

The BOS 26K series is ideally suited wherever greater demands are made in terms of precision, handling, high sensing distance or range, and detection of small parts.

The retroreflective sensors feature autocollimation, that is, the emitter and receiver beams coincide geometrically.

Advantage: Exact switching points for any desired side-approaching object in the entire beam path.

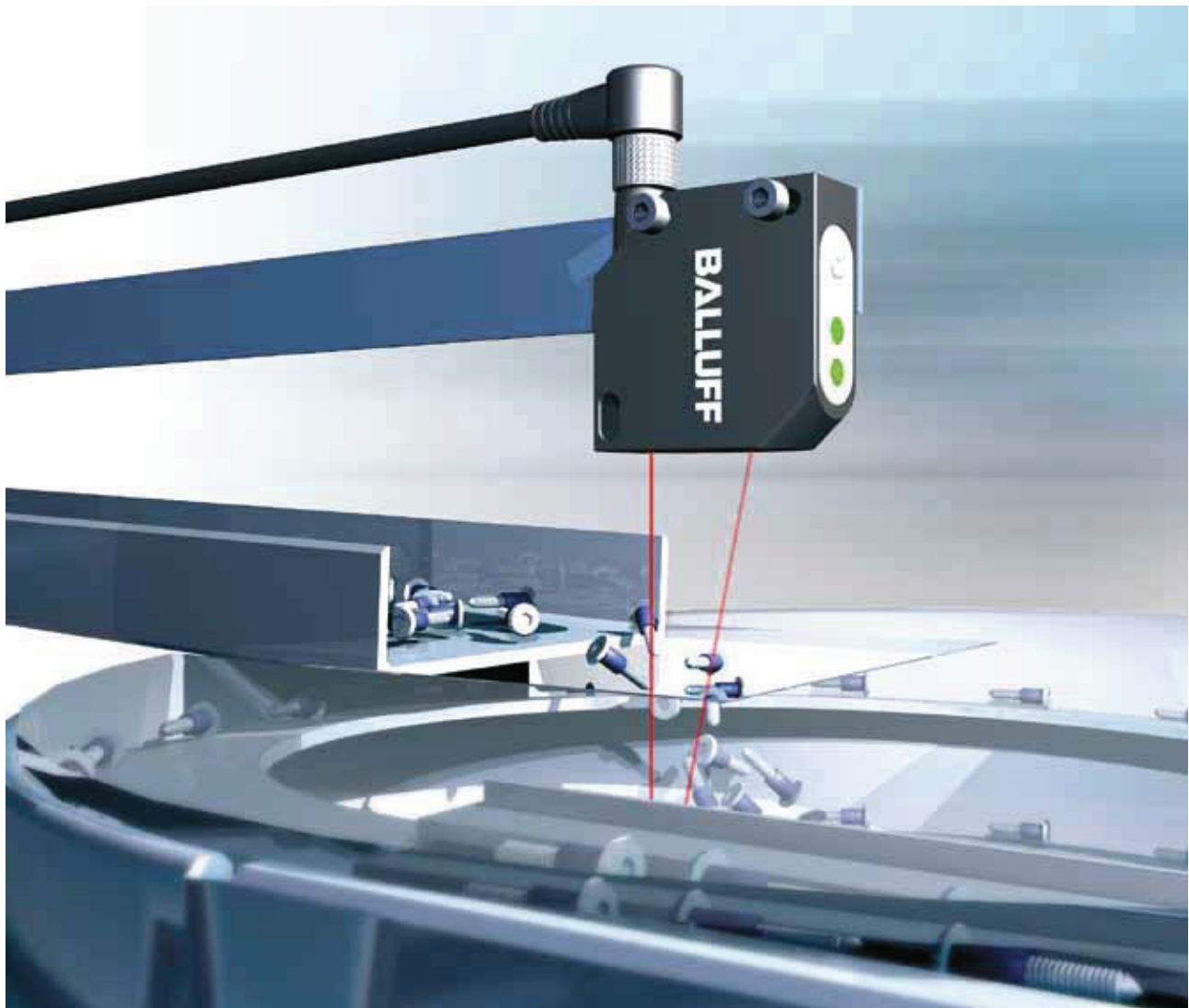
The diffuse sensor with background suppression **BOS 26K-...-1LHB**, with its focused light beam, can accurately detect very small objects in virtually any color between 30 and 150 mm. The focusing feature enables a spot size of just 0.1 mm at a distance of 80 mm.

