

BALLUFF

BOS 18KF, BOS 18KW Optosensors – Redefined Standards



The wide range of optoelectronic sensors from Balluff offers application solutions in the areas of robotics, automation, assembly and handling, and many others.

Each family has its special strengths, so you can choose the one designed to address your particular needs and requirements. In addition to tubular housings from M12 to M30 constructed of metal, stainless steel or plastic, Balluff offers numerous versions in rectilinear form factors in plastic or metal in virtually all sizes with various functions and performance characteristics.

In addition to the traditional diffuse, retroreflective and thru-beam types, the Balluff opto line also offers special functions and versions including background suppression, distance sensors and color- and contrast sensors.

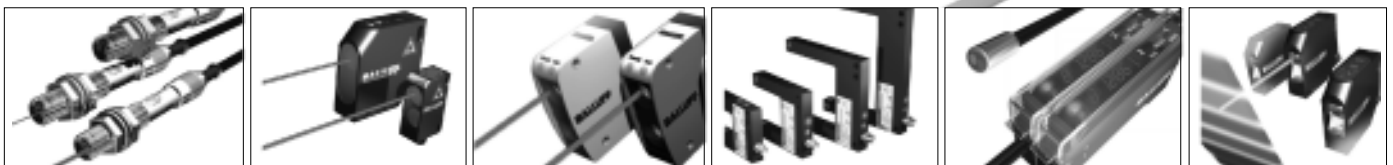
For applications in difficult ambient conditions, Balluff offers a wide variety of high-performance fiber optic sensors with glass or plastic fiber optic cable and the associated base units.

BOS

Balluff Optoelectronic Sensors

- Diffuse
- Diffuse with background suppression
- Retroreflective
- Thru-beam
- Laser sensors
- Distance sensors
- Slot sensors
- Dynamic optical windows
- Contrast sensors
- Color sensors
- Luminescence sensors
- Fiber optic sensors

Opto Sensors



Redefined Standards

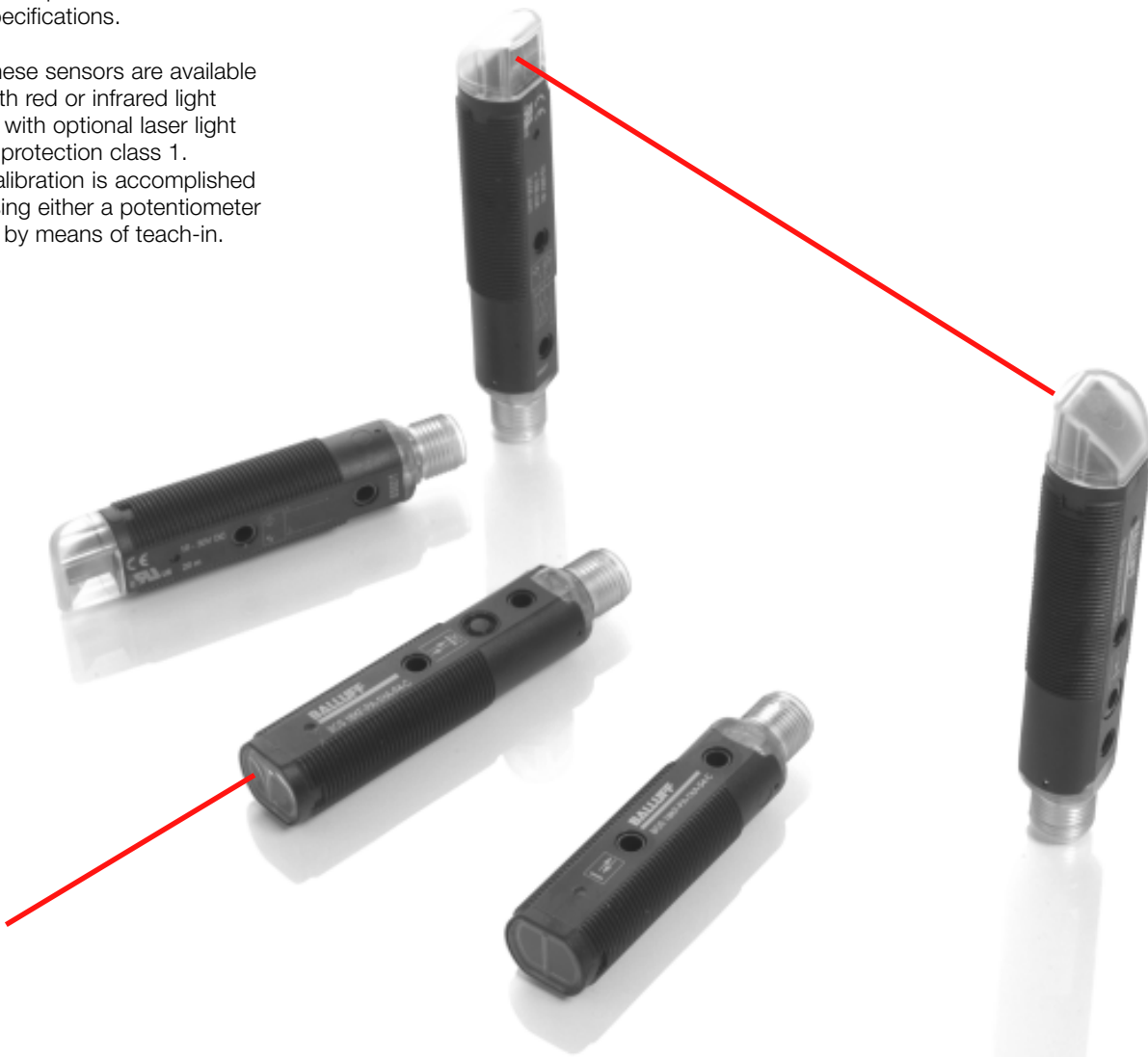
BOS 18KF, BOS 18KW Optosensors – redefined standards

The overhauled Series 18K has not only a new look, but also features an expanded range of models and improved technical specifications.

