

Instructions specific to hazardous area installations
(reference European ATEX Directive 2014 / 34 / EU, Annex II, 1.0.6.)

The following instructions apply to equipment covered by certificate numbers Sira 01ATEX1204X.

Marking

The CDH300 Gas Sensing Head Certification marking is shown below:

Certificate Number: SIRA 01ATEX1204X
Product Categories:  II 2 G
Ex db IIC T6 Gb (T_{amb}: -20°C to +40°C)

Instructions for Safe Installation

- Pellistors are not sensitive to orientation and can be mounted in any orientation with no significant effect on performance. The mounting method should ensure a gas tight seal.
- Sensor pins must not be soldered to, as excessive heat may damage the sensor. Connectors are available to assist in mounting the sensors to PCB's. Please contact City Technology for further details.
- The equipment has not been assessed as a safety related device (as referred to by Directive 2014 / 34 / EU Annex II, clause 1.5).
- Installation of the equipment shall be carried out by suitably trained personnel in accordance with the applicable code of practice (e.g. EN/IEC 60079-14).

Instructions for Safe Use

- It is recommended that confirmation of adequate sensor performance be conducted on a regular basis by means of a defined, sensor calibration procedure. The calibration frequency will depend upon the environment in which the sensor is operated and on the perceived level of risk from the build up of flammable atmospheres.
- Certain substances are known to have a detrimental effect on catalytic elements as used in the CDH300 Gas Sensing Head.
- The CDH300 is designed to be used in safety critical applications. To ensure that the sensor and/or instrument in which it is used are operating properly, it is a requirement that the function of the device is confirmed by exposure to target gas (bump check) before each use of the sensor and/or instrument. Failure to carry out such tests may jeopardise the safety of people and property. Use of the sensor outside of these parameters may result in inaccurate gas measurement and possible sensor damage.
- Excessive vibration and shock can result in mechanical breakage of the sensor.

Poisoning

Some compounds will decompose on the catalyst and form a solid barrier over the catalyst surface. This action is cumulative and prolonged exposure will result in an irreversible decrease in sensitivity. The most common of these substances are lead or sulphur containing compounds, silicones and phosphates.

Inhibition

Certain other compounds, especially hydrogen sulphide and halogenated hydrocarbons, are absorbed or form compounds that are absorbed by the catalyst. The resultant loss of sensitivity is temporary and in most cases a sensor will recover after a period of operation in clean air.

- The certification of this equipment relies upon the following materials used in its construction;

Enclosure material: 316 stainless steel, which contains less than 6% magnesium.

Sinter: 316 stainless steel 316L

Cement: CW2248/HY956EN

Manufacturer	Ciba-Geigy
Type of compound	Epoxy resin
Colour	Beige (natural)
Filler type and %	55.2% trihydrated Al ₂ O ₃
Other additives	8.3%
Surface treatments	None
Temperature index	170°C
City Tech reference	RM 497

- If the equipment is likely to come into contact with aggressive substances, then it is the responsibility of the user to take suitable precautions that prevent it from being adversely affected, thus ensuring that the type of protection is not compromised.

Aggressive substances: e.g. acidic liquids or gases that may attack metals, or solvents that may affect polymeric materials.

Suitable precautions: regular checks as part of routine inspections or establishing from the material's data sheet that it is resistant to specific chemicals.

- The equipment must comply to the following standards;
EN 60079-0: 2012 + all: 2013
EN 60079-1: 2014

Performance Specifications and Limitations of Use

Measurement Range	0-100% LEL	Operating Temperature Range	-20°C to +40°C
Operating Voltage	2.0 ± 0.1 VDC	Operating Pressure Range	1 atm ± 10%
Detector Operating Current	300 mA	Operating Humidity Range	0-100%rH non-condensing

Special Conditions for Safe Use (Denoted by X After the Certificate Number)

The CDH Gas Sensing Head shall only be installed in a suitably certified increased safety enclosure, which provides physical protection for the cable, and protects the epoxy resin potting compound from light. The installation of the CDH Sensing Head in the enclosure shall maintain an ingress protection rating better than code IP54 as stated in IEC 60529.

The CDH-Series Gas Sensing Head shall not be used as a safety related device.

Return of Faulty Product

The CDH300 sensor is a non-repairable product. Faulty products should be returned to the manufacturer address below, accompanied by the manufacturers RMA form (found within the quality section of www.citytech.com).

Manufacturer Address : City Technology Ltd.,
City Technology Centre,
Walton Road,
Portsmouth,
Hampshire,
Great Britain,
PO6 1SZ

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