2

Capacitive proximity switches – Monitoring fill levels and more

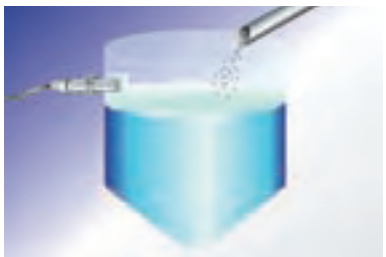
Capacitive proximity switches are also non-contact sensors and respond to the same degree almost instinctively when conducting and non-conducting materials in solid, powder or liquid state are to be measured. They impress customers especially in the case of fill level monitoring through non-metalic materials such as plastic or glass and through various materials in the case of counting objects.

Highlights

- Detection of all materials (e.g. plastics, wood, paper)
- Measurement of liquids through plastic tubes or glass pipes
- Measurement of aggressive chemicals
- Adjustable compensation of operating distance on the object

Application examples

Recognition of milk in cartons



Level control for bulk material in vessel

Standards

The same standards are applicable as for the inductive proximity switches.

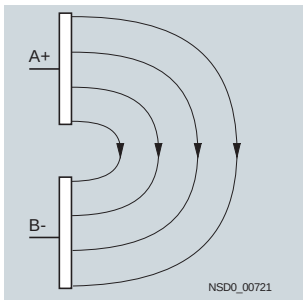
Type

The devices are available in DC or AC versions:

- The DC versions can activate electronic controllers (SIMATIC) or relays directly.
- With the AC version, the load (contactor relay, solenoid valve) is connected directly to the AC supply network (preferably 230 V, 50 Hz) in series with the proximity switches.

Function

The sensing face of a capacitive sensor is formed by two concentrically arranged metal electrodes that are equivalent to the electrodes of an unwound capacitor. The electrode surfaces A and B are connected into the feedback branch of a high-frequency oscillator that is tuned such that it does not oscillate when the surface is free.



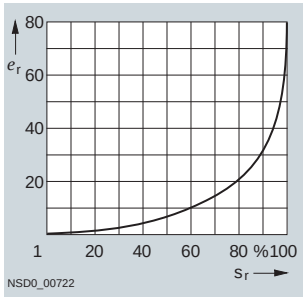
When an object approaches the active face of the sensor, it enters the electric field in front of the electrode surfaces and causes a change in the coupling capacitance. The oscillator starts to oscillate; the amplitude is recorded by an evaluation circuit and converted into a switching command.

Switching rate

The build-up characteristics specific to other pulse/interval conditions may result in higher switching frequencies than those specified.

Operating distance

The stated values are applicable to a target of metal which is grounded and whose area corresponds to the sensing face of the proximity switch. The real operating distance s_r for non-conductive targets is dependent on the relative dielectric constant ε_r and the characteristic value (see characteristic curve).



Dielectric constants ε_r of various materials

Material	ε_r	Material	ε_r
Alcohol	25.8	Polyethylene	2.3
Araldite	3.6	Polypropylene	2.3
Bakelite	3.6	Polystyrene	3
Glass	5	Polyvinylchloride	2.9
Mica	6	Porcelain	4.4
Vulcanized rubber	4	Pressboard	4
Hard paper	4.5	Quartz glass	3.7
Wood	2 ... 7	Quartz sand	4.5
Cable insulating compound	2.5	Silicone rubber	2.8
Air, vacuum	1	Teflon	2
Marble	8	Turpentine oil	2.2
Oiled paper	4	Transformer oil	2.2
Paper	2.3	Vacuum, air	1
Paraffin	2.2	Water	80
Petroleum	2.2	Soft rubber	2.5
Plexiglas	3.2	Celluloid	3
Polyamide	5		

Built-in protection

The protective circuits built into the DC versions make them easy to handle and protect the devices from damage.

- Spurious signal suppression
- Short-circuit and overload protection
- Reverse polarity protection of connections
- Inductive interference protection

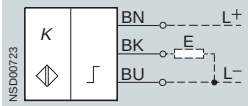
Technical specifications

Type	DC	AC
Operational voltage	10 ... 65 (30) V	20 ... 250 V
• Residual ripple	Max. 10%	–
No-load supply current I_0	6 ... 12 mA	max. 1.7 mA
Switching frequency f	100 Hz	20 Hz
Repeat accuracy R	Max. 2%	
Hysteresis H	0.02 ... 0.2 × 0.02 to 0.2 s_r	
Outputs		
Rated operational current I_e		
• For DC	200 mA	–
• For 230 V AC (contactor up to size S3)	–	
- Continuous		500 mA
- Momentary up to 20 ms		5 A
Smallest operating current I_m	–	
• Mainly inductive load		10 mA
• Mainly resistive load		5 mA
Residual current I_r	6 ... 12 mA	max. 1.7 mA
Voltage drop	Max. 1.8 V	Max. 7 V
Lead length, max. permissible	300 m	
Degree of protection	IP67	
Ambient temperature		
• Operation	–20 ... +70 °C	
• Bearings	–40 ... +85 °C	
Shock resistance	30 × g, 11 ms duration	
Resistance to vibration	10 … 55 Hz, 1 mm amplitude	

Schematics

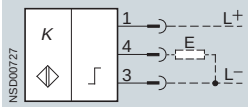
DC

Fig. 1



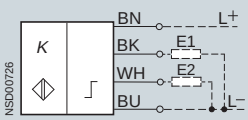
Proximity switch activated
Load E switched on (NO function)
e.g. contactor relays, solenoid valves

Fig. 2



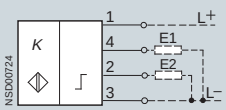
Proximity switch activated
Load E switched on (NO function)
e.g. contactor relays, solenoid valves

Fig. 3



Proximity switch activated
Load E1 switched on (NO function)
Load E2 switched off (NC function)
e.g. contactor relays, solenoid valves

