

Capacitive Relay Sensor DOL 44R Series

The DOL 44R capacitive relay sensor series is designed for general detection of feed, grain and solids.



TYPICAL APPLICATIONS

A capacitive relay 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 44R SERIES

The DOL 44R series of capacitive relay sensors from SKOV are sturdy and easy to operate.

Two trimmers make it easy to change settings of two product parameters, depending on the model.

A red LED clearly indicates the current status of the relay sensor

FUNCTIONAL DESCRIPTION

DOL 44R is available with different functions.

Delayed disconnection – when the load stops, the time delay starts:

- Fixed time or
- Time adjustable on trimmer

Delayed connection – when the load stops, the time delay starts:

- Fixed time or
- Time adjustable on trimmer

Sensitivity:

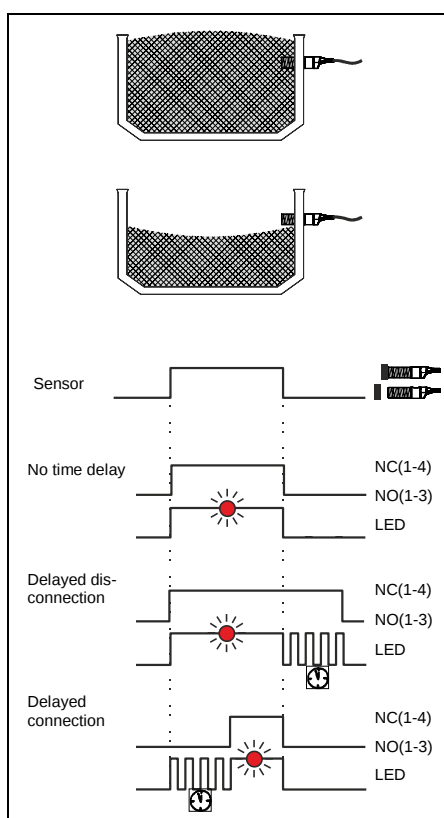
- Fixed distance or
- Distance adjustable on trimmer

MaxRunTimer:

- Settings on the trimmer: Off, Period 1, Period 2

The actual functionality of the sensor is indicated on the product label.

See www.dol-sensors.com for further information



TECHNIQUE

The DOL 44R 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 - 265 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.

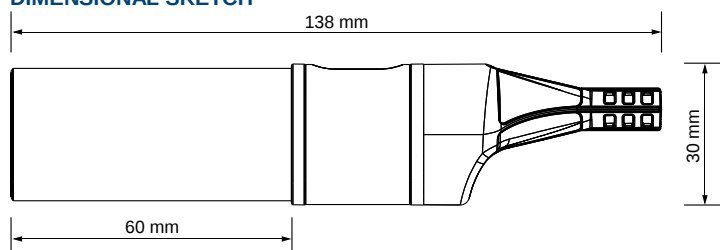
The sensor is CE, C-UL and UL approved and has a high immunity to noise from electric communication (i.e. from a mobile phone) and transients (i.e. from motors and contactors). This makes the sensor very reliable.

BUILDING-IN

The DOL 44R 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.

When DOL 44R is to replace DOL 33, it is mounted using Adapter for DOL 40R/PG36 (140113).

DIMENSIONAL SKETCH



TECHNICAL DATA

Supply voltage:	10 - 30 V AC/DC and 90 - 265 V AC
Frequency:	47 - 63 Hz
Relay switch max. voltage:	250 Volt AC
Relay switch max. power:	Ohms load: 5 A Inductive load: 2 A
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 0-600 min. Factory setting for 30 sec.
Protection class:	IP69k. NEMA 1, 3, 4, 6, 12, 13
Surrounding temperature, operation:	-20 °C - +70 °C (-4 °F - +158 °F)
Surrounding temp., oper. USA and Canada:	-20 °C - +65 °C (-4 °F - +149 °F)
Surrounding temperature, storage:	-30 °C - +80 °C (-22 °F - +176 °F)
Length:	110 mm (4 ³ / ₈ ")
Diameter:	30 mm (5 ⁷ / ₁₆ ")
Cable:	5 x 0.5 mm ² (5 x AWG20) 2 m (6.6 feet)
Weight incl. cable:	290 g (10.2oz)
Accessories, supplied:	Instruction
Approvals:	CE, C-UL, UL

