# MicroAir Wifi User Guide

## MicroAirWIFI Overview

### Introduction

MicroAir is a Standalone, Portable and wireless Temperature and Humidity Logger. It is used to monitor temperature and humidity in a variety of applications, such as perishable goods and controlled environments. Each logger can also be connected to an NTC Temperature -50 to 150 °C.

The license-free DataSuite software for Windows and the license free Android app FourtecLite are used to operate the MicroAirWIFI data logger and include powerful tools for comprehensive data analysis.

### Key MicroAirWIFI benefits

- Accurate, portable WIFI data logger
- Measurements: Temperature, RH and Dew Point and External NTC Temperature -50 to 150 °C
- Boomerang feature that automatically creates and emails PDF data report when logger is connected to PC via USB or WIFI
- DataSuite - Feature-rich Windows software for data monitoring, analysis and logger calibration
- FourtecLite – Light Android app with easy access for data monitoring, analysis and logger calibration
- Multi-function keypad supporting manual time stamp and Push to Run modes
- View up to 30 days Min/Max data history on LCD screen
- Records months of data - up to 52,000 samples
- Built-in LED for logging and alarm indication
- Power Saving mode

### MicroAirWIFI Packaging

The data logger package contains the following items:

- MicroAirWIFI data logger
- One nylon bag containing one screw + screw anchor, for wall mounting

### The Data Logger

The MicroAirWIFI can be used as a standalone device to monitor temperature and humidity levels. It can also be real-time monitored via USB cable or WIFI to Windows/Android to the DataSuite software/FourtecLite application.

Users can also define minimum and maximum alarm levels via the software for a specific run and the LCD screen will show alarm icons if either level is breached.

On the LCD screen, the MicroAirWIFI displays the most recent samples, along with the maximum and minimum alarm values for a selected time interval.

The logger two-button keypad is used to activate and stop the device, mark a time stamp, and display min/max values.

The data stored by the logger can be downloaded to any device with DataSuite or FourtecLite, for further viewing and analysis, and can also be exported to an Excel spreadsheet.

The data logger can be configured in power saving mode

The battery for the MicroAirWIFI is replaceable and rechargeable. Note that the battery life depends on the logger sampling rate, type of sensor, and number of measured sensors.

### Hardware Accessories

The only accessory required for the MicroAirWIFI system is the mini-USB cable for connecting the device to the PC or to the Android for setup.

# MicroAirWIFI Hardware Overview

This chapter details the hardware features of the MicroAirWIFI data loggers.

## Data Logger Front Panel Layout


**LCD screen**

Displays logger status, logger data, alarm level, Min/Max values, engineering units, WIFI connection

**Min/Max Hours button**

Use to view Min/Max values going back 24 hours.

Also used to show display when set to turn off display during run.

**Min/Max Days button**

Use to view Min/Max values going back 30 days.

Also used to show display when set to turn off display during run.

**Bi-color LED**

Green and red LED Indicates activation, logging and alarm status

**Cradle for wall mounting**

Use the cradle to mount the logger on a wall for stationary operation. Screws are provided in the accessories kit.

**Battery Switch**

Disconnect and connects the battery from the device.

In case you wish to work with the battery and not only cable connected, switch the button to connect the battery.


## Data Logger External Connections

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**Mini USB Port**

To enable communication between logger and PC, for logger and wifi configuration or Download

**Sensor Inputs**

3-pin socket supporting External NTC Temperature -50 to 150 °C

**Note**: The MicroAirWIFI ships with a rubber plug that covers each of the external sockets. The plug protects the sockets from moisture and dust. Unless you are using the sockets, leave the plugs in.

# Data Logger Sensor Overview

This section provides an overview of the hardware specifications of the MicroAirWIFI data logger.

## Sensor's specification

| Sensor | Measurement Range | Accuracy |
|---|---|---|
| Digital Humidity | 5% to 95% | ±2% |
| Digital Temperature | -40 ºC to 80 ºC | ±0.3 ºC |
| Temperature NTC (external) | -50 ºC to 150 ºC | ±0.3 ºC |

## Sensor Alarms

Via the software, users can define minimum and maximum alarm levels for each input individually. The MicroAirWIFI logger display indicates when the sensor reading is in alarm of any type. The symbols AL-H and AL-L are used in addition to the LED alarm indicator.

## Sensor Calibration

All MicroAirWIFI loggers may be calibrated via the DataSuite windows software and FourtecLite Android Application. The calibration parameters are sent to the data loggers and stored in the logger's memory.

# Unit Serial Number and Comment

Every MicroAirWIFI data logger unit is embedded with a unique serial number. The unit serial number is also marked on a sticker at the back of the product.

The data logger only can be loaded with a descriptive comment to identify its task and location.

