

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

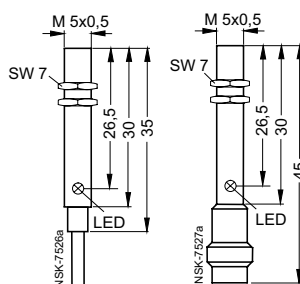
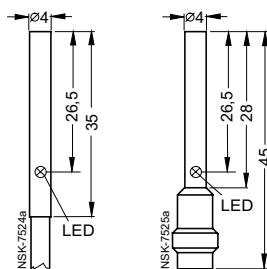
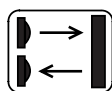
D 4/M 5

Sensing range 50 mm
(diffuse sensor;
energetic sensor)

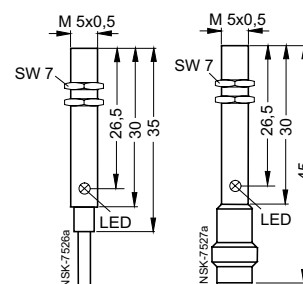
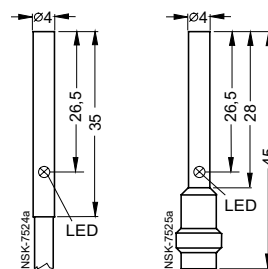
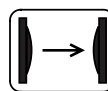
Transmission range 250 mm
(thru-beam sensor)

Modulated infrared light
DC 10 to 30 V
Cable or plug M 8
IP 67
Solid state output
Temperature range 0 °C to +55 °C
Temperature coefficient 0.3%/K

Diffuse sensors



Thru-beam sensors



Sensing range/transmission range

50 mm (not adjustable)

250 mm (not adjustable)

Operational voltage

DC 10 to 30 V (max. 20% residual ripple)

Output current

max. 100 mA

Current input (no load)

10 mA typ.

5 mA/5 mA (transmitter/receiver) typ.

Operating frequency

250 Hz

Switching time

2.5 ms

LED

Yellow = reliable detection; yellow LED flashing = below surplus light

Standard target

100 mm x 100 mm (white)

Transmitter (type of light)

IR LED 880 nm

Housing material

D 4: Stainless steel/M 5: Brass, nickel-plated

Degree of protection

IP 67

Weight (cable/plug)

35 g/4 g

		Order No.	Price	Wiring diagram (see page 10/176)			Order No.	Price	Wiring diagram (see page 10/176)
			1 unit				for receiver	1 unit	
D 4	Cable 2 m, PUR, pnp, light-ON function 3 x 0.14 mm ²	▶ 3RG70 40-0AB00	1		▶ 3RG70 42-0AB00	1			
	nnp, light-ON function	3RG70 40-0GB00	1		3RG70 42-0GB00	1			
	M 8 plug, pnp, light-ON function	▶ 3RG70 40-7AB00	1		▶ 3RG70 42-7AB00	1			
	3-pole, type A nnp, light-ON function	3RG70 40-7GB00	1		3RG70 42-7GB00	1			
M 5	Cable 2 m, PUR, pnp, light-ON function 3 x 0.14 mm ²	▶ 3RG70 30-0AB00	1		▶ 3RG70 32-0AB00	1			
	nnp, light-ON function	3RG70 30-0GB00	1		3RG70 32-0GB00	1			
	M 8 plug, pnp, light-ON function	▶ 3RG70 30-7AB00	1		▶ 3RG70 32-7AB00	1			
	3-pole, type A nnp, light-ON function	3RG70 30-7GB00	1		3RG70 32-7GB00	1			
Transmitter for thru-beam sensor									
D 4	Cable 2 m, PUR, 3 x 0.14 mm ²	–			▶ 3RG70 42-0BG00	2			
	M 8 plug, 3-pole, type A	–			▶ 3RG70 42-7BG00	2			
M 5	Cable 2 m, PUR, 3 x 0.14 mm ²	–			▶ 3RG70 32-0BG00	2			
	M 8 plug, 3-pole, type A	–			▶ 3RG70 32-7BG00	2			

Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add "–Z" to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

M 12

Sensing range 30 cm
(energetic sensor)

Modulated red light, visible

DC 10 to 36 V

Cable or plug M 12

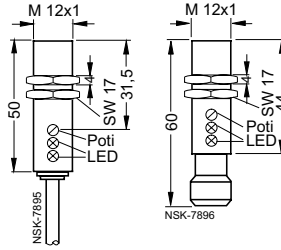
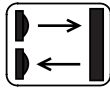
IP 67

Solid state output

Temperature range -25 °C to +55 °C

Temperature coefficient 0.3%/K

Diffuse sensors



Sensing range	30 cm
Operational voltage	DC 10 to 36 V (max. 20% residual ripple)
Output current	max. 200 mA
Current input (no load)	15 mA typ.
Operating frequency	1000 Hz
Switching time	0.5 ms
LED	Switching status (yellow), surplus light emission (green)
Standard target	200 mm × 200 mm (white)
Transmitter (type of light)	LED red 660 nm (visible)
Housing material	Brass, nickel-plated
Degree of protection	IP 67
Weight (cable/plug)	100 g/20 g

		Order No.	Price 1 unit	Wiring diagram (see page 10/176)
Cable 2 m, PUR, 3 x 0.34 mm ²	pnp, light-ON function	▶ 3RG71 20-0AB00		13
	pnp, dark-ON function	3RG71 20-0AA00		14
	npn, light-ON function	3RG71 20-0GB00		13
	npn, dark-ON function	3RG71 20-0GA00		14
M 12 plug, 4-pole, type F	pnp, light-ON function	▶ 3RG71 20-3AB00		13
	pnp, dark-ON function	3RG71 20-3AA00		14
	npn, light-ON function	3RG71 20-3GB00		13
	npn, dark-ON function	3RG71 20-3GA00		14

Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add "-Z" to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

M 12

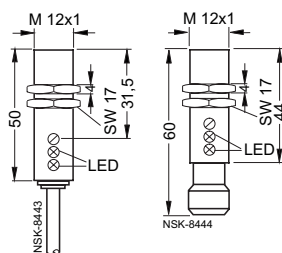
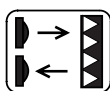
Transmission range 1.5 m
(reflex sensor)

Transmission range 4 m
Enabling input for testing
(thru-beam sensor)

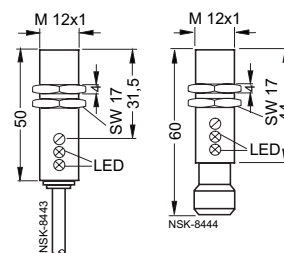
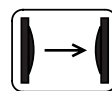
Infrared light
DC 10 to 36 V
Cable or plug M 12
IP 67
Solid state output
Temperature range -25 °C to +55 °C
Temperature coefficient 0.3%/K

Delivery does not include reflector

Reflex sensors



Thru-beam sensors



Transmission range	1.5 m	4 m
Operational voltage	DC 10 to 36 V (max. 20% residual ripple)	
Output current	Max. 200 mA	
Current input (no load)	15 mA typ.	15 mA/15 mA (transmitter/receiver) typ.
Operating frequency	1000 Hz	
Switching time	0.5 ms	
LED	Switching status (yellow), surplus light emission (green)	
Standard target	Reflector type D 84, 3RX7 916	—
Transmitter (type of light)	LED red 660 nm (polarized, visible)	LED red 660 nm (visible)
Housing material	Brass, nickel-plated	
Degree of protection	IP 67	
Weight (cable/plug)	100 g/20 g	

			Order No.	Price 1 unit	Wiring diagram (see page 10/176)		Order No.	Price 1 unit	Wiring diagram (see page 10/176)
Cable 2 m, PUR, 3 x 0.34 mm²	pnp, light-ON function	▶	3RG71 21-0AB00		14	▶	3RG71 22-0AB00		14
	pnp, dark-ON function	▶	3RG71 21-0AA00		13	▶	3RG71 22-0AA00		13
	nnp, light-ON function		3RG71 21-0GB00		14		3RG71 22-0GB00		14
	nnp, dark-ON function		3RG71 21-0GA00		13		3RG71 22-0GA00		13
M 12 plug, 4-pole, type F	pnp, light-ON function	▶	3RG71 21-3AB00		14	▶	3RG71 22-3AB00		14
	pnp, dark-ON function	▶	3RG71 21-3AA00		13	▶	3RG71 22-3AA00		13
	nnp, light-ON function		3RG71 21-3GB00		14		3RG71 22-3GB00		14
	nnp, dark-ON function		3RG71 21-3GA00		13		3RG71 22-3GA00		13
Transmitter for thru-beam sensor									
Cable 2 m, PUR, 3 x 0.34 mm²			–			▶	3RG71 22-0BG00		7
M 12 plug, 4-pole, type F			–			▶	3RG71 22-3BG00		7

Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add "—Z" to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

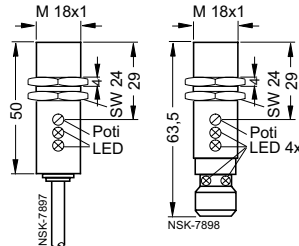
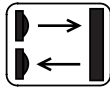
M 18

Sensing range 60 cm
(diffuse sensor,
energetic sensor)

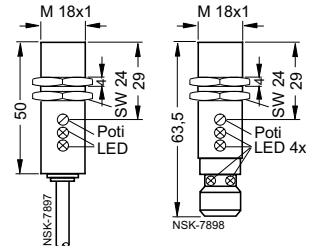
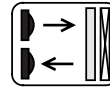
Sensing range 30 to 120 mm
(diffuse sensor with
background suppression)

Infrared light (visible)
DC 10 to 36 V
Cable or plug M 12
IP 67
Solid state output
Temperature range -25 °C to +55 °C
Temperature coefficient 0.3%/K

Diffuse sensors



Diffuse sensors with background suppression



Sensing range	60 cm	30 to 120 mm
Operational voltage	DC 10 to 36 V (max. 20% residual ripple)	
Output current	Max. 200 mA	
Current input (no load)	15 mA typ.	25 mA typ.
Operating frequency	1000 Hz	500 Hz
Switching time	0.5 ms	1 ms
LED	Switching status (yellow), surplus light emission (green)	
Standard target	200 mm x 200 mm (white)	50 mm x 50 mm (white)
Transmitter (type of light)	LED red 660 nm (visible)	
Housing material	Brass, nickel-plated	
Degree of protection	IP 67	
Weight (cable/plug)	115 g/40 g	

