

Quick-Start Guide

DO202 & FLXA Transmitter and OXYGOLD G Sensor for ppb Dissolved Oxygen

This guide provides information on preparation, wiring, programming, and initial calibration of a ppb dissolved oxygen system consisting of the OXYGOLD G sensor and either a DO202 or FLXA transmitter. It is not intended to be a comprehensive resource, but a supplement for the DO202 and FLXA Instruction Manual.

1. Preparation of the DO202 Analyzer:

While the initial configuration Factory Defaults settings are listed in Section 5 and again in Chapter 11; the following steps should be taken to commission the analyzer for ppb applications. Make the following changes in the Service Codes below. (Note: at any time, press "**MODE**" to escape back to the measuring screen):

- Remove the protective cover of the transmitter.
- Press the * Key, *once*. Then Press the "**NO**" Key *twice*. --- "***SERV**" will be displayed.
- Press the "**YES**" Key, *once*. -- "**00**" will be shown in the Main Display.
- Using the > and ^ Keys, change the display to the desired Service Code then press the "**Enter**" Key.

Make the following changes in the Service Codes (refer to Section 5-6 if needed):

Service Code 01:

- ***S.Type** will be displayed at the bottom, and "**1**" will be in the main display. Press **ENTER**.
- ***V.POL** will be displayed at the bottom of the display and main display digits will be flashing.
- Using the > and ^ Keys, change the display to **0.670** mV

Service Code 22:

- ***SENS** will be displayed at the bottom of the display and main display digits will be flashing.
- Using the > and ^ Keys, change the display to **35** nA/ppm

Service Code 56:

- ***UNIT** will be displayed at the bottom of the display and main display digits will be flashing.
- Using the > and ^ Keys, change the display to "**1**" (ppb)

To program the Range of the 4-20mA output:



- Press the * Key. “*OUTP” appears at the bottom of the display. Press “YES” Key.
- “PPB” appears at the bottom of the display. Press “YES” Key.
- “4mA” will appear at the bottom of the display.
- Using the > and ^ Keys, change the display, for the desired PPB value for 4mA. Press ENTER.
- “20 mA” will appear at the bottom of the display.
- Using the > and ^ Keys, change the display, for the desired PPB value for 20mA. Press ENTER.



2. Preparation of the FLXA Analyzer:

New Installation:

- Apply power and when the **Quick Setup** screen appears, Select **YES**.
- A screen will then appear for you to set the date and time format as desired, once this is done press the diamond adjacent to the **Next**.
- The **Sensor Setup** screen will appear. For sensor type select **Polarographic** and then press the diamond adjacent to the **Next**.
- The **Configure Sensor** screen will appear. Change the **Unit** to **ppb** by selecting the text to the right and a drop down list will appear.
- On the same **Configure Sensor** screen, change the **Sensor Sensitivity** by pressing the text to the right and a numerical key pad will appear. Change it to read **35 nA/ppm**.
- On the same **Configure sensor** screen change the **Polarization Voltage** by pressing on the text to the right and numerical key pad will appear. Change it to **0.670**. Once complete press the diamond adjacent to the **Next**.
- The **Temperature settings** screen will appear. Leave the Temp. element set to **Pt1000**, but change the **unit** from °C to °F if desired, by selecting the text to the right and a drop down list will appear. Once complete select **Next**.
- Now the **mA (output)** will appear. Select the desired process parameter and set the 4 mA range (or the 0% value), then the 20 mA range (or the 100% value). Once complete press the diamond adjacent to the **Finish**.

Existing Installation:

- From the Main display, select the **Wrench**. 
- Then the diamond next to the **Commissioning**.
- Then the diamond next to the **Sensor Setup**. The **Sensor Setup** screen will appear. For sensor type change to **Polarographic** from the drop down menu that will appear by selecting the text to the right of sensor type. Once complete select the **Return** key , to return to the **commissioning** screen.
- Select the diamond next to the **Measurement Setup**; then select the diamond next to **Configure Sensor**. The **Configure Sensor** screen will appear. Change the **Unit** to **ppb** by selecting the text to the right and a drop down list will appear.

- On the same **Configure sensor** screen change the **Sensor Sensitivity** by pressing on the text to the right and a numerical key pad will appear. Change it to read **35 nA/ppm**.
- On the same **Configure sensor** screen change the **Polarization Voltage** by pressing on the text to the right and numerical key pad will appear. Change it to **0.670**. Once complete select the **Return** key , twice to return to the **commissioning** screen.
- Select the diamond next to **Output Setup**. The **Output setup** screen will appear. Select **output** from the dropdown menu that will appear by pressing the text to the right of the mA.
- The next screen that will appear is the **mA (output)**. Select the desired process parameter, then select **Linear** from the dropdown menu that will appear by pressing the text to the right of the Setup.
- The **Linear mA** screen will appear. Here you can change the 4 mA range (or the 0% value) and the 20 mA range (or the 100% value). Once complete select the **home icon**  to return to normal measuring mode.