2013.09.23



MAKING SENSE IN YOUR PRODUCTION

DOL 44R

DA

TEKNISK BRUGERVEJLEDNING

EN

TECHNICAL USER GUIDE

DE

TECHNISCHE BEDIENUNGSANLEITUNG

ES

MODO DE EMPLEO TÉCNICO



PRODUKTBEKRIVELSE

DOL 44R er en kapacitiv relæ-sensor til detektering af faste og løse materialer. Følerne har relæudgang med skiftefunktion.

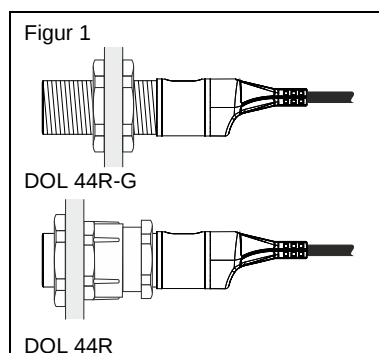
Anvendelsesområder:

- Niveauekontrol i siloer og beholdere
- Styling af fyldning og tømning

MONTAGEVEJLEDNING (FIG. 1):

DOL 44R-G er med M30 gevind. Monteres i et hul $\varnothing 30$ mm og spændes med de medfølgende kontramøtrikker.

DOL 44R er i $\varnothing 30$ mm glat udførelse. Monteres i PG36/M40 forskruining.



INSTALLATIONSVEJLEDNING (FIG. 2):

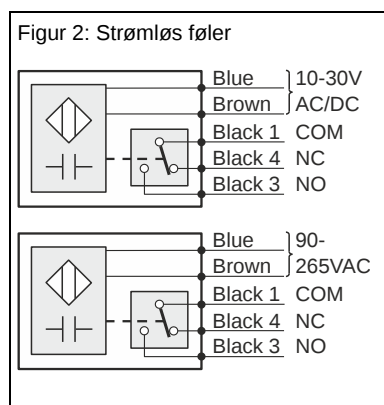
Forsyningsspænding tilsluttes den blå og brune ledning.

Belastningen forbindes i serie med følerens relækontakt.

STOP ved påvirkning af føler: Brug de sorte ledninger 1 og 3.

START ved påvirkning af føler: Brug de sorte ledninger 1 og 4.

BEMÆRK! Med forsyningsspænding tilsluttet og påvirket føler er det interne relæ i stilling NC – ledning 1 og 4 er forbundet.



BRUGERVEJLEDNING (FIG. 3):

DOL 44R har to trimmere som afhængig af type har forskellige funktionalitet.

Forsinket frakobling:

- Fast tid *eller*
- Tid justérbar på trimmer

Forsinket tilkobling:

- Fast tid *eller*
- Tid justérbar på trimmer

Følsomhed:

- Fast afstand *eller*
- Afstand justérbar på trimmer

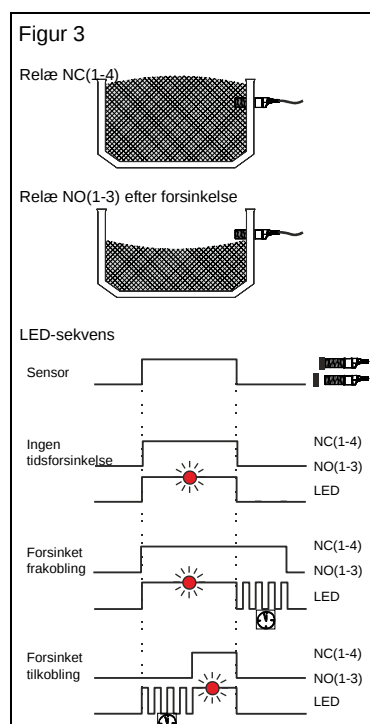
MaxRunTimer:

- Indstilling på trimmer; Off, Periode 1, Periode 2

Sensorens aktuelle funktionalitet fremgår af produktlabelen.

