

Calibrating the H2S sensor

The Consibio H2S sensor is engineered for robustness and long-term stability. In most applications you don't need to calibrate the sensor more than once or twice per year during service (which is part of the optional service agreement for the sensor).

For applications that require the highest level of precision, you can calibrate the sensor whenever you want. This guide describes how.

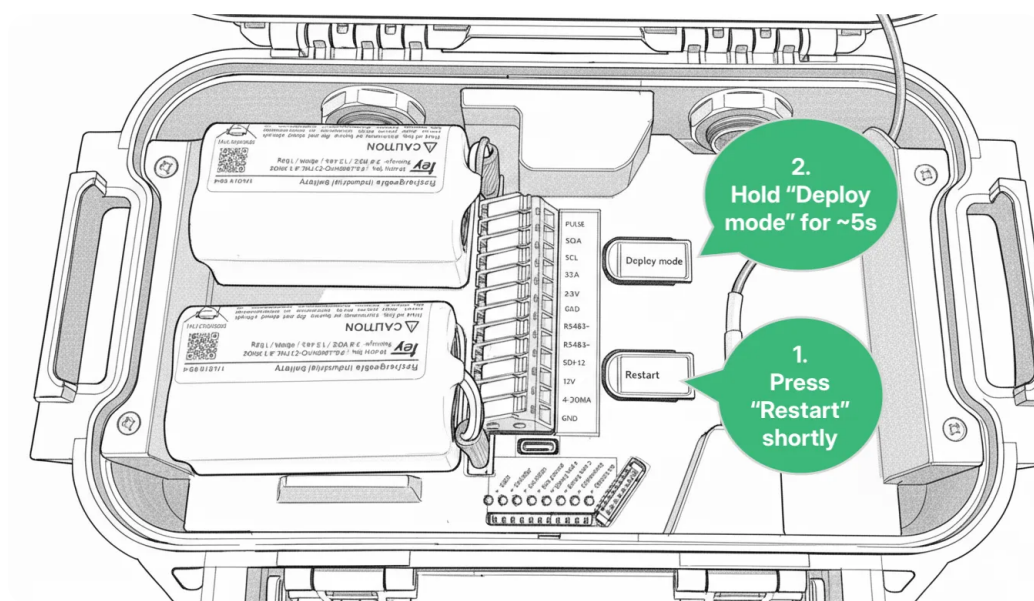
For the details of the calibration tool used in the last step, see [Calibrating a sensor](#).

Preparations

Activate Deploy Mode

The first thing to do when you arrive on site is to activate **Deploy Mode** on the Logger:

1. Press **Restart** shortly.
2. Hold **Deploy Mode** for approximately 5s. When the LEDs flash quickly one at a time in a repeating pattern, Deploy Mode is activated.



For the next **1 hour**, the device makes a **measurement every 30s** and **transmits every 5 mins**. After 1 hour, it reverts to the transmission and measurement interval configured in Consibio Cloud.

Activate Deploy Mode first so the Logger starts measuring immediately and sends the data with minimal delay.

Apply the calibration standard

Ensure a stable baseline

When the sensor is first connected, it takes a little time to reach equilibrium. If the sensor was just connected to a Logger, or the Logger was just powered up, wait at least **10 mins**. If the sensor has been connected for a while and the Logger is already powered up, you can skip this step.

Apply gas from a cylinder with a calibration standard

If a cable hanger is attached, remove it first.



Attach the calibration header to the sensor. Calibration headers are available on request (support@consibio.com). Connect a tube between the calibration header and a gas cylinder with a suitable calibration standard (for example 500 ppm H₂S in air, or 50 ppm H₂S in air). We recommend a regulator with a fixed gas flow between **0.2 and 0.5 L/min** during calibration.



Open the valve on the gas cylinder and set a timer for **10 minutes** while the sensor measures the calibration gas.

⚠ Caution

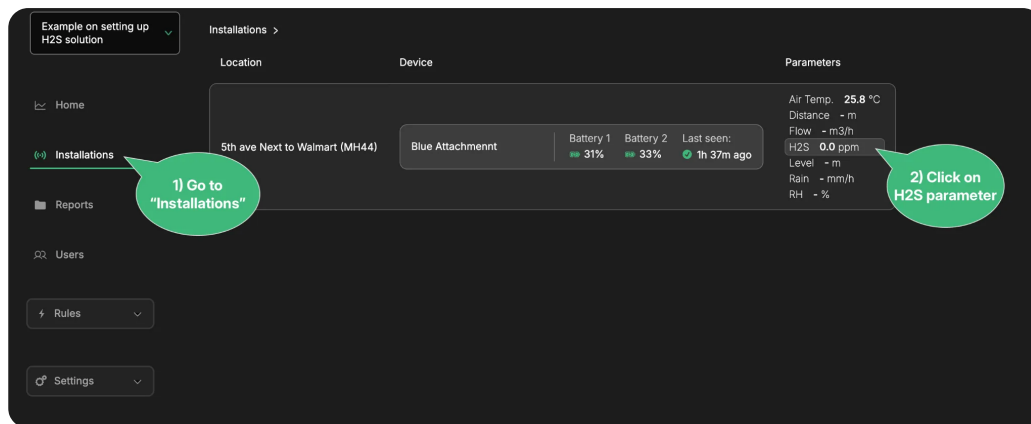
H₂S is highly toxic. Only apply calibration gas in a well-ventilated area — outdoors or in a suitable fume hood.

