

BALLUFF

Series BOS 2K

... there's nothing smaller





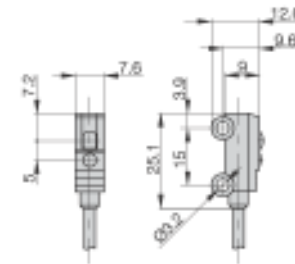
BOS 2K – there's nothing smaller

... Opto-Sensor in sub-mini format for precise detecting and positioning

Fully integrated into a 20x7.5x10 mm plastic housing are:

- a laser-like, visible light source for precision parts detection
- unmatched scan ranges up to 1.2 m
- fast response times for dynamic applications
- metal sleeves in the plastic housing for simple and secure mounting

The BOS 2K is a complete series including diffuse, retro-reflective and thru-beam models plus a version with background suppression. This series offers the complete range of functionalities required for a state-of-the-art sensor family.



V10001



Diffuse BOS 2K



Diffuse BOS 2K with background suppression



Retroreflective BOS 2K



Thru-beam BOS 2K



Range

50 mm

Light type

Red light

Application examples



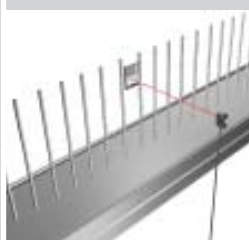
15 mm/30 mm

Red light



3 m

Red light



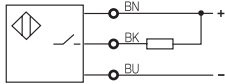
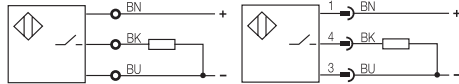
1.2 m

Red light

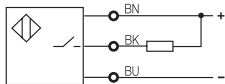


Wiring diagrams

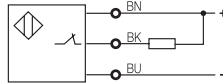
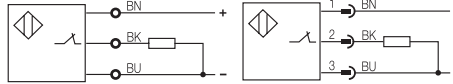
Diffuse
light-on



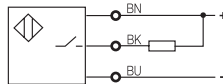
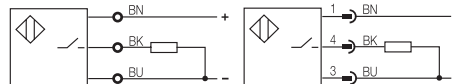
dark-on



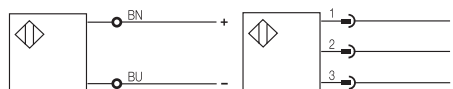
Retroreflective, Thru-beam
light-on



dark-on



Thru-beam emitter



Connector type	Cable type	Light type	Range	Output
Diffuse				
↔	BOS 2K-PS-RD10-00,2-S49	Red light	50 mm	PNP
	BOS 2K-PS-RD10-00,2-S75	Red light	50 mm	PNP
	BOS 2K-NS-RD10-03	Red light	50 mm	NPN
	BOS 2K-PS-RD10-03	Red light	50 mm	PNP
Diffuse with background suppression				
↔	BOS 2K-PS-RH10-00,2-S49	Red light	15 mm	PNP
	BOS 2K-PS-RH10-00,2-S75	Red light	15 mm	PNP
	BOS 2K-PO-RH10-00,2-S49	Red light	15 mm	PNP
	BOS 2K-NS-RH10-03	Red light	15 mm	NPN
	BOS 2K-PS-RH10-03	Red light	15 mm	PNP
	BOS 2K-NO-RH10-03	Red light	15 mm	NPN
	BOS 2K-PS-RH11-00,2-S49	Red light	30 mm	PNP
	BOS 2K-PS-RH11-00,2-S75	Red light	30 mm	PNP
	BOS 2K-PO-RH11-03	Red light	30 mm	PNP
	BOS 2K-NS-RH11-03	Red light	30 mm	NPN
	BOS 2K-PS-RH11-03	Red light	30 mm	PNP
Retroreflective				
↔	BOS 2K-PS-PR10-00,2-S49	Red light	3 m	PNP
	BOS 2K-PS-PR10-00,2-S75	Red light	3 m	PNP
	BOS 2K-PO-PR10-00,2-S49	Red light	3 m	PNP
	BOS 2K-NS-PR10-03	Red light	3 m	NPN
	BOS 2K-PS-PR10-03	Red light	3 m	PNP
	BOS 2K-NO-PR10-03	Red light	3 m	NPN
	BOS 2K-PO-PR10-03	Red light	3 m	PNP
Thru-beam				
↔	BOS 2K-XX-RS10-00,2-S75 (emitter)	Red light	1.2 m	
	BOS 2K-XX-RS10-00,2-S49 (emitter)	Red light	1.2 m	
	BOS 2K-PS-RE10-00,2-S75 (receiver)	Red light	1.2 m	PNP
	BOS 2K-PS-RE10-00,2-S49 (receiver)	Red light	1.2 m	PNP
	BOS 2K-XX-RS10-03 (emitter)	Red light	1.2 m	
	BOS 2K-PS-RE10-03 (receiver)	Red light	1.2 m	PNP
	BOS 2K-NS-RE10-03 (receiver)	Red light	1.2 m	NPN



Please specify in ordering code

Output: **P** for PNP, **N** for NPN

Connection: **S49** for connector M8x1, 3-pin

S75 for connector M8x1, 4-pin

02 for 2 m cable

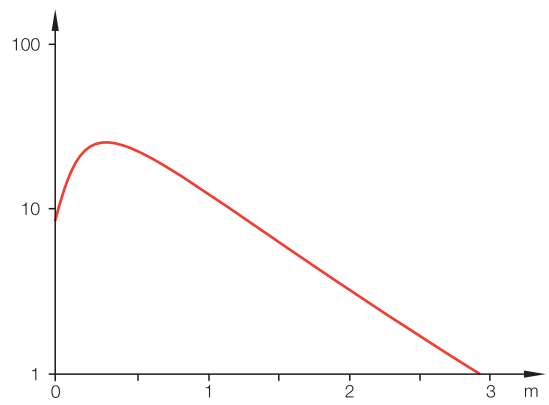
Example: BOS 2K-**PS**-RD10-00,2-**S49**

