



# ZETA<sup>®</sup> Low-Power Wide Area Networks

ZETA Temperature and Humidity Sensor

## **Temperature and Humidity**

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# Temperature and Humidity

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# Temperature and Humidity

## 1. Product Description

ZETA Temperature and Humidity Sensor is used to monitor the ambient temperature and humidity value in real time. With adjustable alarm threshold, it can be applied to a variety of different scenarios that requires environmental monitoring such as the equipment room, the control cabinet and the greenhouse.

## 2. Applications

Temperature and humidity detection

## 3. Appearance



## 4. Features

- ✓ Wireless transmission
- ✓ Battery-powered, low power consumption
- ✓ Easy to install, high sensitivity
- ✓ Reliable detection
- ✓ Real-time transmission

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### 5. Product parameters

Product No.	THZ2ZT92	
Wireless Features	Transmission protocol	ZETA
	Frequency band	920-925 MHz
	Output power	20±3 mW
Electrical Features	Power supply	Battery, 2*ER14505
	Battery capacity	2*2700 mAh
	Stand-by current	≤ 5 μA
	Working current	≤ 70 mA
Physical Features	Size	66*55*36 mm
	Enclosure material	ABS
	Waterproof level	IP30
	Antenna	Monopole antenna
Sensor Characteristics	Temperature detection range & precision	-10℃~+85℃ (±0.4℃)
	Humidity detection range & precision	0~100%RH ±3%RH(0~80%RH) ±4.5%RH(80~100%RH)
Working Environment	Operating temperature	-20℃~+75℃
	Storage temperature	-30℃~+85℃

### 6. Packing List

ZETA Temperature and Humidity Sensor	1

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### 7. Installation

There are three installation methods: Screw, 3M Adhesive and cable ties.

#### 7.1. Screw

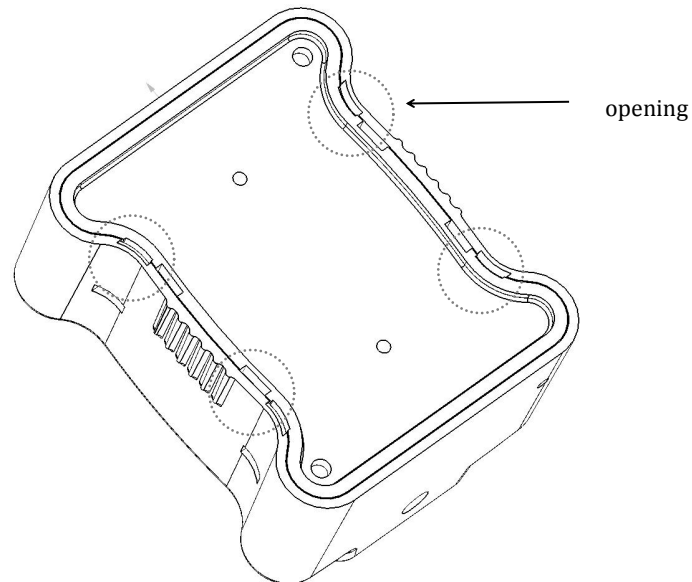
##### 7.1.1. Auxiliary material

No.	Materials	Quantity
1	self tapping screw (M3*20)	2/device
2	#4 expanded plastic pipe	2
3	Percussion drill, #4 drill bit, hammer	1
4	slotted screwdriver, cross screwdriver	1

##### 7.1.2. Installation instructions

- Open the device case

Use a slotted screwdriver to open the top cover from the bottom edge.



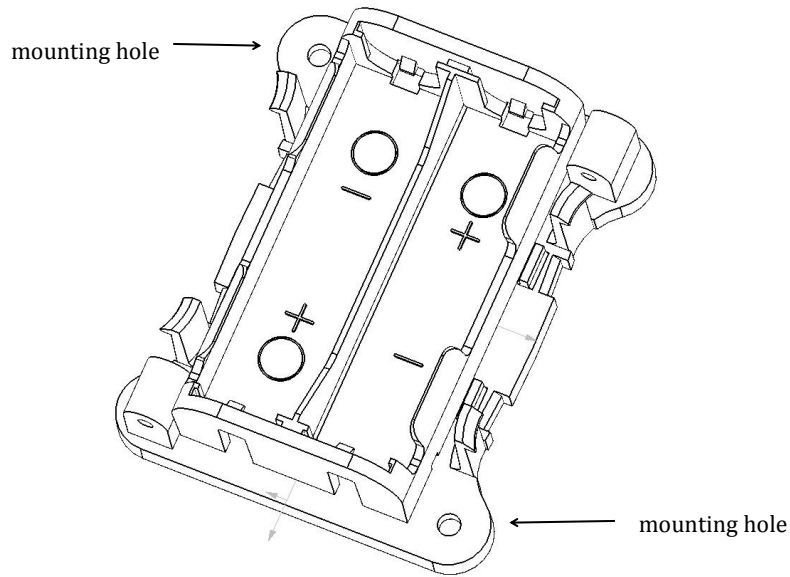
- Punching

Place the device in the mounting position, punch and insert the expanded plastic pipe.

