

# 3RG7 Opto-BERO Photoelectric Proximity Switches

## Selection and ordering data

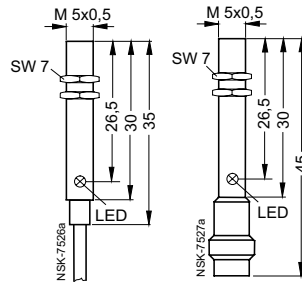
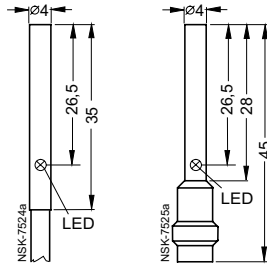
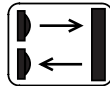
### D 4/M 5

Sensing range 50 mm  
(diffuse sensor;  
energetic sensor)

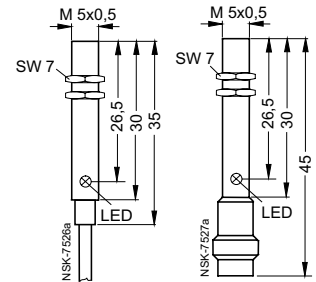
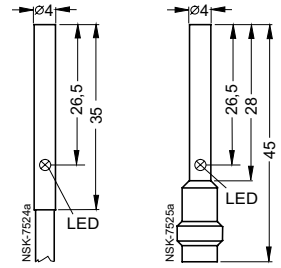
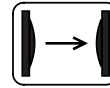
Transmission range 250 mm  
(thru-beam sensor)

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

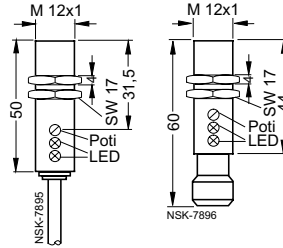
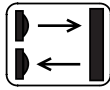
## Selection and ordering data

### 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 × 0.34 mm <sup>2</sup>	pnp, light-ON function ▶ <b>3RG71 20-0AB00</b>		13
	pnp, dark-ON function <b>3RG71 20-0AA00</b>		14
	nnp, light-ON function <b>3RG71 20-0GB00</b>		13
	nnp, dark-ON function <b>3RG71 20-0GA00</b>		14
M 12 plug, 4-pole, type F	pnp, light-ON function ▶ <b>3RG71 20-3AB00</b>		13
	pnp, dark-ON function <b>3RG71 20-3AA00</b>		14
	nnp, light-ON function <b>3RG71 20-3GB00</b>		13
	nnp, dark-ON function <b>3RG71 20-3GA00</b>		14

#### Delivery

▶ Preferred type.

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# 3RG7 Opto-BERO Photoelectric Proximity Switches

## Selection and ordering data

### M 12

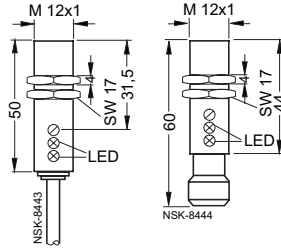
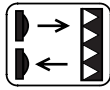
Transmission range 1.5 m  
(reflex sensor)

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

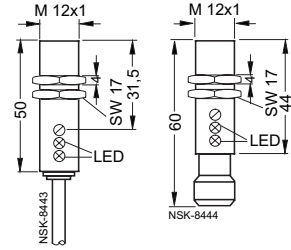
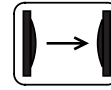
Infrared light  
DC 10 to 36 V  
Cable or plug M 12  
IP 67  
Solid state output  
Temperature range -25 °C to +55 °C  
Temperature coefficient 0.3%/K

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. <b>for receiver</b>	Price 1 unit	Wiring diagram (see page 10/176)
Cable 2 m, PUR, 3 x 0.34 mm <sup>2</sup>	▶ 3RG71 21-0AB00		14	▶ 3RG71 22-0AB00		14
	▶ 3RG71 21-0AA00		13	▶ 3RG71 22-0AA00		13
	▶ 3RG71 21-0GB00		14	▶ 3RG71 22-0GB00		14
	▶ 3RG71 21-0GA00		13	▶ 3RG71 22-0GA00		13
M 12 plug, 4-pole, type F	▶ 3RG71 21-3AB00		14	▶ 3RG71 22-3AB00		14
	▶ 3RG71 21-3AA00		13	▶ 3RG71 22-3AA00		13
	▶ 3RG71 21-3GB00		14	▶ 3RG71 22-3GB00		14
	▶ 3RG71 21-3GA00		13	▶ 3RG71 22-3GA00		13
<b>Transmitter for thru-beam sensor</b>						
Cable 2 m, PUR, 3 x 0.34 mm <sup>2</sup>	—			▶ 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

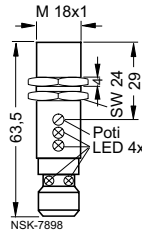
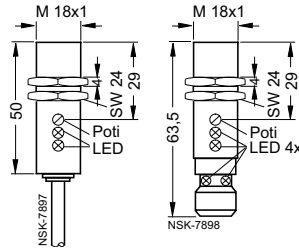
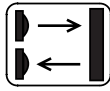
### M 18

Sensing range 60 cm  
(diffuse sensor,  
energetic sensor)

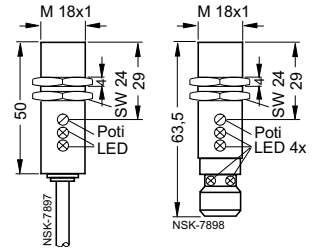
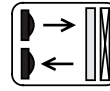
Sensing range 30 to 120 mm  
(diffuse sensor with  
background suppression)

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

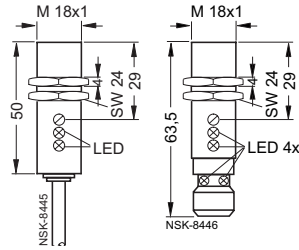
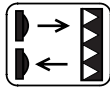
Transmission range 2 m  
(reflex sensor)

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

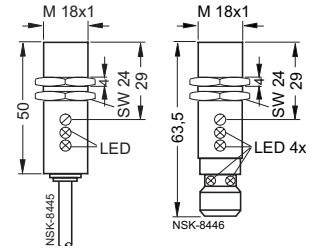
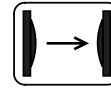
Infrared light  
DC 10 to 36 V  
Cable or plug M 12  
IP 67  
Solid state output  
Temperature range -25 °C to +55 °C  
Temperature coefficient 0.3%/K