		Order No.	Price	Wiring diagram		
			1 unit	(see page 10/176)	Order No.	Price
Cable 2 m, PUR, 3 x 0.34 mm ²	pnp, light-ON function	▶ 3RG71 30-0AB00		13	▶ 3RG71 34-0AB00	13
	pnp, dark-ON function	3RG71 30-0AA00		14	3RG71 34-0AA00	14
	nnp, light-ON function	3RG71 30-0GB00		13	3RG71 34-0GB00	13
	nnp, dark-ON function	3RG71 30-0GA00		14	3RG71 34-0GA00	14
M 12 plug, 4-pole, type F	pnp, light-ON function	▶ 3RG71 30-3AB00		13	▶ 3RG71 34-3AB00	13
	pnp, dark-ON function	3RG71 30-3AA00		14	3RG71 34-3AA00	14
	nnp, light-ON function	3RG71 30-3GB00		13	3RG71 34-3GB00	13
	nnp, dark-ON function	3RG71 30-3GA00		14	3RG71 34-3GA00	14

Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add "-Z" to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

M 18

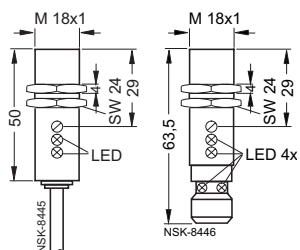
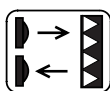
Transmission range 2 m
(reflex sensor)

Transmission range 6 m
Enabling input for testing
(thru-beam sensor)

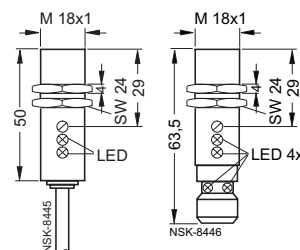
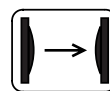
Infrared light
DC 10 to 36 V
Cable or plug M 12
IP 67
Solid state output
Temperature range -25 °C to +55 °C
Temperature coefficient 0.3%/K

Delivery does not include reflector

Reflex sensors



Thru-beam sensors



Transmission range		2 m		6 m	
Operational voltage		DC 10 to 36 V (max. 20% residual ripple)			
Output current		Max. 200 mA			
Current input (no load)		15 mA typ.			
Switching time		0.5 ms			
Operating frequency		1000 Hz			
LED		Switching status (yellow), surplus light emission (green)			
Standard target		Reflector type D 84, 3RX7 916		–	
Transmitter (type of light)		LED red 660 nm (polarized, visible)		LED red 660 nm (visible)	
Housing material		Brass, nickel-plated			
Degree of protection		IP 67			
Weight (cable/plug)		115 g/40 g			
		Order No.	Price	Wiring diagram	
			1 unit	(see page 10/176)	
Cable 2 m, PUR, 3 x 0.34 mm ²	pnp, light-ON function	▶ 3RG71 31-0AB00		▶ 3RG71 32-0AB00	
	pnp, dark-ON function	▶ 3RG71 31-0AA00		▶ 3RG71 32-0AA00	
	npn, light-ON function	3RG71 31-0GB00		3RG71 32-0GB00	
	npn, dark-ON function	3RG71 31-0GA00		3RG71 32-0GA00	
M 12 plug, 4-pole, type F	pnp, light-ON function	▶ 3RG71 31-3AB00		▶ 3RG71 32-3AB00	
	pnp, dark-ON function	▶ 3RG71 31-3AA00		▶ 3RG71 32-3AA00	
	npn, light-ON function	3RG71 31-3GB00		3RG71 32-3GB00	
	npn, dark-ON function	3RG71 31-3GA00		3RG71 32-3GA00	
Transmitter for thru-beam sensor					
Cable 2 m, PUR, 3 x 0.34 mm ²		–		▶ 3RG71 32-0BG00	
M 12 plug, 4-pole, type E		–		▶ 3RG71 32-3BG00	

Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add "—Z" to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

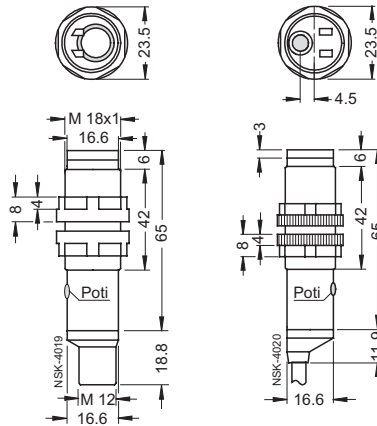
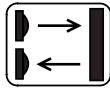
M 18M

Sensing range 8 cm/30 cm
(diffuse sensor)

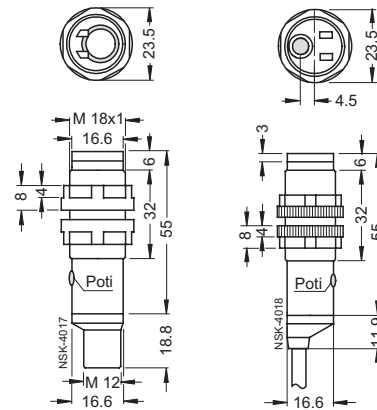
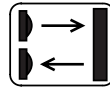
DC 10 to 30 V
Cable or plug M 12
Metal housing
IP 67
Light-ON/dark-ON function
programmable
Solid state output npn/pnp
Temperature range -15 °C to +55 °C

Delivery does not include bracket

Diffuse sensors



Diffuse sensors



Sensing range	30 cm	8 cm
Operational voltage	DC 10 to 30 V	
Output current	150 mA	
Current input/power consumption	< 30 mA	
Operating frequency	500 Hz	
Switching time	1 ms	
LED	Switching status (yellow)	
Standard target	100 mm x 100 mm (white)	
Transmitter (type of light)	IR 880 nm	
Housing material	Brass, nickel-plated	
Degree of protection	IP 67	
Weight (cable/plug)	100 g	

		Order No.	Price	Wiring diagram	Order No.	Price	Wiring diagram
			1 unit	(see page 10/176)		1 unit	(see page 10/176)
Cable 2 m, PVC, 4 x 0.25 mm²	pnp/npn, light-ON or dark-ON function	▶ 3RG76 00-1RH00		38	3RG76 00-1RH60		38
M 12 plug, 4-pole, type F	pnp/npn, light-ON or dark-ON function	▶ 3RG76 00-3RH00		38	3RG76 00-3RH60		38

Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add "-Z" to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

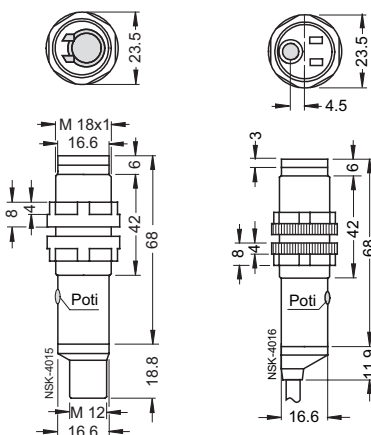
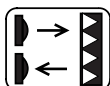
M 18M

Sensing range 2 m

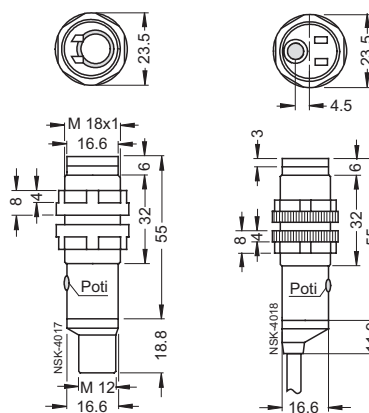
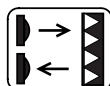
DC 10 to 30 V
Cable or plug M 12
Metal housing
IP 67
Light-ON/dark-ON function
programmable
Solid state output npn/pnp
Temperature range -15 °C to +55 °C

Delivery does not include bracket and reflector

Reflex sensors with pole filter



Reflex sensors without pole filter



Sensing range	2 m	2 m (not adjustable)
Operational voltage	DC 10 to 30 V	
Output current	150 mA	
Current input/power consumption	< 30 mA	
Operating frequency	500 Hz	
Switching time	1 ms	
LED	Switching status (yellow)	
Standard target	Reflector type S48, 3RX7 922	Reflector type S48, 3RX7 922
Transmitter (type of light)	Red visible 660 nm	IR 880 nm
Housing material	Brass, nickel-plated	
Degree of protection	IP 67	
Weight	100g	

	Reflex sensors with pole filter			Reflex sensors without pole filter		
	Order No.	Price	Wiring diagram	Order No.	Price	Wiring diagram
		1 unit	(see page 10/176)		1 unit	(see page 10/176)
Cable 2 m, PVC, 4 x 0.25 mm ²	▶ 3RG76 01-1RH00		38	3RG76 01-1RH51		38
M 12 plug, 4-pole, type F	▶ 3RG76 01-3RH00		38	3RG76 01-3RH51		38
pnp/npn, light-ON or dark-ON function						
pnp/npn, light-ON or dark-ON function						

Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add "-Z" to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

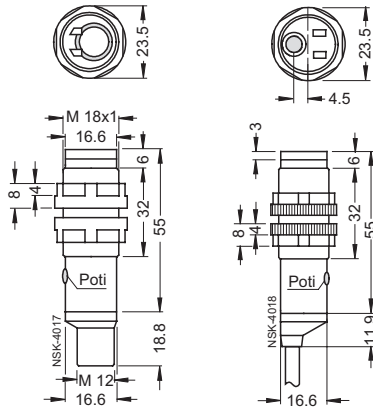
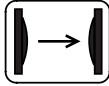
M 18M

Transmission range 12 m

DC 10 to 30 V
Cable or plug M 12
Metal housing
IP 67
Light-ON/dark-ON function
programmable
Solid state output npn/pnp
Temperature range -15 °C to +55 °C

Delivery does not include bracket

Thru-beam sensors



Transmission range	12 m		
Operational voltage	DC 10 to 30 V		
Output current	150 mA		
Current input/power consumption	< 30 mA		
Operating frequency	250 Hz		
Switching time	2 ms		
LED	Switching status (yellow)		
Standard target	—		
Transmitter (type of light)	IR 880 nm		
Housing material	Brass, nickel-plated		
Degree of protection	IP 67		
Weight	100 g		
Receiver		Order No.	Price
			Wiring diagram
			(see page
		1 unit	10/176)
Cable 2 m, PVC, 4 x 0.25 mm²	pnp/npn, light-ON or dark-ON function	▶ 3RG76 02–1RH00	38
M 12 plug, 4-pole, type F	pnp/npn, light-ON or dark-ON function	▶ 3RG76 02–3RH00	38
Transmitter for thru-beam sensor			
Cable 2 m, PVC, 4 x 0.25 mm²		▶ 3RG76 02–1BG00	21
M 12 plug, 4-pole, type F		▶ 3RG76 02–3BG00	21

Delivery

► Preferred type.

