

BluLite Calibration Instructions

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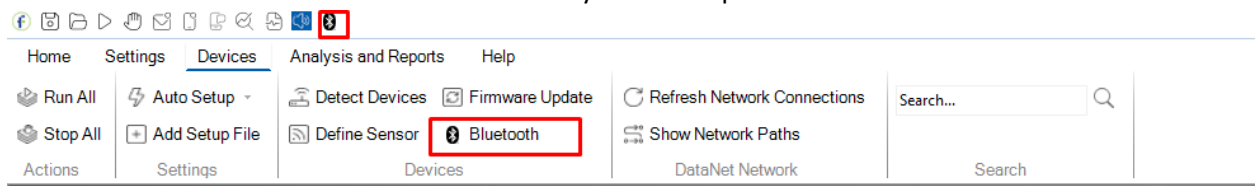
Required Equipment

- A Windows PC with DataSuite software installed
- Temperature/Humidity generator for reference values
- Microsoft Excel app

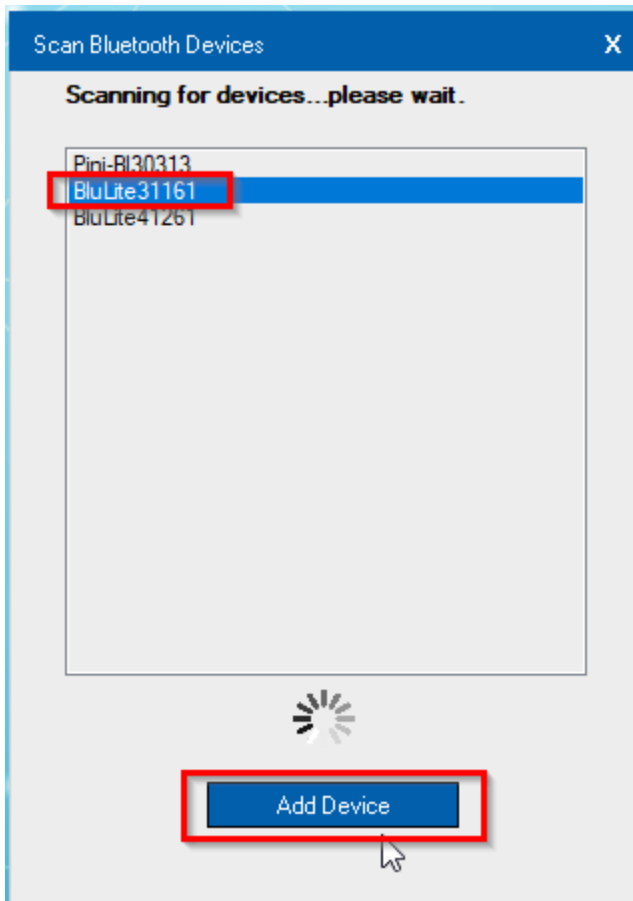
Running BluLite in controlled environments

Connect BluLite to Datasuite

1. Launch DataSuite software.
2. Please find the Bluetooth scanner in the shortkeys on the top toolbar or in “Devices”.



3. Find the specific BluLite and add it to the map in DataSuite.



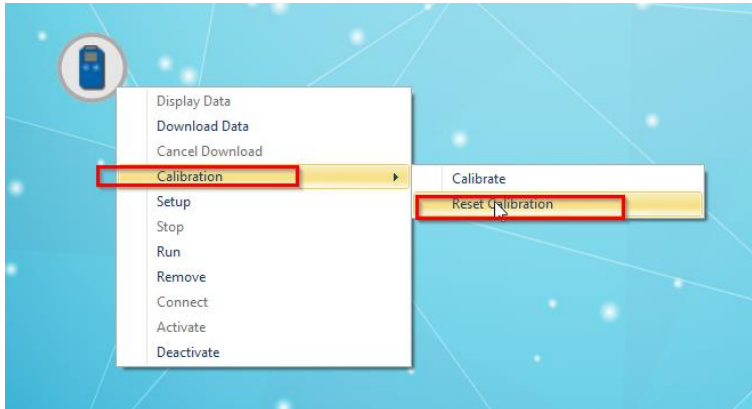
You will find the logger on the screen like this



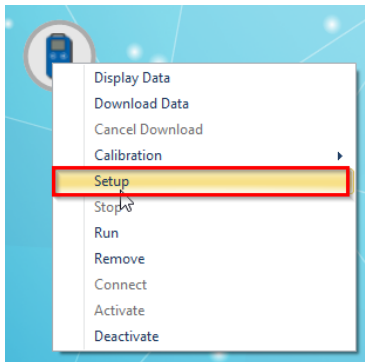
The BluLite is connected.

