

# AA01

## CO<sub>2</sub> Calibration Kit



### NOTICE

- This product is not intended for life or safety applications.
- Do not install this product in hazardous or classified locations.
- Read and understand the instructions before installing this product.
- Turn off all power supplying equipment before working on it.
- The installer is responsible for conformance to all applicable codes.

No responsibility is assumed by Veris Industries for any consequences arising out of the use of this material.

### PRODUCT IDENTIFICATION

AA01 CO<sub>2</sub> Calibration Kit

### PRODUCT OVERVIEW

The AA01 CO<sub>2</sub> calibration accessory is designed for field calibration of any CO<sub>2</sub> sensor produced by Veris Industries, regardless of age. It comes complete with calibration gas, a gas regulator, tubing, and fittings. The calibration process normally takes about 5 minutes.

In general, Veris CO<sub>2</sub> sensors use a time-weighting factor, which retains the lowest concentration of CO<sub>2</sub> measured in a selectable time period. That information is then used to calculate the ambient or base level CO<sub>2</sub> concentration. This calculation allows a CO<sub>2</sub> sensor to improve its accuracy over time.

To use this instruction guide, first identify the shape of the CO<sub>2</sub> sensor inside of your Veris device (rectangular or pear), and then turn to the applicable section of this instruction manual for the instructions.

Note: For all calibrations, when connecting the gas regulator assembly to the gas bottle, verify there is at least 10 lbs of pressure remaining in the bottle. The CO<sub>2</sub> sensor cannot be calibrated correctly with less than 10 lbs.

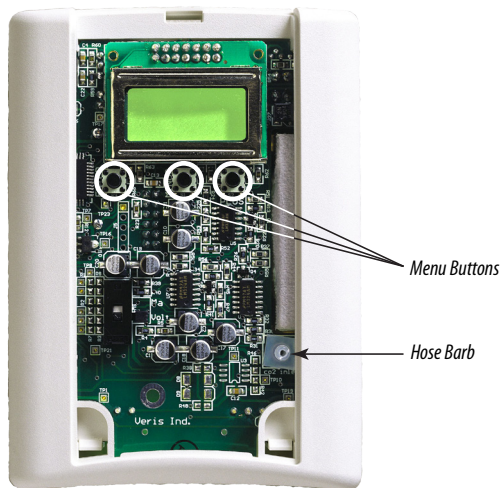
**FOR ANY CO<sub>2</sub> DEVICE WITH RECTANGULAR SENSOR**

**PREPARATION**

1. Ensure that the unit to be calibrated is properly installed and has been operating for at least one hour.
2. Use only Veris Industries calibration kit model AA01. Perform the zero calibration with nitrogen gas. Use a flow regulator to limit gas flow to <0.25 liter/minute. Exceeding this flow rate may cause calibration errors.

**SETUP**

1. Connect tubing to the regulator and screw the regulator on the gas bottle.
2. Remove the front cover from the unit and locate the plastic barb fitting and the menu push-button. A label indicating push-button functions is located inside front cover plate.



3. Attach tubing firmly to the barb fitting.
4. Follow the calibration directions for your device.

**CX/CWL/CDL CALIBRATION**

1. Press ENTER to enter configuration mode.
2. Press ENTER repeatedly until the CO2 CAL menu option appears on the display.

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| C | O | 2 |   | C | A | L | ? |
| * | Y | E | S |   |   | N | O |

3. Press + to select the YES option.
4. Using the +/- buttons, select the ZERO calibration option. Press ENTER to continue. The AA01 kit includes nitrogen gas for zero calibration only.

|   |   |   |   |   |  |  |  |
|---|---|---|---|---|--|--|--|
| * | Z | E | R | O |  |  |  |
|   | S | P | A | N |  |  |  |

5. Verify the display indicates 0 ppm gas concentration. Press ENTER to continue.

|   |   |   |   |  |   |   |   |
|---|---|---|---|--|---|---|---|
| Z | E | R | O |  | G | A | S |
|   |   |   | 0 |  | P | P | M |

6. Look for the display to prompt gas flow.

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| F | L | O | W |   | G | A | S |
| * |   | S | T | A | R | T |   |

Open the regulator valve and adjust pressure to 7 psi to generate the appropriate flow rate. Press ENTER to begin the countdown timer.