Longer cable lengths can be ordered if required. In this case, add “-Z” to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

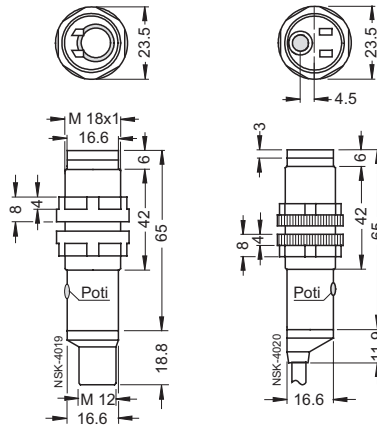
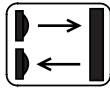
M 18P

Sensing range 8 cm
(diffuse sensor)

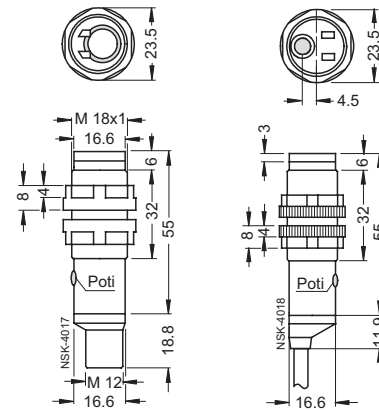
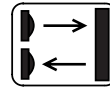
Sensing range 30 cm
(diffuse sensor)

DC 10 to 30 V
Cable or plug M 12
Moulded plastic housing
IP 67
Light-ON/dark-ON function
programmable
Solid state output npn/pnp
Temperature range -15 °C to +55 °C
Delivery does not include bracket

Diffuse sensors



Diffuse sensors



Sensing range	30 cm	8 cm
Operational voltage	DC 10 to 30 V	
Output current	150 mA	
Current input/power consumption	< 30 mA	
Operating frequency	500 Hz	
Switching time	1 ms	
LED	Switching status (yellow)	
Standard target	100 mm x 100 mm (white)	
Transmitter (type of light)	IR 880 nm	
Housing material	ABS	
Degree of protection	IP 67	
Weight	100 g	

		Order No.	Price	Wiring diagram	Order No.	Price	Wiring diagram
			1 unit	(see page 10/176)		1 unit	(see page 10/176)
Cable 2 m, PVC, 4 x 0.25 mm ²	pnp/npn, light-ON or dark-ON function	▶ 3RG76 20-1RH00		38	3RG76 20-1RH60		38
M 12 plug, 4-pole, type F	pnp/npn, light-ON or dark-ON function	▶ 3RG76 20-3RH00		38	3RG76 20-3RH60		38

Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add "-Z" to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

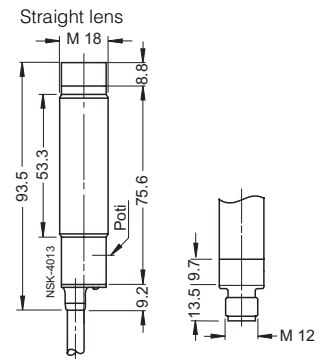
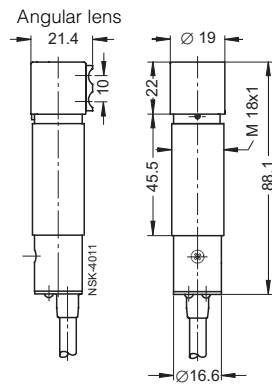
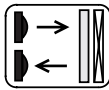
Selection and ordering data

M 18P

Sensing range 20 to 100 mm

DC 10 to 30 V
Cable or plug M 12
Plastic housing
IP 67
Light-ON/dark-ON function
programmable
Solid state output npn/pnp
Temperature range -15 °C to +55 °C

Delivery does not include bracket



Sensing range	20 to 100 mm
Operational voltage	DC 10 to 30 V
Output current	100 mA
Current input/power consumption	< 30 mA
Operating frequency	200 Hz
Switching time	2.5 ms
LED	Switching status (yellow), surplus light emission (green)
Standard target	100 mm x 100 mm (grey 18 %)
Transmitter (type of light)	LED red 660 nm (visible)
Housing material	ABS
Degree of protection	IP 67
Weight	100 g

		Order No.	Price	Wiring diagram	Order No.	Price	Wiring diagram
		(Angular lens)	1 unit	(see page 10/176)	(Straight lens)	1 unit	(see page 10/176)
Cable 2 m, PVC, 4 x 0.25 mm²	pnp, light-ON and dark-ON function npn, light-ON and dark-ON function	▶ 3RG76 34-1CC00		15	▶ 3RG76 24-1CC00		15
		3RG76 34-1HC00		15	3RG76 24-1HC00		15
M 12 plug, 4-pole, type F	pnp, light-ON and dark-ON function npn, light-ON and dark-ON function	▶ 3RG76 34-3CC00		15	▶ 3RG76 24-3CC00		15
		3RG76 34-3HC00		15	3RG76 24-3HC00		15

Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add "-Z" to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

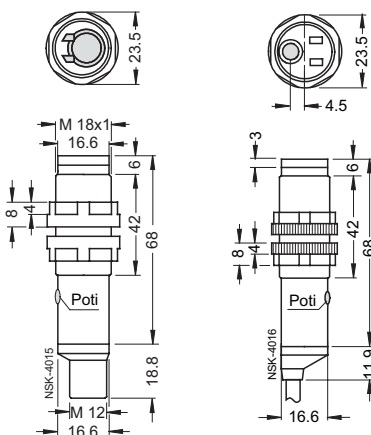
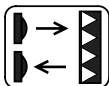
M 18P

Sensing range 2 m

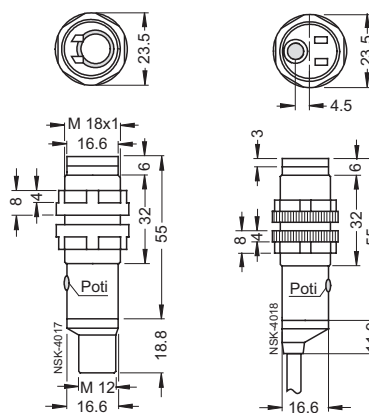
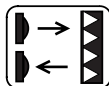
DC 10 to 30 V
Cable or plug M 12
Plastic housing
IP 67
Light-ON/dark-ON function
programmable
Solid state output npn/pnp
Temperature range -15 °C to +55 °C

Delivery does not include bracket and reflector

Reflex sensors with pole filter



Reflex sensors without pole filter



Sensing range		2 m		2 m (not adjustable)	
Operational voltage		DC 10 to 30 V			
Output current		150 mA			
Current input/power consumption		< 30 mA			
Operating frequency		500 Hz			
Switching time		1 ms			
LED		Switching status (yellow)			
Standard target		Reflector type S48, 3RX7 922		Reflector type S48, 3RX7 922	
Transmitter (type of light)		Red visible 660 nm		IR 880 nm	
Housing material		ABS			
Degree of protection		IP 67			
Weight		100 g			
		Order No.	Price	Wiring diagram	
			1 unit	(see page 10/176)	
Cable 2 m, PVC, 4 x 0.25 mm ²	pnp/npn, light-ON or dark-ON function	▶ 3RG76 21-1RH00		38	▶ 3RG76 21-1RH51 38
M 12 plug, 4-pole, type F	pnp/npn, light-ON or dark-ON function	▶ 3RG76 21-3RH00		38	▶ 3RG76 21-3RH51 38

Delivery

► Preferred type.

Longer cable lengths can be ordered if required. In this case, add “-Z” to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

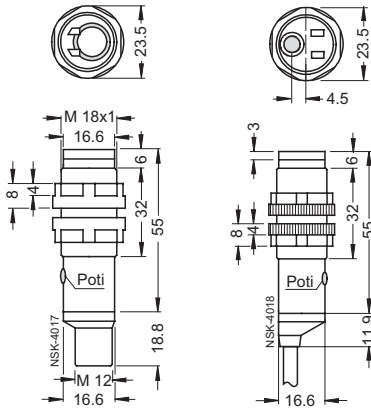
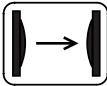
Selection and ordering data

M 18P

Transmission range 12 m

DC 10 to 30 V
Cable or plug M 12
Plastic housing
IP 67
Light-ON/dark-ON function
programmable
Solid state output npn/pnp
Temperature range -15 °C to +55 °C

Delivery does not include bracket



Transmission range	12 m
Operational voltage	DC 10 to 30 V
Output current	150 mA
Current input/power consumption	< 30 mA
Operating frequency	250 Hz
Switching time	2 ms
LED	Switching status (yellow)
Standard target	—
Transmitter (type of light)	IR 880 nm
Housing material	ABS
Degree of protection	IP 67
Weight	100 g

Receiver

Cable 2 m, PVC, 4 x 0.25 mm² pnp/npn, light-ON or dark-ON function

M 12 plug, 4-pole, type F pnp/npn, light-ON or dark-ON function

Transmitter for thru-beam sensor

Cable 2 m, PVC, 4 x 0.25 mm²

M 12 plug, 4-pole, type F

Order No.	Price 1 unit	Wiring diagram (see page 10/176)
▶ 3RG76 22-1RH00		38
▶ 3RG76 22-3RH00		38
▶ 3RG76 22-1BG00		38
▶ 3RG76 22-3BG00		38

Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add “-Z” to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

K 20

Sensing range 300 mm
(diffuse sensor)

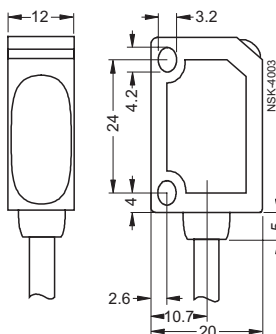
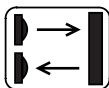
Sensing range 20 to 100 mm
(diffuse sensor with background suppression)

