

# Infra-Red Monitor for CO<sub>2</sub>



Infra-Red CO<sub>2</sub> Monitor

The Infra-Red CO<sub>2</sub> Monitor continuously measures carbon dioxide levels in the atmosphere and provides a warning in the event of an excessive concentration of carbon dioxide gas.

## Easy to Use

Once the monitor is set up, only occasional checking of the calibration is required and no chemical absorbents need replacement, before, during or after use. The monitor can be easily set to alarm at any two points within its range. Should a setpoint be reached, an audible alarm will sound, alerting personnel to a possible danger. The percentage of carbon dioxide at the sampling point is shown continuously on the monitor front by a three digit LED display.

## High Performance and Accuracy

The dual wavelength sensor with single optical path and no moving parts ensures accuracy over extended periods.

## Remote Sampling Facilities

An internal pump is used to draw the gas sample into the monitor which may be located up to 30 metres from the area to be monitored.

## Alarm Indication

If a pre-set level of CO<sub>2</sub> concentration is exceeded, an alarm light on the front panel of the instrument will flash and the alarm will sound. At the first pre-set level, the monitor will automatically reset when the CO<sub>2</sub> concentration falls below the alarm setpoint. At the second pre-set level, the alarm will continue until the CO<sub>2</sub> concentration falls below the second set point and the alarm is manually reset. When the preset levels are reached volt free alarm contacts close, which can be used to initiate equipment to clear the atmosphere automatically.

## Fault Indicator

Fault indicator lamps on the front panel warn of failure of electronic circuitry, optical system and low sample flow.

## Specification

<b>Measuring Ranges</b>	0 - 5% – Other options available
<b>Accuracy</b>	± 2% of scale
<b>Stability</b>	± 2% of scale over 12 months
<b>Repeatability</b>	Zero: ± 0.3% Span: ± 1.5%
<b>Response Time (T90)</b>	30s from sample inlet
<b>Operating Temperature</b>	0 - 40°C
<b>Zero Drift at Constant Temperature</b>	± 2% per year
<b>Zero Drift due to Ambient Temperature</b>	± 0.03% of scale per °C
<b>Warm-up Time - <i>Operational</i> To Full Specification</b>	3 minutes 40 minutes
<b>Humidity</b>	Unaffected by humidity (0-99% RH non condensing)
<b>Pump</b>	1 litre/min typical flow rate 30 m maximum sampling distance
<b>Power</b>	230 V AC or 110 V AC, switch selectable, 50 or 60 Hz
<b>Power Consumption</b>	13 W typical
<b>Weight (kg)</b>	2.7
<b>Overall Size (mm)</b>	258(h) x 267(w) x 148(d)
<b>Enclosure Rating</b>	IP54
<b>Part No.</b>	2238.0100
<b>Controls</b>	Setpoint 1 Adjust – (factory set 0.5%) Setpoint 2 Adjust – (factory set 4.0%) Zero Adjust Span Adjust View Setpoint 1 Button View Setpoint 2 Button Lamp Test Button
<b>Display</b>	4 Digit liquid crystal display Alarm Setpoint 1 exceeded LED Alarm Setpoint 2 exceeded LED Fault LED Low Flow LED Alarm Annunciator – 90dBA
<b>Outputs</b>	4 - 20 mA linear analogue Setpoint 1 relay Setpoint 2 relay (latching) Fault relay
<b>Relay Contacts</b>	Volt free changeover contacts 3 A at 30 V DC (resistive load) 2.5 A at 240 V AC (resistive load)
<b>Options</b>	Alternative analogue measuring ranges 0 - 20 mA Non-linear analogue output Voltage analogue output
<b>CE</b>	CE approved product conforms to EC Regulations

Note: Sensor head fundamentally measures mole density (mole m<sup>-3</sup>). For convenience this is expressed as equivalent % v/v of 1 atmosphere at 25°C.