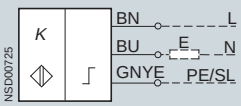
Fig. 4



Proximity switch activated
Load E1 switched on (NO function)
Load E2 switched off (NC function)
e.g. contactor relays, solenoid valves

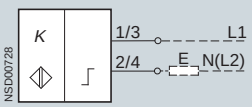
AC

Fig. 5



Proximity switch activated
Load E switched on (NO function) or
Load E switched off (NC function)
e.g. contactor relays, solenoid valves
NO or NC function according to type

Fig. 6



Proximity switch activated
Load E switched on (NO function) or
Load E switched off (NC function)
e.g. contactor relays, solenoid valves
NO or NC function, programmable

Overview

SIMATIC sensors PXC200

- 10 … 65 V DC
- 20 … 250 V AC

Selection table

SIMATIC PXC200





	M18	M30	Ø 40 mm	20 mm x 32 mm	40 mm x 40 mm
Operating distance					
• 5 mm	■			■	
• 10 mm		■			
• 20 mm			■		■
Operating voltage					
• 10 ... 30 V DC				■	
• 10 ... 65 V DC	■	■	■		■
• 20 ... 250 V AC		■	■		■
Number of wires					
• 2 wires		■	■		■
• 3 wires	■			■	
• 4 wires		■	■		■
Output					
• pnp	■	■	■	■	■
• NO contact	■	■		■	
• NC contact		■			
• NO contact and NC contact		■	■		■
• NO contact or NC contact		■	■		■
Mounting					
• flush	■	■	■	■	■
Connection					
• Plug, Ø 8 mm				■	
• Cable	■	■		■	
• Terminal compartment		■	■		■
Degree of protection					
• IP67	■	■	■	■	■
See page	**2/257**	**2/257, 2/258**	**2/258**	**2/257**	**2/258**

Technical specifications

Number of wires		**3**	**3**	**4**
Design		**M18**	**Cubic 20 mm × 32 mm**	**M30**
Installation in metal		**Flush**	**Flush**	**Flush**
Rated operating distance s_n	1)	**5 mm**	**5 mm**	**10 mm**
Effective operating distance s_r	2)	Adjustable	Fixed comparison	Adjustable
Enclosure material		Molded plastic	Metal	Metal with molded-plastic head
Operational voltage (DC)	V	10 ... 65	10 ... 30	10 ... 65
Rated operational current I_e	mA	200	200	200
Displays				
• Operating distance		Red LED	Yellow LED	Red LED
• Operational voltage		–	Green LED	–
Degree of protection		IP67	IP67	IP67
Type		3RG16 13–0AB00	3RG16 73–0AG00 3RG16 73–7AG00	3RG16 14–0AC00

1) For operation with grounded metal.
2) With an alignment $s_r > s_n$, the hysteresis can increase significantly.

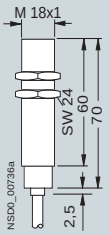
Selection and Ordering data

Switching output	Circuit diagram number	Connector type	Order No.	Order No.	Order No.
With LiYY cable, 2 m			3 × 0.5 mm²	3 × 0.25 mm²	4 × 0.34 mm²
NO contact, pnp	1	►	**3RG16 13–0AB00**	**3RG16 73–0AG00** ►	–
NO contact and NC contact, pnp (antivalent)	3		–	–	► **3RG16 14–0AC00**
With connector, Ø 8 mm					
NO contact, pnp	2	A, C	–	► **3RG16 73–7AG00**	–

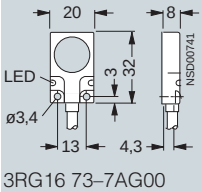
► Preferred type, available from stock.

Dimensions

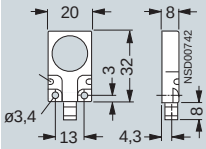
3RG16 13–0AB00



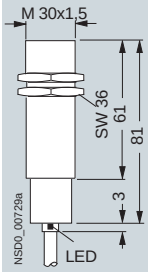
3RG16 73–0AG00



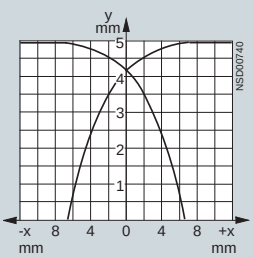
3RG16 73–7AG00



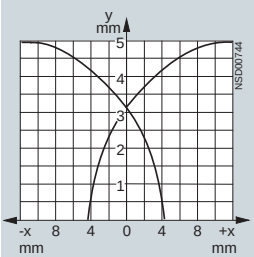
3RG16 14–0AC00



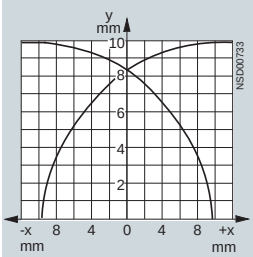
Characteristic curves



Standard target:
Metal, 20 mm × 20 mm × 1 mm, with direct connection to ground



Standard target:
Metal, 20 mm × 20 mm × 1 mm, with direct connection to ground



Standard target:
Metal, 30 mm × 30 mm × 1 mm, with direct connection to ground

10 … 65 V DC

Technical specifications

Number of wires		**4**	**4**	**4**
Design		**M30**	**Ø 40 mm**	**Cubic 40 mm × 40 mm**
Installation in metal		**Flush**	**Flush**	**Flush**
Rated operating distance s_n	**1)**	**10 mm**	**20 mm**	**20 mm**
Effective operating distance s_r	2)	Adjustable	Adjustable	Adjustable
Enclosure material		Molded plastic	Molded plastic	Molded plastic
Operational voltage (DC)	V	10 ... 65	10 ... 65	10 ... 65
Rated operational current I_e	mA	200	200	200
Displays				
• Operating distance		Yellow LED	Yellow LED	Yellow LED
• Operational voltage		Green LED	Green LED	Green LED
Degree of protection		IP67	IP67	IP67
Type		3RG16 14–6AC00	3RG16 55–6AC00	3RG16 30–6AC00

1) For operation with grounded metal.
2) With an alignment $s_r > s_n$, the hysteresis can increase significantly.

