



AN-304C

PIR Motion Sensor

User Manual



www.winext.cn

LPWAN OPERATOR PLATFORM FOR IOT

1. Description

1.1 Product Description

The AN-304C is a LoRaWAN-based PIR sensor designed for detecting human infrared radiation. Utilizing advanced infrared detection and analysis technology, it can automatically detect human activity within its range. Upon detecting an intruder passing through the secured area, it immediately sends an alarm signal to the monitoring platform.

It is widely applicable to various settings such as residential areas, villas, factories, shopping malls, warehouses, and office buildings.

1.2 Features

- ✧ Support LoRaWAN Protocol
- ✧ Support wireless remote real time alarm
- ✧ Ceiling-mounted or wall-mounted installation
- ✧ Detecting distance 8-10m
- ✧ Support anti-dismantle alarm
- ✧ Support low power alarm
- ✧ Support status report
- ✧ Built-in battery with 5 years lifespan
- ✧ Working temperature: -10°C ~ 55°C

1.3 Specification

Item	Description
Antenna	Built-in LoRa Antenna
Tx rate	300bps-5.4Kbps
Frequency optional	CN470-510MHz EU863-870MHz US902-928MHz AS923MHz AU915-928MHz KR920-923MHz
Maximum Tx power	19dBm
Rx sensitivity	-141dBm(SF=12)

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Item	Description
Detecting range	8-10m
Detecting angle	50°~60°
Installation height	1.5m~2.0m
Working temperature	-10℃- +55℃
Working humidity	10%-95% (no condensing)
Battery type	Built-in Li-SOCL2
Battery Volum	8000mAh
Standby Current	$\leq 10\mu\text{A}$
Detecting Current	$\leq 25\mu\text{A}$
Tx current	$\leq 125\text{mA}$
Dimension	86*86*26mm

2. Structure

2.1 Appearance and dimension



Figure: AN-304C

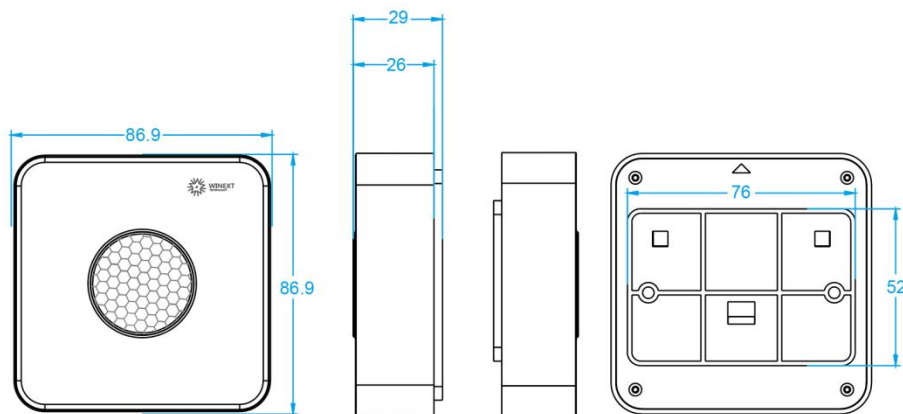


Figure: AN-304C Dimension(mm)

2.2 Packing List

Accessory	Qty(pc)	Remark
AN-304 PIR Motion Sensor	1	/
Installation board	1	/
Screw	4	2pcs long plastic plug & 2pcs short screw
3M double-side tape	1	/

3. Operation

- Turn on: Press and hold the **Turn on/off** button on the back of the device about 2s. Release the button as the green light on.
- Join network: After starting up, it takes 1 minute for warming up and joining LoRaWAN™ network. The red light flashes slowly first. When network connected, the green light flashes slowly.
- Auto-detecting mode: After starting up, it will enter into auto-detecting mode within the first 5 minutes. If it detects a motion within the detecting area, the device will send out a detection signal and the red light will flash.
- Working mode: After starting up and 5 minutes later, it will enter into normal working mode. There is a 5 minutes interval between 2 alarm signals detected. After 5 minutes, if it detects motion, the device will send out alarm signals again.
- Dismantle alarm: In normal working mode, when the device dismantled, it will send out illegal disassembled signal with the red light flashing.
- Heartbeat: The device will send heartbeat signals to the cloud platform every 8 hours to report its working status.
- Turn off: Press and hold the **Turn on/off** button on the back of the device about 2s. Release the button and it shuts down as the light goes off.