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	Order No.	Price	Wiring diagram
		1 unit	(see page 10/176)	for receiver	1 unit	(see page 10/176)
Cable 2 m, PUR, 3 x 0.34 mm <sup>2</sup>	▶ 3RG71 31-0AB00		14	▶ 3RG71 32-0AB00		14
	▶ 3RG71 31-0AA00		13	▶ 3RG71 32-0AA00		13
	▶ 3RG71 31-0GB00		14	▶ 3RG71 32-0GB00		14
	▶ 3RG71 31-0GA00		13	▶ 3RG71 32-0GA00		13
M 12 plug, 4-pole, type F	▶ 3RG71 31-3AB00		14	▶ 3RG71 32-3AB00		14
	▶ 3RG71 31-3AA00		13	▶ 3RG71 32-3AA00		13
	▶ 3RG71 31-3GB00		14	▶ 3RG71 32-3GB00		14
	▶ 3RG71 31-3GA00		13	▶ 3RG71 32-3GA00		13

#### Transmitter for thru-beam sensor

Cable 2 m, PUR, 3 x 0.34 mm <sup>2</sup>	–	▶ 3RG71 32-0BG00	7
M 12 plug, 4-pole, type E	–	▶ 3RG71 32-3BG00	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

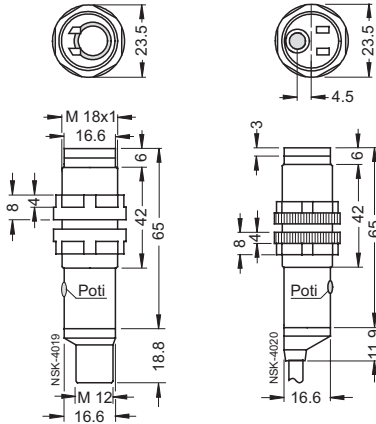
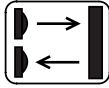
### M 18M

Sensing range 8 cm/30 cm  
(diffuse sensor)

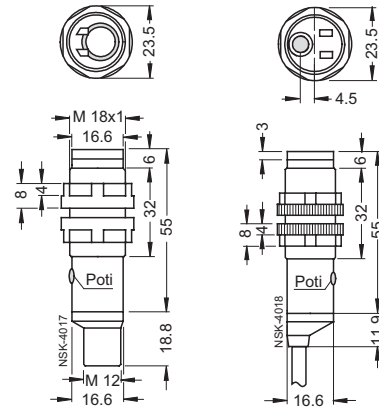
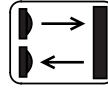
DC 10 to 30 V  
Cable or plug M 12  
Metal housing  
IP 67  
Light-ON/dark-ON function  
programmable  
Solid state output npn/pnp  
Temperature range -15 °C to +55 °C

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 × 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 mm <sup>2</sup>	▶ <b>3RG76 00-1RH00</b>		38	<b>3RG76 00-1RH60</b>		38
M 12 plug, 4-pole, type F	▶ <b>3RG76 00-3RH00</b>		38	<b>3RG76 00-3RH60</b>		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

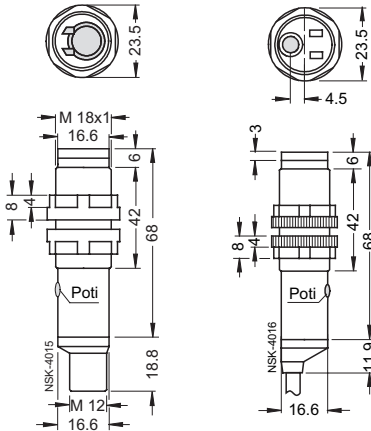
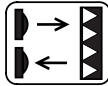
### M 18M

Sensing range 2 m

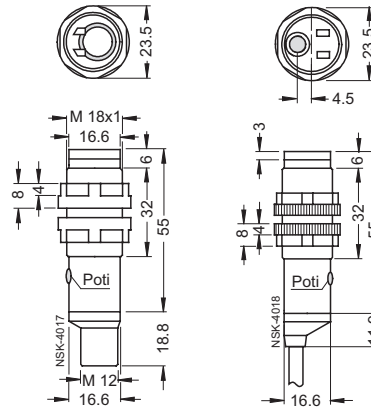
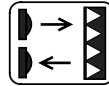
DC 10 to 30 V  
Cable or plug M 12  
Metal housing  
IP 67  
Light-ON/dark-ON function  
programmable  
Solid state output npn/pnp  
Temperature range -15 °C to +55 °C

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	

	Order No.	Price	Wiring diagram
		1 unit	(see page 10/176)
Cable 2 m, PVC, 4 x 0.25 mm <sup>2</sup>	▶ <b>3RG76 01-1RH00</b>		38
M 12 plug, 4-pole, type F	▶ <b>3RG76 01-3RH00</b>		38
		1 unit	(see page 10/176)
	<b>3RG76 01-1RH51</b>		38
	<b>3RG76 01-3RH51</b>		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

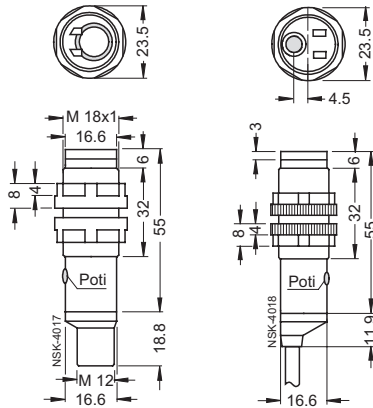
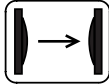
### M 18M

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

	Order No.	Price	Wiring diagram
<b>Receiver</b>		1 unit	(see page 10/176)
Cable 2 m, PVC, 4 x 0.25 mm <sup>2</sup> , pnp/hpn, light-ON or dark-ON function	▶ <b>3RG76 02-1RH00</b>		38
M 12 plug, 4-pole, type F, pnp/hpn, light-ON or dark-ON function	▶ <b>3RG76 02-3RH00</b>		38
<b>Transmitter for thru-beam sensor</b>			
Cable 2 m, PVC, 4 x 0.25 mm <sup>2</sup>	▶ <b>3RG76 02-1BG00</b>		21
M 12 plug, 4-pole, type F	▶ <b>3RG76 02-3BG00</b>		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

