

D•TEX3F

explosive gas
detector

CH_4 - C_3H_8 - C_4H_{10} ...



- ✓ Principles: **CATALYTIC INFRARED**
- ✓ Connection: 3 wires
- ✓ Output signal: Wheatstone bridge
- ✓ ATEX marking: Ex 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•TEX3F



CHARACTERISTICS

| | | |
|----------------------------|---|-----------------|
| Material | Flame retardant (UL-94V0) and UV stabilized plastic | |
| Dimensions (HxWxD) | 147 x 119 x 51 mm | |
| Weight | 285 g | |
| Output | 3-wire mV Wheatstone bridge | |
| Measurement principle | CATALYTIC | INFRARED |
| Operating voltage | 2.5 ± 0.2 V | 3.2 - 5.0 V |
| Current consumption | 170 ± 10 mA | 15 mA |
| Power consumption | 0.5 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 | 3 % full scale |
| | ± 5 % Full Scale > 60 % LEL | |
| Expected operating life | > 2 years | > 5 years |
| Humidity (non condensing) | 0 - 95 % RH | |
| Wiring (*) | 3 x 1.5 - 2.5 mm ² (solid wires) | |
| | Silicone-free cable | |
| Cable entry | 1 x M20 | |
| Housing ingress protection | IP65 | |
| Approval code | Ex II 3G Ex nA d IIC T6 Gc Temp: 0 °C to +50 °C | |
| Hazardous area | Zone 2 | |
| Gas group | IIC | |
| Standards | EN 60079-0 - EN 60079-1 - EN 60079-15 | |
| Certificate number | DTEX3F 15 ATEX 0401 | |

(*) **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

| Gas | MEASUREMENT RANGE | |
|--|-------------------|---------------|
| | CATALYTIC | INFRARED |
| Butane (C ₄ H ₁₀) | 0 - 100 % LEL | 0 - 100 % LEL |
| Methane (CH ₄) | 0 - 100 % LEL | 0 - 100 % LEL |
| Natural gas | 0 - 100 % LEL | 0 - 100 % LEL |
| Propane (C ₃ H ₈) | 0 - 100 % LEL | 0 - 100 % LEL |

Other gases/measurement ranges available on demand.

MEASUREMENT PRINCIPLES

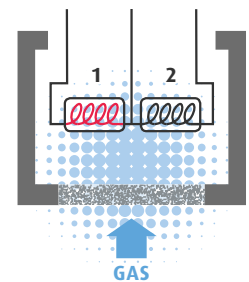
CATALYTIC

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.



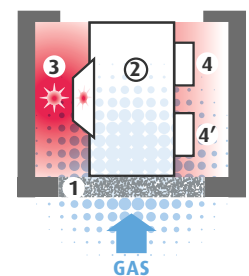
INFRARED

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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