Every time data is transferred to the computer it is labelled both with the logger's serial number and comment and is displayed in the graph or data table view.

You may add or edit the logger comment via the DataSuite windows software or FourtecLite for Android in the setup window.

# Power Supply

The MicroAirWIFI data loggers can run from its battery or when is connected to a power source via the USB cable.

The battery is replaceable and rechargeable: Lithium polymer; 1000mAh .

When connected to a power source via USB, the logger will draw its power via the USB port and not via the internal battery and if needed will also charge the battery.

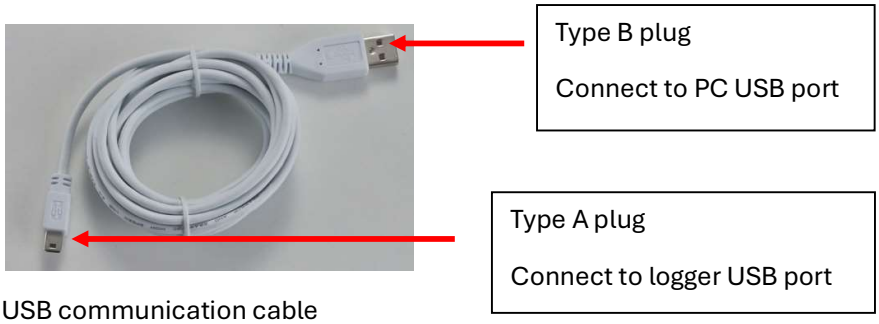
## Battery Level Indication

The MicroAirWIFI battery level indication is viewed as follows:

- In the DataSuite logger Setup dialog and tooltip in Map View
- On the LCD - 4-segment battery icon is displayed on the logger LCD (it is always displayed)


## USB Communication Cable

A mini-USB communication cable connects the MicroAirWIFI data logger to your device. Android devices needs another adapter (USB to USB-C/MicroUSB). When connected to the device the logger can communicate with the software for configuration and data download purposes, for example. This cable also serves as a power supply when connected to a PC or to a power socket.




USB communication cable

## LCD Overview

The MicroAirWIFI has a 4-digit 7-segment LCD screen, which is able to display the following information:


1. Main info –

   The sensor reading currently recorded. Sensor reading of up to three decimal places (if the reading integer is less than 10 e.g. 2.543 V) *

AND followed by

Status messages (full list described below)

2. Low or High alarm indication
3. Battery level
4. Units
5. Min/Max readings

### LCD Status Messages

- USB – Indicates that the logger is connected to the PC via USB cable
- CONN – wifi is connected
- DISC – wifi is disconnected
- Stop - The logger is currently in Stop mode, not sampling data
- Run – Visible immediately before the logger is about to start sampling data, once the Run command was sent.
- Push – Indicates the logger is in Push to Run mode, as configured in the logger Setup window. Press both logger buttons for 3 seconds to start running.
- tRUN - Indicates the logger is in Timer Run mode, as configured in the logger Setup window.
- T01, T02, etc. – Indicates that a time stamp has been taken, by pressing both logger buttons for over 2 seconds while running.
- FULL –
  - Indicates when the logger's memory has reached full capacity.
  - Indicates that stamps are full, when pressing for 2 seconds on both buttons

## WIFI

The device supports WIFI connection and data transmission. It does not rely on the internet and doesn't have to be connected to a website. The data is stored locally on the logger device or on the computer or mobile device which it connects to.

### WIFI set up and connection

To connect the MicroAir to the computer via Wi-Fi, first set up the device using a USB connection. Once connected to the PC or Mobile, the software identifies the device, and it is possible to set it up in the setup menu.

The device can be connected only to one device at a time. In order to connect the logger to a different device via WIFI, it is needed to use the cable and set the new WIFI parameters for the new device.

# Operating the MicroAir

This section explains how to operate the MicroAirWIFI loggers and provides an overview of the logger functionality.

### MicroAirWIFI Operating Modes

MicroAirWIFI features the following operating modes:

- **Stop –** MicroAirWIFI is idle and is not sampling.
  - To stop the logger via the logger keypad itself -Press both left and right buttons together for 15 seconds.
  - A time stamp will also be recorded for this event and the T indication will display for 2 seconds. The LCD will then display STOP.
- **Run** – MicroAirWIFI is sampling data and recording to its internal memory. It will stop recording automatically when its memory has reached full capacity (52,000 samples with one sensor). When the memory is full, the LCD displays FULL.
- Marking a Time Stamp
  - When the logger is running, pressing both logger buttons for over 2 seconds will record a new sample with a time stamp on the logger memory.
  - Each time stamp can mark a specific event such as the logger has reached its destination, if used during to record temperature during product transportation.
  - The time stamp is visible both in the DataSuite and in FourtecLite, and the user can enter a comment in the table describing the event.
  - There is capacity for a maximum of 99 time stamps in the logger memory. When the memory is full, the LCD will display FULL when both buttons are pressed together for over two seconds. To reset the Time Stamp memory, perform a new logger setup.
  - If running the logger in cyclic mode, time stamps marked during an earlier cycle will not be downloaded to the software. Only time stamps from the current cycle will be downloaded.

