

MODEL 418



LUFT DETECTOR INFRA RED GAS ANALYSERS

- ◆ **Luft, R.F. capacitive bridge circuit detector for highly specific gas detection**
- ◆ **Advanced optical design allows direct ambient measurement**
- ◆ **Wide range choice with auto range (ppm to 100%)**
- ◆ **Temperature controlled for maximum stability**
- ◆ **Fast response with high accuracy, repeatability and low noise**
- ◆ **Full automatic microprocessor operation with auto start up, calibration with health checks and alarms**
- ◆ **4U high 19" rack enclosure, switchover 115/230 V AC**
- ◆ **2 year warranty**
- ◆ **Remote control (RS232) & logic status and control**
- ◆ **0-10Vdc and 4-20 mA outputs**

Gases measured include:-

**NH₃ SF₆ NF₃ CO₂ CO NO
N₂O SO₂ CFCs
HYDROCARBONS**

Applications include:-

**Toxic gas measurement
Specialist research
Semiconductor gases**

418 SPECIFICATIONS*

Detector

Dual chamber gas filled variable capacitor utilising RF detection to optimise sensitivity

Ranges

Dependant on gas, from ppm up to 100% concentration (see separate data sheet for full details).

Response

Dependant on gas and settings. Typically less than 15 seconds (5-95%) at 1 l/min flow, with time constant of 2 seconds (see separate data sheet for full details).

Bypass Flow sensitivity

Typically less than +/- 1 % change in reading from 0.2 to 2.0 l/min into ambient pressure exhaust.

Accuracy & Repeatability

Better than +/- 1 % of range or +/- 0.2 ppm, whichever is greater.

Detector Noise

Gas and range dependant, see separate data sheet. Range time constants can be configured to suit application sample noise. Longer time constants will reduce noise at the expense of response time.

Linearity

Better than +/- 0.5% of range

Ambient Temperature Effects

Zero : +/- 0.2 % per °C of highest range from 5 °C to 30 °C.
Span : Less than +/- 0.2 % of range from 5 °C to 30 °C.
Chart recorder output: add +/- 0.02% of range per °C.

Drift

Zero and span drift are less than 1% of range in 1 hour at constant temperature and pressure.

Display

240 x 64 pixel LCD display with switchable back-light shows concentration units and gas in large, clear characters.

Vertical bar graph of chart output with alarm markers and sample flow indication. Range, control and message areas. Multi screen operation for full analyser status and configuration.

Inputs

Digital control lines are provided for the remote control of Range, Input Port, Sleep (Standby), and Calibration. The inputs are arranged for contact closure to Common Return to represent the TRUE condition.

Outputs

Non isolated 0 - 10Vdc, isolated 4 - 20 mA analogue outputs of displayed range, Range analogue output is supplied. Digital lines are provided for the remote indication of the analyser status. Range, Input Port, Calibration in Progress, Calibration Failed, High Alarm, and Low Alarm are available.

Remote control

Serial interface RS232 using AK protocol all functions available. Baud rate from 1200 to 19200.

Logic control Full function control via digital inputs, status monitor via digital outputs.

Autocalibration

Controlled by microprocessor, RS232 or switched logic.

Sample condition

Gas to be analysed must not exceed 50 °C, with a dew point of 10 °C below local ambient temperature.

Safety

All high voltage/current circuits are shielded within the analyser.

Dimensions

19" Rack or bench mount 4U high. 550mm behind mounting face, 45 mm in front of mounting face.

Services

Sample, span and zero inlets - 1/4" tube fittings, bypass outlet 1/4". Zero grade N₂ for zero calibration and dual cell purge. Span calibration gas.

Approximate weight

18 Kg

Power

Switchable between 115 V and 230 V AC
+/- 15%. 50Hz and 60 Hz compatible.

OTHER PRODUCTS AVAILABLE

Signal manufacture a full range of analysers, Flame ionisation, Ultraviolet, Infra-red, Chemiluminescent and Paramagnetic instruments to measure a wide range of gases in applications including:- industrial, automotive emissions, air quality and continuous emission monitoring. Signal also manufacture integrated systems and the complete range of accessories for sample handling and calibration.

*Every effort has been made to ensure the accuracy of information supplied in this publication. However, due to a policy of continuous development, specifications may change without notice. Signal cannot be held responsible for any damage, loss, or expense arising as a result.

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