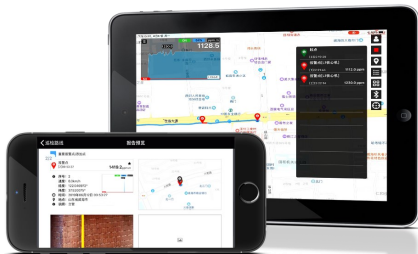




# User Manual

Intelligent Gas Leakage  
Inspection Application

AO\_UM\_V2.1




# 1

## Application Introduction

Introduction of operation  
interface and basic functions

## 1.1 Disclaimer

The iPad <sup>™</sup>, iPhone <sup>™</sup>, and iOS <sup>™</sup> are the products from American ©Apple Inc. The products and service are provided by Apple Corporation, please refer to the information and documents provided by Apple Corporation.

 AlphaOne is an intelligent gas inspection application developed based on the iOS platform and Android system.

## 1.2 Application Introduction

The application can obtain the real-time concentration, real-time state and device setting through the connection with the inspection device.

**Connectable Devices include:**

- [ 1 ] Remote Laser Methane Detectors
- [ 2 ] (Electric bicycle/Handheld) Laser Methane Detectors
- [ 3 ] Vehicle-mounted Laser Methane Inspection System (Front + Roof)

## 1.3 Operation Interface

The main operation interface is like as follow:

[ 1 ] The first concentration window

Real-time display of the concentration and set the alarm limit



[ 2 ] The second concentration window

Real-time display of the concentration and set the alarm limit

[ 3 ] Video Real-time video to view, adjust the Pan-tilt steering

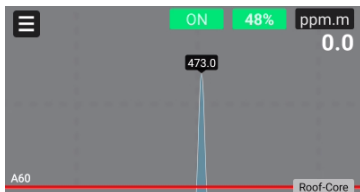
[ 4 ] System message Tips prompt, errors

[ 5 ] Inspection map Track the locations and map the route

[ 6 ] Function menu The Function buttons corresponding to the menu

[ 7 ] Function button Log off, inspect, connection ,setting and view

## 1.3.1 Concentration Window<sup>[1]</sup>



- |       |                          |   |
|-------|--------------------------|---|
| [ 1 ] | Basic Settings           | Alarm limit setting, switch indication laser          |
| [ 2 ] | Historical concentration | Historical data graph and maximum concentration value |
| [ 3 ] | Alarm limit              | Alarm thresholds setting by users                     |
| [ 4 ] | Device type              | The name of the currently connected device            |
| [ 5 ] | Real-time concentration  | Real-time display of methane concentration            |
| [ 6 ] | Concentration unit       | Unit of ppm or ppm.m                                  |
| [ 7 ] | Laser intensity          | Real-time laser intensity                             |
| [ 8 ] | Indicate laser           | Real-time indicator laser status                      |

## 1.3.2 Basic Setting



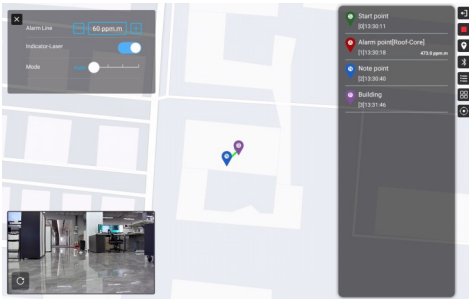
On the back of the concentration window are the basic Settings of the device, including indicator laser on/off, alarm limit setting, pumping level setting, etc.

\*Note[1]: If two devices are connected, the second concentration window displays automatically, the content and settings are same with the first concentration window.

## 1.3.3 Map of Inspection route

The application supports real-time inspection route drawing, start with the starting point📍and end as the terminal point📍

When the alarm occurs, add alarm point📍 automatically, add note point📍 manually if necessary, add building detection for buildings inspection one apartment by one apartment, can mark with the star, attach photos and text records for alarm and note events.



