



**DURTOX** are detectors using electrochemical technology for the detection of toxic gases and O<sub>2</sub>. Two versions are manufactured, without alarm output or with two voltage-free relay outputs.

Available gases	Standard range	Installation height	Coverage area	Level 1 / Level 2
Ammonia NH <sub>3</sub>	0-100 ppm	30 cm from ceiling	75 m <sup>2</sup> approx.	20-30 ppm
Oxygen O <sub>2</sub>	0-25% vol	1,70 to 2 m from floor	100 m <sup>2</sup> approx	17% 15%
Chlorine Cl <sub>2</sub>	0-10 ppm	1 m from floor	100 m <sup>2</sup> approx	2-3 ppm
Carbon Monoxide CO	0-300 ppm	1,50 to 2 m from floor	200 m <sup>2</sup> approx	60-90 ppm
Sulphydic Acid H <sub>2</sub> S	0-100 ppm	1,50 m from floor	100 m <sup>2</sup> approx	20-30 ppm
Nitrogen Dioxide NO <sub>2</sub>	0-20 ppm	40/50 cm from floor	100 m <sup>2</sup> approx	4.02 -5.98 ppm
Nitrogen Monoxide NO	0-100 ppm	1 m from floor	25 m <sup>2</sup> approx	20 - 30 ppm
Sulfur Dioxide SO <sub>2</sub>	0-20 ppm	30/40 cm from floor	75 m <sup>2</sup> approx	4-6 ppm



**Levels 1 and 2 of the models with relay output are programmed at the factory. See other available levels.**

## AVAILABLE FORMATS

- 4-20mA with 3-wire connection, compatible with **DURGAS** control panels through an 4-20mA - RS485 optional conversion interface, and with any system with inputs of this type.
- As the previous one but with two alarm outputs with C,NO, and NC relay.

## 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.

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 ± 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.

## 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...

## TECHNICAL CHARACTERISTICS

<b>Technology</b>	12bit Microprocessor and electrochemical sensor
<b>Power</b>	12 to 24V DC
<b>Maximum consumption aprox.</b>	28mA at 24 VDC 2 on outputs 55ma at 12 VDC 2 on outputs
<b>Useful life</b>	± 3 years in clean air CO and O <sub>2</sub> , 2 years other gases, NH <sub>3</sub> , NO <sub>2</sub> , H <sub>2</sub> S, NO, Cl <sub>2</sub> , SO <sub>2</sub> .
<b>Resolution</b>	1 ppm CO, 2 ppm NH <sub>3</sub> , 0,1 ppm NO <sub>2</sub> , H <sub>2</sub> S, Cl <sub>2</sub> , SO <sub>2</sub> , 0,5 ppm NO, & 2% O <sub>2</sub> .
<b>Repeatability</b>	± 2% full scale
<b>Stabilization initial delay - all performances -</b>	5 minutes -approx-
<b>Response time T90</b>	CO, SO <sub>2</sub> and NH <sub>3</sub> ≤30s - H <sub>2</sub> S ≤ 20s - O <sub>2</sub> ≤ 15s NO ≤40s - Cl <sub>2</sub> ≤ 60s - NO <sub>2</sub> ≤20s
<b>Temperature and humidity ranges</b>	-10°C to +50°C - 20-90% Hr
<b>Working atmospheric pressure</b>	90-110 Kpa
<b>Maximum permitted air velocity</b>	<0.1-0.5m/s (depending on gas)

<b>Maximum loop resistance (4-20mA)</b>	250Ω
<b>Maximum output current (4-20mA)</b>	21.3 mA (Typ)
<b>Loop failure current (4-20mA)</b>	< 2mA
<b>Loop and sensor optical failure indicators</b>	Through local LED (4-20mA)
<b>Alarm outputs</b>	Two voltage-free tension dry contacts C,NO, NC 3A 250V AC protected with fuse (non capacitive)
<b>Housing material</b>	Makrolon and ABS
<b>Maintenance periods</b>	1 year -recommended-
<b>Protection grade</b>	IP65
<b>Cable type</b>	3-wire hose (3 x 1,5 m <sup>2</sup> ø)
<b>Cable diameter</b>	6-10mm <sup>2</sup>
<b>Recommended maximum installation distance</b>	350/400 m
<b>Dimensions (mm) and weight (gr)</b>	125 x 150 x 63 / 300

