

## Features

- Microprocessor based
- 4-20mA Analogue Output
- Voltage free relay contacts
- RS485 digital interface
- Alphanumeric dot-matrix display
- "One Person" calibration
- Dual detectors
- Temperature compensation
- Standalone operation

The Monicon IR80 is a high quality, self contained, NDIR (Non Dispersive Infra Red) gas sensor that offers a host of sophisticated features to provide fast, reliable warnings against exposure to dangerous concentrations of carbon dioxide.

The IR80 will operate as a standalone instrument or in conjunction with a controller or a computer. It is housed in an attractive, compact enclosure and may be configured or calibrated by one person.

The gas concentration is indicated on a rugged 8-character alphanumeric display which also indicates instrument status.

The IR80 is fully user programmable and no physical adjustments are necessary during calibration as the on-board computer assists the calibration procedure.

All user variables are stored in non-volatile memory (EEPROM) and retained indefinitely even during total power failure.



## Typical Applications for the IR80

- Breweries
- Landfill Sites
- Food processing
- Soft Drinks Manufacture
- Cellars
- Chemical Processing
- Ventilation Systems
- Laboratories
- Mushroom Farming
- Greenhouses

The IR80 uses advanced NDIR technology combined with surface-mount microprocessor and firmware technology. A pulsed infrared source emits a broad spectrum infrared beam within an optical cavity. The system measures the adsorption of infrared energy as it passes through a gas sample. Different gases have clearly defined absorption characteristics, their concentration can be determined by their absorption of infrared radiation at the wavelength determined by filter lambda 1 in the diagram.

To compensate for interfering factors filter lambda 2 isolates another wavelength which is used to measure the total transmission through the optical cavity and is not affected by the gas being monitored. By comparing the infrared energy reaching each of the two detectors, the concentration of the gas sample can be determined. The signal processor compares and linearises these two signals. A thermistor monitors the sensor temperature and the signal processor factors in variations caused by temperature changes.

The unit is calibrated or user-programmed by means of on-board pushbutton switches. The operator is then guided through a variety of options by a user-friendly menu. The CPU constantly verifies system operation. In the unlikely event of a fault, the operator is alerted with a helpful diagnostic display.