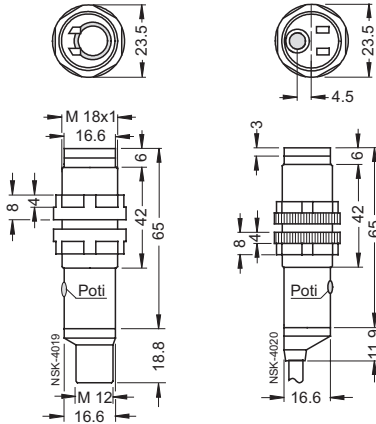
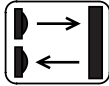
### M 18P

Sensing range 8 cm  
(diffuse sensor)

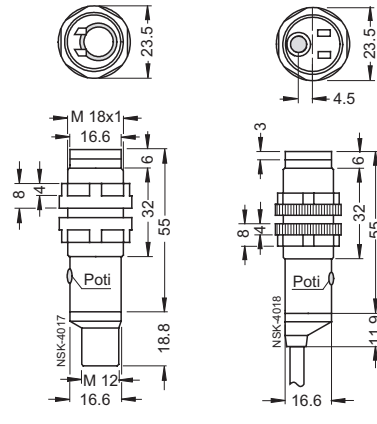
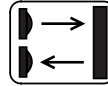
Sensing range 30 cm  
(diffuse sensor)

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 × 100 mm (white)	
Transmitter (type of light)	IR 880 nm	
Housing material	ABS	
Degree of protection	IP 67	
Weight	100 g	

Cable 2 m, PVC, 4 x 0.25 mm<sup>2</sup> pnp/npn, light-ON or dark-ON function

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

Order No.	Price	Wiring diagram
	1 unit	(see page 10/176)
▶ <b>3RG76 20-1RH00</b>		38
▶ <b>3RG76 20-3RH00</b>		38

Order No.	Price	Wiring diagram
	1 unit	(see page 10/176)
▶ <b>3RG76 20-1RH60</b>		38
▶ <b>3RG76 20-3RH60</b>		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

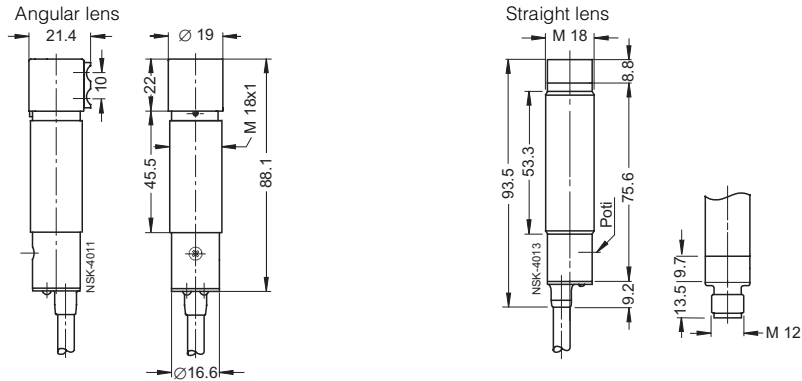
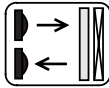
## Selection and ordering data

### 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 × 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 mm <sup>2</sup>	▶ 3RG76 34-1CC00		15	▶ 3RG76 24-1CC00		15
	▶ 3RG76 34-1HC00		15	▶ 3RG76 24-1HC00		15
M 12 plug, 4-pole, type F	▶ 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

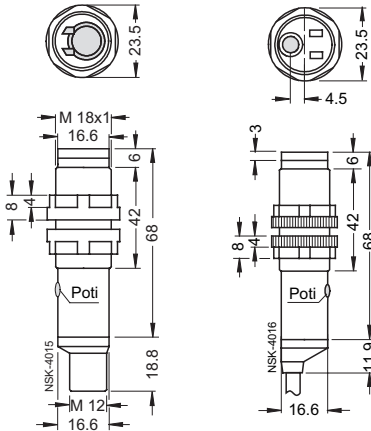
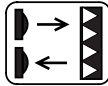
### M 18P

Sensing range 2 m

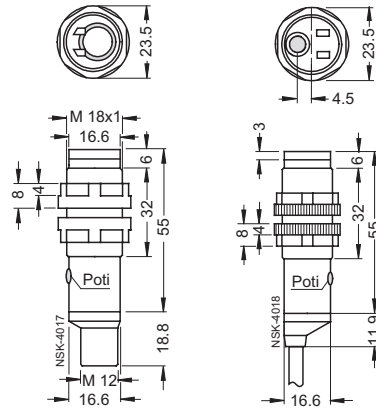
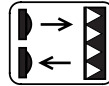
DC 10 to 30 V  
Cable or plug M 12  
Plastic housing  
IP 67  
Light-ON/dark-ON function  
programmable  
Solid state output npn/pnp  
Temperature range -15 °C to +55 °C

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	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 <sup>2</sup>	▶ <b>3RG76 21-1RH00</b>		38	<b>3RG76 21-1RH51</b>		38
M 12 plug, 4-pole, type F	▶ <b>3RG76 21-3RH00</b>		38	<b>3RG76 21-3RH51</b>		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

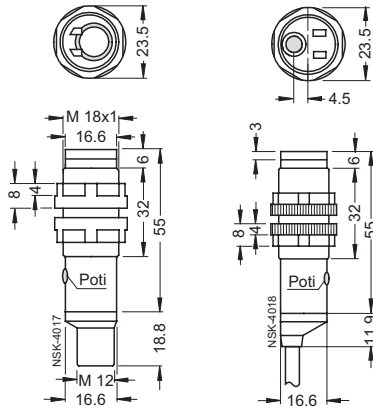
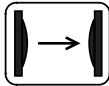
## Selection and ordering data

### 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

	Order No.	Price 1 unit	Wiring diagram (see page 10/176)
<b>Receiver</b>			
Cable 2 m, PVC, 4 x 0.25 mm <sup>2</sup> , pnp/npn, light-ON or dark-ON function	▶ <b>3RG76 22-1RH00</b>		38
M 12 plug, 4-pole, type F, pnp/npn, light-ON or dark-ON function	▶ <b>3RG76 22-3RH00</b>		38
<b>Transmitter for thru-beam sensor</b>			
Cable 2 m, PVC, 4 x 0.25 mm <sup>2</sup>	▶ <b>3RG76 22-1BG00</b>		38
M 12 plug, 4-pole, type F	▶ <b>3RG76 22-3BG00</b>		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)

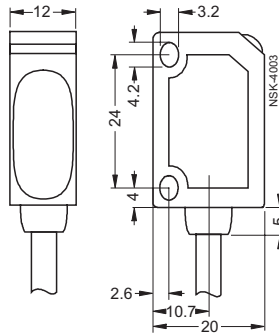
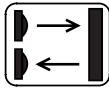
Sensing range 20 to 100 mm  
(diffuse sensor with background suppression)