- Fixation

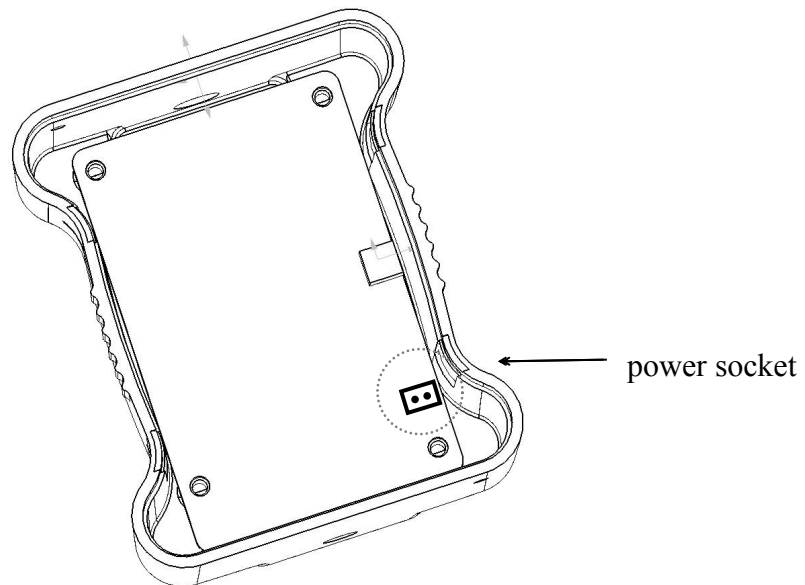
## Temperature and Humidity

Use the self-tapping screws to secure the device in the mounting position.



### ➤ Power on

Insert the power plug into the upper power socket, install two 14505 batteries (remove the insulation sheet for the existing battery), and close the upper cover.



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## 7.2. Adhesive 3M

### 7.2.1. Auxiliary material

No.	Materials	Quantity
1	3M seamless thickened double-sided adhesive	5CM
2	Slotted screwdriver, utility knife	2

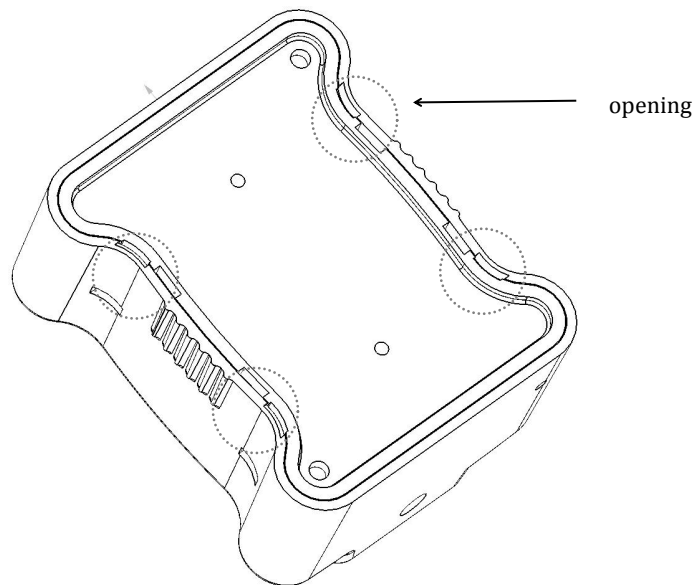
### 7.2.2. Installation instructions

- Installation position

Select a flat mounting position, and clean it up.

- Open the device case

Use a slotted screwdriver to open the top cover from the bottom edge.