Configuration using 'Teach-In'

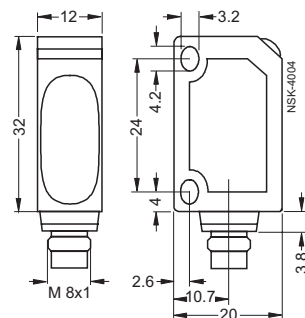
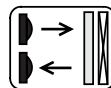
DC 10 to 30 V
Cable or plug M 8
IP 67
Solid state output
Temperature range -20 °C to +60 °C

Delivery does not include bracket

Diffuse sensors



Diffuse sensors with background suppression



Sensing range	300 mm	20 to 100 mm
Operational voltage	DC 10 to 30 V	
Output current	100 mA	
Current input/power consumption	Max. 35 mA at 24 V DC	
Operating frequency	1000 Hz	
Switching time	0.5 ms	
LED	Switching status (yellow), surplus light emission (green)	
Standard target	100 mm × 100 mm (white 90%)	100 mm × 100 mm (grey 18%)
Transmitter (type of light)	Infrared light 660 nm visible	
Housing material	ABS	
Degree of protection	IP 67	
Weight (with plug)	40 g	

	Order No.	Price	Wiring diagram	Order No.	Price	Wiring diagram
		1 unit	(see page 10/176)		1 unit	(see page 10/176)
Cable 2 m, PUR, 4 x 0.14 mm ²	▶ 3RG74 00-0CH00		16	▶ 3RG74 04-0CH00		16
	3RG74 00-0HH00		16	–		
M 8 plug, 4-pole, type B	▶ 3RG74 00-7CH00		16	▶ 3RG74 04-7CH00		16
	3RG74 00-7HH00		16	–		

Accessories

Mounting bracket for K 20

▶ 3RX7 308

Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add “-Z” to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

K 20

Transmission range 0.1 m to 2.5 m
(reflex sensor)

Transmission range 0.1 m to 3.5 m
(reflex sensor with increased transmission range)

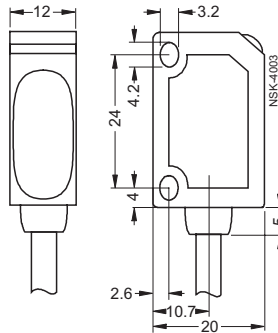
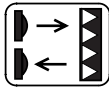
Transmission range 50 cm
(reflex sensor for transparent objects)

Configuration using 'Teach-In'

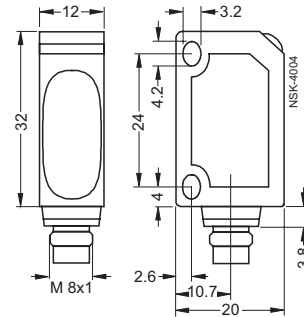
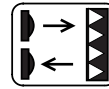
DC 10 to 30 V
Cable or plug M 8
IP 67
Solid state output
Temperature range -20 °C to +60 °C

Delivery does not include bracket

Reflex sensors



Reflex sensors for transparent objects



Transmission range	0.1 to 2.5 m or. 0.1 to 3.5 m	50 cm
Operational voltage	DC 10 to 30 V	
Output current	100 mA	
Current input/power consumption	Max. 35 mA at 24 V DC	
Operating frequency	1000 Hz	
Switching time	0.5 ms	
LED	Switching status (yellow), surplus light emission (green)	
Standard target	Reflector type R 60, 3RX7 305	
Transmitter (type of light)	Infrared light 660 nm visible	
Housing material	ABS	
Degree of protection	IP 67	
Weight (with plug)	40 g	

Transmission range 2.5 m/50 cm

Cable 2 m, PUR, 4 x 0.14 mm² pnp, light-ON or dark-ON function
npn, light-ON or dark-ON function

M 8 plug, 4-pole, type B pnp, light-ON or dark-ON function
npn, light-ON or dark-ON function

Transmission range 3.5 m

Cable 2 m, PUR, 4 x 0.14 mm² pnp, light-ON or dark-ON function
npn, light-ON or dark-ON function

M 8 plug, 4-pole, type B pnp, light-ON or dark-ON function
npn, light-ON or dark-ON function

Accessories

Mounting bracket for K 20

Order No.	Price	Wiring diagram
	1 unit	(see page 10/176)

▶ **3RG74 01-0CH00** 16

3RG74 01-0HH00 16

▶ **3RG74 01-7CH00** 16

3RG74 01-7HH00 16

▶ **3RG74 01-0CH61** 16

3RG74 01-0HH61 16

▶ **3RG74 01-7CH61** 16

3RG74 01-7HH61 16

▶ **3RX7 308**

Order No.	Price	Wiring diagram
	1 unit	(see page 10/176)

▶ **3RG74 01-0CH52** 16

3RG74 01-0HH52 19

▶ **3RG74 01-7CH52** 16

3RG74 01-7HH52 16

Delivery
▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add "-Z" to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

K 31

Sensing range 30 mm to 150 mm
(diffuse sensor with background suppression)
Infrared light

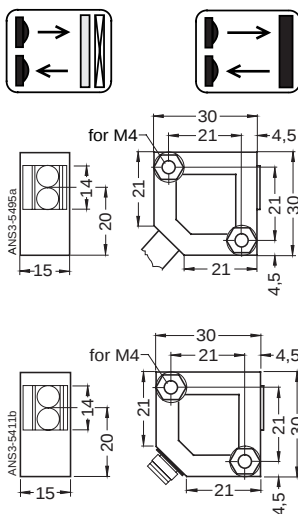
Sensing range 60 cm
(diffuse sensor; energetic sensor)
Modulated infrared light

Transmission range 2 m
(reflex sensor)
Infrared light (polarized)

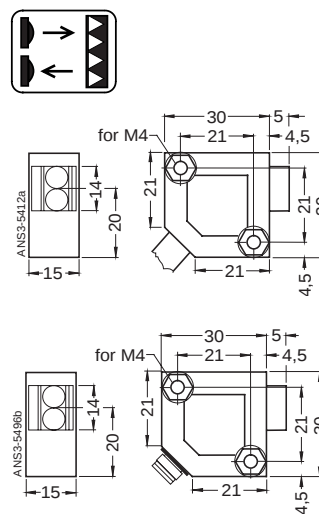
DC 10 to 36 V
Cable or plug M 8
IP 65
Solid state output
Temperature range -25 °C to +55 °C
Temperature coefficient 0.3%/K

Delivery does not include bracket and reflector

Diffuse sensors



Reflex sensors



With background suppression

Energetic sensor

Sensing range/transmission range	30 mm to 150 mm	60 cm	2 m
Operational voltage	DC 10 to 36 V (max. 20% residual ripple)		
Output current	Max. 200 mA		
Current input (no load)	25 mA typ.	15 mA typ.	
Operating frequency	500 Hz	1000 Hz	
Switching time	1 ms	0.5 ms	
LED	Switching status (yellow), surplus light emission (green)		
Standard target	100 mm x 100 mm (white) 200 mm x 200 mm (white)		
Transmitter (type of light)	LED red 660 nm (visible)	IR LED 880 nm	Reflector type D 84, 3RX7 916 LED red 660 nm (polarized, visible)
Housing material	Plastic, glass-fibre-reinforced (PBTP, Crastin)		
Degree of protection	IP 65		
Weight (cable/plug)	75 g/17 g		

80 g/18 g

Energetic sensor

Cable 2 m, PUR, 3 x 0.14 mm² pnp, light-ON function
pnp, dark-ON function
nnp, light-ON function
nnp, dark-ON function

M 8 plug, 3-pole, type A pnp, light-ON function
pnp, dark-ON function
nnp, light-ON function
nnp, dark-ON function

With background suppression

Cable 2 m, PUR, 3 x 0.14 mm² pnp, light-ON function
pnp, dark-ON function
nnp, light-ON function
nnp, dark-ON function

M 8 plug, 3-pole, type A pnp, light-ON function
pnp, dark-ON function
nnp, light-ON function
nnp, dark-ON function

Accessories

Mounting bracket K 31

Order No.	Price	Wiring diagram
	1 unit	(see page 10/176)
▶ 3RG70 10-0AB00		1
▶ 3RG70 10-0AA00		1
▶ 3RG70 10-0GB00		1
▶ 3RG70 10-0GA00		1
▶ 3RG70 10-7AB00		1
▶ 3RG70 10-7AA00		1
▶ 3RG70 10-7GB00		1
▶ 3RG70 10-7GA00		1
▶ 3RG70 14-0AB00		1
▶ 3RG70 14-0AA00		1
▶ 3RG70 14-0GB00		1
▶ 3RG70 14-0GA00		1
▶ 3RG70 14-7AB00		1
▶ 3RG70 14-7AA00		1
▶ 3RG70 14-7GB00		1
▶ 3RG70 14-7GA00		1
▶ 3RX7 910		

Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add "-Z" to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

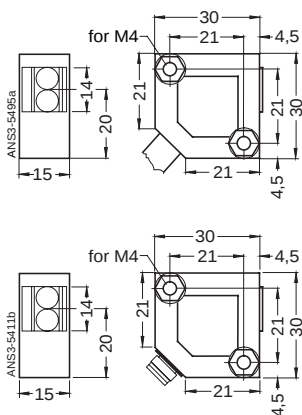
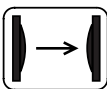
K 31

Transmission range 6 m
(thru-beam sensor)

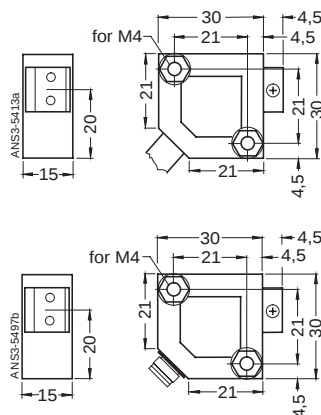
Modulated infrared light
DC 10 to 36 V
Cable or plug M 8
IP 65
Enabling input for testing
Solid state output
Temperature range -25 °C to +55 °C
Temperature coefficient 0.3%/K

