

AN-305A

LoRaWAN Door/Window Contact Sensor

User Manual



1. Introduction

1.1 Profile

The AN-305A is a highly efficient security sensor based on the LoRaWAN communication standard. It quickly sends an alert to users via the network when doors or windows are opened without authorization or in case of an intrusion. Known for its high detection accuracy, stable performance, and low power consumption, this monitor is suitable for a variety of environments, including but not limited to home security, communication rooms, industrial production lines, large logistics warehouses, archives, and museums, providing reliable protection for the security of doors and windows in these locations.

1.2 Feature

- Support LoRaWAN Protocol;
- Frequency Band: CN470/AS923/ EU868/US915/AU915 optional;
- It can be integrated with door contact, PIR Motion sensor, temperature and humidity sensor functions;
- Built-in battery for as long as 1-2 years life span;
- Pocket size and easy to install.

1.3 Specification

Description	Item	Performance
Hardware parameter	Sensor	Built-in magnetic Sensor
	Antenna	Built-in LoRa antenna
Wireless function parameter	Data transfer rate	300bps~5.4Kbps
	frequency	CN470MHz~510MHz EU863MHz~870MHz US902MHz~928MHz
	Max Tx Power	20dBm
	Rx sensitivity	-141dBm
Working environment	Working temperature	-10℃ ~ +50℃
	Working humidity	10% ~ 95%
Electrical parameter	Power supply	Built-in lithium battery
	Voltage	DC3.0V
	Battery specification	CR123A (3.0V/1500mAh)
	Power consumption	36mW
	Standby current	3uA
	Tx current	125mA
	Rx current	≤16mA
Others	IP grade	IP64
	Dimension	Master kit: L88mm*W30mm*H21mm Secondary kit: L44mm*W15mm*H12mm

2. Structure

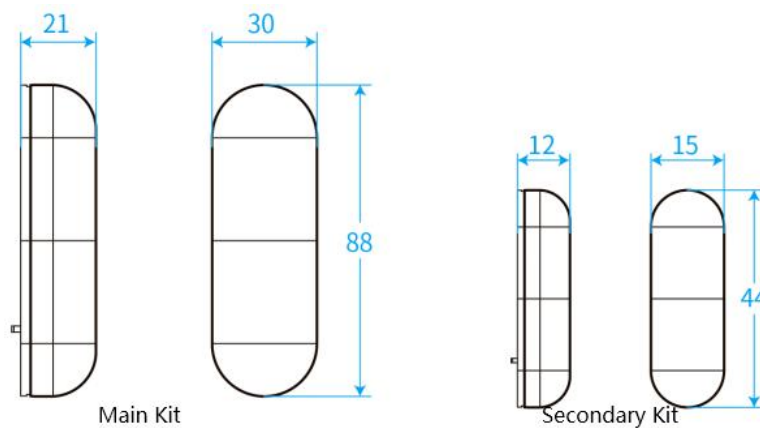


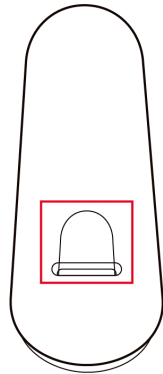
Figure: L88*W30*H21mm (master kit)
L44*W15*H12mm(secondary kit)

3. How to work

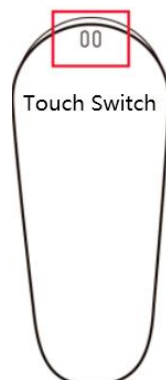
In a traditional security system, this contact sensor's role is to trigger the alarm. If the security system is armed and one of sensors on a window or door signals 'open', the system will signal an alarm unless disarmed.

Please connect this contact sensor on the server before the processes below:

- 1). Please remove the white plastic sheet off first.



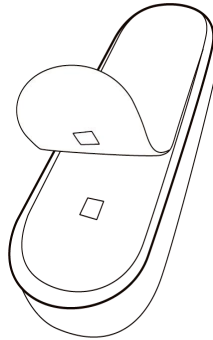
- 2). Activation: press the touch switch and hold for a while, with a red light on. It means successful activation.



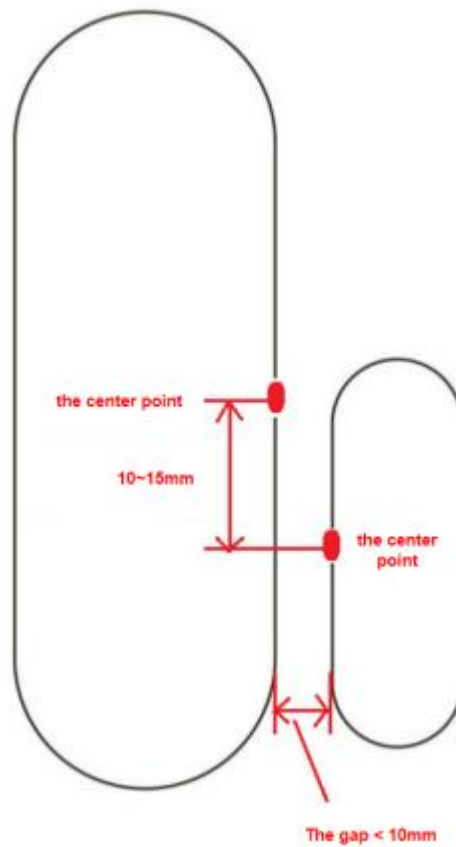
- 3). Turn on: Red light flashes a time.
- 4). Reset: press the touch switch and hold for a while until a red light on, then release.
- 5). Join network: Red light fleshes 3 times.
- 6). Upload data: Red light flashes a time.

4. Installation

- 1). Remove the 3M plastic sheet on the back of AN-305A



- 2). Please be careful with the gap between master kit and secondary kit. It should be less than 10mm



5.Communication format

Fport=44, uploading in hexadecimal

Heartbeat frame (0x01)

The data includes 5 bites, here below is the details:

1	Sensor type	1 byte	0x08 as default
2	Frame type	1 byte	0x01
3	Tamper status	1 byte	0: not tampered; 1: tampered
4	Contact sensor status	1byte	0: normal; 1: abnormal
5	Battery voltage	1 byte	It needs to be divided 10 for real value.

Dismantle frame (0x02)

The data includes 5 bites, here below is the details:

1	Sensor type	1 byte	0x08, by default
2	Frame type	1 byte	0x02
3	Tamper status	1 byte	0: not tampered; 1: tampered
4	Device status	1byte	0: normal; 1: abnormal
5	Battery voltage	1 byte	It needs to be divided 10 for real value.

Alarm frame (0x03)

The data includes 5 bites, here below is the details:

1	Sensor type	1 byte	0x08, by default
2	Frame type	1 byte	0x03
3	Tamper status	1 byte	0: not tampered; 1: tampered
4	Door contact status	1 byte	0: normal; 1: abnormal
5	Battery level	1 byte	Be divided by 10 for the real value

6.Cautions

- 1.Prohibit the use of salt spray, acid, alkaline and organic solvents in the environment.
2. Avoid using in the environment with large dust.
- 3.Prolonged exposure to sunlight or intense ultraviolet radiation is prohibited, which will degrade the performance.
- 4.When the sensor needs to carry out long-distance signal transmission, attention should be paid to the attenuation of the signal.
5. Ensure the normal use of the product. Please read this manual carefully and keep it for future reference.

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