

# K1550 series Katharometers

Thermal conductivity analysers for binary gas mixtures

- Measured gases include: H<sub>2</sub>, He, Ar, CO<sub>2</sub>, SF<sub>6</sub>, Kr, Ne and Xe
- Proven technology from the katharometer experts
- Hazardous area options
- Corrosive gas sensor options
- Non-depleting remote sensor
- Fixed and variable compensation options



## Applications

- Hydrogen analysis
- Syngas
- Gasification
- Helium recovery
- Gas mixing
- Nitriding furnaces
- SF<sub>6</sub> in switchgear
- Fuel cell research

The **K1550 series analysers** are ideal for measuring the % level of one gas in a binary or pseudo-binary mixture. For example, air is composed of many gases but in known, fixed ratios, therefore hydrogen in air is a pseudo-binary mixture and can be measured with the K1550.

**Hydrogen, helium, dissociated ammonia, sulphur hexafluoride and noble gases** such as krypton and xenon are all well suited to this technique. In particular, katharometers are well suited to gases that have no dedicated sensor and therefore provide cost effective analysis solutions.

**A compensation input is available** as an option, either fixed or variable, via a 4-20 mA input. This extends the capability of the analyser to measure in more complex mixtures. The KG1550 series also features an integral oxygen sensor.

**All versions are available with a 0 – 100% range.** 0 – 20% and 80 – 100% ranges are also available, depending on the measured gas and the background. Hydrogen analysers can also be supplied with a 0 – 5% range. Multi-range instruments are sometimes available on request.

**Different sample conditioning systems** are available, standard or bespoke, according to the process conditions. For corrosive gases a variety of sensor assemblies and fittings are available to suit the specific gas. Hitech are prepared to recommend complete systems on receipt of full gas stream specifications.

**For hazardous area applications** the sensor may be mounted remotely in the hazardous area and connected through an MTL zener barrier to the electronics unit in a safe area. Alternatively, the electronics unit can be supplied in an EExd enclosure, with a remote keypad for non-intrusive calibration, for full hazardous area use.

## SPECIFICATION

### Ranges available

(Depends upon measured/background gas)  
0 - 20%, 80 - 100%, 0 - 100% for most gases  
0 - 5%, for most hydrogen ranges  
Consult Hitech for gas type and range

### Stability

<1 % f.s.d./month

### Accuracy

±2% f.s.d. depending upon span and gas

### Repeatability

<1% f.s.d.

### Speed of response

T90: 20 seconds (typ.)

### Sample flow

100-300ml/min for optimum performance

### Sample pressure

Nominally atmospheric, set by vent pressure

### Sample connections

Inlet and outlet: Captive seal compression suitable for 0.25inch (or 6mm) outside diameter tube

### Display

LCD 2 or 4 lines of alphanumeric characters

### Analogue output

4-20mA  
(User-programmable)

### Outputs (alarm)

Two alarms: each user-configurable to OFF, HIGH or LOW

### Relay outputs

Rated at 30V ac or dc, 0.5A, normally energised

### Ambient operating temperature range

Sensor: -10°C to 40°C  
Electronics: 0°C to 40°C  
(0-90% R.H. non-condensing)

### Storage temperature range

-5°C to +55°C  
(0-90% R.H. non-condensing)

### Supply Voltage

110/120V or 220/240V AC, 50/60Hz

### Power consumption

12VA

## MOUNTING

### Electronics unit

Panel mounting with two clamps

### Remote sensor unit

Wall/ bulkhead (optional)

## MATERIALS

### Enclosure

Glassfibre-reinforced Noryl to IP40  
(IP54 locking door option)

### Remote sensor

Supplied in IP65 housing with flowmeter and needle valve

## K1550FX (HAZARDOUS AREA VERSION)

As above specification but with certified stainless steel sensor block and MTL zener barrier (supplied loose)

