

The **BFS 26K** uses pulsed white light, making it insensitive to ambient light. The light reflected back from the object is received and processed by three different receivers (red, green, blue). The various light spot geometry configurations of the respective sensors (round, rectangular or square) allow even the smallest color markings to be reliably discriminated.

With dimensions of just 50x50x17 mm and a rotatable connector, the BFS 26K fits in tight areas and can be programmed either using a control line or by means of 2 buttons via teach-in.

The color tolerance can be set in 5 levels for each of the 3 switching outputs (channels).

Numerous special functions such as color scanning, pulse expansion and blanking input provide additional application flexibility.

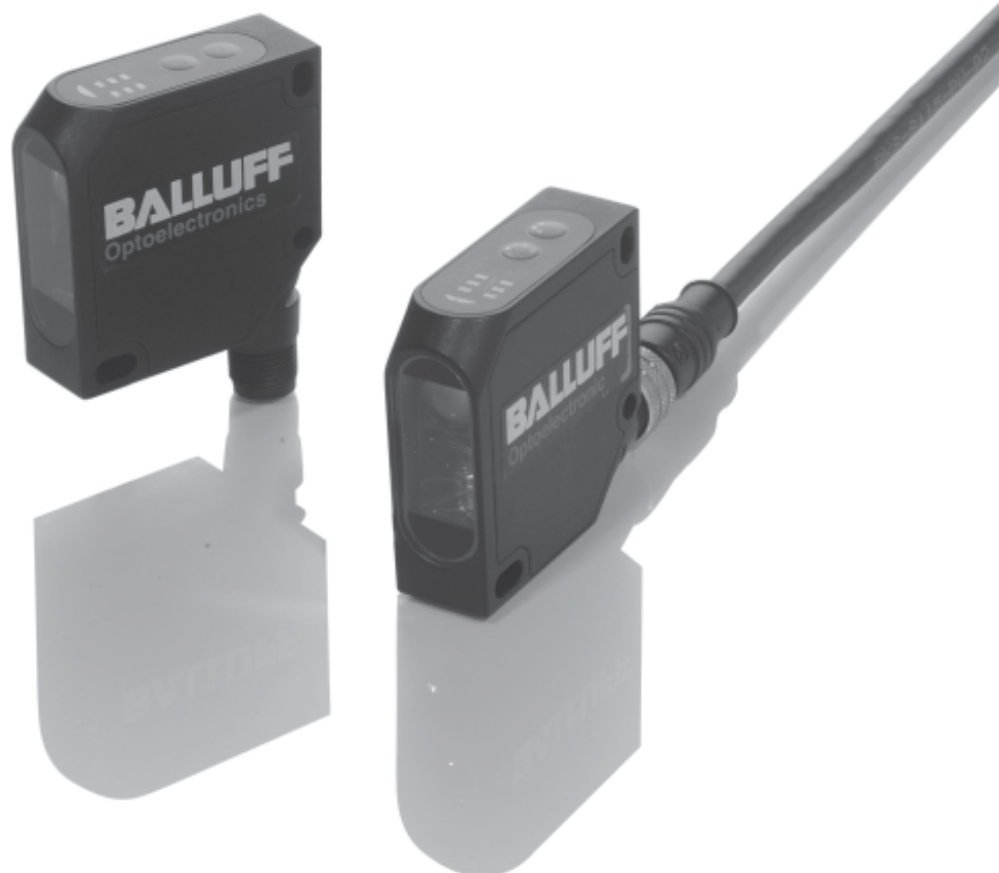
### Features


- Microcontroller-based
- Pulsed white light
- Various light spot geometries
- Teach-in and external teach-in
- M12 connector 270° rotatable
- 3 different colors can be identified at the same time
- 5-stage adjustable color tolerance
- 3 yellow LED's for switching state indication
- 3 red LED's for tolerance level indication

### Applications

Color sensors are used throughout the field of robotics, automation, quality assurance and production processes.

- Quality assurance
- Selecting parts and components by color
- Discriminating cable conductor colors



Type	Range	Light type		Output		Output	Switching frequency	U <sub>B</sub>	Connec-tion	Fea-tures		Page
		White light		PNP-Transistor		Light-on		12...28 V DC	M12 connector, 8-pin	Reflector mode	Color scan	
 <b>Color sensors</b>												
BFS 26K-PS-L01-S115	12...32 mm	■		■		■	500 Hz	■	■	■	■	<b>2.2.61</b>
BFS 26K-PS-L02-S115-C	15...30 mm	■		■		■	500 Hz	■	■		■	<b>2.2.61</b>
BFS 26K-PS-L03-S115-C	18...22 mm	■		■		■	500 Hz	■	■		■	<b>2.2.61</b>

## 2.2

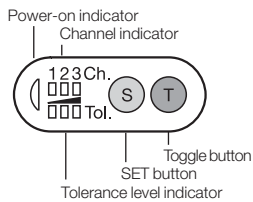
## 2.3

Photoelectric sensors  
accessories  
page 2.3.2 ...

## 6

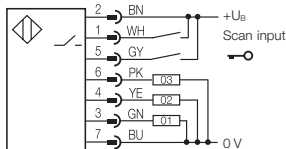
Connectors  
page 6.2 ...

