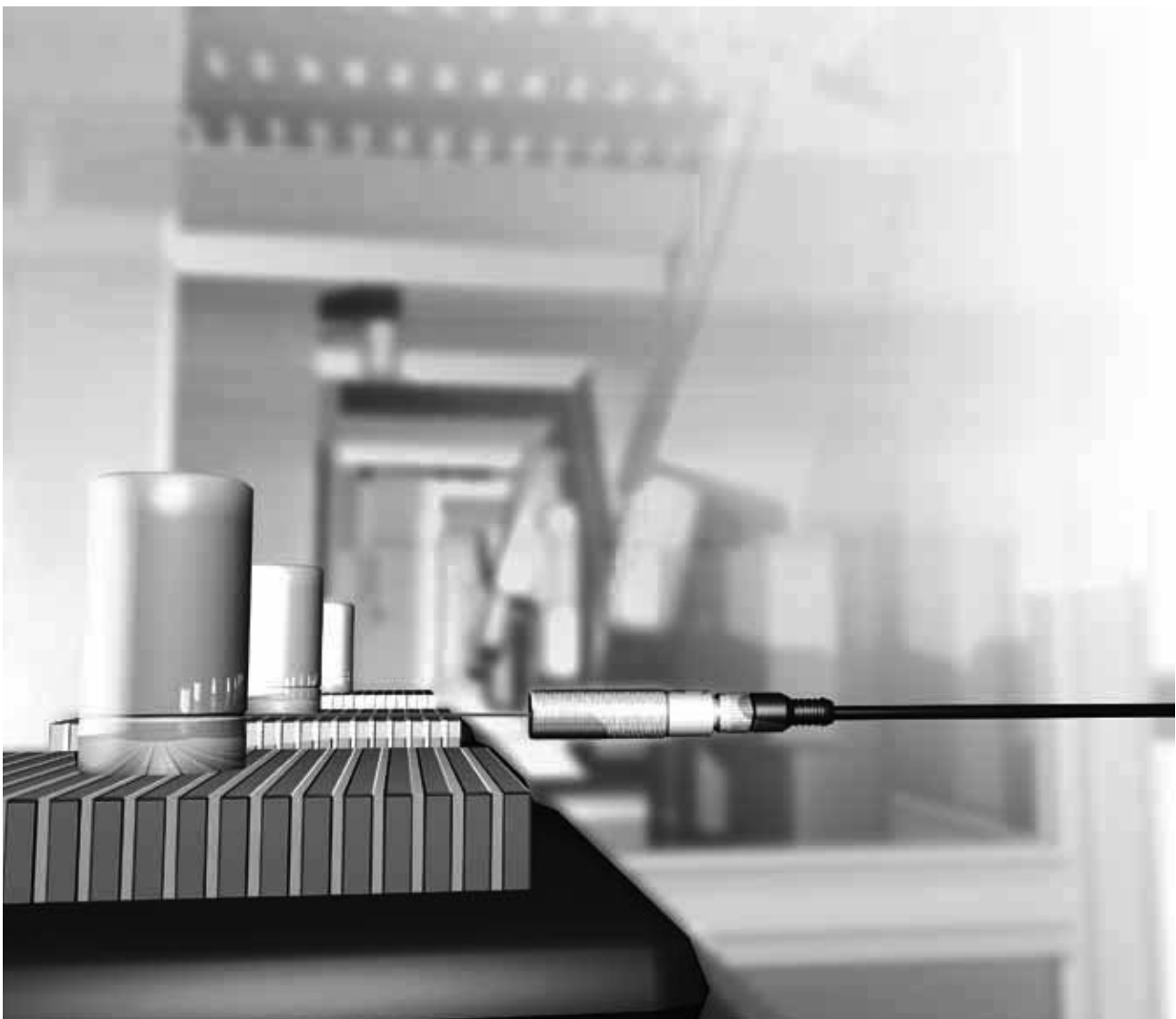


Small size – big performance

The Opto-mini.s **BOS 08M** sensors stand out with their ease of handling and fixed sensing distances and ranges. They are small, robust, flexible and affordable.

This is how the small photoelectric sensors open up possibilities in highly dynamic applications such as robot arms. This is precisely where components that have very low weight and small dimensions while retaining high switching precision are in demand.