Reset Calibration

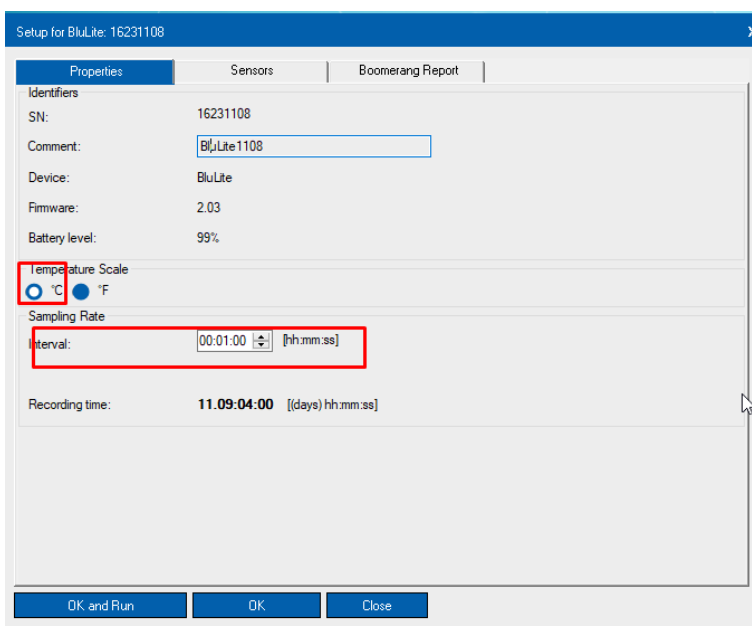
1. right-click on the logger's icon and choose **Calibration => Reset Calibration**.



2. Setup logger: right-click on the logger's icon and choose **Setup**.



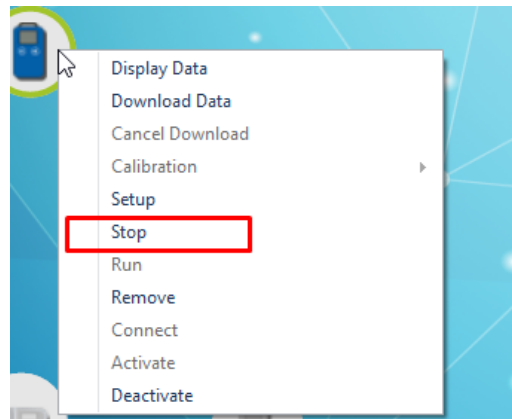
3. Set the logger parameters: Temperature scale °C, Interval 1 minute, Averaging points 1 as shown below:



4. Push "Ok and Run" button.
5. Repeat Reset Calibration for each BluLite you wish to Calibrate.

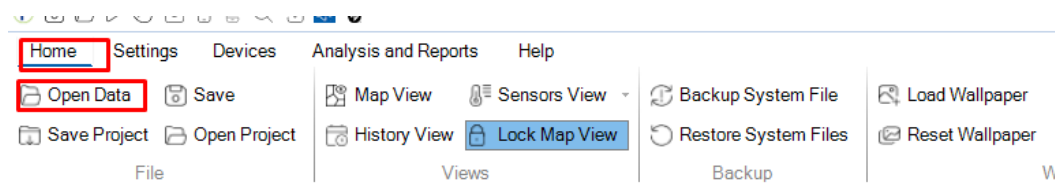
Measuring with BluLite

1. First point - Set the chamber for 90 minutes with the first desired value of the selected measurement and place the running data loggers into the chamber.
2. Second point - Change the temperature settings of the chamber to second desired value of the selected measurement value and resume logging data for another 60 minutes (wait until the chamber is stabilized).
3. Third point (if 3 point calibration is made) - Change the temperature settings of the chamber to second temperature value and resume logging data for another 60 minutes (wait until the chamber is stabilized).
4. Stop the measurement in the BluLite.

