DOL 27 and iDOL 27 capacitive sensor



SmartAdjust

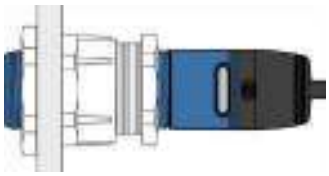
For other language variants of this document we refer to www.dol-sensors.com or your local dealer.

1 Product description

DOL 27 / iDOL 27 is a capacitive sensor for detection of loose and solid materials.
SCR output versions are available in 2-wire versions. PNP and NPN output versions are available in 4-wire versions.

The products are suitable together with contactors, relays, PLC's and similar within the agricultural and industrial sectors. DOL 27 / iDOL 27 is immune to EMI, short circuits and any overload. The mechanical design makes DOL 27 / iDOL 27 ideal for integration into applications with limited space. Very low power consumption in off state – enables possibility for sensors working in parallel on the same contactor. Unique possibility for controlling cross auger systems.

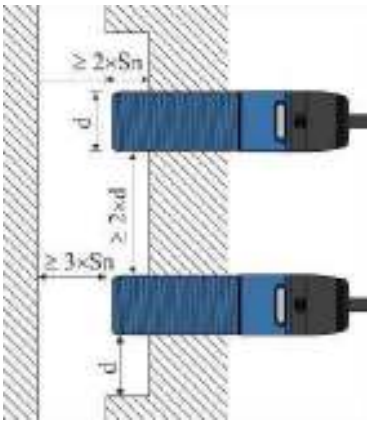
2 Mounting guide



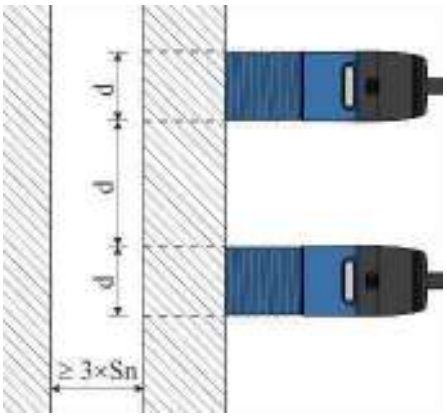
Smooth version mounted within a PG 29 gland



Threaded version mounted with M30 nuts



Mounting restrictions for non-flush (side sensitive version)

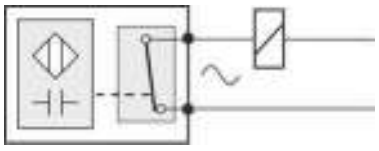


Mounting restrictions for flush (not side sensitive version)

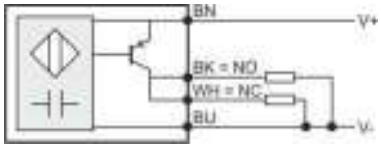
3 Installation guide



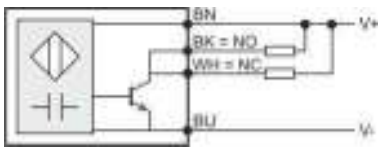
Installation, servicing and troubleshooting of all electrical equipment must be carried out by qualified personnel in compliance with the applicable national and international standard EN 60204-1 and any other EU standards that are applicable in Europe.



(i)DOL 27SCR



(i)DOL 27PNP



(i)DOL 27NPN

(i)DOL 27SCR:

Connect the sensor in series with the load. The polarity is unimportant.

The sensor is protected against overload and short circuit. If the output current exceeds the nominal output current, the output function is switched off. Remove the short circuit or choose a smaller load to remove the error. The current limitation error is indicated on the sensor by double flashes followed by a pause.

(i)DOL 27PNP/NPN:

Connect the sensor to a DC supply and connect the loads between the outputs and V- for the PNP version and V+ for the NPN version.

