

# Capacitive Sensor DOL 25 Series

Capacitive sensors are designed for detection of most types of feed, grain and solids. A capacitive sensor is typically used as empty, full and level indicator in tanks, silos and containers.



## PRODUCT DESCRIPTION

DOL 25 is connected to a central control unit or directly to a control relay. The types with integrated timers are particularly suitable for the direct control tasks.

### THE DOL 25 SERIES

DOL 25 is a new, complete sensor series, which covers all requirements concerning physical, electric and functional qualities. This has been accomplished by means of a new microcomputer platform, which forms the basis of all variants. The result is a sensor series that always offers a sensor perfect for any task.

The DOL 25 types with trimmers are available in several variants so you can get the exact function required: Without trimmer, with one trimmer or with two trimmers.

All types offer a new, active temperature compensation, which makes them 100 % temperature stable. They are also equipped with various new filter functions to resist electromagnetic influence. The immunity is much better than required by the EMC directive.

### FUNCTIONS

There are three basic types, which differ concerning functionality, operation and number of trimmers. The sensor with one trimmer has adjustable sensitivity and the sensor with two sensors has both adjustable sensitivity and adjustable off-delay timer.

## ARTICLE STRUCTURE

The following types are standard types in stock. Other combinations of physical and electric features can be produced by request.

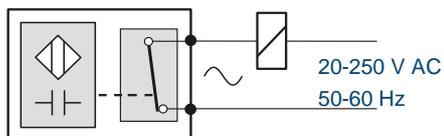
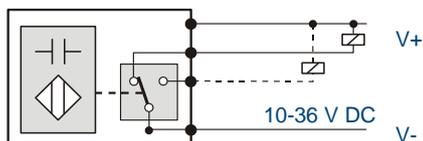
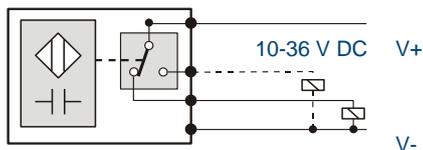
Article code			No.
CA-P-Ø18-NF	CA	PNP-2-2T	102001
		PNP-2-1T	102002
		PNP-2-0T	102003
		SCR-B-2T	102041
		SCR-B-1T	102042
CA-P-M18-NF	CA	PNP-2-2T	102097
		PNP-2-1T	102098
		PNP-2-0T	102099
		SCR-M-1T	102134
		SCR-B-0T	102139
CA-P-M30-NF	CA	PNP-2-1T	102194
		NPN-2-1T	102210
		SCR-M-2T	102229
		SCR-M-1T	102230
		SCR-B-2T	102233
		SCR-B-1T	102234

## STATUS INDICATOR

All types have a status light-emitting diode (LED), which shows the current status of the sensor. The LED shows the output status and not if the sensor is influenced. Sensor defects and active current limiter are shown as short flashes.

					LED

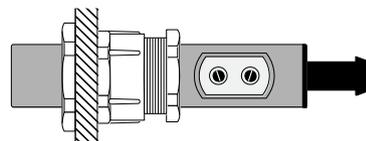
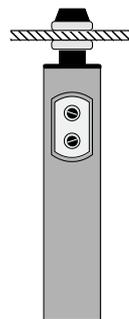
## CONNECTION



## BUILDING-IN

The plain DOL 25 is mounted either hanging or fixed in a plastic gland or rubber joiner.

Threaded types are supplied with nuts for fastening in a plate or a wall.

