

Toxic gases, refrigerants, and early detection of H<sub>2</sub>

**Standalone programmable detector** designed for the detection of toxic gases and O<sub>2</sub> using electrochemical technology and CO<sub>2</sub> using infrared technology.

**Provided** with a backlit 16 X 2 line display, three keys, programmable relay output and internal acoustics.

#### Special functions:

- Digital control of sensor status
- Hardware status automatic testing
- Digital filter based on variable samplings of the averages in sensor values
- Automatic thermal compensation that supplies a correct answer when faced with temperature variations (STANDGAS O<sub>2</sub> does not need this characteristic)
- Exact automatic zero adjustment. Monitors zero in relation to the sensor response and the electronics. STANDGAS automatically carries out a test every 30 minutes: if the drift is greater or lesser than 2% of the total value of the scale, it will readjust to zero; if not the data will be shown as a reading
- Other functions only accessible in factory allow it to know the remaining useful life of the sensor, date of manufacture and of last calibration, as well as the serial number

- **Standalone functioning:** without connection to a control panel
- **Protection** grade IP65
- **Universal support** with inclination for ceiling and floor – optional
- **Power adapter**, 230V with capacity to connect from 1 to 10 units of STANDGAS detectors – optional

#### AVAILABLE GASES

Carbon Monoxide CO – Nitrogen Dioxide NO<sub>2</sub> – Ammonia NH<sub>3</sub> – Hydrogen sulfide H<sub>2</sub>S – Chlorine Cl<sub>2</sub> – Carbon dioxide CO<sub>2</sub> – Sulfur dioxide SO<sub>2</sub> – and Oxygen O<sub>2</sub> Hydrogen H<sub>2</sub>, Nitric Oxide NO, Nitrous Oxide N<sub>2</sub>O, Formaldehyde CH<sub>2</sub>O, Ozone O<sub>3</sub> and EXP Refrigerants:SF6,R507,R134a,R404a,R407a,R407f,R410a,R449,R417a,R448a,R227ea,R1233zd,R513a,R422d,R125,SF6,R143a,R452<sub>a</sub>,R32, R1234yf, R1234ze, R452b, R454A, R45 4B, R454C

#### APPLICATIONS

- Pharmaceutical laboratories – University laboratories – Aviation industries – Galleries – Distilleries
- Livestock farms – Boiler rooms – Industries in general

#### WARRANTY

STANDGAS PRO LCD detectors are guaranteed against any manufacturing defect for 1 year after date of purchase of the equipment. Warranty conditions are included in the installation manual of the detector.