Features

- Rotatable M12 connector
- Precise setting mechanism with two revolutions (720°)
- Clear digital display for the sensitivity setting
- Switching status and contamination indicator visible from any direction
- Complementary PNP output
- High switching frequency for laser version

Applications

- Precise detection of small parts
- Positioning tasks
- Detail checking
- Conveyor inspection (background suppression)
- Conveyor technology
- Automation technology
- Handling machines, robotics
- Machine tool building
- Specialty machines



Photoelectric Sensors

BOS 26K

Product Overview



Photoelectric Sensors

Photoelectric Sensors

Cylinder Designs

Block Designs

Fork Sensors

BGL



Angle Sensors

BWL

Photoelectric Sensors with Special Properties

Photoelectric Distance Sensors for Analog Distance Measurement

Accessories for Photoelectric Sensors

Type	Sensing distance/Range	Light type			Output	Switching type		Switching frequency	U _s	Connection	Special features				Page
		Red light	Infrared	Laser		Light switching	Dark switching				Polarizing filter	Autocollimation	Laser Class 1	Alarm output	
 Diffuse sensor with background suppression															
BOS008C BOS 26K-PA-1LHA-SA1-S4-C	40...60 mm			■	■	■	■	2.5 kHz	■	■					212
BOS008E BOS 26K-PA-1LHB-S4-C	30...150 mm			■	■	■	■	2.5 kHz	■	■					213
BOS0089 BOS 26K-PA-1HC-S4-C	30...300 mm	■			■	■	■	1 kHz	■	■					210
BOS008F BOS 26K-PA-1LHC-S4-C	50...300 mm			■	■	■	■	2.5 kHz	■	■					213
BOS008A BOS 26K-PA-1IE-S4-C	150...600 mm		■		■	■	■	800 Hz	■	■					211
 Retroreflective sensor with polarizing filter															
BOS008M BOS 26K-PA-1QE-S4-C	0...5.5 mm	■			■	■	■	1 kHz	■	■	■	■			211
BOS008N BOS 26K-PO-1QE-SA1-C	0...5.5 mm	■			■	■		1 kHz	■	■	■	■	■		211
BOS008L BOS 26K-PA-1LQP-S4-C	0...20 m			■	■	■	■	2.5 kHz	■	■	■	■	■		214
BOS008J BOS 26K-PA-1LQE-SA1-S4-C	0...7 mm			■	■	■	■	2.5 kHz	■	■	■	■	■		215
BOS008K BOS 26K-PA-1LQE-SA2-S4-C	0...6 mm			■	■	■	■	2.5 kHz	■	■	■	■	■		215

