Changing Analog Signals

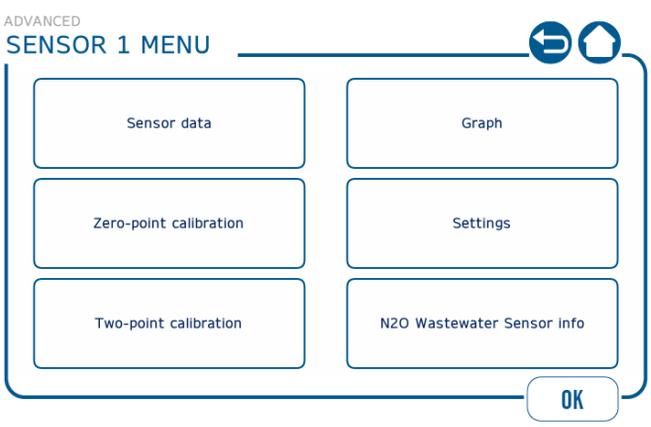
A Step-by-Step Guide to change the Analog Input/Output Signals

The N_2O Wastewater Operator Console allows the analog (4–20 mA) output and input signals to be reconfigured individually for each sensor. This guide describes how to select and scale the measurement transmitted on the analog output, and how to enable and scale the analog input.

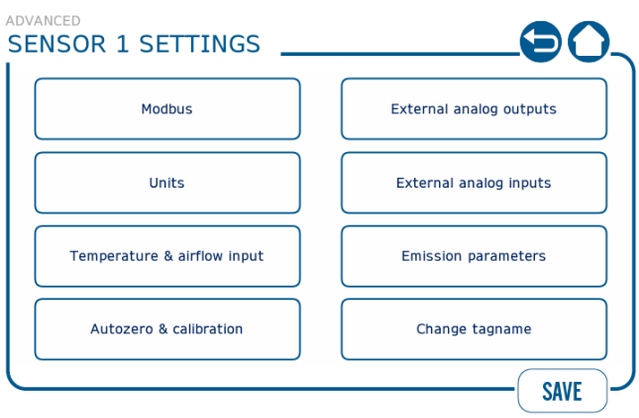
IMPORTANT: The analog input and output settings are located in the Settings menu. To access Settings, the user must be logged in as *Advanced* or *Service*. See 6.3 N_2O Wastewater Operator Console user login, in the Manual, for details on the available access levels.

Accessing the analog signal settings

1. Open the **Sensor Menu** for the sensor you want to configure and select Settings.



2. In the **Sensor Settings** screen, select **External analog outputs** to configure an analog output signal, or **External analog inputs** to configure an analog input signal.



See page 2 for **External analog outputs**, and page 3 for **External analog input**.

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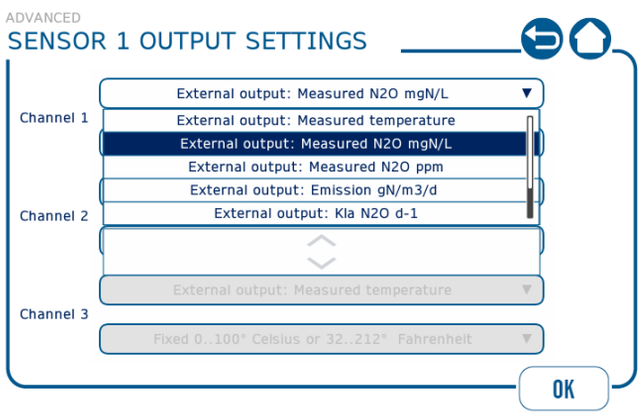
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Changing an analog output signal

The **Sensor Output Settings** screen shows two dropdown fields for each analog output channel. The upper field selects the transmitted measurement, and the lower field selects its scaling.

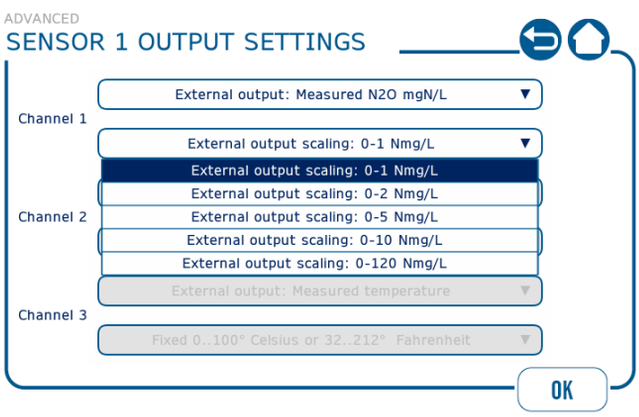
1. Open the upper dropdown for the relevant channel and select the desired measurement.