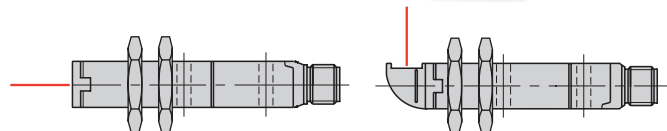
These sensors are available with red or infrared light or with optional laser light in protection class 1. Calibration is accomplished using either a potentiometer or by means of teach-in.

The plastic housing with flat sides allows them to be installed using the included M18 nuts or by means of screws through the sensor body.

The sensors are available with axial or radial optics with cable or M12 connector configurations and PNP or NPN output.



2.1



Overview

	Light type	BOS 18KF axial optics	BOS 18KW radial optics
Diffuse with background suppression	Red light	max. range 100 mm	max. range 100 mm
Energetic diffuse sensors	Infrared	max. range 700 mm	max. range 400 mm
Laser diffuse sensors	Laser	max. range 350 mm	max. range 250 mm
Retroreflective with polarizing filter	Red light	max. range 4,5 m	max. range 3 m
Laser retroreflective with polarizing filter	Laser	max. range 16 mm	max. range 9 m
Thru-beam	Infrared	max. range 20 mm	max. range 15 m
Laser thru-beam	Laser	max. range 60 mm	max. range 50 m

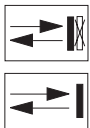
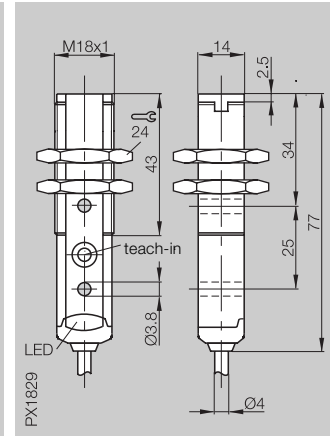
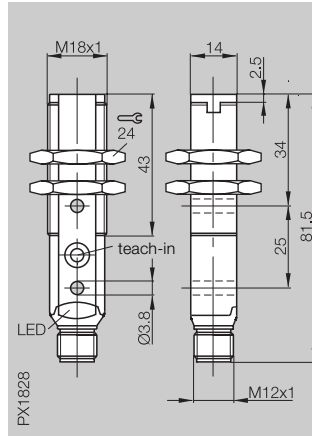
Optoelectronic Sensors

BOS 18KF
Range 50...100 mm

Diffuse with background suppression maximum range
Diffuse maximum range

50...100 mm

50...100 mm



Diffuse

PNP	50...100 mm	HGA
NPN	50...100 mm	HGA
PNP	100 mm	
NPN	100 mm	
PNP	700 mm	
NPN	700 mm	

Electrical data

Supply voltage U_B	10...30 V DC
Ripple	≤ 2 V
No-load supply current I_0 max.	≤ 30 mA
Output	PNP/NPN
Output current	100 mA
Switching type	light-on and dark-on
Voltage drop U_d at I_0	≤ 2 V
Settings	teach-in

Optical data

Recommended range	50...100 mm
Emitter, light type	LED, red light
Wavelength	630 nm
Light spot diameter	approx. 8 mm at 100 mm

Display

Supply voltage indicator	LED yellow
Output function indicator	LED green/red
Stability indicator	

Time data

Response time	1 ms
Frequency of operating cycles f	500 Hz

Mechanical data

Connection	M12 connector, 4-pin
No. of wires x conductor cross section	
Housing material	PBT
Lens material	PMMA
Weight	25 g

Ambient data

Degree of protection per IEC 60529	IP 67
Protected against polarity reversal	yes
Short circuit protected	yes
Ambient temperature range T_a	-25...+55 °C
Applicable standard	EN 60947-5-2

BOS 18KF-PA-1HA-S4-C
BOS 18KF-NA-1HA-S4-C

BOS 18KF-PA-1HA-C-02
BOS 18KF-NA-1HA-C-02

10...30 V DC
≤ 2 V
≤ 30 mA
PNP/NPN
100 mA
light-on and dark-on
≤ 2 V
teach-in

10...30 V DC
≤ 2 V
≤ 30 mA
PNP/NPN
100 mA
light-on and dark-on
≤ 2 V
teach-in

50...100 mm
LED, red light
630 nm
approx. 8 mm at 100 mm

50...100 mm
LED, red light
630 nm
approx. 8 mm at 100 mm

LED yellow
LED green/red

LED yellow
LED green/red

1 ms
500 Hz

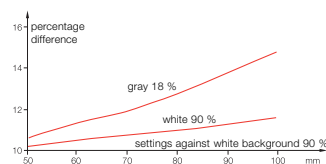
1 ms
500 Hz

M12 connector, 4-pin
PBT
PMMA
25 g

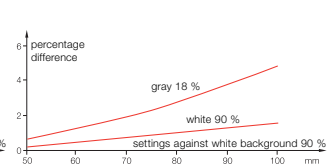
2 m cable, PVC
4 x 0.14 mm ²
PBT
PMMA
75 g

Diffuse values referenced to Kodak gray card
90 % reflection.

Function diagrams BOS 18KF-.-1HA-...