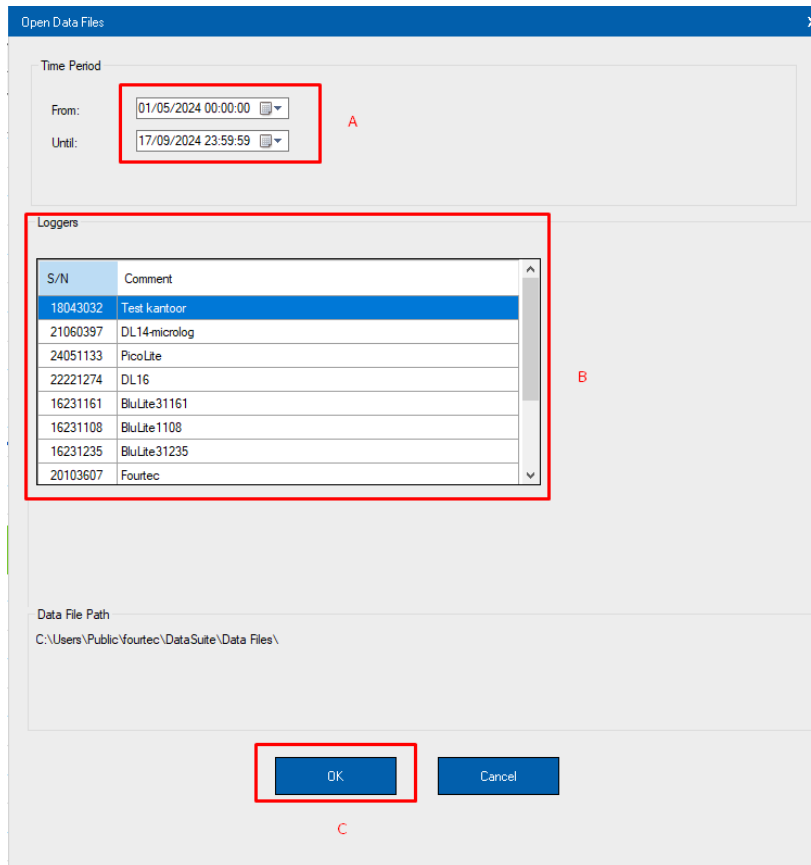


Preparing Excel

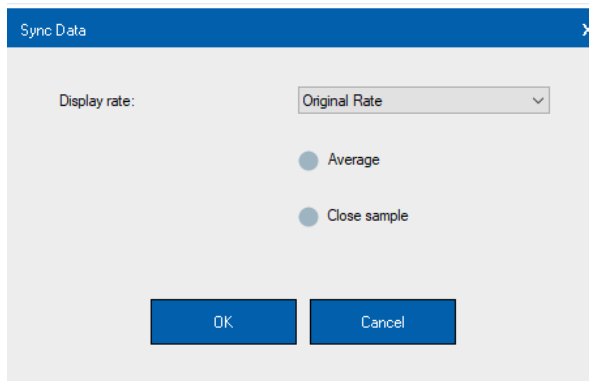
- a. Make sure the BluLite device is still connected to the DataSuite
- b. Open the log files from "Open Data"