Delivery does not include bracket

Thru-beam sensors



BERO for plastic fibre-optic conductors



Transmission range	6 m	Depending on the fibre
Operational voltage	DC 10 to 36 V (max. 20% residual ripple)	
Output current	max. 200 mA	
Current input (no load)	10 mA/15 mA (transmitter/receiver) typ.	15 mA typ.
Operating frequency	1000 Hz	
Switching time	0.5 ms	
LED	Switching status (yellow), surplus light emission (green)	
Standard target	—	100 mm × 100 mm (white)
Transmitter (type of light)	IR LED 880 nm	LED red 660 nm (visible)
Housing material	Plastic, glass-fibre-reinforced (PBTP, Crastin)	
Degree of protection	IP 65	
Weight (cable/plug)	75 g/17 g (transmitter and receiver)	80 g/18 g

		Order No.	Price	Wiring diagram
		for receiver	1 unit	(see page 10/176)
Cable 2 m, PUR, 3 x 0.14 mm ²	pnp, light-ON function	▶ 3RG70 12-0AB00		1
	pnp, dark-ON function	▶ 3RG70 12-0AA00		1
	nnp, light-ON function	▶ 3RG70 12-0GB00		1
	nnp, dark-ON function	▶ 3RG70 12-0GA00		1
M 8 plug, 3-pole, type A	pnp, light-ON function	▶ 3RG70 12-7AB00		1
	pnp, dark-ON function	▶ 3RG70 12-7AA00		1
	nnp, light-ON function	▶ 3RG70 12-7GB00		1
	nnp, dark-ON function	▶ 3RG70 12-7GA00		1
Transmitter for thru-beam sensor				
Cable 2 m, PUR, 3 x 0.14 mm ²		▶ 3RG70 12-0BG00		2
M 8 plug, 3-pole, type A		▶ 3RG70 12-7BG00		2
Accessories				
Mounting bracket for K 31		▶ 3RX7 910		

Plastic fibre-optic conductors see pages 10/181 and 10/182.

Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add “-Z” to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

K 30

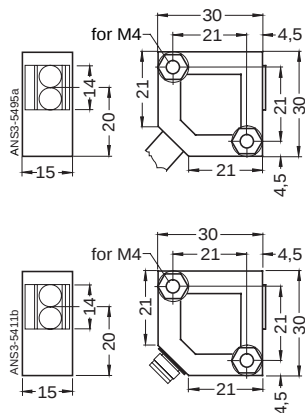
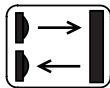
Sensing range 1.2 m
(diffuse sensor)
Modulated infrared light

Transmission range 4 m
(reflex sensor)
Infrared light (polarized)

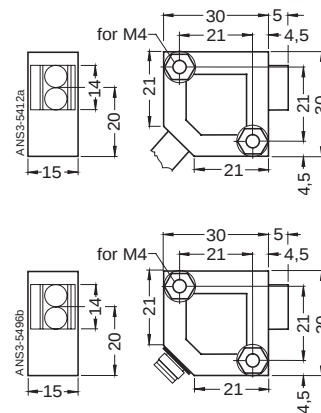
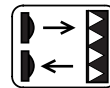
DC 10 to 36 V
Cable or plug M 8
IP 67
Solid state output
Temperature range -25 °C to +55 °C
Temperature coefficient 0.3%/K

Delivery includes bracket;
does not include reflector

Diffuse sensors



Reflex sensors



Sensing range/transmission range	1.2 m	4 m
Operational voltage	DC 10 to 36 V (max. 20% residual ripple)	
Output current	Max. 200 mA	
Current input (no load)	15 mA typ.	
Operating frequency	1000 Hz	
Switching time	0.5 ms	
LED	Switching status (yellow), surplus light emission (green)	
Standard target	200 mm x 200 mm (white)	Reflector type D 84, 3RX7 916
Transmitter (type of light)	IR LED 880 nm	LED red 660 nm (polarized, visible)
Housing material	Plastic, glass-fibre-reinforced (PBTP, Crastin)	
Degree of protection	IP 67	
Weight (cable/plug)	75 g/17 g	80 g/18 g

		Order No.	Price	Wiring diagram		Order No.	Price	Wiring diagram
			1 unit	(see page 10/176)			1 unit	(see page 10/176)
Cable 3 m, PUR, 4 x 0.14 mm ²	pnp, light-ON and dark-ON function, antivalent	▶ 3RG70 10-0CC00		3	▶	3RG70 11-0CC00		3
	pnp, light-ON function and surplus light emission	3RG70 10-0CD00		4		3RG70 11-0CD00		4
	nnp, light-ON and dark-ON function, antivalent	3RG70 10-0HC00		3		3RG70 11-0HC00		3
	nnp, light-ON function and surplus light emission	3RG70 10-0HD00		4		3RG70 11-0HD00		4
M 8 plug, 4-pole, type B	pnp, light-ON and dark-ON function, antivalent	▶ 3RG70 10-7CC00		3	▶	3RG70 11-7CC00		3
	pnp, light-ON function and surplus light emission	3RG70 10-7CD00		4		3RG70 11-7CD00		4
	nnp, light-ON and dark-ON function, antivalent	3RG70 10-7HC00		3		3RG70 11-7HC00		3
	nnp, light-ON function and surplus light emission	3RG70 10-7HD00		4		3RG70 11-7HD00		4

Accessories

Mounting bracket for K 30

▶ 3RX7 910

Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add "-Z" to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

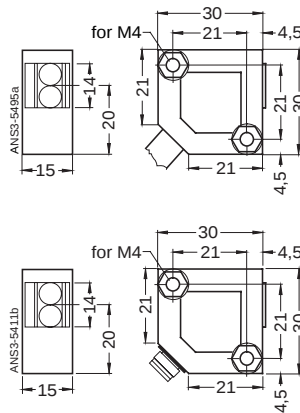
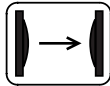
K 30

Transmission range 12 m
(thru-beam sensor)

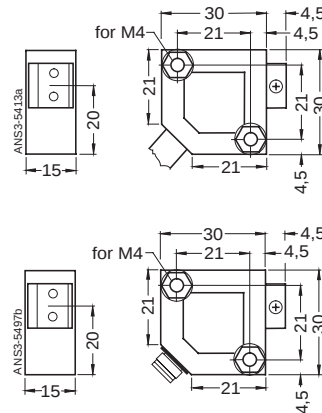
Modulated infrared light
DC 10 to 36 V
Cable or plug M 8
IP 67
Enabling input for testing
Solid state output
Temperature range -25 °C to +55 °C
Temperature coefficient 0.3%/K

Delivery does not include bracket

Thru-beam sensors



BERO for plastic fibre-optic conductors



Transmission range	12 m	Depending on the fibre
Operational voltage	DC 10 to 36 V (max. 20% residual ripple)	
Output current	Max. 200 mA	
Current input (no load)	10 mA/15 mA (transmitter/receiver) typ.	15 mA typ.
Operating frequency	1000 Hz	
Switching time	0.5 ms	
LED	Switching status (yellow), surplus light emission (green)	
Standard target	—	100 mm × 100 mm (white)
Transmitter (type of light)	IR LED 880 nm	LED red 660 nm (visible)
Housing material	Plastic, glass-fibre-reinforced (PBTP, Crastin)	
Degree of protection	IP 67	
Weight (cable/plug)	75 g/17 g (transmitter and receiver)	78 g/18 g

		Order No.	Price	Wiring diagram	Order No.	Price	Wiring diagram
		for receiver	1 unit	(see page 10/176)	for receiver	1 unit	(see page 10/176)
Cable 3 m, PUR, 4 x 0.14 mm ²	pnp, light-ON and dark-ON function, antivalent	3RG70 12-0CC00		3	3RG70 13-0CC00		3
	pnp, light-ON function and surplus light emission	3RG70 12-0CD00		4	3RG70 13-0CD00		4
	nnp, light-ON and dark-ON function, antivalent	3RG70 12-0HC00		3	3RG70 13-0HC00		3
	nnp, light-ON function and surplus light emission	3RG70 12-0HD00		4	3RG70 13-0HD00		4
M 8 plug, 4-pole, type B	pnp, light-ON and dark-ON function, antivalent	3RG70 12-7CC00		3	3RG70 13-7CC00		3
	pnp, light-ON function and surplus light emission	3RG70 12-7CD00		4	3RG70 13-7CD00		4
	nnp, light-ON and dark-ON function, antivalent	3RG70 12-7HC00		3	3RG70 13-7HC00		3
	nnp, light-ON function and surplus light emission	3RG70 12-7HD00		4	3RG70 13-7HD00		4
Transmitter for thru-beam sensor							
Cable 3 m, PUR, 3 x 0.14 mm ²		3RG70 12-0BE00		2			
M 8 plug, 3-pole, type A		3RG70 12-7BE00		2			
Accessories							
Mounting bracket for K 30		3RX7 910					

Plastic fibre-optic conductors see pages 10/181 and 10/182.

Delivery

► Preferred type.