Tolerance with standard setting

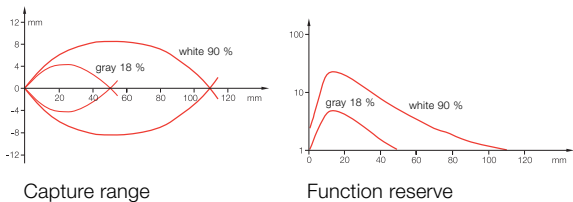


Tolerance with fine setting

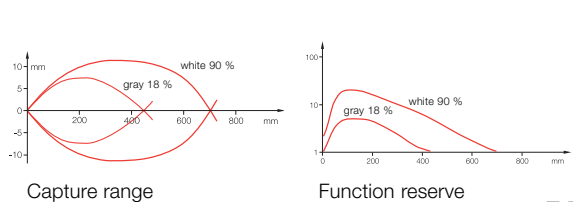
0...100 mm	0...100 mm	0...700 mm	0...700 mm
BOS 18KF-PA-1XA-S4-C BOS 18KF-NA-1XA-S4-C	BOS 18KF-PA-1XA-C-02 BOS 18KF-NA-1XA-C-02	BOS 18KF-PA-1PE-S4-C BOS 18KF-NA-1PE-S4-C	BOS 18KF-PA-1PE-C-02 BOS 18KF-NA-1PE-C-02
10...30 V DC ≤ 2 V ≤ 35 mA PNP/NPN 100 mA light-on and dark-on ≤ 2 V	10...30 V DC ≤ 2 V ≤ 35 mA PNP/NPN 100 mA light-on and dark-on ≤ 2 V	10...30 V DC ≤ 2 V ≤ 35 mA PNP/NPN 100 mA light-on and dark-on ≤ 2 V potentiometer 270°	10...30 V DC ≤ 2 V ≤ 35 mA PNP/NPN 100 mA light-on and dark-on ≤ 2 V potentiometer 270°
0...100 mm LED, infrared 880 nm approx. 80 mm at 100 mm	0...100 mm LED, infrared 880 nm approx. 80 mm at 100 mm	0...600 mm LED, infrared 880 nm approx. 40 mm at 600 mm	0...600 mm LED, infrared 880 nm approx. 40 mm at 600 mm
LED yellow	LED yellow	LED yellow LED green	LED yellow LED green
0.5 ms 1 kHz	0.5 ms 1 kHz	0.5 ms 1 kHz	0.5 ms 1 kHz
M12 connector, 4-pin	2 m cable, PVC 4 × 0.14 mm ²	M12 connector, 4-pin	2 m cable, PVC 4 × 0.14 mm ²
PBT PMMA 25 g	PBT PMMA 75 g	PBT PMMA 25 g	PBT PMMA 75 g
IP 67 yes yes	IP 67 yes yes	IP 67 yes yes	IP 67 yes yes
-25...+55 °C EN 60947-5-2	-25...+55 °C EN 60947-5-2	-25...+55 °C EN 60947-5-2	-25...+55 °C EN 60947-5-2

2.1

Function diagrams BOS 18KF-..-1XA-..



Function diagrams BOS 18KF-..-1PE-..



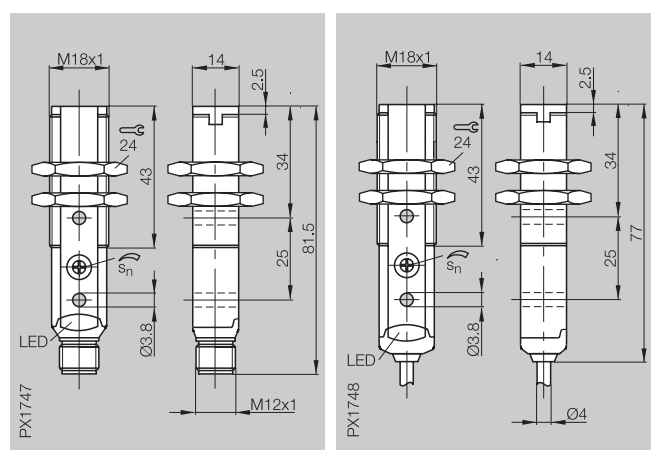
Optoelectronic Sensors

BOS 18KF
Range 0.1...4.5 m

Retroreflective with polarizing filter maximum range
Thru-beam maximum range

0.1...4.5 m

0.1...4.5 m



Retroreflective



PNP	0.1...4.5 m	polarizing filter
NPN	0.1...4.5 m	polarizing filter

BOS 18KF-PA-1QD-S4-C
BOS 18KF-NA-1QD-S4-C

BOS 18KF-PA-1QD-C-02
BOS 18KF-NA-1QD-C-02

Thru-beam



PNP	20 m	receiver
NPN	20 m	receiver
	20 m	emitter

Electrical data



Supply voltage U_B	10...30 V DC
Ripple	≤ 2 V
No-load supply current I_0 max.	≤ 35 mA
Output	PNP/NPN
Output current	100 mA
Switching type	light-on and dark-on
Voltage drop U_d at I_e	≤ 2 V
Settings	potentiometer 270°
Help functions	

10...30 V DC
≤ 2 V
≤ 35 mA
PNP/NPN
100 mA
light-on and dark-on
≤ 2 V
potentiometer 270°

10...30 V DC
≤ 2 V
≤ 35 mA
PNP/NPN
100 mA
light-on and dark-on
≤ 2 V
potentiometer 270°

Optical data

Recommended range	0.1...4 m
Emitter, light type	LED, red light
Wavelength	630 nm
Light spot diameter	approx. 65 mm at 3 m

0.1...4 m
LED, red light
630 nm
approx. 65 mm at 3 m

0.1...4 m
LED, red light
630 nm
approx. 65 mm at 3 m

Display

Supply voltage indicator	
Output function indicator	LED yellow
Stability indicator	LED green

LED yellow
LED green

LED yellow
LED green

Time data

Response time	0.5 ms
Frequency of operating cycles f	1 kHz

0.5 ms
1 kHz

0.5 ms
1 kHz

Mechanical data

Connection	M12 connector, 4-pin
No. of wires x conductor cross section	
Housing material	PBT
Lens material	PMMA
Weight	25 g

M12 connector, 4-pin
PBT
PMMA
25 g

2 m cable, PVC
4 x 0.14 mm ²
PBT
PMMA
75 g

Ambient data

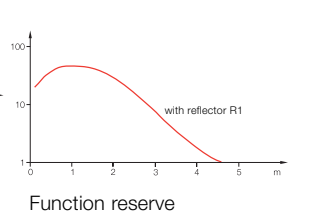
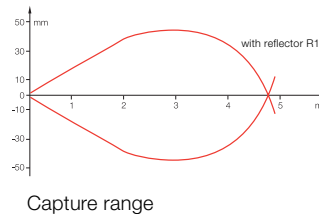
Degree of protection per IEC 60529	IP 67
Protected against polarity reversal	yes
Short circuit protected	yes
Ambient temperature range T_a	-25...+55 °C
Applicable standard	EN 60947-5-2

IP 67
yes
yes
-25...+55 °C
EN 60947-5-2

IP 67
yes
yes
-25...+55 °C
EN 60947-5-2

Retroreflective values referenced to R1 reflector.

