D·TEX420

explosive gas detector

GPL - CH_4 - C_3H_8 - C_4H_{10} ...



- Principes: **CATALYTIC INFRARED**
- Connection: 3 wires
- Output signal: 4..20 mA
- LCD display
- ATEX marking: II 3G Ex nA d IIC T6 Gc
  Temp: 0 °C to +50 °C

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•TEX420 Ex

CHARACTERISTICS

Material	Flame retardant (UL-94V0) and UV stabilized plastic	
Dimensions (HxWxD)	147 x 119 x 51 mm	
Weight	300 g	
Output	4..20 mA current loop	
Measurement principle	**CATALYTIC**	**INFRARED**
Operating voltage	18 - 30 Vdc	18 - 30 Vdc
Current consumption	1,3 W	0,5 W
Operating temperature	0 °C to +50 °C	0 °C to +50 °C
Response time (T90)	< 30 s	< 30 s
Accuracy	± 3 % Full Scale < 60 % LEL ± 5 % Full Scale > 60 % LEL	± 1,5 % Full Scale
Expected operating life	> 2 years	> 5 years
Humidity (non condensing)	0 - 95 % RH	
Wiring (*)	3 x 0,75 - 2,5 mm² (solid wires) Silicone-free cable	
End loop resistance	50 - 750 ohms	
Cable entry	1 x M20	
Display	LCD - 4 characters	
Housing ingress protection	IP65	
Approval code	Ex II 3G Ex nA d IIC T6 Gc Tamb: 0 °C to +50 °C	
Hazardous area	Zone 2	
Gas group	IIC	
Standards	EN 60079-0 - EN 60079-1 - EN 60079-15 EN50270 Type 1	
Certificate number	DTEX420 15 ATEX 0501	

(*) 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

	MEASUREMENT RANGE	
Gas	**CATALYTIC**	**INFRARED**
Butane (C_4H_{10})	0 - 100 % LEL	0 - 100 % LEL
Ethanol (C_2H_6O)	-	0 - 100 % LEL
Methane (CH_4)	0 - 100 % LEL	0 - 100 % LEL
Natural gas	0 - 100 % LEL	0 - 100 % LEL
Propane (C_3H_8)	0 - 100 % LEL	0 - 100 % LEL

Other gases and measurement ranges upon request.

MEASUREMENT PRINCIPLES

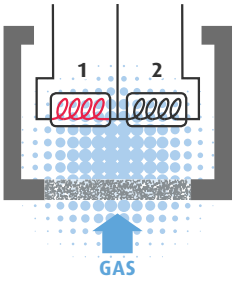
CATALYTIC

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.

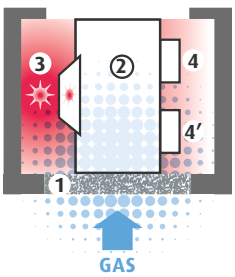


INFRARED

The infrared cell functions according to the non-dispersive infrared (NDIR) principle.
It is made up of a casing comprising:
- a diffusion membrane (1),
- a measurement chamber (2),
- an IR radiation source (3),
- an active sensor (4) and
- a reference sensor (4').

The gas that reaches the measurement chamber absorbs - within a very precise range of wavelengths - a part of the radiation emitted by the IR source.
The active sensor measures the remaining IR radiation and thereby determines the concentration of the gas present. The reference sensor measures the IR radiation within a range of wavelengths that is not influenced by the incoming gas. Its signal serves to compensate any variation in IR radiation which is not due to absorption caused by the targeted gas, such as a variation in temperature, humidity level, etc.

This enables us to obtain an accurate and reliable measurement in all conditions.



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