


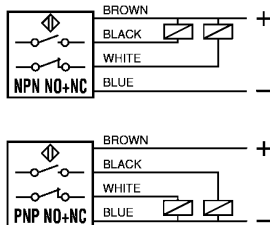
# 18 mm Diameter DC 4 Wire

**FEATURES:**

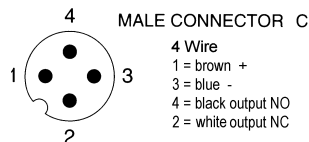
- Short circuit & reverse polarity protection
- Improved EMC and ESD Shielding
- Protection degree IP65
- LED function indicator
- 5 and 10 meter cable lengths available upon request

		MODEL			
Output Function	NPN, NO+NC	S5000	S5022	S5010	S5032
	PNP, NO+NC	S5001	S5023	S5011	S5033
Dimensions: mm 1 mm = .03937" 1" = 25.4 mm  					
<b>Operating Distance (Sn)</b>		0-5 mm (Adjustable)	0-10 mm (Adjustable)	0-5 mm (Adjustable)	0-10 mm (Adjustable)
<b>External Diameter</b>		M18 x 1			
<b>Power Supply</b>		10 - 40 Vdc			
<b>Max Switching Current</b>		200 mA			
<b>Power Drain (24Vdc)</b>		≤ 10 mA			
<b>Voltage Drop (sensor ON)</b>		< 1.8 V			
<b>Short Circuit Protection</b>		Yes			
<b>Operating Frequency</b>		10 Hz			
<b>Repeatability (%Sn)</b>		<10%			
<b>Hysteresis (%Sn)</b>		Depends on (Sn), ≤ 20%			
<b>Case</b>		Nickel-plated brass	Plastic	Nickel-plated brass	Plastic
<b>Flush Mounting</b>		Yes	No	Yes	No
<b>Protection Degree</b>		IP 67			
<b>Operating Temperature</b>		- 20 to +70 °C			
<b>Output Connection</b>		Cable PVC: L = 3 m		Connector C	
<b>Protective Housing Model</b>			S5910		S5910

**WIRING:**



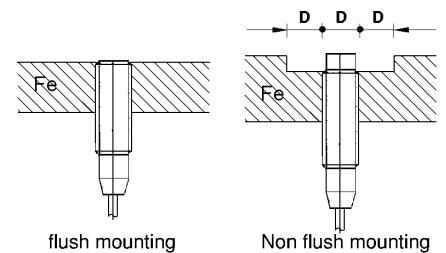
**CONNECTOR:**



**MATING CONNECTORS:**

- | ID#       | Type | Description                                  |
|-----------|------|--|
| 4 wire    |      |  |
| S3496/2 C |      | right angle w/ 2 meter cable                 |
| S3496 C   |      | right angle w/ 5 meter cable                 |
| S3499/2 C |      | straight w/ 2 meter cable                    |
| S3499 C   |      | straight w/ 5 meter cable                    |
| 030502C   |      | right angle, terminal screws field wire-able |
| 030503C   |      | straight, terminal screws field wire-able    |

**MOUNTING:**



**Capacitive**

**18 mm Diameter AC NO/NC Select**

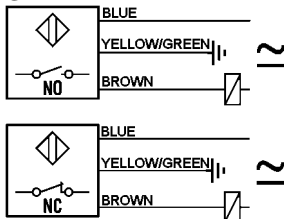
**FEATURES:**

- Protection degree IP65
- LED function indicator
- Sensitivity adjustment
- 5 and 10 meter cable lengths available upon request

