Portable Oxygen Analyzer Quick Start Guide

First air calibration and measurement

PST-QSG-3204-01

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06/2023

Welcome to the Quick Start Guide for first air calibration and first measurement using your portable analyzer.

Here, you will find information covering **first air calibration in section A** and **connecting to your process gas in section B**.
Please read the safety information below.

Start here

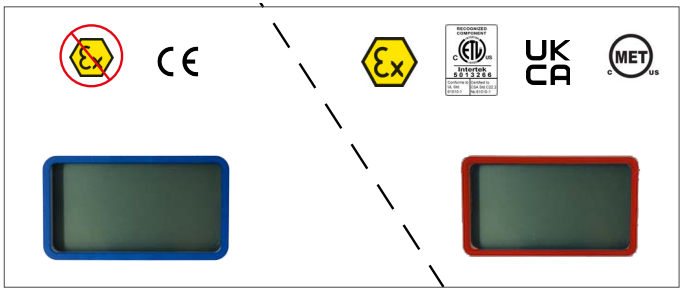
⚠ Safety information

- Avoid covering the vent for the test flow indicator when gas is flowing to the sensor. This can pressurize the sensor causing damage.
- If your analyzer has a pump, open the metering valve completely before switching on the pump.
- To remove moisture and particulates, open the sensor housing and either blow on the sensing surface or gently wipe the surface with a damp cloth. Ensure ppm sensors have minimal exposure to air.
- Only charge your analyzer in a safe (non-Ex) area, and do not charge for more than 24 hours.
- You must connect the analog signal output to a recording device in accordance with local safety directives. Ensure the recording device does not generate a voltage greater than 12 V DC.

⚠ The first calibration is of utmost importance as all subsequent calibrations are based on the initial one.

NOTE: Your portable analyzer is supplied with an oxygen sensor installed. We recommend you use certified span gas for calibration; however, if this is not available to you, follow these instructions to carry out an air calibration.

The GPR-series of portable oxygen analyzers is compliant with the following safety approvals and directives:



⚠ A unit with a blue display outline is for general purpose, red is for hazardous area, as shown above.

User Interface (UI)

Button	Function
⏻	On/Off
☰	Menu
↵	Enter
↓	Previous (decrement)
↑	Next (increment)

A. First air calibration

1. Press ⏻ to switch on your analyzer.
2. Use ↓ and ↑ to navigate to **Select Range**.
3. Press ↵ to select **0-25% (Air Cal)**.
4. Undo the screw at each corner of the front plate to open the analyzer.
5. Loosen the star wheel then disengage the top sensor housing by turning it 90° counter clockwise. Refer to 'b' in Figure 3 on page 5. Now lift it to expose the sensor.
6. Hold the sensor in the top sensor housing away from any gas stream. After 2...3 minutes the sensor is stable.
7. On your analyzer, press ☰.
8. Use ↓ and ↑, navigate to **Calibration** > **Span Calibrate**.
9. Now use ↓ and ↑ to enter the value 20.90 %. Ensure the reading has stabilized before continuing.

NOTE: When a Span or Zero Cal starts, only "Abort" with ↓ is shown until the reading is stable, then "Accept" with ↑ appears.

10. Use ↑ to **Accept**, and ↓ to **Abort**.
11. Now place the sensor into the bottom sensor housing with the gold contact plate facing upwards, (see Figure 2 on page 5 for guidance,) and replace the top sensor housing by placing it on top of the sensor and turning 90° clockwise.
12. Secure it with the star wheel at the bottom of the housing assembly (refer to 'b' in Figure 3 on page 5).
    Quickly close your portable analyzer and continue immediately to section B.

B. Process gas connection

GPR-1200 / GPR-3500 MOVR

⚠ These portable analyzers are equipped with a bypass valve. Always ensure it is in the **Bypass** position before connecting to gas.

1. With the bypass valve in the **Bypass** position, connect your process gas line to the **Sample In** port.
2. Set the flow rate to 1...2 SCFH (refer to Figure 1 on page 5) and allow the gas to flow for 2...3 minutes to purge the bypass valve.
   Your analyzer is now ready to use.

GPR-1100

⚠ The GPR-1100 is equipped with quick disconnect fittings. Please ensure the system is not pressurized before connecting to your process.

1. Connect the vent line to one of the ports to ensure gas is venting to atmosphere.
2. Set your flow rate to 1...2 SCFH before connecting gas.
3. Next connect your process gas line to the other port and allow gas to flow for 2...3 minutes. This will purge the system. Your analyzer is now ready to use.

