



Ex db IIC T6 Gb



II 2G Ex db IIC T6 Gb  
II 2D Ex tb IIC T85°C Db



Detectors using electrochemical technology with flameproof housing for use in explosive gas atmospheres and offering a high level of protection for toxic gases and oxygen.

There is a version of the detector, also ATEX certified, offering a high level of protection and destined to be used, also, in explosive dust atmospheres.



LOM 10ATEX2076

| Available gases                  | Standard range | Installation height approx. (**) | Coverage area approx. (**) |
|----------------------------------|----------------|----------------------------------|----------------------------|
| Carbon monoxide CO               | 0-300ppm       | 1,50 to 2m from floor            | 200 m <sup>2</sup>         |
| Sulphidric acid H <sub>2</sub> S | 0-100ppm       | 1,50m from floor                 | 100 m <sup>2</sup>         |
| Ammonia NH <sub>3</sub>          | 0-100ppm       | 30cm from ceiling                | 75 m <sup>2</sup>          |
| Nitrogen dioxide NO <sub>2</sub> | 0-20ppm        | 40/50cm from floor               | 100 m <sup>2</sup>         |
| Oxygen O <sub>2</sub>            | 0-25% vol      | 1,70 to 2m from floor            | 100 m <sup>2</sup>         |
| *Nitrogen Monoxide NO            | 0-100ppm       | 1m from floor                    | 25 m <sup>2</sup>          |
| Cloro Cl <sub>2</sub>            | 0-10ppm        | 1m from floor                    | 100 m <sup>2</sup>         |
| Sulfur Dioxide SO <sub>2</sub>   | 0-20ppm        | 30/40cm from floor               | 75 m <sup>2</sup>          |
| Hydrochloric acid HCl            | 0-50ppm        | 1m from floor                    | 25 m <sup>2</sup>          |
| (***) Hydrogen H <sub>2</sub>    | 0-500 ppm      | 30cm from ceiling                | 25 m <sup>2</sup>          |

\* This gas is extremely difficult to detect in air, due to its rapid conversion into NO<sub>2</sub> upon coming into contact with oxygen [O<sub>2</sub>].

\* Installation height and coverage, apply the local regulations in force in each case.

\*\*\* Special version for early detection of hydrogen leaks from lithium-ion batteries..

## AVAILABLE FORMATS

- RS485 addressable 4 wires connection, compatible with **DURGAS** control panels, up to 16 detectors can be installed in parallel in the same loop. This versions is also available with its own relay output.
- 4-20mA standard with 3 wire connection, compatible with any system with standard inputs of this kind.

## SPECIAL FUNCTIONS

Provided with a 12bit microprocessor that allows total control over sensor status and electronics.

Thermal compensation that allows a correct response from each of the electrochemical sensors when faced with temperature variations, except for **DURTOX-X** O<sub>2</sub> that due to its different behaviour does not require such a feature..

Self testing hardware.

Digital filter based on variable samplings of the sensors average values.

Auto-zero automatic adjustment This special function monitors zero value in relation to sensor response and electronics. The following protocol is used for this: every 30 minutes an automatic test is performed, if drift is ± 2% of the full scale value it will readjust itself to zero, otherwise it will be shown as a readout.

Other functions accessible with factory based methodology allow us to check on the sensor remaining useful life, date of manufacture, date of last calibration and serial number.

## APPLICATIONS

Explosive environments: Pharmaceutical industries, boiler rooms, cogeneration, laboratories, chemical industries, petrochemical industries, petrol stations, early detection of hydrogen leaks from lithium-ion batteries, etc.

Explosive dust environments: Thermal power plants, silos, beer factories, etc...

## TECHNICAL CHARACTERISTICS

|   |   |
|---|---|
| Technology  | 12bit Microprocessor and electrochemical sensors  |
| Power   | 10 to 30V DC (4-20mA) / 10 to 15V (RS485)   |
| Maximum consumption                               | 43mA to 12V DC depending on model   |
| Useful life                                       | >3 years for CO, ± 2 years other gases (on air)   |
| Resolution  | ± 1% bottom of scale  |
| Repeatability                                     | ± 2% bottom of scale  |
| Initialization stabilization delay -all versions- | Approx. 5 minutes   |
| T90 response time                                 | CO, SO <sub>2</sub> & NH <sub>3</sub> ≤30s - H <sub>2</sub> S ≤ 20s - O <sub>2</sub> ≤ 15s<br>NO ≤40s - Cl <sub>2</sub> ≤ 60s - NO <sub>2</sub> ≤20s - HCl ≤70s - H <sub>2</sub> ≤70s |
| Temperature and humidity ranges                   | -10°C to +50°C - 20-90% Hr  |
| Working atmospheric pressure                      | 90-110 KPa  |
| Maximum permitted air velocity                    | <0.1-0.5m/s (depending on gas)  |
| Maintenance periods                               | Annual -recommended-  |
| Explosive atmosphere code (dust/gas)              | Ex db IIC T6 Gb / Ex tb IIIC T85°C Db   |
| Housing material                                  | Aluminium and Epoxy paint   |
| Stopping plug material                            | PLG type  |
| Cable gland material and cable diameter           | Natural brass and Santoprene joints 6-10mm <sup>2</sup>   |
| Adaptor and sintered filter material              | Stainless steel.  |
| Alarm relay module (optional)                     | Switched output dry contact 3A 250V AC fuse protected   |
| Cable type (RS485)                                | 4 wire shielded (power 2 x 1,5 + 2 x 0,25 twisted pair A and B communications) recommended minimum  |
| Cable type (4-20mA)                               | 3 x 1,5mm Ø hose, recommended minimum   |
| Maximum installation distance                     | 1000m (RS485) and 350m (4-20mA)   |
| Dimensions (mm) & weight (gr)                     | 155 x 180 x 110 / 1.700 aprox   |

## GUARANTEE

**DURTOX-X** detectors are guaranteed against any manufacturing defect for 1 year from the date of purchase. Full guarantee conditions are included in the installation manual for the detector.

**DURAN ELECTRONICA** reserves the right to introduce improvements and modifications to this product without previous notice.