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| C | A | L |   | T | I | M | E |
| * | 4 | 2 | 0 |   | S | E | C |

7. Wait for the countdown timer to reach zero and for the display to indicate the calibration is complete.

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
|   |   | D | O | N | E |   |   |
| S | T | O | P |   | G | A | S |

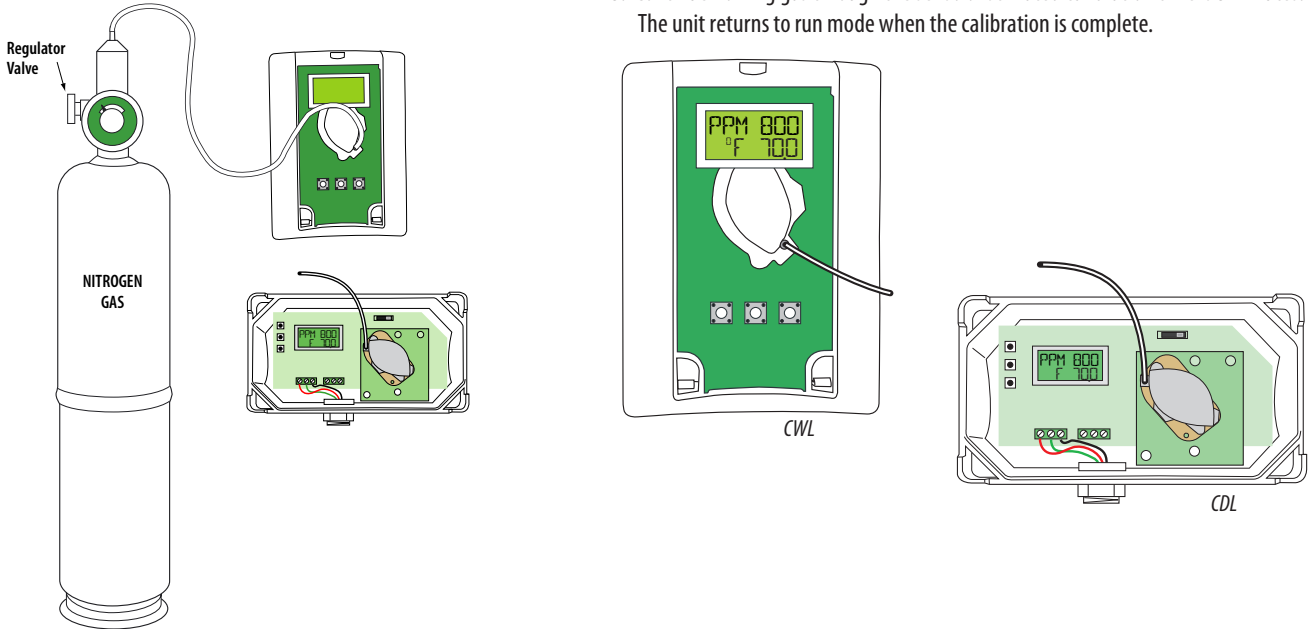
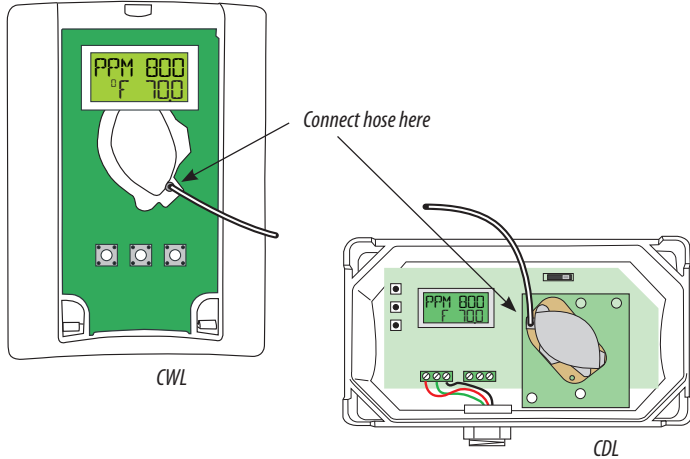
8. Close the regulator valve and disconnect tubing from the unit. Press ENTER to return to normal operation.
9. Replace the sensor cover.