		MODEL			
Output Function	NO/NC Select	S5044	S5055	S5046	S5057
Dimensions: mm 1" = 25.4 mm 1 mm = .03937"					
CE					
<b>Operating Distance (Sn)</b>		0-5 mm (Adjustable)	0-10 mm (Adjustable)	0-5 mm (Adjustable)	0-10 mm (Adjustable)
External Diameter		M18 x 1			
Power Supply		20 - 250 Vac			
Max Switching Current		300 mA			
Min Switching Current		10 mA			
Max Peak Current for 20ms		1.5 A			
Residual Current		≤ 1 mA			
Voltage Drop		≤ 6 V			
Operating Frequency		10 Hz			
Repeatability (%Sn)		<10%			
Hysteresis (%Sn)		Depends on (Sn), ≤ 20%			
Case		Nickel-plated brass	Grey Plastic	Nickel-plated brass	Grey Plastic
Flush Mounting		Yes	No	Yes	No
Protection Degree		IP 67			
Operating Temperature		- 20 to +70 °C			
Output Connection		Cable PVC: L = 3 m		Connector C	
Protective Housing Model			S5910		S5910

Attention must be paid to the minimum switching current, residual current and voltage drop when selecting low consumption relays or high impedance electronic controls to be used with these sensors. They are adapted for inputs of programmable controllers.

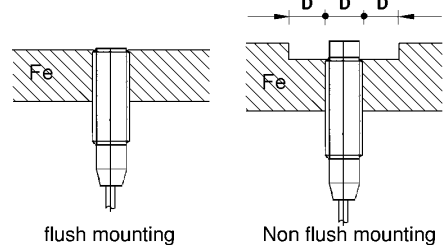
**WIRING:**



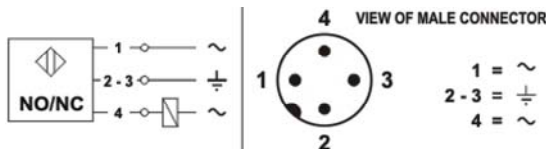
**MATING CONNECTORS:**

ID#	Type	Description
4 wire		
S3496/2	C	right angle w/ 2 meter cable
S3496	C	right angle w/ 5 meter cable
S3499/2	C	straight w/ 2 meter cable
S3499	C	straight w/ 5 meter cable
030502	C	right angle, terminal screws
030503	C	straight, terminal screws
		field wire-able
		field wire-able

**MOUNTING:**



**CONNECTOR:**



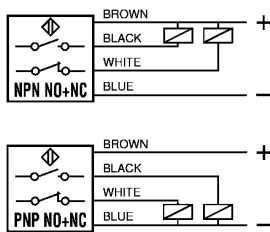
## 30 mm Diameter DC 4 Wire

**FEATURES:**

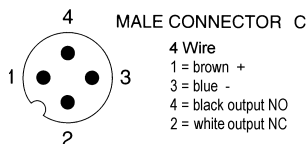
- Short circuit & reverse polarity protection
- Protection degree IP67: dust tight and protection from the effects of immersion
- LED function indicator
- 5 and 10 meter cable lengths available upon request

		MODEL			
Output Function	NPN, NO+NC	S5100	S5122	S5110	S5132
	PNP, NO+NC	S5101	S5123	S5111	S5133
Dimensions: mm 1" = 25.4 mm 1 mm = .03937"					
<b>Operating Distance (Sn)</b>		0-20 mm (Adjustable)	0-25 mm (Adjustable)	0-20 mm (Adjustable)	0-25 mm (Adjustable)
External Diameter		M30 x 1.5			
Power Supply		10 – 60Vdc			
Max Switching Current		200 mA			
Power Drain (24Vdc)		≤ 10 mA			
Voltage Drop (sensor ON)		< 1.8 V			
Short Circuit Protection		Yes			
Operating Frequency		10 Hz			
Repeatability (%Sn)		<10%			
Hysteresis (%Sn)		Depends on (Sn), ≤ 20%			
Case		Nickel-plated brass	Plastic	Nickel-plated brass	Plastic
Flush Mounting		Yes	No	Yes	No
Protection Degree		IP 67			
Operating Temperature		- 20 to +70 °C			
Output Connection		Cable PVC: L = 3 m		Connector C	
Protective Housing Model		S5913		S5913	

