

1) Mode settings, 2) Optical axis receiver, 3) Optical axis emitter, 4) Power indicator, 5) stability, 6) Sensitivity



### Basic features

Approval/Conformity	cULus CE UKCA EAC WEEE
Principle of operation	Photoelectric sensor
Series	R090K
Style	Square Connection 90°

### Display/Operation

Adjuster	Potentiometer 270° Rotary switch 2 positions
Display	Output function- LED yellow Stability - LED green
Setting	Sensitivity (Sn) Light-on/dark-on

### Electrical connection

Connection	Connector, M8x1, 4-pin
Polarity reversal protected	yes
Short-circuit protection	yes

### Electrical data

No-load current $I_0$ max. at $U_e$	20 mA
Operating voltage $U_b$	10...30 VDC
Rated operating current $I_e$	100 mA
Rated operating voltage $U_e$ DC	24 V
Ready delay $t_v$ max.	300 ms
Ripple max. (% of $U_e$ )	10 %
Switching frequency	1000 Hz
Turn-off delay $t_{off}$ max.	0.5 ms
Turn-on delay $t_{on}$ max.	0.5 ms
Voltage drop $U_d$ max. at $I_e$	2 V

### Environmental conditions

Ambient temperature	-30...55 °C
IP rating	IP67

Photoelectric Sensors  
**BOS R090K-PU-RR10-S75**  
Order Code: BOS02A3

# BALLUFF

## Functional safety

MTTF (40 °C) 90 a

## Interface

Switching output PNP normally open/normally closed (NO/NC)

## Material

Housing material PC  
PBT  
Material sensing surface PMMA

## Mechanical data

Dimension 10.7 x 43.5 x 19.5 mm  
Mounting part Screw M3  
Tightening torque max. 0.5 Nm

## Optical features

Ambient light max. 10000 Lux  
Beam characteristic Divergent  
Light spot size Ø 105 mm at 2 m  
Light type LED, red light  
Principle of optical operation Retroreflective sensor  
Switching function, optical dark-on/light-on  
Wave length 660 nm

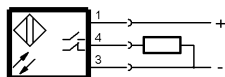
## Range/Distance

Range 0...5 m  
Rated operating distance  $S_n$  5 m

## Connector Drawings



## Wiring Diagrams



## Opto Symbols