- c. Select the dates (A); the loggers that were calibrated, you can choose multiple loggers at the same time by pressing Ctrl + Left click (B); and then press OK (C)



d. For each logger press OK in the sync data window

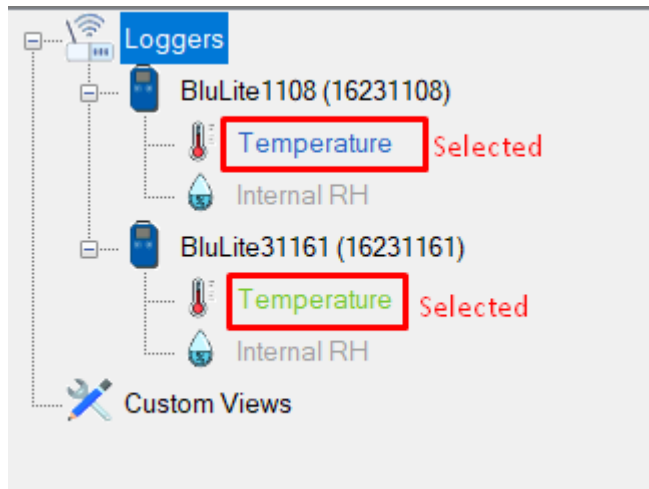


The view will be changed to History view and the data will appear in a graph mode.

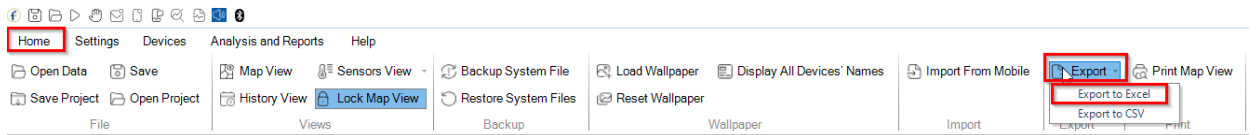
e. Select the measurements you wish to export:

By default, all the measurements are selected and are colored in the plot color in the graph. Deselect the measurements from the view in order to export only the relevant measurement.

For example, we selected only temperature:



f. Export the data : Home>Export > Export to Excel



The data will appear as such:

| | A | B | C | D | E | F |
|----|------------|------------|-------------|-----------|--------------|------------|
| 1 | Comment | | BluLite1108 | | BluLite31161 | |
| 2 | S/N | | 16231108 | | 16231161 | |
| 3 | Sensor | | Temperature | | Temperature | |
| 4 | Low | | | | | |
| 5 | Pre-low | | | | | |
| 6 | Pre-high | | | | | |
| 7 | High | | | | | |
| 8 | | | | | | |
| 9 | Date | Time | Temperature | Alarm Typ | Temperature | Alarm Type |
| 10 | 01/09/2024 | 3:03:56 pm | 23 | | 23.2 | |
| 11 | 01/09/2024 | 3:04:56 pm | 23 | | 23.2 | |
| 12 | 01/09/2024 | 3:05:56 pm | 23 | | 23.2 | |
| 13 | 01/09/2024 | 3:06:56 pm | 23 | | 23.2 | |
| 14 | 01/09/2024 | 3:07:56 pm | 23 | | 23.2 | |
| 15 | 01/09/2024 | 3:08:56 pm | 23 | | 23.2 | |
| 16 | 01/09/2024 | 3:09:56 pm | 23 | | 23.2 | |
| 17 | 01/09/2024 | 3:10:56 pm | 23 | | 23.2 | |
| 18 | 01/09/2024 | 3:11:56 pm | 22.9 | | 23.2 | |
| 19 | 01/09/2024 | 3:12:56 pm | 23 | | 23.2 | |
| 20 | 01/09/2024 | 3:13:56 pm | 22.9 | | 23.2 | |
| 21 | 01/09/2024 | 3:14:56 pm | 22.9 | | 23.3 | |
| 22 | 01/09/2024 | 3:15:56 pm | 23 | | 23.2 | |
| 23 | 01/09/2024 | 3:16:56 pm | 22.9 | | 23.2 | |
| 24 | 01/09/2024 | 3:17:56 pm | 22.9 | | 23.2 | |
| 25 | 01/09/2024 | 3:18:56 pm | 22.9 | | 23.2 | |
| 26 | 01/09/2024 | 3:19:56 pm | 22.9 | | 23.2 | |
| 27 | 01/09/2024 | 3:20:56 pm | 22.9 | | 23.2 | |
| 28 | 01/09/2024 | 3:21:56 pm | 22.9 | | 23.2 | |