**Operating modes in setup**

- **Cyclic Run** – Similar to Run mode, but the logger will record over the old data when the memory is full, beginning with the earliest data recording. This option is available in the Setup window.
- **Timer Run** – The logger can be configured to start recording at a predetermined time. When the logger is set for such a run, its status is set to Timer Run and is indicated as tRUN on the LCD.
- **Push to Run** – The logger will only begin logging data when the user pushes both of the unit's buttons for 3 seconds.

## Viewing Real-time Data on LCD

When MicroAirWIFI is sampling data the readings from sensors is alternately displayed on the LCD followed by the relevant unit e.g. C or F. The data obtained from external sensors is displayed with a small EXT icon above the reading, following by the unit.

## Viewing Firmware Version

From Stop Mode

When the logger is in Stop mode pressing both buttons for two seconds will display the device's current firmware version. *F* will be displayed on the LCD, followed by the version number e.g. 2.00.

From Run Mode

When the logger is in Stop mode pressing both buttons for five seconds will display the device's current firmware version. After two seconds the logger will take a time stamp and then three seconds later the firmware version will be displayed.

## Displaying Minimum and Maximum Values

You can display minimum and maximum values on the LCD screen, ranging from the last 1 - 24 hours or from the last 1 - 30 days, by using the MicroAirWIFI left and right buttons.

The start and end of each selected period remains according to the initial run time of the logger. For example, if a logger was run at 14:45:00, an hour selected will be between XX:45:00 to XX+1:44:59, and the day will be between 14:45:00 to 14:44: 59 the next day. Each selection will show the Min/Max for the selected period only, and not for the entire duration, selecting H3 will show the Min/Max of the hour 3 hours ago and not for the past 3 hours.

Viewing Min. and Max Values in the last 1-24 Hours

1. Select the number of hours by pressing the right button on the logger keypad. Don't release the button. The LCD will then display the hour number, ranging from 1 to 24 days. It will scroll through the hours, starting from H 1, H 2, and so on. Once you've reached the desired number, release the right button.

2. Once the right button is released, the logger will display the Min and Max values of the sensors for the selected time period, including Dew Point.

Viewing Min. and Max Values for the last 1-30 Days

1. Select the number of days by pressing the left button on the logger keypad. Do not release the button. The LCD will then display the day number, ranging from 1 to 30 days. It will scroll through the days, starting from d 1, d 2, and so on. Once you've reached the desired number, release the left button.

2. Once the left button is released, the logger will display the Min and Max values of the sensors for the selected time period, including Dew Point.

### Sensor Alarm Levels

Via the softwares, users can define minimum and maximum alarm levels for each input individually. The MicroAirWIFI logger display indicates when any alarm level is exceeded.

**Note:** When the MicroAirWIFI is in Cyclic mode, the Low or High alarm level displayed represents the lowest or highest readings recorded since the logger starting logging data, irrelevant of how many cycles the logger has recorded.

An Alarm is displayed on the LCD as follows:

AL-L – A sensor's reading is *lower* than its low alarm level.

AL-H – A sensor's reading is *higher* than its high alarm level.

**Note:** The alarm notification remains until the next time you change the logger setup or run a new recording session.

## MicroAirWIFI Setup

The full setup and the WIFI setup can be configured only with our suitable software – DataSuite for Windows and FourtecLite for Android.

Find below full instructions for implementation, configuration and data analysis with our software:

## Install the software

- Windows - DataSuite can be downloaded here:
- Android – FourtecLite can be downloaded in GooglePlay

# Data Analysis with Data Suite and FourtecLite

## Data Suite

Download DataSuite from our download centre on our website and install the software using the installation wizard.

Once DataSuite has been installed, launch DataSuite from your DataSuite desktop shortcut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The *Welcome to DataSuite* window will open prompting you to activate the software. As the MicroAirWIFI module is license-free you may skip this step.

The main DataSuite window is launched. The default view is called Map View.

## Connecting and setting up the Logger

### Data Suite

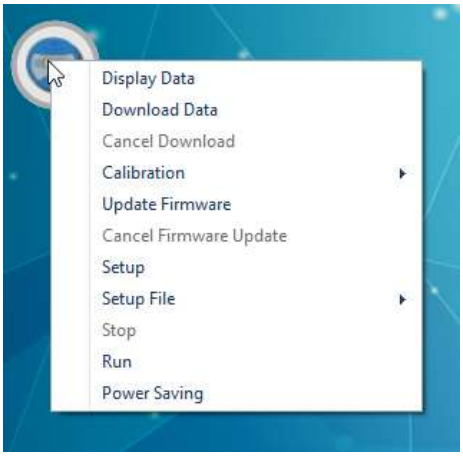
Launch the software.

