Makerfabs

SenseLoRa Industrial-grade Air Monitor

Version: V1.0
Data: 2023-09-26
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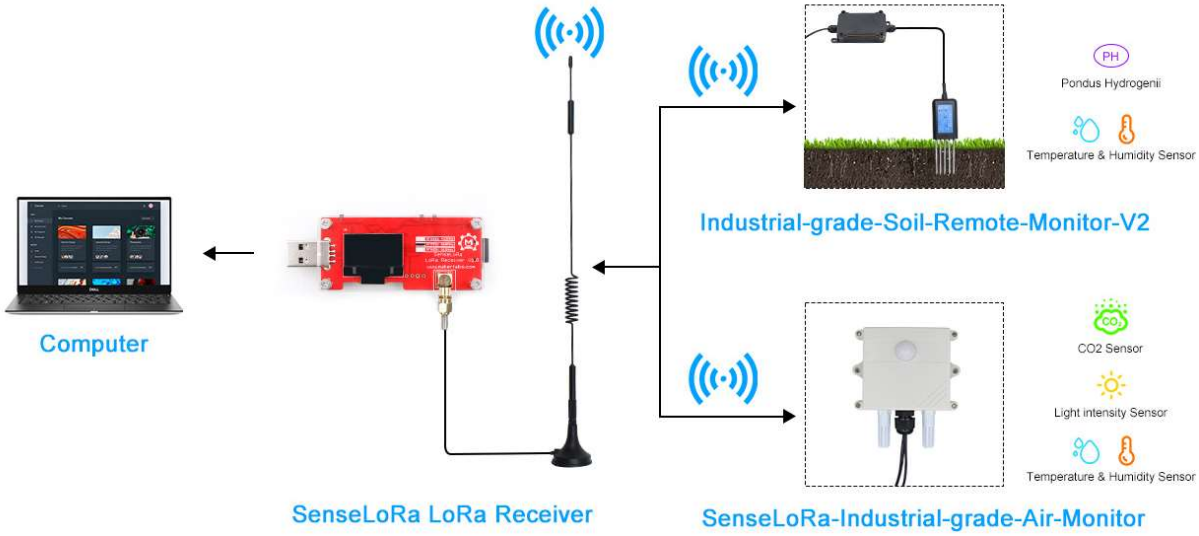
Contents

1. Introduction

1.1 Function

SenseLoRa Industrial-grade Air Monitor is an industrial-grade wireless sensing device. It can monitor air temperature, air humidity, CO2 concentration and light intensity and broadcast all the sensor data Periodically via LoRa P2P, with Jason format, this LoRa signal can be received by Makerfabs LoRa receiver, and thus to display/record/analyze on PC.

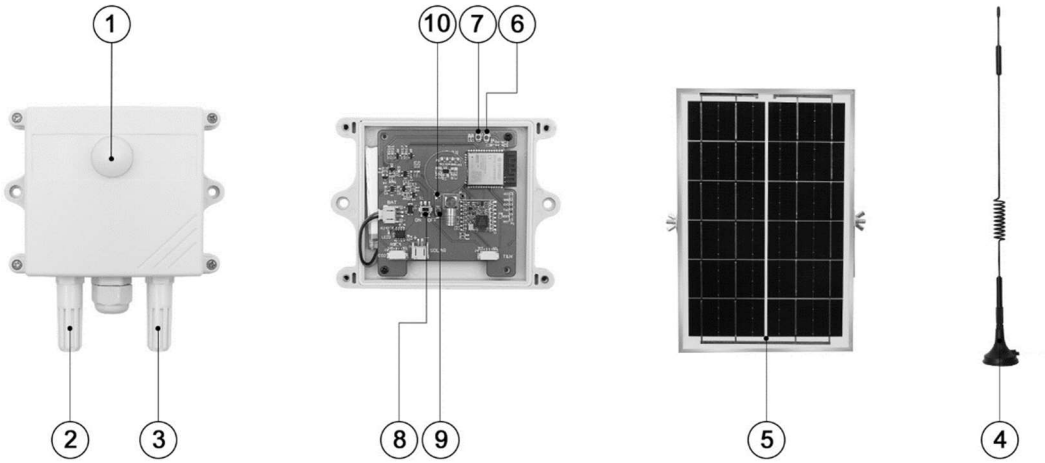


The product supports the LoRa protocol, which achieves low power consumption, long distance and security.

The hardware is simple to operate and easy to deploy, data API services are convenient.

The products can be used in fields and greenhouses.