Function diagrams BOS 18KF-.-1QD-...

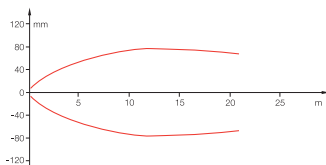


Retroreflective Thru-beam Optoelectronic Sensors

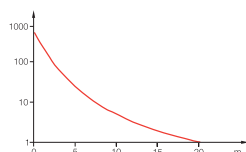
BOS 18KF
Range 0...20 m

0...20 m	0...20 m	0...20 m	0...20 m
BLE 18KF-PA-1PP-S4-C BLE 18KF-NA-1PP-S4-C	BLS 18KF-XX-1P-S4-L	BLE 18KF-PA-1PP-C-02 BLE 18KF-NA-1PP-C-02	BLS 18KF-XX-1P-L-02
10...30 V DC ≤ 2 V ≤ 30 mA PNP/NPN 100 mA light-on and dark-on ≤ 2 V potentiometer 270°	10...30 V DC ≤ 2 V ≤ 35 mA test input	10...30 V DC ≤ 2 V ≤ 30 mA PNP/NPN 100 mA light-on and dark-on ≤ 2 V potentiometer 270°	10...30 V DC ≤ 2 V ≤ 35 mA test input
0...15 m LED green LED yellow	0...15 m LED, infrared 880 nm approx. 500 mm at 15 m	0...15 m LED green LED yellow	0...15 m LED, infrared 880 nm approx. 500 mm at 15 m
2 ms 250 Hz	2 ms 250 Hz	2 ms 250 Hz	2 ms 250 Hz
M12 connector, 4-pin	M12 connector, 4-pin	2 m cable, PVC 4 × 0.14 mm ²	2 m cable, PVC 4 × 0.14 mm ²
PBT PMMA 25 g	PBT PMMA 25 g	PBT PMMA 75 g	PBT PMMA 75 g
IP 67 yes yes	IP 67 yes yes	IP 67 yes yes	IP 67 yes yes
-25...+55 °C EN 60947-5-2	-25...+55 °C EN 60947-5-2	-25...+55 °C EN 60947-5-2	-25...+55 °C EN 60947-5-2

Function diagrams BLE/BLS 18KF-..-1PP/1P-...



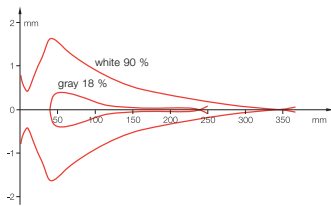
Capture range



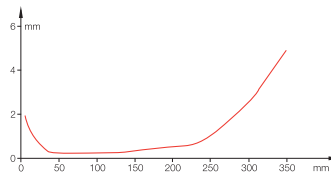
Function reserve

2.1

Function diagrams BOS 18KF-...-1LOC-...

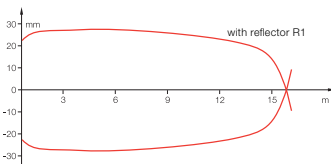


Capture range

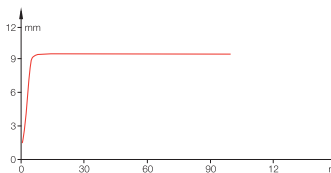


Resolution

Function diagrams BOS 18KF-...-1LQP-...

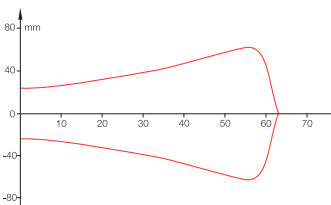


Capture range

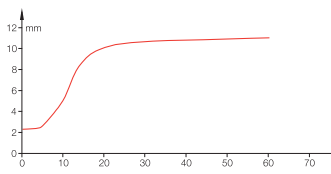


Resolution

Function diagrams BLE/BLS 18KF-...-1LT-...



Capture range



Resolution

Diffuse	maximum range
Retroreflective with polarizing filter	maximum range
Thru-beam	maximum range



	Diffuse		
	PNP	350 mm	
	NPN		350 mm
	Retroreflective		
	PNP	0.1...16 m	polarizing filter
	NPN	0.1...16 m	polarizing filter
	Thru-beam		
	PNP	60 m	receiver
	NPN	60 m	receiver
		60 m	emitter
Electrical data			
Supply voltage U_B			
Ripple			
No-load supply current I_0 max.			
Output			
Output current			
Switching type			
Voltage drop U_d at I_e			
Settings			
Help functions			
Optical Data			
Recommended range			
Emitter, light type			
Wavelength			
Laser protection class			
Resolution			
Display			
Supply voltage indicator			
Output function indicator			
Stability indicator			
Time data			
Response time			
Frequency of operating cycles f			
Mechanical data			
Connection			
Housing material			
Lens material			
Weight			
Ambient data			
Degree of protection per IEC 60529			
Protected against polarity reversal			
Short circuit protected			
Ambient temperature range T_a			
Applicable standard			