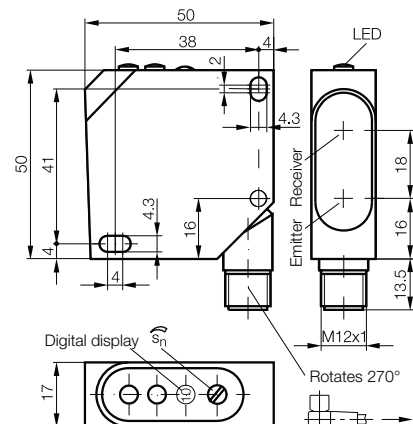
NPN on request



Type			Diffuse sensor with background suppression
Detection range			30...300 mm
PNP	NC/NO	Ordering code	BOS0089
		Part number	BOS 26K-PA-1HC-S4-C
PNP	NC/NO	Polarizing filter, autocollimation,	Ordering code
			Part number
PNP	NC	Polarizing filter, autocollimation, Alarm output	Ordering code
			Part number
Supply voltage U_s			10...30 V DC
Output current			200 mA
No-load supply current I_0 max.			≤ 35 mA
Switching type			Light/dark (complementary)
Polarity reversal/short-circuit protected			Yes/Yes
Settings			2-turn potentiometer with indicator
Help function			
Emitter, light type			LED, red light, pulsed
Wavelength			660 Nm
Light spot diameter			approx. 8 mm at 200 mm
Gray value shift (90%/18%)			8 %
Distance hysteresis			$< 5\%$
Power-on indicator			Green LED
Output function indicator			Yellow LED
Stability indicator			Red LED
Response time			0.5 ms
Switching frequency f			1 kHz
Degree of protection as per IEC 60529			IP 67
Ambient temperature T_a			$-20...+60$ °C
Permissible ambient light			EN 60947-5-2
Material	Housing		ABS, impact-resistant
	Optical surface		PMMA
Connection			M12 connector, 4-pin

Reference object: white, 90% reflection, 200x200 mm
Reference reflector: BOS R-1

For wiring diagrams see page 217.



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BOS 26K



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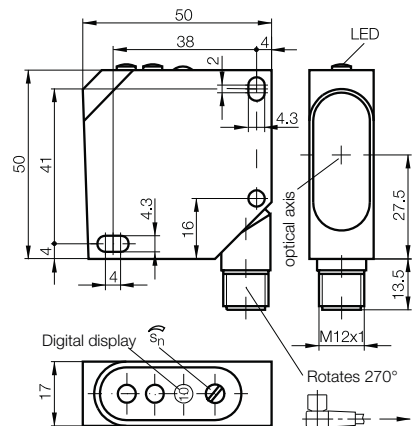
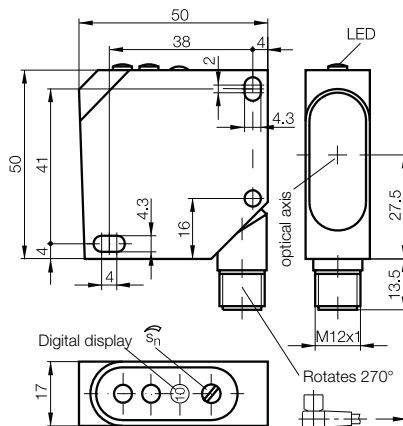
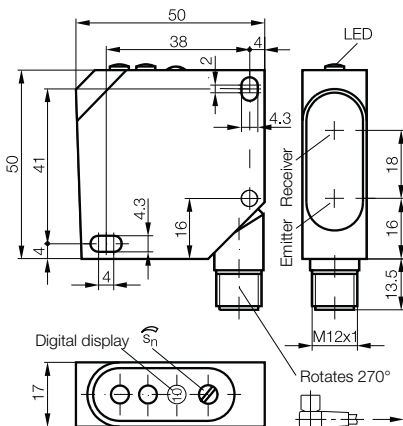
Photoelectric Sensors with Special Properties

Photoelectric Distance Sensors for Analog Distance Measurement

Accessories for Photoelectric Sensors



Diffuse sensor with background suppression 150...600 mm BOS008A BOS 26K-PA-1IE-S4-C	Retroreflective sensor 0...5.5 m BOS008M BOS 26K-PA-1QE-S4-C	Retroreflective sensor 0...5.5 m BOS008N BOS 26K-PO-1QE-SA1-C
10...30 V DC 200 mA ≤ 70 mA Light/dark (complementary) Yes/Yes 2-turn potentiometer with indicator	10...30 V DC 200 mA ≤ 30 mA Light/dark (complementary) Yes/Yes 2-turn potentiometer with indicator	10...30 V DC 200 mA ≤ 30 mA Light switching Yes/Yes 2-turn potentiometer with indicator Contamination output
LED, infrared, pulsed 880 Nm approx. 20 mm at 400 mm 12 % <5%	LED, red light, pulsed 660 Nm Ø 15 mm in 500 mm	LED, red light, pulsed 660 Nm Ø 15 mm in 500 mm
Green LED Yellow LED Red LED 0.625 ms 800 Hz IP 67 -20...+60 °C EN 60947-5-2 ABS, impact-resistant PMMA M12 connector, 4-pin	Green LED Yellow LED Red LED 0.5 ms 1 kHz IP 67 -20...+60 °C EN 60947-5-2 ABS, impact-resistant PMMA M12 connector, 4-pin	Green LED Yellow LED Red LED 0.5 ms 1 kHz IP 67 -20...+60 °C EN 60947-5-2 ABS, impact-resistant PMMA M12 connector, 4-pin

