

Motion Sensor Trigger and Diagnosis

Revision History

Date	Version	Description
August 2024	V1.0	First release

Motion sensor is the most important part of the Koolmesh system, it is the core of auto-control.

In normal situations, the sensor will trigger the corresponding scene only when it detects the presence. However, sometimes the light is always on when no one is there, resulting in energy waste. To check whether there is a problem with the sensor, we can use the Motion sensor trigger diagnosis function to check whether there is a problem with the sensor.

There are two ways to perform Motion sensor trigger diagnosis. The first one is Koolmesh App, and the second one is on the WEB Platform.

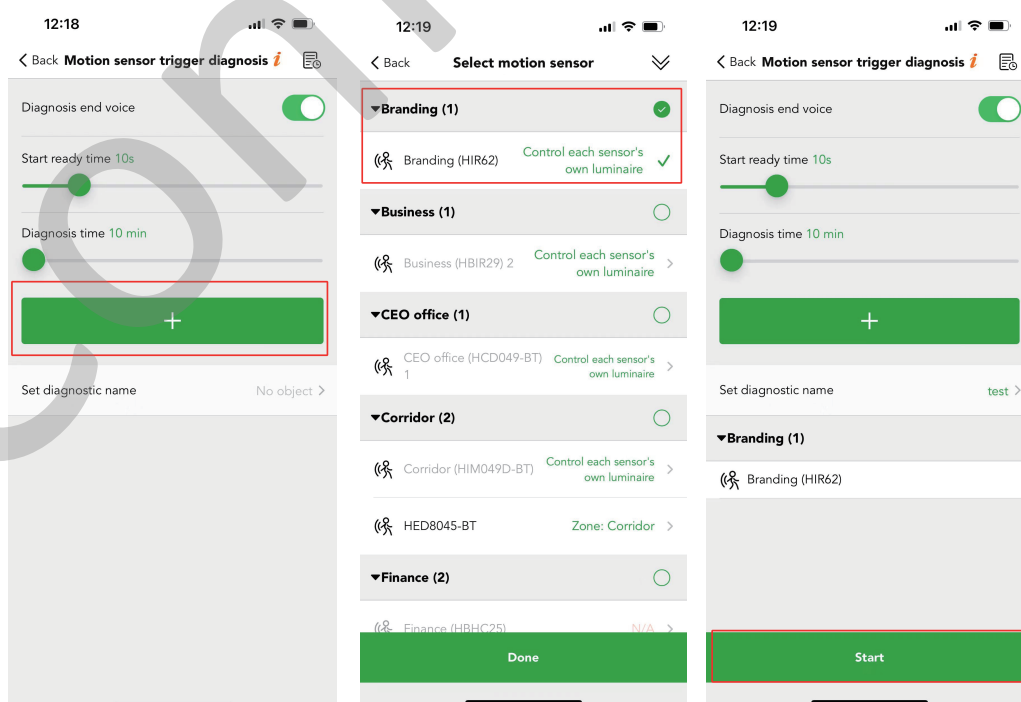
1. Koolmesh App

Koolmesh → Settings → Motion sensor trigger diagnosis

People need to leave the scene during the diagnosis to simulate an environment without people. User can set the "Start ready time" to leave enough time for people to leave the place.

"Diagnosis time" is suggested to set above 1 hour but must ensure no people around during the set time.

⊗ During the use, user must stay on the page and cannot exit the app. And the device should not be powered off during the whole process to avoid data errors.



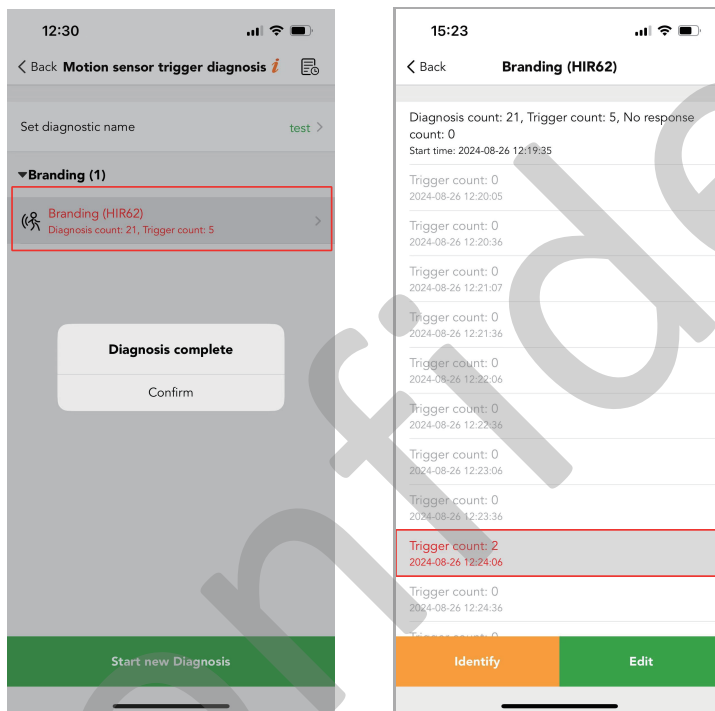
Turn on the "Diagnosis end voice", then when the diagnosis completed, the phone will make a sound to let you know that the diagnosis is completed; If this function is turned off, you will not hear the sound.