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



Diffuse Retroreflective Thru-beam Optoelectronic Sensors

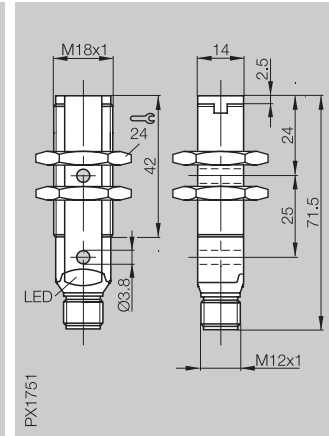
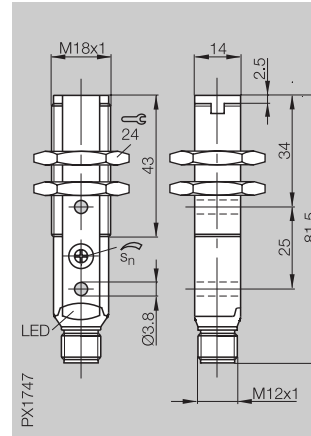
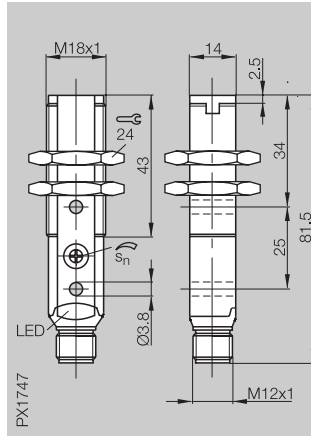
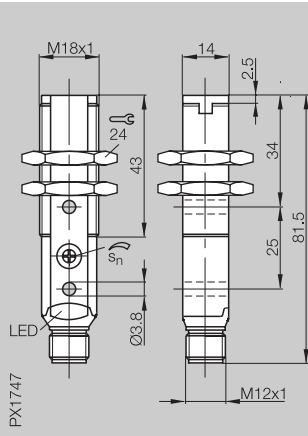
BOS 18KF Laser
Range 0...350 mm,
0.1...16 m, 0...60 m

0...350 mm

0.1...16 m

0...60 m

0...60 m



BOS 18KF-PA-1LOC-S4-C
BOS 18KF-NA-1LOC-S4-C

BOS 18KF-PA-1LQP-S4-C
BOS 18KF-NA-1LQP-S4-C

BLE 18KF-PA-1LT-S4-C
BLE 18KF-NA-1LT-S4-C

BLS 18KF-XX-1LT-S4-L

10...30 V DC

≤ 2 V

≤ 35 mA

PNP/NPN

100 mA

light-on and dark-on

≤ 2 V

potentiometer 270°

10...30 V DC

≤ 2 V

≤ 35 mA

PNP/NPN

100 mA

light-on and dark-on

≤ 2 V

potentiometer 270°

10...30 V DC

≤ 2 V

≤ 30 mA

PNP/NPN

100 mA

light-on and dark-on

≤ 2 V

potentiometer 270°

10...30 V DC

≤ 2 V

≤ 35 mA

test input

0...350 mm

laser, red light

650 nm

class 1

approx. 0.3 mm at 50 mm

approx. 0.3 mm at 100 mm

approx. 0.5 mm at 150 mm

0.1...16 m

laser, red light

650 nm

class 1

approx. 9 mm over 1 m

0...60 m

0...60 m

laser, red light

650 nm

class 1

approx. 2,5 mm at 5 m

approx. 5 mm at 10 m

approx. 10 mm at 20 m

LED yellow

LED green

LED yellow

LED green

LED green

LED yellow

LED green

333 μs

1.5 kHz

333 μs

1.5 kHz

333 μs

1.5 kHz

M12 connector, 4-pin

PBT

PMMA

25 g

M12 connector, 4-pin

PBT

PMMA

25 g

M12 connector, 4-pin

PBT

PMMA

25 g

M12 connector, 4-pin

PBT

PMMA

25 g

IP 67

yes

yes

-10...+50 °C

EN 60947-5-2

IP 67

yes

yes

-10...+50 °C

EN 60947-5-2

IP 67

yes

yes

-10...+50 °C

EN 60947-5-2

IP 67

yes

yes

-10...+50 °C

EN 60947-5-2

2.1

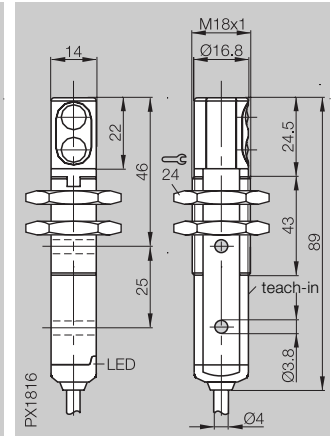
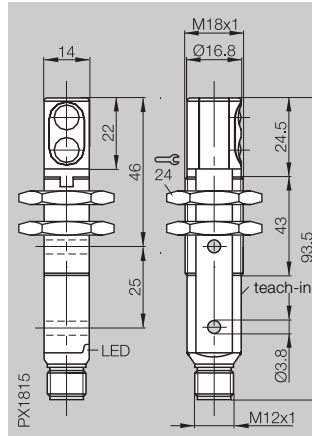
Optoelectronic Sensors

BOS 18KW
Range 50...100 mm

Diffuse with background suppression maximum range
Diffuse maximum range

50...100 mm

50...100 mm



Diffuse



PNP 50...100 mm HGA



NPN 50...100 mm HGA

PNP 80 mm

NPN 80 mm

PNP 400 mm

NPN 400 mm

Electrical data

Supply voltage U_B

10...30 V DC

10...30 V DC

Ripple

≤ 2 V

≤ 2 V

No-load supply current I_0 max.

