

D•CAN

explosive and toxic
gas detector

CO - NO₂ - LPG - CH₄ ...



- ✓ Principles: **CATALYTIC
ELECTROCHEMICAL**
- ✓ Connection: 4 wires
- ✓ Output signal: CAN bus



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.

D•CAN



CHARACTERISTICS

Material	Flame retardant (UL-94V0) and UV stabilized plastic.	
Dimensions (HxWxD)	142 x 119 x 51 mm	
Weight	300 g	
Output	Digital (CAN bus)	
Measurement principle	CATALYTIC	ELECTROCHEMICAL
Operating voltage	10 - 30 Vdc	10 - 30 Vdc
Power consumption	1,2 W	0,5 W
Operating temperature	-10 °C to +40 °C	-20 °C* to +40 °C
Response time (T90)	< 30 s	< 45 s
Accuracy	± 3 % full scale < 60 % LEL ± 5 % full scale > 60 % LEL	± 1,5 % full scale
Expected operating life	> 2 years	> 2 years
Humidity (non condensing)	0 - 90 % RH	
Wiring **	FTP Cat. 5E (4 x 2 x 0,5 mm twisted solid wires) Silicone-free cable	
End loop resistance	124 ohms	
Cable entry	2 x M16	
Housing ingress protection	IP65	
Standards	EN 50270 Type 1	

* Although still functional, the sensitivity of the detector is lower when operating at temperatures below -10°C.

** **PRECAUTIONS FOR USE:** Never connect the detector with a cable containing silicone in its composition or manufacture process. It could hinder or prevent full functionality of the detector. Please contact your supplier before installation.

GASES CONCERNED

Gaz	MEASUREMENT RANGE	
	CATALYTIC	ELECTROCHEMICAL
Butane (C ₄ H ₁₀)	0 - 100 % LEL	-
Carbon monoxide (CO)	-	0 - 300 ppm
LPG	0 - 100 % LEL	-
Methane (CH ₄)	0 - 100 % LEL	-
Nitrogen dioxide (NO ₂)	-	0 - 30 ppm
Propane (C ₃ H ₈)	0 - 100 % LEL	-

Other gases and measurement ranges upon request.

MEASUREMENT PRINCIPLES

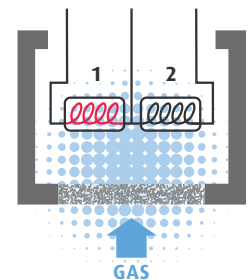
CATALYTIC

The detector sensing element is made up of two platinum filaments electrically heated to around 400°C.

One of them (1) is covered with an active catalytic layer which heats up strongly in the presence of a combustible gas.

This temperature rise causes an increase in the resistance of the filament which is measured in the unit.

The other filament (2), passive, serves as a thermal compensator.



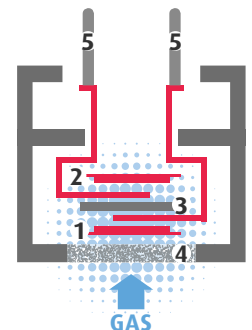
ELECTROCHEMICAL

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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