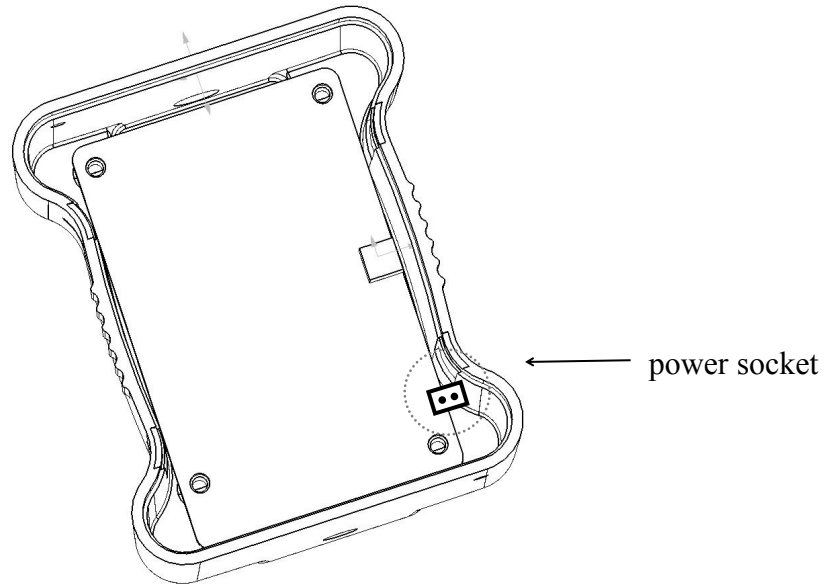


- Power on

Insert the power plug into the upper power socket, install two 14505 batteries (remove the insulation sheet for the existing battery), and close the upper cover.



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### ➤ Adhesive device

Take the appropriate amount of 3M adhesive, attach it to the back of the sensor, remove the protective film of the 3M adhesive, and install the device to the specified position.

## 7.3. Cable Ties

### 7.3.1. Auxiliary material

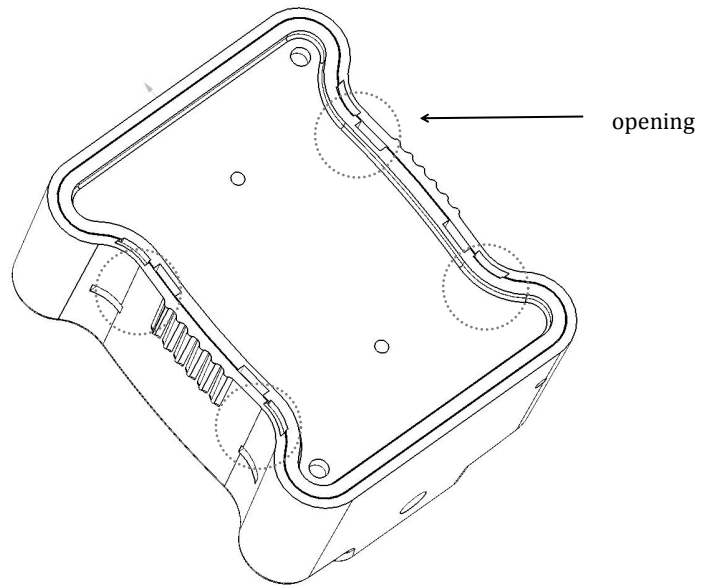
No.	Materials	Quantity
1	Metal cable ties (5*300mm)	2
2	Slotted screwdriver, utility knife	

### 7.3.2. Installation instructions

#### ➤ Open the device case

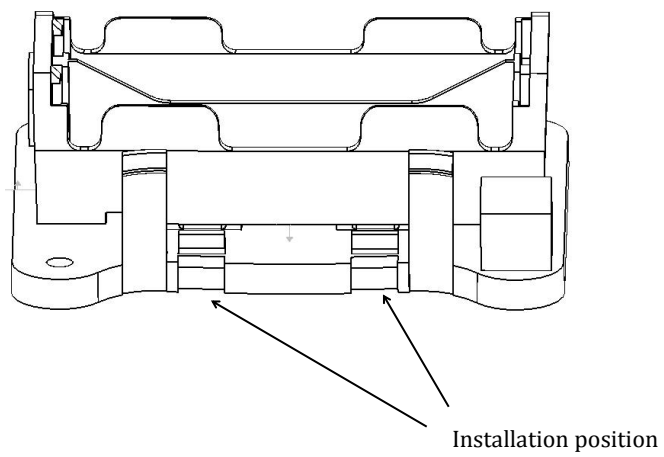
Use a slotted screwdriver to open the top cover from the bottom edge.

