

# DOL 51 Ammonia Sensor for Air Cleaning

Measurement of remaining ammonia concentration after passage of filters on clean gas side of air cleaners.

## Making sure the air cleaners run efficiently

DOL 51 measure the remaining ammonia concentration after passage of the filters on the clean gas side of the air cleaners. This data is vital to document the cleanness of the exhaust air.

Combined with data from DOL 53 on the inlet side of the air cleaner, data from DOL 51 can be used to ensure that air cleaners run as efficiently as possible at the lowest possible cost of additives.

## Operates in harsh conditions

The innovative design of DOL 51 allows the sensor to operate under harsh conditions with extremely high humidity 95 % – 100 % , eg. in livestock houses. The air is funneled to the measuring inlet through a heated duct that prevents condensation. As all sensors from dol-sensors, DOL 51 is well tested and therefore has a long service life without the need for calibration.

## Accurate ammonia measurements

The DOL 51 provides accurate ammonia measurements in concentrations up to 50ppm and has negligible cross sensitivity to other gasses. DOL 51 is mounted directly in the airstream without any need for tubes or pumps.

## Benefits

- Accurate ammonia measurements
- Make sure air cleaners run efficiently
- Document the cleanness of the exhaust air

## Advantages

- Long lifetime
- Highly reliable
- Operates in extreme humidity of 95-100 %



# DOL 51

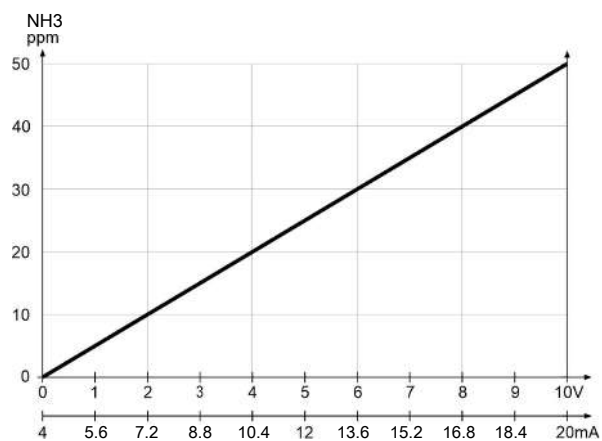
## Ammonia sensor



The DOL 51 is an electrochemical sensor designed to measure ammonia levels. The sensor consists of a sensor element, a house, a dust filter, and a convection cap with heating, connected to the housing with a cable. The sensor element and filter can be replaced as required, and the sensor element is supplied in a can for additional protection.

The sensor is meant for stationary mounting for continuous measuring of the ammonia concentration.

DOL 51 is well suited for measuring in an air cleaner, and in other places where the humidity can become very high. DOL 51 can withstand up to 100%RH.



Functional graph.

## Product survey



### 140312 DOL 51 Ammonia Sensor w/heat

DOL 51 measures the ammonia in the livestock house air.



### 140314 DOL 51 Sensor Element

Sensor element for DOL 51.



### 140236 DOL 53 dust filter (5 pcs.)

Dust filters for DOL 51 and DOL 53. Set of 5 pieces.



### 140285 DOL 53 test equipment gas, complete

Test equipment for NH<sub>3</sub> measurement with DOL 51 / DOL 53.



### 140299 DOL 53 – test gas adapter

Used for gas test of DOL 51 and DOL 53.

## Technical data

		DOL 51, 0-10V, 4-20mA, 0-50ppm NH <sub>3</sub>	
Specification		Parameter	Unit
Output	Voltage range	0 – 10	VDC
	Power range	4 – 20	mA
	Load for voltage output	> 500 - < 10M	Ω
	Recommended load, voltage output	> 100	kΩ
	Load for current output	> 100 - < 470	Ω
NH <sub>3</sub>	Measurement range	0 – 50	ppm NH <sub>3</sub>
	Voltage resolution	0.2	V/ppm NH <sub>3</sub>
	Resolution	0.32	mA/ppm
	Signal transmission resolution	0.5	ppm NH <sub>3</sub>
	Accuracy	1.5 ppm or $\pm 10\%$ of the measured value	ppm NH <sub>3</sub>
	Long term drift	< $\pm 10\%$ of the measured value	%
	Time constant: T50	$\leq 30$	sec.
Supply voltage		22 – 26	VDC
Supply current		< 200	mA
Temperature, operation		0 – +50	°C
Temperature, storage		-20 – +60	°C
Humidity		15 – 100	%RH
Pressure		700 – 1300	hPa
Max. storage time (sensor element)	See date on sensor can		
Warranty sensor element		1	years
Expected lifetime of sensor element	Not beyond the date on the sensor element type plate	1½	years
IP classification		IP65	
Cable length		6	m
Cable conductor size		5 x 0.25 (5 x AWG23)	mm <sup>2</sup>
Dimensions (diameter/width)		75	mm
Dimensions (length)		225	mm
Weight		600	g
Approvals		CE UKCA	

### Dimensioned sketch

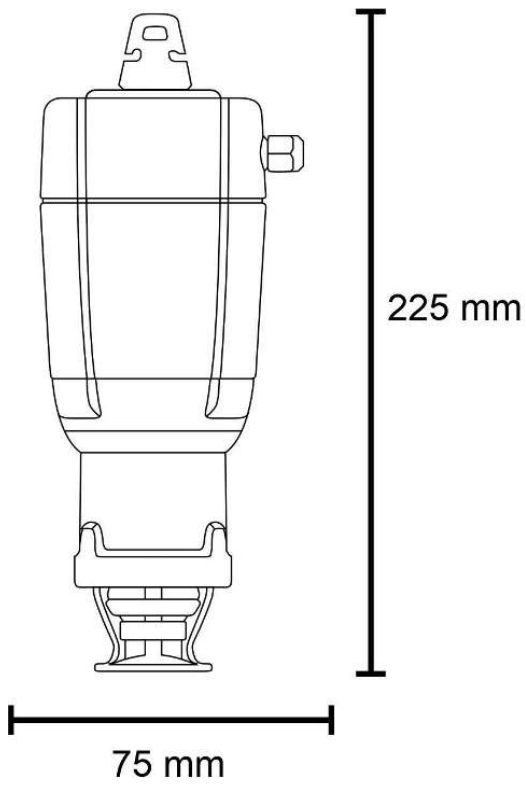


Figure 5: Dimensions in mm.