DOL 27 and iDOL 27 capacitive sensors



SmartAdjust

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.

RELIABILITY

The sensor's electronics are completely embedded in a thermoplastic casing. This achieves a very high resistance to moisture and other external influences in aggressive environments. The sensor is CE, C-UL and UL approved and has a high immunity to noise from electric communication (e.g. from mobile phone) and transients (e.g. from motors and contactors). This makes the sensor very reliable and dependable in operation.

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.

Functional description

Delayed disconnection:

fixed delay *or* delay can be adjusted on the trimmer or via the SmartAdjust app.

Delayed connection:

fixed delay *or* delay can be adjusted on the trimmer or via the SmartAdjust app.

Sensitivity:

fixed distance *or* distance can be adjusted on the trimmer or via the SmartAdjust app.

MaxRun-timer:

DOL 27 Settings on the trimmer: Off, Period 1, Period 2

iDOL 27 adjustable 1-7200s via SmartAdjust app

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

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)	
Repeatability	%	5	
Hysteresis	%	4 - 10	

		DOL 27SCR / iDOL 27SCR	DOL 27PNP/NPN / iDOL 27PNP/NPN
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.

Dimensions



• 2022-08-10 • en-US • Made in Denmark