3. Wiring:

Wire the sensor cable (i.e. 355110) to the transmitter as described below:

| | |
|---------------------|---------------------------------|
| Black | connected to terminal 17 |
| Red | connected to terminal 18 |
| White | connected to terminal 11 |
| Green | connected to terminal 12 |
| Green/Yellow | connected to terminal 14 |
| Gray | is not connected |
| Blue | is not connected |

4. Preparation of the OXYGOLD G Sensor:

The sensor is shipped dry. Unscrew and remove the membrane cartridge and rinse once with the supplied electrolyte (CAUTION: Use Gloves as the electrolyte is aggressive). Using the pipette included, put 1.5 ml of electrolyte into the cartridge. Screw the membrane cartridge back onto the sensor. Remove the protective membrane cap (ensure that the membrane is not subjected to shocks, punctures, etc.).

The sensor must now polarize to consume dissolved oxygen in the electrolyte for a minimum of 2 hours before calibration. This can be done by connecting the sensor to the powered DO202, or using by the Polarization Module (237350).

If an Air Calibration is to be performed (recommended), it is recommended to polarize the sensor while exposed to air.

5. Performing a Calibration:


Remove the sensor from the process and lightly wipe off any remaining water from the membrane with a soft tissue. Expose the sensor to air (protected from wind) and allow it to stabilize for approximately 20 minutes.

DO202:


- Press the "MODE" Key and "CALIB" will be displayed.
- Press the "YES" Key and "AIR.CAL" will be displayed.
- Press the "YES" Key and "100%" will appear in the bottom display.
- Press the "YES" Key and "*WAIT*" will appear in the bottom display as the transmitter performs the calibration.

- When "CAL.END" appears (generally 2 minutes after calibration is initiated), Press the "YES" Key. The sensor can now be installed into the process.

FLXA:

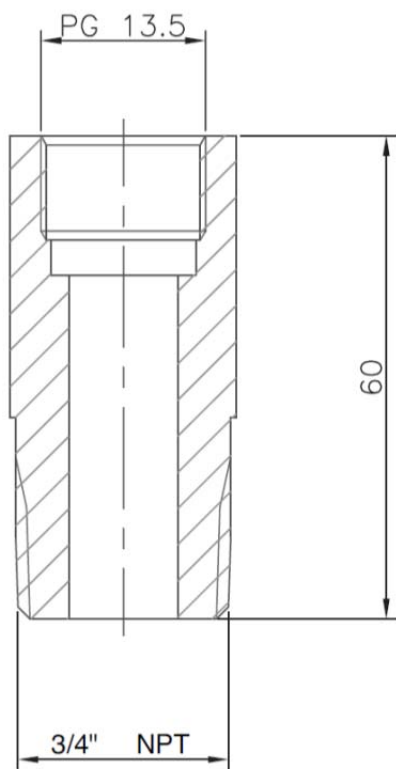
- From the Main display, select the **Wrench**. 
- Then the diamond next to the **Calibration**.
- Select the diamond next to **Air Calibration**.

The next steps assume that the FLXA21 still has the default setting of the Zero Calibration set to disabled

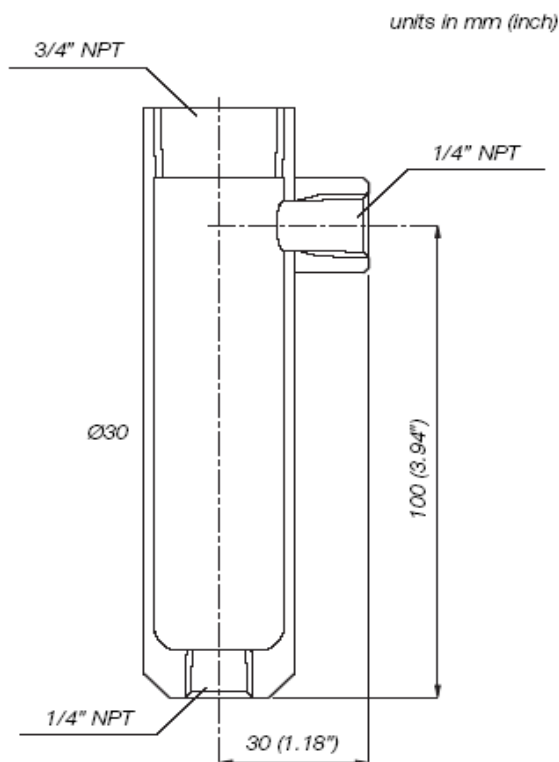
- Put the sensor in air and select the diamond adjacent to **Adjust Now**. "Checking Stability..." will flash while the calibration is being performed.
- Once the calibration is complete the screen will refresh showing "Reading now stable" message. Select the diamond adjacent to **Accept Data**.
- The next screen that will appear asks if this is a **New Sensor**. Select **YES**, so that the sensor wellness data will be reset. Once complete press the **home icon**  to return to normal measuring mode.

6. Installation of the Sensor:

The OXYGOLD G sensor can be mounted using Yokogawa’s mini-flow-fitting (*K1598AC*) and the PG13.5 x 0.75” MNPT adapter (*M1263LP*). Ensure that all piping connections are tight and Teflon tape is used on threaded connections to prevent air-in leakage. The sensor must be mounted at least 15° above horizontal.



M1263LP Adapter



K1598AC MINI-FLOW-FITTING