

DOL 53 ammonia sensor

An award-winning ammonia sensor that can help you earn up to \$3,000 extra per batch.

Improve livestock welfare and reduce mortality

Studies* have shown that high ammonia concentration in broiler production results in a higher FCR, lower gain and lower welfare and therefore have a major impact on the financial yield of the production. In fact, ammonia concentrations as low as 25 ppm can reduce bird weights at 28 days of age by 2-7% while 50 ppm ammonia has been shown to reduce bird weights from 16-19%.

Early action benefits the welfare and productivity of the broilers, which is why, it is highly beneficial to continuously monitor the ammonia level.

Research in this area** shows that an increased concentration can cut profits by \$3,000 or more per batch in a livestock house with 25,000 broilers.

DOL 53 is an ammonia sensor specifically designed for continuous measurement of ammonia (NH₃) concentration in livestock houses. The sensor can accurately measure the level of ammonia in both low and high concentration and has a negligible cross sensitivity to other gasses.

*Source: "Ammonia in the Atmosphere during Brooding Affects Performance of Broiler Chickens"; F. N. REECE, B. D. LOTT, and J. W. DEATON and "Poultry Housing Tips", Volume 32, No. 1, University of Georgia

**Source: "Atmospheric Ammonia Is Detrimental to the Performance of Modern Commercial Broilers"; D. M. Miles, S. L. Branton and B. D. Lott

Benefits

- Increase profits by at least \$3,000 per batch
- Avoid higher FCR
- Better animal welfare

Advantages

- Highly accurate measurement
- Negligible cross sensitivity to other gasses
- Works in both high and low NH₃ concentration
- Robust and well-suited for livestock facilities
- Easy to install and plug and play replacement
- Requires no calibration during service life
- Low maintenance
- Long lifetime
- Integrates easily into existing houses and climate control systems



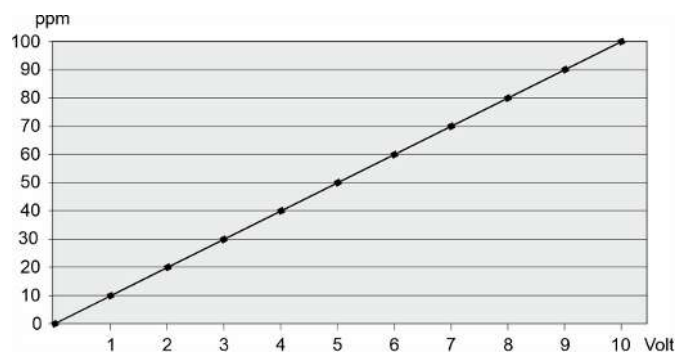
DOL 53

Ammonia sensor



The DOL 53 is an electro chemical sensor designed to measure ammonia levels in livestock houses. The sensor consists of a sensor element, a house and a dust filter. The sensor element (sensor head) and filter can be replaced as required, and the sensor element is supplied in a can for additional protection. Cable is included.

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



Functional graph.

Product survey



140247 DOL 53 Ammonia sensor

DOL 53 measures the ammonia in the house's air.

Can be used for monitoring the ammonia level in the air.



140248 DOL 53 Replacement sensor head

Sensor element for DOL 53.



140236 DOL 53 dust filter (5 pcs.)

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



140238 DOL 53 protection against water

Kit for protection against water spray for DOL 53.



140284 DOL 53 cable with connector (2 m)

2 meter wire with plug for DOL 53.



140285 DOL 53 test equipment gas, complete

Test equipment for NH₃ measurement with DOL 51 / DOL 53.



140299 DOL 53 – test gas adapter

Technical data

		DOL 53, 0-10V, 0-100 ppm NH₃	
Specification		Parameter	Unit
Output	Voltage range	0 – 10	VDC
NH ₃	Measurement range	0 – 100	ppm NH ₃
	Voltage resolution	0.1	V/ppm NH ₃
	Signal transmission resolution	0.5	ppm NH ₃
	Accuracy	1.5 ppm or ±10% of the measured value	ppm NH ₃
	Long term drift	< ±10% of the measured value	%
	Time constant: T50	≤ 30	sec.
Supply voltage		18 – 30	VDC
Supply current		< 10	mA
Temperature, operation		0 – +50	°C
Temperature, storage		-20 – +60	°C
Humidity		15 – 95	%RH
Pressure		700 – 1300	hPa
Max. storage time (sensor element)	See date on sensor can		
Warranty sensor element		2	years
Expected lifetime of sensor element	Not beyond the date on the sensor element type plate	3	years
IP classification	IP65 (DIN 40050-9)		
Cable length		2	m

		DOL 53, 0-10V, 0-100 ppm NH₃	
Cable conductor size	3 x 0.25 (3 x AWG23)	mm ²	
Dimensions (diameter/width)	75	mm	
Dimensions (length)	155	mm	
Weight	500	g	
Approvals	CE UKCA		

Dimensioned sketch

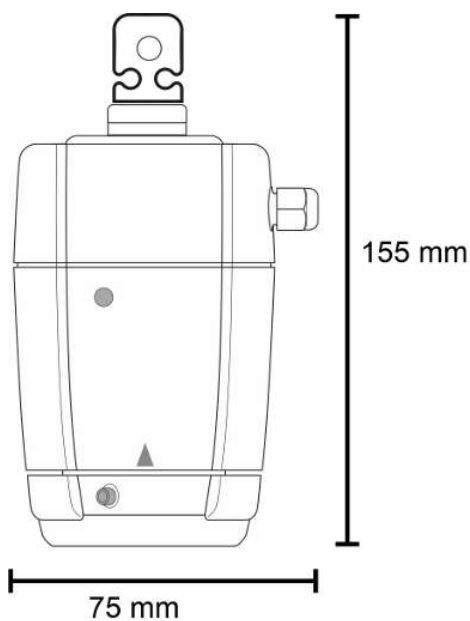


Figure 1: In mm.