

CALIBRATION KIT (CO₂)

MODEL CO220CALKIT

GENERAL DESCRIPTION:

The **CO220CALKIT** is the calibration kit designed specifically for use with CO220 carbon dioxide sensors, used in conjunction with the GVV series, TOX-4/ANA, and TOX-CONTROL ventilation control systems. The kit contains two tanks of span gas, which contain the proper concentrations of carbon dioxide and clear air needed for proper calibration. The required hardware is included to provide correct gas metering to the sensor. The kit also contains complete instructions and an industrial grade carrying case.

The kit has enough gas for approximately 125 calibrations. Calibration is recommended on a quarterly basis.



FEATURES:

- Two Tanks of Standard Test Gas (17 Liter)
- Regulator/Pressure Gauge
- Sensor Calibration Cover With Tubing
- On/Off Valve
- Adjustment Screwdriver
- Carrying Case

CALIBRATION PROCESS

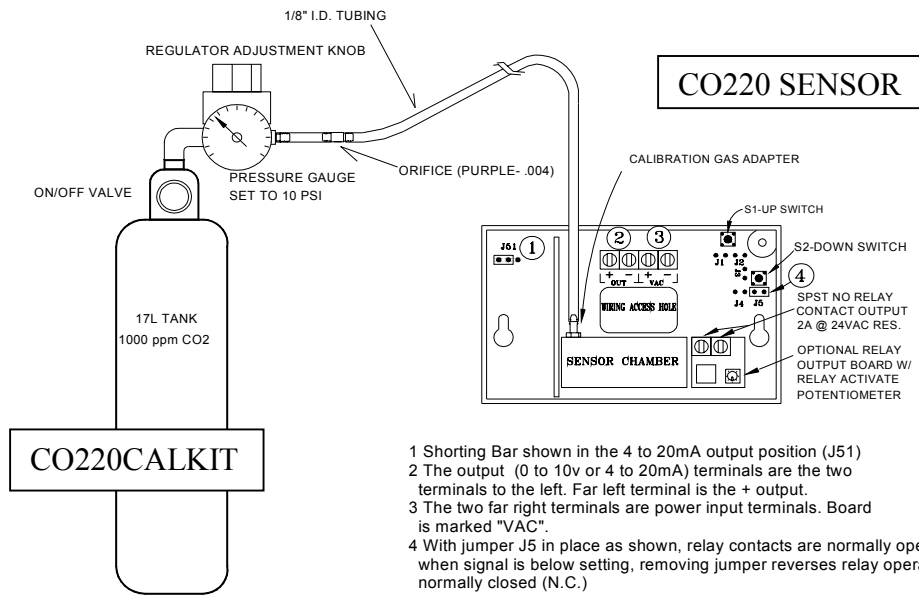
The output signal of the gas sensor module is calibrated using a span mixture containing a known concentration of the gas of interest. The concentration of the span gas should be between the high alarm point and full scale.

Calibration requires application of the span gas to the sensor and adjustment of the span switches to make the module signal equivalent to the concentration of the sample gas.

CALIBRATION PROCEDURE:

Kit assembly:

1. Screw the valve, regulator, gauge and orifice assembly on to the tank of calibration gas.
 2. Insert plastic tubing (with orifice in line) into remaining barb fitting.
 3. Fit tubing into calibration adapter.
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- 1 Shorting Bar shown in the 4 to 20mA output position (J51)
- 2 The output (0 to 10v or 4 to 20mA) terminals are the two terminals to the left. Far left terminal is the + output.
- 3 The two far right terminals are power input terminals. Board is marked "VAC".
- 4 With jumper J5 in place as shown, relay contacts are normally open (N.O.) when signal is below setting, removing jumper reverses relay operation to normally closed (N.C.)

Note: If relay option is not present, then J5 is used as holder for calibration shorting bar.

Fig. 1

CALIBRATION:

(Refer to Fig. 1)

1. Remove front cover of the sensor and place shorting block at JP5 over jumper JP2 and attach end of tubing onto calibration gas adapter nipple located on the sensor element.
2. Connect a milliamp meter in series with output signal that is capable of reading 4 to 20 milliamps (or a voltmeter if analog output is set for volts). A controller or other instrument may already be attached, and may be used instead of a meter.
3. Start the gas flow by turning on the valve. Adjust the regulator knob so that the pressure gauge is at 10 psi. This sets the flow rate to 0.1 LPM via the inline purple orifice and allow about a minute for the reading to stabilize.
4. If the reading differs by more than +/- 75ppm, (5v +/- .375v or 12mA +/- .6mA) from the concentration of test gas (1000ppm) use the "UP" and "DOWN" buttons to adjust the reading. NOTE: The response to the buttons is not immediate – allow several seconds for reading to catch up after making an adjustment.
5. When the reading agrees with the concentration of calibration gas, remove shorting block on jumper JP2 and replace to its original position at jumper JP5.
6. Turn gas off, disconnect tubing, and replace dust cover on calibration nipple. Replace the front cover.

ORDERING INFORMATION:

If a calibration kit is needed for any Toxalert system with CO220 carbon dioxide sensors, then call or fax your local Toxalert representative and order the CO220CALKIT. A combination kit is available for Gvu systems utilizing sensors for carbon monoxide and carbon dioxide. Calibration kits are available for all other sensors by Toxalert.