Configuration using 'Teach-In'

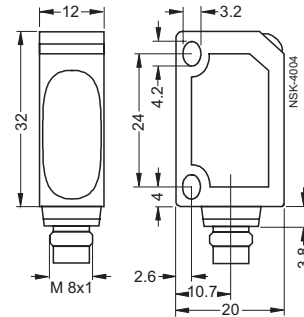
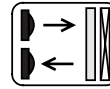
DC 10 to 30 V  
Cable or plug M 8  
IP 67  
Solid state output  
Temperature range -20 °C to +60 °C

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

#### Accessories

Mounting bracket for K 20	▶ <b>3RX7 308</b>		
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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 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)

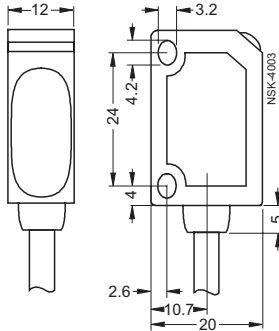
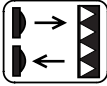
Configuration using 'Teach-In'

DC 10 to 30 V  
Cable or plug M 8

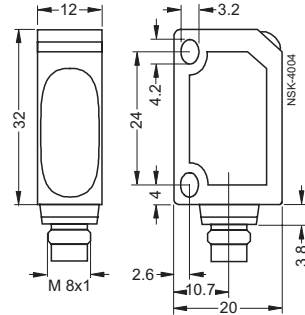
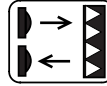
IP 67  
Solid state output  
Temperature range -20 °C to +60 °C

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 mm<sup>2</sup>    npn, light-ON or dark-ON function  
npn, light-ON or dark-ON function

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

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

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

#### Transmission range 3.5 m

Cable 2 m, PUR, 4 x 0.14 mm<sup>2</sup>    npn, light-ON or dark-ON function  
npn, light-ON or dark-ON function

▶ 3RG74 01-0CH61		16
▶ 3RG74 01-0HH61		16
▶ 3RG74 01-7CH61		16
▶ 3RG74 01-7HH61		16

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

#### 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 31

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

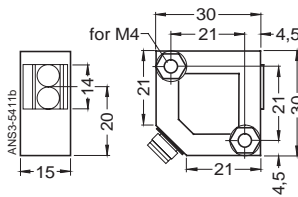
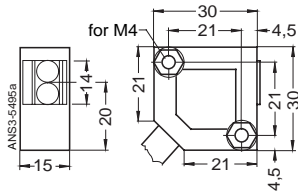
Sensing range 60 cm  
(diffuse sensor; energetic sensor)  
Modulated infrared light

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

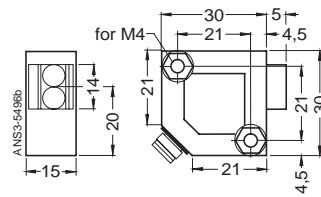
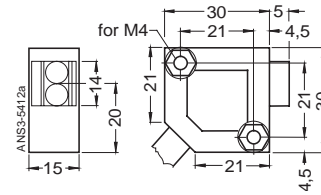
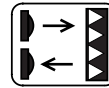
DC 10 to 36 V  
Cable or plug M 8  
IP 65  
Solid state output  
Temperature range -25 °C to +55 °C  
Temperature coefficient 0.3%/K

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 × 100 mm (white)	200 mm × 200 mm (white)	Reflector type D 84, 3RX7 916
Transmitter (type of light)	LED red 660 nm (visible)	IR LED 880 nm	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 mm<sup>2</sup>  
pnp, light-ON function  
pnp, dark-ON function  
npn, light-ON function  
npn, dark-ON function

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

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

#### With background suppression

Cable 2 m, PUR, 3 x 0.14 mm<sup>2</sup>  
pnp, light-ON function  
pnp, dark-ON function  
npn, light-ON function  
npn, dark-ON function

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

▶ 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

#### Accessories

Mounting bracket K 31

▶ 3RX7 910		
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Order No.	Price	Wiring diagram
	1 unit	(see page 10/176)
▶ 3RG70 11-0AB00		1
▶ 3RG70 11-0AA00		1
▶ 3RG70 11-0GB00		1
▶ 3RG70 11-0GA00		1
▶ 3RG70 11-7AB00		1
▶ 3RG70 11-7AA00		1
▶ 3RG70 11-7GB00		1
▶ 3RG70 11-7GA00		1

#### 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.

## Selection and ordering data

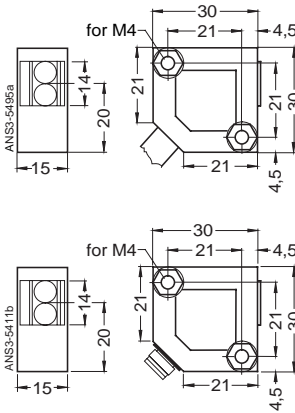
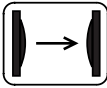
### K 31

Transmission range 6 m  
(thru-beam sensor)

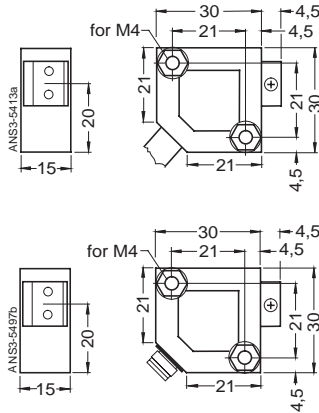
Modulated infrared light  
DC 10 to 36 V  
Cable or plug M 8  
IP 65  
Enabling input for testing  
Solid state output  
Temperature range -25 °C to +55 °C  
Temperature coefficient 0.3%/K

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 x 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 <sup>2</sup>	▶ 3RG70 12-0AB00		1
	▶ 3RG70 12-0AA00		1
	▶ 3RG70 12-0GB00		1
	▶ 3RG70 12-0GA00		1
M 8 plug, 3-pole, type A	▶ 3RG70 12-7AB00		1
	▶ 3RG70 12-7AA00		1
	▶ 3RG70 12-7GB00		1
	▶ 3RG70 12-7GA00		1
<b>Transmitter for thru-beam sensor</b>			
Cable 2 m, PUR, 3 x 0.14 mm <sup>2</sup>	▶ 3RG70 12-0BG00		2
M 8 plug, 3-pole, type A	▶ 3RG70 12-7BG00		2
<b>Accessories</b>			
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