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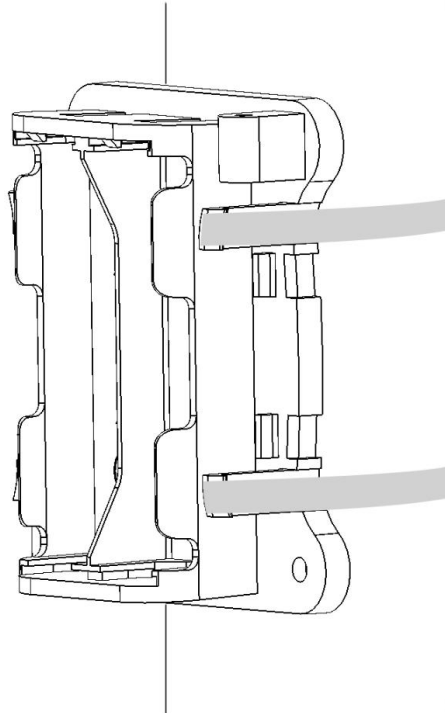


### ➤ Fixation

Pass the 2 cable ties through the device and secure to the installation rod

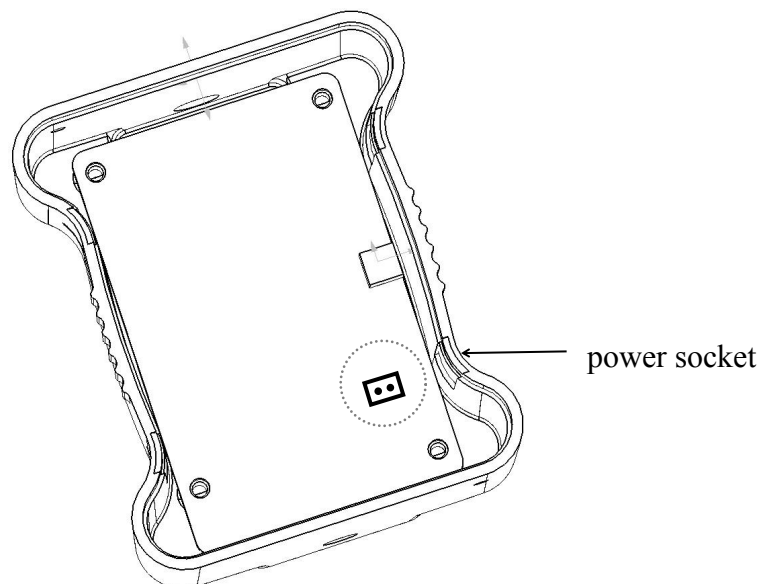


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### ➤ Power on

Insert the power plug into the upper power socket, install two 14505 batteries (remove the insulation sheet for the existing battery), and close the upper cover.



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### 8. Use of Device

#### 8.1. Power on

Place the device within the coverage of the ZETA network, install the battery, and wait for the device to go online. After the device is online, the current device status is reported. You can set the alarm thresholds and reporting periods based on requirements.

#### 8.2. Support function

- Version number: Report the software version number of the sensor only once after power-on.
- Status report: Report status data periodically according to the setting
- Set/Query report heartbeat period: can set or query the heartbeat report cycle. (Range: 1~65535 min, default: 2\*60min)
- Set/Query report alarm period: When the detected temperature and humidity exceeds the set threshold, the alarm will be reported on the set period. (Range: 0-255 minutes, default value: 0, which means the alarm is reported only once.)
- Set/Query Alarm Threshold: Set the upper lower alarm threshold for temperature and humidity alarms. Once the detected value exceeds the set alarm threshold, the device will report the alarm immediately. (Temperature range: -127~127, unit 1 °C, humidity range: 0~100, unit: RH%, value 0xFF means no threshold, note that the lower threshold should not exceed the upper threshold, the setting value should not exceed the sensor range)
- Set/Query the alarm release threshold: Avoid repeated alarms caused by fluctuations of the detected value. Generally, the default value is used, and no setting is required.
- Set/Query alarm enable: Enable ON means that the alarm status needs to be reported when the threshold is exceeded. Enable Off means no alarm is required even if the threshold is exceeded.
- Set/Query acquisition period: The period of which the device collects sensor information (range: 0-65535 seconds, when the value is 0, it means real-time acquisition).
- Query status: Actively query the current status of the device, including

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current temperature, current humidity, and alarm enable information.

- Query version number: You can query the software version number of the current sensor.

### 9. Common faults and handling

- Ensure ZETA signal coverage
- Ensure that the device is powered on, and the ZETA network device management platform can observe that the ZETA module is on line
- Check the battery usage of the device. When the battery is low, replace the battery in time.

## **FCC Statement**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with FCC PART15 Rules. Operation is subject to the following two conditions:(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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**Shanghai, China**

Room 901, Block 67, Hongcao  
Building, 421 Hongcao Road,  
Shanghai  
+86 (0) 21-61320820

**Xiamen, China**

Room 1303, Building A-02,  
Software Park Phase III, Jimei  
Distric, Xiamen  
+86 (0) 592 6070310

**Cambridge, UK**

3 Charles Babbage Road,  
Cambridge, CB3 0GT  
United Kingdom  
+44(0) 1223 491 099