**WIRING:**



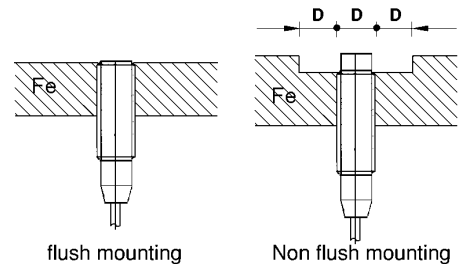
**CONNECTOR:**



**MATING CONNECTORS:**

ID#	Type	Description
4 wire		
S3496/2 C	right angle w/ 2 meter cable	
S3496 C	right angle w/ 5 meter cable	
S3499/2 C	straight w/ 2 meter cable	
S3499 C	straight w/ 5 meter cable	
030502C	right angle, terminal screws	field wire-able
030503C	straight, terminal screws	field wire-able

**MOUNTING:**



## Capacitive

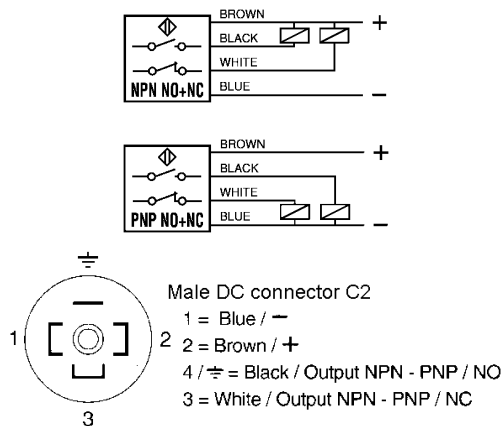
### 30 mm Diameter DC 4 Wire

#### FEATURES:

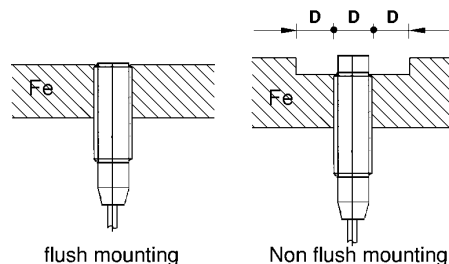
- Short circuit & reverse polarity protection
- Protection degree IP67: dust tight and protection from the effects of immersion
- LED function indicator
- Field wire-able connector included

		MODEL		
Output Function	NPN, NO+NC	S5114	S5116	S5134
	PNP, NO+NC	S5115	S5117	S5135
Dimensions: mm 1" = 25.4 mm 1 mm = .03937"				
<b>Operating Distance (Sn)</b>		<b>0-20 mm (Adjustable)</b>	<b>0-25 mm (Adjustable)</b>	<b>0-25 mm (Adjustable)</b>
<b>External Diameter</b>		M30 x 1.5		
<b>Power Supply</b>		10 - 55Vdc		
<b>Max Switching Current</b>		300 mA		
<b>Power Drain (24Vdc)</b>		≤ 10 mA		
<b>Voltage Drop (sensor ON)</b>		< 1.8 V		
<b>Short Circuit Protection</b>		Yes		
<b>Operating Frequency</b>		10 Hz		
<b>Repeatability (%Sn)</b>		<10%		
<b>Hysteresis (%Sn)</b>		Depends on (Sn), ≤ 20%		
<b>Case</b>		Nickel-plated brass		Plastic
<b>Flush Mounting</b>		Yes	No	No
<b>Protection Degree</b>		IP 65		
<b>Operating Temperature</b>		- 20 to +70 °C		
<b>Output Connection</b>		Connector included		
<b>Protective Housing Model</b>				S5912