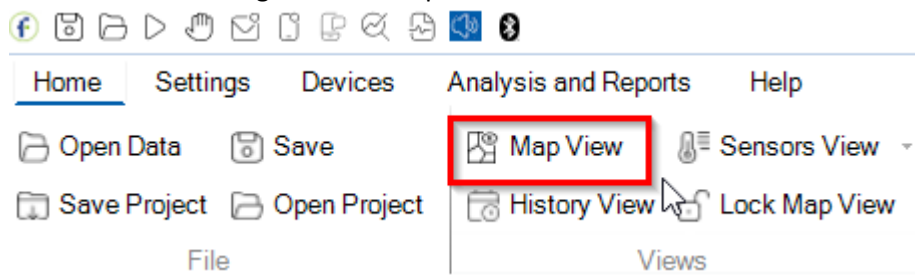
- g. Calculate the average measurement value for each calibration point in each logger for at 20 samples (20 min), after the chamber is stabilized.

In the example below, we can see 2 temperature measurements. First point is 23 degrees and second point is 50 degrees with two loggers.

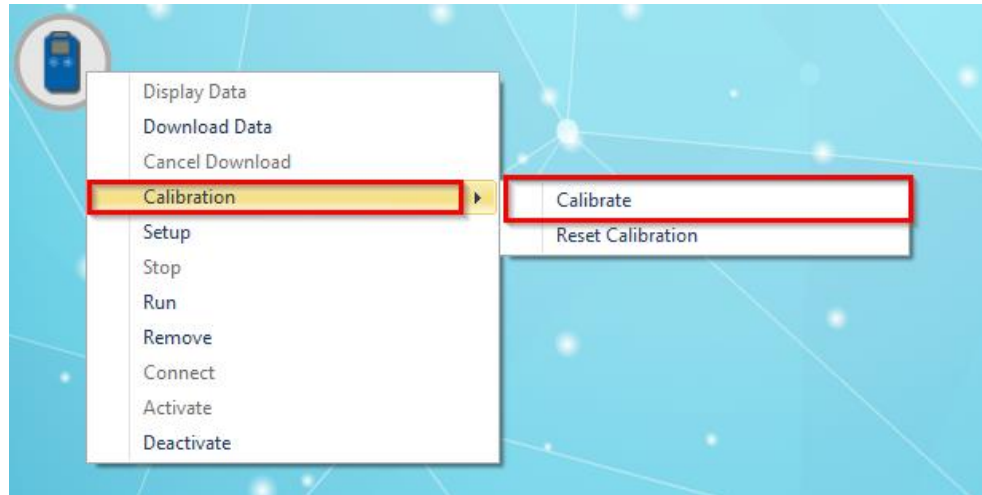
| 8 | | | | | | | | | |
|----|------------|------------|-------------|------------|-------------|------------|--|----------------------------|--|
| 9 | Date | Time | Temperature | Alarm Type | Temperature | Alarm Type | | | |
| 10 | 01/09/2024 | 3:03:56 pm | 23 | | 23.2 | | | | |
| 11 | 01/09/2024 | 3:04:56 pm | 23 | | 23.2 | | | | |
| 12 | 01/09/2024 | 3:05:56 pm | 23 | | 23.2 | | | | |
| 13 | 01/09/2024 | 3:06:56 pm | 23 | | 23.2 | | | | |
| 14 | 01/09/2024 | 3:07:56 pm | 23 | | 23.2 | | | | |
| 15 | 01/09/2024 | 3:08:56 pm | 23 | | 23.2 | | | | |
| 16 | 01/09/2024 | 3:09:56 pm | 23 | | 23.2 | | | | |
| 17 | 01/09/2024 | 3:10:56 pm | 23 | | 23.2 | | | | |
| 18 | 01/09/2024 | 3:11:56 pm | 22.9 | | 23.2 | | | Average First point 31161 | |
| 19 | 01/09/2024 | 3:12:56 pm | 23 | | 23.2 | | | 23.205 | |
| 20 | 01/09/2024 | 3:13:56 pm | 22.9 | | 23.2 | | | Average First point 1108 | |
| 21 | 01/09/2024 | 3:14:56 pm | 22.9 | | 23.3 | | | =average(C10:C29) | |
| 22 | 01/09/2024 | 3:15:56 pm | 23 | | 23.2 | | | | |
| 23 | 01/09/2024 | 3:16:56 pm | 22.9 | | 23.2 | | | | |
| 24 | 01/09/2024 | 3:17:56 pm | 22.9 | | 23.2 | | | | |
| 25 | 01/09/2024 | 3:18:56 pm | 22.9 | | 23.2 | | | | |
| 26 | 01/09/2024 | 3:19:56 pm | 22.9 | | 23.2 | | | | |
| 27 | 01/09/2024 | 3:20:56 pm | 22.9 | | 23.2 | | | | |
| 28 | 01/09/2024 | 3:21:56 pm | 22.9 | | 23.2 | | | | |
| 29 | 01/09/2024 | 3:22:56 pm | 22.9 | | 23.2 | | | | |
| 37 | 01/09/2024 | 3:17:30 pm | 50 | | 50 | | | | |
| 38 | 01/09/2024 | 3:17:40 pm | 50 | | 50 | | | | |
| 39 | 01/09/2024 | 3:17:50 pm | 50 | | 50 | | | | |
| 30 | 01/09/2024 | 3:18:00 pm | 49.9 | | 50 | | | Average Second point 31161 | |
| 31 | 01/09/2024 | 3:18:10 pm | 50 | | 50 | | | | |
| 32 | 01/09/2024 | 3:18:20 pm | 50 | | 50 | | | | |
| 33 | 01/09/2024 | 3:18:30 pm | 49.9 | | 50 | | | Average Second point 1108 | |
| 34 | 01/09/2024 | 3:18:40 pm | 49.9 | | 50 | | | | |
| 35 | 01/09/2024 | 3:18:50 pm | 50 | | 50 | | | | |
| 36 | 01/09/2024 | 3:19:00 pm | 50 | | 50 | | | | |

