

dol
SENSORS

MAKING SENSE IN YOUR PRODUCTION

DOL 104 0-10 V

EN

Technical User Guide



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

PRODUCT DESCRIPTION

DOL 104 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 104 using water and a brush. Do not use:

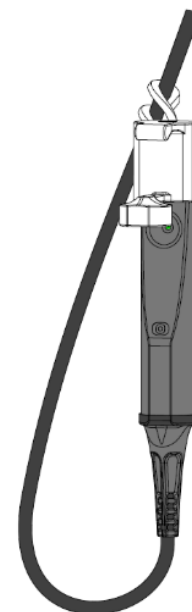
- High-pressure cleaner
- Highly compressed air
- Solvents
- Corrosive/caustic agents
- Alcohol-based disinfectants

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 PROTOCOL		Status	
LED	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

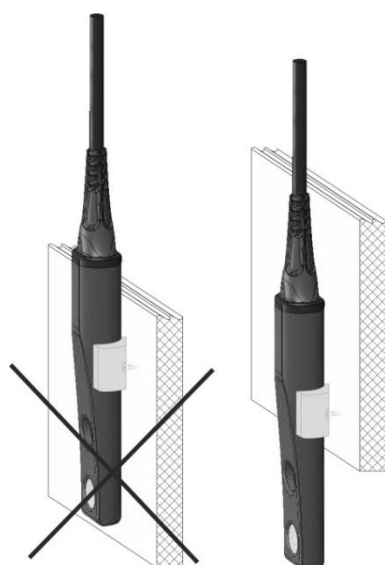


Figure 1 Mounting



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.

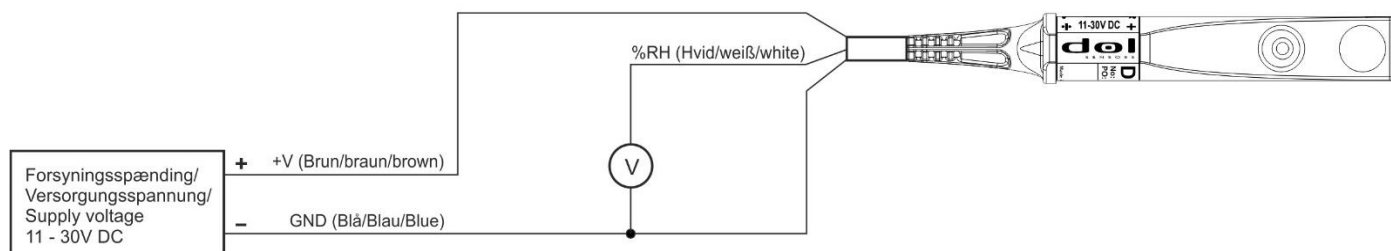


Figure 3 Connection

DOL 14		DOL 14 HQ		DOL 114		DOL 104 0-10 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...10V / %RH
No temperature output		No temperature output		Black = 0...10V / °C		No temperature output
Blue = GND (0V)	→	Brown = GND (0V)	→	Blue = GND (0V)	→	Blue = GND (0V)

Tabll 1: Signals and wire colors in other products.

TECHNICAL DATA

Measuring range	0 – 100 % RH
Accuracy 1	± 2% RH (40–85 %) ± 3% RH (10-95 %) at 0-40 °C *
Output signal	0.1 V / % RH
Time constant T₆₃	20 s at 0.5 m/s air velocity
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 impedance	< 1 Ω
Temperature, operation and storage	- 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 x 200 x 20 mm

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