4. Configuration

4.1 Precaution

For device normal operation and detection accuracy, please pay attention to the following matters before configuration:

- Before configuration, please contact our technical staff for the relevant software and manual.
- For wireless configuration, it should be done within the signal coverage area of the wireless serial port module.

4.2 Tool list

Item	Description
Laptop	Installation
Wireless Configuration Tool	Support communication between the laptop with AN-304C
Configuration Software	Configure AN-304C via its host computer graphical interface.
User Manual	For configuration docs, please contact our technical staff.

Figure: Tool List

4.3 Web configuration

4.3.1 Web wireless configuration tool

Before configuration, prepare the following tools and docs (select either wireless configuration module or USB to TTL serial port cable).



Laptop as host computer



Wireless configuration module

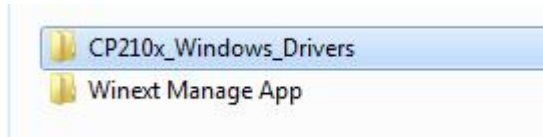


Software work with host computer

Note: please contact our technical staff for Web configuration tool docs (host configuration tool).

4.3.2 Install wireless configuration module driver

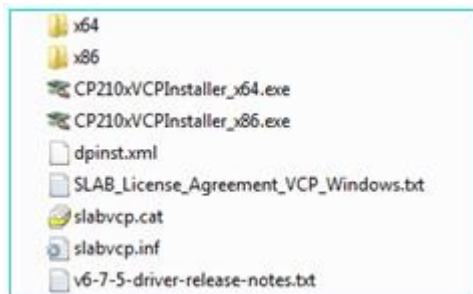
(1). Open the file and select the wireless configuration module driver program.



(2). Open the wireless configuration driver file. Select the driver program to install depending to the system type.

32-bit operating system selects "CP210xVCPInstaller_x86.exe".

64-bit operating system selects "cp210xvcpiinstaller_x64.exe".



(3). Install Wireless LoRa module driver program.

Here takes an example to use the 64-bit operating system to install the wireless configuration module driver.

Click and select "**Next**" to the driver file "cp210xvcpiinstaller_x64.exe".

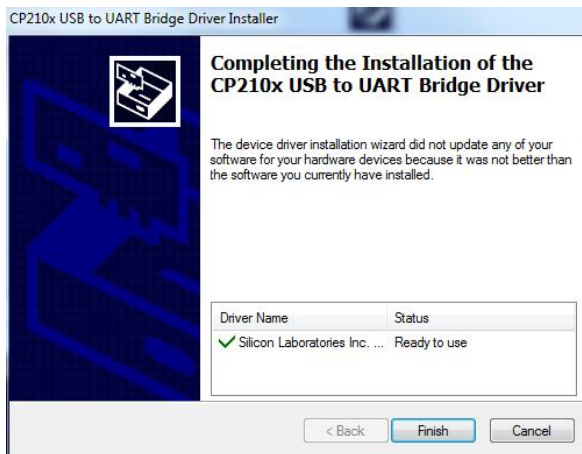


Select "**Accept the License Agreement**" and click on "**Next**".