DOL 44R har en rød LED til angivelse af sensorens status.

Fig. 3 viser eksempler med LED-sekvenser.



TEKNISKE DATA:

Forsyningsspænding:

Spændingsudgave: 90 - 265 VAC
47 - 63 Hz

Spændingsudgave: 10 - 30 V
AC/DC
47 - 63 Hz

Relæ:

Maks. ohmsk belastning, 250VAC: 5 A

Maks. induktiv belastning, 250VAC: 2 A

Min. relæstrøm, 12 VDC: 100 mA

Temperatur:

Temp. drift: - 20 °C - + 70 °C
- 4 °F - + 158 °F

Temp. drift, USA og Canada: - 20 °C - + 65 °C
- 4 °F - + 149 °F

Temp. drift, opbevaring: - 30 °C - + 80 °C
- 22 °F - + 176 °F

Beskyttelsesgrad:

IP: 69k

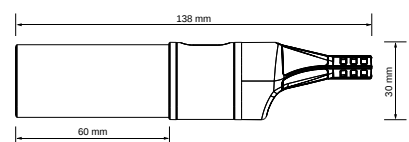
NEMA: 1, 3, 4, 6, 12, 13

Kabel:

Længde: 2 m
6,6 fod

Lederdimensioner: 5 x 0,5 mm²
5 x AWG20

Dimensioner:



Godkendelser:

CE

UL

C-UL

PRODUCT DESCRIPTION:

MS 44R is a capacitive relay sensor for detection of feed, grain and solids. The sensors have relay output including switch function.

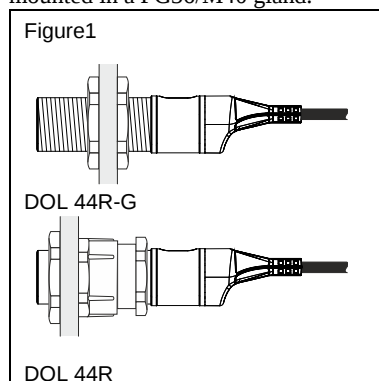
Fields of application:

- Level control in silos and containers
- Controlling the filling and emptying process.

MOUNTING GUIDE (FIG. 1):

MS 44R includes M30 thread. Mount it in a $\varnothing 30$ mm hole and tighten using the locknuts included.

DOL 44R is made in a $\varnothing 30$ mm smooth design mounted in a PG36/M40 gland.



INSTALLATION GUIDE (FIG. 2):

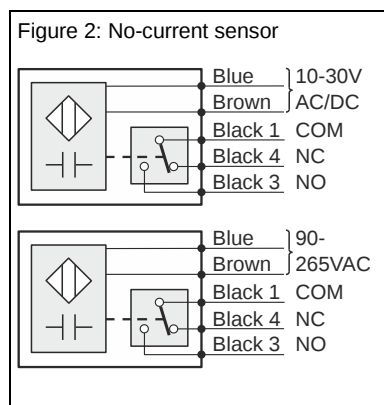
Supply voltage is connected to the blue and brown wire.

The load is connected in series with the relay contact of the sensor.

STOP by activating the sensor: Use the black wires 1 and 3.

START by activating the sensor: Use the black wires 1 and 4.

NOTE! The internal relay is in position NC when the supply voltage is connected and the sensor is activated - wire 1 and 4 are connected.



USER'S GUIDE (FIG. 3):

Depending on its type, DOL 44R has two trimmers with different functionalities.

Delayed disconnection:

- Fixed time *or*
- Time adjustable on trimmer

Delayed connection:

- Fixed time *or*
- Time adjustable on trimmer

Sensitivity:

- Fixed distance *or*
- Distance adjustable on trimmer

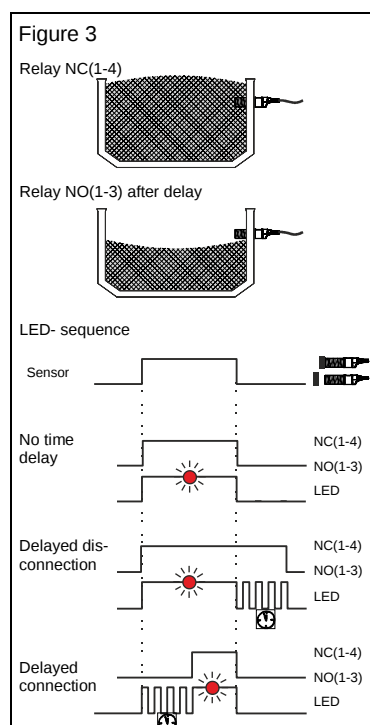
MaxRunTimer:

- Settings on the trimmer: Off, Period 1, Period 2

The actual functionality of the sensor is indicated on the product label.

DOL 44R has a red LED, indicating sensor status.

Fig. 3 shows examples of LED sequences.



TECHNICAL DATA:

Supply voltage:

Voltage version: 90 - 265 VAC
47 - 63 Hz

Voltage version: 10 - 30V
AC/DC
47 - 63 Hz

Relay:

Max. resistive load,, 250VAC: 5 A

Max. lagging load, 250VAC: 2 A

Min. relay current,, 12 VDC: 100 mA

Temperature:

Temp. operation: - 20 °C - + 70 °C
- 4 °F - + 158 °F

Temp. operation, USA and Canada: - 20 °C - + 65 °C
- 4 °F - + 149 °F

Temp. operation, storage: - 30 °C - + 80 °C
- 22 °F - + 176 °F

Degree of protection:

IP: 69k

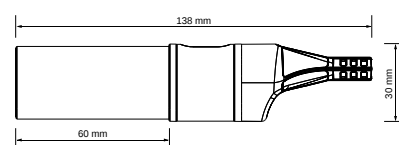
NEMA: 1, 3, 4, 6, 12, 13

Cable:

Lenght: 2 m
6.6 feet

Conductor dimensions: 5 x 0.5 mm²
5 x AWG20

Dimensions:



Approvals:

CE

UL

C-UL

PRODUKTBESCHREIBUNG:

MS 44R ist ein kapazitiver Relais-Sensor zum Aufspüren fester und loser Materialien. Die Sensoren haben Relaisausgang mit Umschaltfunktion.

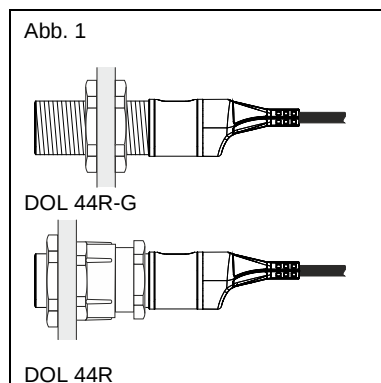
Anwendungsbereiche:

- Füllstandskontrolle in Silos und Behältern
- Steuerung von Befüllungs- und Leerungsvorgängen.

MONTAGEANLEITUNG (ABB. 1):

Der MS 44R besitzt ein M30 Gewinde. In eine Bohrung von $\varnothing 30$ mm einbauen und mit den mitgelieferten Gegenmuttern festziehen.

DOL 44R als glattes Modell mit $\varnothing 30$ mm. Montage in PG36/M40 Verschraubung.



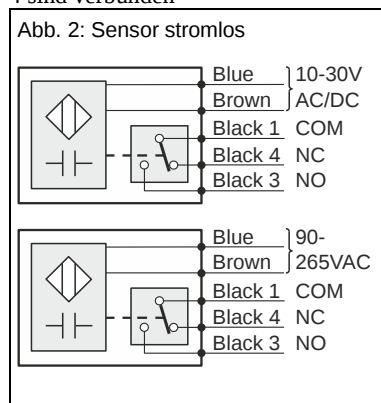
INSTALLATIONSANLEITUNG (ABB. 2):

Netzspannung an den blauen und braunen Leiter anlegen.

Die Last mit dem Relaiskontakt des Sensors in Serie verbinden.

STOP bei Ansprechen des Sensors: Die schwarzen Leiter 1 und 3 verwenden. **START** bei Ansprechen des Sensors: Die schwarzen Leiter 1 und 4 verwenden.