Go to Calibration

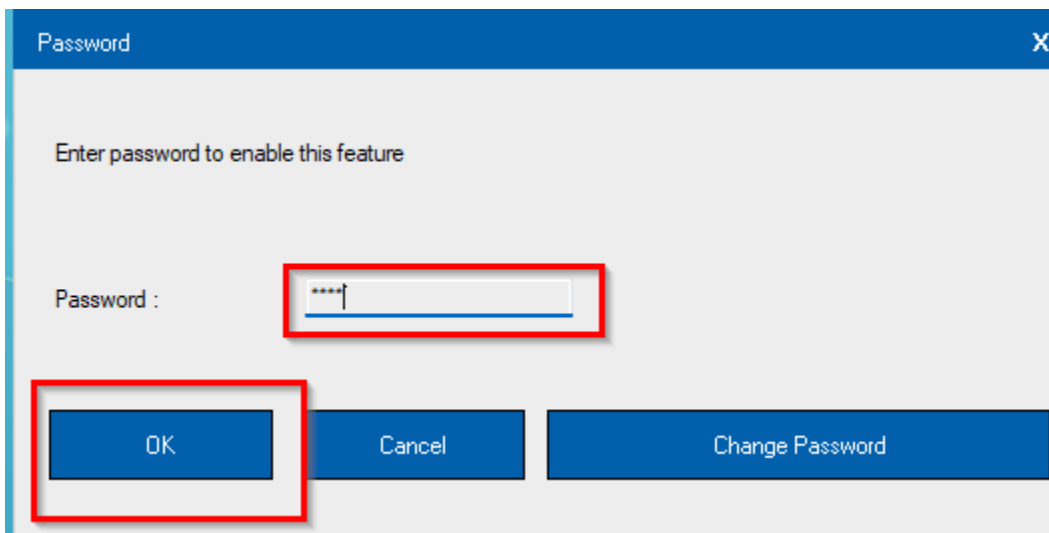
- a. In the DataSuite go back to Map View .