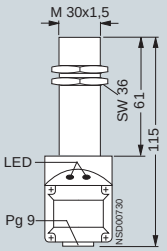
Selection and Ordering data

Switching output	Circuit diagram number	Connector type	Order No.	Order No.	Order No.
With terminal box			to 2.5 mm²	to 2.5 mm²	to 2.5 mm²
NO contact and NC contact, pnp (antivalent)	4	►	**3RG16 14–6AC00**	**3RG16 55–6AC00**	**3RG16 30–6AC00**

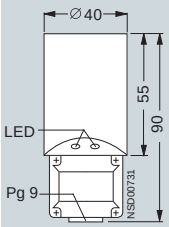
► Preferred type, available from stock.

Dimensions

3RG16 14–6AC00

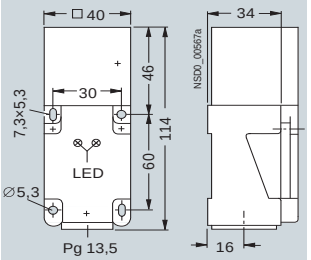


3RG16 55–6AC00

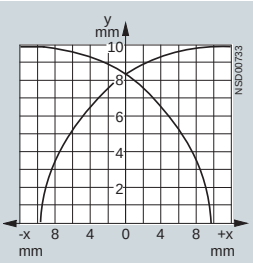


Fixing clamp, Ø 40 mm, included in scope of supply.

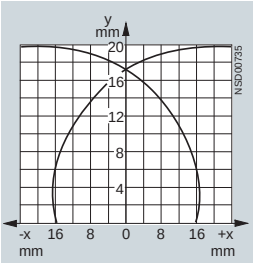
3RG16 30–6AC00



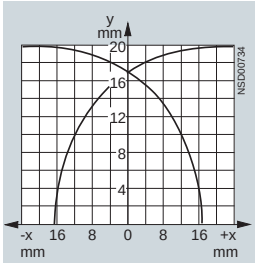
Characteristic curves



Standard target:
Metal, 30 mm × 30 mm × 1 mm, with direct connection to ground



Standard target:
Metal, 60 mm × 60 mm × 1 mm, with direct connection to ground



Standard target:
Metal, 60 mm × 60 mm × 1 mm, with direct connection to ground

Technical specifications

Number of wires		**2 + PE**	**2**	**2**	**2**
Design		**M30**		**Ø 40 mm**	**Cubic 40 mm × 40 mm**
Installation in metal		**Flush**		**Flush**	**Flush**
Rated operating distance s_n	1)	**10 mm**		**20 mm**	**20 mm**
Effective operating distance s_r	2)	Adjustable		Adjustable	Adjustable
Enclosure material		Metal with molded-plastic head	Molded plastic	Molded plastic	Molded plastic
Operational voltage (AC)	V	20 ... 250		20 ... 250	20 ... 250
Rated operational current I_e	mA	500		500	500
LEDs					
• Operating distance		Red LED	Red LED	Red LED	Red LED
• Operational voltage		–	Green LED	Green LED	Green LED
Degree of protection		IP67		IP67	IP67
Type		3RG16 14–0LB00, 3RG16 14–0LA00	3RG16 14–6LD00	3RG16 55–6LD00	3RG16 30–6LD00

1) For operation with grounded metal.
2) With an alignment $s_r > s_n$, the hysteresis can increase significantly.

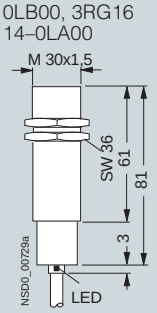
Selection and Ordering data

Switching output	Circuit diagram number	Connector type	Order No.	Order No.	Order No.
With LiYY cable, 2 m			3 × 0.5 mm²		
NO contact	5	►	**3RG16 14–0LB00**	–	–
NC contact	5	►	**3RG16 14–0LA00**	–	–
With terminal box			to 2.5 mm²	to 2.5 mm²	to 2.5 mm²
NO contact or NC contact programmable	6	►	**3RG16 14–6LD00**	► **3RG16 55–6LD00**	► **3RG16 30–6LD00**

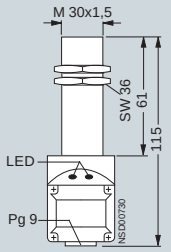
► Preferred type, available from stock.

Dimensions

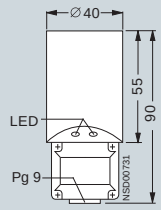
3RG16 14–0LB00, 3RG16 14–0LA00



3RG16 14–6LD00

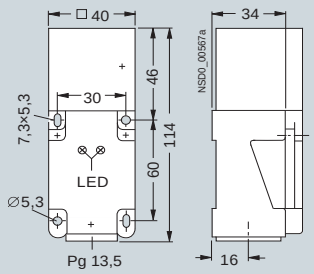


3RG16 55–6LD00

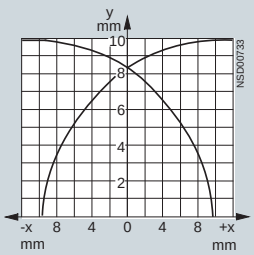


Fixing clamp, Ø 40 mm, included in scope of supply.