#### WIRING:



#### MOUNTING:



## 30 mm Diameter AC/DC NO/NC Select

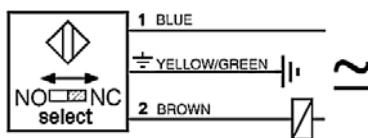
**FEATURES:**

- Short circuit protection up to 50V in DC
- Protection degree IP67: dust tight and protection from the effects of immersion
- LED function indicator
- 5 and 10 meter cable lengths available upon request

		MODEL	
Output Function	NO/NC Select	S5141	S5171
Dimensions: mm 1" = 25.4 mm 1 mm = .03937"			
<b>Operating Distance (Sn)</b>		<b>0-20 mm (Adjustable)</b>	<b>0-25 mm (Adjustable)</b>
External Diameter		M30 x 1.5	
Power Supply		20 - 250 Vac/dc	
Max Switching Current		500 mA	
Min Switching Current		10 mA	
Max Peak Current for 20ms		1.5 A	
Residual Current		≤ 2 mA	
Voltage Drop		< 6 V	
Short Circuit Protection		Yes up to 50V in DC	
Operating Frequency		10 Hz	
Repeatability (%Sn)		<10%	
Hysteresis (%Sn)		Depends on (Sn), ≤ 20%	
Case		Nickel-plated brass	Plastic
Flush Mounting		Yes	No
Protection Degree		IP 65	
Operating Temperature		- 20 to +70 °C	
Output Connection		Connector included	
Protective Housing Model		S5912	

Attention must be paid to the minimum switching current, residual current and voltage drop when selecting low consumption relays or high impedance electronic controls to be used with these sensors. They are adapted for inputs of programmable controllers.

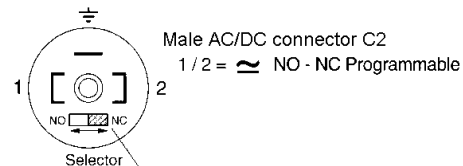
**WIRING:**



**SELECTOR (NO/NC)**

Before giving power to the sensor, program the sensor using the selector switch to the required function of NO (normally open) or NC (normally closed)

**Sensor with connector removed**



**Capacitive**

**30 mm Diameter AC NO/NC Select**

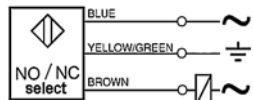
**FEATURES:**

- NO/NC Selector
- Protection degree IP67: dust tight and protection from the effects of immersion
- LED function indicator
- 5 and 10 meter cable lengths available upon request

		MODEL			
Output Function	NO/NC Select	S5210	S5215	S5212	S5217
Dimensions: mm 1" = 25.4 mm 1 mm = .03937"					
<b>Operating Distance (Sn)</b>		<b>0-20 mm (Adjustable)</b>	<b>0-25 mm (Adjustable)</b>	<b>0-20 mm (Adjustable)</b>	<b>0-25 mm (Adjustable)</b>
External Diameter	M30 x 1.5				
Power Supply	20 - 250 Vac				
Max Switching Current	500 mA				
Min Switching Current	10 mA				
Max Peak Current for 20ms	1.5 A				
Residual Current	≤ 1 mA				
Voltage Drop	≤ 6 V				
Short Circuit Protection	Yes				
Operating Frequency	10 Hz				
Repeatability (%Sn)	<10%				
Hysteresis (%Sn)	Depends on (Sn), ≤ 20%				
Case	Nickel-plated brass	Grey Plastic	Nickel-plated brass	Grey Plastic	
Flush Mounting	Yes	No	Yes	No	
Protection Degree	IP 67				
Operating Temperature	- 20 to +70 °C				
Output Connection	Cable PVC: L = 3 m			Connector C	
Protective Housing Model		S5913			S5913

Attention must be paid to the minimum switching current, residual current and voltage drop when selecting low consumption relays or high impedance electronic controls to be used with these sensors. They are adapted for inputs of programmable controllers.