Diagnostics can be for a single sensor, a zone, or all devices in the entire network, according to your needs. You can also set the name for the diagnosis so you can find the data more convenient.

Click on  in the top right corner, you can view historical data from previous diagnoses.

The "Diagnosis count" counts the number of diagnoses, koolmesh app diagnoses and records every interval time. (The interval time on the app is default 30 seconds)

"Trigger count" counts the number of times it was triggered. If the number of times is 0, it means that the sensor has not been triggered within the set time range, indicating that the sensor is working normally. If it is not 0, it means that the sensor is indeed triggering incorrectly.



As we can see, Branding (HIR62) has been diagnosed 21 times, of which 5 were activated. We can see the specific time and number of excitations in the report. According to the report, we can edit the device and modify the parameters. For example, adjust the detection range, and so on.

2.WEB Platform

Users can set diagnosis via <https://www.iot.koolmesh.com/> by clicking on Sensor Trigger Diagnosis, take below project,network as example .

Project: Default project

Network: Demo China

The screenshot displays the 'Sensor Trigger Diagnosis' page in the Koolmesh web platform. The interface includes a sidebar with navigation options like 'Emergency Control', 'Gateway Remote Control', and 'Sensor Trigger Diagnosis'. The main content area shows the 'Sensor Trigger Diagnosis' section with dropdowns for 'Select Project' (Default Project) and 'Select Network' (DEMO China). Below these is a 'Gateway List' table with columns: Gateway Name, Gateway Type, Gateway Version, Mac Address, Mesh Status, Gateway Status, and Action. The table lists one gateway, HBGW01, which is a 'Real gateway' with version '1.0.26' and MAC address '94:a1:a2:50:32:4e'. Its 'Mesh Status' and 'Gateway Status' are both 'Online', and there is a 'Settings' button in the 'Action' column. Below the gateway list is a 'Setting Record' table with columns: Start Time, End Time, Task Interval(s), Task Status, Created On, and Action. It shows two records: one 'Canceled' task from 2023-09-20 00:00:00 to 2023-09-26 00:00:00 with a 60-second interval, and one 'Executed' task from 2023-09-19 16:14:35 to 2023-09-19 17:14:35 with a 60-second interval. A 'Results of diagnosis' button is at the bottom right.

People need to leave the scene during the diagnosis to simulate an environment without people. And during the use, the device should not be powered off during the whole process to avoid data errors. User can click on "Settings" to add task,set the "Diagnostic time range" and "Interval time".

The screenshot shows the 'Add task' dialog box in the Koolmesh web platform. The dialog is overlaid on the 'Sensor Trigger Diagnosis' page. It contains two main input fields: 'Diagnostic time range (Default 1 hour)' which is set to '2024-08-26 23:00:00 To 2024-08-27 07:00:00', and 'Interval time (Maximum 1 hour, Minimum 10 seconds)' which is set to '300 s'. At the bottom of the dialog are 'Confirm' and 'Cancel' buttons. The background shows the same 'Gateway List' and 'Setting Record' tables as the previous screenshot.

"Diagnostic time range" is suggested to set above 1 hour but must ensure no people around during the set time. The default setting is 1 hour.

The minimum interval time is 10 seconds and the maximum is 1 hour. We recommend not setting the time too short to avoid network congestion.

e.g.,the interval time is 300s means for each diagnosis, rest for 300 seconds.