## 1.3.4 Video<sup>[2]</sup>

The central cross logo of the video coincides with the detection laser, which is easy to observe the detection target, and what you see is what you aim. Video operation steps:

- [ 1 ]    Enlarge gestures ↗                      Video full screen
- [ 2 ]    Press and hold the video and drag    Pan-tilt rotates in the dragging direction
- [ 3 ]    Shrink gesture ↖                      Video window recovery









\* Note [2]: Only for devices with cameras, Pan-tilt Rotation is only for devices with Pan-tilt. Vehicle-mounted devices should be connected to WiFi in the "Settings" of iOS.

### 1.3.5 System Message

System messages include messages and alarms. Messages are to prompt the current status of the system, and alarms are to prompt the error of the device.  
See "Appendix 1" to this manual for more details.

### 1.3.6 Function Button

Function button includes the functions commonly used during the inspection:

- |       |   |   |
|-------|---|---|
| [ 1 ] |  <a href="#">Login and logout</a>                | Inspection completes, logout or change the inspector              |
| [ 2 ] |  <a href="#">Start inspection</a>                | Click to start recording the route and alarm points               |
| [ 3 ] |  <a href="#">End inspection</a>                  | Click to end the inspection                                       |
| [ 4 ] |  <a href="#">Add attention</a>                   | Add notes, add building detection                                 |
| [ 5 ] |  <a href="#">Alarm List Edit</a>                 | Hide / display the alarm point list and edit the list information |
| [ 6 ] |  <a href="#">System configuration</a>            | Software configuration, inspection history, offline map, etc      |
| [ 7 ] |  <a href="#">Bluetooth connection management</a> | Bluetooth search, connect, disconnect                             |
| [ 8 ] |  <a href="#">Return to the current location</a>  | Locate to the current location                                    |

See "Part 2 Button Function" of this manual.




# 2

## Button Function



Introduce the function and use of buttons in the main interface of the application





### 2.1 Login and logout

Open  ONE application, the system turns to the login interface , Please enter the inspector name after clicking "Login and logout" button  to enter the main inspection interface. After inspection ends, click the "login and logout" button  to log out the current inspector.

### 2.2 Start / end the inspection


After ensuring the application is correctly connected to the device, click the Start Inspection " button  to start inspection. The start identification  is automatically added at the current location.



Click the "End Inspection" button  to end the inspection, and the system will automatically add the end identification .

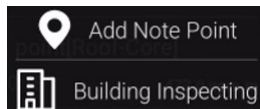
#### CAUTION

Must click the start inspection button  to record the path and activate the concentration limit alarm.

### 2.3 Alarm and attention

During the inspection, when an alarm event occurs, alarm identification  was added automatically, and the maximum value of the alarm is recorded.

When aware of potential hazard incidents or for manually determined events, click "Add Note" button  , and it will add signs in the current geographical location. The Note signs include single note point  and building detection.

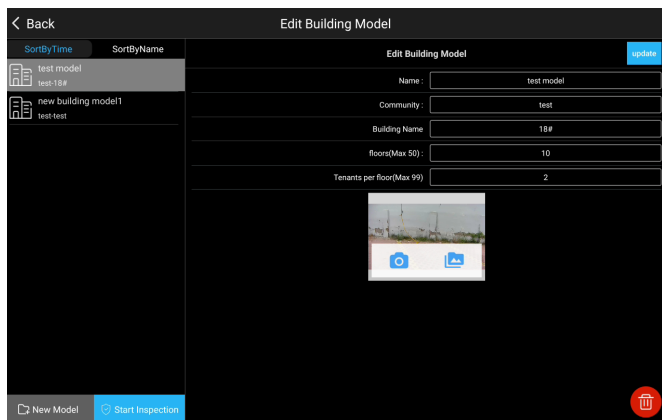


### 2.3.1 Create Building Inspection Model

In the "Detection Model" interface, click "Create", enter the building information in the "Create Building Inspection Model" on the right, and add photos to enrich the building information. After editing done, click "Save" for storage. After storage done, click "Start Inspection" to enter the inspection interface. If there are established tasks, just click "Start Inspection" to enter the inspection interface directly. Saved tasks can be clicked to edit again, and click Save after editing.

