

DOL Sensors

DOL 16 0-100/1000 LUX 0-10V

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 16 is a sensor designed to measure light intensity. It is intended for application in livestock houses but is also well suited for a number of industrial applications.

Two variants of the sensor are available; one with a cable, and one with M12-connector/cable.

MAINTENANCE

IMPORTANT

It is important to keep the light-sensitive area of the sensor free of dust to ensure correct measurements. See Figure 1.

Apart from this, the product does not require any maintenance.

Do not expose the sensor to strong solvents as they may damage its surface and affect measurements.

Avoid using solvents such as acetone and alcohol.

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.



Figure 1: DOL 16

LED/LIGHT PROTOCOL		
LED		Status
Green	Red	
ON		Operation OK
	ON	Connection error Load < 500 Ω
	Flash	Sensor defect Over/under voltage alarm Overload

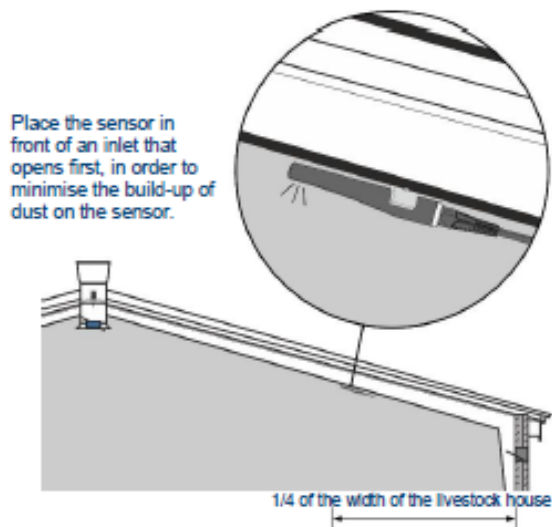


Figure 2: Mounting

Output Voltage

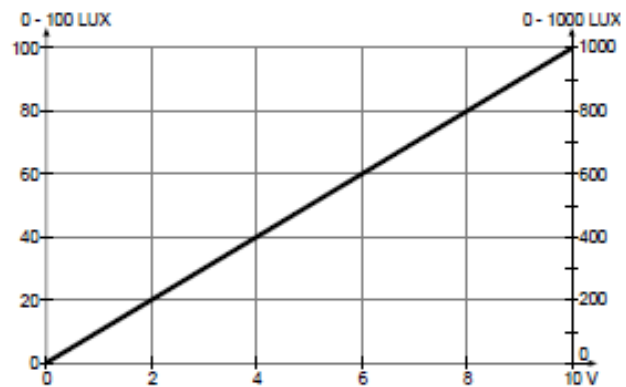


Figure 3: Functional graph

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INSTALLATION

For optimum mounting of the sensor, use a mounting clips.

The sensor should be placed in a position which is representative of the light level in the house – the light-sensitive area of the sensor is shown in Figure 1. Sunlight from the outside and objects obstructing incident light should be taken into account.

Examples of mounting are shown in Figure 2.

When demounting variant with M12 connector, the included plug must be mounted.

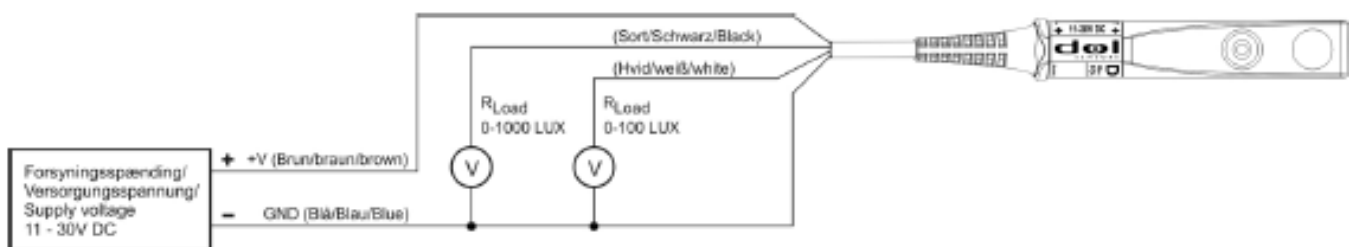


Figure 4: Connection

If 1:1 compliance with the L 182/19 standard is desired, measurements according to the standard and an adaptation to the output of the DOL 16 sensor with the chosen position must be carried out.

IN DUSTY ENVIRONMENTS, THE SENSOR SHOULD BE PLACED IN A POSITION WHICH ALLOWS FOR EASY CLEANING AT REGULAR INTERVALS.

