

Changing Analog Signals

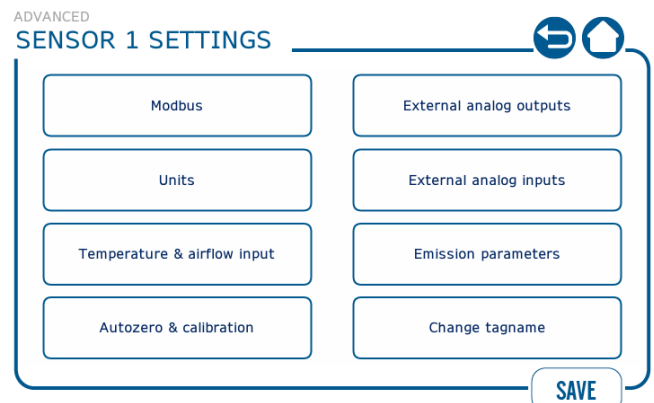
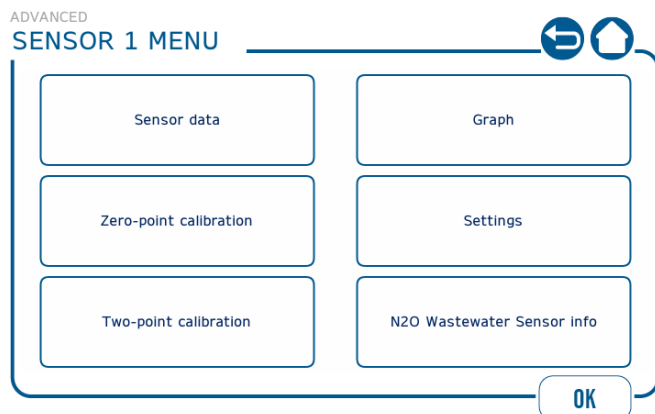
A Step-by-Step Guide to change the Analog Input/Output Signals

The N₂O 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 N₂O 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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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.
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.

ADVANCED
SENSOR 1 OUTPUT SETTINGS

Channel 1

External output: Measured N2O mgN/L

External output: Measured temperature

External output: Measured N2O mgN/L

External output: Measured N2O ppm

External output: Emission gN/m³/d

Channel 2

External output: KLa N2O d⁻¹

Channel 3

External output: Measured temperature

Fixed 0..100° Celsius or 32..212° Fahrenheit

OK

Selectable outputs:

- Measured temperature (default)
- Measured N₂O mgN/L
- Measured N₂O ppm
- Emission gN/m³ per day
- k_La N₂O value
- k_La O₂ (Not implemented)
- Measured N₂O Raw Voltage

ADVANCED
SENSOR 1 OUTPUT SETTINGS

Channel 1

External output: Measured N2O mgN/L

Channel 2

External output scaling: 0-1 Nmg/L

External output scaling: 0-2 Nmg/L

External output scaling: 0-5 Nmg/L

External output scaling: 0-10 Nmg/L

External output scaling: 0-120 Nmg/L

Channel 3

External output: Measured temperature

Fixed 0..100° Celsius or 32..212° Fahrenheit

OK

Selectable outputs:

- Measured temperature: 0–100 °C/32–212 °F (fixed)
- Measured N₂O mgN/L: 0–1, 0–2, 0–5, 0–10, or 0–120 Nmg/L
- Measured N₂O ppm: 0–1500, 0–3000, 0–7500, 0–15000, or 0–150000 ppm
- Emission gN/m³ per day: 0–100, 0–200, 0–500, 0–1000, or 0–2000 gN/m³/d
- k_La N₂O value: 0–500 d⁻¹ (fixed)
- k_La O₂: 0–500 d⁻¹ (fixed) (Not implemented)
- Measured N₂O Raw Voltage: 0–5 V (fixed)

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.

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

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SENSOR 1 INPUT SETTINGS

Input channel 1

No input

No input

Air flow

Input channel 2

No input

Oxygen input channel 1

DO channel on

Oxygen input channel 2

DO channel on

OK

Selectable outputs:

- No input (default)
- Air flow

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SENSOR 1 INPUT SETTINGS

Input channel 1

Air flow

0-2000 Nm³/h

0-2000 Nm³/h

0-5000 Nm³/h

0-10000 Nm³/h

0-20000 Nm³/h

Input channel 2

Oxygen input channel 1

DO channel on

Oxygen input channel 2

DO channel on

OK

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.

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.