Turn off the gas

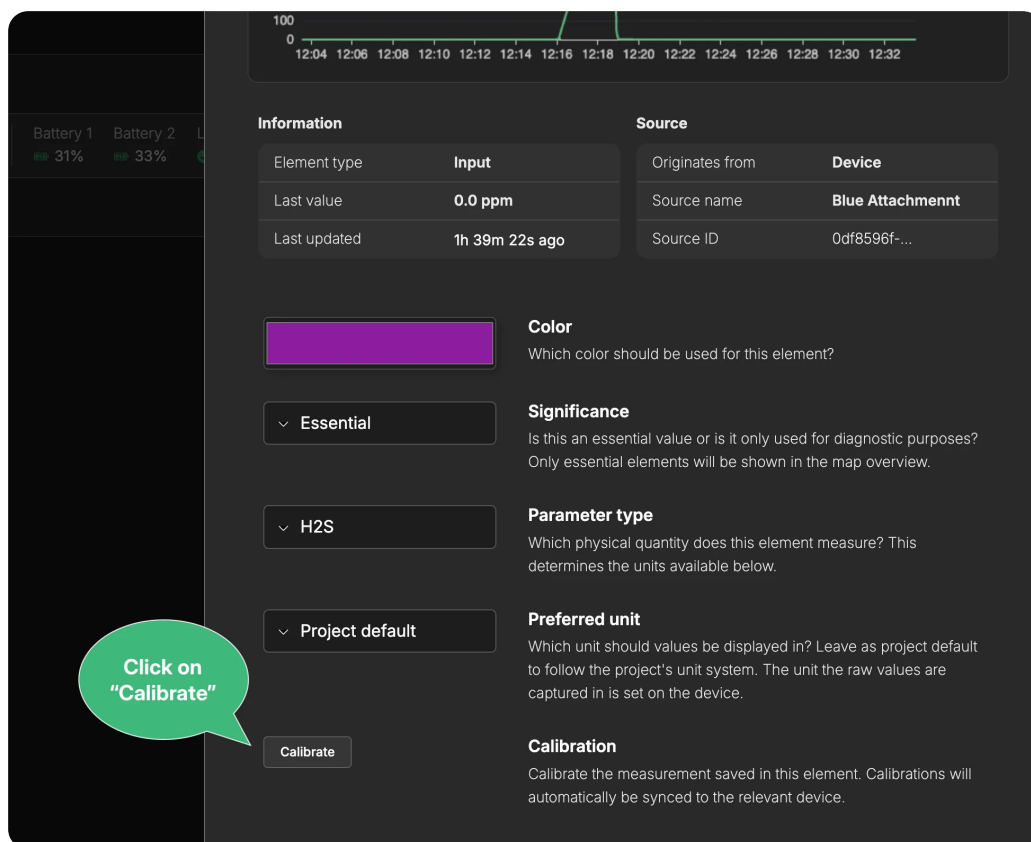
After 10 mins, turn off the gas and disconnect the sensor from the calibration header. Move the sensor into fresh air and wait another **10 minutes** while it collects a zero-point measurement. If you only want a 1-point calibration, you can skip this step to save time.

Apply the calibration in Consibio Cloud

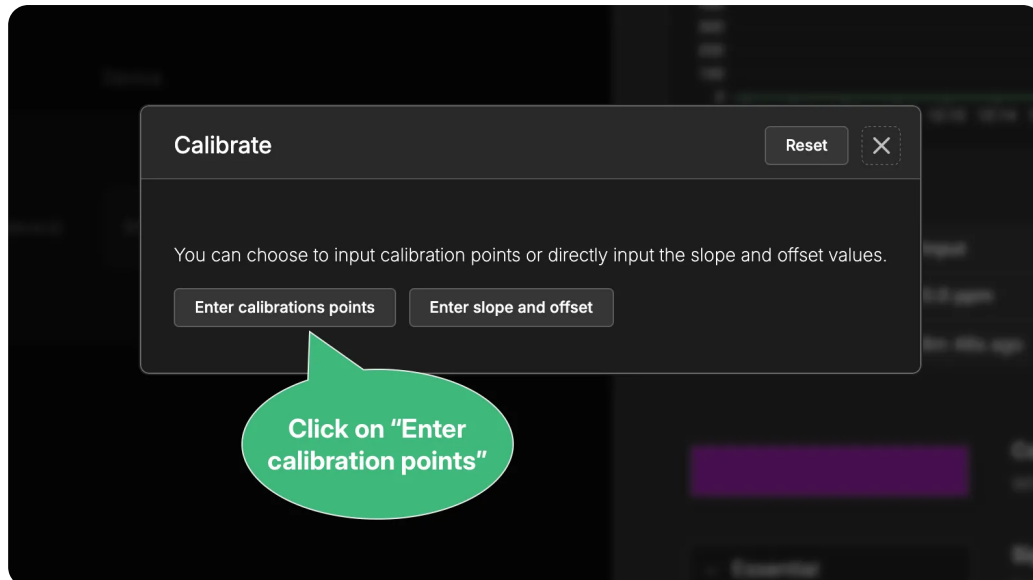
Open the Consibio Cloud dashboard at v3.consibio.cloud (<https://v3.consibio.cloud>) and log in to the project where the Logger is located. Go to the **Installations** tab and select the **H2S** parameter on the given location:



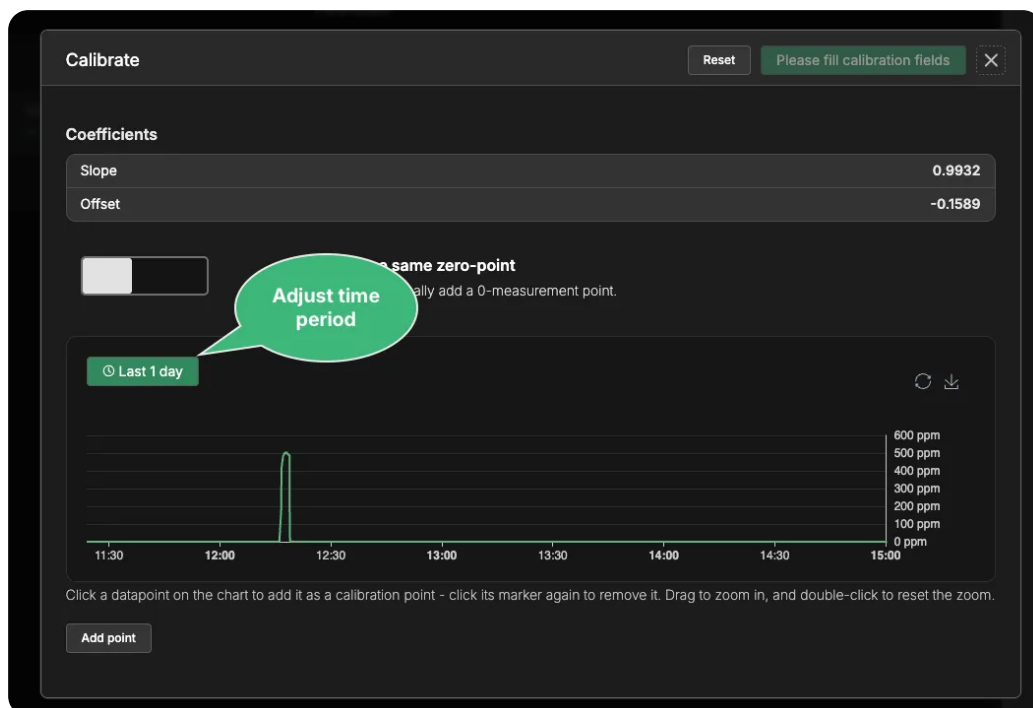
Select Calibrate:



Select Enter calibration points:



Select a time range in the chart that covers when the calibration was performed:



Mark the calibration points on the chart and enter the calibrated values:

1. Click the two datapoints where the sensor was reading the calibration gas and fresh air, respectively. Each becomes a calibration point row below the chart.
2. For the high point, change the **Calibrated value** to the value of the calibration gas (for example 500 ppm).
3. For the low point, change the **Calibrated value** to 0 (fresh air).
4. Select **Confirm** (for example **Confirm 2-point linear calibration**).

The screenshot shows the 'Calibrate' interface for an H2S sensor. It includes a 'Coefficients' section with 'Slope' (0.932) and 'Offset' (0.1986). A line graph shows H2S concentration over time, with two points marked: point 1 at approximately 500 ppm and point 2 at 0 ppm. Below the graph is a table for calibration points.

Calibrate [Reset] [Confirm 2-point linear calibration]

Coefficients

Slope	0.932
Offset	0.1986

Assume same zero-point
Will automatically set the low point to 0

1) Click on the two datapoints, where the sensor reading the calibration gas and fresh air, respectfully

2) Change high point to value of calibration gas (eg. 500 ppm)

3) Change low point to 0 (fresh air)

4) click "Confirm"

Click a datapoint on the chart to add it as a calibration point - click its marker again to remove it. Drag to zoom. Click to reset the zoom.

Add point

Point no. #	Measured value	Calibrated value
1	503,6 Measured: 2h 53m 51s ago	500
2	0,2 Measured: 2h 51m 31s ago	0

The calibration is automatically synchronized to the Logger, which saves it inside the sensor. Subsequent readings are then based on the applied calibration.

If you have any questions, reach out to us at support@consibio.com.