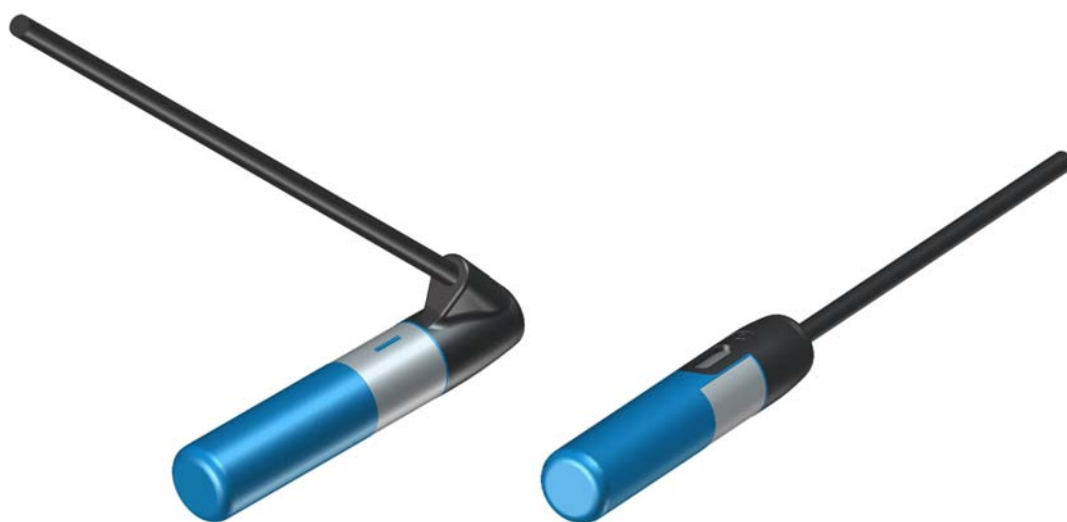


DOL 26 SCR/PNP/NPN

Capacitive Proximity Sensors

EN
TECHNICAL USER'S GUIDE



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

PRODUCT

- DOL 26 is a capacitive sensor for detecting 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 26 is immune to EMI, short circuits and any overload. No more burned off sensors due to installation mistakes.
- The mechanical design makes DOL 26 ideal for integration into applications with limited space. The full-return option is especially suited for feeding pans.
- 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.
- IP69k and NEMA 1/3/4/6/12/13 environment protection.
- Fully temperature compensated in complete wide temperature range.

FUNCTIONALITY

- DOL 26SCR, incl. load, can be supplied with 20-280 VAC/VDC 47-63 Hz
- Maximum current (I_e) of 500 mA for all SCR, PNP and NPN.
- Easy trimmer adjustment on a single turn 240° trimmer with linear or non-linear scale.
- The sensitivity of the sensor can be fixed or adjusted using a trimmer to suit different types of feed.
- The ON/OFF delay and MaxRunTimer of the sensor can be fixed or adjusted using a trimmer to suit different motor control units.
- Functions which can be made available for adjustment on trimmers:
 - Make / Break contact
 - ON and/or OFF delay
 - MaxRunTimer
 - Sensitivity

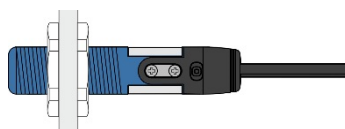
ACCESSORIES

- Treaded product versions are supplied with M18 nuts for implementation.
- All product versions are supplied with screwdriver for trimmer adjustment.
- 140135 Drop Tube for fitting / adapting the sensor to feed drop systems.
- PG 21 gland

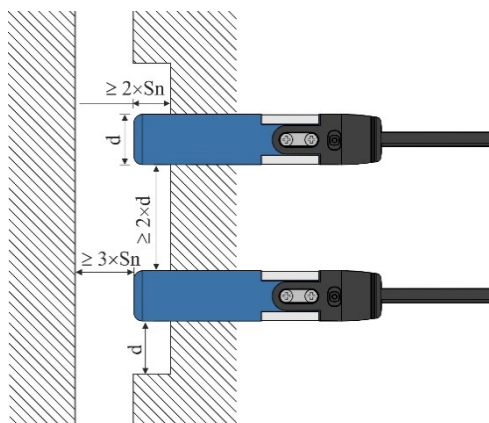
MOUNTING GUIDE



Smooth version mounted within a PG21 gland

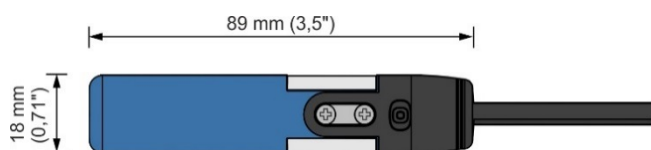


Threaded version mounted with M18 knots



Mounting restrictions for non-flushed version

SENSOR DIMENSIONS

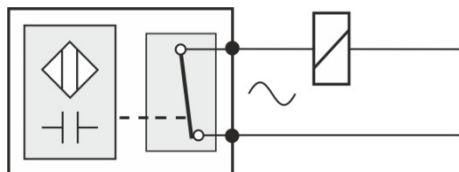


INSTALLATION GUIDE

DOL 26SCR:

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. Eliminate the short circuit or choose a smaller load to eliminate the error. The current limitation error is indicated on the sensor by double flashes followed by a pause.