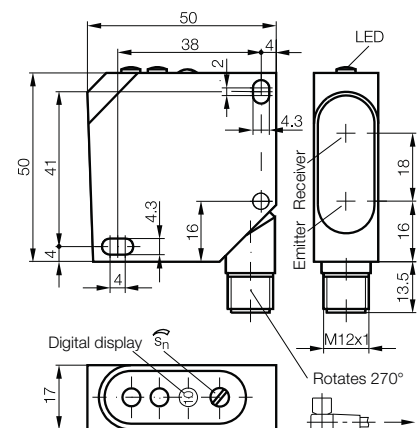




Type	Diffuse sensor with background suppression	
Detection range	40...60 mm	
PNP NC/NO	Ordering code	BOS008C
	Part number	BOS 26K-PA-1LHA-SA1-S4-C
Supply voltage U_s	10...30 V DC	
Output current	200 mA	
No-load supply current I_0 max.	≤ 50 mA	
Switching type	Light/dark (complementary)	
Polarity reversal/short-circuit protected	Yes/Yes	
Settings	2-turn potentiometer with indicator	
Emitter, light type	Laser, red light	
Wavelength	670 Nm	
Laser class	2	
Light spot diameter	see table	
Gray value shift (90%/18%)	1 %	
Distance hysteresis	≤ 50 μm	
Power-on indicator	Green LED	
Output function indicator	Yellow LED	
Stability indicator	Red LED	
Response time	0.2 ms	
Switching frequency f	2.5 kHz	
Degree of protection as per IEC 60529	IP 67	
Ambient temperature T_a	-20...+45 °C	
Permissible ambient light	EN 60947-5-2	
Material	Housing	ABS, impact-resistant
	Optical surface	PMMA
Connection	M12 connector, 4-pin	

Reference object: white, 90% reflection, 200×200 mm

For wiring diagrams see page 217.



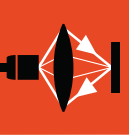
Light spot diameter [mm]

Sensing distance	40	45	50	55	60
Light spot Ø	0.25	0.7	1.1	1.5	1.8



Photoelectric Sensors

BOS 26K Laser



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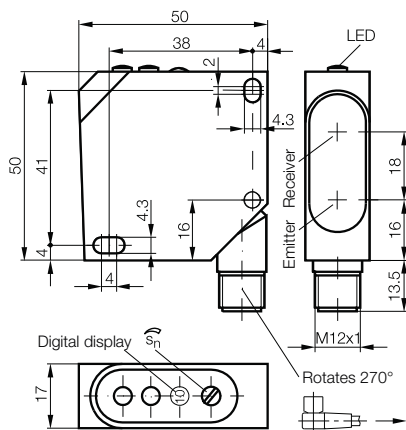
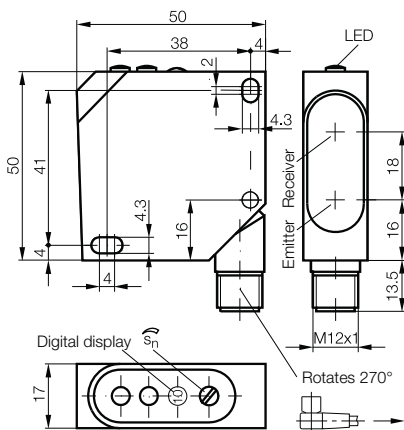
Photoelectric Sensors with Special Properties

