K1550 range of Katharometers

Thermal conductivity analysers for binary gas mixtures

- **Measured gases include: H_2, He, Ar, CO_2, SF_6 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**

APPLICATIONS

- **Hydrogen analysis**
- **Syngas**
- **Gasification**
- **Helium recovery**
- **Gas mixing**
- **Nitriding furnaces**
- **SF_6 in switchgear**
- **Fuel cell research**

The K1550 range of 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.

Powering Business Worldwide

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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

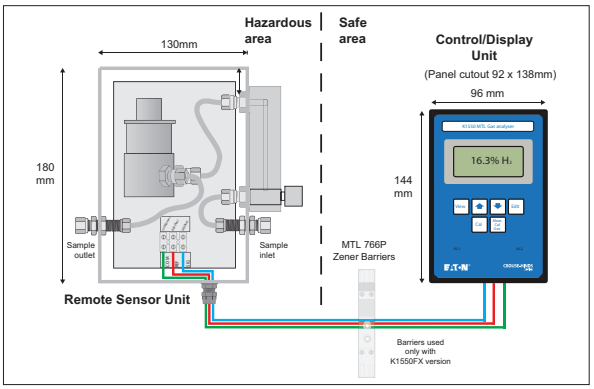
K1550FX (HAZARDOUS AREA VERSION)
As above specification but with certified stainless steel sensor block and MTL zener barrier (supplied loose)

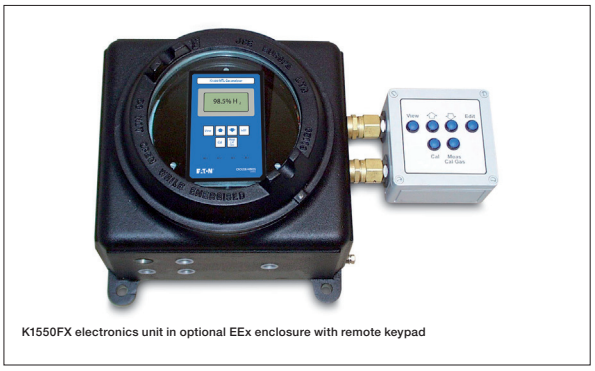
Option
EEx d enclosure for K1550FX electronics unit

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 electronics unit in optional EEx enclosure with remote keypad

APPROVALS (ATEX Directive - Europe) for K1550FX version

Authority	Product/Cert. No.	Standards	Approved for
DEMKO	210 Gas detection head DEMKO02ATEX132848X	EN50014 EN50018	E II 2G EEx d IIB + H_2 T6 -40°C ≤ T_a ≤ 40°C E II 2G EEx d IIB + H_2 T3 -40°C ≤ T_a ≤ 150°C
BASEEFA	MTL766P barrier BAS01ATEX7202	IEC60079-0 IEC60079-11	E II 1GD [EEx ia] IIC T6 -20°C ≤ T_a ≤ 60°C
ISSeP	EEx enclosure ISSeP03ATEX005	EN50014 EN50018 EN50281-1-1	E II 2GD EEx d IIC T6 (85°C) or T5 (100°C)

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