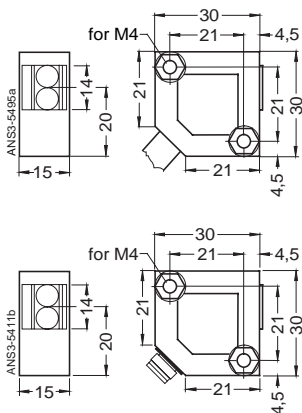
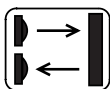
Sensing range 1.2 m  
(diffuse sensor)  
Modulated infrared light

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

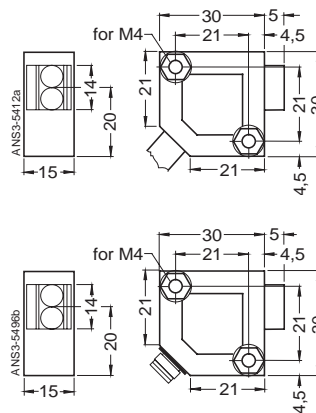
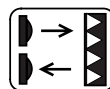
DC 10 to 36 V  
Cable or plug M 8  
IP 67  
Solid state output  
Temperature range -25 °C to +55 °C  
Temperature coefficient 0.3%/K

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 1 unit	Wiring diagram (see page 10/176)		Order No.	Price 1 unit	Wiring diagram (see page 10/176)
Cable 3 m, PUR, 4 x 0.14 mm <sup>2</sup>	▶ 3RG70 10-0CC00		3	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 11-0CC00		3
	▶ 3RG70 10-0CD00		4		▶ 3RG70 11-0CD00		4
	▶ 3RG70 10-0HC00		3		▶ 3RG70 11-0HC00		3
	▶ 3RG70 10-0HD00		4		▶ 3RG70 11-0HD00		4
M 8 plug, 4-pole, type B	▶ 3RG70 10-7CC00		3	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 11-7CC00		3
	▶ 3RG70 10-7CD00		4		▶ 3RG70 11-7CD00		4
	▶ 3RG70 10-7HC00		3		▶ 3RG70 11-7HC00		3
	▶ 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.

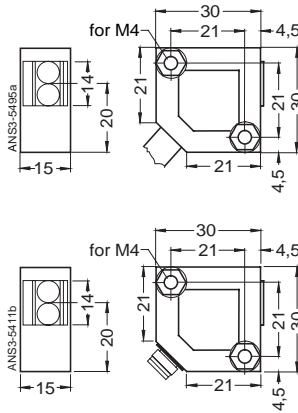
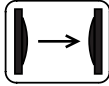
### K 30

Transmission range 12 m  
(thru-beam sensor)

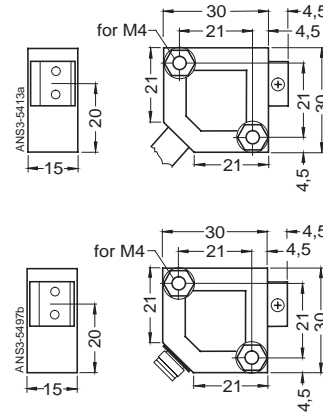
Modulated infrared light  
DC 10 to 36 V  
Cable or plug M 8  
IP 67  
Enabling input for testing  
Solid state output  
Temperature range -25 °C to +55 °C  
Temperature coefficient 0.3%/K

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 x 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 1 unit	Wiring diagram (see page 10/176)	Order No.	Price 1 unit	Wiring diagram (see page 10/176)
Cable 3 m, PUR, 4 x 0.14 mm <sup>2</sup>	▶ 3RG70 12-0CC00		3	▶ 3RG70 13-0CC00		3
	▶ 3RG70 12-0CD00		4	▶ 3RG70 13-0CD00		4
	▶ 3RG70 12-0HC00		3	▶ 3RG70 13-0HC00		3
	▶ 3RG70 12-0HD00		4	▶ 3RG70 13-0HD00		4
	▶ 3RG70 12-7CC00		3	▶ 3RG70 13-7CC00		3
M 8 plug, 4-pole, type B	▶ 3RG70 12-7CD00		4	▶ 3RG70 13-7CD00		4
	▶ 3RG70 12-7HC00		3	▶ 3RG70 13-7HC00		3
	▶ 3RG70 12-7HD00		4	▶ 3RG70 13-7HD00		4
	▶ 3RG70 12-0BE00		2			
	▶ 3RG70 12-7BE00		2			
<b>Transmitter for thru-beam sensor</b>						
Cable 3 m, PUR, 3 x 0.14 mm <sup>2</sup>	▶ 3RG70 12-0BE00		2			
M 8 plug, 3-pole, type A	▶ 3RG70 12-7BE00		2			
<b>Accessories</b>						
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

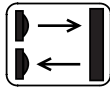
DC 10 to 30 V  
Cable or plug M 8  
IP 66

pnp/npn (M 8 only pnp)

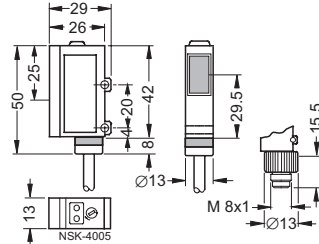
Solid state output  
Temperature range -15 °C to +55 °C

Delivery does not include bracket

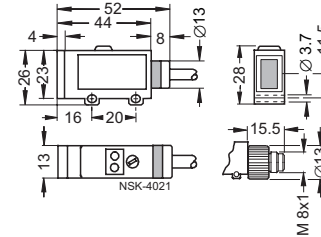
#### Diffuse sensors



Angular lens



Straight lens



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 × 100 mm (white)	
Transmitter (type of light)	LED IR	
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 <sup>2</sup>	▶ <b>3RG73 20-1RH00</b>		28, 29	–		
	▶ <b>3RG73 30-1RH00</b>		28, 29	<b>3RG73 30-1RH60</b>		28, 29
M 8 plug, 4-pole, type B	▶ <b>3RG73 20-7CH00</b>		17	–		
	▶ <b>3RG73 30-7CH00</b>		17	<b>3RG73 30-7CH60</b>		17

#### Accessories

Mounting bracket for K 35	▶ <b>3RX7 313</b>		
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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 35

Transmission range 0.1 to 2.5 m

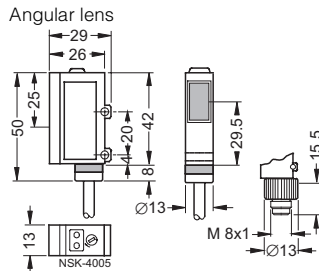
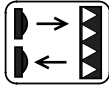
DC 10 to 30 V  
Cable or plug M 8  
IP 66

pnp/npn (M 8 only pnp)

