

DURTOX RS485 IP65

TOXIC GAS AND OXYGEN DETECTOR BY ELECTROCHEMICAL TECHNOLOGY

It is manufactured to detect the following gases:
 Hydrogen Sulfide (H₂S), Hydrochloric Acid (HCl), Ammonia (NH₃), Chlorine (Cl₂), Sulfur Dioxide (SO₂), Nitrogen Dioxide (NO₂), Formaldehyde (CH₂O), Nitrogen Monoxide (NO), Oxygen (O₂) and Ozone (O₃).

It is an RS485 detector with a 4-wire connection, compatible with the DURGAS control panel manufactured by DURÁN ELECTRÓNICA, and up to 16 detectors can be installed in parallel in the same loop.

This detector is also manufactured in 4-20mA 3-wire format compatible with the DURGAS control panel through a 4-20mA to RS485 converter interface.



RELAY OUTPUT (optional):

Versions with local relay output are available for all gases.

AVAILABLE GASES	STANDARD RANGE	INSTAL. HEIGHT APPROX.	COVERAGE AREA APPROX.
Hydrogen Sulfide (H ₂ S)	0-100 ppm	1,50m from floor	100 m ² approx.
Hydrochloric Acid (HCl)	0-50 ppm	1m from floor	25 m ² approx.
Ammonia (NH ₃)	0-100 ppm	30 cm from ceiling	75 m ² approx.
Chlorine (Cl ₂)	0-10 ppm	1m from floor	100 m ² approx.
Sulfur Dioxide (SO ₂)	0-20 ppm	30/40 cm from floor	75 m ² approx.
Nitrogen Dioxide (NO ₂)	0-20 ppm	40/50 cm from floor	100 m ² approx.
Formaldehyde (CH ₂ O)	0-5 ppm	1,70m a 2m from floor	25 m ² approx.
(*) Monóxido de Nitrógeno (NO)	0-100 ppm	1 m from floor	25 m ² approx.
Oxygen (O ₂)	0-25% vol.	1,70m a 2m from floor	100 m ² approx.
Ozone (O ₃).	0-10 ppm	1m from floor	25 m ² approx.

(* This gas is extremely difficult to detect in air, due to its rapid conversion into NO₂ upon coming into contact with oxygen (O₂).

Installation height and coverage: apply the local regulations in force in each case.

APPLICATIONS:

DURTOX detectors are designed to be used in an environment in which the formation of toxic atmospheres due to gases or vapors is probable, ensuring the highest level of protection, such as in laboratories, cogeneration, pharmaceutical industry, fermentation rooms, climatic chambers, water treatment plants, etc...

SPECIAL FUNCTIONS:

- ◇ Provided with a 12bit microprocessor that allows total and precise 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 O₂, which due to its different functioning, does not require such a feature.
- ◇ Self testing hardware.
- ◇ Digital filter based on variable samplings of the sensor's average values.
- ◇ Zero exact 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 $\pm 2\%$ of the full scale value it will readjust itself to zero, otherwise it will be shown as a reading.
- ◇ Other functions accessible with factory based methodology allow us to check on the sensor's remaining useful life, date of manufacture, date of last calibration and serial number

TECHNICAL CHARACTERISTICS:

Technology	12bit Microprocessor and electrochemical sensor
Power	10V to 15V DC
Maximum consumption aprox.	43mA at 12V DC
Useful Life	3 years: O ₂ // 2 years rest of gases (in clean air). Pre-calibrated heads interchangeable on site.
Resolution	0,1 ppm NO ₂ , H ₂ S, Cl ₂ , SO ₂ // 0,5 ppm HCl, NO, CH ₂ O 2% O ₂ // 0,3 ppm O ₃ // 2 ppm NH ₃
Repeatability	$\pm 1\%$ full scale
Stabilization initial delay - all services -	Approx. 5 minutes
T90 response time	SO ₂ & NH ₃ $\leq 30s$ // H ₂ S $\leq 20s$ // O ₂ $\leq 15s$ // NO $\leq 40s$ Cl ₂ , O ₃ $\leq 60s$ // NO ₂ $\leq 20s$ // HCl $\leq 70s$ // CH ₂ O $\leq 90s$
Temperature and humidity ranges	-10°C to +50°C - 20-90% RH
Working atmospheric pressure	90-110 Kpa
Maximum permitted Air velocity	<0.1-0.5m/s (depending on gas)
Maintenance period	Annual - recommended -
Protection grade	IP65
Alarm relay (Optional)	Switched output dry contact 3A 250V AC fuse protected
Cable type and communication system	4 wire shielded (power 2 x 1,5 + 2 x 0,25 twisted pair A and B communications) RS485
Maximum installation distance	1000 m
Dimensions (mm) & weight (gr)	125 x 150 x 63 / 300

WARRANTY:

DURTOX detectors are guaranteed against any manufacturing defect for 1 year from the date of purchase of the equipment.

Full warranty conditions are included in the installation manual for the detector.

DURAN ELECTRÓNICA S.L reserves the right to introduce improvements or modifications to this product without prior notice.