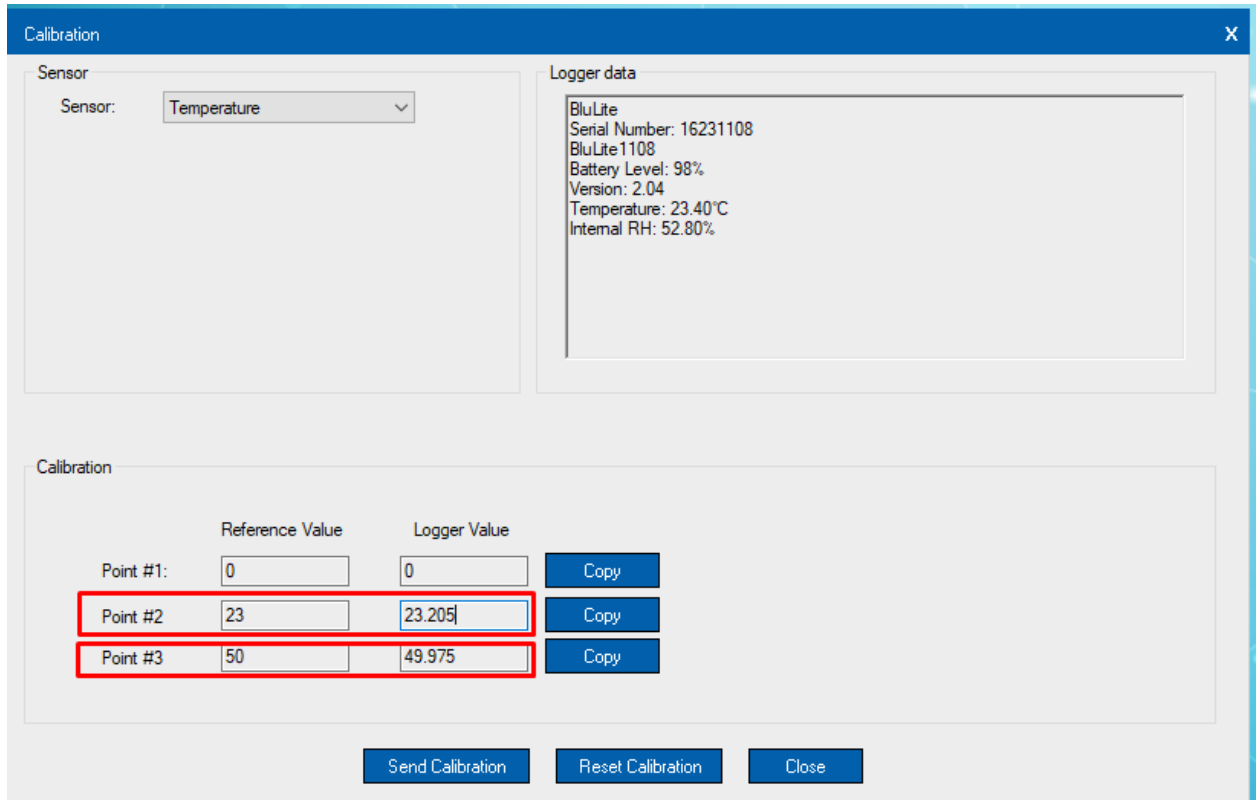
- b. Connect make sure the logger is still connected. Then, right click on logger's icon and choose **Calibration** => **Calibrate**, the following screen will appear:



- c. To prevent accidental change of the calibration, the calibration procedure is protected by a password. The default password is **1234**.



For 2 points of calibration



The screenshot shows a software window titled "Calibration" with a blue header and a close button (X) in the top right corner. The window is divided into several sections:

- Sensor:** A dropdown menu showing "Temperature".
- Logger data:** A text area containing the following information:

```
BluLite  
Serial Number: 16231108  
BluLite1108  
Battery Level: 98%  
Version: 2.04  
Temperature: 23.40°C  
Internal RH: 52.80%
```
- Calibration:** A table with three columns: "Point #", "Reference Value", and "Logger Value". Each row has a "Copy" button to its right. The rows are:

| Point # | Reference Value | Logger Value |
|-----------|-----------------|--------------|
| Point #1: | 0 | 0 |
| Point #2 | 23 | 23.205 |
| Point #3 | 50 | 49.975 |

At the bottom of the window, there are three buttons: "Send Calibration", "Reset Calibration", and "Close".