Connect the USB cable to the logger and to the computer.

When the logger is first detected by the DataSuite software, its icon will appear in the Map View. If the icon does not appear, navigate to the main menu in DataSuite and select Devices > Detect Device.

When the device is detected, than it appears as such.  Hovering the mouse on the icon will present the following details.


To set up the logger - Right click on the icon opens a menu with the device's actions:




Click on Setup:

A dialog opens to set up. Set your desired parameters.

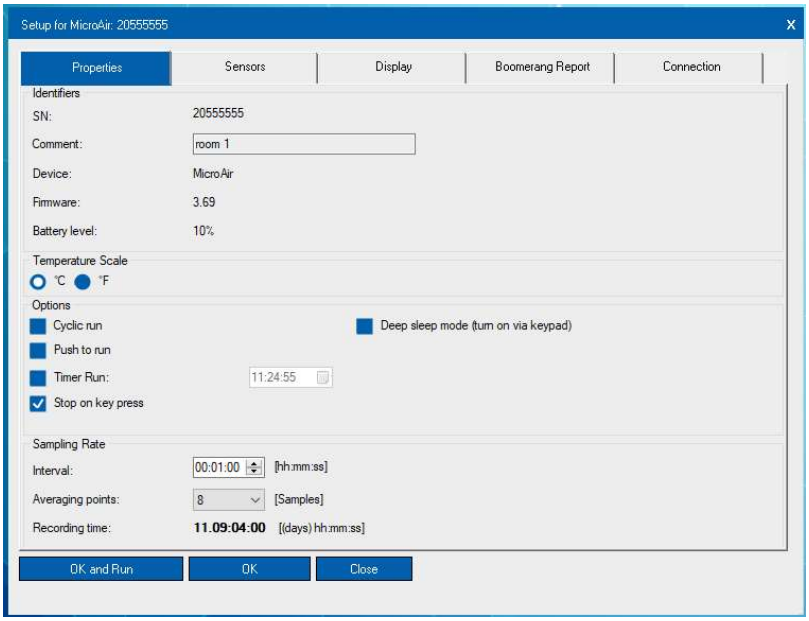
After setting up click:

- OK and Run – to save the settings and start recording with the logger.
- Setup – to save the settings without starting the recording.
- Cancel – Delete all changes and close window.

A short description of the tabs are here:

## Properties:

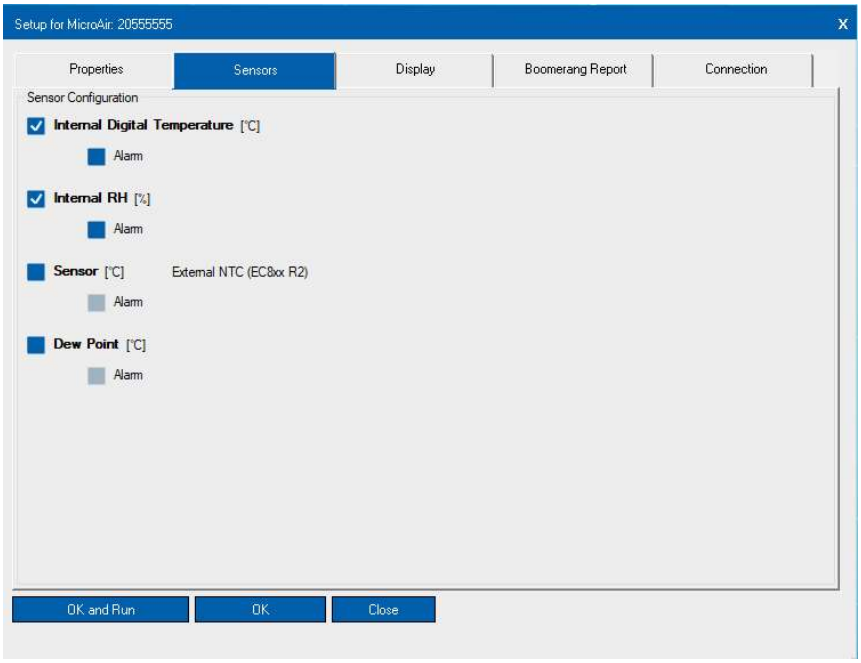
These are the properties of the Logger, Device details ,kind of run and sampling rate.




