

BALLUFF

BOD 6K
Opto sensor with
anal og output



The **BOS 6K** series represents high-tech in the smallest possible package. The use of microcontroller technology allows all the optical variants (diffuse, retro-reflective) to be offered in the same compact housing. In addition to the previous versions with background suppression, retro-reflective and laser technology, the series now includes a model **with analog output**.

This provides a distance-proportional analog output signal (0...10 V) and a switching output calibrated using a teach-in process. This miniature sensor (32 × 20 × 12 mm) is ready to use without requiring a separate amplifier, providing both the analog output signal and the digital switching output. Thanks to the background suppression, any change in the color or surface characteristics has no effect on the switching behavior. Setup is performed using teach-in and a clearly visible, precisely defined light spot.

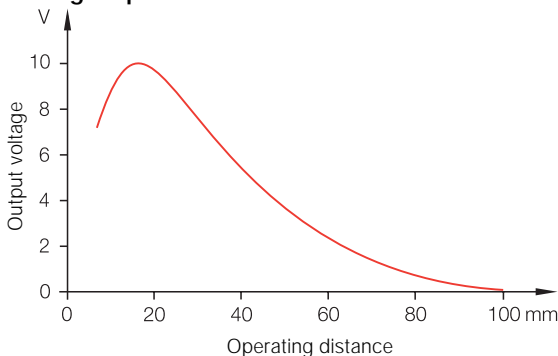
Features

- Analog output signal (0...10 V) plus switching output
- Teach-in calibration
- Background suppression
- Visible, precise light spot
- Working range 20...80 mm

Applications

- Automatic control
- Object sensing
- Object positioning
- Level sensing

Analog output



Series	
Working range	
Analog output	



Diffuse



PNP	O/●	20...80 mm	HGA, red light, Teach-in
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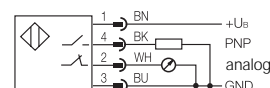
Supply voltage U_B	
Voltage drop U_d at I_e	
Rated isolation voltage U_i	
Rated operational current I_e	
No-load supply current I_0	
Protected against polarity reversal	
Short circuit protected	
Permissible capacitance	
On/Off delay (Standard)	
Frequency of operating cycles f (Standard)	
Limit frequency	
Utilization category	
Output	
Output function	
Permissible ambient light	
Range setting	
Function indicator (receiver sees light)	
Status/contamination indication	
Ambient temperature range T_a	
Degree of protection per IEC 529	
Insulation class	
Housing material	
Material of sensing face	
Connection	
No. of wires × conductor cross section	
Recommended connector	
Weight	
Emitter type	
Light spot diameter	
Hysteresis (18 %/18 %)	
Gray value shift (90 %/18 %)	
O / ● = Light-On/Dark-On	

Diffuse values referenced to Kodak gray card with 90 % reflection.

Sensors supplied standard with 2 m cable. Other lengths on request.



Wiring Diagram



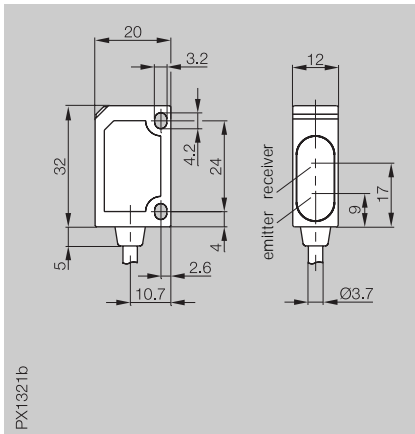
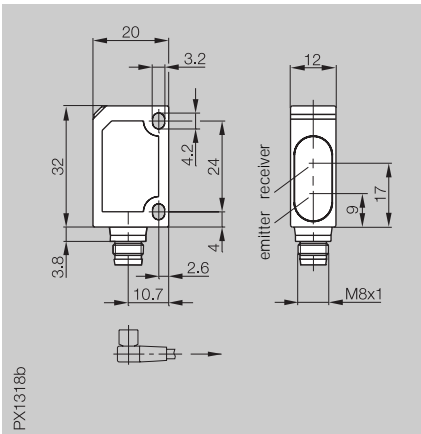
Compact sensors with analog output

