

Optoelectronic sensors from the **Opto-PROXINOX** series have a skin of corrosion-proof stainless steel 1.4571 and therefore do not create contamination. Nor are there any compromises with the optical surface, with its 2 mm thick glass element (also plastic for the food industry).

The nightmare of lost name-plates is also over: the stainless steel sensors are laser engraved. And inside? Sealed to IP 68, the Balluff electronics operates flawlessly under the most difficult conditions and supplies a generous 200 mA on the output. Mounting and connections: rugged, reliable, normed and safe (fully reverse polarity protected).

The housing design is identical for all the sensors in the **BOS 18E** series. A special housing nose and optics construction provides optimum sealing and rigidity. In addition to the usual IP 68 protection, steam cleaning is also permitted.

The **BOS 18E** series includes diffuse models with fixed sensing distances of 100 mm, 200 mm and 400 mm. They are manufactured to precise tolerances. This makes them ideal for rapid and uncomplicated assembly. The use of highly visible red light (100 and 200 mm versions) also makes them easy to set up.

The versions with a plastic disc work with high-energetic infrared light. And they're just reliable and easy to use as all the other sensors. The retroreflective model with polarizing filter and 2000 mm range will not be "blinded" by highly reflective objects, but rather

detects them reliably. This increases the sensor's flexibility and reliability. The use of highly visible red light makes setup easier. A non-polarized version even attains a range of 4000 mm.

The thru-beam model operates using infrared light, with an outstanding range of 16 m. The high-energy beam can penetrate ordinary paper. An ideal sensor for harsh environments, for example in the food processing and machine tools industry, where a sensor with large function reserves is demanded!

Features

- Supply voltage 10...30 V DC, polarity reversal protected
- Output short circuit protected
- Rugged stainless steel housing without holes and with stainless nuts
- Enclosure rating IP 68 (BWN Pr. 27), can also withstand steam cleaning
- Optical surface of rugged 2 mm Borofloat glass or scratch-resistant Tempax, bead secured
- Diffuse with red light or infrared light
- Diffuse or retroreflective with red light
- One-way thru-beam with infrared light

Applications

- Bottling equipment
- Food processing
- Packaging
- Laundry and dry-cleaning
- Machine tools
- Heavy industry
- Wherever other sensors don't measure up

Tested to BWN Pr. 27
(IP 68 for the food industry)

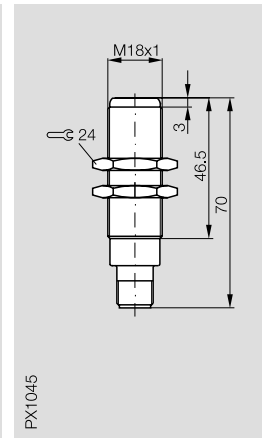
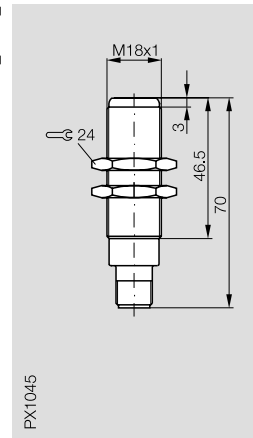


Stainless Steel

Optoelectronic Sensors

BOS 18E, Range 100 mm
200 mm, 400 mm,
2 m, 4 m, 16 m

Housing size		Opto-PROXINOX M18x1	Opto-PROXINOX M18x1
Diffuse	sensing range	100 mm/200 mm/400 mm	100 mm/200 mm/400 mm
Retroreflective	sensing range	2 m/4 m	2 m/4 m
Thru-beam	sensing range	16 m	16 m



stainless steel
1.4571



Diffuse

PNP	○	100 mm	red light	BOS 18E-PS-1YA-E5-D-S 4	
PNP	○	200 mm	red light	BOS 18E-PS-1YB-E5-D-S 4	
PNP	○	400 mm	red light	BOS 18E-PS-1YD-E5-D-S 4	
PNP	○	100 mm	infrared light		BOS 18E-PS-1XA-SA 1-S 4
PNP	○	200 mm	infrared light		BOS 18E-PS-1XB-SA 1-S 4
PNP	○	400 mm	infrared light		BOS 18E-PS-1XD-SA 1-S 4

Retroreflective



PNP	●	2 m	red light, polarizing filter	BOS 18E-PS-1UB-E5-D-S 4	BOS 18E-PS-1UB-SA 1-S 4
PNP	●	4 m	red light	BOS 18E-PS-1WD-E5-D-S 4	

Thru-beam



PNP	●	16 m	receiver	BLE 18E-PS-1P-E5-D-S 4	BLE 18E-PS-1P-SA 1-S 4
			emitter	BLS 18E-XX-1P-E5-X-S 4	BLS 18E-XX-1P-SA 1-S 4



