

# GG-VL2-CO<sub>2</sub>

## VENT LINE CARBON DIOXIDE SENSOR



### Key Features

- Carbon dioxide-selective infrared sensor technology prevents false alarms
- Continuous monitoring of refrigeration system relief valves
- Rugged, long life, and low power catalytic-bead sensor
- Designed for harsh environments (-40°F to +140°F)
- Sensor and preamp in one assembly
- 0-5% CO<sub>2</sub> (0-50,000 ppm) detection range
- Ability to detect “weeping valves” to prevent refrigerant loss over time
- Sensor housing allows for easy sensor replacement and calibration
- 316 stainless steel 18 gauge enclosure
- Industry standard 24 VDC, linear 4-20 mA output

From unlikely high-pressure releases to the inevitable “weepers”, the CTI Vent Line sensor will notify you ... before your neighbors do.

The GG VL2 utilizes a rugged infrared sensor technology for fast leak detection and long life. The standard 0-5% CO<sub>2</sub> detection range of the GG-VL2-CO<sub>2</sub> provides real-time continuous monitoring of carbon dioxide concentrations in your high-pressure relief vent header.

High concentrations of carbon dioxide gases in your vent line are usually indications of a leaking valve or system overpressure. This could mean costly repairs or plant downtime, not to mention loss of refrigerant and regulatory fines. Early detection can save money while also protecting equipment, product, and personnel.

The GG-VL2-CO<sub>2</sub> provides an industry standard linear 4-20 mA output signal compatible with most gas detection systems and PLCs. Expect long sensor life and no zero-signal drift over time.

### Applications

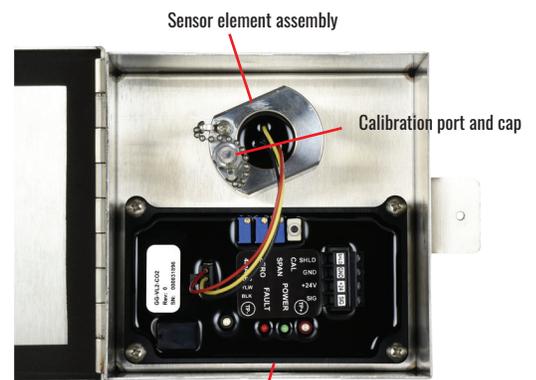
- Refrigeration System Vent Lines
- CO<sub>2</sub> process systems

### Benefits

- Low cost
- Simple sensor replacement
- Rugged and reliable
- Typical sensor life 5 to 7 years



*Easy and safer calibration and sensor replacement with all access within sensor enclosure*



The **GG-VL2-CO2** is designed for indoor or outdoor mounting. It is recommended that the sensor be mounted 3' to 5' above the roof line on the relief discharge to atmosphere. However, the sensor can be installed indoors as long as the 1/2" plug remains installed. The further the sensor is from a fresh leak source, the longer the CO2 gas will linger which can result in a long recovery time from a CO2 discharge or weeping valve.

The 1/2" pipe nipple of the supplied mounting kit should be welded or threaded to the relief discharge. The sensor is accessible from inside the enclosure, so replacement is easy.

**Reliable & robust**

Every transmitter circuit board is sealed forever in potting compound, protecting electronic components and copper tracing from corrosion. The life of the sensor is not affected by exposure to refrigerant gases or extreme temperature variations.

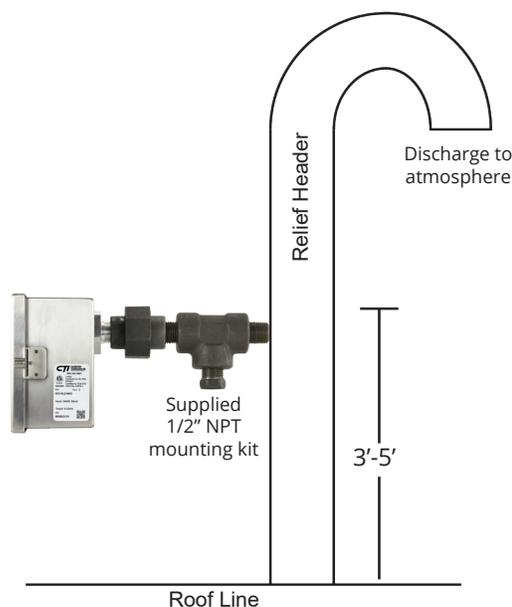
**Ordering Information**

The **GG-VL2-CO2** sensor kit is delivered calibrated and ready to install. The kit includes the transmitter/sensor/enclosure assembly and mounting kit. Use the model numbers below to order.

**Order #:** [GG-VL2-CO2](#)  
[GG-VL2-CO2-RS](#) (replacement sensor)



replacement sensor element



**SPECIFICATIONS**

Due to ongoing research and product improvement, specifications are subject to change

**Input Power:**  
+24 VDC, 60 mA

**Detection Principle:**  
Infrared (NDIR dual beam)

**Detection Method:**  
Diffusion

**Gases:**  
Carbon Dioxide (CO2)

**Ranges:**  
0/5% (0 - 50,000 ppm)

**Output Signal:**  
Linear 4-20 mA (max input impedance: 700 Ohms)

**Linearity:**  
+/- 3% of full-scale

**Repeatability:**  
+/- 2% of full-scale

**Response Time:**  
T90 = less than 30 seconds

**Accuracy:**  
+/- 2% of full-scale, but dependent on calibration gas accuracy and time since last calibration

**Zero Drift:**  
Less than 0.1% of full-scale per month, non-cumulative

**Span Drift:**  
Less than 2% of full-scale per month, non-cumulative

**Temperature Range:**  
-40°F to +140°F (-40°C to +60°C)

**Humidity Range:**  
0% to 95% non-condensing

**Wiring Connections:**  
3 conductor, shielded, stranded, 20 AWG cable (General Cable C2525A or equivalent) up to 1500 ft

**Terminal Block Plugs: (Field Wiring)**  
12-26 AWG, torque 4 lbs-in

**Enclosure:**  
NEMA 4X 316 stainless steel (316) gasketed housing. Captive screw in hinged lid. For non-classified areas

**Dimensions:**  
4.8" high x 4.72" wide x 3.35" deep

**Weight:**  
4 lbs (includes mounting kit)

**Certification:**  
SGS listed to UL 61010-1, and CSA C22.2 No. 61010-1-12

**Warranty:**  
2-years (including sensor element)

