

Climate

Accurate climate sensors that support animal welfare



CLIMATE



Robust Climate Sensors

dol-sensors' sensor solutions are designed for the harsh environment in barns and industrial production areas

Climate sensors are used in livestock houses to ensure proper animal welfare and to achieve high productivity by providing data for automatic climate regulation.

dol-sensors manufactures both single-function and multifunction climate sensors for monitoring:

- Temperature
- Relative humidity
- CO₂
- Ammonia (NH₃)
- Light
- Water consumption
- Rain
- Wind speed and wind direction



DOL 114 Humidity and Temperature Sensor

[Click here to learn more](#)





Humidity / Temperature



DOL 104 Humidity Sensor

The DOL 104 is a **high-precision** sensor for measuring relative humidity designed for use in livestock houses but is also well-suited for a number of industrial applications. The sensor has an analogue output with a very low output resistance and full **protection against short circuits** and wiring failures. The special sensor element and the built-in filter enable application in livestock houses with constantly high humidity. A microprocessor controls the sensor and has a two-colour light emitting diode (LED) for communication of operation status and error diagnostics. A protective cap is available, **eliminating the need to remove the sensor when cleaning** the livestock house.

[Click here to read more](#)



DOL 114 Humidity and Temperature Sensor

The DOL 114 is a **2-1 sensor** for measuring both relative humidity and temperature simultaneously. It is commonly used in poultry and pig production but is also suitable for a wide range of industrial applications.

The sensor has the same excellent properties and accuracy as the DOL 104 digital humidity sensor. Like DOL 104, the DOL 114 is **available in various output versions**, such as 0-5V, 0-10V, and 4-20mA.

[Learn more about DOL 114](#)



Humidity / Temperature

DOL 139 Humidity, Temperature, and CO₂ Sensor

DOL 139 is a smart **3-in-1 sensor** combining measurement of both relative humidity, temperature, and carbon dioxide (CO₂). Since DOL 139 measures 3 important elements of the environment, it makes for **an easier installation, less maintenance and a more cost-effective solution**. No need for multiple sensors when you can use a single sensor to measure 3 elements.

DOL 139 is protected by a **sturdy casing** and behind a carefully selected filter. It is supplied with a protection **cap for protection** of the sensor during washing and disinfection, even during high-pressure cleaning.

[Read more about DOL 139](#)





Temperature



DOL 112 Temperature Sensor

DOL 112 is a simple **cost-effective temperature sensor** that comes in six different versions; **PT100** with 2 wires, PT100 with 3 or 4 wires, **PT1000** with 2 wires, PT1000 with 3 or 4 wires and **NTC** 1K and 10K.

The sensor is a robust standard temperature sensor with the **high quality** known from other dol-sensors' sensor solutions. Thus, DOL 112 is well suited for use in environments where a sturdy design is required.

The temperature sensor **operates in temperatures between -40 and +100 °C** and can be used for measuring both inside and outside temperatures.

DOL 112 is **IP68 protected**, which means that it is dust tight and has total protection against water ingress, up to and including complete submersion below one meter and for more than 30 minutes.

In accuracy, the DOL 112 PT100 and PT1000 stands out with **a precision of ± 0.5 °C**. The NTC comes in a 1K version with an accuracy of 3% at 25°C and a 10K version with an accuracy of 1% at 25°C.

[Read more about DOL 112](#)



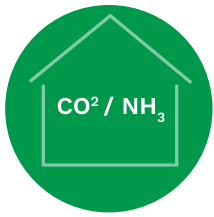
DOL 115 Temperature Sensor

DOL 115 is a **precision sensor for temperature** measurement which comes with a 2-meter cable. It is intended for use in livestock houses but is also well suited for a number of industrial applications, like the other sensors from dol-sensors.

The sensor features **two analogue outputs with very low output resistances** and full protection against short-circuits and wiring failures.

DOL 115 is **microprocessor-controlled** and has a two-color LED to communicate the operation status and the error diagnostic.

[Read more about DOL 115](#)



Gas

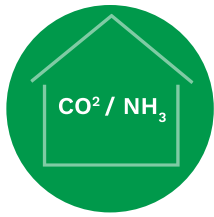
DOL 53 Ammonia Sensor

The award winning DOL 53 is a sensor designed to **continuous measurement of ammonia (NH₃) concentration** in livestock houses. The negative effects of high ammonia concentration in livestock production is well known, and with the introduction of the DOL 53 farm managers are now finally able to monitor the ammonia concentration continuously and **take corrective actions if ammonia levels are increasing**.