#### CAUTION

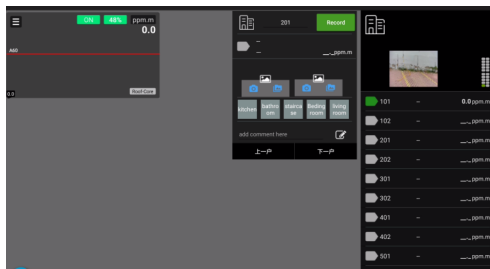
**MUST** click the Start inspection button  to add abnormal points and building detection.



## 2.3.2 Start Building Inspection

Click "Start Inspection" to enter the building detection interface, showing "Concentration window", "Apartment Detection" and "Building Overview". After inspection done, click "Finish" to return to the main inspection interface.

- [ 1 ] Concentration window [Consistent with the information of the concentration window of the main inspection interface](#)
- [ 2 ] Apartment testing [Detect apartment gas leak, and add information consistent with the alarm point info](#)
- [ 3 ] Building Overview [Get basic information, photos and detection of each floor](#)








### Several methods of Building Detection:

- [ 1 ] Enter the floor number and click "Record" to edit the information;
- [ 2 ] Click "Previous apartment" or "Next apartment" to detect other apartments;
- [ 3 ] Click the floor list in "Building Overview" and click "Record" to edit the information;
- [ 4 ] Click the "Maximum value" button of the inspection device<sup>[3]</sup>, Enter the corresponding floor number in the prompt box of the app

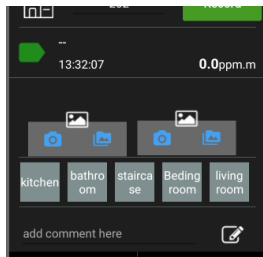
\* Note [3]: Devices with a camera automatically captures a picture.

## 2.4 Alarm list editing


In current inspection route, the start identification , end identification , alarm signs Identification , note identification  display in the alarm list, click the "Alarm List" button  to hide or display the alarm point list.

If the added identification is confirmed to be a big alarm point, left slide the alarm point to mark a star; if it was confirmed to be an invalid point, right slide to set a Invalid point (invalid point will not be seen in the inspection report).

Click the corresponding identification to edit, and the application will locate the identification location automatically and open information box, to take Photo / add Picture[4], quick tags, text annotation.



## 2.5 System configuration

Click the "System Configuration" button  to open the Settings menu, showing the software settings, system message, inspection route, inspection report, offline map, and software information.

[See part 3 of this manual for more details.](#)

## 2.6 Bluetooth Connection Management

Click the "Bluetooth Connection Management" button  to open the list of Bluetooth devices, and you can get the name of the connected Bluetooth device and the Bluetooth signal strength.

Please select the device to establish a connection; a second click to disconnect.

\* Note [4]: Devices with a camera automatically captures a picture.

# 3

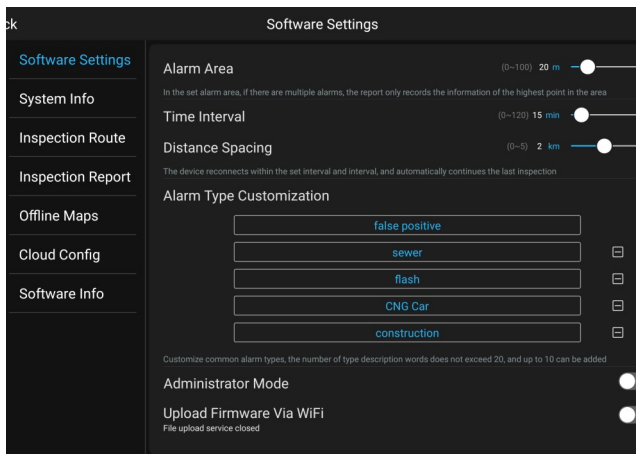
## Application Settings

Introducing the application settings, device settings, inspection record view, etc

## 3.1 Software Settings

Software Settings include "alarm area", "Time interval", "interval distance", "Alarm type personalized", etc.

