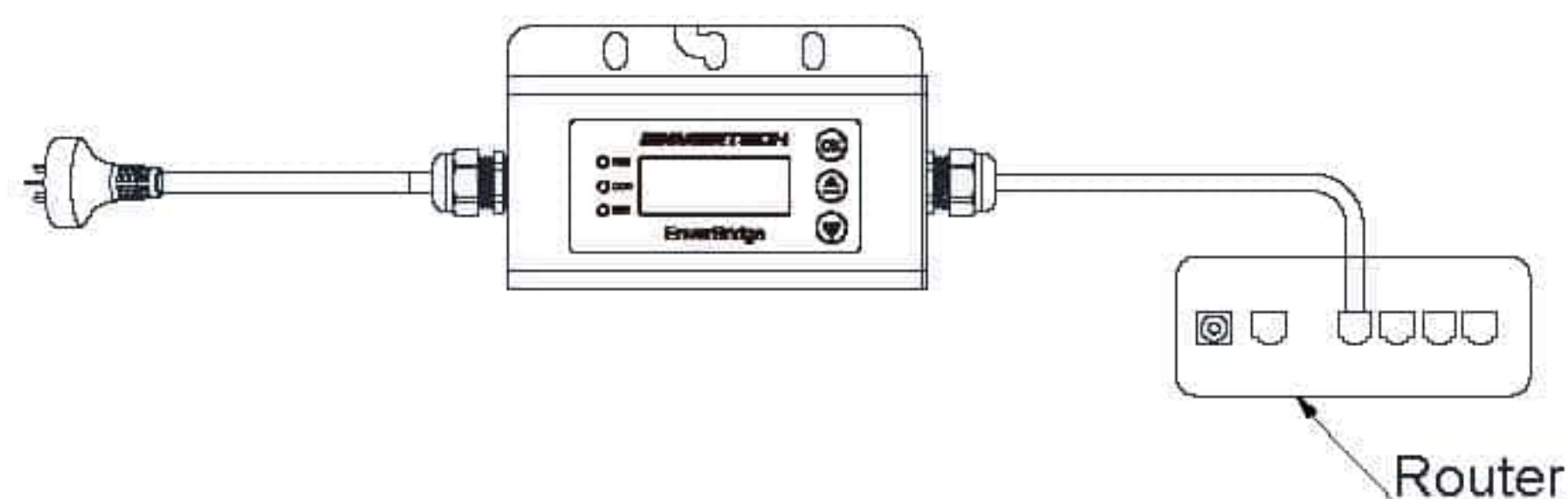Use the screwdriver to open the right side of the cover plate. Run the RJ45 cable through the connector and plug into the network port. Put back the cover plate and check if it's sealed completely.
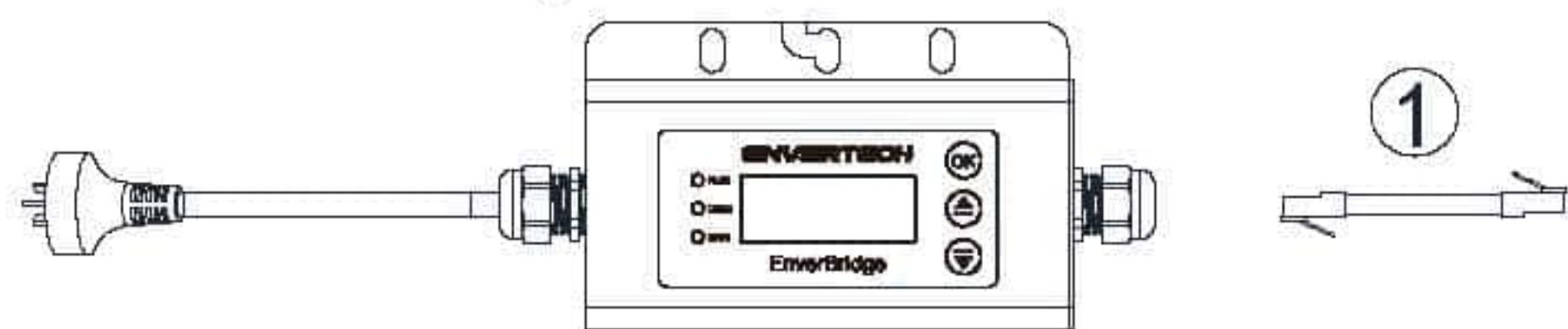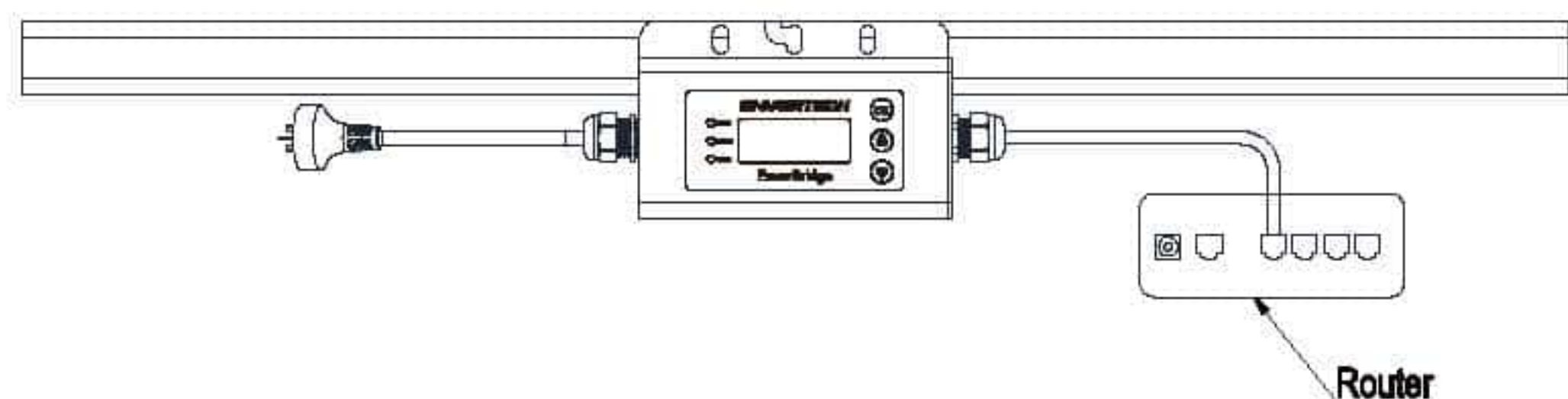

Step 2:
Lay the RJ45 cable and connect the other end of the cable to the router;
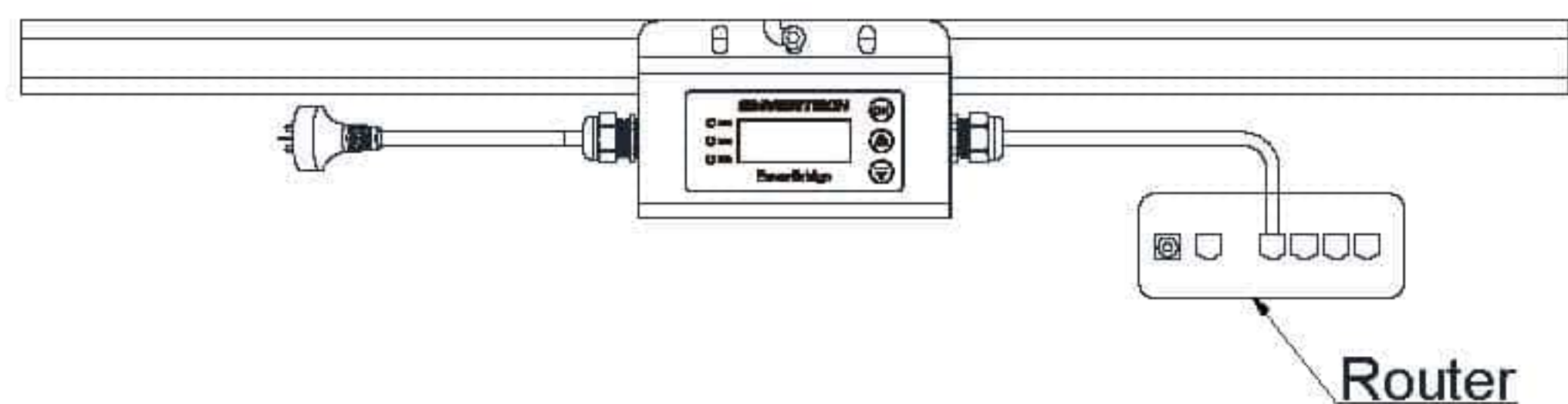

Router

Step 3:
Place the mounting hole of EVB202 frame onto the mounting system.

Router

Step 4 :
Insert the M8 screw into the mounting hole with a hexagon screwdriver.

Router

2.2.4 Main Functions

By the Power Line Carrier Communication (PLCC) technology, EVB202 collects power generation data from the microinverter, and transmits to the EnverPortal database.