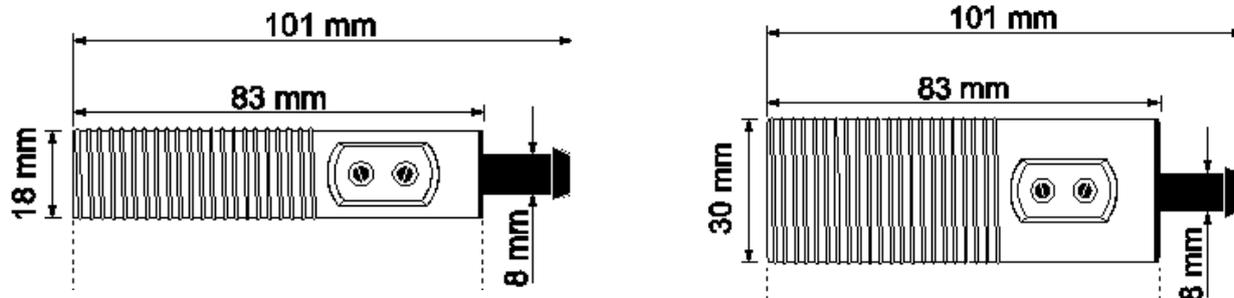


## ADDITIONAL QUALITIES

Thanks to a new microcomputer technology and an advanced design of the circuit, we have succeeded in giving the DOL 25 a range of pioneering product advantages.

- Active temperature compensation is an integrated temperature sensor, which constantly monitors the influence of the surroundings and compensates currently so that the sensitivity is kept continuously constant.
- Dual Sensing is a new method for treatment of the signals in the sensor so that external influences are balanced
- Switch Capacitor is a new principle for the object detection itself, which makes the sensor extremely immune to high frequency irradiation.

**DIMENSIONAL SKETCH**



**CODE EXPLANATION**

	X	CA	X	X	X	X	X	X	X	
<b>Name</b>	DOL 25									
<b>Type</b>	CA = capacitive									
<b>Case</b>	P = plastic									
<b>Diameter</b>	M18 = 18 mm threaded tube Ø18 = 18 mm plain tube									
<b>Mounting</b>	FL = Flushed NF = Non-flushed									
<b>Connection</b>	CA = Cable connection PL = M12 sensor plug									
<b>Output type and function</b>	PNP = 1 PNP output NPN = 1 NPN output SCR = 1 SCR output									
<b>Initial condition</b>	2 = 2 PNP/NPN outputs, Make (NO) and Break (NC) M = 1 PNP/NPN/SCR output, Make (NO) B = 1 PNP/NPN/SCR output, Break (NC) P = 1 PNP/NPN/SCR output, programmable Make (NO) / Break (NC)									
<b>Adjustments</b>	DI = Display 1T = 1 Trimmer 2T = 2 Trimmers 0T = 0 Trimmers									

## TECHNICAL DATA

	DOL 25 PNP/NPN		DOL 25 SCR	
<b>Electrical</b>				
Power supply (Ue)	10-36 VDC			
Power supply (Ub)			20-250 VAC	
Max. ripple (Vpp)	10 %			
Frequency			50-60 Hz	
Rated operational current (Ie)	500 mA		300 mA	
Max. voltage drop (Ud)	< 2.5 VDC		< 10 VAC RMS	
No-load supply current	< 6 mA			
Turn ON time	< 100 mS		< 100 mS	
Frequency of operating cycles	> 100 Hz		> 10 Hz	
Min. operational current (Im)			< 10 mA RMS	
OFF-state current (Ir)			< 3 mA RMS	
Transient voltage	4 kV		4 kV	
Impulse voltage	2 kV			
Impulse voltage (load = 468 ohm)			4 kV	
<b>Mechanical</b>				
	18 mm		30 mm	
	Plastic	Metal	Plastic	Metal
Cable, 4 x 0.26 mm <sup>2</sup> (AWG 22)	2000 mm	2000 mm	2000 mm	2000 mm
Weight cable type	108 g	146 g	168 g	238 g
Weight plug type	32 g	60 g	80 g	148 g
<b>Environment</b>				
Surrounding temperature, operation	-25 to +70 °C		-13 to +158 °F	
Surrounding temperature, storage	-30 to +80 °C		-22 to +176 °F	
Protection class	IP67		NEMA6	
Approvals	CE and C-UL			