IR-Series CO_2 Refrigerant Leak Detector

General

IR-CO_2 are transmitters for measuring concentration of carbon dioxide. The sensors use Non-Dispersive Infrared technology (NDIR) with Automatic Baseline Correction (ABC), which gives long life and good selectivity.

The transmitters give a linear output signal (4 to20mA or 0 to 10V) proportional to the gas concentration.

Mounting Location

This product is in conformity with the directive (LVD) 2014/35/EC & (EMC) 2014/30/EC.

It fulfills the requirements of:

- EN 61000-6-2:2005
- EN 61000-6-3:2011
- EN 61000-3-2:2014
- EN 61000-3-3:2013
- EN 61010-1:2010

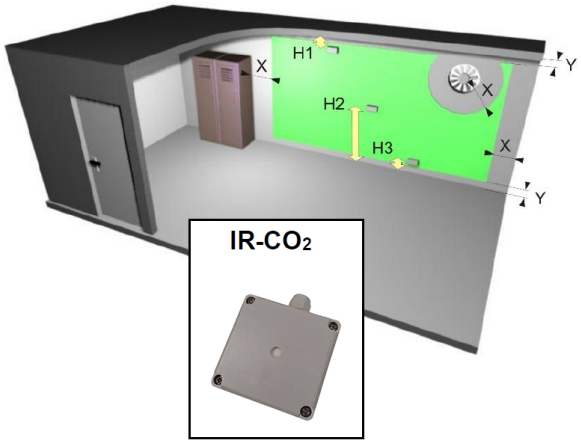
Test

To test the detector:

- Apply CO_2/air blend with a concentration of 5000/10000 ppm (air flow of 0,5 l/min) until the signal is stable, ~ 1 minute.
- Confirm that the output signal is 20mA or 10V.

If gas with lower concentration is used for control, the expected output signal must be calculated according to a graph for each model.

Output signal is set by jumper [JP1] (see PCB layout).



X > 50 cm	Y > 20 cm
CO_2	H3 = 20 cm

026-4424 R1

COPELAND

*Technical Data

Table 1 - Sensor Technical Specs

Sensor Type	CO_2
Housing	PC polycarbonate (IP67)
Power Supply	12 to 30Vdc
Power Consumption	2.5W
Sensor Type	NDIR
Response Time (T90)	<10 seconds
Output Signal	4 to 20mA (min 250, max 500 ohm) / 0 to 10Vdc
Calibration	Automatic Baseline Correction
Control/Check	The detector should be tested at least once per year
Sensor Lifetime	>15 year (replacement recommended every 10th year or when the unit no longer indicates any gas)
Operating Temperature	-40 to 50°C
Operating Humidity	10 to 90 % Rh (non-condensing)
Cable Gland	1 x M16
Dimensions (LxHxD)	80 x 82 x 56mm

*Specifications subject to change

IR-Series CO_2 Models and Part Numbers

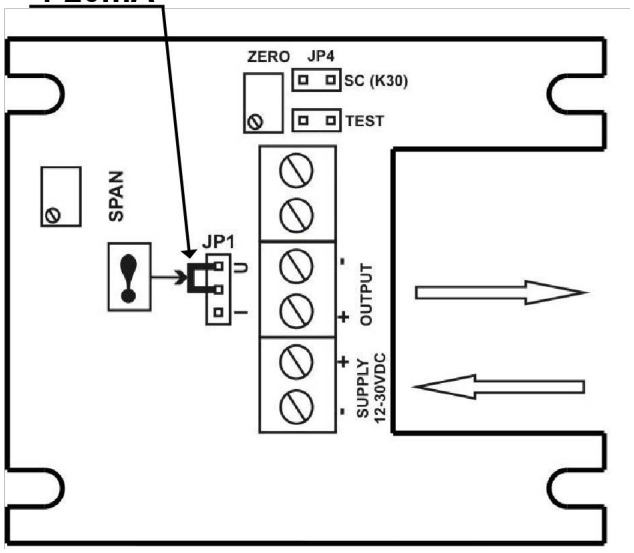
Table 2 - Selection Table

Part Number	Range / Gas
809-1215	0-5000ppm Carbon Dioxide
809-1216	0-10000ppm Carbon Dioxide

