

DOL 16 0-100/1000 LUX
4-20 mA
Light Sensor



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

1 Product description

The 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.

The sensor is available in different variants; with cable or M12 connector/cable, and with current or voltage output.

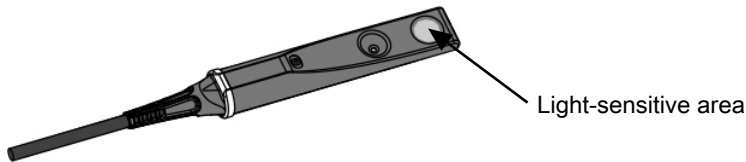


Figure 1: DOL 16.

2 Mounting

! In dusty environments, the sensor should be placed in a position which allows for easy cleaning at regular intervals.

For optimum mounting of the sensor, use the mounting clip.

Mount the sensor in front of an inlet in the direction of the fresh air jet to ensure that the sensor is free from dust. In houses with wall inlets place the sensor close to one of the inlets that opens first. In tunnel houses the sensor must be placed minimum 20 meters away from the end of the tunnel opening to avoid light from outside influencing the sensor.

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.

Placement of the sensor where it is influenced by sunlight from the outside and objects obstructing light near the sensor should be avoided.

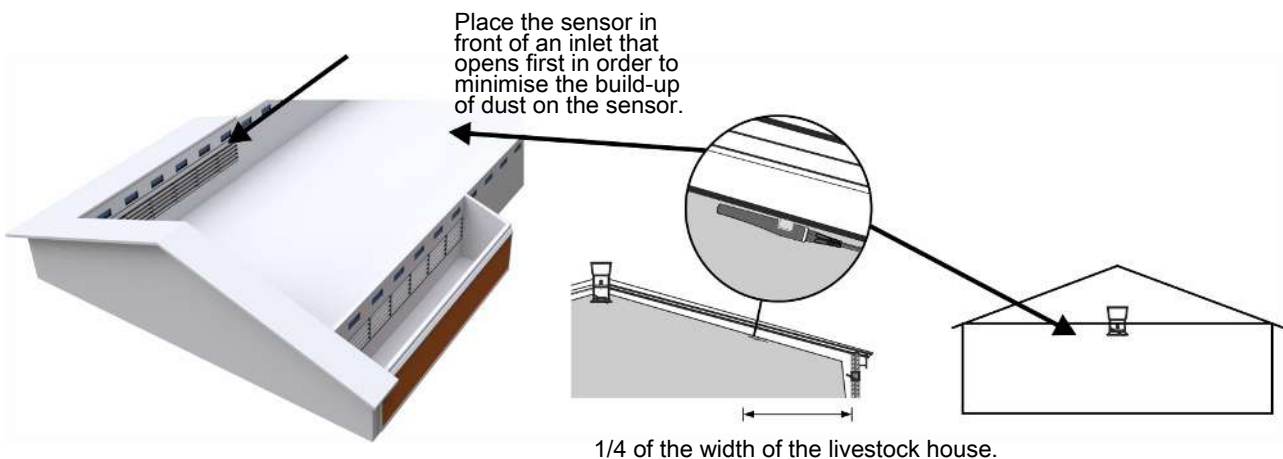
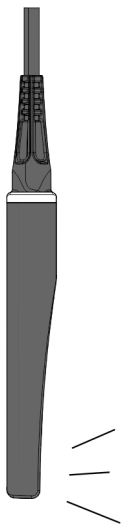


Figure 2: Mounting in the livestock house.



If ceiling mounting is not possible or not wanted, the sensor can be hung in the cable 1-2 meters above the animals. If this type of mounting is used, the sensor must be cleaned daily with a dry cloth.

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

3 Connection



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.

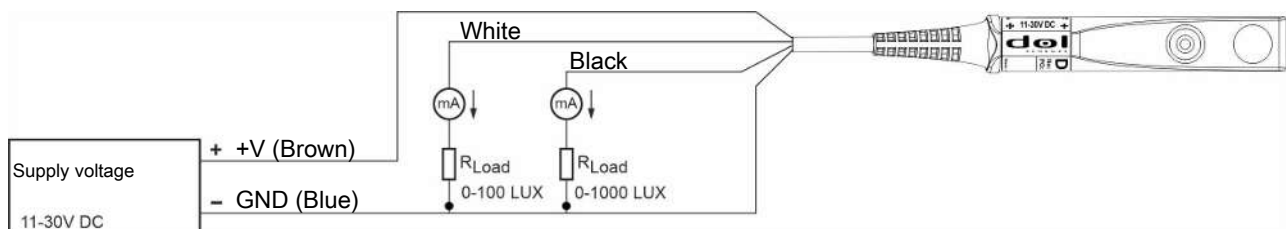


Figure 3: Connection.

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 placement must be carried out.

4 Functions

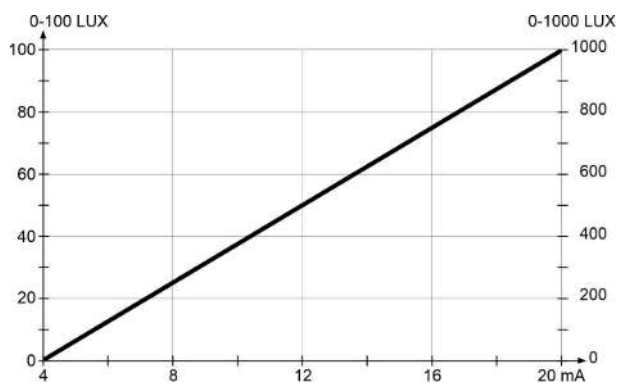


Figure 4: Function curve.