2.2.5 Technical Parameters

Model	EVB202
Communication	
Power Line Communication	PLCC
Ethernet	TCP/IP Protocol
Interface	
LCD	4×20 Bits
Capacity	
Numbers of devices connected	Up to 40 Units of PV Modules in a Single Phase System
AC Datas	
AC Supply	220V/230V/240V; 50Hz/60Hz
Power Comsumption	≤3W
Mechanical Data	
Dimensions	225mm*50mm*107mm
Weight	740g
Cooling	Natural Convection- No Fans
Ambient Humidity	≤90%
Ambient Temperature Range	-40℃~+65℃
Enclosure Environment Rating	IP65
Certification and Warranty	
Compliance	CE
Warranty	5 Years

2.3 Register a new account

EnverPortal, an intelligent monitoring system developed by Envertech, monitors the performance of the whole Envertech microinverter system as well as that of every module in the system. New users need to register an account.
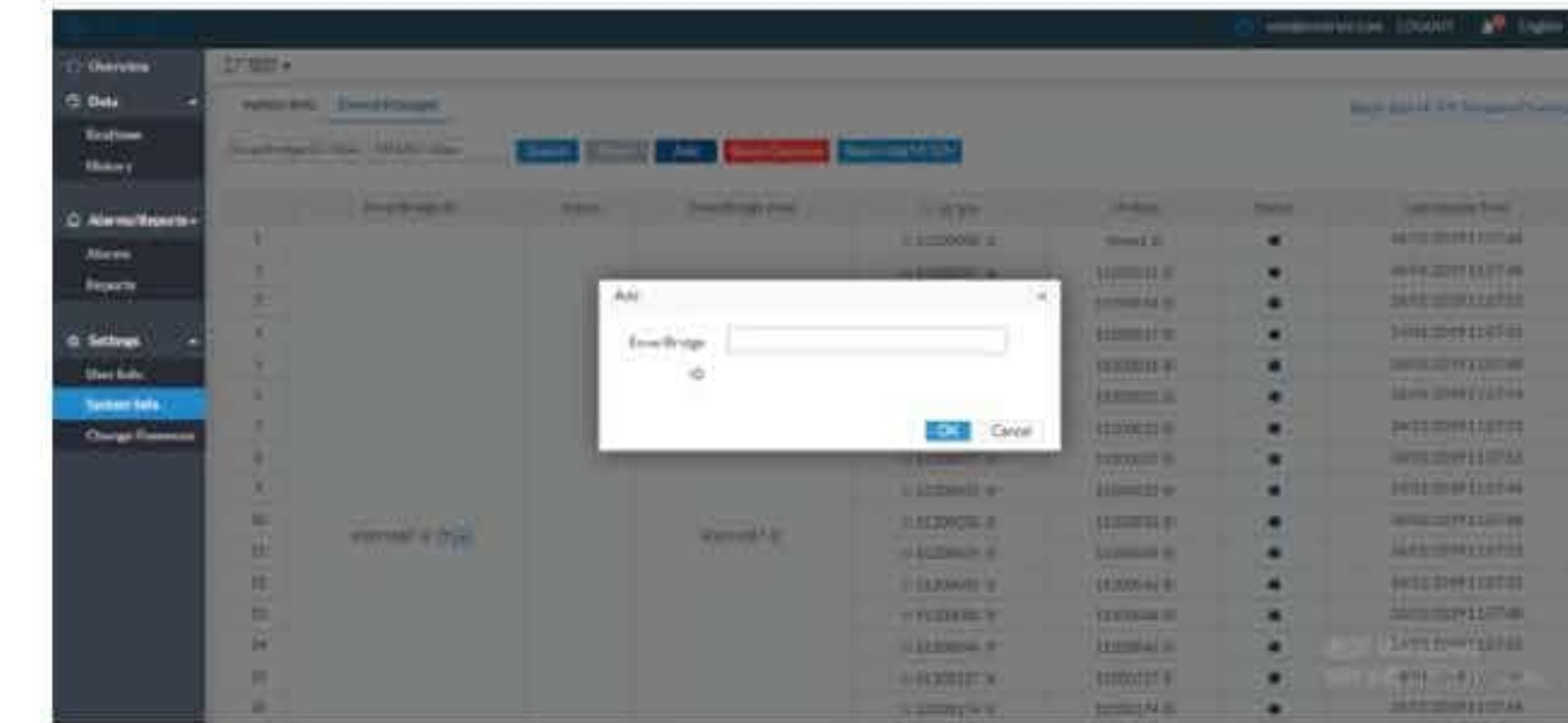Registration address: www.envertecportal.com
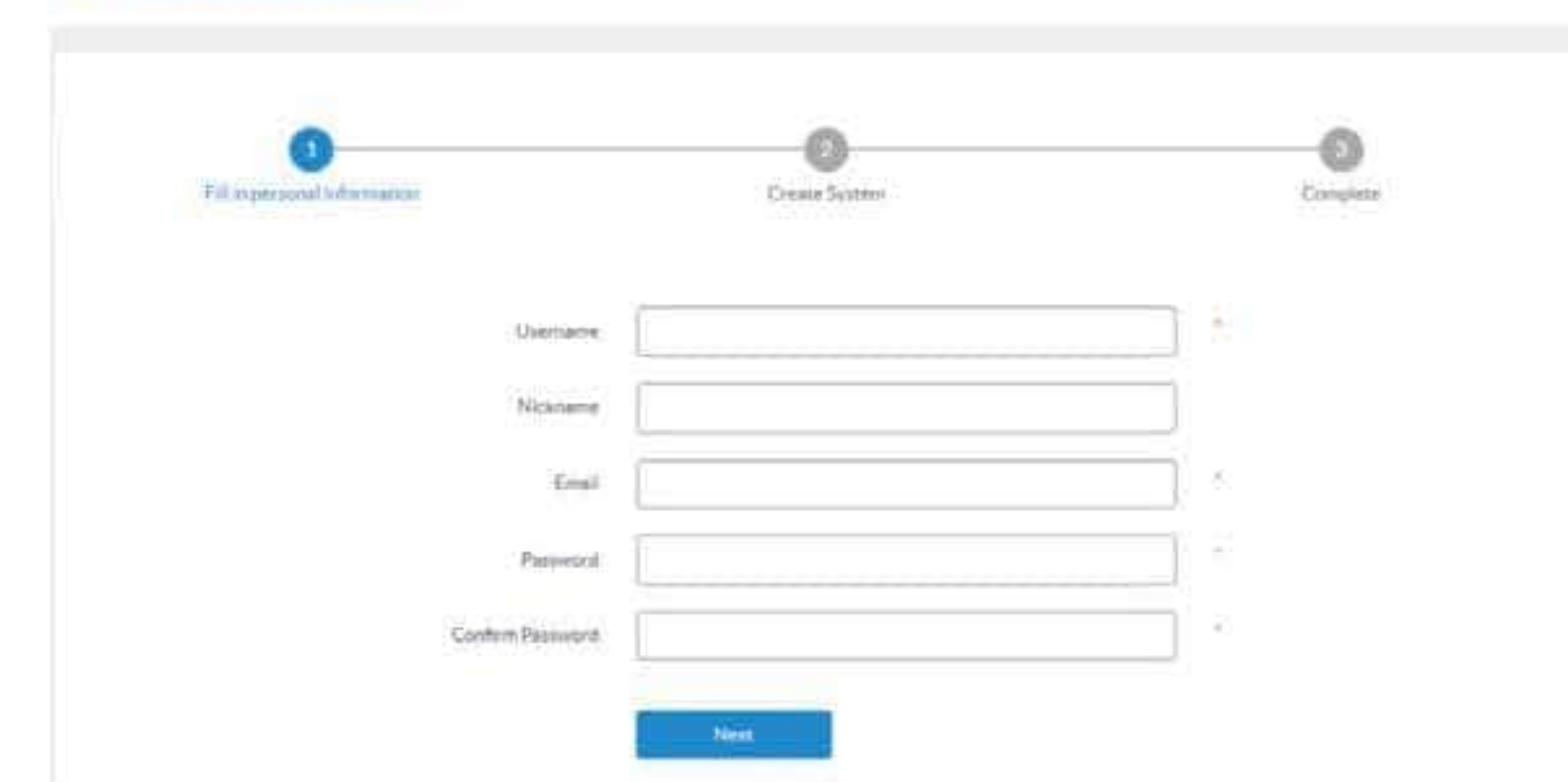
Click "Next", and create a power station