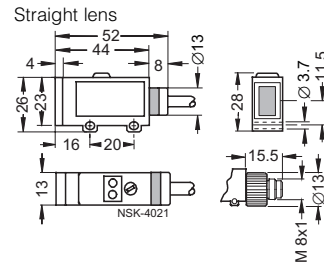
Solid state output  
Temperature range -15 °C to +55 °C

Delivery does not include bracket  
and reflector

#### Reflex sensors



#### Reflex sensors without pole filter



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 <sup>2</sup>	pnp/npn, light-ON or dark-ON function, straight lens	▶ <b>3RG73 21-1RH00</b>	28, 29	–		
	pnp/npn, light-ON or dark-ON function, angular lens	▶ <b>3RG73 31-1RH00</b>	28, 29	<b>3RG73 31-1RH51</b>		28, 29
M 8 plug, 4-pole, type B	pnp, light-ON or dark-ON function, straight lens	▶ <b>3RG73 21-7CH00</b>	17	–		
	pnp, light-ON or dark-ON function, angular lens	▶ <b>3RG73 31-7CH00</b>	17	<b>3RG73 31-7CH51</b>		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

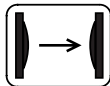
DC 10 to 30 V  
Cable or plug M 8  
IP 66

pnp/npn (M 8 only pnp)

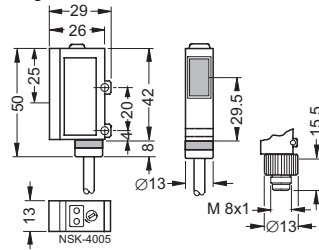
Solid state output  
Temperature range -15 °C to +55 °C

Delivery does not include bracket

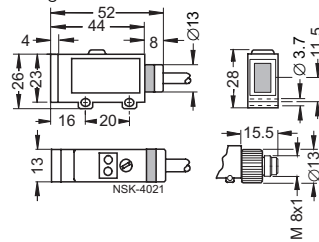
#### Thru-beam sensors



Angular lens



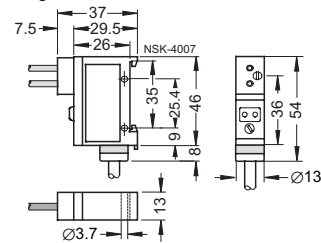
Straight lens



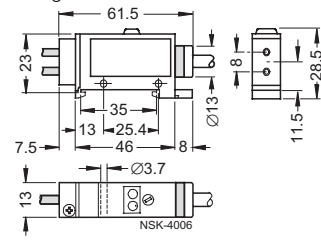
#### BERO for plastic fibre-optic conductors



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

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

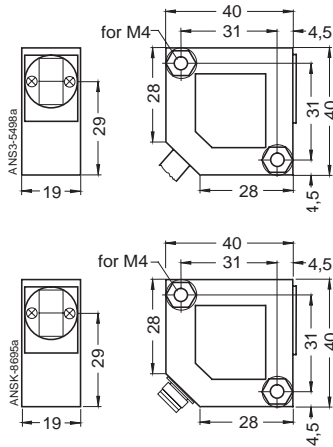
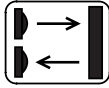
Sensing range 2 m  
(diffuse sensor)  
Modulated infrared light

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

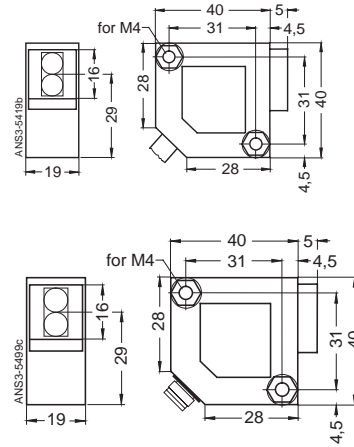
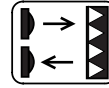
DC 10 to 36 V  
Cable or plug M 8 and M 12  
IP 67  
Solid state output  
Temperature range -25 °C to +55 °C  
Temperature coefficient 0.1%/K

Delivery includes bracket

#### Diffuse sensors



#### Reflex sensors



Sensing range/transmission range	2 m	6 m
Operational voltage	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/5 ms	
LED	Switching status (yellow), surplus light emission (green)	
Standard target	400 mm x 400 mm (white)	
Transmitter (type of light)	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 67	
Weight (cable/plug)	90 g/35 g	90 g/35 g

	Order No.	Price 1 unit	Wiring diagram (see page 10/176)	Order No.	Price 1 unit	Wiring diagram (see page 10/176)
Cable 3 m, PUR, 4 x 0.14 mm <sup>2</sup>	▶ 3RG70 20-0CC00		3	▶ 3RG70 21-0CC00		3
	▶ 3RG70 20-0CD00		4	▶ 3RG70 21-0CD00		4
	▶ 3RG70 20-0HC00		3	▶ 3RG70 21-0HC00		3
	▶ 3RG70 20-0HD00		4	▶ 3RG70 21-0HD00		4
M 8 plug, 4-pole, type B	▶ 3RG70 20-7CC00		3	▶ 3RG70 21-7CC00		3
	▶ 3RG70 20-7CD00		4	▶ 3RG70 21-7CD00		4
	▶ 3RG70 20-7HC00		3	▶ 3RG70 21-7HC00		3
	▶ 3RG70 20-7HD00		4	▶ 3RG70 21-7HD00		4
M 12 plug, 4-pole, type F	▶ 3RG70 20-3CC00		5	▶ 3RG70 21-3CC00		5
	▶ 3RG70 20-3CD00		6	▶ 3RG70 21-3CD00		6
	▶ 3RG70 20-3HC00		5	▶ 3RG70 21-3HC00		5
	▶ 3RG70 20-3HD00		6	▶ 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

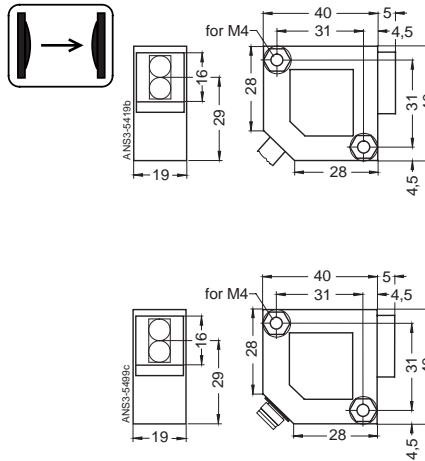
Transmission range 15 m  
(thru-beam sensor)

