

# MODEL DAT 420: TOXIC AND OXIGEN GAS DETECTOR CO - NH<sub>3</sub> - O<sub>2</sub> - Cl<sub>2</sub>...



The DAT 420 detector was designed to continuously measure the presence of various toxic gases in the air such as carbon monoxide and ammonia but also oxygen.

Its electrochemical measurement principle gives it its major assets:

- measurement stability,
- selectivity of the gas to be detected and high accuracy.

By connecting it to a Dalemans unit or to any other instrument that can receive a 4.20 mA signal, you will benefit from a highly flexible installation.

ATEX certified, this detector will be particularly suitable for industrial applications located in an explosive environment.



## Technical specifications

<b>MODEL</b>	<b>DAT 420</b>	<b>RESPONSE TIME (T90)</b>	< 45 sec.
<b>SENSING HEAD</b>	Stainless steel 1.4404 (AISI316L)	<b>EXPECTED OPERATING LIFE SPAN</b>	> 2 years
<b>SINTERED METAL FILTER</b>		<b>ELECTRICAL CHARACTERISTICS</b>	15 - 30 Vdc / Max. 30 mA
<b>JUNCTION BOX</b>	Aluminium	<b>TEMPERATURE</b>	Storage: -40°C a 80°C / Use: -10°C a + 40°C
<b>DIMENSIONS / WEIGHT</b>	193 x 145 x 90 mm / 1.500 g	<b>AMBIENT HUMIDITY</b>	20 - 90 % HR
<b>SENSOR TYPE / SIGNAL</b>	Electrochemical sensor / 2-wire 4..20 mA current loop	<b>INTERMITTENT HUMIDITY</b>	10 - 99 % HR
<b>ADJUSTMENTS</b>	Zero and calibration by internal potentiometers	<b>PRESSURE</b>	90 - 110 kPa
<b>MEASURING RANGE (non-exhaustive list)*</b>	CO 300, 500, 1.000 ppm	<b>CABLE</b>	2 x 0.5 mm <sup>2</sup> twisted and shielded pair (max. 1.000 m)
	NO <sub>2</sub> 20, 50 ppm	<b>LOOP RESISTANCE</b>	50 - 750 ohms
	Cl <sub>2</sub> 10, 50 ppm	<b>INGRESS PROTECTION</b>	IP 6X (dust tight)
	H <sub>2</sub> S 50 ppm	<b>CABLE ENTRY</b>	1 x M20 / 6.1 - 11.7 mm (other size upon request)
	O <sub>2</sub> 25 %	<b>HAZARDOUS AREAS</b>	Zone 1 or 2 (gas) Zone 21 or 22 (dust)
	NH <sub>3</sub> 100, 1.000, 5.000 ppm		
SO <sub>2</sub> 20 ppm	<b>GAS GROUPING</b>	IIC (methane, propane, ethylene, hydrogen, acetylene)	
<b>RESOLUTION</b>	±1.5 % escala total	<b>CERTIFICATE</b>	FTZU 09 ATEX 0074

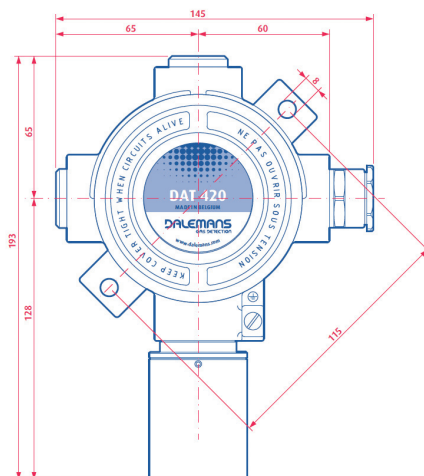
\* Other gases upon request.

Approval:

II 2G Ex d IIC T6  
II 2D Ex tD A21 IP6X T85°C

Standards: EN 60079-0:2006, EN 60079-1:2007, EN 61241-0:2006, EN 61241-1:2004

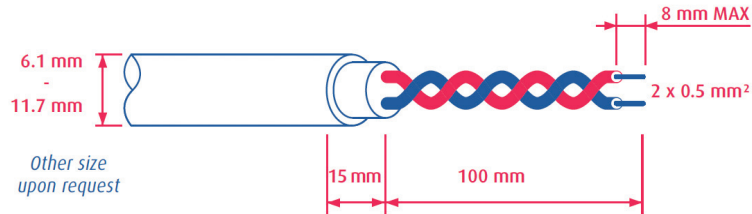
## DIMENSIONS (mm)



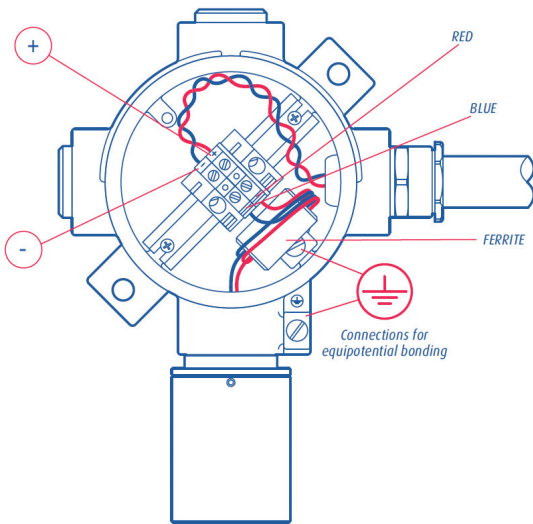
## ELECTRICAL WIRING

Wiring must comply with local regulations and standards in force and meet the electrical requirements of the detector DAT 420.

Dalemans recommend the use of a shielded or a screened twisted pair cable with a cross sectional area of 0.5 mm<sup>2</sup> and a maximum length of 1.000 m. The overall cable diameter must be within the range given in figure 4 below. The cable shielding or screening must be connected to the ground of the control unit/PLC. 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.
- Internal and external connections are available for equipotential bonding. For the external connection, the cross sectional area of the bonding conductor should be of a 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.

## GASES CONCERNED\*

GAS	FORMULA	DENSITY (air=1)
Ammonia	NH <sub>3</sub>	0,59
Carbon monoxide	CO	0,97
Chlorine	Cl <sub>2</sub>	2,49
Hydrogen sulphide	H <sub>2</sub> S	1,19
Nitrogen dioxide	NO <sub>2</sub>	1,59
Nitrogen monoxide	NO	1,04
Oxygen	O <sub>2</sub>	1,11
Sulphur dioxide	SO <sub>2</sub>	2,26

\* Other gases upon request.