

Capacitive Sensor DOL 40R Series

The DOL 40R capacitive sensor series is designed for general detection of feed, grain and solids.



TYPICAL APPLICATIONS

A capacitive sensor is typically used as empty, full and level indicator in tanks, silos and containers. The powerful integrated relay means that it can control many functions directly. The DOL 40R sensors are also available in ATEX approved versions for use in environments with danger of dust explosion.

THE DOL 40R SERIES

The DOL 40R series of capacitive sensors from dol-sensors provides great functionality and is easy to operate. The series includes three models with different functions.

MULTI-FUNCTION

By means of a new microcomputer technique all functions have been put together in one sensor - DOL 45R. DOL 43R and DOL 41R are variants with fewer features.

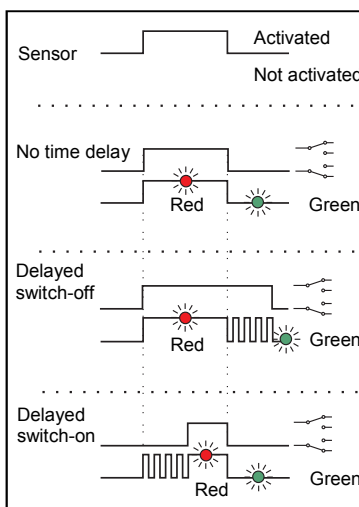
The sensitivity and the delay length are adjusted by two switches. LEDs indicate when the switches are activated. Naturally, all settings can easily be changed again later on.

FUNCTIONAL DESCRIPTION

DOL 41R has no time delay. The relay switches as soon as the sensor is activated and remains in this position until the activating influence stops.

DOL 43R has an option for delayed switch-off. When the activation stops, the time delay starts. When this delay expires, the relay switches back.

Apart from the two options above the DOL 45R can also be set for delayed switch-on. The time delay will start when the sensor is activated. The relay switches when the time delay expires. The relay will not switch back until the activation stops.



	Sensitivity	Delayed switch-off (Off delay)	Delayed switch-on (On delay)
DOL 41R	•		
DOL 43R	•	•	
DOL 45R	•	•	•

SPECIAL FUNCTIONS

The sensor is equipped with a range of special functions, which increase its usability:

- Reset of sensor to factory setting
- Reading of adjusted time delay
- Disconnection of time delay
- Turn the light on/off in diodes

TECHNIQUE

The DOL 40R series features a built-in powerful 10 A relay with switch function. The sensors are available in two variants with the following voltage range:

- 10 - 30 V AC/DC
- 90 - 250 V AC

RELIABILITY

The use of electronic rather than mechanic switches ensures a unique reliability, particularly as the electronics are completely encapsulated in special plastic, which provides maximum protection against humidity and other external influences in harsh environments.

The sensor is CE and C-UL approved and has a high immunity to noise from electric communication (i.e. from a mobile phone) and transients (i.e. from motors and contactors). This makes the sensor very reliable. In the ATEX version the sensor can be used safely in category 1 zone 20 environment.

BUILDING-IN

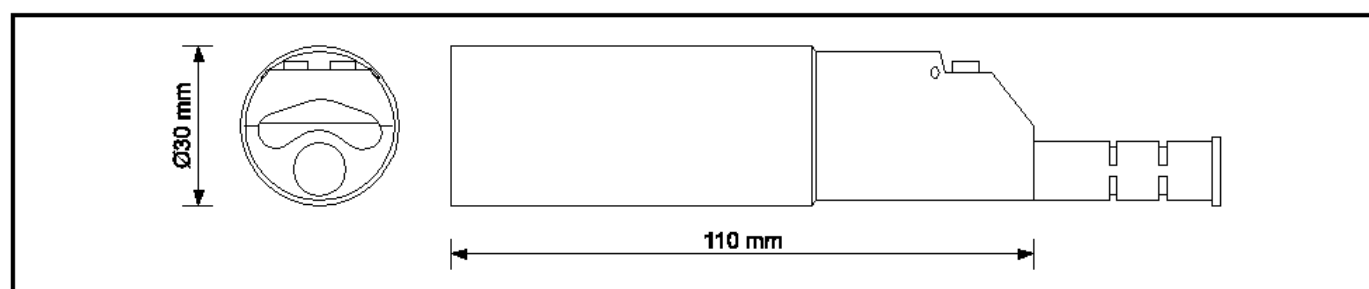
The DOL 40R is easily mounted in a plastic gland, which is also available as a flange solution for easy external mounting. Likewise, the sensor is supplied with thread, which provides several mounting options.

SPECIAL SENSOR FOR PIPE CONVEYOR


The DOL 40R series also includes a DOL 45R-T sensor. This model is specially developed for detection of feed supply in pipe conveyors, i.e. dry feeding systems.

The setting of sensitivity is more accurate and the factory preset is 20 sec. ON-delay.

DIMENSIONAL SKETCH



TECHNICAL DATA

Supply voltage:	10 - 30 V AC/DC and 90 - 250 V AC
Frequency:	50 - 60 Hz
Consumption:	2 VA
Relay switch max. voltage:	250 Volt AC
Relay switch max. power:	5 A at $\cos \varphi = 1$. 2 A at $\cos \varphi = 0.8$. 0.35 A at $\cos \varphi = 0.4$
Safety:	Relay switches and supply voltage are galvanic separated. Test voltage 4 kV AC
Distance of activation:	Adjustable 0 - 15 mm depending on material. Factory setting for grain
Time delay:	Adjustable 0-240 min. Factory setting for 30 sec.
Protection class:	IP67
Surrounding temperature, operation:	-20 °C to +70 °C / -4 °F to +158 °F
Surrounding temperature, storage:	-30 °C to +85 °C / -22 °F to +185 °F
Length:	110 mm / 4 ³ / ₈ "
Diameter:	30 mm / 1 ³ / ₁₆ "
Cable:	5-core 0.75 mm ² . Length 1500 mm / 58.5 in. Diameter 9.1 mm / 0.35 in
Weight incl. cable:	290 g
Accessories, supplied:	Instruction
Approvals:	CE and C-UL 0539  II 1D, DEMKO 03 ATEX 133967X, EEX ia IIC T6