\* CO-NO<sub>2</sub>-NO according to EN-50545

## OPERATION

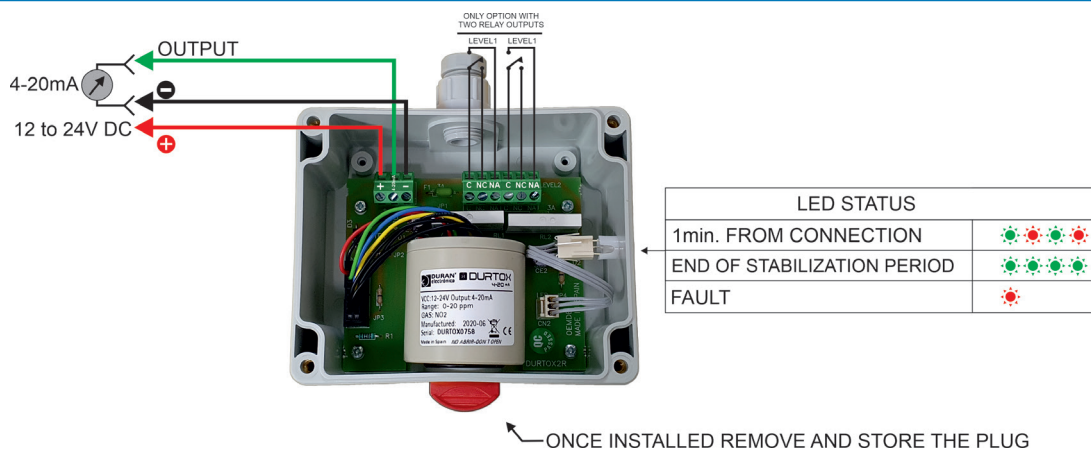
Once powered the stabilization period of 1 min. will start.

During this time output current will be 2mA.

Once the stabilization period is finished, output current will change to 4mA without presence of gas.

The fault LED will turn on in case of an internal fault, or when output current goes above 21mA or under 2mA.

## CONNECTIONS



## WARRANTY

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

## ORDERING INFORMATION

When placing your order please take note of the correct product code you require and make sure that product description is correct.

### 4-20mA detectors with plastic housing (IP65)

DSQN4NH3/F	DURTOX NH3 0-100ppm 4-20 mA Plastic housing IP65
DSQN4-02	DURTOX O2 0-25% 4-20 mA Plastic housing IP65
DSQN4CL2/B	DURTOX Cl2 0-10ppm 4-20 mA Plastic housing IP65
DSQN4-CO/H	DURTOX CO 0-300ppm 4-20 mA Plastic housing IP65
DSQN4H2S/F	DURTOX H2S 0-100ppm 4-20 mA Plastic housing IP65
DSQN4NO2/C	DURTOX NO2 0-20ppm 4-20 mA Plastic housing IP65
DSQN4-NO/F	DURTOX NO 0-100ppm 4-20 mA Plastic housing IP65
DSQN4S02/C	DURTOX SO2 0-20ppm 4-20 mA Plastic housing IP65

### 4-20mA detectors with plastic housing and relay(IP65)

DSQN4NH3/Fr	DURTOX NH3 0-100ppm 4-20 mA Plastic housing with 2 relays
DSQN4-02r	DURTOX O2 0-25% 4-20 mA Plastic housing with 2 relays
DSQN4CL2/Br	DURTOX Cl2 0-10ppm 4-20 mA Plastic housing with 2 relays
DSQN4-CO/Hr	DURTOX CO 0-300ppm 4-20 mA Plastic housing with 2 relays
DSQN4H2S/Fr	DURTOX H2S 0-100ppm 4-20 mA Plastic housing with 2 relays
DSQN4NO2/Cr	DURTOX NO2 0-20ppm 4-20 mA Plastic housing with 2 relays
DSQN4-NO/Fr	DURTOX NO 0-100ppm 4-20 mA Plastic housing with 2 relays
DSQN4S02/Cr	DURTOX SO2 0-20ppm 4-20 mA Plastic housing with 2 relays

Enquire about other available ranges

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