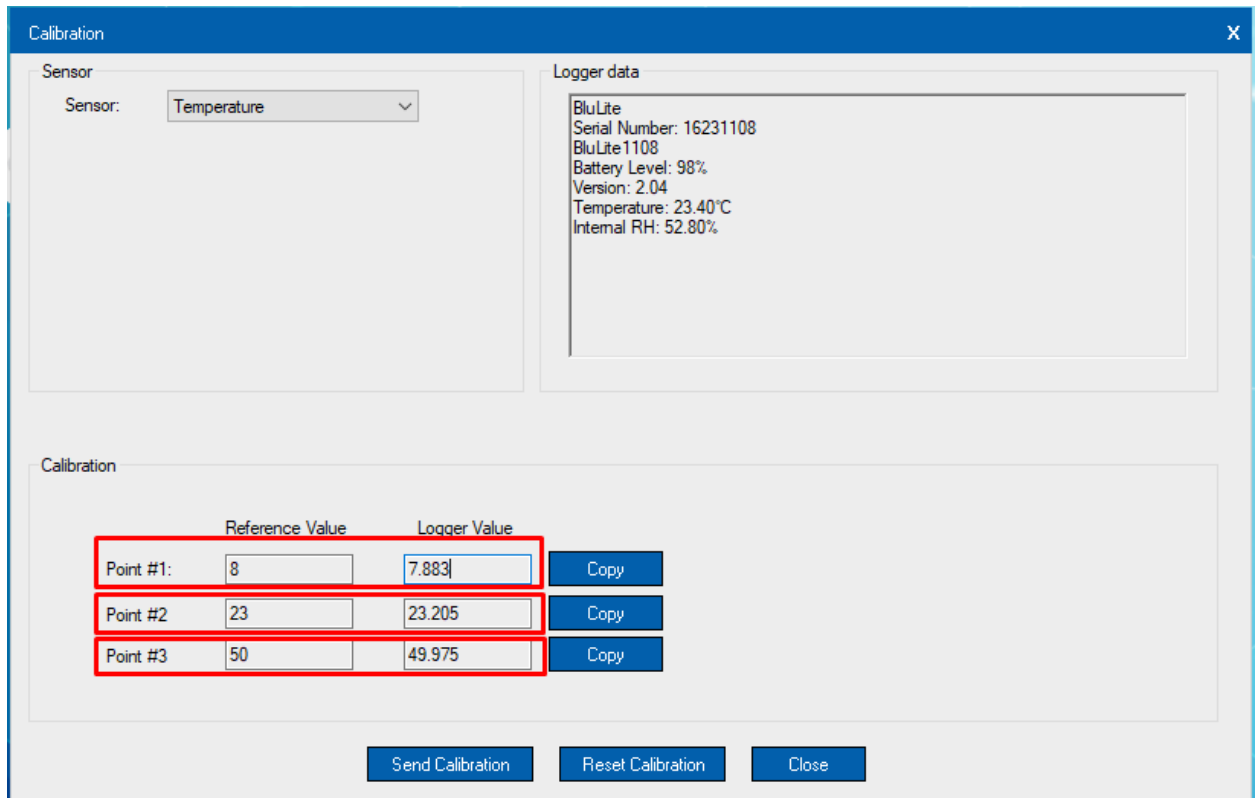
Enter values: **reference value** (the average for the chamber data) and **logger value** (the average for the logger's data) for points **#2** and **#3** as marked above.

The logger value should correspond to each logger according to its serial number.

Press **Send Calibration** to finish.

Repeat for each data logger.

For 3 points of calibration:



| | Reference Value | Logger Value | |
|-----------|-----------------|--------------|------|
| Point #1: | 8 | 7.883 | Copy |
| Point #2 | 23 | 23.205 | Copy |
| Point #3 | 50 | 49.975 | Copy |

Enter values: **reference value** (the average for the chamber data) and **logger value** (the average for the logger's data) for points **#1**, **#2** and **#3** as marked above.

The logger value should correspond to each logger according to its serial number.

Press **Send Calibration** to finish.

Repeat for each data logger.