GPR-2000

1. Set your flow rate to 1...2 SCFH before connecting gas.
2. Connect your process gas line to the port, using the fitting provided.
3. Start the flow of gas and allow it to flow for 2...3 minutes. Your analyzer is now ready to use.

C. Making your first measurement

1. Observe the reading on your analyzer to ensure the O_2 concentration is trending downward.
2. When the O_2 reading is in the desired sampling range, press ☰ on your analyzer.
3. Use ↓ and ↑ to navigate to **Select Range** then press ↵.
4. Use ↓ and ↑ to select your required operating range.

E.g. Response time: Sensor exposed to air for 2...3 minutes and installed in <1 ppm_V O_2 sample gas:

Reading	Recovery time (Air to 0 ppm with N_2 purge)
0.1 %	5 minutes
100 ppm	30 minutes
10 ppm	60 minutes
> 1 ppm	6-12 hours

NOTE: Response times are dependent on your portable analyzer model as well as your sensor.

D. Process gas disconnection

After using your portable analyzer, follow the procedure below to safely disconnect the gas.

GPR-1200 / GPR-3500 MOVR

1. Switch the bypass valve to the **Bypass** position, then stop the flow of gas.
2. Disconnect your span gas line from the **Sample In** port.

GPR-1100

1. Disconnect your process gas line using the quick disconnect fitting.
2. Stop the flow of gas.
3. Now disconnect the gas line venting to the atmosphere using the quick disconnect fitting.

GPR-2000

1. Stop the flow of gas.
2. Disconnect your span gas line from the port, by loosening the fitting.

E. Figures

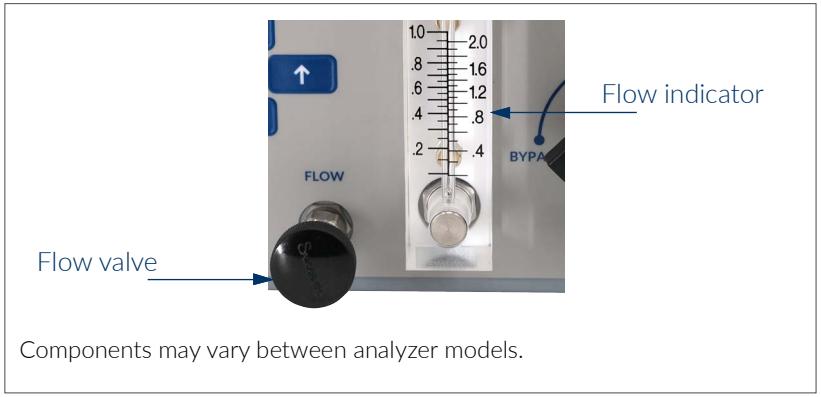


Figure 1 - Setting flow rate

Figure 2 - Aligning your sensor

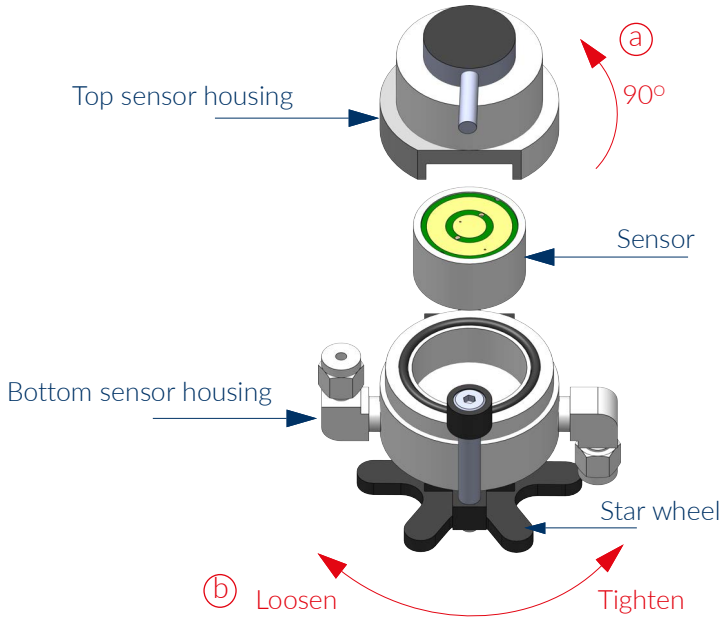


Figure 3 - Installing and uninstalling your sensor

F. Useful links

Scan below for more information:

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