

# MODEL DAX 3F-IR: EXPLOSIVE GAS DETECTOR



The DAX 3F-IR detector was designed to continuously measure the presence of various explosive gases such as methane, propane and butane in the air.

Its operating principle, infrared, gives it its major benefits:

- insensitivity to polluting agents,
- accuracy,
- reliability,
- low maintenance cost.

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



## TECHNICAL SPECIFICATIONS

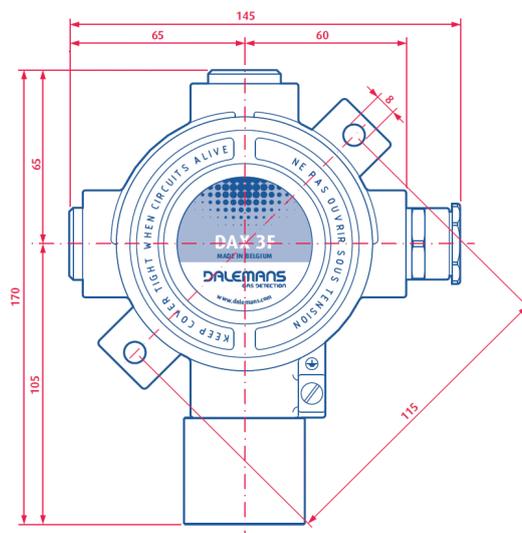
<b>MODEL</b>	DAX 3F-IR	<b>STORAGE TEMPERATURE</b>	-20°C to +50°C	
<b>SENSING HEAD</b>	Stainless steel 1.4404 (AISI316L)	<b>OPERATING TEMPERATURE</b>	-20°C to +50°C	
<b>SINTERED METAL FILTER</b>		<b>AMBIENT HUMIDITY</b>	0 - 95 % HR	
<b>JUNCTION BOX</b>	Aluminium	<b>CABLE CROSS SECTIONAL AREA</b>	1.5 - 2.5 mm <sup>2</sup> (solid wires)	
<b>DIMENSIONS / WEIGHT</b>	170 x 145 x 90 mm / 1.400 g	<b>MAX. CABLE LENGTH</b>	Refer to the installation instructions of the control unit	
<b>MEASURING RANGE (non-exhaustive list)*</b>	Butane (C <sub>4</sub> H <sub>10</sub> )	<b>INGRESS PROTECTION</b>	IP 6X (dust tight)	
	Methane (CH <sub>4</sub> )	0 - 100 % LEL	<b>CABLE ENTRIES</b>	1 x M20 / 6.1 - 11.7 mm (other size upon request)
	Propane (C <sub>3</sub> H <sub>8</sub> )		<b>HAZARDOUS AREAS</b>	Zones 1 or 2 (gas) - Zones 21 or 22 (dust)
<b>RESOLUTION</b>	± 0.5% full scale < 50% LEL	<b>EQUIPMENT GAS GROUPING</b>	IIC (methane, propane, ethylene, hydrogen, acetylene)	
	± 1% full scale > 50% LEL	<b>EQUIPMENT DUST GROUPING</b>	IIC (conductive dust)	
<b>RESPONDE TIME (T90)</b>	< 30 sec.	<b>AMBIENT TEMPERATURE</b>	Tamb= -20°C to +55°C for T6 and T85 °C	
<b>EXPECTED OPERATING LIFE SPAN</b>	> 5 years		Tamb= -20°C to +75°C for T5 and T100 °C	
<b>SENSOR CHARACTERISTICS**</b>			Tamb= -20°C to +90°C for T4 and T135 °C	
<b>SUPPLY VOLTAGE</b>	3.2 - 5.0 V	<b>CERTICATES</b>	FTZU 09 ATEX 0182 / IECEx FTZU 10.0007	
<b>SUPPLY CURRENT</b>	75 - 85 mA			

\* Other gases upon request. Contact Dalemans for further information.  
\*\* Ensure that the sensor electrical characteristics meet the capability of the associated control unit.