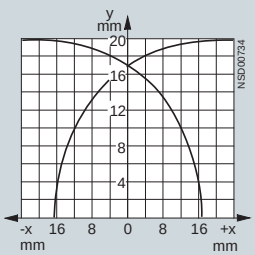
3RG16 30–6LD00



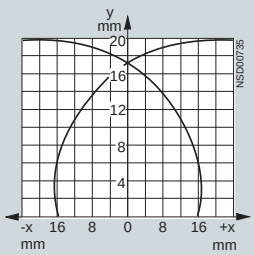
Characteristic curves



Standard target:
Metal, 30 mm × 30 mm × 1 mm, with direct connection to ground



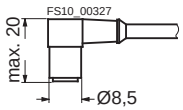
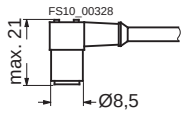
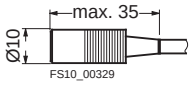
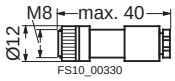
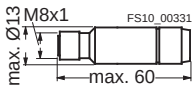
Standard target:
Metal, 60 mm × 60 mm × 1 mm, with direct connection to ground



Standard target:
Metal, 60 mm × 60 mm × 1 mm, with direct connection to ground

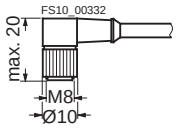
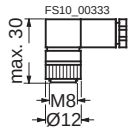
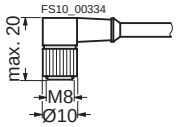
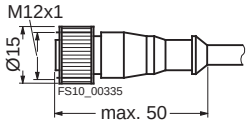
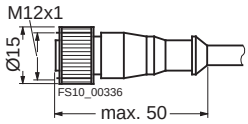
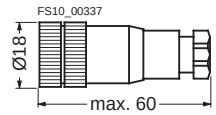
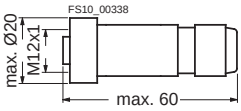
Plug-in connections

Selection and Ordering data

	Fig.	Type[1]	Cable[2]	Length m	Color		Order No.
Fig. 1	**8 mm cable sockets (female) for snap-on mounting, degree of protection IP65**						
	3-pole, 3 × 0.34 mm²						
	1	A	PUR	5	Black	►	**3RX8 000-0BH32-1AF0**
	1	A	PUR	10	Black	►	**3RX8 000-0BH32-1AL0**
Fig. 2	4-pole, 4 × 0.34 mm²						
	1	B	PUR	5	Black	►	**3RX8 000-0BH42-1AF0**
	1	B	PUR	10	Black	►	**3RX8 000-0BH42-1AL0**
	8 mm angular cable sockets (female) for snap-on mounting, degree of protection IP65						
Fig. 3	3-pole, 3 × 0.34 mm²						
	2	A	PUR	5	Black	►	**3RX8 000-0BJ32-1AF0**
	2	A	PUR	10	Black	►	**3RX8 000-0BJ32-1AL0**
	4-pole, 4 × 0.34 mm²						
	2	B	PUR	5	Black	►	**3RX8 000-0BJ42-1AF0**
	2	B	PUR	10	Black	►	**3RX8 000-0BJ42-1AL0**
	3-pole, 3 × 0.34 mm², with 2 LEDs for pnp proximity switches						
	3	C	PUR	5	Black/ clear	►	**3RX8 000-0BJ34-1AF0**
	3	C	PUR	10	Black/ clear	►	**3RX8 000-0BJ34-1AL0**
Fig. 4	**M8 cable sockets (female) for screw mounting, degree of protection IP67**						
	4	A	PUR	5	Black	►	**3RX8 000-0BB32-1AF0**
	4	A	PUR	10	Black	►	**3RX8 000-0BB32-1AL0**
Fig. 5	5	A	Coupling plug with soldering pins, max. 0.25 mm²		Black	►	**3RX8 000-0BB35**
	6	A	Coupling plug, can be assembled		Black	►	**3RX8 000-0BB37**
	4-pole, 4 × 0.34 mm²						
	4	B	PUR	5	Black	►	**3RX8 000-0BB42-1AF0**
Fig. 6	4	B	PUR	10	Black	►	**3RX8 000-0BB42-1AL0**
	5	B	Coupling plug with soldering pins, max. 0.25 mm²		Black	►	**3RX8 000-0BB45**
	6	B	Coupling plug, can be assembled		Black	►	**3RX8 000-0BB47**

Cable sockets (female) with special lengths available as options:
- Minimum order quantity: 50 units
- Delivery time on request.
- Extra charge per m.

[1] For terminal assignment, see page 2/273.
[2] PUR cables suitable for trailing
► Preferred type, available from stock.

	Fig.	Type[1]	Cable[2]	Length m	Color		Order No.
Fig. 7	**M8 angular cable sockets (female) for screw mounting, degree of protection IP67**						
	3-pole, 3 × 0.34 mm²						
	7	A	PUR	5	Black	▶	**3RX8 000-0BC32-1AF0**
	7	A	PUR	10	Black	▶	**3RX8 000-0BC32-1AL0**
	8	A	Coupling plug with soldering pins, max. 0.25 mm²		Black	▶	**3RX8 000-0BC35**
Fig. 8	3-pole, 3 × 0.34 mm², with LEDs						
	9	C	PUR	5 (pnp)	Black	▶	**3RX8 000-0BC34-1AF0**
	9	C	PUR	10	Black	▶	**3RX8 000-0BC34-1AL0**
	9	D	PUR	5 (npn)	Black	▶	**3RX8 000-0BC30-1AF0**
Fig. 9	9	D	PUR	10	Black	▶	**3RX8 000-0BC30-1AL0**
	4-pole, 4 × 0.34 mm²						
	7	B	PUR	5	Black	▶	**3RX8 000-0BC42-1AF0**
	7	B	PUR	10	Black	▶	**3RX8 000-0BC42-1AL0**
	8	B	Coupling plug with soldering pins, max. 0.25 mm²		Black	▶	**3RX8 000-0BC45**
Fig. 10	**M12 cable sockets (female) for screw mounting, degree of protection IP67**						
	10	E	PUR	5	Black	▶	**3RX8 000-0CB32-1AF0**
	10	E	PUR	10	Black	▶	**3RX8 000-0CB32-1AL0**
	11	E	PUR, shielded	2	Black	▶	**3RX8 000-0CB32-1GC0**
	11	E	PUR, shielded	10	Black	▶	**3RX8 000-0CB32-1GL0**
Fig. 11	4-pole, 4 × 0.34 mm²						
	10	F	PUR	5	Black	▶	**3RX8 000-0CB42-1AF0**
	10	F	PUR	10	Black	▶	**3RX8 000-0CB42-1AL0**
	12	F	Coupling plug with terminal compartment, preassembly possible		Black	▶	**3RX8 000-0CB45**
	13	F	Coupling plug with quick-connection technology		Black	▶	**3RX8 000-0CB47**
Fig. 12	5-pole, 5 × 0.34 mm²						
	10	G	PUR	5	Black	▶	**3RX8 000-0CB52-1AF0**
	10	G	PUR	10	Black	▶	**3RX8 000-0CB52-1AL0**
	11	G	PUR, shielded	5	Black	▶	**3RX8 000-0CB52-1GF0**
Fig. 13	11	G	PUR, shielded	10	Black	▶	**3RX8 000-0CB52-1GL0**
	12	G	Coupling plug with terminal compartment, preassembly possible		Black	▶	**3RX8 000-0CB55**
	8-pole, 8 × 0.25 mm²						
	11	O	PUR, shielded	5	Black	▶	**3RX8 000-0CB81-1GF0**