Selectable outputs:

- Measured temperature (default)
- Measured N_2O mgN/L
- Measured N_2O ppm
- Emission gN/m³ per day
- k_La N_2O value
- k_La O_2 (Not implemented)
- Measured N_2O Raw Voltage
- Sensor Status

2. The lower dropdown sets the output scaling. Available options depend on the selected measurement: some allow multiple ranges, while others use fixed, non-configurable scaling.



Selectable outputs:

- 0–100 °C/32–212 °F (fixed)
- 0–1, 0–2, 0–5, 0–10, 0–120 Nmg/L
- 0–1500, 0–3000, 0–7500, 0–15000, 0–150000 ppm
- 0–100, 0–200, 0–500, 0–1000, 0–2000 gN/m³/d
- 0–500 d^{-1} (fixed)
- 0–500 d^{-1} (fixed) (Not implemented)
- 0–5 V (fixed)
- See manual for levels (below*)

Note: For the selectable outputs the listed value is the upper range point, transmitted at 20 mA; the lower point is fixed at 0 and transmitted at 4 mA. Where the scaling is fixed, the lower dropdown is disabled.
If the measured value exceeds the selected range the output will be clamped to 20 mA.

*Sensor Status: 4mA: Normal state; 6mA: Warning, recalibrate the sensor head; 8mA: Warning, change to new sensor head; 10mA: Error, sensor head is damaged/broken; *20mA: Error, check Operator Console for error message*

These three conditions (Normal state, Warning, Error) are the most common and can usually be diagnosed from process data alone. For any other condition, see the N_2O Wastewater Operator Console, which always shows each sensor's complete error and warning state and the recommended action.

3. When done confirm each screen with **OK**, and store the configuration with **SAVE** in the Sensor Settings menu. The new analog signal configuration takes effect immediately.

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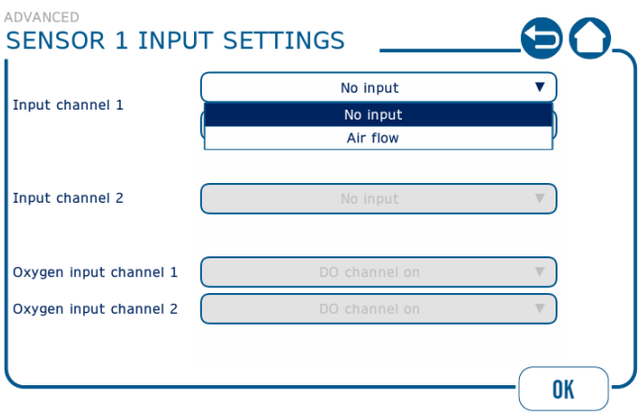
Changing Analog Signals

A Step-by-Step Guide to change the Analog Input/Output Signals

Changing an analog input signal

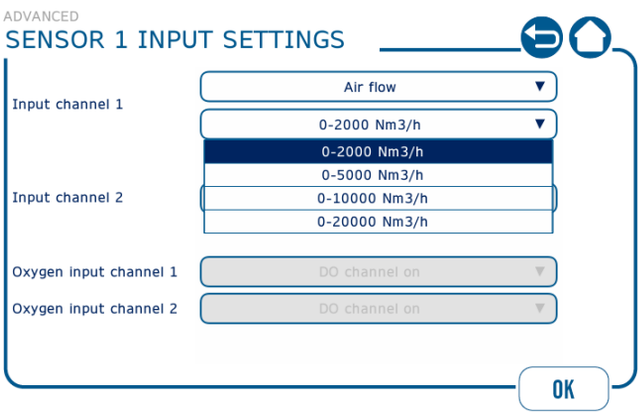
The **Sensor Input Settings** screen lists the available input channels.
The analog input is configured on Input channel 1.

1. Open the dropdown for **Input channel 1** and select the input type.



Selectable outputs:
- No input (default)
- Air flow

2. When **Air flow** is selected, the measuring range can be selected in the lower dropdown.



Selectable outputs:
- 0–2000 Nm³/h
- 0–5000 Nm³/h
- 0–10000 Nm³/h
- 0–20000 Nm³/h

*IMPORTANT: An analog input configured here must also be enabled under **Settings → Temperature & Air flow Input**. The sensor uses the input only when it is configured in both locations.*

3. When done confirm each screen with **OK**, and store the configuration with **SAVE** in the Sensor Settings menu. The new analog signal configuration takes effect immediately.

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