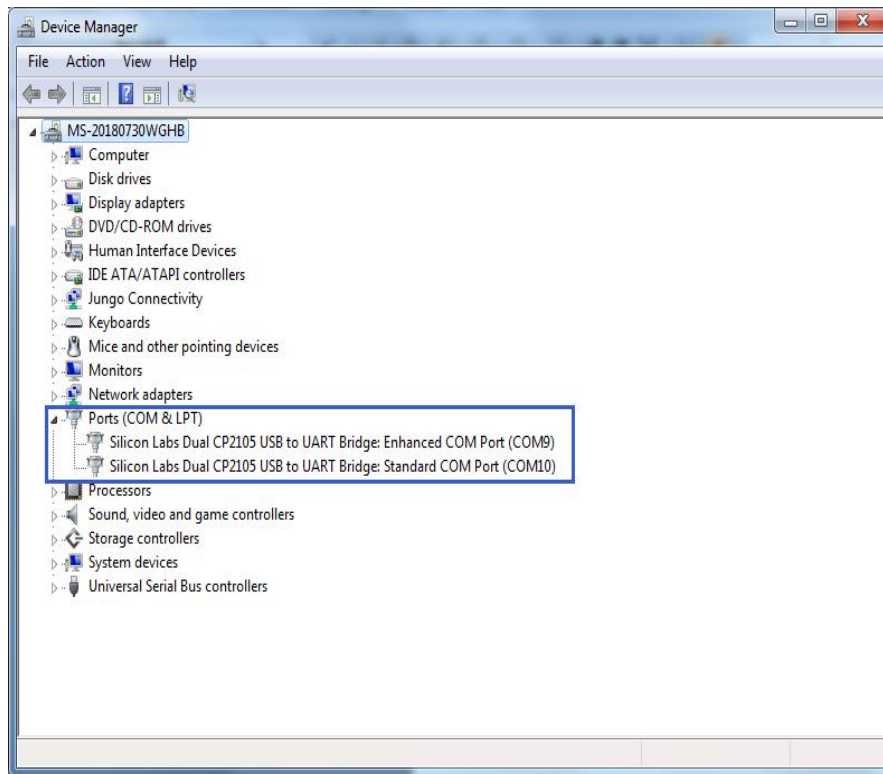
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Wait for a while and click on **“Finish”**.



Check the driver program after installation done. Click on **“Computer-Attribute- Device manager”**