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

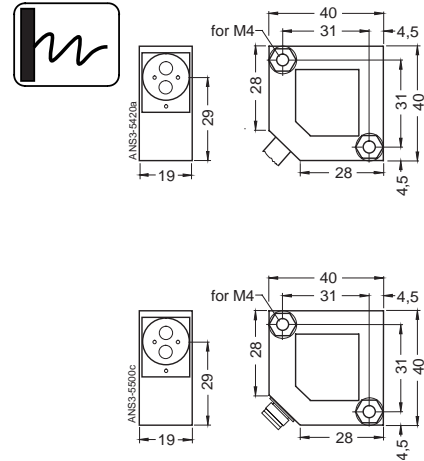
Enabling input for testing  
Solid state output  
Temperature range -25 °C to +55 °C  
Temperature coefficient 0.1%/K

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)
Cable 3 m, PUR, 4 x 0.14 mm <sup>2</sup>	▶ <b>3RG70 22-0CC00</b>	1 unit	3	▶ <b>3RG70 23-0CC00</b>	1 unit	3
	<b>3RG70 22-0CD00</b>		4	<b>3RG70 23-0CD00</b>		4
	<b>3RG70 22-0HC00</b>		3	<b>3RG70 23-0HC00</b>		3
	<b>3RG70 22-0HD00</b>		4	<b>3RG70 23-0HD00</b>		4
M 8 plug, 4-pole, type B	▶ <b>3RG70 22-7CC00</b>		3	▶ <b>3RG70 23-7CC00</b>		3
	<b>3RG70 22-7CD00</b>		4	<b>3RG70 23-7CD00</b>		4
	<b>3RG70 22-7HC00</b>		3	<b>3RG70 23-7HC00</b>		3
	<b>3RG70 22-7HD00</b>		4	<b>3RG70 23-7HD00</b>		4
M 12 plug, 4-pole, type F	▶ <b>3RG70 22-3CC00</b>		5	▶ <b>3RG70 23-3CC00</b>		5
	<b>3RG70 22-3CD00</b>		6	<b>3RG70 23-3CD00</b>		6
	<b>3RG70 22-3HC00</b>		5	<b>3RG70 23-3HC00</b>		5
	<b>3RG70 22-3HD00</b>		6	<b>3RG70 23-3HD00</b>		6

### Transmitter for thru-beam sensor

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

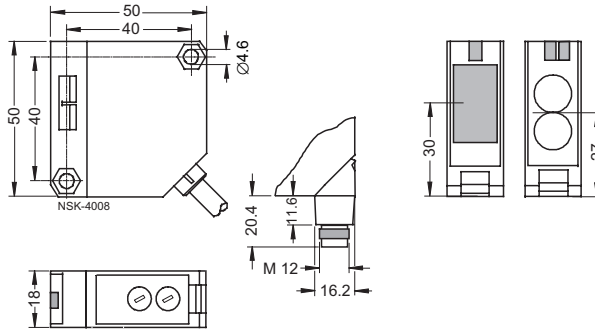
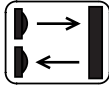
### K 50

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)
		1 unit			1 unit	
Cable 2 m, PVC, 5 x 0.5 mm <sup>2</sup> pnp/npn, light-ON or dark-ON function	▶ <b>3RG73 00-1RH00</b>		28, 29	-		
M 12 plug, 4-pole, type F pnp, light-ON or dark-ON function	▶ <b>3RG73 00-3RH00</b>		20	-		
Cable 2 m, PVC, 5 x 0.5 mm <sup>2</sup> Relay, light-ON or dark-ON function	-			▶ <b>3RG73 00-1PH00</b>		33
<b>Accessories</b>						
Mounting bracket for K 50	▶ <b>3RX7 310</b>					

#### 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

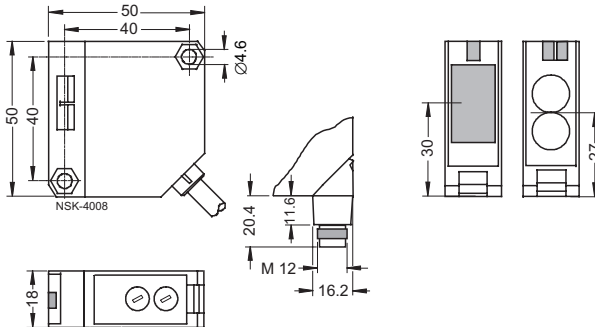
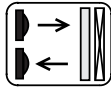
### Diffuse sensors with background suppression

## 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



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 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 <sup>2</sup>	▶ <b>3RG73 04-1RH00</b>		28, 29	-		
M 12 plug, 4-pole, type F	▶ <b>3RG73 04-3CH00</b>		20	-		
With AS-i connec- tion, M 12	-			▶ <b>3RG73 04-3WS00</b>		19
<b>Accessories</b>						
Mounting bracket for K 50	▶ <b>3RX7 310</b>					

### 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

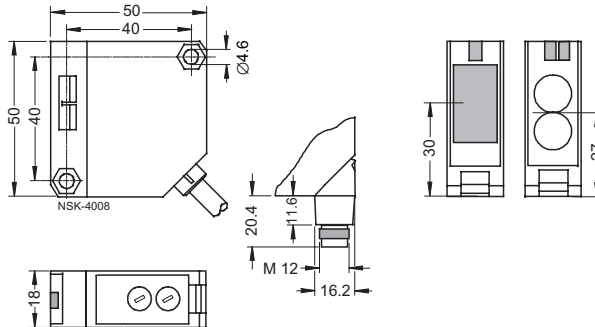
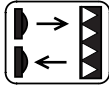
### K 50

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	I/O configuration 1
Current input/power consumption	< 30 mA	< 40 mA	ID code 1
Operating frequency	500 Hz	2 Hz	< 5 ms
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 <sup>2</sup> pnp/npn, light-ON or dark-ON function	▶ <b>3RG73 01-1RH00</b>		28, 29	-		
M 12 plug, 4-pole, type F pnp, light-ON or dark-ON function	▶ <b>3RG73 01-3CH00</b>		20	-		
With AS-i connection M 12 plug Light-ON or dark-ON function	-			▶ <b>3RG73 01-3WS00</b>		19
Cable 2 m, PVC, 5 x 0.5 mm <sup>2</sup> Relay, light-ON or dark-ON function	-			▶ <b>3RG73 01-1PH00</b>		33
<b>Accessories</b>						
Mounting bracket for K 50	▶ <b>3RX7 310</b>					

