DOL 20SCR

capacitive sensor



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

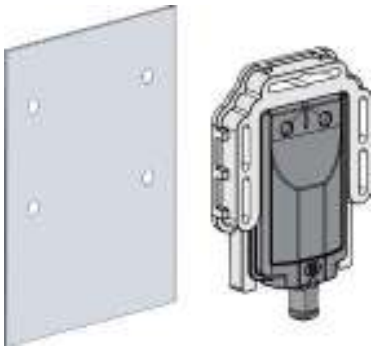
1 Product description

DOL 20SCR is a capacitive sensor for detection of loose and solid materials.

The sensor has a 2-wire connection (ON or OFF), which is protected against higher current (Ie) than specified, incl. connection / short-circuit directly to supply voltage.

The product is suitable together with contactors, relays and similar within the agricultural and industrial sectors. The mechanical design makes DOL 20SCRideal for integration into applications with limited space.

2 Mounting guide

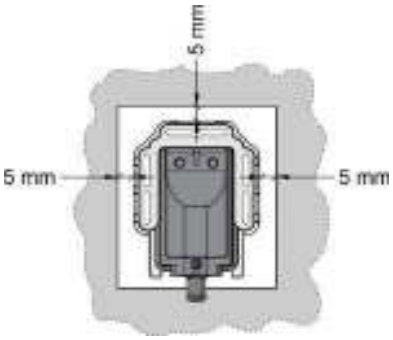


Measurement through plastic material:

The sensor with mounting clip can be used for plastic types with a minimum of moisture absorption.

Fit the sensor so that it is protected from the build-up of dust and the impact of water on the detection area of the sensor, including condensation.

If there is significant wear, the sensor should be mounted behind a wear plate made of a suitable plastic material.

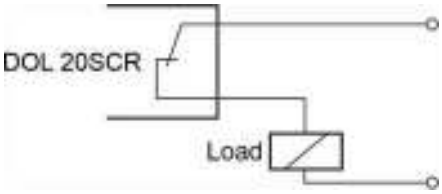


The sensor is not side sensitive, but to avoid incorrect detection as a result of uncertainty with regard to mounting, it is best to keep the sensor away from any metal components, see the dimensions in figure
(5 mm gap).

3 Installation guide



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.



The sensor must be connected as per the diagram

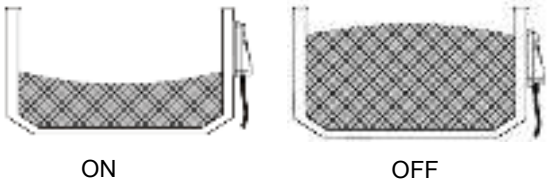
LED indication	Sensor status
LED OFF	Sensor is OFF
LED flashing	Sensor is OFF and ON delay is active
LED ON	Sensor is ON

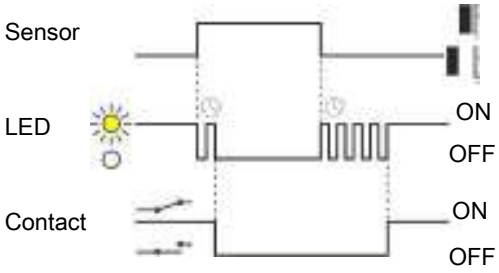
If the max. current (Ie) is exceeded, the sensor will try to change from OFF to ON 6 times, at the same time as quick pairwiseYellow LED flashes occur.

4 User Guide

When there is material in front of the sensor, the output is in the reference position OFF. When the material disappears, the timer, starts, and the output will change to ONafter the set delay.
The status of the sensor is indicated with a yellow LED.

The sensor sensitivity and delayed disconnection can be adjusted on two trimmers.





Delayed disconnection:

fixed delay *or* delay can be adjusted on the trimmer.

Delayed connection:

fixed delay *or* delay can be adjusted on the trimmer.

Sensitivity:

fixed distance *or* Distance can be adjusted on the trimmer.

MaxRun-timer:

DOL 20SCR Settings on the trimmer: Off, Period 1, Period 2

5 Maintenance

If the sensor is located in a particularly dirty environment, it may be necessary to clean the area around the sensor.

Otherwise, no additional maintenance is required.

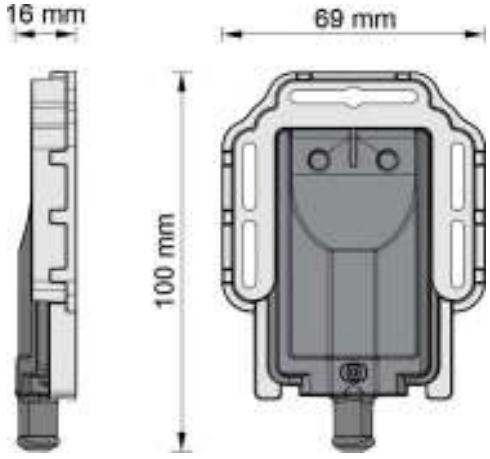
6 Technical data

Electrical		
Rated voltage (Ue)	V AC V DC	20 - 280 20 - 280
Frequency	Hz	47 - 63
Max. current (Ie)	mA	500
Direct connection to Ue (current >> 500 mA) without damage to the sensor	Times	> 10
Min. ON current (Im)	mA RMS/DC	< 10 (Ue = 20 - 90)
	mA RMS/DC	< 6 (Ue = 90 - 280)
OFF current (Ir)	mA RMS/DC	< 3 (Ue = 20 - 90)
	mA RMS/DC	< 1 (Ue = 90 - 280)
Voltage drop (Out) (current > 20 mA)	mA RMS/V DC	< 6
Time delay, start-up	ms	< 150
Time delay, ON*	ms	< 200
Time delay, OFF* (adjustable)	s	0.1 - 600

Operating distance (Sn)*	mm in	0 - 12 0 - 0.47
Safe activation distance (Sa)	mm in	4 - 10 0.16 - 0.39
Repeatability (R)	%	5
Hysteresis (H)	%	4 - 10
MaxRunTimer* (3 settings)	s	OFF / Period 1 / Period 2
LED indicator for sensor ON		Yellow LED
Mechanical		
Cable length	m (ft.)	1.5 (4.9)
Cable dimensions	mm² (AWG)	2x0.5 (2x20)
Frame for mounting sensor		Included
Environment		
Temperature, operation	°C (°F)	-20 - +70 (-4 - 158)
Temperature, operation, US and Canada, Ie < 300 mA	°C (°F)	-20 - +70 (-4 - 158)
Temperature, storage	°C (°F)	-40 - +80 (-40 - 176)
Protection class	IP (NEMA)	69k (1, 3, 4, 6, 12, 13)
Approvals		CE, C-UL, UL

*Option – can be changed / introduced upon request. See the current functions on the product label.

6.1 Dimensions



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