



Red Line IR CO2 Gas Detector

Red Line is a safe area gas detector which uses proven non-dispersive single beam dual wavelength infrared principles to detect and monitor the presence of CO2.

The detector uses a novel dual wavelength non-dispersive infrared design incorporating two filters and a matched twin element detector. The 'sample' filter selects a wavelength region absorbed by CO₂ while the 'reference' filter selects a region of no absorption by any gas likely to be present. Gas absorption measurement is made by electronic signal ratioing, using a dedicated microprocessor. This technique provides unrivalled long term measurement stability.

All sensor driving is internal to the transmitter and continuous fault monitoring of the sensor and transmitter is provided. The sensor signal is used to provide a linear output in voltage and 4-20mA format, calibration is by means of 4 and 20mA span potentiometers with the signal being internally linearised without the need for user adjustments.

Internal indicators are included for designating the transmitter status:

- Device Active
- Indication of sensor source pulsing
- Indication of the calibration mode
- Fault diagnostics.

Specifications

General

This information relates to the device operating continuously.

Crowcon Part Number: C01986

Operation: continuous diffusion NDIR (dual wave-length)

Measuring Range: 0~2% Vol CO2

Repeatability: $\pm 2\%$

Warm up time to zero: < 20 seconds

Response time to target gas: T90 < 25 seconds

Long term zero drift: $\pm 25\text{ppm CO}_2/\text{month}$

Electrical Data

Certification: CE – C509 NOT CERTIFIED FOR USE IN A HAZARDOUS AREA

Input voltage: 3 wire, 12 to 35V DC (24v DC nominal - polarity protected)

Maximum current consumption: 130mA

Voltage Output: 1~5V, maximum current draw 5mA

Resolution: 0.15% of span

Current Output: 4~20mA (link selectable as sink or source)

Maximum loop resistance in source mode: 250R

Output resolution: 0.02mA

Maximum offset drift: $\pm 20\mu\text{A}$

Over-range output: 21.3mA (typical)

Fail signal: 3mA

Fail indicator: Open collector output to 0V

Mechanical Data

Internal plug in sensor (NDIR)

Processor and terminal enclosure material Polycarbonate - light grey

Dimensions: 122mm x 120mm x 56mm

Weight: 270g

Mounting Detail: Four 4mm – 110mm vertical, 90mm horizontal

On Board Indicators: -

Green LED System healthy

Three red LED's System fault indicators

Environmental Data

Ingress protection: IP53 + Water Shield IP64

Humidity: 0 ~100% RH (non-condensing)

Temperature: -10 ~ +50°C

Accessories

Duct Mount Probe

Collector Cone + universal fitting

Universal fitting – Test Gas Applicator

Weather Cone

Flow Block

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