

1) Output function, 2) Optical axis, 3) Light-on/dark-on, 4) Sensitivity



### Basic features

|                               |                             |
|-------------------------------|-----------------------------|
| <b>Approval/Conformity</b>    | CE<br>UKCA<br>WEEE          |
| <b>Basic standard</b>         | IEC 60947-5-2               |
| <b>Principle of operation</b> | Fork sensor                 |
| <b>Series</b>                 | A                           |
| <b>Style</b>                  | Fork<br>Straight connection |

### Electrical connection

|  |                             |
|--|-----------------------------|
| <b>Connection</b>                        | Connector, M8x1-Male, 3-pin |
| <b>Contact, surface protection</b>       | Gold plated                 |
| <b>Polarity reversal protected</b>       | yes                         |
| <b>Protection against device mix-ups</b> | yes                         |
| <b>Short-circuit protection</b>          | yes                         |

### Display/Operation

|                 |                                 |
|-----------------|---------------------------------|
| <b>Adjuster</b> | Potentiometer 270° (2x)         |
| <b>Display</b>  | Output function- LED yellow     |
| <b>Setting</b>  | Sensitivity<br>Light-on/dark-on |

Photoelectric Sensors  
**BGL 30A-009-S49**  
Order Code: BGL004T

**BALLUFF**

**Electrical data**

|  |             |
|--|-------------|
| Load capacitance max. at Ue                        | 0.5 $\mu$ F |
| No-load current I <sub>o</sub> max. at Ue          | 20 mA       |
| Operating voltage U <sub>b</sub>                   | 10...30 VDC |
| Rated insulation voltage U <sub>i</sub>            | 75 V DC     |
| Rated operating current I <sub>e</sub>             | 200 mA      |
| Rated operating voltage U <sub>e</sub> DC          | 24 V        |
| Ready delay t <sub>v</sub> max.                    | 200 ms      |
| Residual current I <sub>r</sub> max.               | 50 $\mu$ A  |
| Ripple max. (% of U <sub>e</sub> )                 | 10 %        |
| Switching frequency                                | 5000 Hz     |
| Turn-off delay t <sub>off</sub> max.               | 0.1 ms      |
| Turn-on delay t <sub>on</sub> max.                 | 0.1 ms      |
| Utilization category                               | DC -13      |
| Voltage drop U <sub>d</sub> max. at I <sub>e</sub> | 3 V         |

**Environmental conditions**

|                         |  |
|-------------------------|--|
| Ambient temperature     | -10...60 °C                                |
| EN 60068-2-27, Shock    | Half-sinus, 30 g <sub>n</sub> , 11 ms, 3x6 |
| EN 60068-2-6, Vibration | 55 Hz, amplitude 1 mm, 3x30 min            |
| IP rating               | IP67                                       |

**Functional safety**

|              |       |
|--------------|-------|
| MTTF (40 °C) | 195 a |
|--------------|-------|

**Interface**

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

**Remarks**

The sensor is functional again after the overload has been eliminated.  
Only for applications per NFPA 79 (machines with a supply voltage of maximum 600 V). Use an R/C (CYJV2) cable with suitable properties for attaching the device.

Reference object (target): Steel plate, 50 x 50, thickness 0.5 mm, lateral approach.

Factory default setting for switching output: Normally open.

For additional information, refer to user's guide.

Order accessories separately.

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.

**Material**

|                          |                            |
|--------------------------|----------------------------|
| Housing material         | Zinc, Die casting, Painted |
| Material sensing surface | Glass                      |
| Surface protection       | Painted                    |

**Mechanical data**

|               |                 |
|---------------|-----------------|
| Dimension     | 10 x 50 x 58 mm |
| Fork opening  | 30 mm           |
| Mounting part | Screw M4        |

**Optical features**

|                                   |                                 |
|-----------------------------------|---------------------------------|
| Ambient light max.                | 5000 Lux                        |
| Average power P <sub>o</sub> max. | 390 $\mu$ W                     |
| Beam characteristic               | Collimated                      |
| Laser class per IEC 60825-1       | 1                               |
| Light spot size                   | $\varnothing$ 0.3 mm Light exit |
| Light type                        | Laser red light                 |
| Principle of optical operation    | Through-beam sensor             |
| Smallest part typ.                | 0.05 mm                         |
| Special optical feature           | Transparency detection          |
| Switching function, optical       | dark-on/light-on                |
| Wave length                       | 655 nm                          |

**Range/Distance**

|                              |            |
|------------------------------|------------|
| Hysteresis H max.            | 0.02 mm    |
| Repeat accuracy lateral max. | 10 $\mu$ m |

**Connector Drawings**



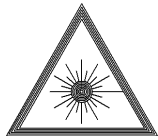
## Wiring Diagrams



## Opto Symbols



## Warning Symbols



LASER CLASS 1 per IEC 60825-1