Longer cable lengths can be ordered if required. In this case, add “-Z” to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

K 35

Sensing range 10 cm/50 cm

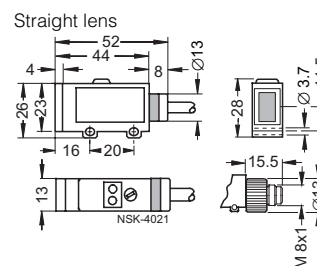
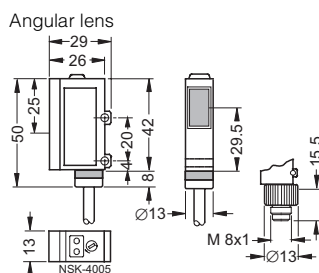
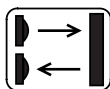
DC 10 to 30 V
Cable or plug M 8
IP 66

pnP/npN (M 8 only pnp)

Solid state output
Temperature range -15 °C to +55 °C

Delivery does not include bracket

Diffuse sensors



Sensing range	50 cm	10 cm
Operational voltage	DC 10 to 30 V	
Output current	100 mA	
Current input/power consumption	< 30 mA	
Operating frequency	500 Hz	
Switching time	1 ms	
LED	Switching status (yellow)	
Standard target	100 mm x 100 mm (white)	
Transmitter (type of light)	LED IR	
Housing material	ABS	
Degree of protection	IP 66	
Weight	30 g	

		Order No.	Price	Wiring diagram	Order No.	Price	Wiring diagram
			1 unit	(see page 10/176)		1 unit	(see page 10/176)
Cable 2 m, PVC, 5 x 0.2 mm ²	npN/pnp, light-ON or dark-ON function, straight lens	▶ 3RG73 20-1RH00		28, 29	–		
	npN/pnp, light-ON or dark-ON function, angular lens	▶ 3RG73 30-1RH00		28, 29	3RG73 30-1RH60		28, 29
M 8 plug, 4-pole, type B	pnp, light-ON or dark-ON function, straight lens	▶ 3RG73 20-7CH00		17	–		
	pnp, light-ON or dark-ON function, angular lens	▶ 3RG73 30-7CH00		17	3RG73 30-7CH60		17

Accessories

Mounting bracket for K 35

▶ **3RX7 313**

Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add “-Z” to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

K 35

Transmission range 0.1 to 2.5 m

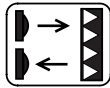
DC 10 to 30 V
Cable or plug M 8
IP 66

pnp/npn (M 8 only pnp)

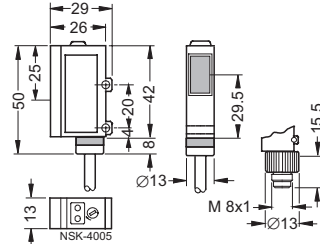
Solid state output
Temperature range -15 °C to +55 °C

Delivery does not include bracket
and reflector

Reflex sensors

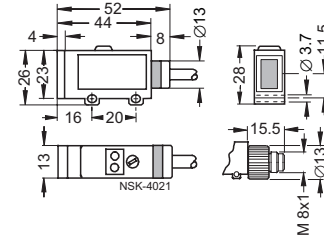


Angular lens



Reflex sensors without pole filter

Straight lens



Sensing range	1.8 m	2.5 m
Operational voltage	DC 10 to 30 V	
Output current	100 mA	
Current input/power consumption	< 30 mA	
Operating frequency	500 Hz	
Switching time	1 ms	
LED	Switching status (yellow)	
Standard target	Reflector type S48, 3RX7 922	
Transmitter (type of light)	LED red 660 nm	IR LED
Housing material	ABS	
Degree of protection	IP 66	
Weight	30 g	

		Order No.	Price 1 unit	Wiring diagram (see page 10/176)	Order No.	Price 1 unit	Wiring diagram (see page 10/176)
Cable 2 m, PVC, 5 x 0.2 mm ²	pnp/npn, light-ON or dark-ON function, straight lens	▶ 3RG73 21–1RH00		28, 29	–		
	pnp/npn, light-ON or dark-ON function, angular lens	▶ 3RG73 31–1RH00		28, 29	3RG73 31–1RH51		28, 29
M 8 plug, 4-pole, type B	pnp, light-ON or dark-ON function, straight lens	▶ 3RG73 21–7CH00		17	–		
	pnp, light-ON or dark-ON function, angular lens	▶ 3RG73 31–7CH00		17	3RG73 31–7CH51		17
Accessories							
Mounting bracket for K 35		▶ 3RX7 313					

Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add "-Z" to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

K 35

Transmission range 5 m

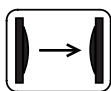
DC 10 to 30 V
Cable or plug M 8
IP 66

pnP/nPn (M 8 only pnp)

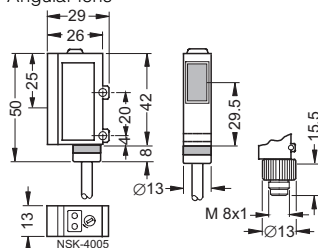
Solid state output
Temperature range -15 °C to +55 °C

Delivery does not include bracket

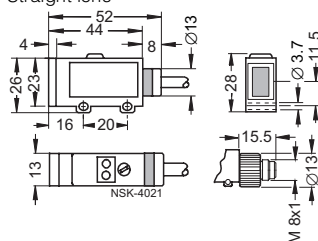
Thru-beam sensors



Angular lens



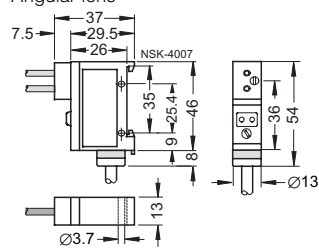
Straight lens



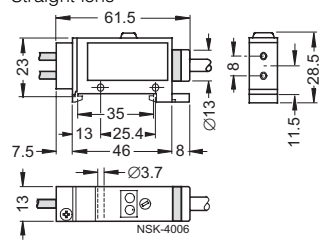
BERO for plastic fibre-optic conductors



Angular lens



Straight lens



Sensing range	5 m	Depending on the fibre
Operational voltage	DC 10 to 30 V	
Output current	100 mA	
Current input/power consumption	< 30 mA	
Operating frequency	250 Hz	500 Hz
Switching time	2 ms	
LED	Switching status (yellow)	
Standard target	—	
Transmitter (type of light)	IR LED	
Housing material	ABS	
Degree of protection	IP 66	
Weight	30 g	

	Order No.	Price	Wiring diagram (see page 10/176)	Order No.	Price	Wiring diagram (see page 10/176)
	for receiver	1 unit			1 unit	
Cable 2 m, PVC, 6 x 0.2 mm ²	▶ 3RG73 22-1RK00		30, 31	▶ 3RG73 23-1RH00		30, 31
pnP/nPn, light-ON or dark-ON function straight lens	▶ 3RG73 32-1RK00		30, 31	▶ 3RG73 33-1RH00		30, 31
pnP/nPn, light-ON or dark-ON function angular lens						
M 8 plug, 4-pole, type B	▶ 3RG73 22-7CK00		17	▶ 3RG73 23-7CH00		17
pnP, light-ON or dark-ON function straight lens	▶ 3RG73 32-7CK00		17	▶ 3RG73 33-7CH00		17
pnP, light-ON or dark-ON function angular lens						
Transmitter for thru-beam sensor						
Cable 2 m, PVC, 4 x 0.2 mm ²	▶ 3RG73 22-1BG00		27			
Straight lens	▶ 3RG73 32-1BG00		27			
Angular lens						
M 8 plug, 4-pole, type B	▶ 3RG73 22-7BG00		18			
Straight lens	▶ 3RG73 32-7BG00		18			
Angular lens						
Accessories						
Mounting bracket for K 35	▶ 3RX7 313					

Plastic fibre-optic conductors see pages 10/181 and 10/182.

Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add "-Z" to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

K 40

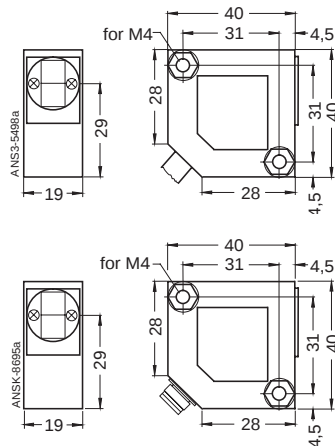
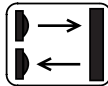
Sensing range 2 m
(diffuse sensor)
Modulated infrared light

Transmission range 6 m
(reflex sensor)
Infrared light (polarized)

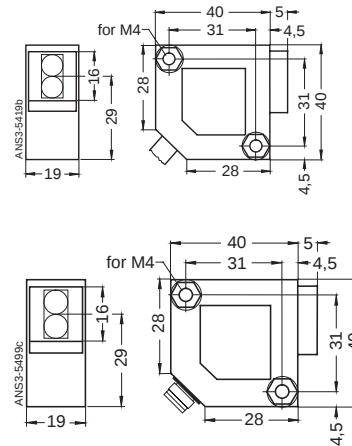
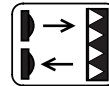
DC 10 to 36 V
Cable or plug M 8 and M 12
IP 67
Solid state output
Temperature range -25 °C to +55 °C
Temperature coefficient 0.1%/K

Delivery includes bracket

Diffuse sensors



Reflex sensors



Sensing range/transmission range

2 m

6 m

Operational voltage
Output current
Current input (no load)

DC 10 to 36 V (max. 20% residual ripple)
Max. 200 mA
15 mA typ.

Operating frequency
Switching time

1000 Hz
0.5 ms/5 ms

LED
Standard target
Transmitter (type of light)

Switching status (yellow), surplus light emission (green)
400 mm x 400 mm (white)
IR LED 880 nm

Reflector type D 84, 3RX7 916
LED red 660 nm (polarized, visible)

Housing material
Degree of protection
Weight (cable/plug)

Plastic, glass-fibre-reinforced (PBTP, Crastin)
IP 67
90 g/35 g

90 g/35 g

Cable 3 m, PUR, 4 x 0.14 mm² pnp, light-ON and dark-ON function, antivalent
pnp, light-ON function and surplus light emission
npn, light-ON and dark-ON function, antivalent
npn, light-ON function and surplus light emission

▶ **3RG70 20-0CC00** 3
3RG70 20-0CD00 4
3RG70 20-0HC00 3
3RG70 20-0HD00 4

M 8 plug, 4-pole, type B pnp, light-ON and dark-ON function, antivalent
pnp, light-ON function and surplus light emission
npn, light-ON and dark-ON function, antivalent
npn, light-ON function and surplus light emission

▶ **3RG70 20-7CC00** 3
3RG70 20-7CD00 4
3RG70 20-7HC00 3
3RG70 20-7HD00 4

M 12 plug, 4-pole, type F pnp, light-ON and dark-ON function, antivalent
pnp, light-ON function and surplus light emission
npn, light-ON and dark-ON function, antivalent
npn, light-ON function and surplus light emission

▶ **3RG70 20-3CC00** 5
3RG70 20-3CD00 6
3RG70 20-3HC00 5
3RG70 20-3HD00 6

▶ **3RG70 21-0CC00** 3
3RG70 21-0CD00 4
3RG70 21-0HC00 3
3RG70 21-0HD00 4

▶ **3RG70 21-7CC00** 3
3RG70 21-7CD00 4
3RG70 21-7HC00 3
3RG70 21-7HD00 4

▶ **3RG70 21-3CC00** 5
3RG70 21-3CD00 6
3RG70 21-3HC00 5
3RG70 21-3HD00 6

Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add "-Z" to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