Emergency Control

Gateway Remote Control

Floorplan Controls

Control Device(s)

Control Zone(s)

Control Group(s)

Control Scene(s)

Control Network(s)

Control Project

Gateway List

Sensor Trigger Diagnosis

Data & Statistics

System Settings

Gateway Remote Control > Sensor Trigger Diagnosis

Homepage Control Network(s) Gateway List Sensor Trigger Diagnosis

HBGW01 Real gateway 1.0.26 94:a1:a2:50:32:4e Online Online Settings

Setting Record

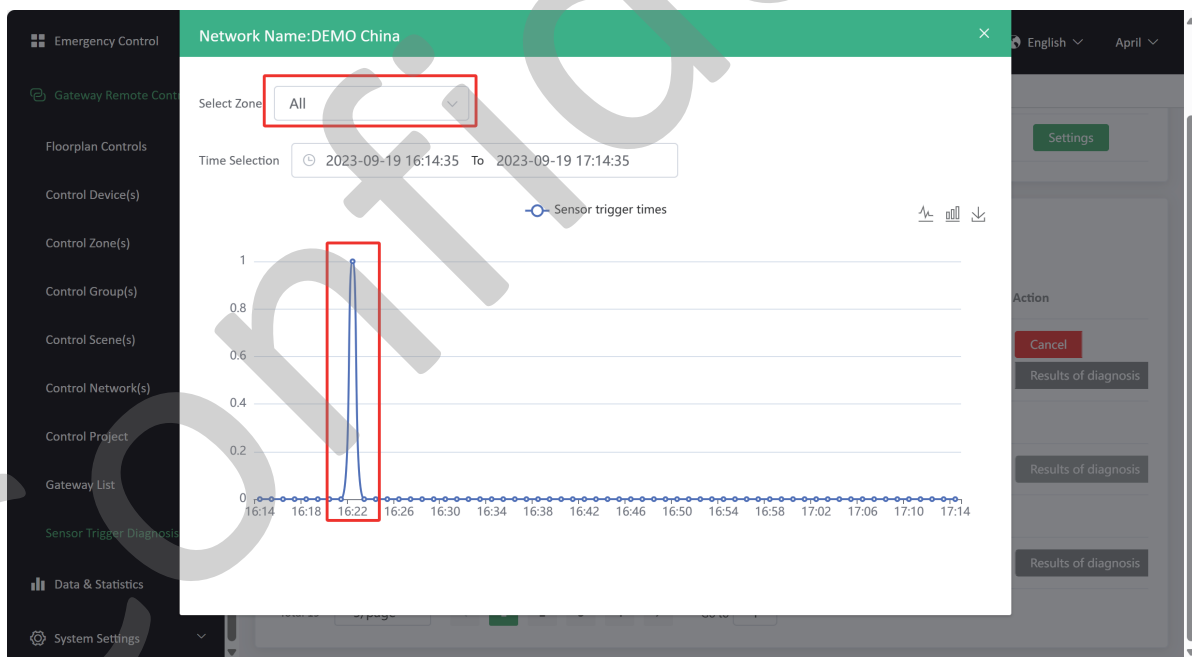
Start Time	End Time	Task Interval(s)	Task Status	Created On	Action
2024-08-26 23:00:00	2024-08-27 07:00:00	300	Non-execution	2024-08-26 11:10:12	Cancel Results of diagnosis
2023-09-20 00:00:00	2023-09-26 00:00:00	60	Canceled	2023-09-20 11:35:02	
2023-09-19 16:14:35	2023-09-19 17:14:35	60	Executed	2023-09-19 16:17:45	Results of diagnosis
2023-09-19 00:00:00	2023-09-26 00:00:00	60	Canceled	2023-09-19 16:07:54	
2023-08-04 22:14:55	2023-08-04 23:14:55	60	Executed	2023-08-04 22:17:50	Results of diagnosis

Total 19 5/page 1 2 3 4 Go to 1

There are three status of the task, which are: Non-execution, Canceled and Executed.

Non-execution means the setup time has not yet been reached, and the execution has not yet begun. If users click "Cancel", then the status will come to "Canceled" which means that the task was not executed.

In "Executed" status, we can see "Results of diagnosis", click on it, then we can get the statistics of the diagnosis.



The diagnostic data on the web is according to the whole network, we can choose a zone or a single device to check the statistics as we like.

When the Sensor trigger times is 0, it means the motion sensor is not triggered;

When the Sensor trigger times is 1, it means the motion sensor has been triggered once.

Comparing the two methods of Motion sensor trigger diagnosis, we can see the similarities and differences, which can be seen in the following table.

		Koolmesh App	WEB Platform
Similarities		1.The device should not be powered off during the whole process to avoid data errors.	
		2.People need to leave the scene during the diagnosis to simulate an environment without people.	
Differences	Object	User-selected, can be a single sensor, a zone, or all sensors in the entire network	Defaults to the entire network
	Report	Generated according to the object	When viewing the report, you can select the entire network, a certain zone, or a certain device
	Diagnosis method	On site,must stay on the diagnosis page and cannot exit the app	Remote diagnostics
	Start ready time	Set by the users,to leave enough time for people to leave the place	There is no such setting. It can be performed remotely by setting the "Diagnostic time range"to leave enough time
	Interval time	The default is 30 seconds	Set by users, with a minimum of 10 seconds and a maximum of 1 hour