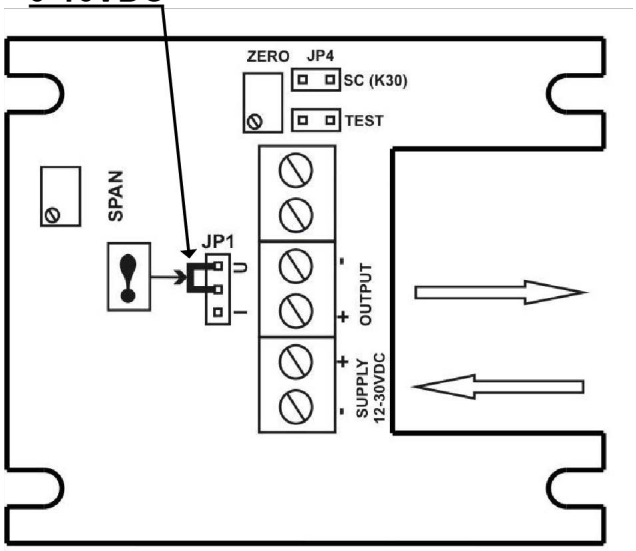
Wiring Diagrams

Note: [!] represents jumper positions

4-20mA



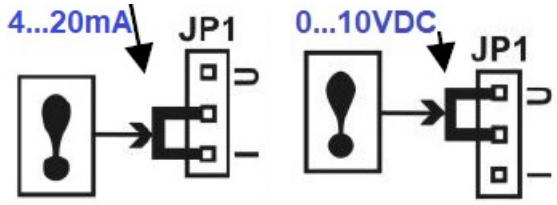
0-10VDC



Installation/Positioning

When mounting the transmitter consider density of target gas and air movements in the room or area. See examples on the previous page. Connect the transmitter according to the wiring diagram.

To change the output type, move the JPI jumper as shown:

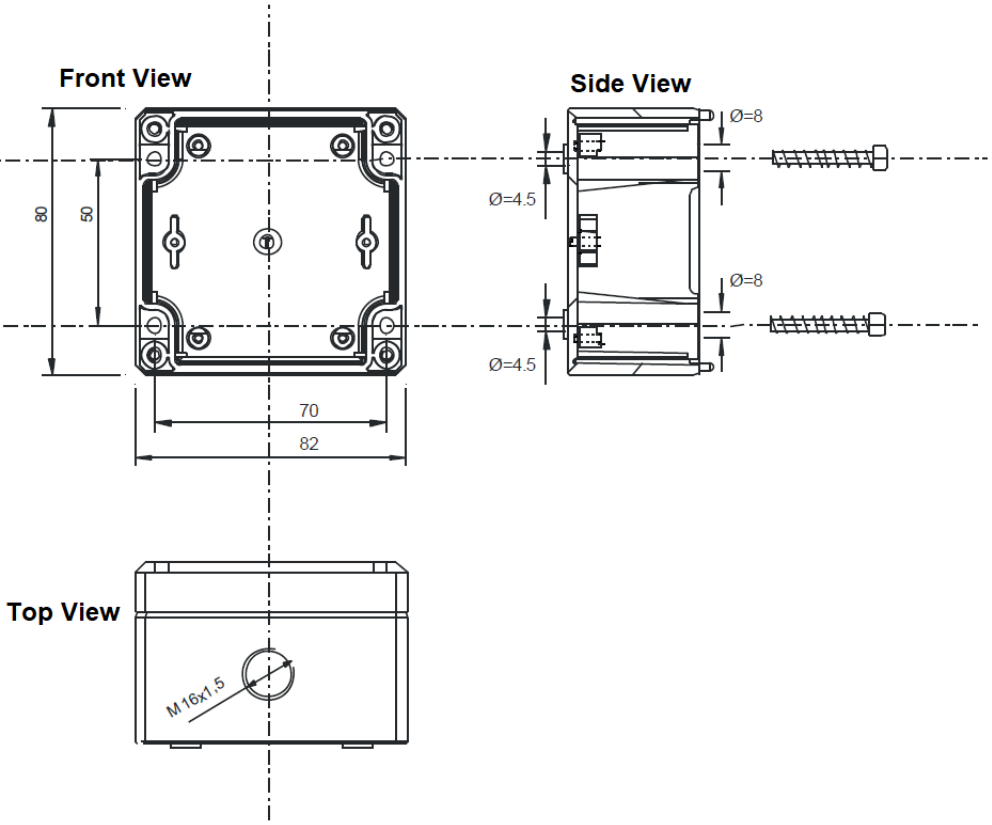


NOTE

Before moving the JPI jumper:
1. Disconnect power
2. Move jumper
3. Cycle power to save the new setting