Photoelectric Sensors

BOS 08M

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	Material Housing		Light type		Output	Switching type		Switching frequency	U _s	Connection		Page
		Nickel-plated CuZn	Stainless steel	Red light	Infrared		PNP transistor	Light switching			Dark switching	10...30 V DC	
Diffuse sensor													
BOS0006	BOS 08M-PS-RD11-S49	0...55 mm	■	■		■	■		400 Hz	■	■		38
BOS0004	BOS 08M-PO-RD11-S49	0...55 mm	■		■	■		■	400 Hz	■	■		38
BOS0005	BOS 08M-PS-RD11-02	0...55 mm	■		■	■	■		400 Hz	■		■	38
BOS0003	BOS 08M-PO-RD11-02	0...55 mm	■		■	■		■	400 Hz	■		■	38
Retroreflective sensor with polarizing filter													
BOS00RC	BOS 08M-PS-PR11-S49	25...550 mm	■		■	■		■	400 Hz	■	■		38
BOS00R9	BOS 08M-PO-PR11-S49	25...550 mm	■		■	■	■		400 Hz	■	■		38
BOS00RA	BOS 08M-PS-PR11-02	25...550 mm	■		■	■		■	400 Hz	■		■	39
BOS00R8	BOS 08M-PO-PR11-02	25...550 mm	■		■	■	■		400 Hz	■		■	39
Through-beam sensor Receiver													
BOS00W9	BOS 08M-PS-RE11-S49	0...1.1 m	■		■	■		■	400 Hz	■	■		39
BOS0153	BOS 08M-PO-RE11-S49	0...1.1 m	■		■	■	■		400 Hz	■	■		39
BOS018F	BOS 08M-PS-RE11-02	0...1.1 m	■		■	■		■	400 Hz	■		■	39
BOS018E	BOS 08M-PO-RE11-02	0...1.1 m	■		■	■	■		400 Hz	■		■	39
BOS01F7	BOS 08E-PS-IE11-02	0...1.5 m		■		■		■	400 Hz	■		■	40
Through-beam sensor Emitter													
BOS0151	BOS 08M-X-RS11-S49	0...1.1 m	■		■					■	■		39
BOS018H	BOS 08M-X-RS11-02	0...1.1 m	■		■					■		■	39
BOS01F6	BOS 08E-X-IS11-02	0...1.5 m		■		■				■		■	40

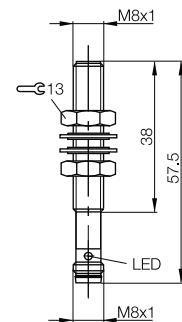
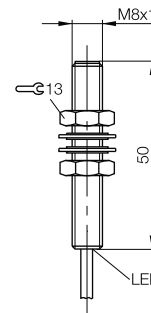
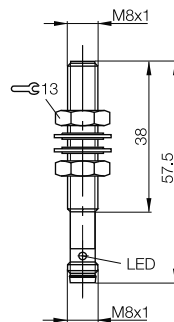
NPN on request



Type		Diffuse sensor	Diffuse sensor	Retroreflective sensor
Detection range		0...55 mm	0...55 mm	25...550 mm
PNP NO	Ordering code	BOS0006	BOS0005	
	Part number	BOS 08M-PS-RD11-S49	BOS 08M-PS-RD11-02	
PNP NC	Ordering code	BOS0004	BOS0003	
	Part number	BOS 08M-PO-RD11-S49	BOS 08M-PO-RD11-02	
PNP NO	Polarizing filter			BOS00RC
	Part number			BOS 08M-PS-PR11-S49
PNP NC	Polarizing filter			BOS00R9
	Part number			BOS 08M-PO-PR11-S49
PNP NO	Receiver			
	Part number			
PNP NC	Receiver			
	Part number			
Emitter	Ordering code			
	Part number			
Supply voltage U_s		10...30 V DC	10...30 V DC	10...30 V DC
Output current		100 mA	100 mA	100 mA
No-load supply current I_0 max.		20 mA	20 mA	20 mA
Switching type		Light or dark switching	Light or dark switching	Light or dark switching
Polarity reversal/short-circuit protected		Yes/Yes	Yes/Yes	Yes/Yes
Settings		Fixed	Fixed	Fixed
Emitter, light type		LED, red light	LED, red light	LED, red light
Wavelength		640 Nm	640 Nm	640 Nm
Received light indicator		Yellow LED	Yellow LED	Yellow LED
Response time		1.25 ms	1.25 ms	1.25 ms
Switching frequency f		400 Hz	400 Hz	400 Hz
Degree of protection as per IEC 60529		IP 67	IP 67	IP 67
Ambient temperature T_a		-10...+60 °C	-10...+60 °C	-10...+60 °C
Permissible ambient light per		EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
Material	Housing	Nickel-plated CuZn	Nickel-plated CuZn	Nickel-plated CuZn
	Optical surface	PMMA	PMMA	PMMA
Connection		M8 connector, 3-pin	2 m PUR cable 3x0.14 mm ²	M8 connector, 3-pin