2.4 Add devices

Select "Settings" → "System Info" → "Device Manager" ,and click "Add" to enter the interface.
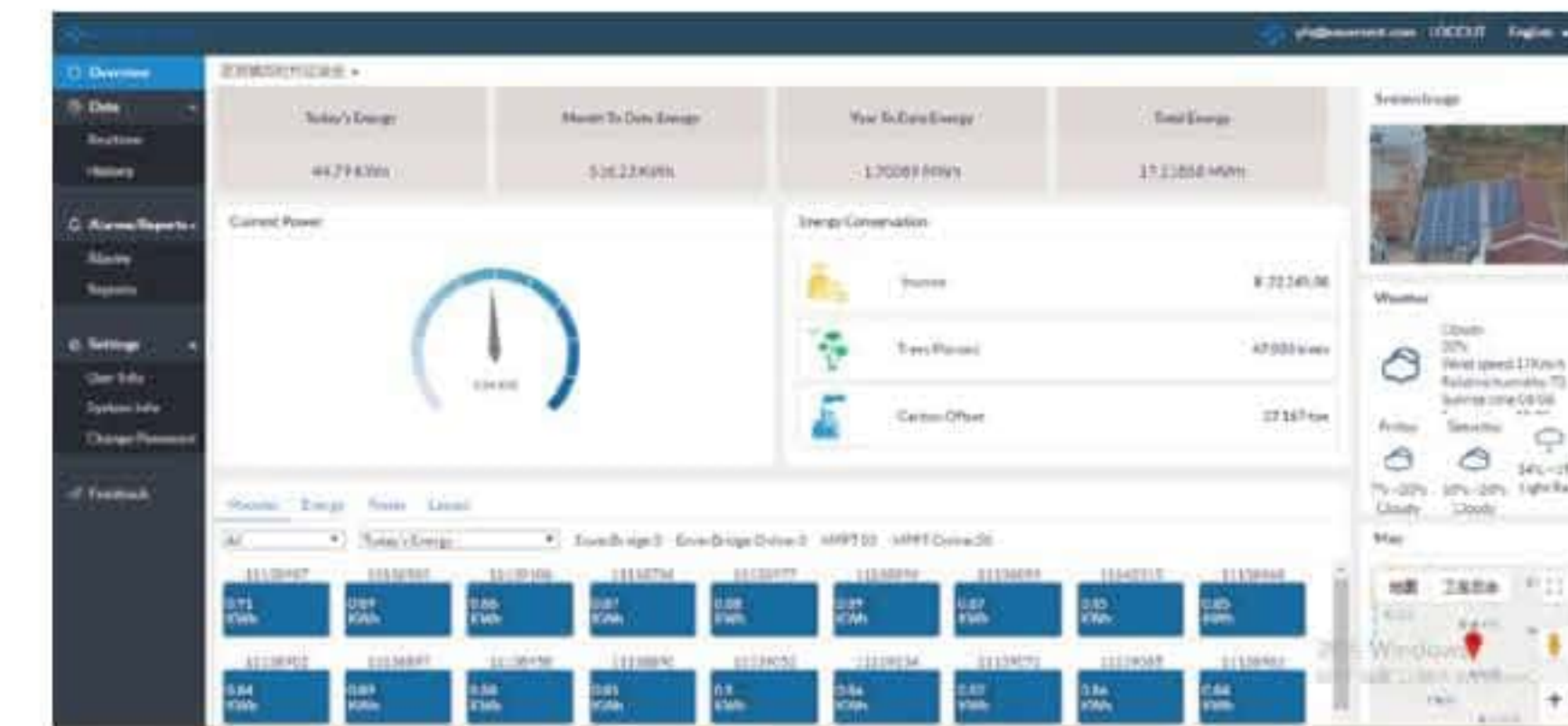

Enter the correct SN of EnverBridgein the popup box and click "OK".

2.5 Monitoring Webportal Interface

2.5.1 Overview Page

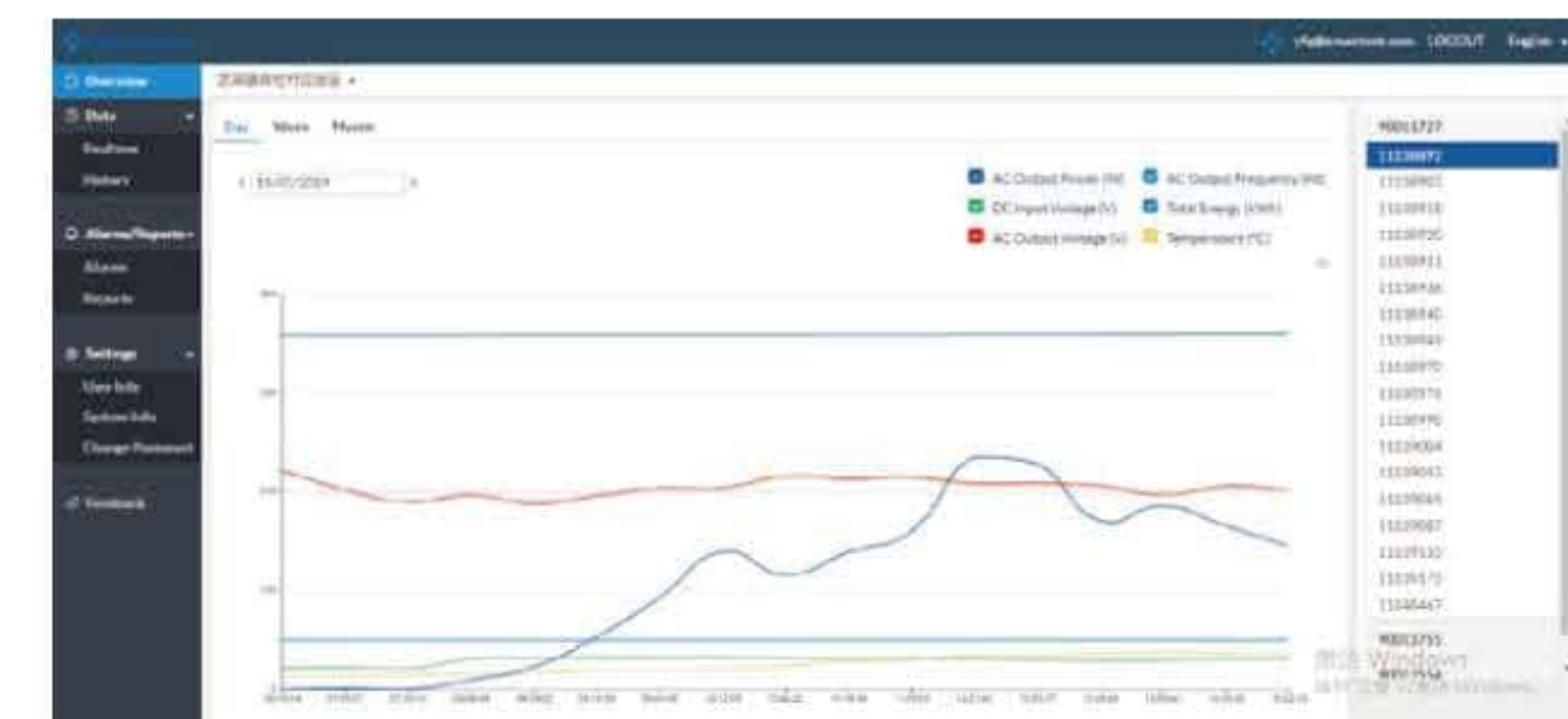Smart Monitoring Webportal——EnverPortal,for single power station

2.5.2 Real-time Monitoring

Click "Realtime" button to enter the realtime data page.

2.5.3 Historical Data

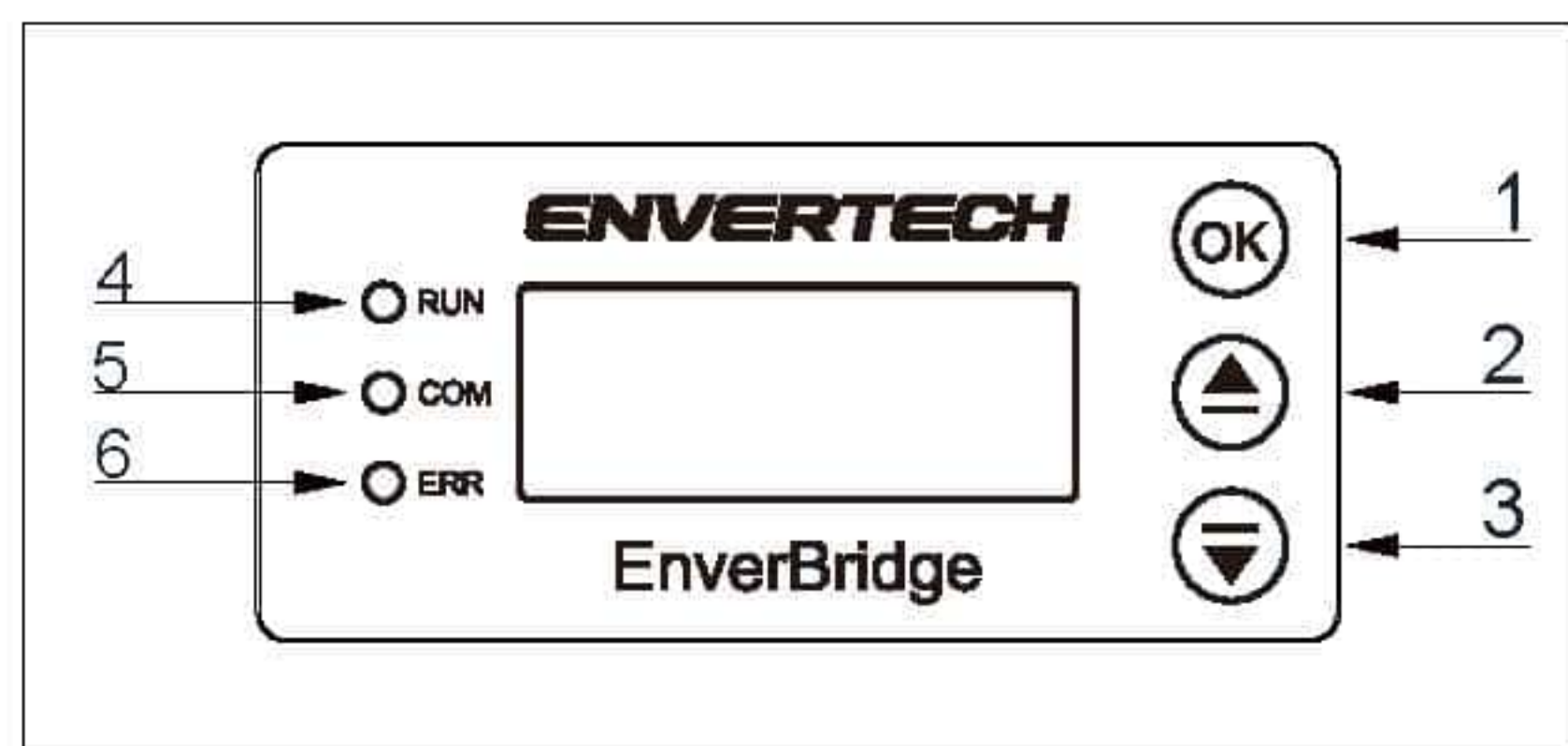Click "History" to enter the data graphs page

3 Begin to use

3.1 LCD of EVB202

The LCD displays the device's operation satusand realtime system data. It helps users to check the system status timely and conveniently.

