DOL 114 4-20 mA

Humidity and Temperature Sensor

1 Product description

DOL 114 is a high-precision humidity sensor for measuring relative humidity and temperature. It is intended for application in livestock houses but is also well suited for a number of industrial applications.

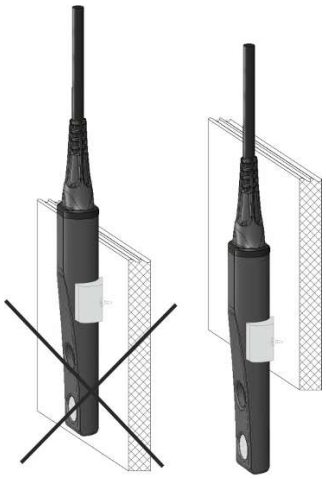
The sensor has two 4 to 20 mA outputs with a very low output resistance and full protection against short circuits and wiring failures.

The special sensor element and the built-in filter enable application in livestock houses with constantly high humidity. The sensor is available with built-in connector or cable according to requirement.

The sensor is microprocessor-controlled and has a two-color light emitting diode (LED) to communicate the operation status and the error diagnostic.

Sensor can be supplied with blinded LED for applications where this is needed.

2 Mounting guide



For optimum mounting of the sensor, use mounting clip or mount it free-hanging in the cable.

The sensor element of the sensor requires free air passage.

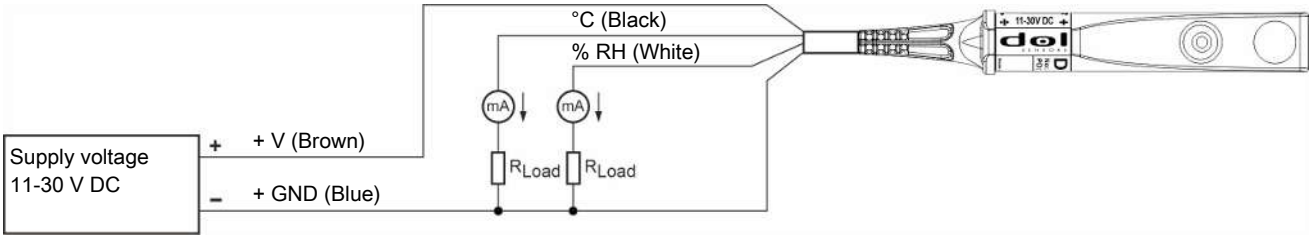
Mount the sensor so it is not exposed to direct sunlight, as this would affect the measurement.

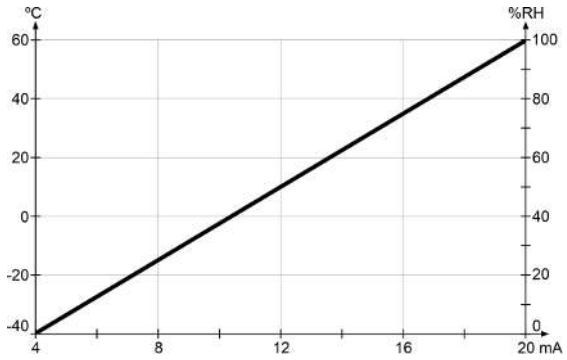
Remember to put on a protection cap before mounting the cable.

3 Installation guide

Installation, servicing and troubleshooting of all electrical equipment must be carried out by qualified personnel in compliance with the applicable national and international standard EN 60204-1 and any other EU standards that are applicable in Europe.

3.1 Connection of the sensor



LED/LIGHT PROTOCOL			Functional graph
LED		**Status**	
Green	**Red**		
ON		Operation OK	
Flash		Outside normal range (below 10 % RH or exceeding 95 % RH)	
	ON	Connection error Load error, see load graph	
	Flash	Sensor defect Over or under voltage alarm Overload	

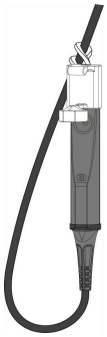
4 Maintenance

When cleaning and disinfecting the house, the protective cap must be put on the sensor so that it hangs with the tip up, as shown in the picture.

Alternatively, the sensor must be removed from the house and the cable's M12 sealing plug installed.

Sensor is cleaned with:

- Water and brush
- High-pressure cleaning with cold water (only with attached protective cap)



Avoid using:

- High-pressure cleaning with hot water
- Highly compressed air
- Solvents
- Corrosive/caustic agents
- Alcohol-based disinfectants

After the sensor has been exposed to water and condensation, it requires a period where the relative humidity is lower than 80 %RH in order for it to measure correctly.