≤ 30 mA

≤ 30 mA

Output

PNP/NPN

PNP/NPN

Output current

100 mA

100 mA

Switching type

light-on and dark-on

light-on and dark-on

Voltage drop U_d at I_e

≤ 2 V

≤ 2 V

Settings

teach-in

teach-in

Help functions

Optical data

Recommended range

50...100 mm

50...100 mm

Emitter, light type

LED, red light

LED, red light

Wavelength

630 nm

630 nm

Light spot diameter

approx. 10 mm at 100 mm

approx. 10 mm at 100 mm

Display

Supply voltage indicator

LED yellow

LED yellow

Output function indicator

LED green/red

LED green/red

Stability indicator

Time data

Response time

1 ms

1 ms

Frequency of operating cycles f

500 Hz

500 Hz

Mechanical data

Connection

M12 connector, 4-pin

2 m cable, PVC

No. of wires x conductor cross section

4 x 0.14 mm²

Housing material

PBT

PBT

Lens material

PMMA

PMMA

Weight

25 g

75 g

Ambient data

Degree of protection per IEC 60529

IP 67

IP 67

Protected against polarity reversal

yes

yes

Short circuit protected

yes

yes

Ambient temperature range T_a

-25...+55 °C

-25...+55 °C

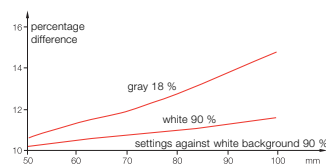
Applicable standard

EN 60947-5-2

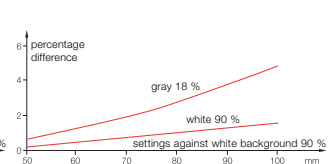
EN 60947-5-2

Diffuse values referenced to Kodak gray card
90 % reflection.

Function diagrams BOS 18KW-...-1HA-...



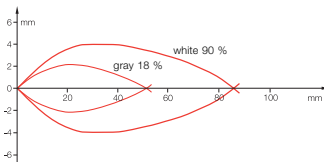
Tolerance with standard setting



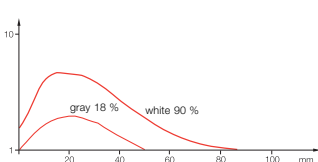
Tolerance with fine setting

0...80 mm	0...80 mm	0...400 mm	0...400 mm
BOS 18KW-PA-1XA-S4-C BOS 18KW-NA-1XA-S4-C	BOS 18KW-PA-1XA-C-02 BOS 18KW-NA-1XA-C-02	BOS 18KW-PA-1PD-S4-C BOS 18KW-NA-1PD-S4-C	BOS 18KW-PA-1PD-C-02 BOS 18KW-NA-1PD-C-02
10...30 V DC ≤ 2 V ≤ 35 mA PNP/NPN 100 mA light-on and dark-on ≤ 2 V	10...30 V DC ≤ 2 V ≤ 35 mA PNP/NPN 100 mA light-on and dark-on ≤ 2 V	10...30 V DC ≤ 2 V ≤ 35 mA PNP/NPN 100 mA light-on and dark-on ≤ 2 V potentiometer 270°	10...30 V DC ≤ 2 V ≤ 35 mA PNP/NPN 100 mA light-on and dark-on ≤ 2 V potentiometer 270°
0...80 mm LED, infrared 880 nm approx. 55 mm at 100 mm	0...80 mm LED, infrared 880 nm approx. 55 mm at 100 mm	0...350 mm LED, infrared 880 nm approx. 35 mm at 400 mm	0...350 mm LED, infrared 880 nm approx. 35 mm at 400 mm
LED yellow	LED yellow	LED yellow LED green	LED yellow LED green
0.5 ms 1 kHz	0.5 ms 1 kHz	0.5 ms 1 kHz	0.5 ms 1 kHz
M12 connector, 4-pin	2 m cable, PVC 4 × 0.14 mm ²	M12 connector, 4-pin	2 m cable, PVC 4 × 0.14 mm ²
PBT PMMA 25 g	PBT PMMA 75 g	PBT PMMA 25 g	PBT PMMA 75 g
IP 67 yes yes	IP 67 yes yes	IP 67 yes yes	IP 67 yes yes
-25...+55 °C EN 60947-5-2	-25...+55 °C EN 60947-5-2	-25...+55 °C EN 60947-5-2	-25...+55 °C EN 60947-5-2

Function diagrams BOS 18KW-.-1XA-...

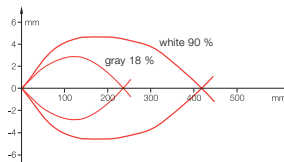


Capture range

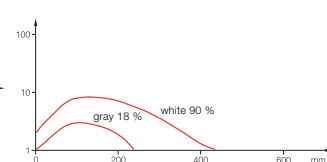


Function reserve

Function diagrams BOS 18KW-.-1PD-...



Capture range



Function reserve

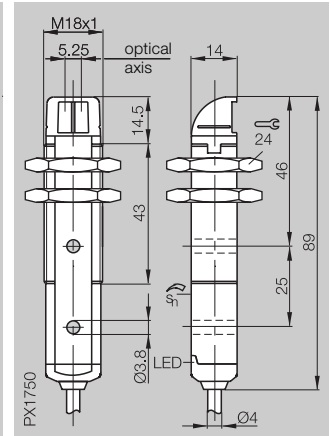
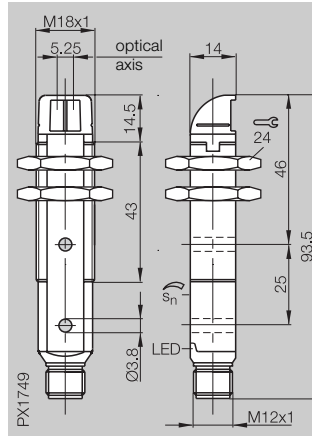
Optoelectronic Sensors

