dol
SENSORS
MAKING SENSE IN YOUR PRODUCTION

DOL 114

EN

Technical User´s Guide

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

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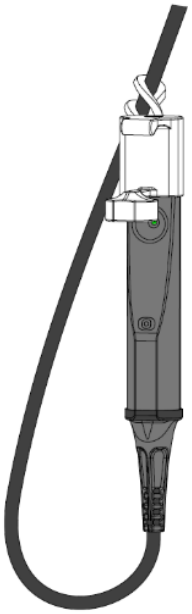
PRODUCT DESCRIPTION

DOL 114 is a high-precision sensor for measuring relative humidity and temperature. 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.

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LED/LIGHT PROTOCOLL

LED		Status
Green	Red	
ON		Operation OK
Flash		Outside normal range (below 10% RH or exceeding 95% RH)
	ON	Connection error Load < 500 Ω
	Flash	Sensor defect Over/under voltage alarm Overload

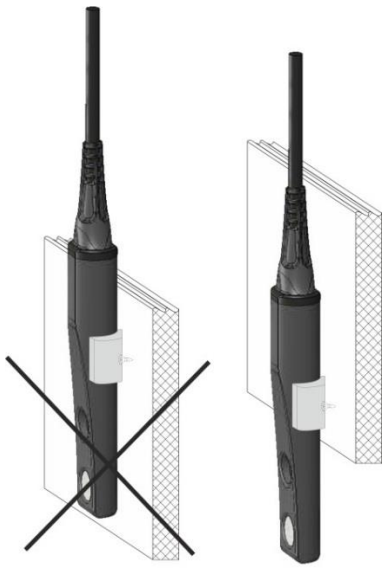


Fig. 1 Mounting

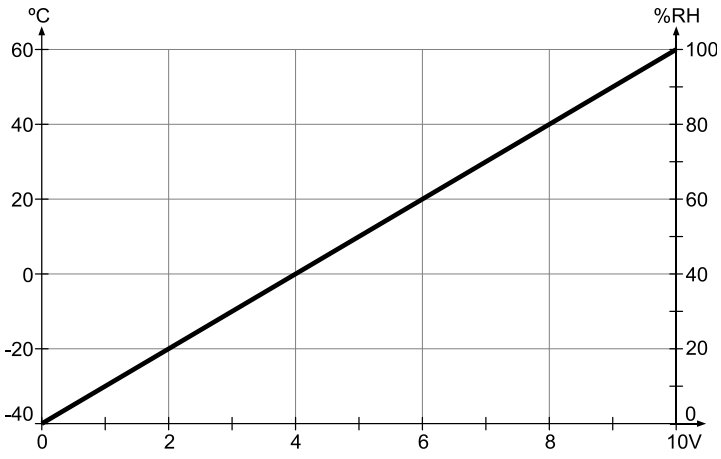


Fig. 2: Functional graph

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 Fig. 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.

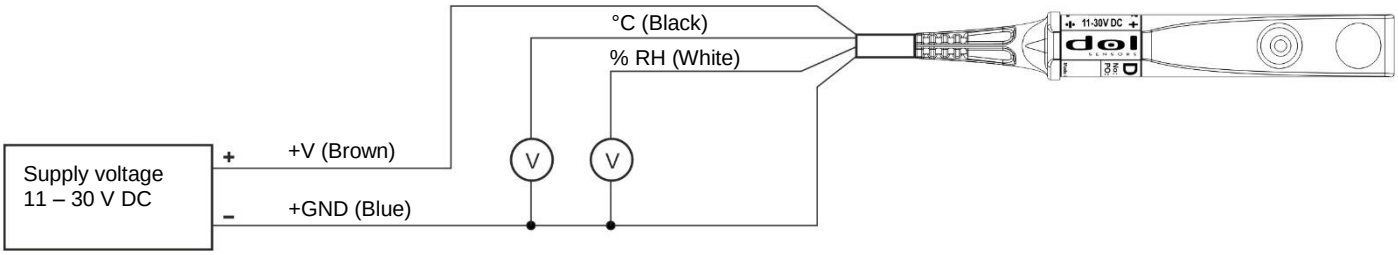


Fig. 3 Connection

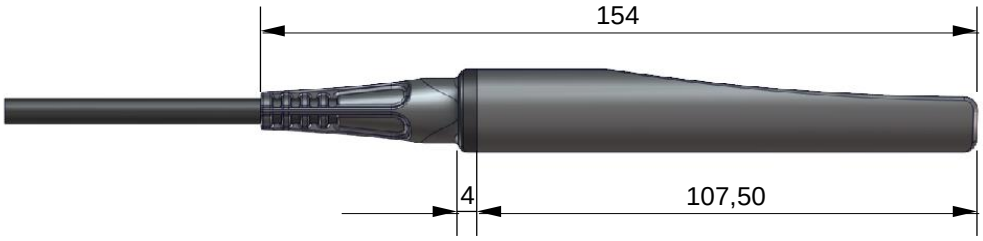
DOL 14		DOL 14 HQ		DOL 114
Black = +13-24V DC	→	White = +13-28V DC	→	Brown = +11-30V DC
Brown = 0…10V / %RH	→	Green = 0…10V / %RH	→	White =0…10V / %RH
No temperature output		No temperature output		Black = 0…10V / °C
Blue = GND (0V)	→	Brown = GND (0V)	→	Blue = GND (0V)

Table 1: Signals and wire colors in other products.

TECHNICAL DATA

	Humidity	Temperature
Measuring range	0 – 100 % RH	- 40 °C – 60 °C
Accuracy 1	± 2 % RH (40–85 %) ± 3 % RH (10-95 %) at 0-40 °C *	+10 °C – 40 °C: ± 0,5 °C - 30 °C – 60 °C: ± 1,5 °C
Output signal	0.1 V/% RH	0.1 V/°C; 0°C at 4 V
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 55 mA max. load	
Load	> 500 Ω - < 10 MΩ	
Recommended load	≥ 100 kΩ	
Output current	20 mA per output (current limited)	
Output impendence	< 1Ω	
Temperature, operation	- 40 °C – 60 °C	
Classification	IP 67	
Cable	2 m 4 x 22AWG / 0,34 mm^2	
Max. cable length	100 m at 0.75 mm^2	200 m at 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.



Dimensions (mm)

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