BOS 2K-**NS**-RD10-**02**

	Range	BOS 2K-_S-RD10-__	BOS 2K-_S-RH10-__	BOS 2K-_O-RH10-__	BOS 2K-_PO-RH11-02	BOS 2K-_S-RH11-__	BOS 2K-_S-PR10-__	BOS 2K-_O-PR10-__	BOS 2K-_XX-RS10-__	BOS 2K-_S-RE10-__
Diffuse	50 mm	■								
Diffuse with background suppression	15 mm		■	■						
Diffuse with background suppression	30 mm				■	■				
Retroreflective (with R11 reflector)	3 m						■	■		
Thru-beam (emitter)	1.2 m								■	
Thru-beam (receiver)	1.2 m									■
Electrical data										
Supply voltage U_B	10...30 V DC	■	■	■	■	■	■	■	■	■
Ripple	$\leq 5\%$	■	■	■	■	■	■	■	■	■
No-load supply current I_0 max.	≤ 20 mA	■	■	■	■	■	■	■		
	emitter ≤ 20 mA								■	
	receiver ≤ 10 mA									■
Output	PNP or NPN	■	■	■		■	■	■	■	■
Output current	≤ 100 mA	■	■	■		■	■	■	■	■
Switching type	dark-on			■	■					■
	light-on	■	■			■	■	■		■
Voltage drop U_d at I_0	≤ 2.5 V DC	■	■	■	■	■	■	■	■	■
Optical data										
Light type	Red light	■	■	■	■	■	■	■	■	■
Display										
Output function	LED yellow	■	■	■	■	■	■	■	■	■
Time data										
Response time	≤ 0.6 ms	■	■	■	■	■	■	■		
	≤ 2.5 ms								■	■
Mechanical data										
Connection	Connector M8x1, 3-pin	■	■	■	■	■	■	■	■	■
	Connector M8x1, 4-pin	■	■	■	■	■	■	■	■	■
	Cable									
Housing material	ABS	■	■	■	■	■	■	■	■	■
Lens material	PMMA	■	■	■	■	■	■	■	■	■
Weight	with connector 18 g	■	■	■	■	■	■	■	■	■
	with cable 20 g	■	■	■	■	■	■	■	■	■
Ambient data										
Degree of protection	IP 67	■	■	■	■	■	■	■	■	■
Short circuit protected		■	■	■	■	■	■	■	■	■
Permissible ambient light	Sunlight max. 10,000 Lux	■	■	■	■	■	■	■	■	■
	Artificial light max. 5,000 Lux	■	■	■	■	■	■	■	■	■
Ambient temperature range T_a	-20...+50 °C	■	■	■	■	■	■	■	■	■
	-25...+55 °C	■	■	■	■	■	■	■	■	■



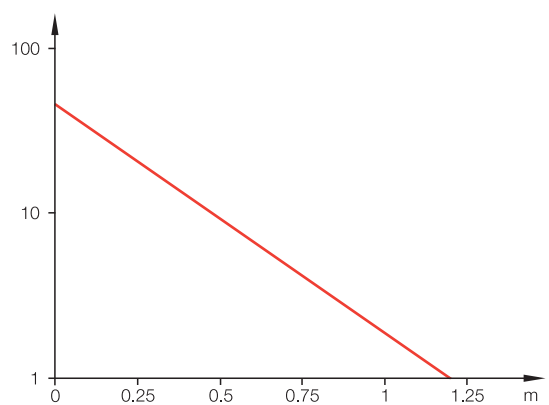
Retroreflective



Function reserve



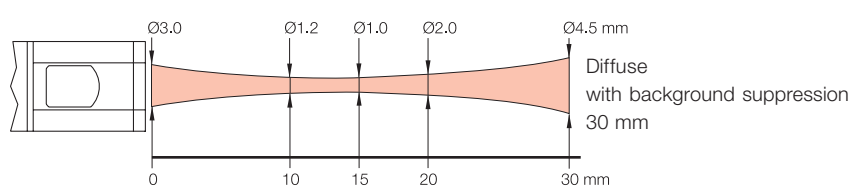
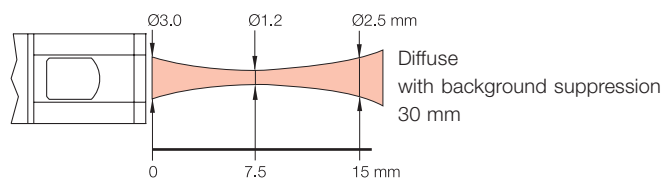
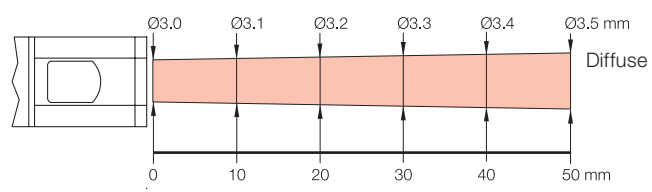
Thru-beam



Function reserve



Light spot diameter
Diffuse and diffuse with background suppression



Mounting Brackets

BOS 2-HW1
BOS 2-HW2
BOS 2-HW3
(from left to right)



Reflectors

BOS R-1
BOS R-25
BOS R-26
BOS R-9
BOS R-27
BOS R-28
BOS R-29
BOS R-30
(from left to right)



Connectors

BKS-S 74
BKS-S 48
(from left to right)



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

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