#### 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

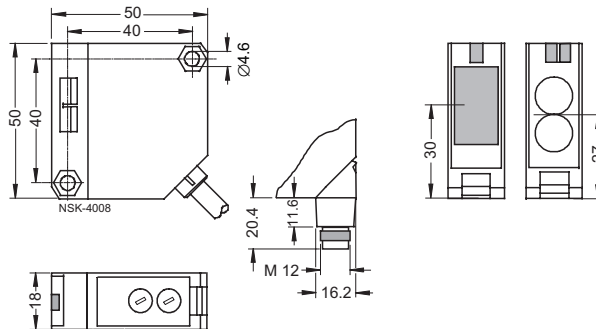
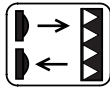
### Reflex sensors without pole filter

## 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



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 <sup>2</sup> , pnp/npn, light-ON or dark-ON function	▶ <b>3RG73 01-1RH51</b>		28, 29	-		
M 12 plug, 4-pole, type F, pnp, light-ON or dark-ON function	▶ <b>3RG73 01-3CH51</b>		20	-		
Cable 2 m, PVC, 5 x 0.5 mm <sup>2</sup> , Relay, light-ON or dark-ON function	-			▶ <b>3RG73 01-1PH51</b>		33

### Accessories

Mounting bracket for K 50	▶ <b>3RX7 310</b>	
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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

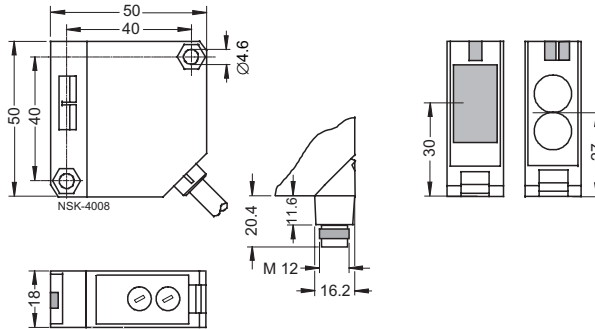
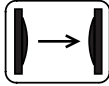
### K 50

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		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	

	Order No.	Price 1 unit	Wiring diagram (see page 10/176)	Order No.	Price 1 unit	Wiring diagram (see page 10/176)
<b>Receiver</b>						
Cable 2 m, PVC, 6 x 0.35 mm <sup>2</sup> , pnp/npn, light-ON or dark-ON function, with alarm output	▶ <b>3RG73 02-1RH00</b>		30, 31	-		
M 12 plug, 4-pole, type F, pnp, light-ON or dark-ON function	▶ <b>3RG73 02-3CH00</b>		20	-		
Cable 2 m, PVC, 5 x 0.5 mm <sup>2</sup> , Relay, light-ON or dark-ON function	-			▶ <b>3RG73 02-1PH00</b>		33
<b>Transmitter</b>						
Cable 2 m, PVC	▶ <b>3RG73 02-1BG00</b>		27	▶ <b>3RG73 02-1FG00</b>		32
M 12 plug, 4-pole, type F	▶ <b>3RG73 02-3BG00</b>		21	-		
<b>Accessories</b>						
Mounting bracket for K 50	▶ <b>3RX7 310</b>					

#### 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

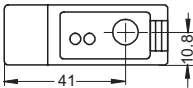
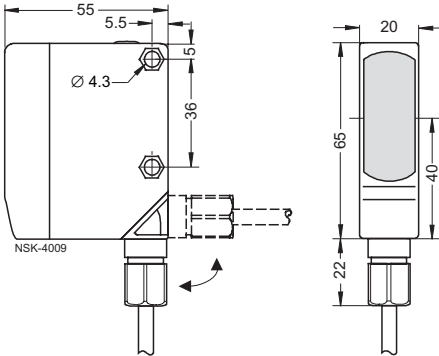
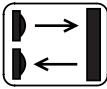
Sensing range 2 m  
Configurable using potentiometer  
Temperature range -20 °C to +60 °C

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

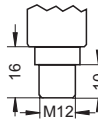
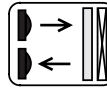
DC 10 to 30 V  
Cable or plug M 12  
IP 66  
Solid state output

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 x 100 mm (white)	100 mm x 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 <sup>2</sup>	▶ 3RG73 40-1CC00		22	▶ 3RG73 44-1CC00		22
	▶ 3RG73 40-1HC00		22	▶ 3RG73 44-1HC00		22
M 12 plug, 4-pole, type F	▶ 3RG73 40-3CC00		22	▶ 3RG73 44-3CC00		22
	▶ 3RG73 40-3HC00		22	▶ 3RG73 44-3HC00		22
<b>Accessories</b>						
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.

# 3RG7 Opto-BERO Photoelectric Proximity Switches

## Selection and ordering data

### K 65

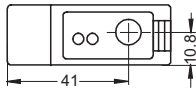
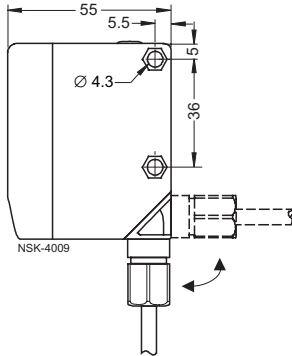
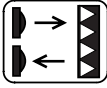
Transmission range 8 m  
(reflex sensor)

Transmission range 50 m  
(thru-beam sensor)

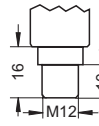
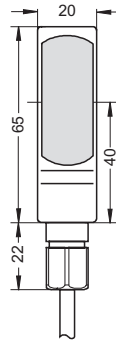
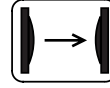
DC 10 to 30 V  
Cable or plug M 12  
IP 66  
Configuration using potentiometer  
Solid state output  
Temperature range -20 °C to +60 °C

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	

	Order No.	Price	Wiring diagram	Order No.	Price	Wiring diagram
		1 unit	(see page 10/176)	for receiver	1 unit	(see page 10/176)
Cable 2 m, PVC, 4 x 0.25 mm <sup>2</sup>	▶ 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
<b>Transmitter for thru-beam sensor</b>						
Cable 2 m, PVC, 4 x 0.25 mm <sup>2</sup>	-			▶ 3RG73 42-1BG00		21
M 12 plug, 4-pole, type F	-			▶ 3RG73 42-3BG00		21
<b>Accessories</b>						
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.