3.1.1 Description of LCD

LED	
Number	Description
4	The green light indicates normal operation.
5	The yellow light indicates being in communicating.
6	The red light indicates malfunction.

Button	
Number	Description
1	OK/Exit
2	Up/Add
3	Down/Reduce

3.1.2 Start-up Interface

- When EVB202 displays the Start-up interface, the first line shows the company name "Envertech" and the second line shows the company website "www.en-vertec.com".
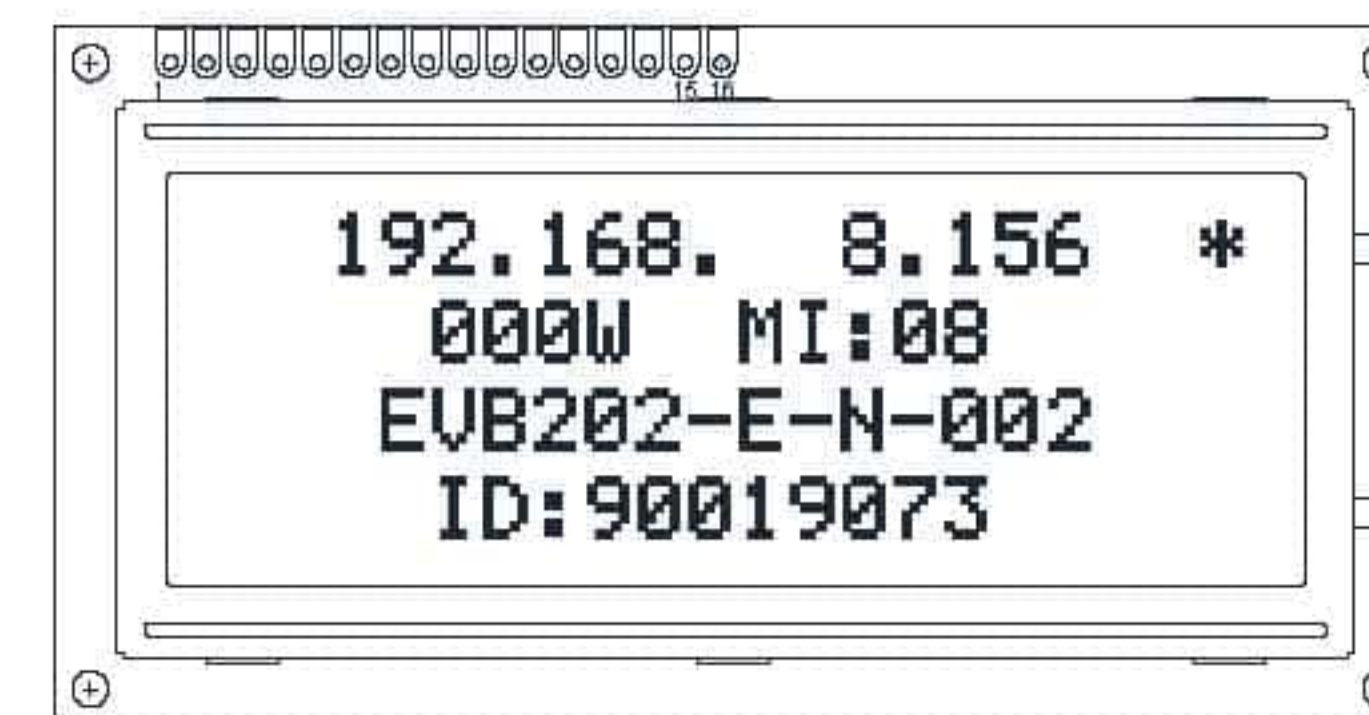 Start-up time: 30s, as shown below:

After EVB202 is started, it will enter normal working status. At this moment the LCD will display the monitoring information.
First line: IP address;
Second line: Power & quantity of microinverters
Third line: EVB version;
Fourth line: EVB ID number (as shown below):

- IP address will be shown on the first line of the screen, for example: 192.168.9.150. If the first line shows 192.168.0.255, it means there is no connection with the server. A '*' stands for successful connection with the server, and no '*' stands for no connection.
- Real-time power, is displayed at the beginning of the second line.
- The quantity of microinverter is displayed at the end of the second line, which means how many MIs have successfully transmitted data. On the third line it shows the software version: EVB202-E-N-002.
- On the fourth line it shows the EnverBridge ID: each EnverBridge owns only one ID. For example, this EnverBridge's ID is 90019073.

In the newly installed monitoring system, you firstly need to set the microinverter ID on the EVB202. It is recommended to set the microinverter ID before installing it into the power station. For details, please see the following sector 3.1.3..