K 40

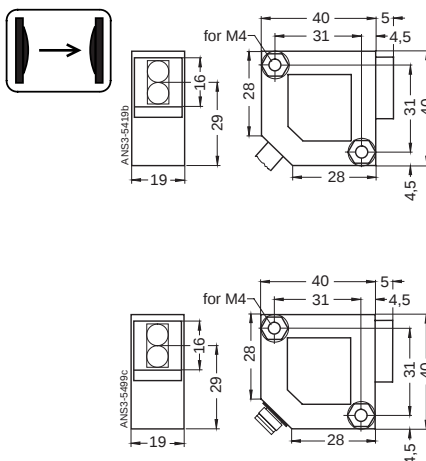
Transmission range 15 m
(thru-beam sensor)

Modulated red light (visible)
DC 10 to 36 V
Cable or plug M 8 and M 12
IP 67

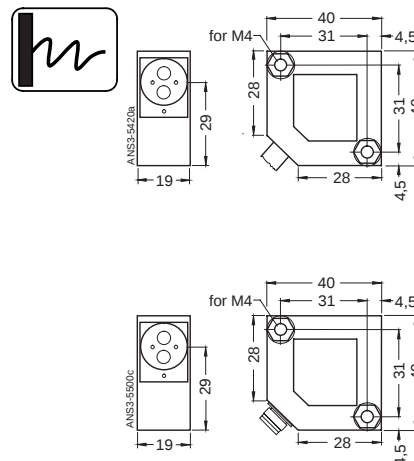
Enabling input for testing
Solid state output
Temperature range -25 °C to +55 °C
Temperature coefficient 0.1%/K

Delivery includes bracket

Thru-beam sensors



BERO for glass fibre-optic conductors



Transmission range	15 m	Depending on the fibre (see pages 10/183 and 10/184)
Operational voltage	DC 10 to 36 V (max. 20% residual ripple)	
Output current	Max. 200 mA	
Current input (no load)	10 mA/15 mA (transmitter/receiver) typ.	15 mA typ.
Operating frequency	1000 Hz	
Switching time	0.5 ms/5 ms	
LED	Switching status (yellow), surplus light emission (green)	
Standard target	—	100 mm × 100 mm (white)
Transmitter (type of light)	IR LED 880 nm	LED red 660 nm (visible)
Housing material	Plastic, glass-fibre-reinforced (PBTP, Crastin)	
Degree of protection	IP 67	
Weight (cable/plug)	90 g/35 g (transmitter and receiver)	90 g/35 g

	Order No.	Price	Wiring diagram (see page 10/176)		Order No.	Price	Wiring diagram (see page 10/176)
	for receiver	1 unit			1 unit		
Cable 3 m, PUR, 4 x 0.14 mm ²	▶ 3RG70 22-0CC00		3	▶ 3RG70 23-0CC00			3
pnp, light-ON and dark-ON function, antivalent	3RG70 22-0CD00		4	3RG70 23-0CD00			4
pnp, light-ON function and surplus light emission	3RG70 22-0HC00		3	3RG70 23-0HC00			3
npn, light-ON and dark-ON function, antivalent	3RG70 22-0HD00		4	3RG70 23-0HD00			4
npn, light-ON function and surplus light emission							
M 8 plug, 4-pole, type B	▶ 3RG70 22-7CC00		3	▶ 3RG70 23-7CC00			3
pnp, light-ON and dark-ON function, antivalent	3RG70 22-7CD00		4	3RG70 23-7CD00			4
pnp, light-ON function and surplus light emission	3RG70 22-7HC00		3	3RG70 23-7HC00			3
npn, light-ON and dark-ON function, antivalent	3RG70 22-7HD00		4	3RG70 23-7HD00			4
npn, light-ON function and surplus light emission							
M 12 plug, 4-pole, type F	▶ 3RG70 22-3CC00		5	▶ 3RG70 23-3CC00			5
pnp, light-ON and dark-ON function, antivalent	3RG70 22-3CD00		6	3RG70 23-3CD00			6
pnp, light-ON function and surplus light emission	3RG70 22-3HC00		5	3RG70 23-3HC00			5
npn, light-ON and dark-ON function, antivalent	3RG70 22-3HD00		6	3RG70 23-3HD00			6
npn, light-ON function and surplus light emission							

Transmitter for thru-beam sensor

Cable 3 m, PUR, 3 x 0.14 mm ²	▶ 3RG70 22-0BE00	2
M 8 plug, 3-pole, type A	▶ 3RG70 22-7BE00	2
M 12 plug, 4-pole, type F	▶ 3RG70 22-3BE00	7

Glass fibre-optic conductors see pages 10/183 to 10/186.

Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add “-Z” to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

K 50

Sensing range 90 cm

DC or AC/DC

M 12 plug

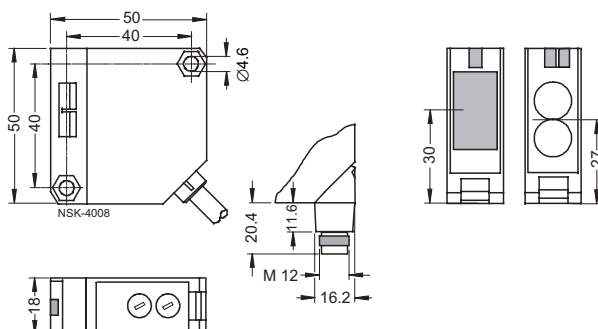
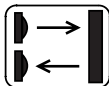
IP 65

Solid state or relay output

Temperature range -15 °C to +55 °C

Delivery does not include bracket

Diffuse sensors



Sensing range	90 cm	
Operational voltage	DC 10 to 30 V	AC/DC 15 to 264 V
Output current	150 mA	3 A, 250 V AC/30 V DC; min. 5 V/10 mA
Current input/power consumption	< 30 mA	< 40 mA
Operating frequency	500 Hz	2 Hz
Switching time	1 ms	30 ms
LED	Switching status (yellow)	
Standard target	100 mm × 100 mm (white)	
Transmitter (type of light)	LED red 660 nm	
Housing material	ABS	
Degree of protection	IP 65	
Weight	100 g	

	Order No.	Price	Wiring diagram (see page 10/176)	Order No.	Price	Wiring diagram (see page 10/176)
Cable 2 m, PVC, 5 x 0.5 mm ²	3RG73 00-1RH00		28, 29	-		
M 12 plug, 4-pole, type F	3RG73 00-3RH00		20	-		
Cable 2 m, PVC, 5 x 0.5 mm ²	-			3RG73 00-1PH00	33	
Accessories						
Mounting bracket for K 50	3RX7 310					

Delivery

► Preferred type.

Longer cable lengths can be ordered if required. In this case, add "-Z" to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

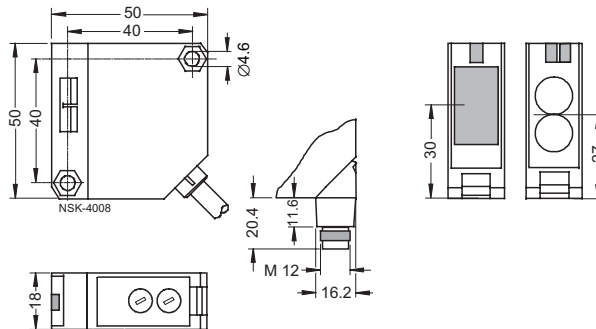
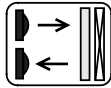
K 50

Transmission range 5 to 25 cm

DC
M 12 plug
IP 65
Solid state or relay output
AS-Interface
Temperature range -15 °C to +55 °C

Delivery does not include bracket

Diffuse sensors with background suppression



Sensing range	5 to 25 cm	
Operational voltage	DC 10 to 30 V	AS-Interface
Output current	150 mA	I/O configuration 1
Current input/power consumption	< 30 mA	ID-Code 1
Operating frequency	500 Hz	< 30 mA
Switching time	1 ms	< 5 ms
LED	Switching status (yellow)	
Standard target	100 mm x 100 mm grey 18%	
Transmitter (type of light)	LED red 660 nm	
Housing material	ABS	
Degree of protection	IP 65	
Weight	100 g	

	Order No.	Price	Wiring diagram	Order No.	Price	Wiring diagram
		1 unit	(see page 10/176)		1 unit	(see page 10/176)
Cable 2 m, PVC, 5 x 0.5 mm ²	▶ 3RG73 04-1RH00		28, 29	-		
M 12 plug, 4-pole, type F	▶ 3RG73 04-3CH00		20	-		
With AS-i connection, M 12	-			▶ 3RG73 04-3WS00		19

Accessories

Mounting bracket for K 50	▶ 3RX7 310	
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Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add "-Z" to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

K 50

Transmission range 3 m

DC or AC/DC

M 12 plug

IP 65

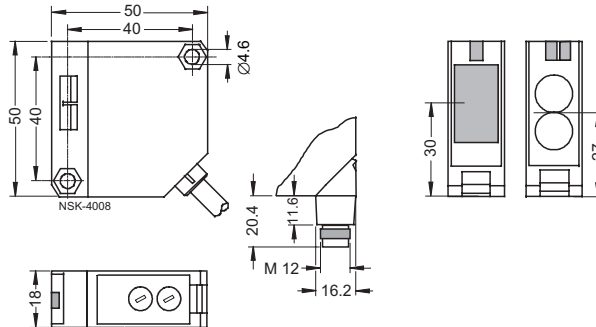
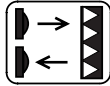
Solid state or relay output

AS-Interface

Temperature range -15 °C to +55 °C

Delivery does not include bracket and reflector

Reflex sensors with pole filter



Transmission range	3 m		
Operational voltage	DC 10 to 30 V	AC/DC 15 to 264 V	AS-Interface
Output current	150 mA	3 A, 250 V AC/30 V DC; min. 5 V/10 mA < 40 mA	I/O configuration 1 ID code 1 < 30 mA
Current input/power consumption	< 30 mA		
Operating frequency	500 Hz	2 Hz	
Switching time	1 ms	30 ms	< 5 ms
LED	Switching status (yellow)		
Standard target	Reflector S48, 3RX7 922		
Transmitter (type of light)	LED red 660 nm		
Housing material	ABS		
Degree of protection	IP 65		
Weight	100 g		