BOS 18KW
Range 0.1...3 m

Retroreflective with polarizing filter maximum range
Thru-beam maximum range

0.1...3 m

0.1...3 m



Retroreflective



PNP 0.1...3 m polarizing filter
NPN 0.1...3 m polarizing filter

BOS 18KW-PA-1QC-S4-C
BOS 18KW-NA-1QC-S4-C

BOS 18KW-PA-1QC-C-02
BOS 18KW-NA-1QC-C-02

Thru-beam



PNP 15 m receiver
NPN 15 m receiver
15 m emitter

Electrical data



Supply voltage U_B
Ripple
No-load supply current I_0 max.
Output
Output current
Switching type
Voltage drop U_d at I_e
Settings
Help functions

10...30 V DC
 ≤ 2 V
 ≤ 35 mA
PNP/NPN
100 mA
light-on and dark-on
 ≤ 2 V
potentiometer 270°

10...30 V DC
 ≤ 2 V
 ≤ 35 mA
PNP/NPN
100 mA
light-on and dark-on
 ≤ 2 V
potentiometer 270°

Optical data

Recommended range
Emitter, light type
Wavelength
Light spot diameter

0.1...2.5 m
LED, red light
630 nm
approx. 60 mm at 2 m

0.1...2.5 m
LED, red light
630 nm
approx. 60 mm at 2 m

Display

Supply voltage indicator
Output function indicator
Stability indicator

LED yellow
LED green

LED yellow
LED green

Time data

Response time
Frequency of operating cycles f

0.5 ms
1 kHz

0.5 ms
1 kHz

Mechanical data

Connection
No. of wires x conductor cross section
Housing material
Lens material
Weight

M12 connector, 4-pin
PBT
PMMA
25 g

2 m cable, PVC
4 x 0.14 mm²
PBT
PMMA
75 g

Ambient data

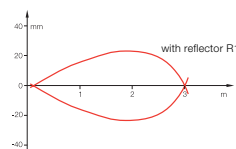
Degree of protection per IEC 60529
Protected against polarity reversal
Short circuit protected
Ambient temperature range T_a
Applicable standard

IP 67
yes
yes
-25...+55 °C
EN 60947-5-2

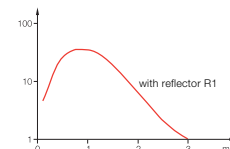
IP 67
yes
yes
-25...+55 °C
EN 60947-5-2

Retroreflective values referenced to R1 reflector.

Function diagrams BOS 18KW-..-1QC-..

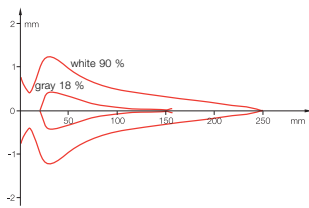


Capture range

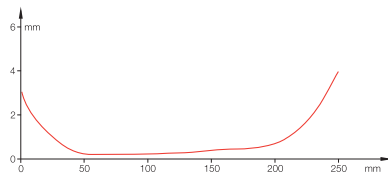


Function reserve

Function diagrams BOS 18KW-...-1LOB-...

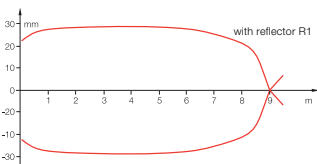


Capture range

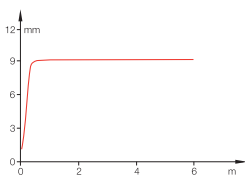


Resolution

Function diagrams BOS 18KW-...-1LQH-...

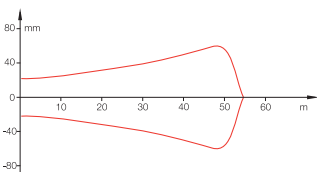


Capture range

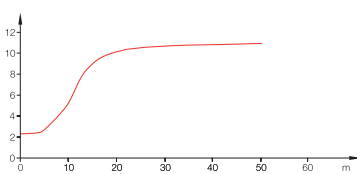


Resolution

Function diagrams BLE/BLS 18KW-...-1LT-...



Capture range



Resolution



Diffuse		maximum range
Retroreflective with polarizing filter		maximum range
Thru-beam		maximum range
<hr/>		
	PNP	250 mm
	NPN	250 mm
Retroreflective		
	PNP	0.1...9 m polarizing filter
	NPN	0.1...9 m polarizing filter
Thru-beam		
	PNP	50 m receiver
	NPN	50 m receiver
		50 m emitter
Electrical data		
Supply voltage U_B		
Ripple		
No-load supply current I_0 max.		
Output		
Output current		
Switching type		
Voltage drop U_d at I_e		
Settings		
Help functions		
Optical Data		
Recommended range		
Emitter, light type		
Wavelength		
Laser protection class		
Resolution		
<hr/>		
Display		
Supply voltage indicator		
Output function indicator		
Stability indicator		
Time data		
Response time		
Frequency of operating cycles f		
Mechanical data		
Connection		
Housing material		
Lens material		
Weight		
Ambient data		
Degree of protection per IEC 60529		
Protected against polarity reversal		
Short circuit protected		
Ambient temperature range T_a		
Applicable standard		