BITTE BEACHTEN! Bei angelegter Netzspannung und ansprechendem Sensor steht das interne Relais auf NC – Leiter 1 und 4 sind verbunden



BEDIENUNGSANLEITUNG (ABB. 3):

Der DOL 44R hat zwei Trimmer, die in Abhängigkeit vom Typ unterschiedliche Funktionalität haben.

Verzögerte Abschaltung:

- Feste Zeit *oder*
- Zeit am Trimmer einstellbar

Verzögerte Einschaltung:

- Feste Zeit *oder*
- Zeit am Trimmer einstellbar

Sensibilität:

- Fester Abstand *oder*
- Abstand am Trimmer einstellbar

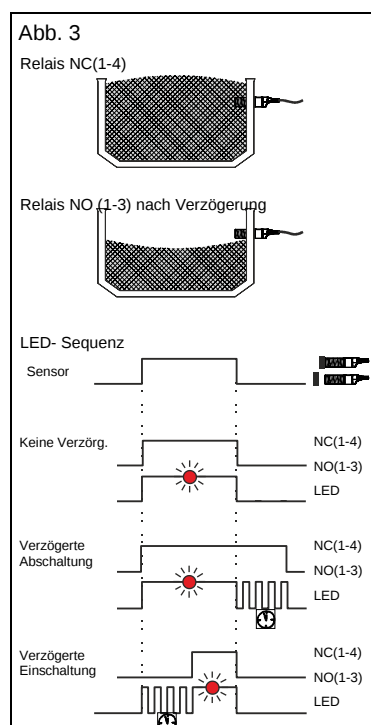
MaxRun-Timer:

- Einstellung am Trimmer; Off, Periode 1, Periode 2

Die tatsächliche Funktionalität des Sensors geht aus der Produktkennzeichnung hervor.

Der DOL 44R hat eine rote LED zur Angabe des Status des Sensors.

Abb. 3 zeigt Beispiele für LED-Sequenzen.



TECHNISCHE DATEN

Netzspannung:

Spannungsausgabe: 90 - 265 VAC
47 - 63 Hz

Spannungsausgabe: 10 - 30 V
AC/DC
47 - 63 Hz

Relais:

Max. Ohmsche Last, 250VAC: 5 A

Max. induktive Last 250VAC: 2 A

Min. Relaisstrom, 12 VDC 100 mA

Temperatur:

Betriebstemp.: - 20 °C - + 70 °C
- 4 °F - + 158 °F

Betriebstemp., USA und Canada: - 20 °C - + 65 °C
- 4 °F - + 149 °F

Betriebstemp. Lagerung: - 30 °C - + 80 °C
- 22 °F - + 176 °F

Schutzart:

IP: 69k

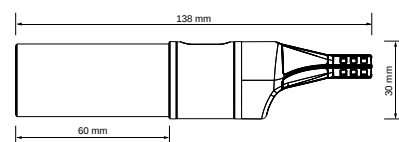
NEMA: 1, 3, 4, 6, 12, 13

Kabel:

Länge: 2 m
6,6 fuß

Leiterabmessungen: 5 x 0,5 mm²
5 x AWG20

Abmessungen:



Zulassungen:

CE

UL

C-UL

ES - MODO DE EMPLEO TÉCNICO

DESCRIPCIÓN DEL PRODUCTO:

MS 44R es un relé sensor capacitivo para la detección de materiales líquidos y en polvo. Los sensores incorporan una salida de relé con conmutación.

Campos de aplicación:

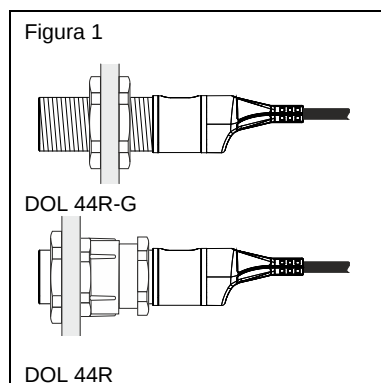
- Control de nivel en silos y recipientes
- Control de llenado y vaciado

INSTRUCCIONES DE MONTAJE (FIG. 1):

MS 44R lleva una rosca de M30.

