

G1010 Oxygen Analyser

With versatile galvanic sensor

What it gives you...

- ◆ A version specific for your range — % or ppm (parts per million)
- ◆ Sensor life of up to 5 years giving low running costs
- ◆ Sensor can be mounted close to sample giving a fast reaction to changes in oxygen concentration
- ◆ Sensor type for use in Zone 1 hazardous area
- ◆ Full autoranging—no range selection confusion
- ◆ Fully programmable analogue output - you can select 0-5V or 4-20mA
- ◆ Easy, single point calibration, no training required
- ◆ Sample systems to suit your application, less design work for you
- ◆ Sensors suitable for use in hydrogen, and high concentrations of CO₂ and H₂S

Typical Applications

- ◆ Nitrogen generators
- ◆ Nitrogen purged soldering systems
- ◆ Gas mixers
- ◆ Air separation plants
- ◆ Landfill / digester gas monitoring
- ◆ Glove boxes
- ◆ Medical monitoring



The oxygen analysers in the G1010 series use galvanic cell technology and can measure oxygen concentrations from 100% to 0.1ppm (parts per million) in a variety of gases.

Several versions of sensor and configuration are available, enabling the analyser to operate in a diverse range of applications. These include sensors suitable for operating in the presence of hydrogen and high concentrations of mildly acidic gases such as carbon dioxide and hydrogen sulphide. The linearised sensor output ensures very accurate readings in all variants.

A large multi-digit, autoranging LCD shows the concentration and user-adjustable parameters. Two alarm channels, user-programmable to be high, low or off, each provide one set of volt-free changeover contacts, and can be set to any concentration within the span of the instrument. A user programmable analogue output of 0 to 5v or 4 to 20mA is also available.

Remote sensor versions are available that allow the separation of the control/display module and sensor by up to several hundred metres. Depending on the distance and concentration being measured, the sensor is either connected directly to the display module (G1010R) or via an integral two wire transmitter (G1010Tx). A suitable zener barrier or galvanic isolator is used between the sensor assembly and the control/display module for applications in Zone 1 hazardous areas (G1010TxX).

Ease of use and reliability—a good combination.

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SPECIFICATION

Display

Multi-digit LCD – character height 12.7mm

Display Ranges

E version – display range 0.01% to 100%. Suitable for samples containing mildly acidic gases; eg, carbon dioxide, hydrogen sulphide etc

H version – display range 1ppm to 10%. Suitable for samples containing hydrogen

N version – display range 100ppm to 50%

L version – display range 0.1ppm to 10%

G1010Tx output range (Zone 1 Hazardous area version)

The range of the Tx version is fixed to any one of the ranges given below. The display resolution is fixed to that of the span of the range selected.

E sensor 0 to 100%, 0 to 25%, 0 to 5%

N sensor 0 to 100%, 0 to 25%, 0 to 5%, 0 to 5000ppm, 0 to 500ppm

L sensor 0 to 25%, 0 to 5%, 0 to 5000ppm, 0 to 500ppm, 0 to 50ppm

H sensor – range and resolution same as L cell

Display Resolutions

From 10% - 100% 0.1% (All sensors)

From 0.50% - 9.99% 0.01% (All sensors)

From 500ppm - 4999ppm 10ppm (N, L, and H sensors)

From 0ppm - 499ppm 1ppm (N and H sensors)

From 50ppm - 499ppm 1ppm (L sensor)

From 0ppm - 49.9ppm 0.1ppm (L sensor only)

Stability

Better than 2% of full-scale per month.

Cell life

E version – up to 5 years

N, L and H versions – up to 2 years

Sample connection

Captive seal compression fittings suitable for 0.25inch (6mm) outside diameter tube.

Speed of response in clean inert atmospheres

T90 – variable depending on sensor and concentration.

Approximately 3s at % levels and 20s at ppm levels. The ppm figure assumes that the sensor is purged down to the ppm concentration of interest.

Sample flow

Between 100 and 300ml/min for optimum operation

Sample temperature

–5 to +40°C (non condensing)

Analogue outputs

0 to 5V or 4 to 20mA (specify at time of order)

Each user-programmable between the following:

E version 0 to 5% to 0 to 100%

N version 0 to 50ppm to 0 to 50%

L and H version 0 to 50ppm to 0 to 10%

Alarm outputs

Two alarms, each user-programmable for mode - HIGH, LOW or OFF

Hysteresis programmable from 0 to 10% of set point

Volt-free changeover contacts rated at 30VAC/DC max., 1A max., max power 30W, normally energised

Ambient temperature

0 to 40°C

Power supply

110/120V or 220/240V, 50/60Hz or 24V dc

Max power consumption 6W

Dimensions & weight (G1010 panel version)

96w x 96h x 196d (mm), 1.6kg

Enclosure

Panel-mounting glass-reinforced Noryl case to IP30. Optional lockable transparent door to IP54 is available.

Other Instruments based on zirconia technology

Z1030 Remote mounted



Z1110 Wall mounted



Z4010 Transportable



Other instruments based on galvanic technology

Zone 1 EEx d option for G1010 electronics



G250 Benchtop, multirange



G610 wallmounted



We also have a range of instruments suitable for the following applications:

- Workplace Safety
- Hydrogen and Helium measurement
- Power plant and generator cooling
- Inert gas blanketing
- Toxic and flammable gas measurement
- Landfill / digester gas monitoring
- Chlorine production
- Gas blending

Visit www.hitech-inst.co.uk for more information

In keeping with a policy of continuous development, Hitech Instruments Ltd reserves the right to change any part of this specification without notice

Great Marlings, Butterfield,
Luton, Bedfordshire,
England LU2 8DL
Tel: +44 (0)1582 456900
Fax: +44 (0)1582 400901
Web site: <http://www.hitech-inst.co.uk>
E-mail: enq@hitech-inst.co.uk

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