Cable sockets (female) with special lengths available as options:
- Minimum order quantity: 50 units
- Delivery time on request.
- Extra charge per m.

1) For terminal assignment, see page 2/273.

2) PUR cables suitable for trailing.

▶ Preferred type, available from stock.

Plug-in connections

Fig. 14

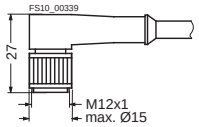


Fig. 15

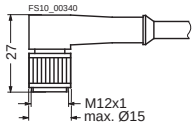


Fig. 16

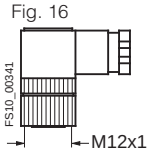


Fig. 17

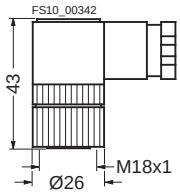


	Fig.	Type[1]	Cable[2]	Length m	Color		Order No.
M12 angular cable sockets (female) for screw mounting, degree of protection IP67							
3-pole, 3 × 0.34 mm²,							
	14	E	PUR	5	Black	►	**3RX8 000-0CC32-1AF0**
	14	E	PUR	10	Black	►	**3RX8 000-0CC32-1AL0**
	14	E	PVC	5	Black	►	**3RX8 000-0CC32-1BF0**
	14	E	PVC	10	Black	►	**3RX8 000-0CC32-1BL0**
3-pole, 3 × 0.34 mm², with LEDs for pnp proximity switches, NO contact only [3]							
	15	H	PUR	5	Black	►	**3RX8 000-0CC34-1AF0**
	15	H	PUR	10	Black	►	**3RX8 000-0CC34-1AL0**
	15	H	PVC	5	Black	►	**3RX8 000-0CC34-1BF0**
	15	H	PVC	10	Black	►	**3RX8 000-0CC34-1BL0**
	16	H	Coupling plug with terminal compartment, preassembly possible			►	**3RX8 000-0CC36**
3-pole, 3 × 0.34 mm², with LEDs for pnp proximity switches, NO or NC [3]							
	15	J	PUR	5	Black	►	**3RX8 000-0CC38-1AF0**
	15	J	PUR	10	Black	►	**3RX8 000-0CC38-1AL0**
4-pole, 4 × 0.34 mm²							
	14	F	PUR	5	Black	►	**3RX8 000-0CC42-1AF0**
	14	F	PUR	10	Black	►	**3RX8 000-0CC42-1AL0**
	16	F	Coupling plug with terminal compartment, preassembly possible		Black	►	**3RX8 000-0CC45**
4-pole, 4 × 0.34 mm², with LEDs [3]							
	15	K	PUR	5	Black	►	**3RX8 000-0CC44-1AF0**
	15	K	PUR	10	Black	►	**3RX8 000-0CC44-1AL0**
	16	K	With terminal compartment, transparent for LEDs		clear	►	**3RX8 000-0CC46**
			LED insert for angular cable plug, transparent			►	**3RX8 000-0CA06**
5-pole, 5 × 0.34 mm²							
	14	G	PUR	5	Black	►	**3RX8 000-0CC52-1AF0**
	14	G	PUR	10	Black	►	**3RX8 000-0CC52-1AL0**
	16	G	Coupling plug with terminal compartment, preassembly possible		Black	►	**3RX8 000-0CC55**
M18 angular cable sockets (female) for screw-type mounting, degree of protection IP65, 4-pole							
	17	F	Preassembly possible, with terminal compartment		Black	►	**3RX8 000-0DC45**

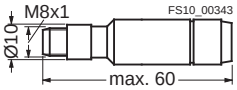
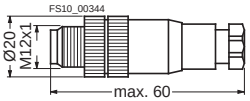
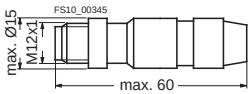
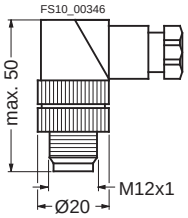
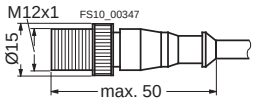
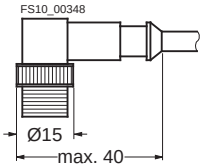
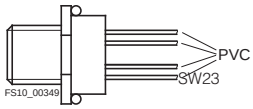
Cable sockets (female) with special lengths available as options:
- Minimum order quantity: 50 units
- Delivery time on request.
- Extra charge per m.

[1] For terminal assignment, see page 2/273.

[2] PUR cables suitable for trailing.

[3] Only limited use of sonar proximity switches.

► Preferred type, available from stock.