| Item | Name | Short description | Details and instructions |
|---|---|---|---|
| A | S/N | The Serial number of the device | The serial number of the device is shown here. |
| B | Comment | Name of the device | You can edit the name to an easier recognition of the device and its location |
| | Temperature Scale | Unit | Select the relevant unit system |
| C | Options | Select run type and setting for the run | It is possible to select more than one option.<br>• Cyclic run – check the box to activate cyclic run.<br>• Activation mode – Push to Run or Timer Run – how the logger starts running. Please mind that in Timer run the starting time of the run will set according to the hour set.<br>• Stop on key press – it will stop logging when a key is pressed on the device. |
| D | Sample Rate | Set the interval with which the sample will be taken | For example every 10 min write: 00:10:00<br>It is possible to see the calculated recording time according to the memory and the sample rate. |

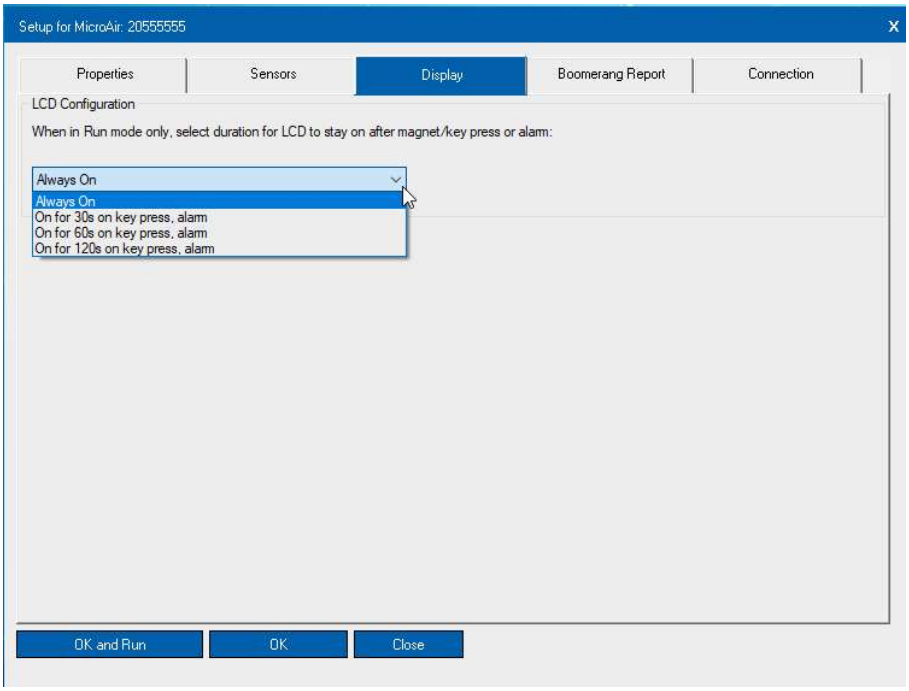
## Sensors

1. Select the internal and external sensors you wish to activate during the current logging session.
2. If you require alarm levels, select the relevant checkboxes and enter the specific threshold values.



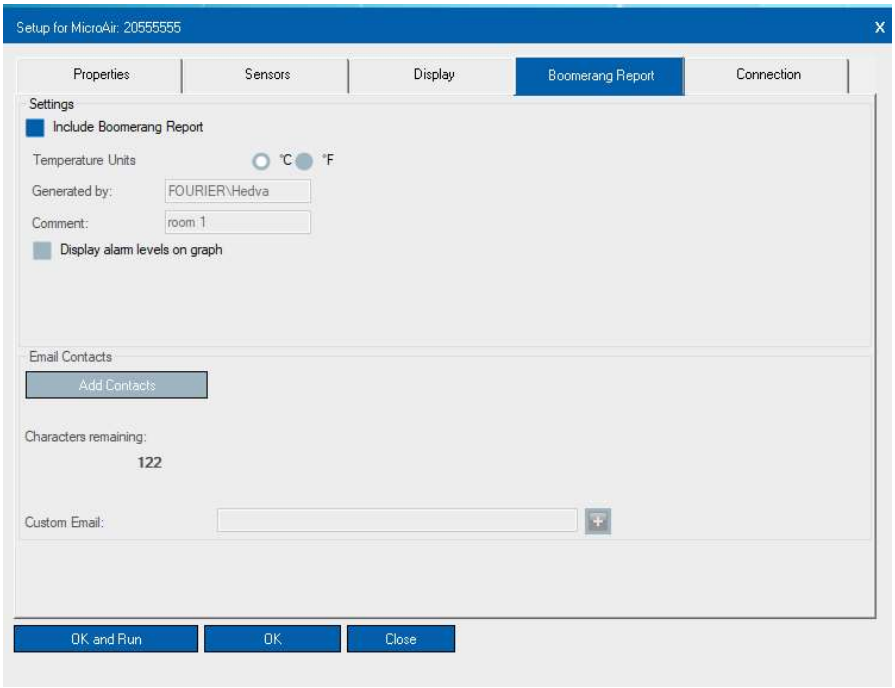

## Display

If you wish to conserve battery life, and do not require a permanent visual data display, select the options to turn on the LCD screen only for alarms or button press.