3.1.3 Selection Interface
Press "OK" button (Backlight lights up automatically) to enter [Menu Interface] which is shown as shown below.
* Monitor Interface
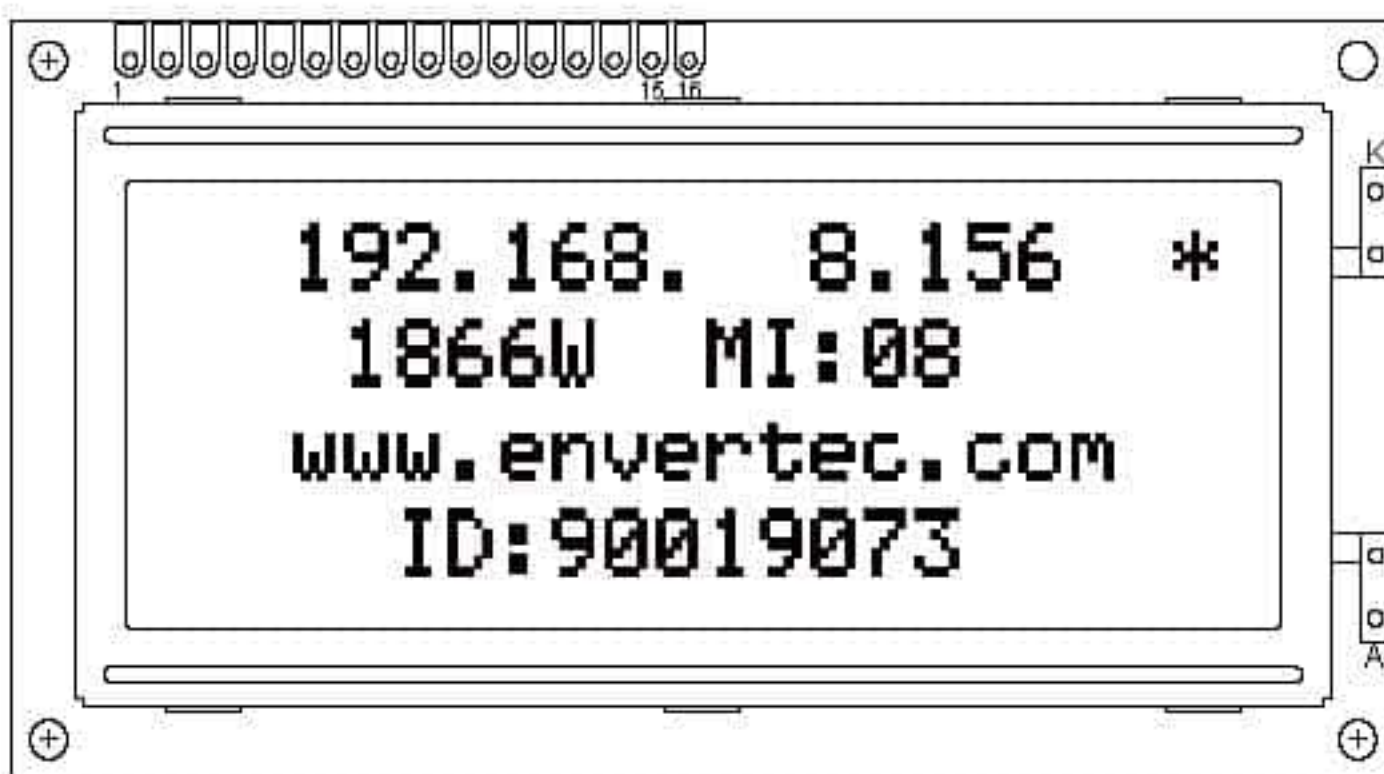* Total Energy
* MI Status
* Set MI SafetyParam
* Set MI ID
* Set EVB ID
* Reset MI
* Restart System
There are a total of eight operations. Press "Up" and "Down" to move the cursor to view all functions. Press "OK" to enter the function.

```
█ Monitor Interface
* Total Energy
* MI Status
* Set MI Safetyparam
```

```
* Set MI ID
* Set EVB ID
* Reset MI
* Restart System
```
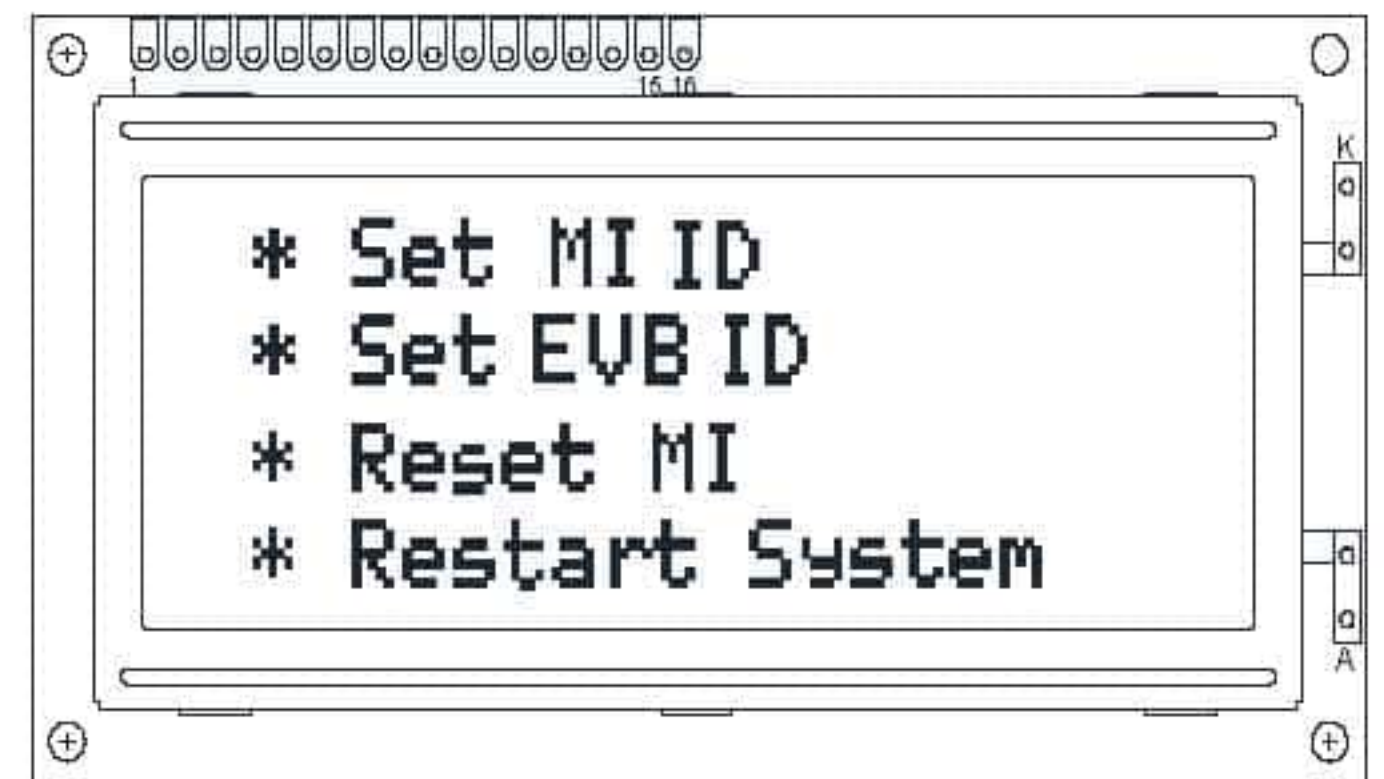
Step 1. Press "Monitor Interface", back to main inteface, background light will be on, and be off after 30 sec. Please be kindly aware that the third line will show our company website address instead of the version number.

```
192.168.  8.156  *
   1866W  MI:08
 www.envertec.com
    ID:90019073
```

Step 2. Press [Total Energy] to check total energy as belowand press "OK" to go back to the main interface.

```
eTotal:_____234.7KWh
```
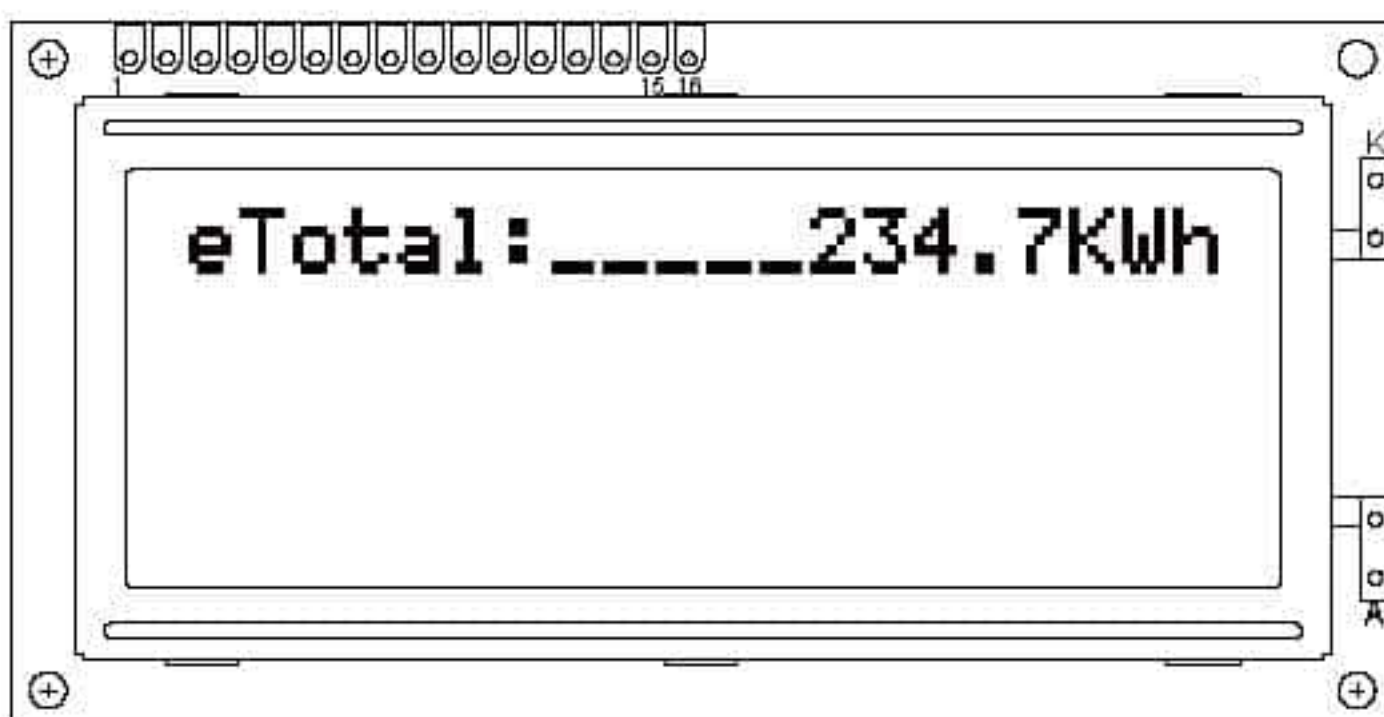
Step 3. Select "MI Status", it will show below message if there is an error. The third line displays the problem microinverter ID and fault description. After checking, press "OK" to return to the main menu.

```
MI Status
 Error:1      NO. 1
 ID111110481 GRIDOV
```