**CABLE VERSION WIRING:**

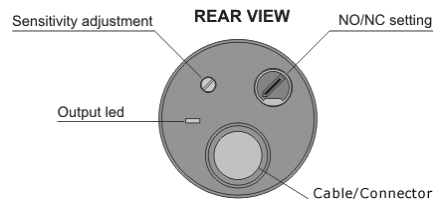
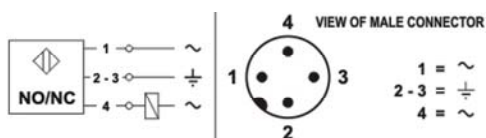


ID#	Type	Description
4 wire		
S3496/2	C	right angle w/ 2 meter cable
S3496	C	right angle w/ 5 meter cable
S3499/2	C	straight w/ 2 meter cable
S3499	C	straight w/ 5 meter cable
030502	C	right angle, terminal screws field wire-able
030503	C	straight, terminal screws field wire-able

**SELECTOR (NO/NC)**

The programming of NO or NC output must be made through the trimmer.

**CONNECTOR VERSION WIRING:**



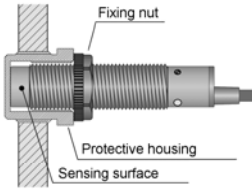
**MATING CONNECTORS:**

## Protective Housing for Capacitive Sensors

This housing is a waterproof protective cover for select capacitive sensors. The housing is made of a non-toxic material (POM). This type of installation permits a sensor to be rapidly removed for testing without the loss of material from the container and protects the sensor from abrasion. Furthermore, the use of the housing eliminates, to a large degree, variation in the sensitivity of the sensor due to deposits of material. See sensor datasheet for the model that works with a particular sensor.



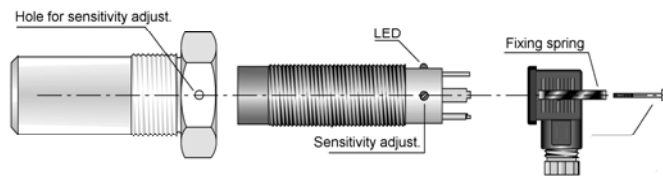
**Model: S5910 (18mm)**



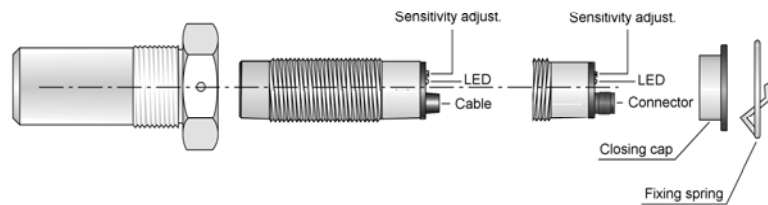
**Model: S5911 (30mm)**



**Model: S5912 (30mm)**

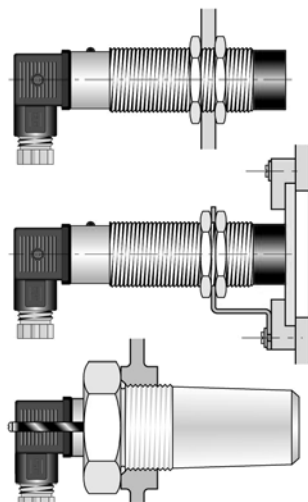


**Model: S5913 (30mm)**



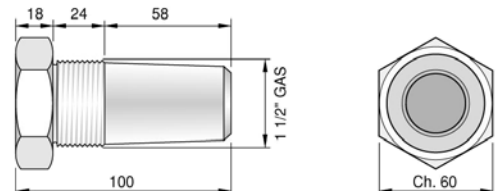
### EXAMPLE

- 1**  
TRADITIONAL  
INSTALLATION  
IN THE CONTAINER  
WALL
- 2**  
INSTALLATION WITH  
A PLASTIC WINDOW
- 3**  
INSTALLATION WITH  
PROTECTIVE HOUSING