Do not bend the sensor as this would inflict permanent damage on the electronics of the sensor.

4.1 Recycling/Disposal

The label indicates that the product must not be disposed of as general refuse disposal and must be treated as electronic waste.

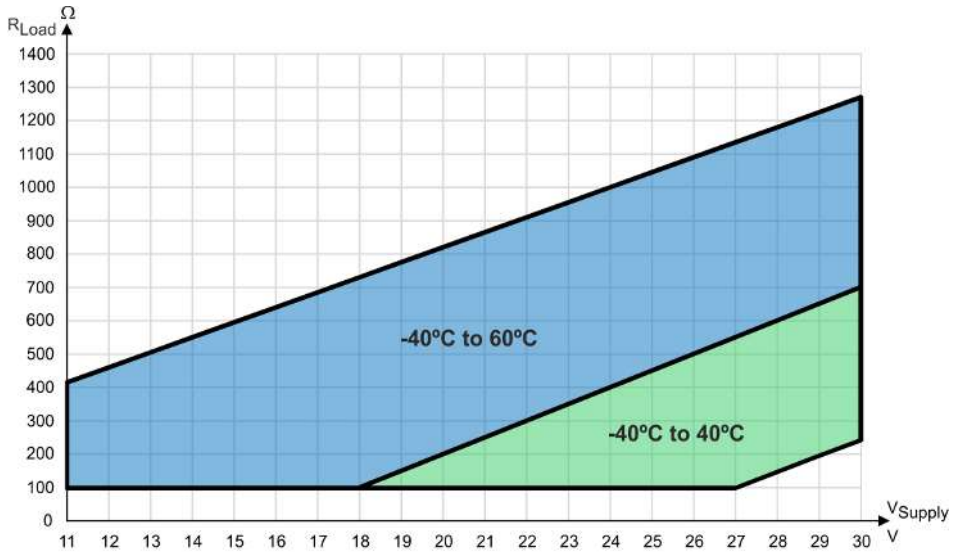
The label indicates that the product is suitable for recycling.

It must be possible for customers to deliver the products to local collection sites/recycling stations in accordance with local instructions. The recycling station will then arrange for further transport to a certified plant for reuse, recovery and recycling.

5 Technical data

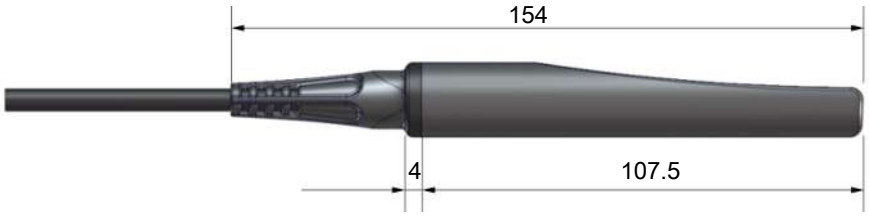
		Humidity measurement	Temperature measurement
Specifications			
Measuring range		0 - 100% RH	- 40 °C – +60 °C
Accuracy		± 2 % RH (40–85 %) ± 3 % RH (10-95 %) at 0-40 °C	± 0.5 °C (+10 – +40 °C) ± 1.5 °C (- 30 °C – +60 °C)
Output signal		0.16 mA/% RH	0.16 mA/°C; 0°C at 10.4 mA
Time constant T_{63}		20 s at 0.5 m/s air speed	6 min. at 0.5 m/s air speed
		Common	
Electrical			
Supply voltage	V DC	11 - 30	
Current	mA	55	
Load	kΩ	490 – 1 at 24 V DC supply voltage	
Recommended load	Ω	500	
Max. output current	mA	20	
Mechanical			
Cable dimensions	AWG	2 m 4 x 22 AWG / 0.34 mm^2	
Max. Cable length at 0.75 mm^2	m	500	
Max. Cable length at 1.50 mm^2	m	500	
Environment			
Temperature, operation and storage	°C	- 40 °C – +60 °C	
Protection class	IP	67	
Shipment			
Packing dimensions H x W x D	mm	275 × 200 × 20	
Shipment weight ex. connector	g	150	

5.1 Load resistance and supply voltage



5.2 Dimensions

Dimensions in mm.



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