The DOL 53 features accurate ammonia measurements in both low and high concentrations, **negligible cross sensitivity to other gasses** and a long lifetime, with **no need for calibration**. The DOL 53 can be mounted directly in the livestock house, **without any need for tubes or pumps**. The DOL 53 measures ammonia concentrations from 1.5 to 100 ppm, with an output range of 0 to 10V.

[Learn more about DOL 53](#)





Gas



DOL 119 CO₂ Sensor

DOL 119 is a new generation innovative CO₂ sensor with an **IP67 protection rating**. It withstands a harsh environment and **doesn't have to be taken down during high-pressure cleaning in animal houses** if protection cap is applied. The sensor's measuring range is based on monitoring the comfort area of the animals and partly supervising fault conditions in livestock houses integrating direct combustion.

[Read more about DOL 119](#)



DOL 51 Ammonia Sensor for Air Cleaning

The DOL 51 ammonia sensor is specifically designed for continuous measurement of ammonia (NH₃).

On the clean gas side of air cleaners, DOL 51 measures the remaining ammonia concentration after the air has passed through the filters. Data that is vital to **documenting 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.

[Read more about DOL 51](#)



Light / Water



DOL 16 Light Sensor

The DOL 16 is a sensor designed to **measure light intensity in terms of lux**. It has been developed to handle the harsh livestock environment, but is also well-suited to a number of industrial applications. The light intensity or illuminance is an important factor in **optimizing the growth of broilers and egg production by layers**. An active control of light intensity by use of DOL 16 will help achieving high productivity while also **saving energy**. The sensor is available with various output ranges, ranging from 0-50 lux all the way up to 0-1000 lux.

[Read more about DOL 16](#)



DOL 90 Water Meter

The DOL 90 Water Meter measures **water consumption in cold water systems**. Built for demanding farm environments, it delivers precise measurements that help farm manager maintain **stable water supply**, discover water leaks, and optimize daily operations.

Whether used for monitoring consumption, detecting abnormalities, or supporting automated systems, the DOL 90 provides **dependable data** that farm managers can trust.

[Read more about DOL 90](#)



Weather

DOL 58 Weather Sensor



The DOL 58 measures **wind direction, wind speed, and air pressure**. Wind speed and direction are measured using **ultrasound**, which means the weather sensor has **no moving parts**. Eliminating the impellor and wind vane of typical weather sensor, allows the unique DOL 58 to be **extremely robust, reliable and service-friendly**. DOL 58 is available with 0-10V or 4-20mA outputs. A version with temperature output instead of air pressure is also available.

[Learn more about DOL 58](#)

DOL 111 Rain Detector



The DOL 111 is an **optical rain detector**. It has built-in optical probes for rain detection and comes with a 30-meter cable for easy installation. To **ensure automatic closing of inlets in case of rain** for example in cattle stables, DOL 111 rain sensor can be connected to a climate computer.

DOL 111 is designed to override cycle programs, stopping the system during rainfall, and keeping it off for a while after rain has fallen. Thus, it **can be used with irrigation controllers for stopping sprinklers at the field** e.g. Irrigation will resume once the sensor dries out or it rains below 6.35 mm/hour.

[Read more about DOL 111](#)



Pressure / Accessories

DOL 18 Sub-Pressure Sensor



The DOL 18 sensor is used for **very precise measurement of negative pressure**. It is used primarily for measuring negative pressure in livestock houses and **to trigger an alarm if the pressure is too low or too high**, but it can also be used in other environments where there is a need for measuring negative pressure. DOL 18 is available with a wide selection of measuring ranges from 25Pa to 1250Pa, and with 0-5V, 0-10V, and 4-20mA outputs.

[Read more about DOL 18](#)

Accessories

Climate sensors are often used in livestock houses that are subject to regular cleaning. It is therefore **important that the sensors can be easily protected, dismantled, and refitted**. Thus, we offer various protection caps and plug systems to allow for an easy and service friendly installation.

In livestock houses, dust and high humidity is harsh to sensor elements which is why our sensors are designed to withstand those conditions. To make our ammonia sensors last longer, we provide a replacement sensor element.



Protection cap
for DOL 104, 114 and 115



Protection cap
for DOL 119 and DOL 139



Protection against water
for DOL 53



Plug system
for DOL 114



Cable 2 m. with M12
plug incl. sealing plug
for DOL 16, 114, and 119



Replacement sensor
element for DOL 51 and 53
ammonia sensors

Follow us and stay updated



LinkedIn



Facebook



YouTube



dol-sensors a/s
Agro Food Park 15 8200 Aarhus N Denmark
Tlf. +45 72 17 88 88
www.dol-sensors.com