Optoelectronic
Sensors

BOD 6K
Range 80 mm

BOD 6K
20...80 mm
0...10 V

BOD 6K
20...80 mm
0...10 V



BOD 6K-RA01-S75-C

BOD 6K-RA01-C-02

15...30 V DC

≤ 2.4 V

250 V AC

100 mA

≤ 30 mA

yes

yes

0.33 µF

0.5 ms

1 KHz

200 Hz

DC 13

0...10 V, PNP

analog, ○/● selectable

5000 Lux

Teach-in

LED yellow

LED green

-20...+60 °C

IP 67



ABS

PMMA

connector

BKS-B 74/BKS-B 75

40 g

red 660 nm

5 × 5 mm at 60 mm

≤ 5 %

≤ 7 %

15...30 V DC

≤ 2.4 V

250 V AC

100 mA

≤ 30 mA

yes

yes

0.33 µF

0.5 ms

1 KHz

200 Hz

DC 13

0...10 V, PNP

analog, ○/● selectable

5000 Lux

Teach-in

LED yellow

LED green

-20...+60 °C

IP 67



ABS

PMMA

2 m cable, PVC

4 × 0.14 mm²

120 g (with 2 m cable)

red 660 nm

5 × 5 mm at 60 mm

≤ 5 %

≤ 7 %

Recommended accessories

Please order separately

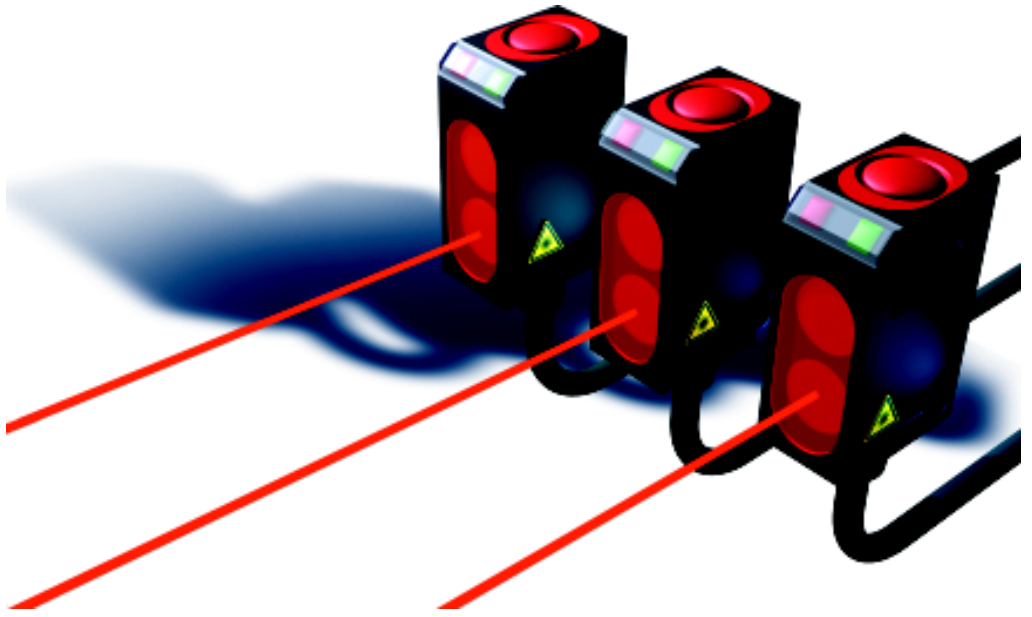


Mounting
Bracket
BOS 6-HW-1



Connector
BKS-B74/BKS-B75

**Other products in the
BOS 6K Teach-in-Series:**



BOS 6K-PU-1HA-S75-C
Diffuse sensor with back-
ground suppression and
highly visible red light.
Range selectable from
25...100 mm.



BOS 6K-PU-1LHA-S75-C
Laser diffuse sensor with
precise background
suppression, selectable from
20...60 mm. Brilliant
red light, extremely small
light spot. Ideal for small
parts detection with lateral
approach.



BOS 6K-PU-1OC-S75-C
Energetic diffuse sensor with
range selectable up to
300 mm.



BOS 6K-PU-1QA-S75-C
Retro-reflective sensor with
small hysteresis for sensing
glass and films.



BOS 6K-PU-1QC-S75-C
Retro-reflective sensor with
3.5 m range. Polarizing filter
for detecting shiny and
reflecting surfaces.



BOS 6K-PU-1LQA-S75-C
Laser retro-reflective type
with extremely small light
spot and optimum visibility of
the spot over the entire
sensing range. Ideal for small
parts detection with lateral
approach.



**BLS 6K-XX-1E-S75/
BLE 6K-PU-1E-S75-C**
Thru-beam type with 6 m
range.



<http://www.balluff.de>

For other sensors see main catalog
"The Sensor Program",
on CD-Rom or online!



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