Approval (ATEX + IECEx): II 2G Ex db IIC T6 - T4  
II 2D Ex tD IIIC Tx °C

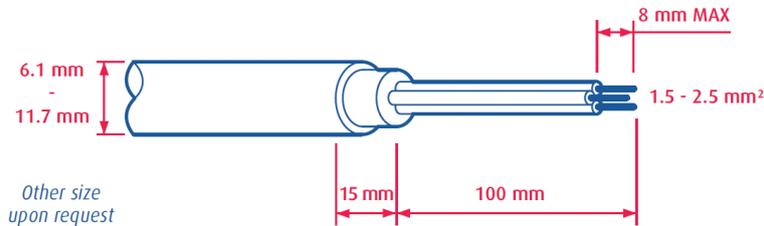
Standards: EN 60079-0:2009, EN 60079-1:2007, EN 60079-31:2009  
IEC 60079-0:2007, IEC 60079-1:2007, IEC 60079-31:2008

## DIMENSIONS (mm)

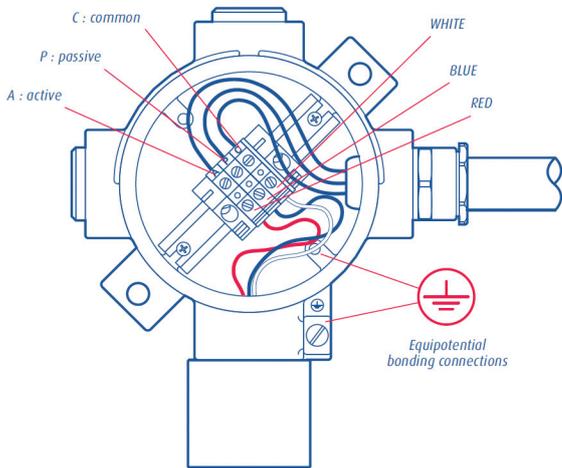


## ELECTRICAL WIRING

Wiring must comply with local regulations and standards in force and meet the electrical requirements of the DAX 3f-IR detector. Dalemans recommends the use of colour coded cable with solid wires. The acceptable cross sectional area of the cable is 1.5 to 2.5 mm<sup>2</sup> and depends on the type of sensor used and the distance between the detector and the control unit. For more information about the cross sectional area of the cable and the maximum cable length, please refer to the instruction manual of the control unit. The overall cable diameter must be within the range given in image. The cable gland must be sufficiently tightened on the cable to ensure a good sealing.



## CONNECT THE DETECTOR



- Loosen the locking screw of the junction box cover using the 1.5 mm hex key OUT00000115 and completely turn the cover counterclockwise to unscrew it.
- Wires must be stripped and plugged so that the gap between insulation and the metallic edge of the terminal connection does not exceed 1 mm distance.
- Connect wires according to the diagram given in image.
- Equipotential bonding may be provided using either the internal or the external connection. If the external connection is used, the cross sectional area of the bonding conductor should be of at least 4 mm<sup>2</sup>.
- Screw up the cover on the junction box, hand tighten 1/4 turn. Put the locking screw of the cover back in place and tighten with the 1.5 mm hex key OUT00000115.

## EXAMPLE OF PLACEMENT FOR SOME FLAMMABLE GASES\*

GAS	FORMULA	DENSITY (air=1)	DETECTOR(S) POSITION
Acetylene	(CH) <sub>2</sub>	0,90	Ceiling + floor
Butane	C <sub>4</sub> H <sub>10</sub>	2,05	Floor
Cracked gas	-	0,47	Ceiling
Ethylene oxide	C <sub>2</sub> H <sub>4</sub> O	1,52	Floor
Hydrogen	H <sub>2</sub>	0,07	Ceiling
Isobutane	(CH <sub>3</sub> ) <sub>3</sub> CH	2,00	Floor
Methane	CH <sub>4</sub>	0,55	Ceiling
Natural gas	-	0,68	Ceiling
Propane	C <sub>3</sub> H <sub>8</sub>	1,56	Floor
Propane-air	-	±1,15	Ceiling + floor

\*This list is not exhaustive. Contact Dalemans for further information.