## FACTORY PARAMETERS

| GAS                                                                                                                                                | INSTALLATION HEIGHT                           | RANGE        | PREALARM L | ALARM L    | RELAY AT REST | REARM  | AREA COVERED              |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|--------------|------------|------------|---------------|--------|---------------------------|
| CO                                                                                                                                                 | 1.50/2m. Floor                                | 0-300 ppm    | 50 ppm     | 75 ppm     | DEACTIVATED   | AUTO.  | Approx. 200m <sup>2</sup> |
| NO <sub>2</sub>                                                                                                                                    | 1m. Floor                                     | 0-20 ppm     | 3 ppm      | 5 ppm      | DEACTIVATED   | AUTO.  | Approx. 100m <sup>2</sup> |
| NH <sub>3</sub>                                                                                                                                    | 30/40cm. Ceiling                              | 0-100 ppm    | 5 ppm      | 8 ppm      | DEACTIVATED   | AUTO.  | Approx. 50m <sup>2</sup>  |
| H <sub>2</sub> S                                                                                                                                   | 1m. Floor                                     | 0-100 ppm    | 5 ppm      | 10 ppm     | DEACTIVATED   | AUTO.  | Approx. 100m <sup>2</sup> |
| CO <sub>2</sub>                                                                                                                                    | 1m. Floor                                     | 0-20.000 ppm | 5.000ppm   | 10.000 ppm | DEACTIVATED   | AUTO.  | Approx. 100m <sup>2</sup> |
| O <sub>2</sub>                                                                                                                                     | 1.70m. Floor                                  | 0-25%        | 19%*       | 18%*       | DEACTIVATED   | AUTO.  | Approx. 100m <sup>2</sup> |
| Cl <sub>2</sub>                                                                                                                                    | 30/40cm. Floor                                | 0-10 ppm     | 0.5 ppm    | 1 ppm      | DEACTIVATED   | AUTO.  | Approx. 75m <sup>2</sup>  |
| SO <sub>2</sub>                                                                                                                                    | 30/40cm. Floor                                | 0-20 ppm     | 2 ppm      | 5 ppm      | DEACTIVATED   | AUTO.  | Approx. 100m <sup>2</sup> |
| H <sub>2</sub>                                                                                                                                     | 30/40cm Floor                                 | 0-500ppm     | 50ppm      | 100 ppm    | DEACTIVATED   | AUTO.  | Approx. 25m <sup>2</sup>  |
| NO                                                                                                                                                 | 1m. Floor                                     | 0-20 ppm     | 3 ppm      | 5 ppm      | DEACTIVATED   | AUTO.  | Approx. 25m <sup>2</sup>  |
| N <sub>2</sub> O                                                                                                                                   | 40/50cm. Floor                                | 0-1000 ppm   | 20 ppm     | 40 ppm     | DEACTIVATED   | AUTO.  | Approx. 25m <sup>2</sup>  |
| CH <sub>2</sub> O                                                                                                                                  | 1.70/2m. Floor                                | 0-5 ppm      | 0.30 ppm   | 0.50 ppm   | DEACTIVATED   | AUTO.  | Approx. 25m <sup>2</sup>  |
| O <sub>3</sub>                                                                                                                                     | 1m. Floor                                     | 0-10 ppm     | 0.30 ppm   | 0.50 ppm   | DEACTIVATED   | AUTO.  | Approx. 25m <sup>2</sup>  |
| EXP                                                                                                                                                | It depends on the gas.                        | 0-100% LEL   | 20%        | 40%        | DEACTIVATED   | AUTO.  | Approx. 16m <sup>2</sup>  |
| REFRIGERANT GASES                                                                                                                                  |                                               |              |            |            |               |        |                           |
| SF <sub>6</sub> , R507, R134a, R404a, R407a, R407f, R410a, R449, R417a, R448a, R227ea, R1233zd, R513a, R422d, R125, SF <sub>6</sub> , R143a, R452a | 30-40 cm above the floor (almost all of them) | 0-2000ppm    | 300ppm     | 600ppm     | DEACTIVATED   | MANUAL | Approx. 25m <sup>2</sup>  |
| R32, R1234yf, R1234ze, R452b, R454A, R454B, R454C                                                                                                  | It depends on the gas                         | 0-100% LEL   | 20%        | 40%        | DEACTIVATED   | MANUAL | Approx. 25m <sup>2</sup>  |

## TECHNICAL CHARACTERISTICS

|                                     |                                                                                                                                                                       |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Technology                          | Electrochemical/infrared sensor + 12bit microprocessor                                                                                                                |
| Power supply tension                | From 10V to 24V DC                                                                                                                                                    |
| Maximum consumption at 12V DC       | 43 mA at rest – 73 mA, acoustics and relay activated / 3 mA and 30 mA CO <sub>2</sub>                                                                                 |
| Gas measurement range               | See Factory Parameters table                                                                                                                                          |
| Resolution                          | ± 1% F.S. toxic –0.25% O <sub>2</sub> and 1.5% CO <sub>2</sub>                                                                                                        |
| Reproducibility                     | ± 2% F.S.                                                                                                                                                             |
| Annual span drift                   | ± <1% electrochemical / 0.7% CO <sub>2</sub>                                                                                                                          |
| Stabilization time                  | < 5 minutes – all specifications –                                                                                                                                    |
| Response time T90                   | CO, NO <sub>2</sub> SO <sub>2</sub> & NH <sub>3</sub> ≤ 30s / H <sub>2</sub> S ≤ 20s / O <sub>2</sub> ≤ 15s / CO <sub>2</sub> ≤ 15s                                   |
| Approx. useful life (MTBF)          | 2 years electrochemical NH <sub>3</sub> , H <sub>2</sub> S, NO <sub>2</sub> Cl <sub>2</sub> SO <sub>2</sub> & O <sub>2</sub> , 4 years CO & > 6 years CO <sub>2</sub> |
| Maintenance periods                 | Annual – recommended –                                                                                                                                                |
| Environmental conditions            | -10°C to +50°C and from 0 to 90% H.R. without condensation                                                                                                            |
| Atmospheric pressure limits         | 80 to 110 kPa (0.8 to 1.1 bar)                                                                                                                                        |
| Alarm relay                         | Commutated output dry contact 3A 250V AC fuse protected                                                                                                               |
| Coverage area                       | See Factory Parameters table                                                                                                                                          |
| Material and protection grade       | Makrolon & ABS IP65                                                                                                                                                   |
| Cable entry and diameter            | Cable glands /6 –10mm <sup>2</sup>                                                                                                                                    |
| Dimensions in mm. and weight in gr. | 120 X 160 X 60 / 350                                                                                                                                                  |

Characteristics under conditions of 20 °C, 50% RH, 1000 mbar (100 kPa)

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