

How to zero point calibrate your CO2 sensor - *without a GSS evaluation kit*

Before using your sensor, we recommend that you perform a zero point calibration appropriate to your application. The process described below is suitable for customers who have purchased a GSS sensor without an evaluation kit.

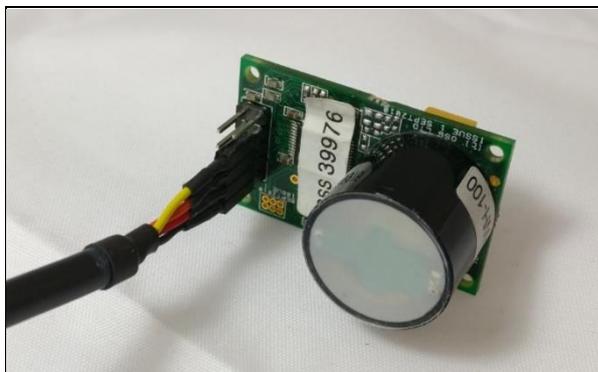
There are several zero point calibrations that may be performed. The most common of these are:

- A gas of known CO2 concentration – X command
- A gas of zero CO2 concentration e.g. Nitrogen – U command
- Fresh air of circa 400 PPM concentration – G command

The simple process that needs to be carried out to set the zero point is as follows:

Step 1

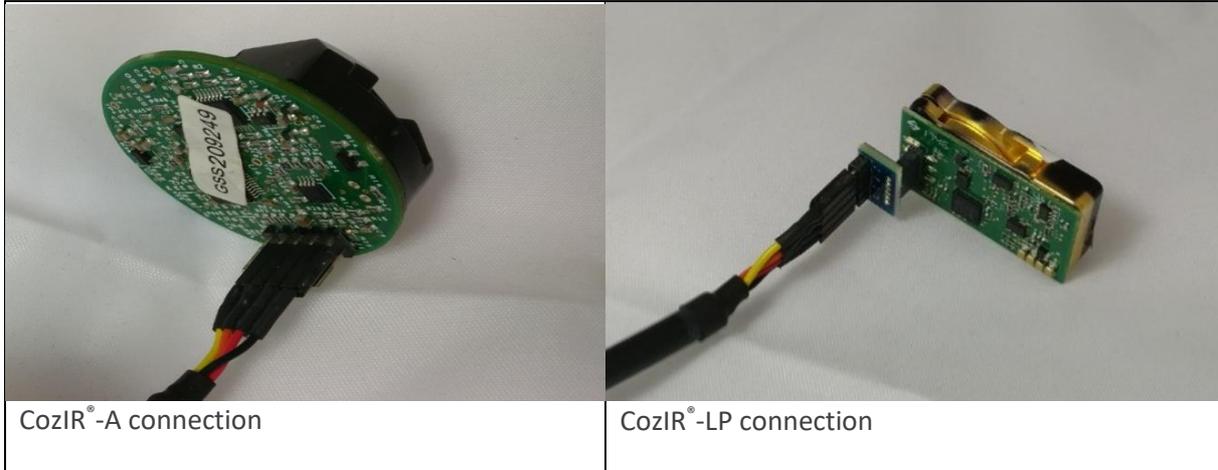
First, connect your sensor to a PC or laptop using a USB FTDI cable. The connections vary for different sensor types - see examples of the various electrical connections below. For any further queries, please refer to the relevant product datasheet for details.



ExplorIR®-W and SprintIR®-W connections

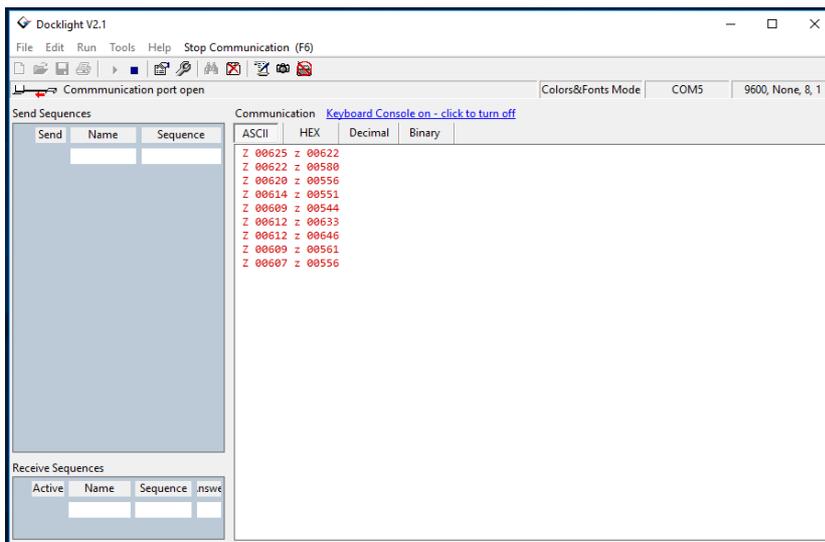


ExplorIR®-M and SprintIR®-6S connections



Step 2

Having made the electrical connection, you can now issue zero point calibration commands via a terminal program, such as Docklight.



Docklight terminal program example



Step 3

For all gas types, place the sensor in the gas and leave it to stabilize. Around 2 minutes should be sufficient time for the gas to be fully diffused into the sensor.

X command

For a gas of known concentration e.g. 2000 PPM send the command (note there is a space between the X and the 2000).

```
X 2000\r\n
```

The sensor should respond with `X 32950\r\n`

U command

For a gas of zero concentration e.g Nitrogen, issue the command

```
U\r\n
```

The sensor should respond with `U 32950\r\n`

G command

For fresh air send the command

```
G\r\n
```

The sensor should respond with `G 32950\r\n`

Please note, there may be a slight difference in the '32950' number returned by the sensor. This is not a cause for concern.

So now you've seen how to zero calibrate your CO2 sensor without a GSS evaluation kit. There are other more specialised zero calibration methods available. Please contact us and we can provide the relevant documentation and technical support.