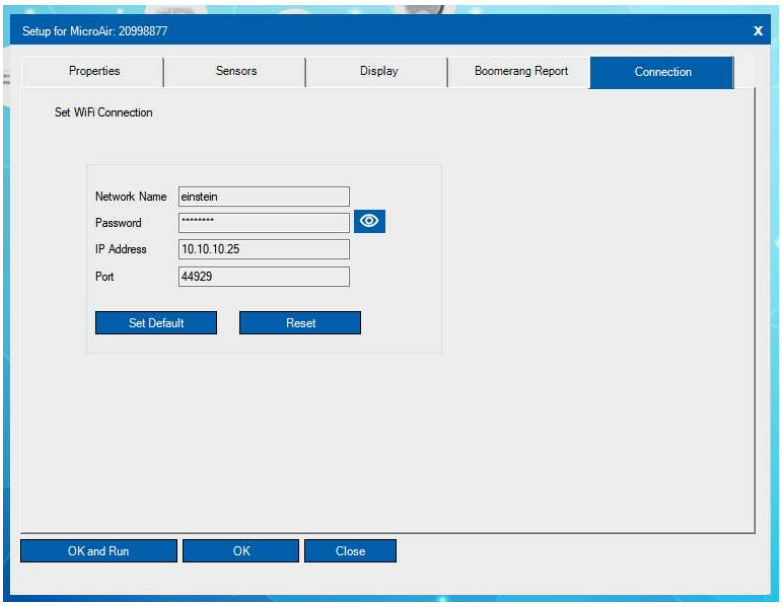

## Boomerang Report

Enable the boomerang feature via this tab. Enter contacts to receive the data report via email when logger is connected to a computer with DataSuite installed.




## Connection

Complete the Network Name and Password.




### *Connection*

Enter the WIFI parameters to enable the WIFI and set them up in the logger.

After this setup, the logger can be connected via WIFI connection and data can be viewed in real time. Than the icon will show as such:

- Multiple MicroAirWIFI loggers may be detected by the PC at a time via cable or WIFI.

# Viewing Data

## Online Data Views

### *Data Suite*

Double clicking the Logger icon or selecting Display Data in the Logger icon context menu will open the online graph.

This graph is updated in real-time with the newly recorded data.

You can switch between Graph, Table and Statistics views to view the data in different formats.

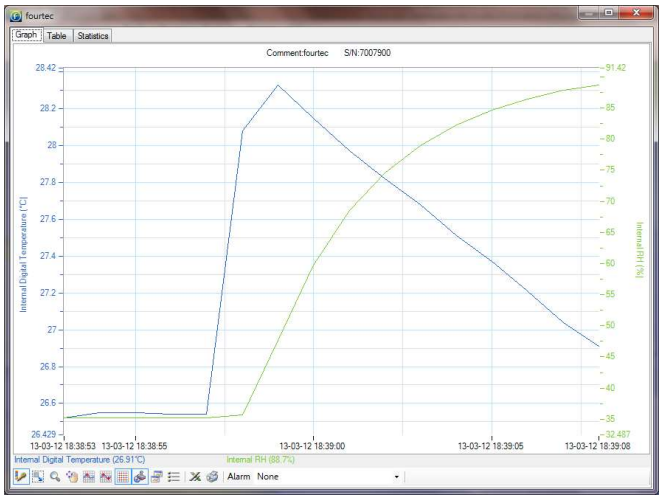
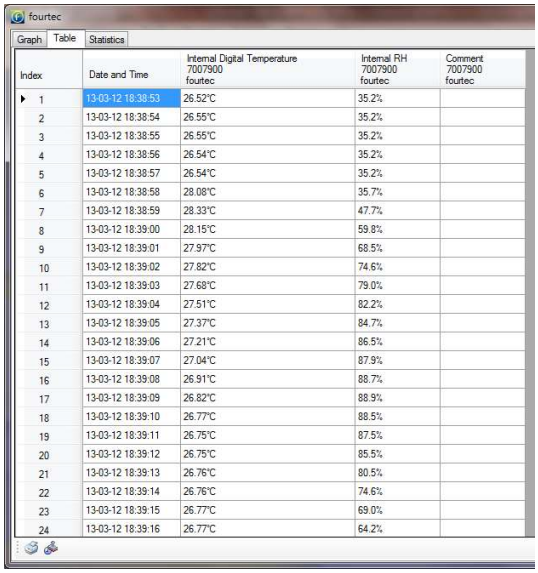
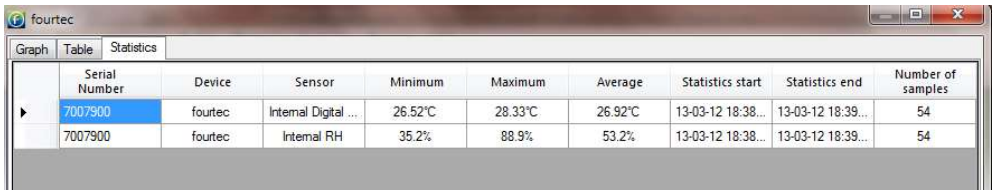