The sensor is protected against polarity errors, and the outputs are protected against overload and short circuit. If the output current exceeds the nominal output current, the output function is switched off. Remove the short circuit or choose a smaller load to remove the error. The current limitation error is indicated on the sensor by double flashes followed by a pause.

LED indication	DOL 27SCR / iDOL 27SCR status	DOL 27PNP/NPN / iDOL 27PNP/ NPN status
RED OFF	Sensor output is OFF	
RED slow flashing	Sensor delay is active	
RED double flashing	Sensor load error (overcurrent protection is active) MaxRunTimer is active (optional)	
RED ON	Sensor output is ON	
GREEN OFF	-	No power to sensor
GREEN ON	-	Power to sensor

Adjustment

DOL 27 / iDOL 27 is available with different functions

DOL 27 has trimmers with different functions depending on its type

iDOL 27 settings can be adjusted with the SmartAdjust app.

4 Technical data

		DOL 27SCR / iDOL 27SCR	DOL 27PNP/NPN / iDOL 27PNP/NPN
Electrical			
Supply voltage (Ue)	V AC/DC	20 - 280	-
	V DC	-	10 - 36
Frequency	Hz	47 - 63	
Max. ripple	%	-	10
Max. Current	mA AC/DC	500	-
	mA DC	-	500
Inrush current	A	< 2,5A @ 30 ms	-
Direct connection to Ue (current >> 500 mA) without damage to the sensor	times	>10	
Min. ON current	mA AC/DC RMS	< 10 (Ue = 20 - 90)	-
		< 6 (Ue = 90 - 280)	-
OFF current	mA AC/DC RMS	< 3 (Ue = 20 - 90)	-
		< 1 (Ue = 90 - 280)	-
Voltage drop, output ON	V AC/DC	< 6	-
	V DC	-	< 2.5
current consumption without load	mA DC	-	< 6
Specifications			
Detection speed	Hz	>15	>100
Time delay, start-up	ms	265	60
Time delay, ON*	ms-s	< 65 - 600	<10 - 600
Time delay, OFF* (adjustable)	s	0.1 - 600	
Activation distance (Sn)* (adjustable)	mm (inches)	0 – 20 (0 – 0.79)	
Safe activation distance	mm (inches)	4 – 15 (0.16 – 0.59)	

		DOL 27SCR / iDOL 27SCR	DOL 27PNP/NPN / iDOL 27PNP/NPN
Repeatability	%	5	
Hysteresis	%	4 - 10	
MaxRunTimer* (3 settings for DOL 27, stepless 1-7200 s for iDOL 27)	s	Off / Period 1 / Period 2	
Number of single turn 240° potentiometer (DOL 27)		0, 1 or 2	
SmartAdjust (iDOL 27)		Download on the App Store GET IT ON Google Play Activated NFC required	
Number of outputs		1	1 or 2
Type of output		NO or NC	NO and NC
Indicator for power ON		-	Green LED
Indicator for sensor output state ON or Error		Red LED	
Mechanical			
Sensor length	mm (inches)	117 (4 5/8)	
Sensor diameter (d)	mm (inches)	29.5 (1 3/16)	
Cable dimensions	mm2 (AWG)	2x0.5 (2xAWG20)	4x0,26 (4xAWG22)
Cable length	m(ft.)	2 (6.6)	
Cable type		UL2517	
Weight incl. cable	g (oz)	170 (6)	
Environment			
Operating temperature	°C (°F)	-20 to +70 (-4 to +158)	
Operating temperature, USA and Canada, Ie < 300mA	°C (°F)	-20 to +70 (-4 to +158)	
Operating temperature, USA and Canada, Ie < 500mA	°C (°F)	-20 to +65 (-4 to +149)	-20 to +70 (-4 to +158)
Storage temperature	°C (°F)	-40 to +80 (-40 to +176)	
Protection class	IP	69k (DIN 40050-9)	
	NEMA	1, 3, 4, 6, 12, 13	
Approval		CE, UL, C-UL	

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

4.1 Dimensions



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