- [ 1 ] Alarm area      In the alarm area set, if there are multiple alarms, the report only records the highest point info, and the setting range is 0m~100m.
- [ 2 ] Time interval      The setting range is from 0 minutes to 120 minutes.
- [ 3 ] Distance interval      Setting range is from 0km to 5km. If the connection is within the Time and Distance interval, the inspection continues automatically.
- [ 4 ] Alarm Type      Alarm type quick classification tags can be personalized.
- [ 5 ] Other setting      Reserved for the Engineer, do not change any.



### 3.2 Device Settings

Device settings shows the Serial Number, Version, Internal parameters, Start calibration of the connected device.

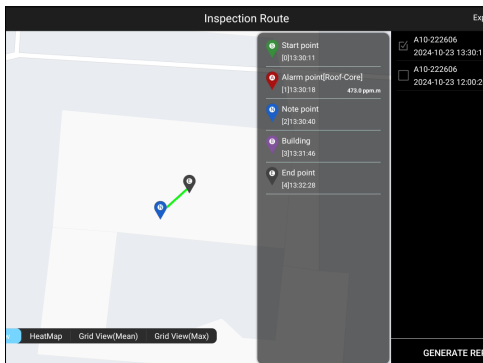
### 3.3 System Message

The system message list is to record the important events during the operation, the error codes and the handle methods can be found in Appendix 1 of this manual.

### 3.4 Inspection Route

Inspection route records the inspection data within one month, and it can be edited again before the the report is generated. After editing, click "Generate Report", the system generates inspection report in PDF with the inspection route and alarm information.

The red points indicate there is no inspection report generated for these routes, inspection records of multiple routes can be combined into one "inspection report" when selected.



### 3.5 Generate the report

Click the "Generate Report" button in "Inspection Route" to generate a report for the current route. During generating the report, to ensure accurate location information, make sure to connect the iOS/Android device to the Internet. After the report is generated, the application will jump to the preview report page automatically.

## CAUTION

Connect the iOS/Android devices to the available Internet, and click Generate Report. It takes 10 to 20 seconds to generate a report. Time increases when the Internet connection is unstable or contents of the report is large. It is recommended to generate an inspection report after each inspection.

### 3.6 Inspection Report

Click "Inspection Report" to open the report list. The report list on the right is sorted by time, and preview the report content on the left. You can also send the report through e-mail or application sharing, and delete the report.





### 3.6.1 Inspection Report

A typical inspection report contains the following items (4~6 for Building Inspection only):

- [ 1 ] General inspection route overview

[Inspection information, device information and inspection map](#)

- [ 2 ] Important alarm points of the route

[Detailed information of Star marks, note points on the inspection route](#)

- [ 3 ] Alarm points

[Information about the general alarm points on the inspection route](#)

- [ 4 ] Building inspection general overview

[Building information, general drawing of the building inspection](#)

- [ 5 ] Building critical alarm points

[Details of star marks and note points on building inspection](#)

- [ 6 ] Building alarm points

[General alarm points information on building inspection](#)

### 3.6.2 Output Report

Before sending the report, ensure that you have connected to the Internet. In the popup dialog box of sending email, enter the recipient's email address and click Send button. If the message says "The current settings of this device do not support sending emails", you need to add an email account in iOS first

### 3.7 Offline Map

Find the city where you want to download a map and click to download.

Click the "Download Management" button to view the download progress, or delete offline maps not in need.

If there is a "Updatable" prompt in the download management page, please click to update the map of the corresponding city.



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**AiLF (Shandong) Instruments Co., Ltd.**

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