Figure 1: **Online data – Graph view**




| Index | Date and Time | Internal Digital Temperature 7007900 fourtec | Internal RH 7007900 fourtec | Comment 7007900 fourtec |
|---|---|---|---|---|
| 1 | 13-03-12 18:38:53 | 26.52°C | 35.2% | |
| 2 | 13-03-12 18:38:54 | 26.55°C | 35.2% | |
| 3 | 13-03-12 18:38:55 | 26.55°C | 35.2% | |
| 4 | 13-03-12 18:38:56 | 26.54°C | 35.2% | |
| 5 | 13-03-12 18:38:57 | 26.54°C | 35.2% | |
| 6 | 13-03-12 18:38:58 | 28.08°C | 35.7% | |
| 7 | 13-03-12 18:38:59 | 28.33°C | 47.7% | |
| 8 | 13-03-12 18:39:00 | 28.15°C | 59.8% | |
| 9 | 13-03-12 18:39:01 | 27.97°C | 68.5% | |
| 10 | 13-03-12 18:39:02 | 27.82°C | 74.6% | |
| 11 | 13-03-12 18:39:03 | 27.68°C | 79.0% | |
| 12 | 13-03-12 18:39:04 | 27.51°C | 82.2% | |
| 13 | 13-03-12 18:39:05 | 27.37°C | 84.7% | |
| 14 | 13-03-12 18:39:06 | 27.21°C | 86.5% | |
| 15 | 13-03-12 18:39:07 | 27.04°C | 87.9% | |
| 16 | 13-03-12 18:39:08 | 26.91°C | 88.7% | |
| 17 | 13-03-12 18:39:09 | 26.82°C | 88.9% | |
| 18 | 13-03-12 18:39:10 | 26.77°C | 88.5% | |
| 19 | 13-03-12 18:39:11 | 26.75°C | 87.5% | |
| 20 | 13-03-12 18:39:12 | 26.75°C | 85.5% | |
| 21 | 13-03-12 18:39:13 | 26.76°C | 80.5% | |
| 22 | 13-03-12 18:39:14 | 26.76°C | 74.6% | |
| 23 | 13-03-12 18:39:15 | 26.77°C | 69.0% | |
| 24 | 13-03-12 18:39:16 | 26.77°C | 64.2% | |

Figure 2: **Online data – Table view**




| Serial Number | Device | Sensor | Minimum | Maximum | Average | Statistics start | Statistics end | Number of samples |
|---|---|---|---|---|---|---|---|---|
| 7007900 | fourtec | Internal Digital ... | 26.52°C | 28.33°C | 26.92°C | 13-03-12 18:38... | 13-03-12 18:39... | 54 |
| 7007900 | fourtec | Internal RH | 35.2% | 88.9% | 53.2% | 13-03-12 18:38... | 13-03-12 18:39... | 54 |

Figure 3: **Online data – Statistics view**

## Downloading Data

On every connection with the logger, the Software downloads the data automatically.

In case a manual download is required, go to the download and choose download, as described below.

# Data Suite

Connect logger to PC via cable or WIFI

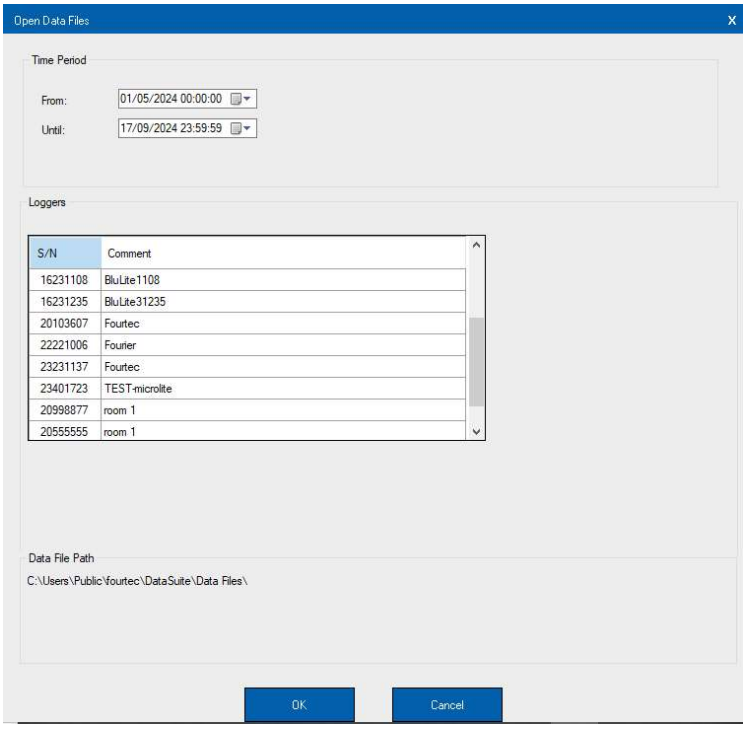
Download should start automatically. You can also download manually by right clicking on the device and select Download