Photoelectric Distance Sensors for Analog Distance Measurement

Accessories for Photoelectric Sensors



Diffuse sensor with background suppression 30...150 mm	Diffuse sensor with background suppression 50...300 mm
BOS008E	BOS008F
BOS 26K-PA-1LHB-S4-C	BOS 26K-PA-1LHC-S4-C
10...30 V DC	10...30 V DC
200 mA	200 mA
≤ 50 mA	≤ 50 mA
Light/dark (complementary)	Light/dark (complementary)
Yes/Yes	Yes/Yes
2-turn potentiometer with indicator	2-turn potentiometer with indicator
Laser, red light	Laser, red light
670 Nm	650 Nm
2	2
see table	3×1 mm at 300 mm
8 %	5 %
5 %	2 %
Green LED	Green LED
Yellow LED	Yellow LED
Red LED	Red LED
0.2 ms	0.2 ms
2.5 kHz	2.5 kHz
IP 67	IP 67
-15...+45 °C	-20...+45 °C
5 klx	5 klx
ABS, impact-resistant	ABS, impact-resistant
PMMA	PMMA
M12 connector, 4-pin	M12 connector, 4-pin



Light spot diameter [mm]

Sensing distance	30	60	80	100	150
Light spot Ø	1.8	0.7	0.1	1.1	2.5

Light spot diameter [mm]

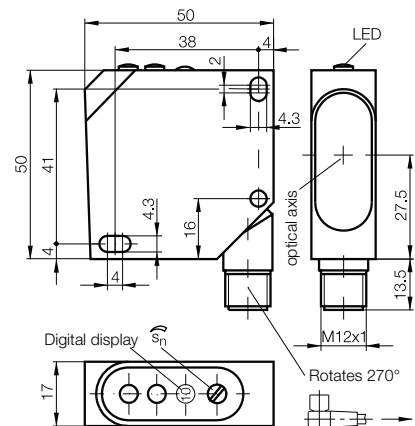
Sensing distance	50	100	200
Light spot Ø	5×1.8	4×1.5	3.8×1.2



Type	Retroreflective sensor		
Detection range	0...20 m		
PNP NC/NO	Polarizing filter, autocollimation	Ordering code	BOS008L
		Part number	BOS 26K-PA-1LQP-S4-C
Supply voltage U_s	10...30 V DC		
Output current	200 mA		
No-load supply current I_0 max.	≤ 40 mA		
Switching type	Light/dark (complementary)		
Polarity reversal/short-circuit protected	Yes/Yes		
Settings	2-turn potentiometer with indicator		
Emitter, light type	Laser, red light		
Wavelength	650 Nm		
Laser class	1		
Light spot diameter	11 mm in 12 m		
Power-on indicator	Green LED		
Output function indicator	Yellow LED		
Stability indicator	Red LED		
Response time	0.2 ms		
Switching frequency f	2.5 kHz		
Degree of protection as per IEC 60529	IP 67		
Ambient temperature T_a	$-20...+45$ °C		
Permissible ambient light	5 klx		
Material	Housing	ABS, impact-resistant	
	Optical surface	PMMA	
Connection	M12 connector, 4-pin		

Reference object: white, 90% reflection, 200x200 mm

For wiring diagrams see page 217.



Light spot diameter

Sensing distance [m]	4	12	20
Light spot Ø [mm]	4	11	19



Photoelectric Sensors

BOS 26K Laser



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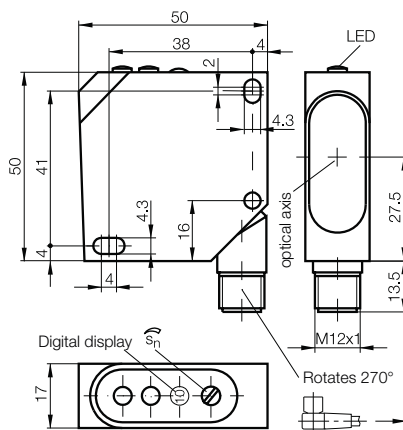
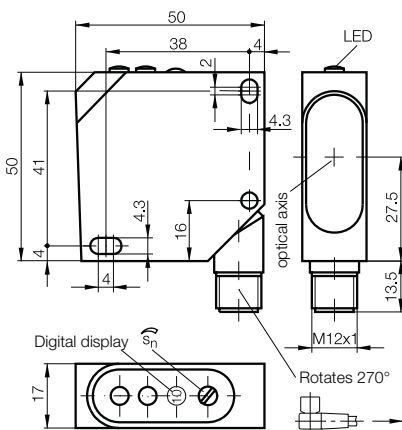
Photoelectric Sensors with Special Properties