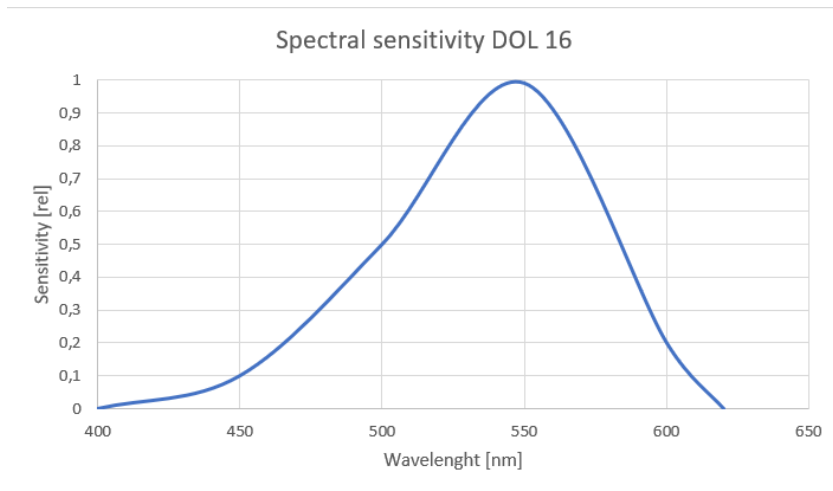


Figure 5: Spectral sensitivity.

5 LED indication

LED indication	Sensor status
GREEN ON	Operation OK
RED ON	Connection error
RED flashes	Sensor defective Over/under voltage alarm Overload

6 Maintenance

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

Clean the sensor with water and a brush without using:

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



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

7 Technical data

	Unit	Output 1	Output 2
Measurement range	Lux	0-100	0-1000
Accuracy		5-100 Lux +/- 4% at 0 – 40 °C (32 – 104 °F)	25-1000 Lux +/- 8% at 0 – 40 °C (32 – 104 °F)
Output signal (I_{out})		0.16mA/ 1 Lux	0.16mA/ 10 Lux
Common			
Electrical			
Time constant	Sec.	Typ. 2 max. 15	
Supply voltage (V_{supply})	V DC	11 - 30	
Current	mA	55	
Load	k Ω	0.490 – 1 at 24 V DC supply voltage	
Recommended load	Ω	See graph	
Max. output current	mA	20	
Mechanical			
Cable dimensions		2 m 4 x 22 AWG / 0.34 mm ²	
Max. cable length	m	200 m at 1.50 mm ²	
Environment			
Temperature, operation	°C (°F)	-40 – 60 (-40 – 140)	
Protection class	IP	67	
Shipment			
Measurement, shipment	mm (inch)	275 x 200 x 20 (11 x 8 x 0.8)	
Shipping weight	g (oz)	150 (5.3)	

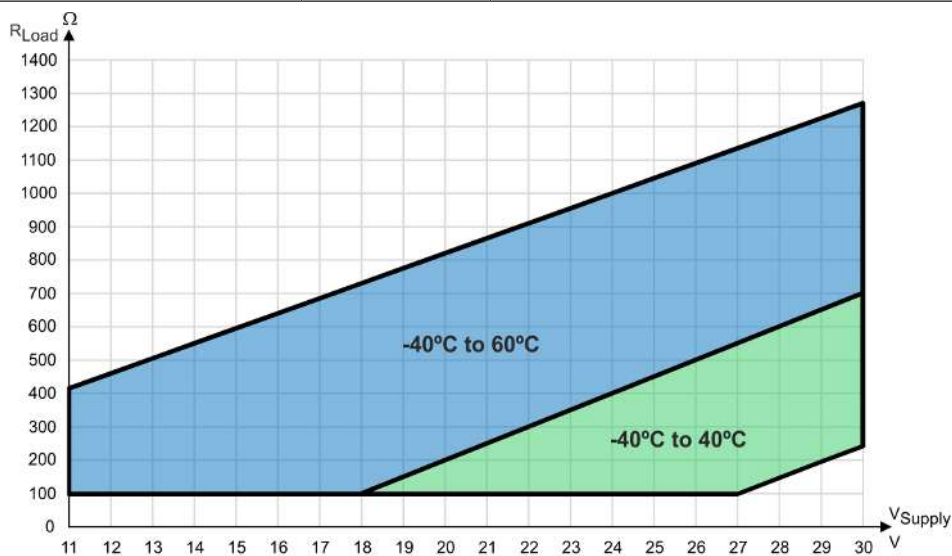
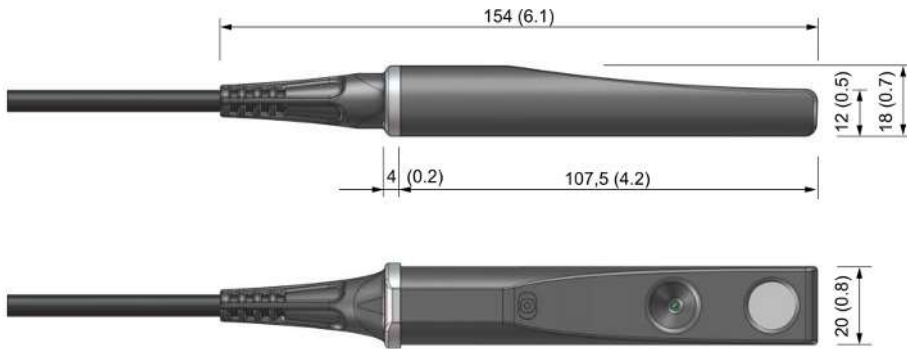


Figure 5: Load

7.1 Dimensioned sketch



Dimensions In mm (inch).