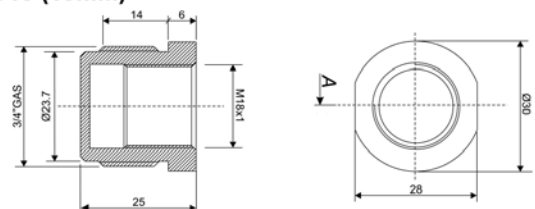


### DIMENSIONS (mm)

**S5911, S5912 and S5913 (30mm)**



**S5910 (18mm)**



Capacitive

## High Temperature Capacitive

**FEATURES:**

- Sensor temperature range -200 to +250° C (-382 to +482° F)
- Operating distance of 5 or 15mm
- Sensitivity adjustment
- Stainless steel sensor housing
- 18 and 30mm diameters
- Sensor protection degree IP68: dust tight and protection against submersion

**APPLICATIONS:**

Typical applications include the level control of hot materials such as liquids, oils, powder and plastic granules. These sensors can also be used to sense solid metallic and non-metallic bodies positioned in areas of high temperature.

**DESCRIPTION:**

These high temperature sensors have an amplifier completely separate from the sensor. This allows the sensor to withstand temperatures from -200 to +250°C (-382 to +482°F). The sensors are available in 18mm and 30mm diameters, made of stainless steel and PTFE. Each sensor's operating distance is adjustable. This sensitivity regulation is useful in applications such as detection of full containers and non-detection of empty containers.

**OPERATING PRINCIPLE:**

Capacitive proximity sensors use an oscillating field that can sense conductive and non-conductive materials (metals, liquids, glass, plastic, wood, paper and rubber). When an object enters this field, an electronic circuit begins to oscillate. The rise or fall of the oscillation is identified by a threshold circuit that drives an amplifier for the operation of an external load. The operating distance of the sensor depends on the target's shape and size and is strictly linked to the nature of the material (Table 1).

**SPECIFICATIONS:**

Sensor Model	S3620 M18 x 1	S3621 M18 x 1, 5m cable	S3622 M30 x 1.5	S3623 M30 x 1.5, 5m cable
Operating distance	5mm		15mm	
Temperature range	-200 to +250 °C (-382 to +482° F)			
Degree of protection	IP68			
Housing	Housing and nuts Stainless steel AISI 303, Sensing part in PTFE			
Flush mounting	No			
Output connection	L=2m w/ plug connector	L=5m w/ plug connector	L=2m w/ plug connector	L=5m w/ plug connector

Amplifier Model	S3624D	S3625D
Number of sensors	1	
Power supply	24 Vac 50-60 Hz	110/220 Vac 50-60 Hz
Absorption	3 VA	
Indicators	1 Yellow LED - Operation, 1 Green LED - Power	
Temperature range	-20 to +60 °C (-4 to +140 °F)	
Output relay	1 relay - changeover, 5A @ 220Vac	
Housing	Plastic	
Degree of protection	IP20	
Sensitivity adjustment	Incorporated	

**WIRING**

**DIMENSIONS (mm) 1mm = .03937"**



**INSTALLATION INSTRUCTIONS:** If the material to be controlled is in a metallic container, the container and terminal 1 of the amplifier must be grounded. If the container is non-metallic, connect terminal 1 of the amplifier and the earthing terminal on sensor body to ground. The connection wire between the sensor and the amplifier must be separated from the power supply.

**SENSITIVITY ADJUSTMENT:** Trimmer. A clockwise rotation increases sensitivity while counter-clockwise rotation decreases sensitivity. It is advisable to adjust sensitivity with the sensor placed in its working position and with sensing side covered by the material to be detected by approx. 70% of its surface. Connect the sensor and adjust:

- If the LED is relay is NO turn the trimmer counter-clockwise until the LED goes OFF. Then turn the trimmer clockwise until the LED relay goes ON.
  - If the LED is OFF turn the trimmer clockwise until the LED goes ON.
- Small adjustments may be need in order to obtain the desired performance