Supply voltage U_B		10...30 V DC	10...30 V DC
Voltage drop U_d at I_e		≤ 2.5 V	≤ 2.5 V
Rated isolation voltage U_i		250 V AC	250 V AC
Rated operational current I_e		200 mA	200 mA
No-load supply current I_0 max.		≤ 20 mA (BLS ≤ 40 mA)	≤ 20 mA (BLS ≤ 40 mA)
Protected against polarity reversal		yes	yes
Short circuit protected		yes	yes
Permissible capacitance		1 μF	1 μF
On/off delay (Standard)		5 ms	5 ms
Frequency of operating cycles f (Standard)		100 Hz	100 Hz
Utilization category		DC 13	DC 13
Output		PNP	PNP
Output function		○ or ●	○ or ●
Permissible ambient light		2000 lux	2000 lux
Sensitivity/range adjustment		no	no
Output function indication		no	no
Contamination indication		no	no
Ambient temperature range T_a		-20...+75 °C	-20...+75 °C
Degree of protection per IEC 60529		IP 69K and IP 68 per BWN Pr. 27	IP 69K and IP 68 per BWN Pr. 27
Insulation class		□	□
Housing material		stainless steel 1.4571	stainless steel 1.4571
Material of sensing face		glass	scratch-resistant PMMA
Connection		connector	connector
Recommended connector		BKS-B 20E	BKS-B 20E
Weight		40 g	40 g

○/● = Light-on/dark-on

Diffuse values referenced to Kodak gray card 90 % reflection.
Retroreflective values referenced to R1 reflector.

For wiring diagrams, characteristics and accessories see page 2.1.26.

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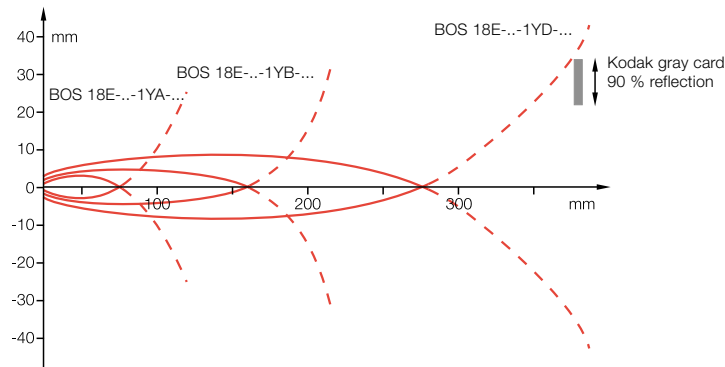
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Accessories
Optosensors
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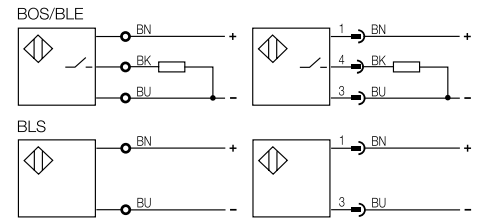
Connectors ...
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Diffuse BOS 18E-...-1YA/1YB/1YD-...

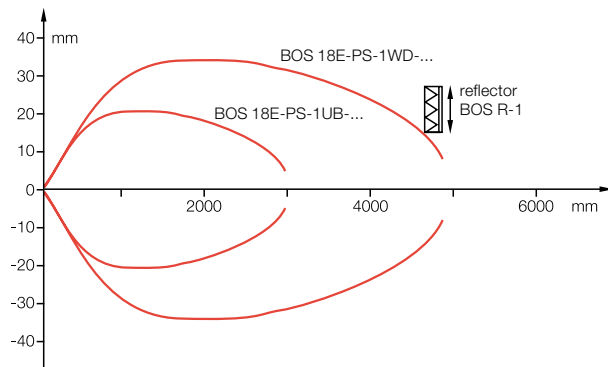


Sensing distance measured with lateral approach using Kodak gray card.

Wiring diagrams

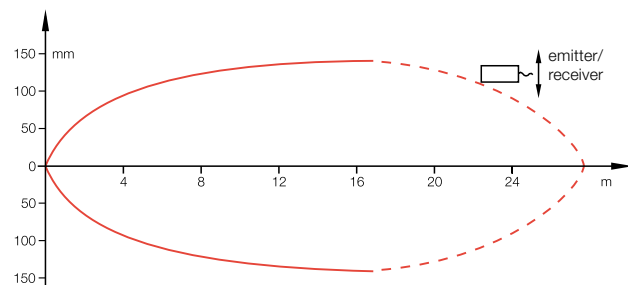


Retroreflective BOS 18E-...-1UB/1WD-...



Sensing distance measured with lateral approach using reflector.

Thru-beam BLE/BLS 18E-...



For the thru-beam sensor the maximum possible offset between emitter and receiver is measured.

Recommended accessories

please order separately



Aperture
BOS 18-BL-1



Reflector
BOS R-1



Air shield
BOS 18-LT-1



Mounting clamp
BOS 18,0-KB-1



Connector
BKS-B 20E