



# DAX 3F

## explosive gas detector



- ✓ Principle: **CATALYTIC**
- ✓ Connection: 3 wires
- ✓ Output signal: Wheatstone bridge
- ✓ ATEX marking:  $\text{Ex}$  II 2G Ex db IIC T6 - T4  
 $\text{Ex}$  II 2D Ex tb IIIC Tx°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.

# DAX 3F



The **DAX 3 F** detector was designed to continuously measure the presence of various **explosive gases** in the air and also the presence of **solvent vapours, hydrogen and hydrocarbons**.

Its measurement principle, **catalytic combustion**, gives it its major benefits:

- **very short response time,**
- **accuracy and reliability of measurements.**

By connecting it to a Dalemans unit, you will obtain a **very high performance installation**.

**ATEX certified**, this detector is especially suitable for the **industrial sector, whose applications are located in an explosive atmosphere.**



## CHARACTERISTICS

<b>Sensing head</b>	Stainless steel 1.4404 (AISI 316L)
<b>Sintered metal filter</b>	Stainless steel 1.4404 (AISI 316L)
<b>Junction box</b>	Aluminium
<b>Dimensions / Weight</b>	170 x 145 x 90 mm / 1400 g
<b>Sensor type</b>	Catalytic (Pellistor)
<b>Sensor type / Signal</b>	3-wire mV (Wheatstone bridge)
<b>Accuracy</b>	± 3 % full scale < 60 % LEL ± 5 % full scale > 60 % LEL
<b>Response time (T90)</b>	< 30 sec.
<b>Lifetime</b>	> 2 years
<b>Supply voltage *</b>	2.00 V +0.025 / -0.075 V
<b>Consumption *</b>	175 mA ± 20 mA
<b>Storage temperature</b>	-40 °C to +80 °C
<b>Operating conditions</b>	
<b>Temperature</b>	-20 °C to +55 °C (T6 t° class) -20 °C to +70 °C (T5 and T4 t° classes)
<b>Ambient humidity</b>	20 - 90 % HR
<b>Occasional humidity</b>	10 - 99 % HR
<b>Pressure</b>	90 - 110 kPa
<b>Cable cross sectional area</b>	1.5 - 2.5 mm <sup>2</sup> (solid wires)
<b>Max. cable length</b>	Refer to the installation instructions of the control unit
<b>Casing ingress protection</b>	IP66
<b>Cable entry</b>	1 x M20 / 6.1 - 11.7 mm (other size upon request)
<b>Hazardous areas</b>	Zone 1 or 2 (gas) Zone 21 or 22 (dust)
<b>Equipment gas grouping</b>	IIC (methane, propane, ethylene, hydrogen, acetylene)
<b>Equipment dust grouping</b>	IIIC (conductive dust)
<b>Standards</b>	EN 60079-0 EN 60079-1 EN 60079-31
<b>Approval (ATEX)</b>	Ex II 2G Ex db IIC T6 - T4 Ex II 2D Ex tb IIIC Tx°C
<b>Certificates</b>	FTZU 09 ATEX 0313X

\* Depends on type of cell used.

## GASES CONCERNED

Gas	Formula	Density (air=1)	Measurement	
			range (% L.E.L.)	L.E.L. (% vol.)
<b>Acetylene</b>	(CH) <sub>2</sub>	0.90	0 - 100	2.30
<b>Butane</b>	C <sub>4</sub> H <sub>10</sub>	2.05	0 - 100	1.40
<b>Ethanol</b>	C <sub>2</sub> H <sub>6</sub> O	1.59	0 - 100	3.10
<b>Hydrogen</b>	H <sub>2</sub>	0.07	0 - 100	4.00
<b>Isobutane</b>	(CH <sub>3</sub> ) <sub>3</sub> CH	2.00	0 - 100	1.30
<b>Methane</b>	CH <sub>4</sub>	0.55	0 - 100	4.40
<b>Natural gas</b>	-	0.68	0 - 100	-
<b>Propane</b>	C <sub>3</sub> H <sub>8</sub>	1.56	0 - 100	1.70

Other gases upon request.

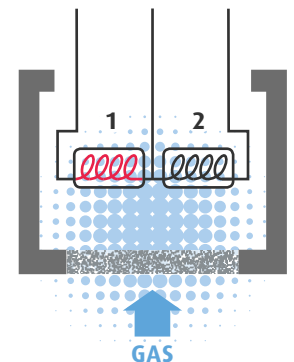
## CATALYTIC MEASUREMENT PRINCIPLE

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.



**DALEMANS**  
GAS DETECTION

Tel.: +32 (0)19 33 99 43

Fax: +32 (0)19 33 99 44

sales@dalemans.com

rue Jules Mélotte 27  
B-4350 Remicourt (Belgium)

[www.dalemans.com](http://www.dalemans.com)