	Fig.	Type[1]	Cable[2]	Length m	Color		Order No.
Fig. 18 	**M8 coupling sockets (female), degree of protection IP67** For extension cable (metal screw cap) can be assembled; max. 0.34 mm²						
	18		3-pole	–	Black	▶	**3RX8 000-0BD37**
	18		4-pole	–	Black	▶	**3RX8 000-0BD47**
Fig. 19 	**M12 coupling sockets (female), degree of protection IP67** for extension cable (metal screw cap) with terminal compartment, cable gland max. 6 mm						
	19	L	4-pole	–	Black	▶	**3RX8 000-0CD45**
	19	M	5-pole	–	Black	▶	**3RX8 000-0CD55**
Fig. 20 	20	L	4-pole	Can be assembled; max. 0.34 mm²	Black	▶	**3RX8 000-0CD47**
	M12 angled coupling sockets (female), degree of protection IP67 for extension cable (metal screw cap) with terminal compartment, cable gland max. 6 mm						
Fig. 21 	21	L	4-pole	–	Black	▶	**3RX8 000-0CE45**
	21	M	5-pole	–	Black	▶	**3RX8 000-0CE55**
	For AS-Interface, degree of protection IP67						
	M12 cable plugs (male) 4 × 0.34 mm² (metal screw cap)						
	22	L	PUR	5	Black	▶	**3RX8 000-0CD42-1AF0**
	22	L	PUR	10	Black	▶	**3RX8 000-0CD42-1AL0**
Fig. 22 	**M12 angular cable plugs (male)** 4 × 0.34 mm² (metal screw cap)						
	23	L	PUR	5	Black	▶	**3RX8 000-0CE42-1AF0**
	23	L	PUR	10	Black	▶	**3RX8 000-0CE42-1AL0**
Fig. 23 							
Fig. 24 	**Flush-type M12 connector** Adapter with single cores, 4-pole with single cores						
	24	• Twistable		0.5		▶	**3RX8 000-0CA40-1JA5**
	24	• Not twistable		0.2		▶	**3RX8 000-0CA40-1JA2**

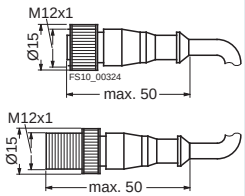
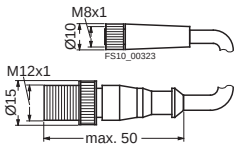
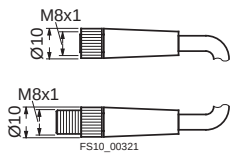
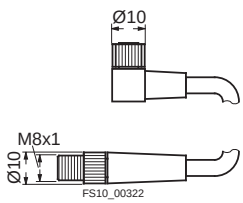
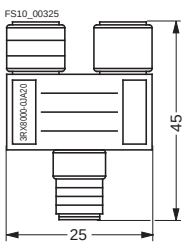
Cable sockets (female) with special lengths available as options:
- Minimum order quantity: 50 units
- Delivery time on request.
- Extra charge per m.

[1] For terminal assignment, see page 2/273.

[2] Suitable for trailing.

▶ Preferred type, available from stock.

Plug-in connections

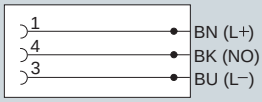
	Version	Type[1]	Wire cross-section/color	Length m		Order No.
	**Cable** with M12 socket (female) and M12 plug (male) Connection to 3RX8 000-0JA0 distributor (metal union nut), PUR cable Caution: Only terminal 4 (NO) is connected.	E, L	3 × 0.34 mm², Black	0.6	►	**3RX8 000-0GF32-1AA6**
				1	►	**3RX8 000-0GF32-1AB0**
				1.5	►	**3RX8 000-0GF32-1AB5**
		F, L	4 × 0.34 mm², Black	0.6	►	**3RX8 000-0GF42-1AA6**
				1	►	**3RX8 000-0GF42-1AB0**
				1.5	►	**3RX8 000-0GF42-1AB5**
	**Cable** with M8 socket (female) and M12 plug (male) Connection to 3RX8 000-0JA0 distributor (metal union nut), PUR cable Caution: Only terminal 4 (NO) is connected.	A, L	3 × 0.34 mm², Black	0.6	►	**3RX8 000-0FF32-1AA6**
				1	►	**3RX8 000-0FF32-1AB0**
				1.5	►	**3RX8 000-0FF32-1AB5**
		B, L	4 × 0.34 mm², Black	0.6	►	**3RX8 000-0FF42-1AA6**
				1	►	**3RX8 000-0FF42-1AB0**
				1.5	►	**3RX8 000-0FF42-1AB5**
	**Cable** with M8 socket (female) and M8 plug (male), PUR cable	A	3 × 0.34 mm², Black	1	►	**3RX8 000-0EF32-1AB0**
				2	►	**3RX8 000-0EF32-1AC0**
	**Cable** with M8 angular socket (female) and M8 plug (male), PUR cable	A	3 × 0.34 mm², Black	1	►	**3RX8 000-0EG32-1AB0**
				2	►	**3RX8 000-0EG32-1AC0**
	Cables, 20 m, black According to the number of cores, the cables can be used for all inductive proximity switches, sonar proximity switches and optical proximity switches.					
	• PUR		3 × 0.34 mm²		►	**3RX8 000-0KA32-1AR0**
	• PUR		4 × 0.34 mm²		►	**3RX8 000-0KA42-1AR0**
	• PUR, shielded		4 × 0.34 mm²		►	**3RX8 000-0KA42-1GR0**
	**T-distributor, M12 connection** For connection of thru-beam sensors to AS-Interface modules				►	**3RX8 000-0JA20**

[1] For terminal assignment, see page 2/273.
► Preferred type, available from stock.