**Indicators and operating elements**

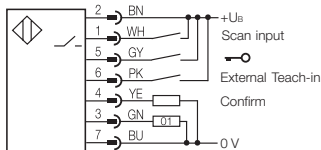


**Wiring diagrams**

Two modes are available.  
1. Normal mode "factory setting"

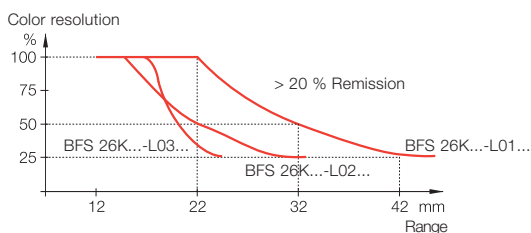


2. External Teach-in setting using "special functions"



Disabling input:  
> 12 V = buttons disabled  
< 3 V = buttons not disabled

**Color resolution/range diagram**



**Recommended accessories**

please order separately



Mounting bracket  
BOS 26K-HW-1



Connector  
BKS-S139-PU-05

Series	
Working range	Diffuse mode
Working range	Reflector mode



**Color sensor**



PNP

**Electrical data**

Supply voltage  $U_B$   
Ripple  
No-load supply current  $I_0$  max.  
Switching output

Output current  
Switching type  
Voltage drop  $U_a$  at  $I_e$   
Settings

**Optical data**

Emitter, light type  
Light spot geometry  
Light spot diameter  
Range tolerance  
Color resolution tolerance

**Indicators**

Power-on indicator  
Output function indicator Ch. 1...Ch. 3  
Output function indicator Tol. 1...Tol. 5

**Time data**

Ready delay  
Response time  
Switching frequency  $f$   
Time functions

**Mechanical data**

Dimensions  
Connection  
Housing material  
Optical surface  
Weight

**Ambient data**

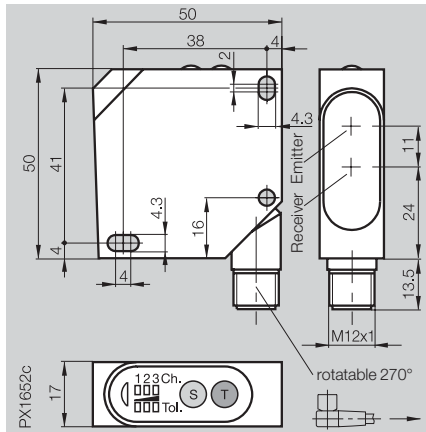
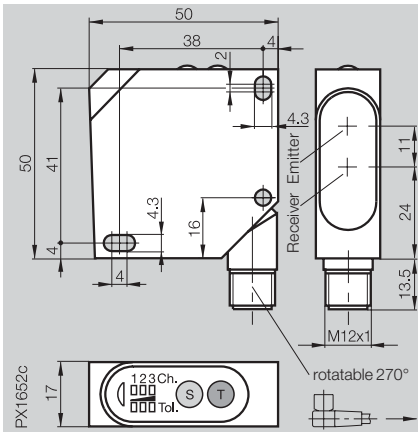
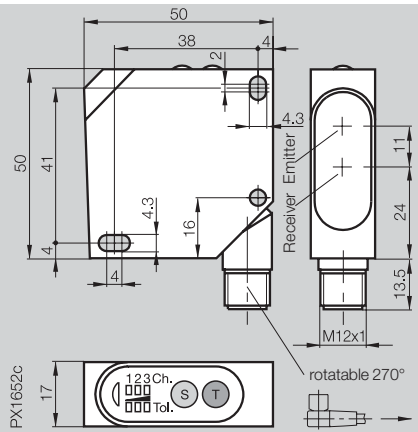
Degree of protection per IEC 60529  
Polarity reversal protected  
Short circuit protected  
Ambient temperature range  $T_a$   
Ambient light rejection per

Connector orientation

BFS 26K  
12...32 mm  
50...200 mm

BFS 26K  
15...30 mm

BFS 26K  
18...22 mm



BFS 26K-PS-L01-S115

BFS 26K-PS-L02-S115-C

BFS 26K-PS-L03-S115-C

12...28 V DC  
10 %  
≤ 40 mA  
3 × PNP-Transistor  
100 mA  
Light-on  
≤ 2.4 V  
teach-in

12...28 V DC  
10 %  
≤ 40 mA  
3 × PNP-Transistor  
100 mA  
Light-on  
≤ 2.4 V  
teach-in

12...28 V DC  
10 %  
≤ 40 mA  
3 × PNP-Transistor  
100 mA  
Light-on  
≤ 2.4 V  
teach-in

pulsed white light  
round  
∅ 4 mm at 22 mm range  
±6 mm for Tol. 3  
settable in 5 levels

pulsed white light  
square  
2x2 mm at 22 mm range  
±5 mm for Tol. 3  
settable in 5 levels

pulsed white light  
rectangular  
5x1 mm at 22 mm range  
±2 mm for Tol. 3  
settable in 5 levels

LED green  
3 × LED yellow  
3 × LED red

LED green  
3 × LED yellow  
3 × LED red

LED green  
3 × LED yellow  
3 × LED red

300 ms  
1 ms  
500 Hz  
50 ms turn-off delay selectable

300 ms  
1 ms  
500 Hz  
50 ms turn-off delay selectable

300 ms  
1 ms  
500 Hz  
50 ms turn-off delay selectable

50x50x17 mm  
M12 connector, 8-pin  
impact-resistant ABS

50x50x17 mm  
M12 connector, 8-pin  
impact-resistant ABS

50x50x17 mm  
M12 connector, 8-pin  
impact-resistant ABS

PMMA  
40 g

PMMA  
40 g

PMMA  
40 g

IP 67  
yes  
yes

IP 67  
yes  
yes

IP 67  
yes  
yes

-10...+55 °C  
EN 60947-5-2

-10...+55 °C  
EN 60947-5-2

-10...+55 °C  
EN 60947-5-2

2.2

2.3

Photoelectric sensors accessories page 2.3.2 ...

6

Connectors page 6.2 ...