**CDE/CWE CALIBRATION**

1. Start flowing (nitrogen) 0 ppm CO<sub>2</sub> gas.
2. Push and hold down the calibration button until the red LED illuminates.
3. Continue flowing gas through the sensor until the red LED turns off.
4. Close the regulator valve and disconnect tubing from the unit.
5. Replace the sensor cover.

**FOR CDL/CWL DEVICE WITH PEAR-SHAPED SENSOR**

1. Remove cover and connect the gas cylinder hose to the plastic port located on the sensing module. Connect only one sensor to the calibration gas cylinder at a time.
2. Start flowing nitrogen gas (0 ppm CO<sub>2</sub>). Use a flow rate of 0.3 to 0.5 liter/minute.



3. Push and hold the plus and minus buttons for 5 seconds to enter calibration mode. At each menu option, use the arrow to change values. Push ENTER for the next option.

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
|   | S | E | R | I | A | L |   |   |
| X | X | X | X | X | X | X | X | X |

Displays serial number

|  |   |   |   |   |   |  |  |  |
|--|---|---|---|---|---|--|--|--|
|  |   | X | X | X |   |  |  |  |
|  | X | X | X | X | X |  |  |  |

Displays model number

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| O | F | F | S | E | T |   |   |
| ° | C |   |   |   | X | . | X |

Range is -5 to 5°C,  
in 0.1°C increments

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| O | F | F | S | E | T |   |   |
| % | R | H |   | X | X | . | X |

Range is -10 to 10%,  
in 0.1% increments

CWL ONLY

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| C | O | 2 |   | C | A | L | ? |
| - |   |   | X | X | X |   | + |

Options are Yes/No

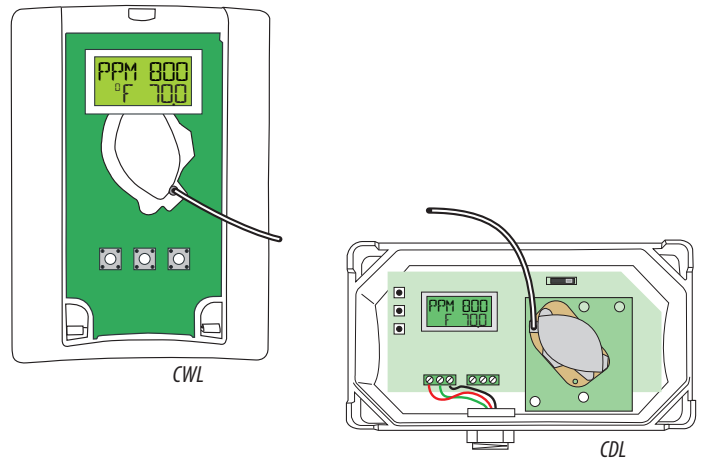
|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| C | A | L |   | G | A | S | ? |
| - |   |   | X | X | X | X | + |

Options are None, 0, 400

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| W | O | R | K | I | N | G |   |
|   | * |   |   | 5 | : | 0 | 0 |

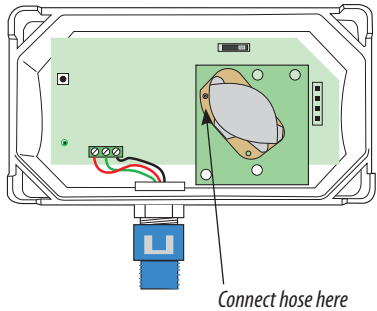
Unit will automatically return to run mode when calibration is complete.

4. Select 0 ppm Cal Gas option.
5. Continue flowing gas through the sensor. Estimated calibration time is 5 minutes. The unit returns to run mode when the calibration is complete.