TECHNICAL DATA

	Output 1	Output 2
Measuring range	0 – 100 Lux	0 -1000 Lux
Accuracy	5 - 100 Lux ± 4 % at 0 - 40 °C(32 °F – 104 °F)	25 -1000 Lux ± 8 % at 0 - 40 °C(32 °F – 104 °F)
Output signal (I_{out})	0.1 V / 1 Lux	0.1 V / 10 Lux
	Common	
Time constant	Typ. 2 Sec. Max. 15 Sec.	
Supply Voltage (V_{supply})	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 impedance	< 1 Ω	
Temperature, operation	- 40 °C – 60 °C(-40°F - 140°F)	
IP classification	IP 67(NEMA 6)	
Cable	2 m (6.6 feet) 4 x 0.33mm ² (22AWG) cable	
Cable connecting (only M12 variant)	M12 female connector with 2m (6.6 feet) 4 x 0.33mm ² (22AWG) cable	
Max. cable length	100 m 0.82 mm ² (328 feet 18AWG)	
Shipment weight	150 g (5.3oz)	
Measure, shipment	275 x 200 x 20 mm (11 x 8 x 0.8 inch)	

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SPECTRAL SENSITIVITY

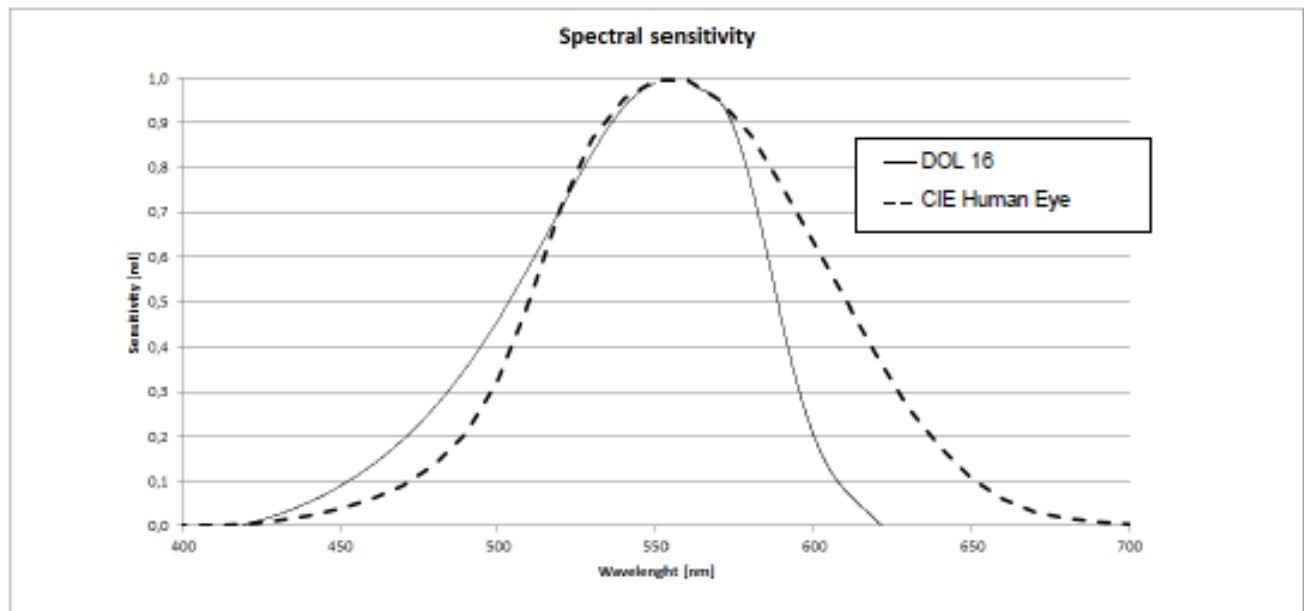


Figure 5: Spectral sensitivity

DIMENSIONS

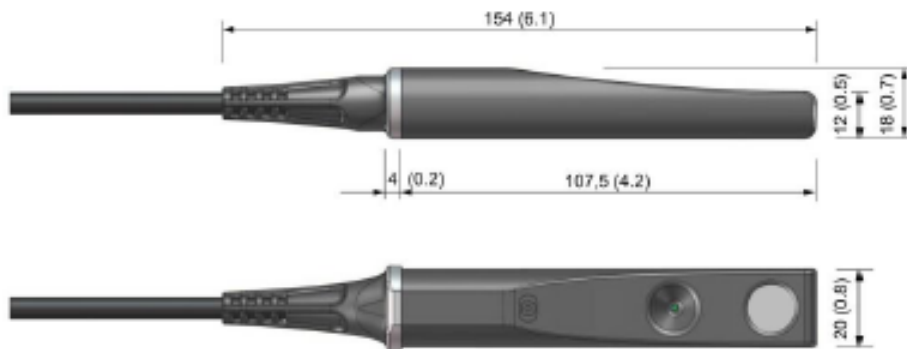


Figure 6: Dimensions mm (inch)