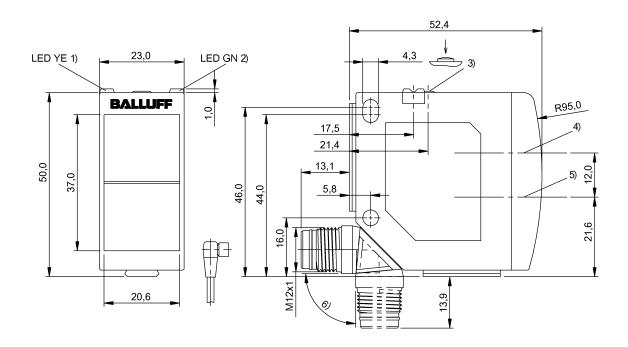
BALLUFF



1) Output function/Error, 2) Operating voltage, 3) Sn, light/dark, 4) Optical axis receiver, 5) Optical axis emitter, 6) rotatable 270°









Basic features

Approval/Conformity CE Ecolab cULus WEEE IEC 60947-5-2 **Basic standard** Principle of operation Photoelectric sensor Series 23K Style Square Connection can be rotated

Display/Operation

Adjuster Display Output function- LED yellow LED green: Power Teach - LED yellow+green, alt. Setting NO/NC - LED green, flashing Error - LED yellow, flashing Setting Light-on/dark-on Rated switching distance (Sn)

Electrical connection

Connection	Connector, M12x1-Male, 4-pin
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

Photoelectric Sensors

BOS 23K-PU-LD20-S4 Order Code: BOS0175



Electrical data

Key disable on/off Input function Same function as button No-load current lo max. at Ue 30 mA 10...30 VDC Operating voltage Ub Rated insulation voltage Ui 75 V DC Rated operating current le 100 mA Rated operating voltage Ue DC 24 V Ready delay tv max. 300 ms Residual current Ir max. 50 μΑ Ripple max. (% of Ue) 10 % Switching frequency 600 Hz Turn-off delay toff max. 0.83 ms Turn-on delay ton max. 0.83 ms Utilization category DC -13

Environmental conditions

Voltage drop Ud max. at le

 Ambient temperature
 -20...60 °C

 EN 60068-2-27, Shock
 Half-sinus, 30 g_n, 11 ms, 3x6

 EN 60068-2-6, Vibration
 10...55 Hz, amplitude 0.5 mm, 3x30 min

 IP rating
 IP6x

 IP rating per DIN 40050
 IPx9K

2 V

Functional safety

MTTF (40 °C) 380 a

Interface

Switching output PNP normally open/normally

closed (NO/NC)

Material

Housing material PC
ABS

Material sensing surface PMMA

Mechanical data

 $\begin{array}{ll} \textbf{Dimension} & 23 \times 51 \times 52.4 \text{ mm} \\ \textbf{Mounting part} & \text{Screw M4} \\ \textbf{Tightening torque max.} & 1.5 \text{ Nm} \\ \end{array}$

Optical features

Ambient light max. 5000 Lux

Average power Po max. 1 mW

Beam characteristic Collimated

Laser class per IEC 60825-1 1

Light spot size 2.2 x 2.2 mm at 800 mm

Light type Laser red light

Principle of optical operation Diffuse sensor, energetic Pulse duration t max. 3.0 µs

Pulse frequency125 kHzPulse power Pp max.4.8 mW

Switching function, optical Light/dark switching

650 nm

Wave length

Range/Distance

Hysteresis H max. (% of Sr) 15.0 %
Range 5...1200 mm
Rated operating distance Sn 1.2 m Adjustable

Remarks

Teach-in also possible when object is in motion.

Reference object (target): gray card, 200 x 200, 90 % remission, axial approach.

For additional information, refer to user's guide.

Order accessories separately.

Do not press key using a pointed tool.

The sensor is functional again after the overload has been eliminated.

For more information about MTTF and B10d see MTTF / B10d Certificate

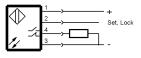
Indication of the MTTF- / B10d value does not represent a binding composition and/or life expectancy assurance; these are simply experiential values with no warranty implications. These declared values also do not extend the expiration period for defect claims or affect it in any way.

Connector Drawings





Wiring Diagrams



Opto Symbols



Warning Symbols



LASER CLASS 1 per IEC 60825-1

Subject to change without notice: 253184