

DTX 420

toxic and oxygen
gas detector

Cl_2 - CO - NH_3 - O_2 ...



- ✓ Principle: **ELECTROCHEMICAL**
- ✓ Connection: 2 wires
- ✓ Output signal: 4..20 mA



DALEMANS
GAS DETECTION

THE BELGIAN PIONEER IN GAS DETECTION

To guarantee safety and performance, all gas detection installations must be calibrated and maintained regularly in accordance with the manufacturer's instructions.

DTX 420

The **DTX 420** detector was designed to continuously measure the presence of **various toxic gases** in the air such as **carbon monoxide** and **ammonia** but also **oxygen**.

Its **electrochemical** measurement principle gives it its major assets:

- **measurement stability,**
- **selectivity of the gas to be detected and high accuracy.**

By connecting it to a Dalemans unit or to any other instrument that can receive a **4.20 mA signal**, you will benefit from a **highly flexible installation**.

This detector is especially suitable for **applications like underground car parks, laboratories and cooling systems**.



CHARACTERISTICS

Sensing head	Brass (CuZn39Pb3) stainless steel 1.4404 (AISI 316L)
Junction box	Polystyrene
Dimensions / Weight	165 x 94 x 57 mm / 540 g
Sensor type	Electrochemical
Output signal	4..20 mA current loop (2-wires)
Setting	Zero and calibration by internal potentiometers
Accuracy	± 1.5 % full scale
Response time (T90)	< 45 sec.
Lifetime	> 2 years (O ₂ : 1 year)
Supply voltage	15 - 30 Vdc / Max. 30 mA
Storage temperature	-40 °C to +80 °C
Operating conditions	
Temperature	-10 °C to +40 °C
Ambient humidity	20 - 90 % HR
Occasional humidity	10 - 99 % HR
Pressure	90 - 110 kPa
Cable section	2 x 0.5 mm ² (twisted and shielded pair)
Max. cable length	1000 m
Loop resistance	50 - 750 ohms
Casing ingress protection	IP65
Cable entry	1 x M16

GASES CONCERNED

Gas	Formula	Measurement		
		Density (air=1)	range (PPM)	TLV (PPM)
Ammonia	NH ₃	0.59	0 - 100	20.00
Carbon monoxide	CO	0.97	0 - 300	25.00
Chlorine	Cl ₂	2.45	0 - 10	1.00
Hydrogen sulphide	H ₂ S	1.19	0 - 50	10.00
Nitrogen dioxide	NO ₂	1.59	0 - 50	3.00
Oxygen	O ₂	1.00	0 - 25 %	-
Sulphur dioxide	SO ₂	1.19	0 - 20	2.00

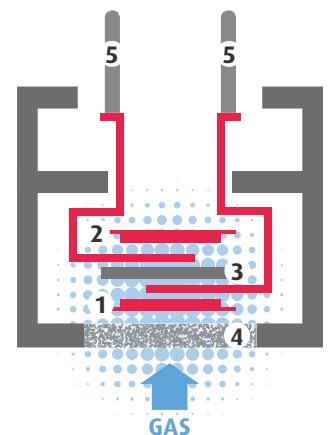
Other gases an measurement ranges upon request.

ELECTROCHEMICAL MEASUREMENT PRINCIPLE

The electrochemical cell is made up of a measurement electrode (1), a counter-electrode (2) and a reference electrode (3). These electrodes are bathed in an electrolyte inside the cell casing, which is itself fitted with a gas permeable membrane (4).

The gas which is diffused inside the cell causes a **chemical reaction on the measurement electrode** and on the counter-electrode. The result is an **electric current, proportionate to the concentration of the gas present**, which circulates between these two electrodes.

This current is measured by the external circuit (5) to which the cell is connected.



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