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



Diffuse Retroreflective Thru-beam Optoelectronic Sensors

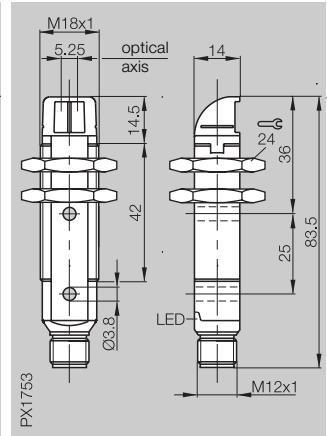
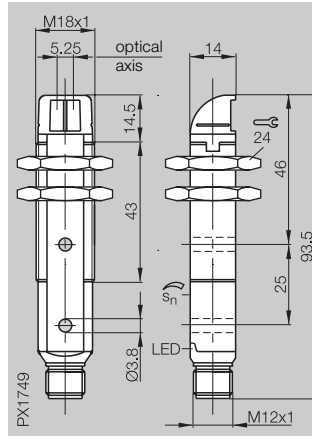
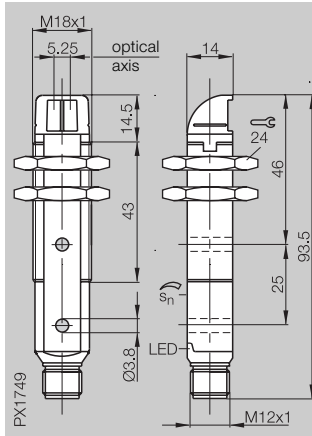
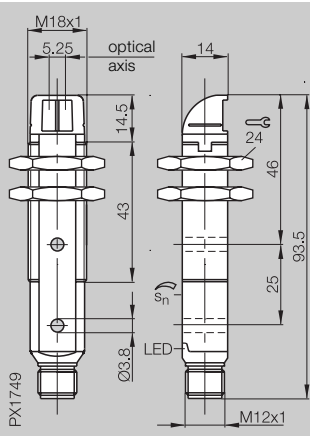
BOS 18KW Laser
Range 0...250 mm,
0.1...9 m, 0...50 m

0...250 mm

0.1...9 m

0...50 m

0...50 m



BOS 18KW-PA-1LOB-S4-C
BOS 18KW-NA-1LOB-S4-C

BOS 18KW-PA-1LQH-S4-C
BOS 18KW-NA-1LQH-S4-C

BLE 18KW-PA-1LT-S4-C
BLE 18KW-NA-1LT-S4-C

BLS 18KW-XX-1LT-S4-L

10...30 V DC

≤ 2 V

≤ 35 mA

PNP/NPN

100 mA

light-on and dark-on

≤ 2 V

potentiometer 270°

10...30 V DC

≤ 2 V

≤ 35 mA

PNP/NPN

100 mA

light-on and dark-on

≤ 2 V

potentiometer 270°

10...30 V DC

≤ 2 V

≤ 30 mA

PNP/NPN

100 mA

light-on and dark-on

≤ 2 V

potentiometer 270°

10...30 V DC

≤ 2 V

≤ 35 mA

test input

0...250 mm

laser, red light

650 nm

class 1

approx. 0.3 mm at 50 mm

approx. 0.3 mm at 100 mm

approx. 0.5 mm at 150 mm

0.1...9 m

laser, red light

650 nm

class 1

approx. 9 mm over 1 m

0...50 m

0...50 m

laser, red light

650 nm

class 1

approx. 2,5 mm at 5 m

approx. 5 mm at 10 m

approx. 10 mm at 20 m

LED yellow

LED green

LED yellow

LED green

LED green

LED yellow

LED green

333 μs

1.5 kHz

333 μs

1.5 kHz

333 μs

1.5 kHz

M12 connector, 4-pin

PBT

PMMA

25 g

M12 connector, 4-pin

PBT

PMMA

25 g

M12 connector, 4-pin

PBT

PMMA

25 g

M12 connector, 4-pin

PBT

PMMA

25 g

IP 67

yes

yes

-10...+50 °C

EN 60947-5-2

IP 67

yes

yes

-10...+50 °C

EN 60947-5-2

IP 67

yes

yes

-10...+50 °C

EN 60947-5-2

IP 67

yes

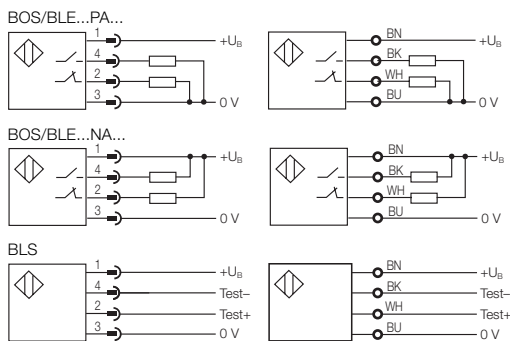
yes

-10...+50 °C

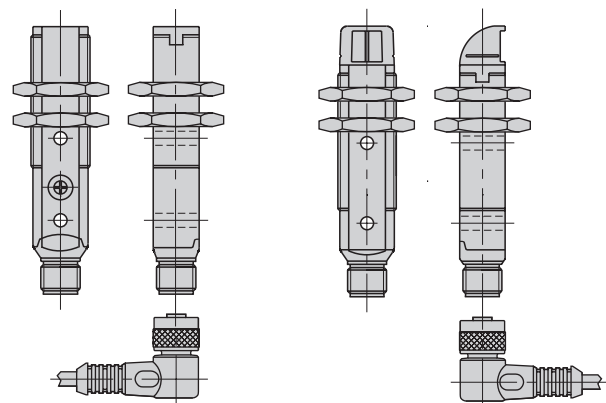
EN 60947-5-2

2.1

Wiring diagrams



Connector orientation



BOS 18KF

BOS 18KW

Recommended accessories

please order separately

For more accessories see main catalog "The Sensor Program", sections **2.3** and **6**.



Reflector BOS R-1
Reflectors with higher reflectivity will increase the range.



Connector BKS- _ 19/BKS- _ 20



Mounting clamp BOS 18,0-KB-2



Mounting clamp BOS 18,0-KB-1



Angle bracket BES 18-HW-1



Aperture BOS 18-BL-1
for BLE/BLS 18KF



Protective end cap BOS 18-SM-1
for BOS 18KF and BOS 18KF Laser



Air shield BOS 18-LT-1
for BOS 18KF and BOS 18KF Laser



For more sensors see main catalog "The Sensor Program" on CD-ROM or online!

www.balluff.de

Balluff GmbH
Schurwaldstrasse 9
73765 Neuhausen a.d.F.
Germany
Phone +49 (0) 71 58/1 73-0
Fax +49 (0) 71 58/50 10
E-Mail: balluff@balluff.de