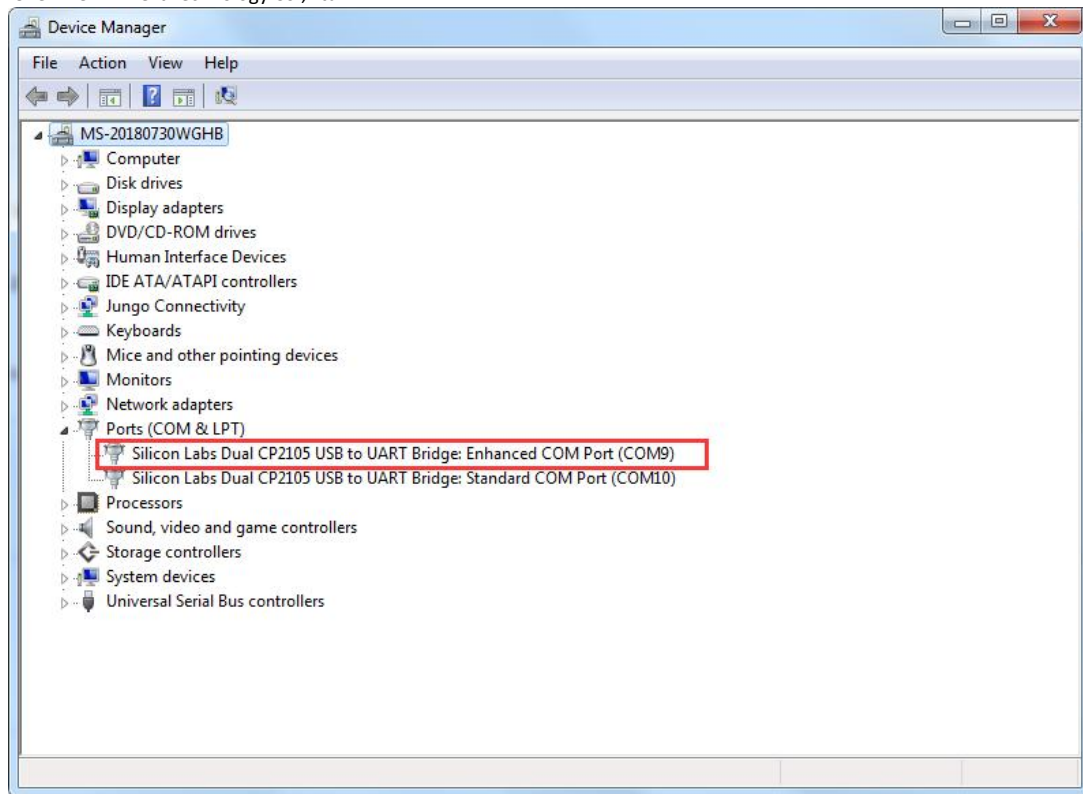
4.3.3 Parameter setting

(1). Insert the wireless configuration module into the laptop USB port. Start host configuration near the AN-304C installation location.



(2). Insert the wireless configuration tool to the USB port. Click on **“Computer-Attribute-Device manager”** and find the correct port.

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Note: there are two ports available, only one of them is for setting. Please check out carefully.

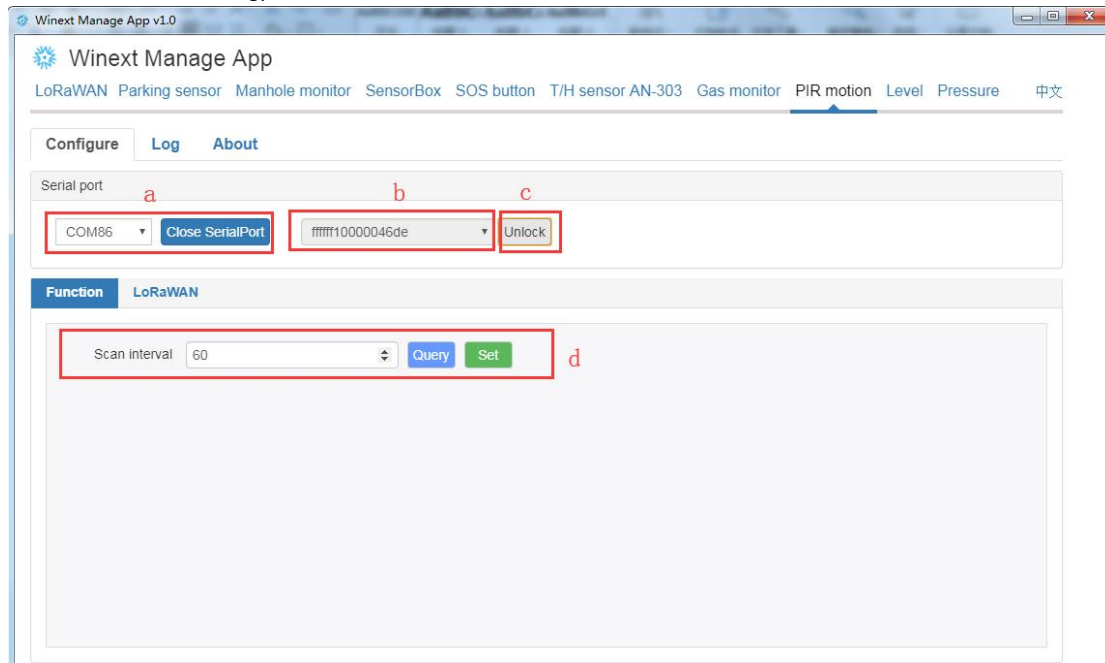
4.3.4 Setting

1. Insert the wireless configuration module into the USB port of the laptop, as shown in the figure below:



2. Open and run the software to configure the parameters, please refer it below:

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- a. Select port, click on Open.
- b. Reboot device and its DevEUI will be shown in the dropdown list.
- c. Select the target device, click on Device Locked
- d. Select the parameters to query or set. If it returns OK on the data receiving interface, it indicates configuration done.