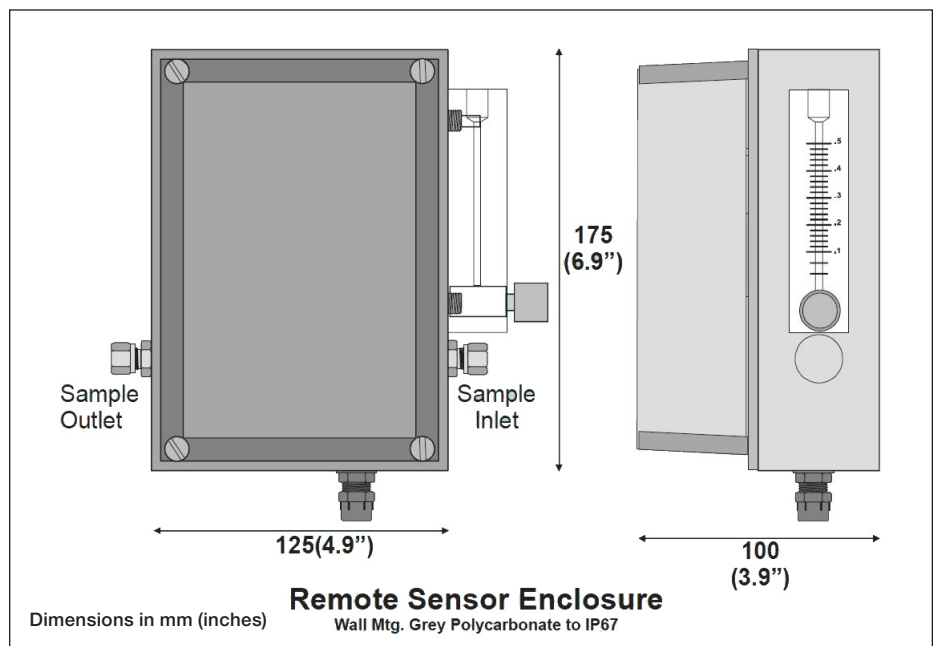
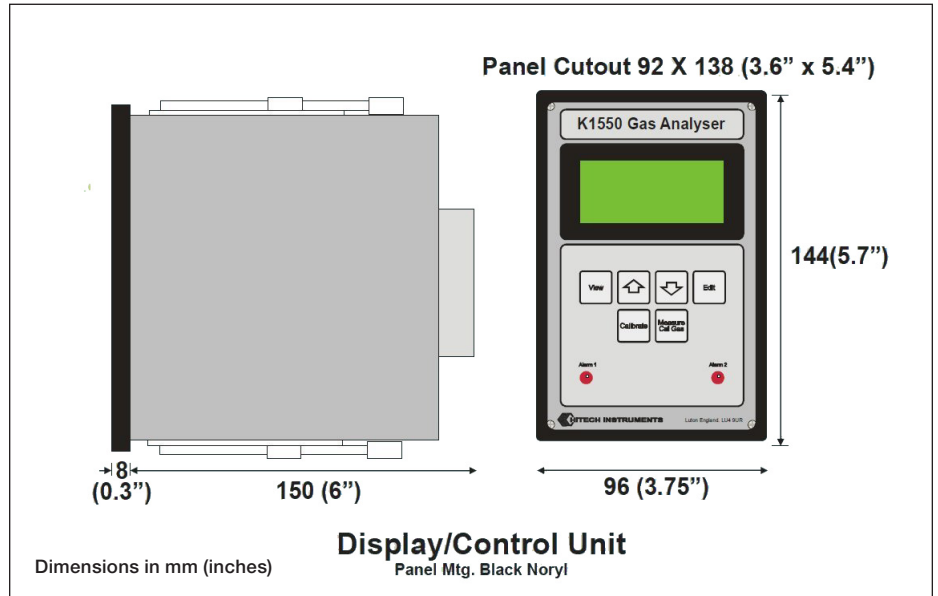
### Option

EEx d enclosure for K1550FX electronics unit

## ORDERING INFORMATION

Specify	Measured gas	Background gas	Range	Output	Supply voltage	Options
K1550R	Specify	Specify	0 - 100% 0 - 20%, 80 - 100%	4-20mA	110V or 220V	Compensation input
K1550FX	Specify	Specify				EEx enclosure

## DIMENSIONS



## K1550FX APPROVALS (for Europe - to ATEX Directive)

Authority	Product/Cert. No.	Standards	Approved for
DEMKO	210 Gas detection head DEMKO02ATEX132848X	EN50014 EN50018	⊕ II 2G EEx d IIB + H <sub>2</sub> T6 -40°C ≤ T <sub>a</sub> ≤ 40°C ⊕ II 2G EEx d IIB + H <sub>2</sub> T3 -40°C ≤ T <sub>a</sub> ≤ 150°C
BASEEFA	MTL766P barrier BAS01ATEX7202	EN50014 EN50020	⊕ II 1GD [EEx ia] IIC T6 -20°C ≤ T <sub>a</sub> ≤ 60°C