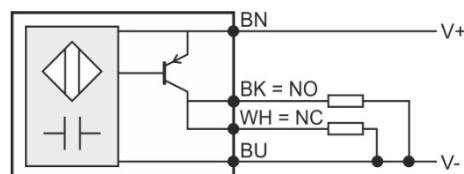


DOL 26SCR

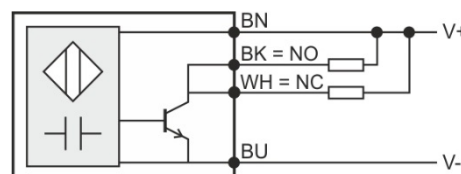
DOL 26PNP/NPN:

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. Eliminate the short circuit or choose a smaller load to eliminate the error. The current limitation error is indicated on the sensor by double flashes followed by a pause.



DOL 26PNP



DOL 26NPN

LED INDICATION

LED indication	DOL 26SCR status	DOL 26PNP/NPN status
RED OFF	Sensor output is OFF	Sensor output is OFF
RED slow flashing	Sensor delay is active	Sensor delay is active
RED double flashing	Sensor load error (overcurrent protection is active) MaxRunTimer is active (optional)	Sensor load error (overcurrent protection is active) MaxRunTimer is active (optional)
RED ON	Sensor output is ON	Sensor output is ON
GREEN OFF	N.A.	No power to sensor
GREEN ON	N.A.	Power to sensor

ADJUSTMENT OF USER SETTINGS

The user settings can be adjusted by the single turn 240° trimmers – e.g. sensitivity and delay – see product label for details.



MAINTENANCE INSTRUCTIONS

o maintenance is required. However, it may be necessary to clean around the sensor, if it is located in a dirty environment.

TECHNICAL DATA

Specification	DOL 26SCR		DOL 26PNP / DOL 26NPN	
	Parameter	Unit	Parameter	Unit
Supply voltage (Ue)	20 - 280	VAC RMS / VDC	10 - 36	VDC
Frequency (fe)	47 - 63	Hz	-	Hz
Max. ripple	-	%	10	%
Max. current (Ie)	500	mA RMS / mA DC	500	mA DC
Inrush current	< 2.5A @ 30 ms	A	-	-
Direct connection to Ue (current >> 500 mA) without damage to the sensor	> 10	Times	> 10	Times
Min. ON current (Im)	< 10 (Ue = 20 - 90)	mA RMS / mA DC		
	< 6 (Ue = 90 - 280)			
OFF current (Ir)	< 3 (Ue = 20 - 90)	mA RMS / mA DC		
	< 1 (Ue = 90 - 280)			
Voltage drop, output ON (Ud)	< 6	V RMS / V DC	< 2.5	V DC
No load supply current	-	mA RMS / mA DC	< 6	mA DC
Detection speed*	< 15	Hz	< 100	Hz
Time delay, start-up	265	ms	60	ms
Time delay, ON*	< 65	ms	< 10	ms
Time delay, OFF* (adjustable)	0.1 – 600	s	0.1 – 600	s
Activation distance (Sn)* (adjustable)	0 - 12 (0 - 0.47)	mm (inches)	0 - 12 (0 - 0.47)	mm (inches)
Safe activation distance (Sa)*	4 - 10 (0.16 - 0.39)	mm (inches)	4 - 10 (0.16 - 0.39)	mm (inches)
Repeatability (R)	5	%	5	%
Hysteresis (H)	4 - 10	%	4 - 10	%
MaxRunTimer* (3 settings)	Off / Period 1 / Period 2	s	Off / Period 1 / Period 2	s
Number of single turn 240° trimmers*	0, 1 or 2		0, 1 or 2	
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		Red LED	
Temperature, operation	-20 - +70 (-4 - +158)	°C (°F)	-20 - +70 (-4 - +158)	°C (°F)
Temp., operation, US and Canada, Ie < 300 mA	-20 - +70 (-4 - +158)	°C (°F)	-	°C (°F)
Temp., operation, US and Canada, Ie < 500 mA	-20 - +65 (-4 - +149)	°C (°F)	-20 - +70 (-4 - +158)	°C (°F)
Temperature, storage	-40 - +80 (-40 - +176)	°C (°F)	-40 - +80 (-40 - +176)	°C (°F)
Protection class	IP69k (DIN 40050-9)		IP69k (DIN 40050-9)	
	NEMA 1, 3, 4, 6, 12, 13		NEMA 1, 3, 4, 6, 12, 13	
Cable length*	2 (6.6)	m (ft.)	2 (6.6)	m (ft.)
Cable conductor size	2 x 0.5 (2 x AWG20)	mm ²	4 x 0.26 (4 x AWG22)	mm ²
Weight	170 (6)	g (oz)	170 (6)	g (oz)
Approvals	CE UL C-UL		CE UL C-UL	

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

For more info: www.dol-sensors.com