



Note: Please read this user manual carefully
before installation and use!

DS311

Wireless Sensor

User Manual

DHMS (Hong Kong) Intelligent Technology Limited

Implementation Standards:

GB/T3836.1-2021

GB/T3836.4-2021

Q/3205DMS01001-2025



Important Notes:

1. The product is strictly prohibited from being installed in an environment containing flammable and explosive gases.
2. To avoid dangerous accidents, the installation and fixation of the product must be carried out in strict accordance with the instruction manual.
3. After removing the packaging, check whether the product is damaged.

1 Product Overview

1.1 Product Introduction

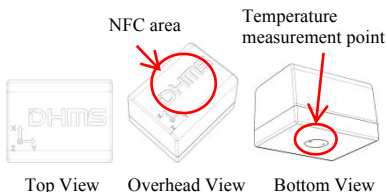
The DS311 sensor is a wireless vibration and temperature sensor, which is used for condition monitoring of rotating dynamic equipment in industrial fields. This wireless sensor is powered by a battery, can collect vibration/temperature data in three axial directions, connects to the gateway via Bluetooth, and uploads the monitored data to the gateway.

2 Main Technical Parameters

Category		Specifications
Communication	Communication Protocol	Bluetooth 5.0
Vibration Acquisition	Acquisition Type	Three - axis Vibration Acquisition
	Vibration Frequency	6 KHz@3dB
	Range	16 g
Temperature Acquisition	Range	-20℃ to 120 ℃
	Resolution	0.1 ℃
Working Environment	Working Temperature	-20℃ to 80 ℃
	Working Humidity	5% to 90%, non - condensing
Housing	Protection Level	IP69
	Size	46 × 36 × 30 mm

	Installation Method	Adhesive Method
--	---------------------	-----------------

3 Product Appearance



4 Installation and Operation

4.1 Confirmation of the Number and Location of Monitoring Points

Open the DHMSCare APP, click on the added target monitoring device, and determine the number of monitoring points (i.e., the number of sensors) and their locations (i.e., the installation positions of the sensors) according to the guidance on the APP page.

Scan the QR code on the right to download the APP.



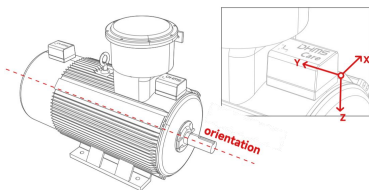
4.2 Placing the Sensor

Read the following installation precautions:

4.2.1 The sensor should be installed close to the bearing (note to avoid installing it at the fan outlet);

4.2.2 The installation position on the equipment casing must be clean and flat, without grease, dust, and so on;

4.2.3 The "Y-axis" of the sensor is parallel to the axial direction of the equipment, and the "Z-axis" of the sensor is perpendicular to the axial direction of the equipment.



Reference for Sensor Installation Diagrams

4.2.4 The communication signal between the sensor and the gateway is optimal when the top surface of the sensor (the side with the LOGO) faces the gateway.



Front
(logo side)

Correct Example Diagram



Back

Incorrect Example Diagram

4.3 Installation and Fixation

4.3.1 After determining the installation position and direction, apply glue (Loctite 454 is recommended) evenly to the bottom case. Ensure the glue layer is not too thick (less than 2mm). Apply the glue to the area marked red in the figure below, covering approximately 60% of the bottom surface.



4.3.2 After applying the glue, press the sensor onto the designated position. Release your hand after the glue has initially set (the initial setting time varies depending on the type of glue. For example, Loctite 454 glue takes approximately 5-20 seconds).

4.3.3 After the glue is fixed, connect the included antenna to the antenna interface on the side of the sensor.



4.3.4 After the antenna is tightened, use the included double-sided tape to fix the antenna base (the base has a built-in magnet), and use the fixing clip to organize the antenna extension cable.



Double-sided tape



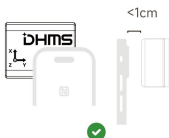
Fixing clip

4.4 Monitoring Point Binding

Open the DHMSCare APP, Then follow the APP prompts to complete the binding of the sensor.



The red-marked position in the diagram is the NFC sensing area.



Place the phone's NFC area close to the sensor nearby (with a distance of less than 1 cm) and complete the binding according to the App's prompts.

Note: After binding, the sensor will automatically search for nearby gateways to connect to the network, and no other operations are required.

5 Judgment of Bluetooth Signal Strength at the Sensor Installation Position

The mobile APP allows checking the Bluetooth signal strength reported by the sensor to evaluate the quality of the Bluetooth signal at the installation location.

Signal Strength	Judgment	Solutions
> -60 dBm	Strong	-
From -60 dBm to -75 dBm	Medium	-
<-75 dBm	Poor	1. Change the installation position of the sensor. 2. Adjust the direction of the sensor's top surface.

6 Fault Analysis and Troubleshooting

Phenomenon	Possible Fault Causes	Solutions
------------	-----------------------	-----------

The sensor shows offline	There is no Bluetooth signal or the signal is poor at the installation point.	Adjust the positions of the gateway / sensor.
	There are metal obstructions between the sensor and the gateway.	Remove metal obstructions.
The collected data is obviously incorrect	The sensor is loose or has fallen off.	Re-fix the sensor on the equipment.

If the above measures fail to resolve the issue, please contact the manufacturer or an authorized dealer for assistance!

7 Maintenance and Care

After-sales service for the product must be provided by the manufacturer or authorized distributor;

Non-professional maintenance personnel are strictly prohibited from disassembling the internal components. Unauthorized disassembly will invalidate the warranty;

BLE(1 Mbps/2 Mbps):2402-2480 MHz

BLE(1 Mbps): 14.87 dBm

BLE(2 Mbps): 14.82 dBm

FCC Statement

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

This device complies with part 15 of the FCC 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.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator& your body.

Note : 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.

19H Maxgrand Plaza, No.3 Tai Yau Street, San Po Kong, Kowloon,
Hong Kong SAR, China

Contact Number: 0852-6213-9846