Reference object: white, 90% reflection, 200x200 mm
 Reference reflector: BOS R-9

For wiring diagrams see page 41.



Photoelectric Sensors

BOS 08M



Photoelectric Sensors

Photoelectric Sensors

Cylinder Designs

Block Designs

Fork Sensors

BGL

Angle Sensors

BWL

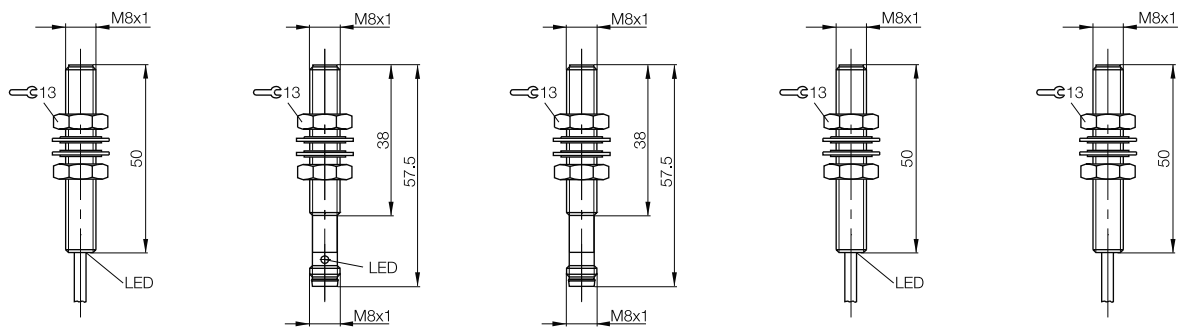
Photoelectric Sensors with Special Properties

Photoelectric Distance Sensors for Analog Distance Measurement

Accessories for Photoelectric Sensors

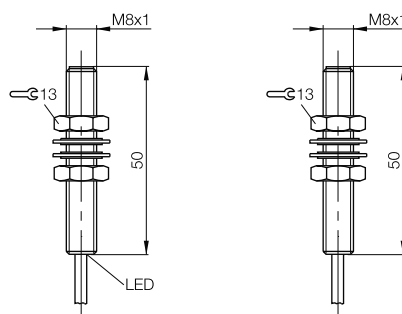


Retroreflective sensor 25...550 mm	Through-beam sensor 0...1.1 m	Through-beam sensor 0...1.1 m	Through-beam sensor 0...1.1 m	Through-beam sensor 0...1.1 m
BOS00RA BOS 08M-PS-PR11-02				
BOS00R8 BOS 08M-PO-PR11-02				
	BOS00W9 BOS 08M-PS-RE11-S49		BOS018F BOS 08M-PS-RE11-02	
	BOS0153 BOS 08M-PO-RE11-S49		BOS018E BOS 08M-PO-RE11-02	
		BOS0151 BOS 08M-X-RS11-S49		BOS018H BOS 08M-X-RS11-02
10...30 V DC 100 mA 20 mA	10...30 V DC 100 mA ≤ 15 mA	10...30 V DC 100 mA ≤ 15 mA	10...30 V DC 100 mA ≤ 15 mA	10...30 V DC 100 mA ≤ 15 mA
Light or dark switching Yes/Yes Fixed	Light or dark switching Yes/Yes Fixed	Light or dark switching Yes/Yes Fixed	Light or dark switching Yes/Yes Fixed	Light or dark switching Yes/Yes Fixed
LED, red light 640 Nm Yellow LED 1.25 ms 400 Hz	LED, red light 640 Nm Yellow LED 1.25 ms 400 Hz	LED, red light 640 Nm Yellow LED 1.25 ms 400 Hz	LED, red light 640 Nm Yellow LED 1.25 ms 400 Hz	LED, red light 640 Nm Yellow LED 1.25 ms 400 Hz
IP 67 -10...+60 °C EN 60947-5-2	IP 67 -10...+60 °C EN 60947-5-2	IP 67 -10...+60 °C EN 60947-5-2	IP 67 -10...+60 °C EN 60947-5-2	IP 67 -10...+60 °C EN 60947-5-2
Nickel-plated CuZn PMMA 2 m PUR cable, 3x0.14 mm ²	Nickel-plated CuZn PMMA M8 connector, 3-pin	Nickel-plated CuZn PMMA M8 connector, 3-pin	Nickel-plated CuZn PMMA 2 m PUR cable, 3x0.14 mm ²	Nickel-plated CuZn PMMA 2 m PUR cable, 2x0.14 mm ²