Schematics

Plug connections

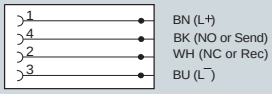
Type A, E



NSD01032a

proximity switches with NO contact

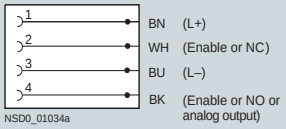
Type B, F, L, N, P



NSD0_01033a

proximity switches with NC/NO contact

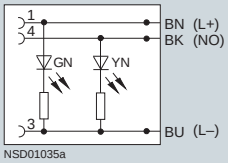
Type B, F, L, N, P



NSD0_01034a

sonar proximity switches in M18 compact series

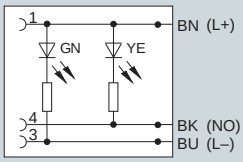
Type C, H



NSD01035a

proximity switches with NO contact, pnp

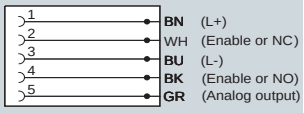
Type D



NSD01036a

proximity switches with NO contact, npn

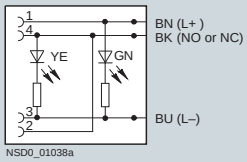
Type G, M



NSD0_01037a

proximity switches with NC/NO contact, sonar proximity switches M30 K2 and M30 K3 compact series

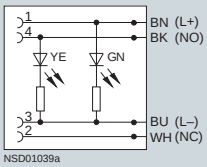
Type J



NSD0_01038a

proximity switch with NC or NO contact, pnp

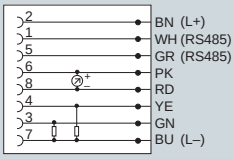
Type K



NSD01039a

proximity switch with NO contact or NC/NO contact, pnp

Type O



FS10_00139

PXO530/540 proximity switch

BN = Brown
BK = Black
WH = White

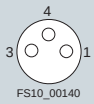
BU = Blue
GR = Gray
GN = Green

YE = Yellow
PK = Pink
RD = Red

Pin assignment

M8 wiring for cable plugs and angular cable plugs

Type A, C, D



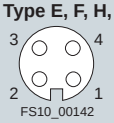
FS10_00140

Type B

FS10_00141

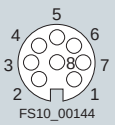
M12 wiring for cable plugs and angular cable plugs

Type E, F, H, J, K, L, N



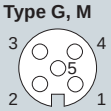
FS10_00142

Type O



FS10_00144

Type G, M



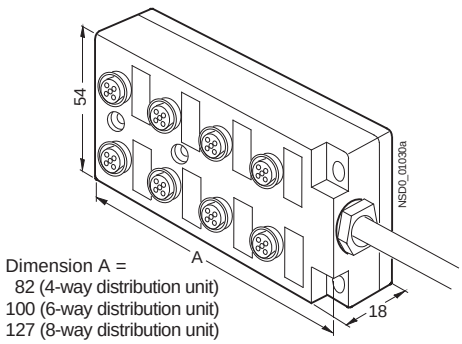
FS10_00143

Distributors

Technical specifications

Type		3RX8 000-0JA
Operational voltage	V DC	24
Max. current per switching output	A	2
Connections		M12 connector-in connections (socket in distribution unit)
Core identification, PUR cable		in color
Display		
• Per output		Yellow LED
• Operational voltage		Green LED
Enclosure material		Molded plastic
Degree of protection		IP65, in inserted and locked state
Operating temperature	°C	–15 ... +80

Selection and Ordering data

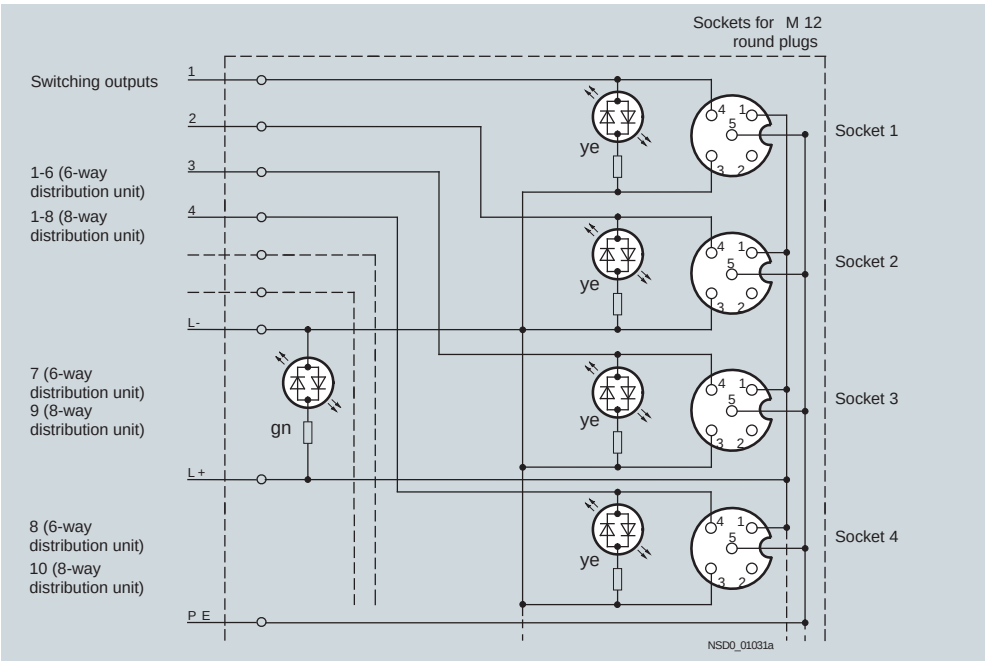


Dimension A =
82 (4-way distribution unit)
100 (6-way distribution unit)
127 (8-way distribution unit)

	Type	Order No.
Distribution units, quadruple		
• 5 m PUR line	►	**3RX8 000-0JA40-1AF0**
• 10 m PUR line	►	**3RX8 000-0JA40-1AL0**
Distribution units, 6x		
• 5 m PUR line	►	**3RX8 000-0JA60-1AF0**
• 10 m PUR line	►	**3RX8 000-0JA60-1AL0**
Distribution units, 8x		
• 5 m PUR line	►	**3RX8 000-0JA80-1AF0**
• 10 m PUR line	►	**3RX8 000-0JA80-1AL0**
Distributors Preassembly possible, with connecting hood	►	**3RX8 000-0JA80**

► Preferred type, available from stock.