1.2 General description



① Light intensity Sensor

② CO2 Sensor

③ Temperature & Humidity Sensor

④ Antenna

⑤ Solar Panel

⑥ Reset button

⑦ Burn button

⑧ Power Switch

⑨ WiFi button

⑩ Status LED

2. Installation

2.1 Parts List

Description	Specification	PCS
Main Case	88mm*34mm*18mm	1
Antenna	1000mm	1
Solar Panel	270 x 160 x 15mm	1

2.2 Power On

Unscrew 4 screws to open the cover, turn on the switch and lock the screws.

The product can be fixed on the column, and can also be fixed on the wall through the holes on both sides.

2.3 Antenna Installation

The antenna can be secured by a suction cup at the bottom or bound with a cable tie.

2.4 Solar Panel Installation

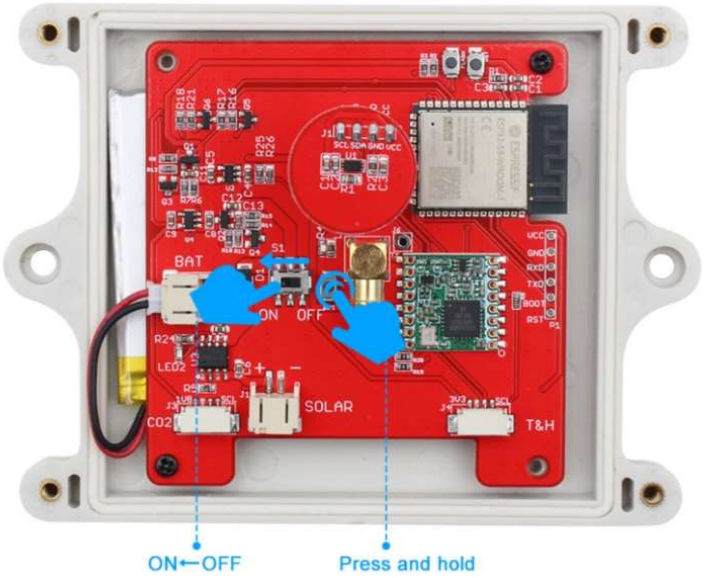
Solar panels should be placed in a place that can receive the most sunlight. It can be fixed to posts or placed on the ground.

2.5 (***Optional***) ID and Interval Time Settings

If multiple products are implemented, ID need to be set for different module. The default ID is ***AirM01*** and the interval time is ***3600*** seconds. You can set the product ID and interval time by:

① After opening the product shell, find the **Power Switch** and **WiFi button**.

② Press and hold the WiFi button, and then flip the switch to the ON position.



③ Turn on your phone's wireless network Settings to view WiFi hotspots.

④ Select the following network "*makerfabs-XXXXXXXX*" and enter the password "*12345678*"

⑤ After the phone is connected to the WiFi of the product, type "192.168.4.1" in the URL bar of the browser.

⑥ Enter the any name of the product and the interval time in the box.

⑦ Click ***Setup and Restart,*** Then the page prompts that the setting is successful. Product start work.

⑧ Close the shell and lock the four screws.

3. Data Transmission Management

The product's sensor data will be sent in JSON format:

```
{
    "ID": "AirM01",              // Sensor ID
    "COUNT": 1,                  //Data Reception Times
    "SLEEP": 3600,               //Interval Time (s)
    "bat": 4.10,                 //Battery Voltage(V)
    "temp": 27.60,               //Air Temperature (℃)
    "humi": 35.00,               //Relative Humidity(%RH)
    "eco2": 486,                 // CO2 Concentration (ppm)
    "lux": 155                   // Luminous Intensity(Lux)
}
```

4. Specifications

Model	**SenseLoRa Industrial-grade Air**
Monitor	
Li-ion Battery Power supply	3.7V / 1000mAh
Solar Panel	6V / 6W
Frequency Bands	EU868/ US915
Air temperature	-40~85°C ±0.1℃
Air humidity	0~100%RH ±1.5%RH
CO2	400 to 60000 ppm ±(30 ppm)
Luminous intensity	1~65535 Lux ±20%
Physical characteristics	
Dimensions (height x width x Depth)	122 x 110 x 52mm
Solar Panel	270 x 160 x 15mm
Weight main unit	161.8g
Antenna length	1000mm
Operating conditions	
Temperature -40°C to +80°C	
Relative humidity 15% to 90% (no condensation)	
Storage conditions	
Temperature -20°C to +50°C	
Relative humidity 15% to 90% (no condensation)	