Photoelectric Distance Sensors for Analog Distance Measurement

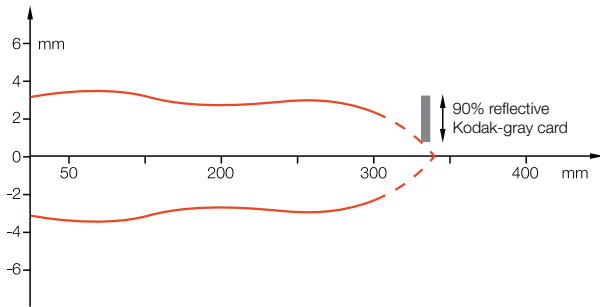
Accessories for Photoelectric Sensors



Retroreflective sensor 0...7 m BOS008J BOS 26K-PA-1LQE-SA1-S4-C	Retroreflective sensor 0...6 m BOS008K BOS 26K-PA-1LQE-SA2-S4-C
10...30 V DC	10...30 V DC
200 mA	200 mA
≤ 40 mA	≤ 40 mA
Light/dark (complementary)	Light/dark (complementary)
Yes/Yes	Yes/Yes
2-turn potentiometer with indicator	2-turn potentiometer with indicator
Laser, red light	Laser, red light
650 Nm	650 Nm
1	1
1.5 mm in 150 mm	1.5 mm in 50 mm
Green LED	Green LED
Yellow LED	Yellow LED
Red LED	Red LED
0.2 ms	0.2 ms
2.5 kHz	2.5 kHz
IP 67	IP 67
-20...+45 °C	-20...+45 °C
5 klx	5 klx
ABS, impact-resistant	ABS, impact-resistant
PMMA	PMMA
M12 connector, 4-pin	M12 connector, 4-pin

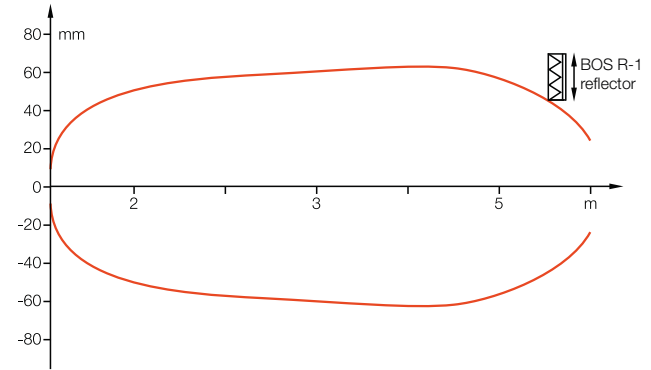


Diffuse sensor BOS 26K...-1HC...



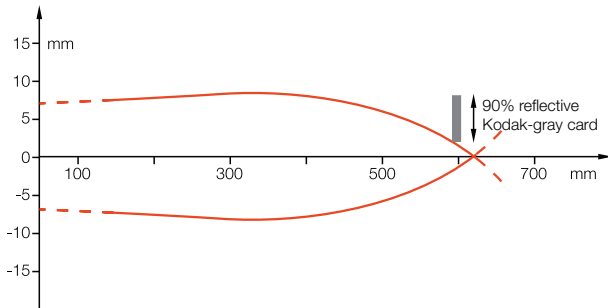
Sensing distance with side approach of Kodak-gray card.

Retroreflective sensor BOS 26K...-1QE...