Without error, it shows as below:

```
MIs running normally
```
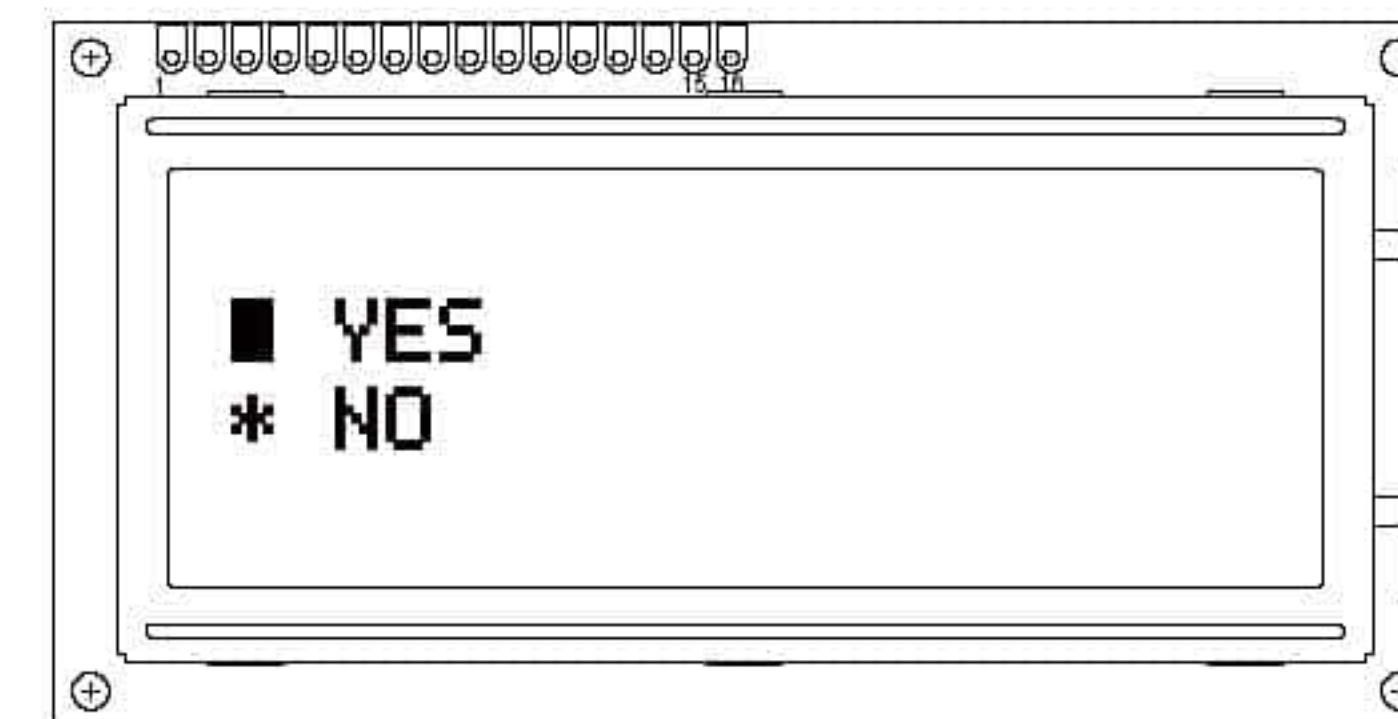
Step 4. Select "Set MI SafetyParam" to set the safety parameters of microinverters. Press "Up" and "Down" to select the correspondingcountry.

```
█ Austria
* Belgium
* Cyprus
* Denmark
```

Enter and click "YES" to set the national safety standard, click "NO" to return.

```
█ YES
* NO
```

Select "YES" and press "OK" to enter the parameter setting interface. The setting time is about 1~2 minutes.

After successful setting, the screen will be shown as below. The number after "MI" is the quantity of the microinverters that complete setting. This interface will remain until the user presses "OK" and return to the main menu.


Step 5. When you select "Set MI ID", please ensure that the monitor is connected to the network and is in the same LAN as where the host computer is located. Press "OK" to have the YES /NO option. Select "NO" to exit and return to the previous menu. Select "YES" to start this function. If the network is not connected, it will show the following interface, press "OK" to return to check the network.
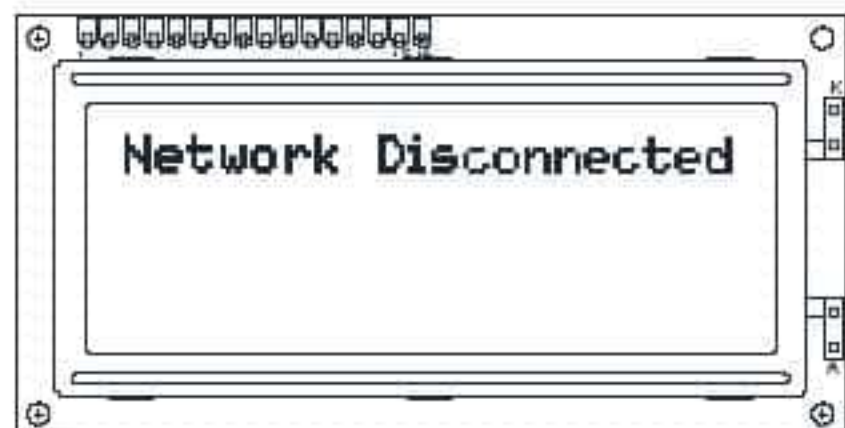
If the network runs well, "Please Send MI ID" will pop up on the first line of the screen. This interface will last 60 seconds and then return automatically.

When the monitor is in this interface, please use the MI binding tool on the computer to send the corresponding group of IDs to add EnverBridge ID and microinverter IDs.
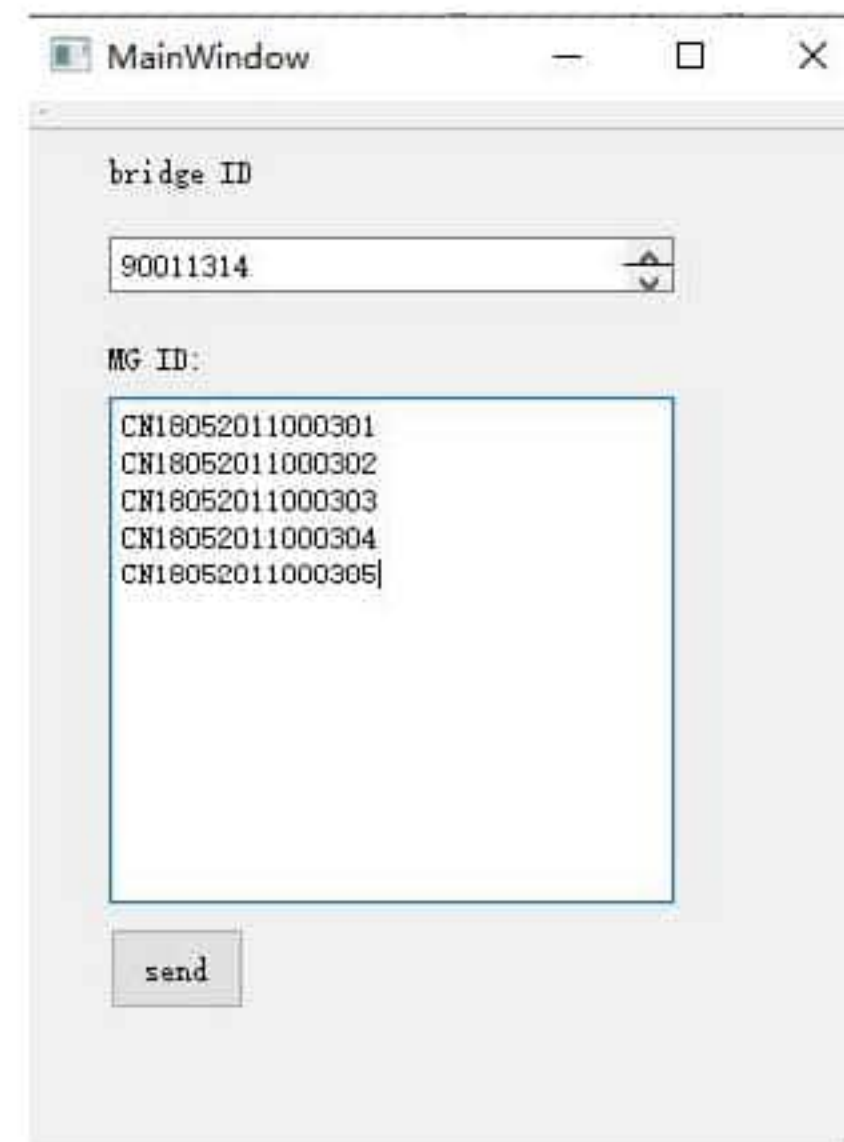
Bind successfully, and the monitor will display on the third line "ID SET OK" after receiving the IDs..
Press "OK" to return after completion.

Step 6. Select "Restart System", and the monitor will restart in 2 seconds.