	Order No.	Price 1 unit	Wiring diagram (see page 10/176)	Order No.	Price 1 unit	Wiring diagram (see page 10/176)
Cable 2 m, PVC, 5 x 0.5 mm ²	▶ 3RG73 01-1RH00		28, 29	–		
M 12 plug, 4-pole, type F	▶ 3RG73 01-3CH00		20	–		
With AS-i connection M 12 plug	–			▶ 3RG73 01-3WS00		19
Cable 2 m, PVC, 5 x 0.5 mm ²	–			▶ 3RG73 01-1PH00		33
Relay, light-ON or dark-ON function						
Accessories						
Mounting bracket for K 50	▶ 3RX7 310					

Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add “-Z” to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

K 50

Transmission range 4 m

DC or AC/DC

M 12 plug

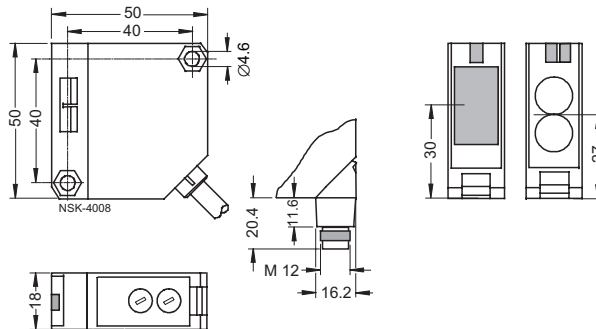
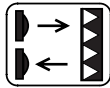
IP 65

Solid state or relay output

Temperature range -15 °C to +55 °C

Delivery does not include bracket and reflector

Reflex sensors without pole filter



Transmission range	4 m	
Operational voltage	DC 10 to 30 V	AC/DC 15 to 264 V
Output current	150 mA	3 A, 250 V AC/30 V DC; min. 5 V/10 mA
Current input/power consumption	< 30 mA	< 40 mA
Operating frequency	500 Hz	2 Hz
Switching time	1 ms	30 ms
LED	Switching status (yellow)	
Standard target	Reflector S48, 3RX7 922	
Transmitter (type of light)	LED red 660 nm	
Housing material	ABS	
Degree of protection	IP 65	
Weight	100 g	

	Order No.	Price 1 unit	Wiring diagram (see page 10/176)		Order No.	Price 1 unit	Wiring diagram (see page 10/176)
Cable 2 m, PVC, 5 x 0.5 mm ² , pnp/npn, light-ON or dark-ON function	▶ 3RG73 01-1RH51		28, 29		–		
M 12 plug, 4-pole, type F, pnp, light-ON or dark-ON function	▶ 3RG73 01-3CH51		20		–		
Cable 2 m, PVC, 5 x 0.5 mm ² , Relay, light-ON or dark-ON function	–			▶ 3RG73 01-1PH51		33	

Accessories

Mounting bracket for K 50	▶ 3RX7 310	
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Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add “-Z” to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

K 50

Transmission range 5 m

DC or AC/DC

M 12 plug

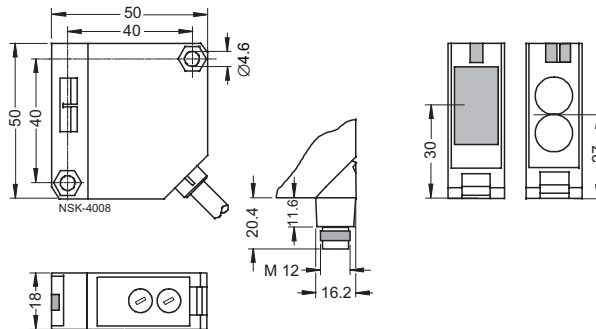
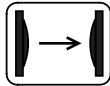
IP 65

Solid state or relay output

Temperature range -15 °C to +55 °C

Delivery does not include bracket

Thru-beam sensors



Transmission range	5 m	
Operational voltage	DC 10 to 30 V	AC/DC 15 to 264 V
Output current	150 mA	3 A, 250 V AC/30 V DC; min 5 V/10 mA
Current input/power consumption	< 30 mA	< 40 mA
Operating frequency	250 Hz	2 Hz
Switching time	2 ms	30 ms
LED	Switching status (yellow)	
Standard target	-	
Transmitter (type of light)	LED red 660 nm	
Housing material	ABS	
Degree of protection	IP 65	
Weight	100 g	

Receiver

Cable 2 m, PVC, 6 x 0.35 mm² pnp/npn, light-ON or dark-ON function, with alarm output

M 12 plug, 4-pole, type F pnp, light-ON or dark-ON function

Cable 2 m, PVC, 5 x 0.5 mm² Relay, light-ON or dark-ON function

Transmitter

Cable 2 m, PVC

M 12 plug, 4-pole, type F

Accessories

Mounting bracket for K 50

Order No.	Price 1 unit	Wiring diagram (see page 10/176)
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▶ **3RG73 02-1RH00** 30, 31

▶ **3RG73 02-3CH00** 20

-

▶ **3RG73 02-1BG00** 27

▶ **3RG73 02-3BG00** 21

▶ **3RX7 310**

Order No.	Price 1 unit	Wiring diagram (see page 10/176)
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-

▶ **3RG73 02-1PH00** 33

▶ **3RG73 02-1FG00** 32

-

Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add "-Z" to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

K 65

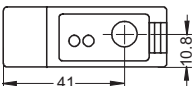
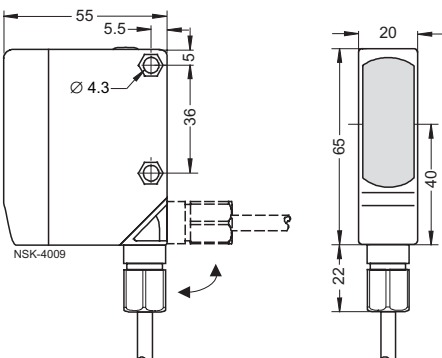
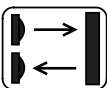
Sensing range 2 m
Configurable using potentiometer
Temperature range -20 °C to +60 °C

**Sensing range 10 to 50 cm
(background suppression)
Configuration using 'Teach-In'
Temperature range -10 °C to +55 °C**

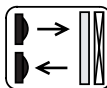
DC 10 to 30 V
Cable or plug M 12
IP 66
Solid state output

Delivery does not include bracket

Diffuse sensors



Diffuse sensors with background suppression



Sensing range	2 m (configurable using potentiometer)	10 to 50 cm (configurable using Teach-In)
Operational voltage	DC 10 to 30 V	
Output current	200 mA	
Current input/power consumption	< 40 mA	< 50 mA
Operating frequency	500 Hz	200 Hz
Switching time	1 ms	2.5 ms
LED	Switching status (yellow)	Switching status (yellow), Ready (green)
Standard target	100 mm × 100 mm (white)	100 mm × 100 mm (grey 18 %)
Transmitter (type of light)	IR 880 nm	LED red 660 nm
Housing material	ABS	
Degree of protection	IP 66	
Weight	130 g	

		Order No.	Price	Wiring diagram	Order No.	Price	Wiring diagram
			1 unit	(see page 10/176)		1 unit	(see page 10/176)
Cable 2 m, PVC, 4 x 0.25 mm ²	pnp, light-ON and dark-ON function	▶ 3RG73 40-1CC00		22	▶ 3RG73 44-1CC00		22
	npn, light-ON and dark-ON function	3RG73 40-1HC00		22	3RG73 44-1HC00		22
M 12 plug, 4-pole, type F	pnp, light-ON and dark-ON function	▶ 3RG73 40-3CC00		22	▶ 3RG73 44-3CC00		22
	npn, light-ON and dark-ON function	3RG73 40-3HC00		22	3RG73 44-3HC00		22

Accessories

Mounting bracket for K 65	▶ 3RX7 311		
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Delivery

► Preferred type.

Longer cable lengths can be ordered if required. In this case, add “-Z” to the Order No. and indicate the required cable length in plain text.

3RG7 Opto-BERO Photoelectric Proximity Switches

Selection and ordering data

K 65

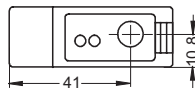
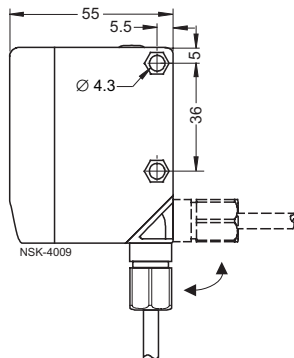
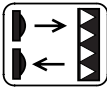
Transmission range 8 m
(reflex sensor)

Transmission range 50 m
(thru-beam sensor)

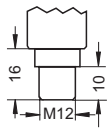
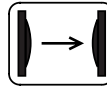
DC 10 to 30 V
Cable or plug M 12
IP 66
Configuration using potentiometer
Solid state output
Temperature range -20 °C to +60 °C

Delivery does not include bracket and reflector

Reflex sensors



Thru-beam sensors



Sensing range	8 m (configurable using potentiometer)	50 m (configurable using potentiometer)
Operational voltage	DC 10 to 30 V	
Output current	200 mA	
Current input/power consumption	< 40 mA	
Operating frequency	500 Hz	25 Hz
Switching time	1 ms	20 ms
LED	Switching status (yellow), surplus light emission (green)	
Standard target	Reflector type D84, 3RX7 916	—
Transmitter (type of light)	LED red 660 nm	IR 880 nm
Housing material	ABS	
Degree of protection	IP 66	
Weight	130 g	

	Reflex sensors				Thru-beam sensors		
	Order No.	Price	Wiring diagram		Order No.	Price	Wiring diagram
		1 unit	(see page 10/176)			1 unit	(see page 10/176)
Cable 2 m, PVC, 4 x 0.25 mm ²	▶ 3RG73 41-1CC00		22	▶	3RG73 42-1CC00		22
	3RG73 41-1HC00		22		3RG73 42-1HC00		22
M 12 plug, 4-pole, type F	▶ 3RG73 41-3CC00		22	▶	3RG73 42-3CC00		22
	3RG73 41-3HC00		22		3RG73 42-3HC00		22
Transmitter for thru-beam sensor							
Cable 2 m, PVC, 4 x 0.25 mm ²	—			▶	3RG73 42-1BG00		21
M 12 plug, 4-pole, type F	—			▶	3RG73 42-3BG00		21
Accessories							
Mounting bracket for K 65	▶ 3RX7 311						

Delivery

▶ Preferred type.

Longer cable lengths can be ordered if required. In this case, add "—Z" to the Order No. and indicate the required cable length in plain text.