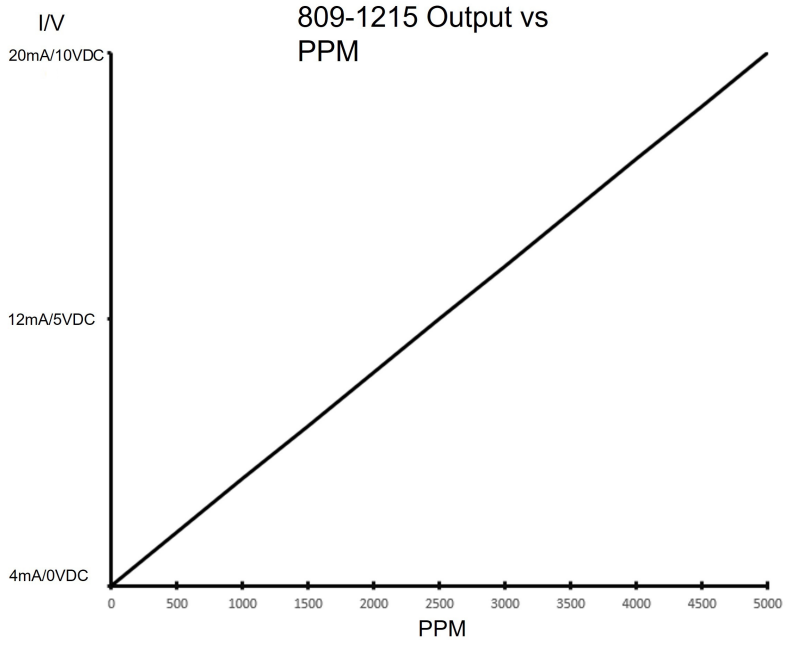
Enclosure Mounting

Dimensional Drawings (mm)

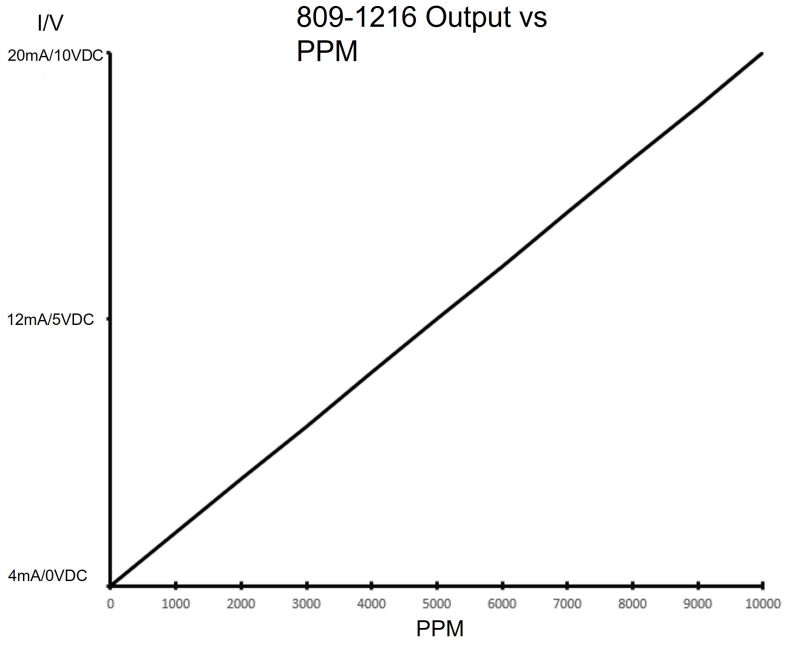


Output

809-1215 Output vs PPM



809-1216 Output vs PPM



Visit our website at copeland.com/en-us/products/controls-monitoring-systems for the latest technical documentation and updates.
For Technical Support call **833-409-7505** or email **ColdChain.TechnicalServices@Copeland.com**

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