3.1.4 Explanation of Malfunction

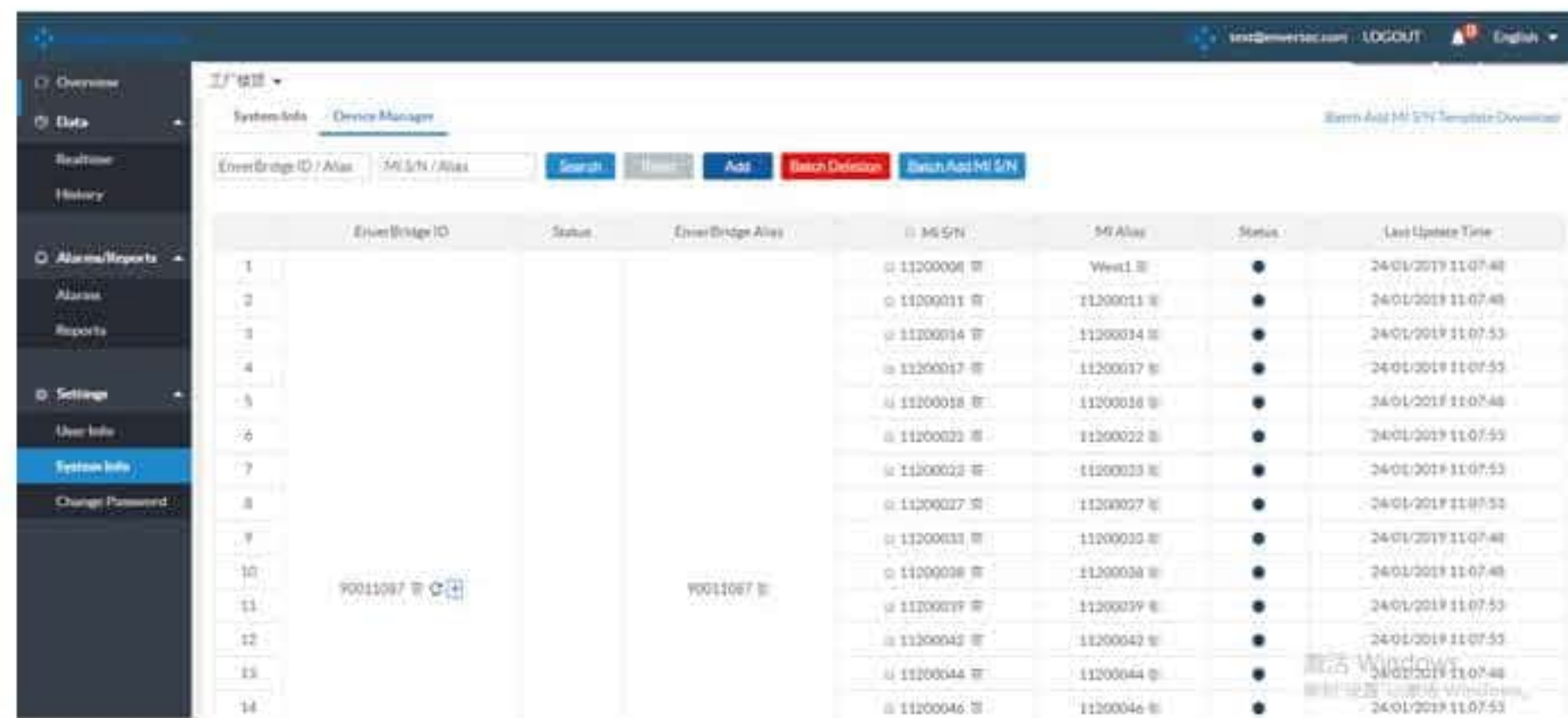| Failure Identification Symbols	Explanation of Failure
GRIDOV	Over Voltage
GRIDUV	Under Voltage
GRIDOF	Over Frequency
GRIDUF	Under Frequency
GRIDSU	Voltage Fluctuation

3.2 MI Quick Binding
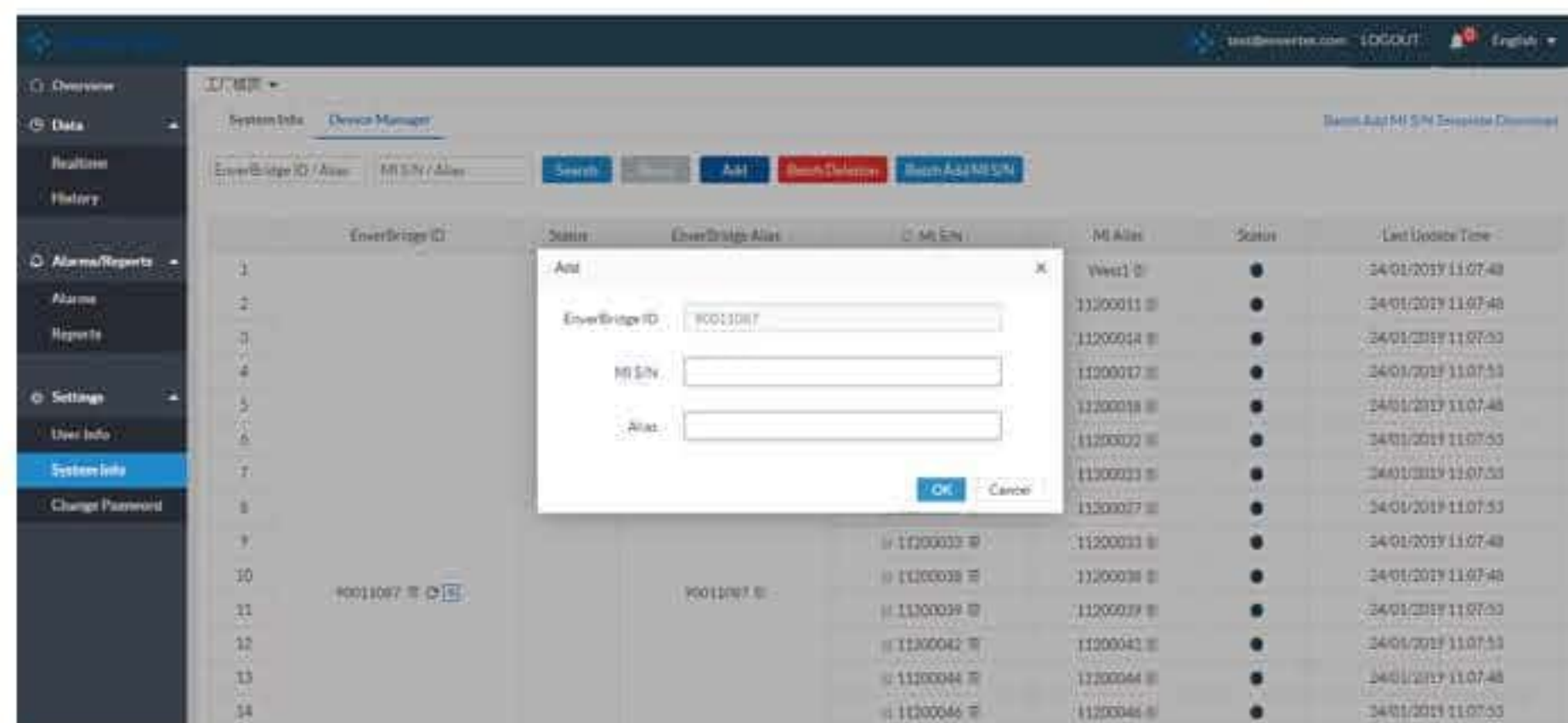
3.2.1 Login

### 3.2.2 Select "System Info" under "Settings", and click "Device Manager".

3.2.3 Add a Single Microinverter ID

Click "+" behind the EnverBridge ID, input the ID of the neededmicroinverter ID in the pop-up interface and click "OK". Wait up to 5 minutes, then refresh the screen, and it will pop up a window of "Sent successfully".
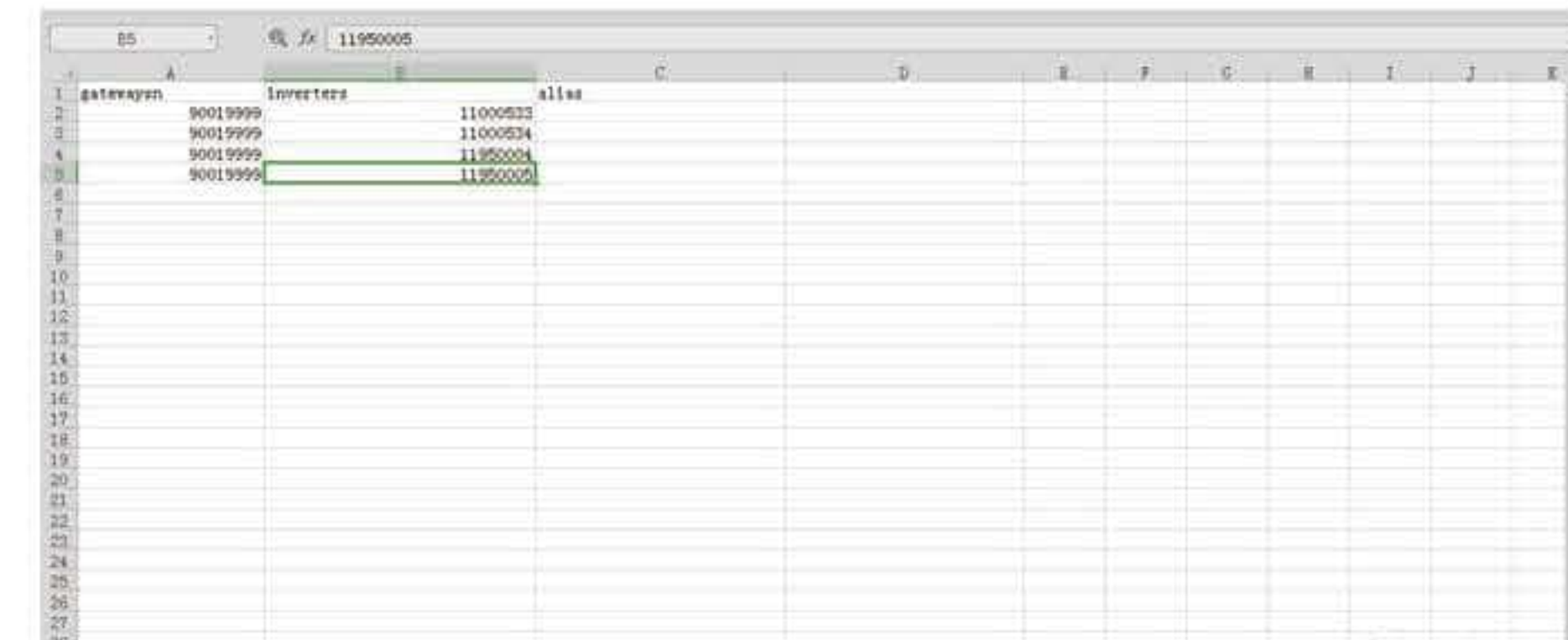