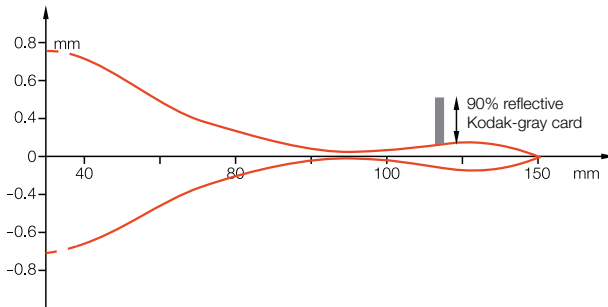
Range measured with side approach with reflector.

Diffuse sensor BOS 26K...-1IE...



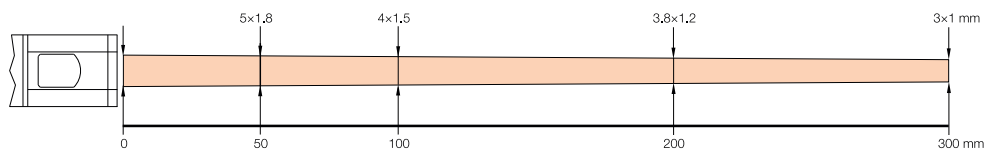
Sensing distance with side approach of Kodak-gray card.

Diffuse sensor BOS 26K...-1LHB...

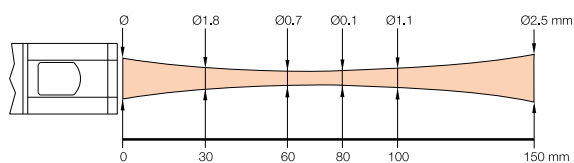


Sensing distance with side approach of Kodak-gray card.

Light beam geometry BOS 26K...1LHC



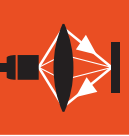
Light beam geometry BOS 26K...1LHB



Photoelectric Sensors

BOS 26K

Connection, accessories



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Photoelectric Sensors with Special Properties

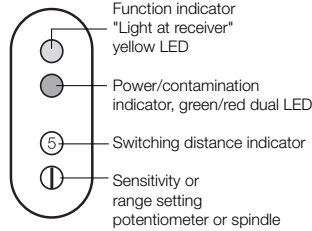
Photoelectric Distance Sensors for Analog Distance Measurement

Accessories for Photoelectric Sensors

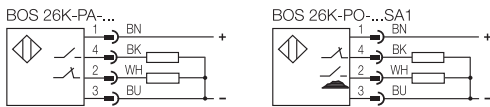
Contamination indicator

The BOS 26K has 2 -LED indicators: a yellow one for the function indicator and a green/red one for the power- and contamination indicator. Should the received light intensity drop below a certain level, this will be indicated by the red LED. This allows contamination or maladjustment to be detected early.

Indicators and operating elements



Wiring diagrams



Recommended accessories (please order separately)

Description	Ordering code
① Reflector	BAM00UK
② Reflector	BAM00WL
③ Laser reflector	BAM00UY
④ Laser reflector	BAM00UM
⑤ Laser reflector	BAM00UN
⑥ Mounting bracket	BAM00TK
⑦ Adapter plate	BAM00T7



Suitable connectors (please order separately)



Size	Design	Cable material	Color	Length	Ordering code
M12, 4-pin	Straight	PUR	Black	2 m	BCC032F
M12, 4-pin	Straight	PVC	Gray	2 m	BCC0367
M12, 4-pin	Angled	PUR	Black	2 m	BCC032Y
M12, 4-pin	Angled	PVC	Gray	2 m	BCC036N

Connectors without LED are suitable for PNP and NPN sensors.

You can find special accessories for diffuse sensors, such as **reflectors, apertures, lenses, filters and deflection heads**, in this catalog starting on page 376.

More mechanical accessories: You can find a large selection of mounting components of all types, such as clamping holders, mounting brackets and the Balluff mounting system BMS, in our **Accessories Line** catalog.

More electrical accessories: You can find a large selection of plug connectors and connector cables in a wide variety of cable materials, colors and lengths in our **Industrial Networking and Connectivity** catalog.