MAKING SENSE IN YOUR PRODUCTION

DOL 114 0.5-3 V

EN

Technical User Guide

For **other language variants** of this document we refer to www.dol-sensors.com or your local dealer.

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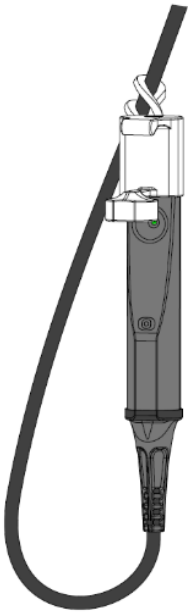
PRODUCT DESCRIPTION

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

MAINTENANCE

IMPORTANT



Clean DOL 114 using water and a brush. Do not use:

- High-pressure cleaner
- Highly compressed air
- Solvents
- Corrosive/caustic agents
- Alcohol-based disinfectants

During cleaning and disinfection, the sensor must be protected using a protection cap and be placed in vertical position.

After the sensor has been exposed to water and condensation, the sensor requires time during which the relative humidity is less than 80% in order to measure correctly.

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

dol-sensors reserve the right to change this document and the product herein described without further notice.

LED/LIGHT PROTOCOLL

LED		Status
Green	Red	
ON		Operation OK
Flash		Outside normal range (below 17% RH or exceeding 95% RH)
	ON	Connection error Load < 500 Ω
	Flash	Sensor defect Over/under voltage alarm Overload

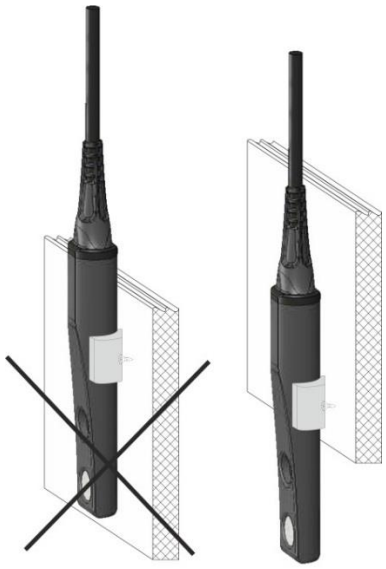


Figure 1 Mounting

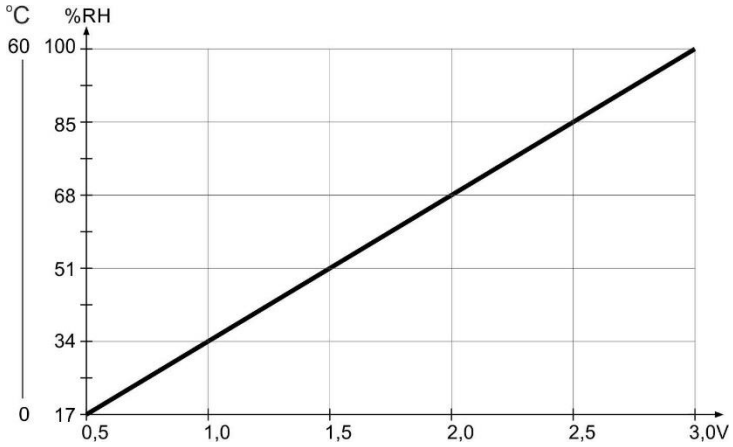


Figure 2: Functional graph

INSTALLATION

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

The sensor element requires free air passage. See Figure 1.

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.

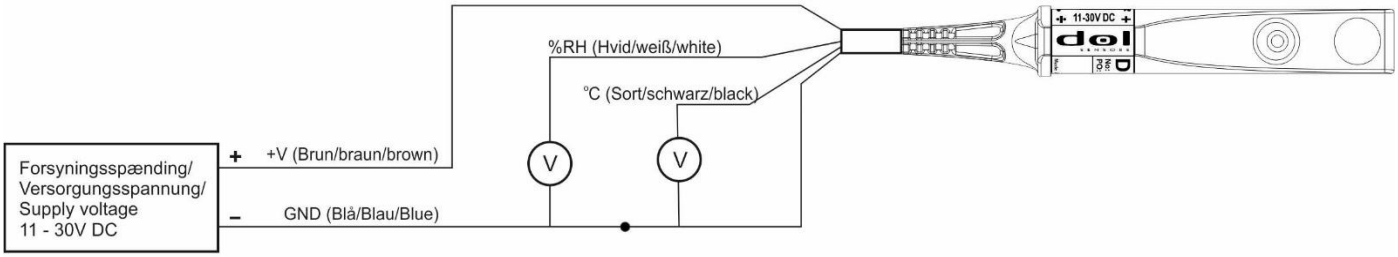


Figure 3 Connection

DOL 14		DOL 14 HQ		DOL 114		DOL 114 0.5-3 V
Black = +13-24V DC	→	White = +13-28V DC	→	Brown = +11-30V DC	→	Brown = +11-30V DC
Brown = 0...10V / %RH	→	Green = 0...10V / %RH	→	White =0...10V / %RH	→	White =0.5...3V / %RH
No temperature output		No temperature output		Black =0...10V / °C		Black =0.5...3V / °C
Blue = GND (0V)	→	Brown = GND (0V)	→	Blue = GND (0V)	→	Blue = GND (0V)

Tabll 1: Signals and wire colors in other products.

TECHNICAL DATA	Humidity	Temperature
Measuring range	16.67 – 100 % RH	0-60 °C
Accuracy 1	± 3 %RH (40–85 %) ± 4 %RH (16.67-95 %) at 0-40 °C *	± 0.6 °C (10-40 °C), ± 1.5 (0-60 °C)
Output signal	0.03 V / %RH	0.042 V/°C
Time constant T_{63}	20 s at 0.5 m/s air velocity	6 min. at 0.5 m/s air velocity
	Common	
Supply Voltage	11 – 30 V DC	
Supply Current	12 mA no load / 35 mA max. load	
Load	> 500 Ω - < 10 MΩ	
Recommended load	≥ 100 kΩ	
Output current	20 mA (current limited)	
Output impendence	< 1 Ω	
Temperature, operation **Temperature storage**	0 °C – 60 °C - 40 °C – 60 °C	
IP classification	IP 67	
Cable	2 m. 3 x 22 AWG / 0.34 mm^2	
Max. cable length/	100 m 0.75 mm^2 200 m 1.50 mm^2	
Shipment weight ex. connector	150 g	
Measure, shipment	275 × 200 × 20 mm	

* After direct water exposure and condensation a period with less than 80%RH is needed for correct measurement.

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