Note: In wireless configuration mode, if there is no operation within 15s it will exit automatically.

5. Installation

5.1 Safety precaution

Please read the precautions before installation:

- Turn on the device before installation.
- Installation can be done only by the professional construction personnel or authorized engineering representative.
- Please use the professional qualified installation tools to guarantee the safety of the construction personnel.
- Installation position must be far away from the fire source, strong electric field, magnetic field etc., otherwise it may cause product damage.
- Winext reserves the interpretation of installation.

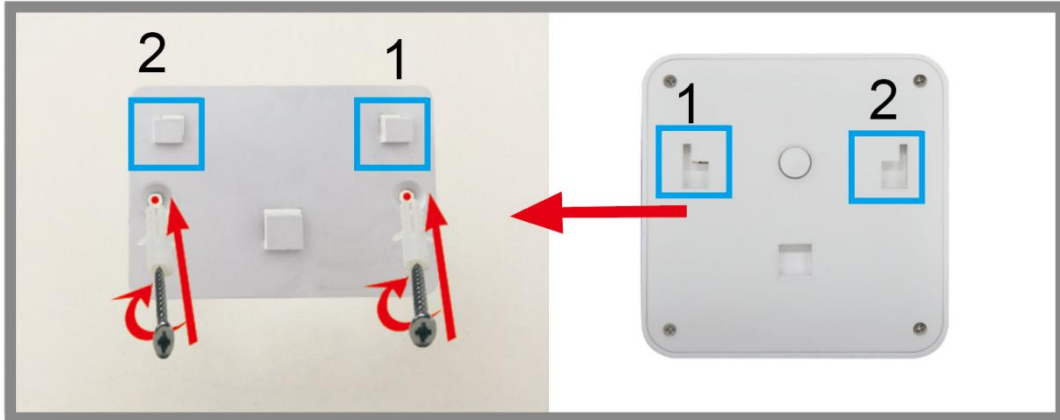
5.2 Tools

Before installation, please prepare proper tools. Here are tools may be used for reference:



Figure: Installation Tools

5.3 Quick installation



Place the back board on the position and mark it where to be installed. Use the percussion drill to make punch holes. Put the plastic cover into the 2 holes and use the tapping screws to secure the back on the wall.

Installation on the surface of metal or glass wall

You can use 3M tape to adhere on the surface where cannot punch holes and follow steps below:

- Use a dry towel to clean up on the surface to install.
- Make the 3M tape adhere to the device back board. Then make the device back board and the device back holder fit together well.
- Locate AN-304C on a proper position where 3M tape to be attached. Press several times to make sure it gets fixed. Recommended installation height is at least 1.5 m.

5.4 Installation method



6. Communication Format

Fport: 44. Here are the frame definitions below:

6.1 Heartbeat frame

Item	Number (bite)	Description
Sensor type	1	0x07, by default
Frame type	1	0x01, by default
Sensor status	1	0: not triggered; 1: triggered
Anti-dismantle switch status	1	0: not dismantled; 1: dismantled
Battery voltage	1	Be divided by 10 for the real value

6.2 Alarm frame

Item	Number (bite)	Description
Sensor type	1	0x07, by default
Frame type	1	0x02, by default
Sensor status	1	0: not triggered; 1: triggered
Anti-dismantle switch status	1	0: not dismantled; 1: dismantled
Battery voltage	1	Be divided by 10 for the real value

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This is a manual as an installation, operation and use file. Specifications subject to change are without notice. For more details, please call us or contact the sales staff.