3.2.4 Add a Batch of Microinverter IDs

1. Click "Batch Add MI S/N Template Download" on the upper right corner of the screen and download.
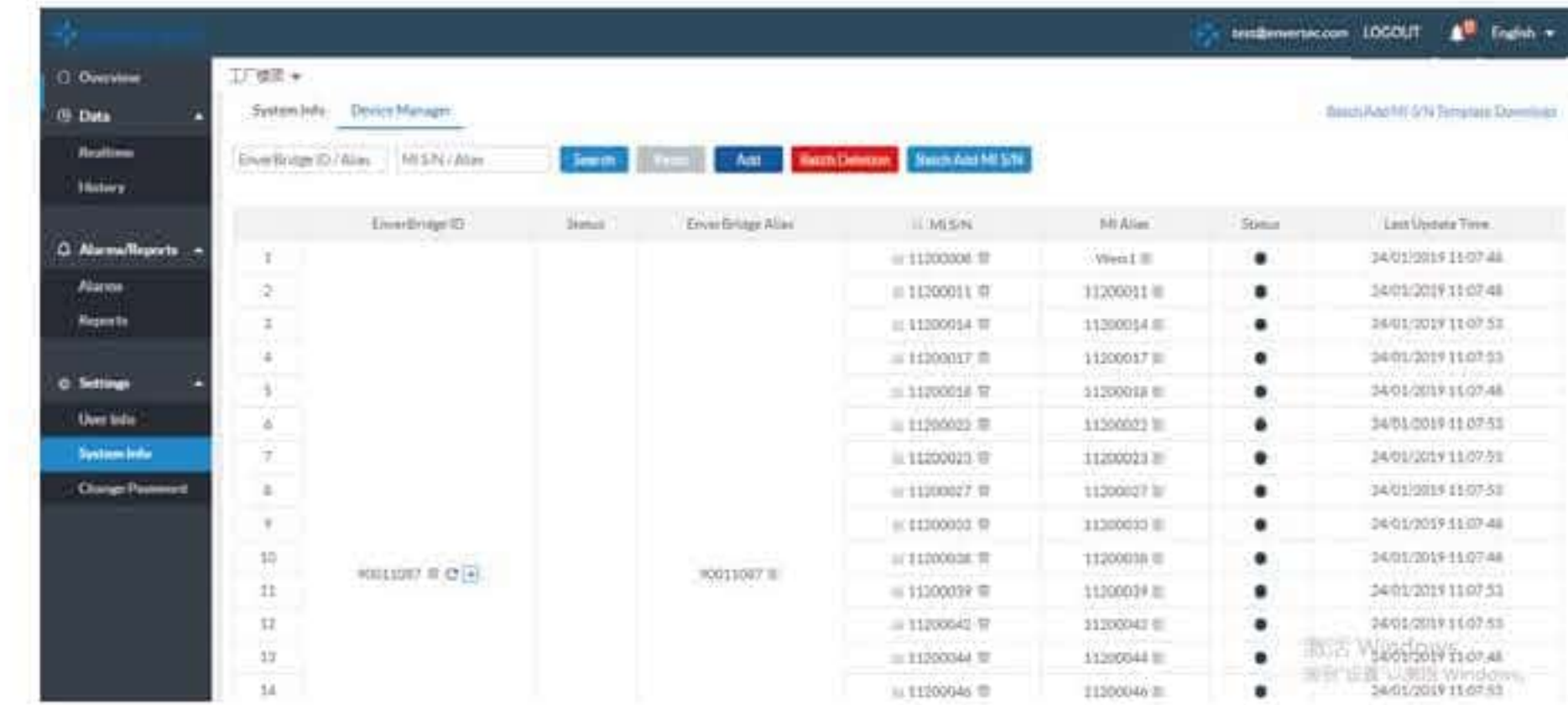
2. Input the microinverter IDs which need to be added to the template. On the left side of the following template is the EnverBridge ID, and on the right side is the microinverter ID.

3. Click "Batch Add MI S/N", select the modified template and click "Open". Wait up to 5 minutes, and then refresh the page, it will show "Sent successfully ".
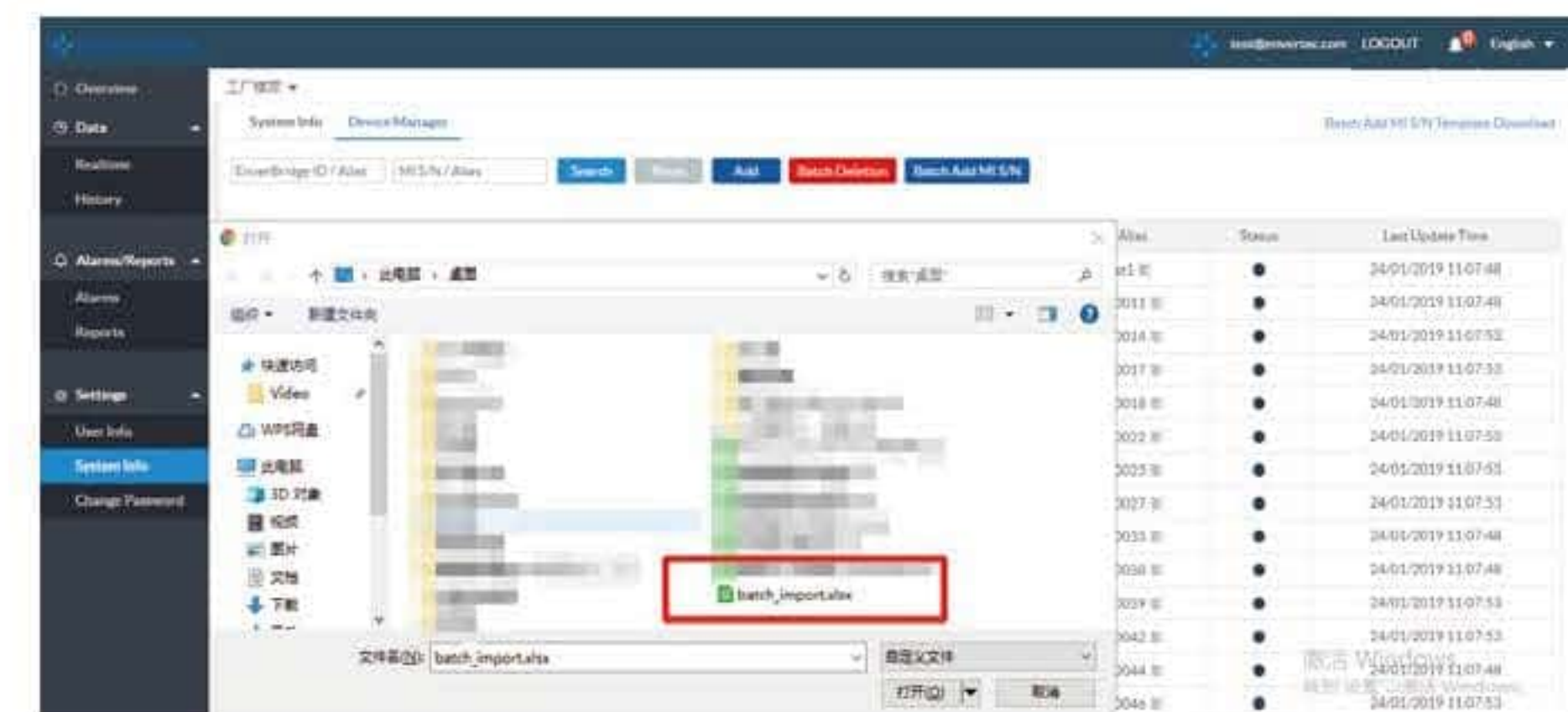
4   Basic Operations

4.1 Safety Checks

Safety checks should be performed at least every 12 months by manufacturer's qualified person who has adequate training, knowledge, and practical experience to perform these checks. The data should be recorded in an equipment log. If the device is not functioning properly or fails in any of the tests, the device has to be repaired.

4.2 Maintain Periodically

For more information of safety checks, please see below the three safety instructions of this manual.

NOTE	**NOTE** The "Note" mark in this manual indicates important product information.
⚠️	**WARNING** Do not attempt to repair the Envertech monitoring device without authorization, because it does not contain parts available for users to repair. If the microinverter fails, please contact Envertech customer service.
⚠️	**WARNING** Please ensure that all power is off and there is no electric current when connecting Envertech monitoring device.

4.3 Common Problems

The problems can be detected according to what is displayed on the LCD screen:
1. When the LCD screen shows the number of MI devices is less than those connected to EVB202 for a long time, it is suggested to check whether a certain MI device is in problem (the specific problem MI can be found from the webportal EnverPortal or from local monitoring);
2. According to the fault info, technical personnel can accurately find the faulty micro-inverter and do maintainence.

5   About us

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