

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



### Basic features

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

### Display/Operation

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

### Electrical connection

<b>Connection</b>	Connector, M8x1, 3-pin
<b>Polarity reversal protected</b>	yes
<b>Short-circuit protection</b>	yes

### Electrical data

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

### Environmental conditions

<b>Ambient temperature</b>	-30...55 °C
<b>IP rating</b>	IP67

Photoelectric Sensors  
**BOS R090K-PU-RR10-S49**  
Order Code: BOS02A4

# 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

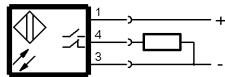
## Range/Distance

Range 0...5 m  
Rated operating distance Sn 5 m

## Connector Drawings



## Wiring Diagrams



## Opto Symbols



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