View the downloaded data by double-clicking the logger icon.

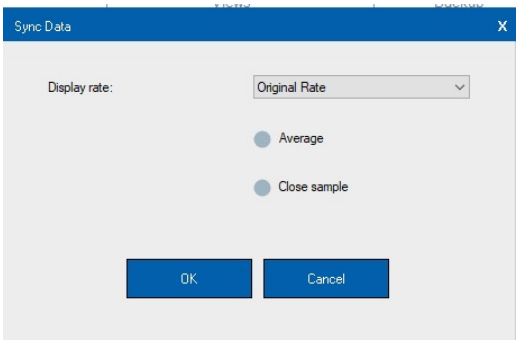
History can be viewed by clicking Open File –

Select the desired date range the and the device(s) you wish to view. For multiple devices press Ctrl and the desired device.

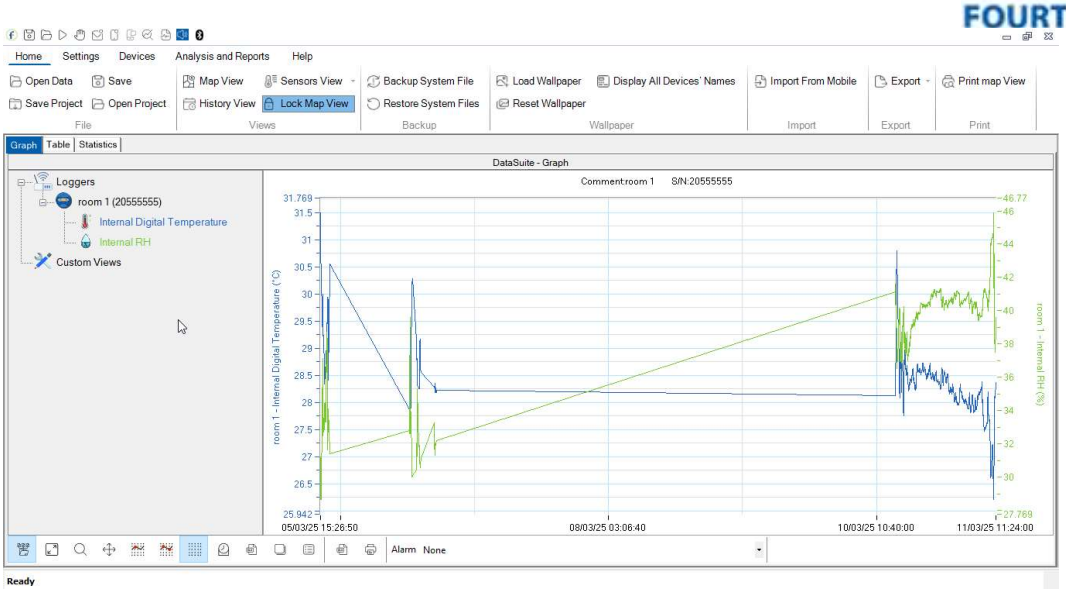
Then press ok.




Then press ok.




The data will appear in History View


Home
Settings
Devices
Analysis and Reports
Help
Open Data
Save
Save Project
Open Project
File
Map View
Sensors View
History View
Lock Map View
Views
Backup System File
Restore System Files
Backup
Load Wallpaper
Display All Devices' Names
Reset Wallpaper
Wallpaper
Import From Mobile
Import
Export
Export
Print map View
Print
Graph
Table
Statistics
DataSuite - Graph
Loggers
room 1 (20555555)
Internal Digital Temperature
Internal RH
Custom Views
Comment:room 1
S/N:20555555
31.769
31.5
31
30.5
30
29.5
29
28.5
28
27.5
27
26.5
25.942
room 1 - Internal Digital Temperature (°C)
46.77
46
44
42
40
38
36
34
32
30
27.769
room 1 - Internal RH (%)
05/03/25 15:26:50
08/03/25 03:06:40
10/03/25 10:40:00
11/03/25 11:24:00
Alarm
None
Ready