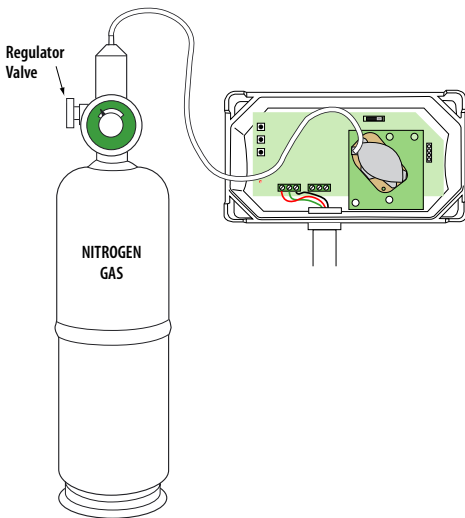


**FOR CDE DEVICE WITH PEAR-SHAPED SENSOR**

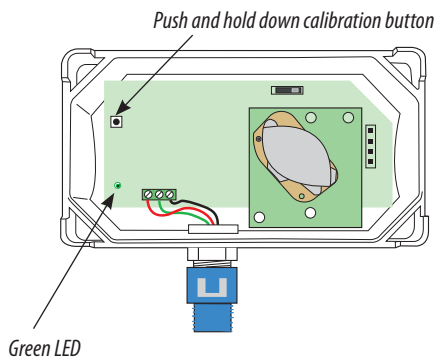
1. Remove the cover and connect the gas cylinder hose to the plastic port located on the sensing module. Connect only one sensor to the calibration gas cylinder at a time.



2. Start flowing nitrogen gas (0 ppm CO<sub>2</sub>). Use a flow rate of 0.3 to 0.5 liter/minute.



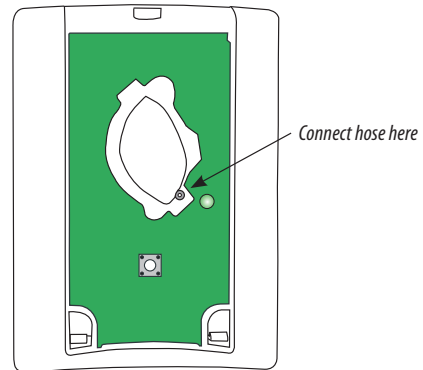
3. Push and hold down the calibration button until the LED illuminates.



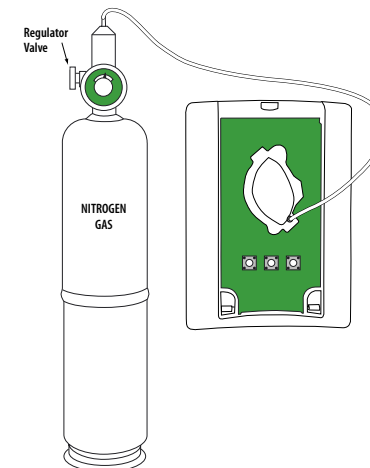
4. Continue flowing gas through the sensor until the LED deluminates. Estimated calibration time is 5 minutes. Remove the hose from the calibration port when complete.

**FOR CWE DEVICE WITH PEAR-SHAPED SENSOR**

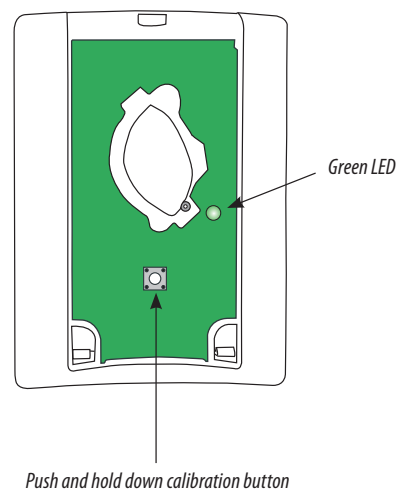
1. Remove the cover and connect the gas cylinder hose to the plastic port located on the sensing module. Connect only one sensor to the calibration gas cylinder at a time.



2. Start flowing nitrogen gas (0 ppm CO<sub>2</sub>). Use a flow rate of 0.3 to 0.5 liter/minute.



3. Push and hold down the calibration button until the LED illuminates.



4. Continue flowing gas through the sensor until the LED deluminates. Estimated calibration time is 5 minutes. Remove the hose from the calibration port when complete.