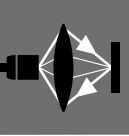
Type	Through-beam sensor		Through-beam sensor
Detection range	0...1.5 m		0...1.5 m
PNP NO	Receiver	Ordering code	BOS01F7
		Part number	BOS 08E-PS-IE11-02
	Emitter	Ordering code	BOS01F6
		Part number	BOS 08E-X-IS11-02
Supply voltage U_s	10...30 V DC		10...30 V DC
Output current	100 mA		
No-load supply current I_0 max.	≤ 8 mA		≤ 15 mA
Switching type	Dark switching		
Polarity reversal/short-circuit protected	Yes/Yes		Yes/Yes
Settings	Fixed		Fixed
Emitter, light type			LED, infrared light
Wavelength			940 Nm
Received light indicator	Yellow LED		
Response time	1.25 ms		
Switching frequency f	400 Hz		
Degree of protection as per IEC 60529	IP 67		IP 67
Ambient temperature T_a	-10...60°C		-10...60°C
Permissible ambient light per	EN 60947-5-2		EN 60947-5-2
Material	Housing	Stainless steel 1.4404	Stainless steel 1.4404
	Optical surface	PMMA	PMMA
Connection	2 m PUR cable, 3x0.14 m ²		2 m PUR cable, 2x0.14 m ²



Photoelectric Sensors

BOS 08M

Connection, accessories



Photoelectric Sensors

Photoelectric Sensors

Cylinder Designs

Block Designs

Fork Sensors

BGL

Angle Sensors

BWL

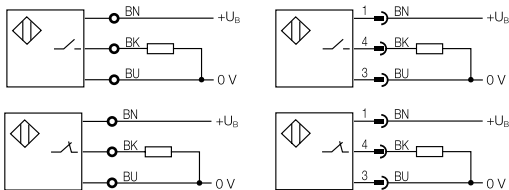
Photoelectric Sensors with Special Properties

Photoelectric Distance Sensors for Analog Distance Measurement

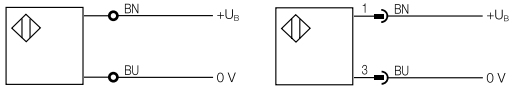
Accessories for Photoelectric Sensors

Wiring diagrams

Diffuse, retroreflective, through-beam sensor receivers



Through-beam sensor emitters



Display elements

Yellow LED: Received light indicator

The LED can show 3 different statuses:

- LED off: No object detected
- LED lights up and stays on: Object detected
- LED flashes: Contamination indicator/signal not stable

Recommended accessories

(please order separately)

Description	Ordering code
Reflector	BAM00WL



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.

Suitable connectors

(please order separately)



Size	Design	Cable material	Color	Length	Ordering code
M8, 3-pin	Straight	PUR	Black	2 m	BCC02M8
M8, 3-pin	Straight	PVC	Gray	2 m	BCC02NU
M8, 3-pin	Angled	PUR	Black	2 m	BCC02ML
M8, 3-pin	Angled	PVC	Gray	2 m	BCC02P5

Connectors without LED are suitable for PNP and NPN sensors.

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**.