Montar en un agujero de 30 mm de diámetro y apretar con las contratueras provistas.

DOL 44R es un sensor de 30 mm de diámetro sin rosca para montar en un empalme roscado PG36/M40.



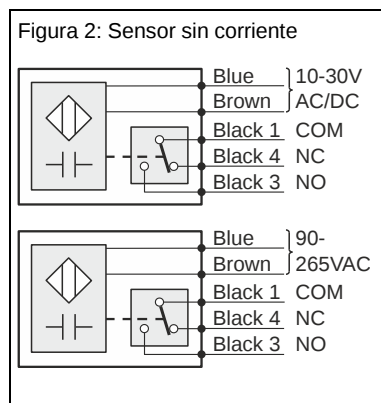
INSTRUCCIONES DE MONTAJE (FIG. 2):

Conectar la tensión de alimentación al hilo azul y al marrón. La carga se conecta en serie con el contacto de relé del sensor.

PARADA por activación del sensor: utilizar los hilos negros 1 y 3.

MARCHA por activación del sensor: utilizar los hilos negros 1 y 4.

¡ATENCIÓN! Cuando el sensor está conectado a la corriente eléctrica y está activado, el relé interno está en posición NC; los hilos 1 y 4 están conectados.



MODO DE EMPLEO (FIG. 3):

DOL 44R incorpora dos compensadores que presentan diferentes funciones según el modelo.

Retardo de desconexión:

- Tiempo fijo o
- Tiempo ajustable en el compensador

Retardo de conexión:

- Tiempo fijo o
- Tiempo ajustable en el compensador

Sensibilidad:

- Distancia fija o
- Distancia ajustable en el compensador

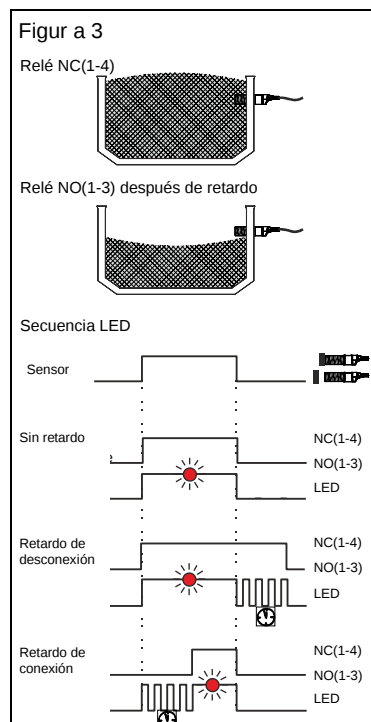
MaxRunTimer:

- Ajustable en el compensador; Off, Período 1, Período 2

La función del sensor figura en la etiqueta del producto.

DOL 44R incorpora un LED rojo que indica el estado del sensor.

La fig. 3 muestra ejemplos de las secuencias LED.



DATOS TÉCNICOS:

Tensión de alimentación:

Tensión: 90 - 265 VAC
47 - 63 Hz

Tensión: 10 - 30 V
AC/DC
47 - 63 Hz

Relé:

Carga ohms máx., 250 V CA: 5 A

Carga inductiva máx., 250 V CA: 2 A

Tensión mín. del relé, 12 V CC: 100 mA

Temperatura:

Temp. funcionamiento: - 20 °C - + 70 °C
- 4 °F - + 158 °F

Temp. funcion. EE. UU. y Canadá: - 20 °C - + 65 °C
- 4 °F - + 149 °F

Temp. funcionamiento, almacenamiento: - 30 °C - + 80 °C
- 22 °F - + 176 °F

Grado de protección:

IP: 69k

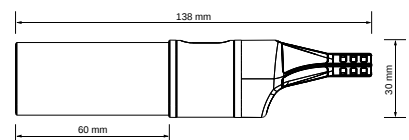
NEMA: 1, 3, 4, 6, 12, 13

Cable:

Longitud: 2 m
6,6 pie

Dimensiones de los hilos: 5 x 0,5 mm²
5 x AWG20

Dimensiones:



Aprobaciones:

CE

UL

C-UL