Schematics



Sensor assembly system

Overview

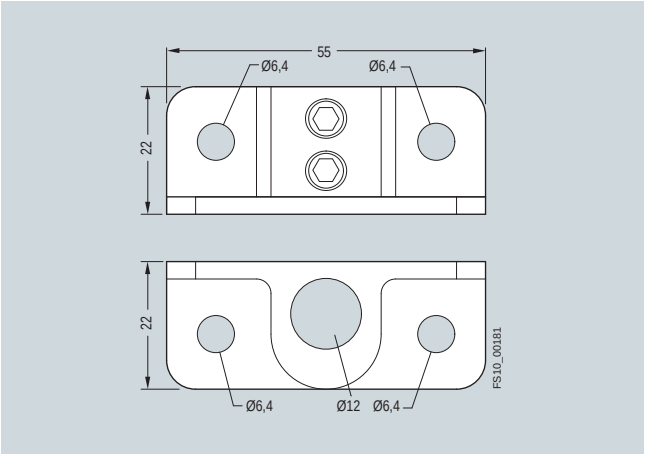
Sensor assembly system

Selection and Ordering data

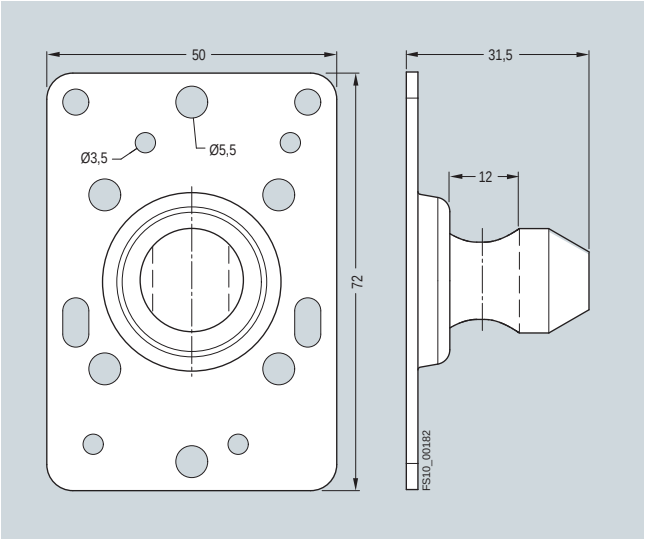
		Order No.
Sensor assembly system		
Consisting of:		
Mounting base for sensor assembly system, with 12 mm hole for inserting round rod	►	**3RX7 322**
Holding plate for sensor assembly system, for mounting on 12 mm round rod, suitable for all cubic proximity switches	►	**3RX7 326**
Round rod for sensor assembly system, 12 mm diameter		
• 200 mm long	►	**3RX7 315**
• 300 mm long	►	**3RX7 316**

► Preferred type, available from stock.

Dimensions

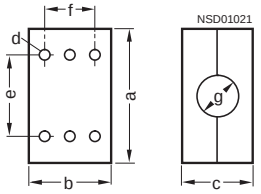
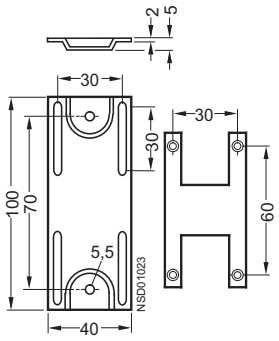
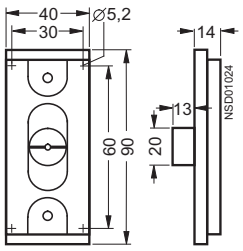


Mounting base 3RX7 322



Holding plate for accommodating 3RX7 326 sensors

Selection and Ordering data

	Type		Order No.
32SX6 281 to 3SX6 284 	**Fixing clamp (molded plastic, supplied without fixing screws)** for proximity switches with thread 3SX6 281 / 3SX6 282 / 3SX6 283 / 3SX6 284 a 26 / 36 / 45 / 58 b 22 / 30 / 30 / 30 c 11,6 / 18 / 26 / 36 d Ø 3.5 / Ø 4.5 / Ø 4.5 / Ø 4.5 e 16 / 24 / 32 / 44 f 12.6 / 18.5 / 19.6 / 19.6 g 7.9 (for M8) / 11.9 (for M12) / 18.0 (for M18) / 29.8 (for M30)	M8 M12 ► M18 ► M30 ►	**3SX6 281** **3SX6 282** **3SX6 283** **3SX6 284**
3SX9 910 	**Adapter** from Pg 13.5 to NPT ½, for proximity switches with Pg 13.5 connecting thread	►	**3SX9 910**
	Adapter from M20 x 1.5 to NPT ½, for proximity switches with M20 connecting thread		**3SX9 918**
	Molded plastic M20 × 1.5 screwed joint 6 mm long, with seal, for proximity switches with M20 connecting thread		**3SB39 01–0CK**
3RX1 303 	**Alignment plate** for cubic proximity switches 3RG16 30, 3RG40 30, 3RG40 31, 3RG40 34, 3RG40 41, 3RG41 31, 3RG41 41, 3RG46 31	►	**3RX1 303**
3RX1 304 	**Mounting bracket** For snapping onto C-shaped rails, can slide up to 20 mm lengthwise, rotatable through 360° for cubic proximity switches 3RG16 30, 3RG40 30, 3RG40 31, 3RG40 34, 3RG40 41, 3RG41 31, 3RG41 41, 3RG46 31		**3RX1 304**

► Preferred type, available from stock.

Appendix
Order No. index