

1) Optical axis, 2) Operating voltage, 3) Output function normally open



**Basic features**

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

**Electrical connection**

|  |  |
|--|--|
| <b>Cable diameter D</b>                  | 4.20 mm  |
| <b>Cable length L</b>                    | 0.25 m   |
| <b>Connection</b>                        | Cable with connector, M12x1-<br>Male, 4-pin, 0.25 m, PUR |
| <b>Polarity reversal protected</b>       | yes  |
| <b>Protection against device mix-ups</b> | yes  |
| <b>Short-circuit protection</b>          | yes  |

**Display/Operation**

|                |   |
|----------------|---|
| <b>Display</b> | Output function- LED yellow<br>LED green: Power |
|----------------|---|

Photoelectric Sensors  
**BGL 50F-001-00,2-S4**  
**Order Code: BGL004L**

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**Electrical data**

|  |             |
|--|-------------|
| Load capacitance max. at Ue                        | 0.5 µF      |
| No-load current I <sub>o</sub> max. at Ue          | 35 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 µA       |
| Ripple max. (% of U <sub>e</sub> )                 | 10 %        |
| Switching frequency                                | 3000 Hz     |
| Turn-off delay t <sub>off</sub> max.               | 0.167 ms    |
| Turn-on delay t <sub>on</sub> max.                 | 0.167 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, 100 g <sub>n</sub> , 2 ms, 3x8000<br>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/IP69K  |

**Interface**

|                  |  |
|------------------|--|
| Switching output | 2x PNP normally open/normally closed (NO/NC) |
|------------------|--|

**Material**

|                          |                        |
|--------------------------|------------------------|
| Housing material         | 1.4404 stainless steel |
| Material jacket          | PUR                    |
| Material sensing surface | PMMA                   |

**Mechanical data**

|               |                 |
|---------------|-----------------|
| Dimension     | 12 x 85 x 86 mm |
| Fork opening  | 50 mm           |
| Mounting part | Screw M4        |

**Optical features**

|                                |                      |
|--------------------------------|----------------------|
| Ambient light max.             | 5000 Lux             |
| Beam characteristic            | Divergent            |
| LED group per IEC 62471        | Exempt Group         |
| Light spot size                | Ø 1.25 mm Light exit |
| Light type                     | LED, red light       |
| Principle of optical operation | Fork sensor          |
| Smallest part typ.             | 0.80 mm              |
| Switching function, optical    | dark-on/light-on     |
| Wave length                    | 660 nm               |

**Range/Distance**

|                              |         |
|------------------------------|---------|
| Hysteresis H max.            | 0.05 mm |
| Repeat accuracy lateral max. | 25 µm   |

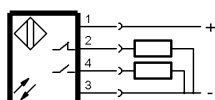
**Remarks**

Order accessories separately.  
 For additional information, refer to user's guide.  
 The sensor is functional again after the overload has been eliminated.  
 Reference object (target): Steel plate, 50 x 50, thickness 0.5 mm, lateral approach.

**Connector Drawings**



**Wiring Diagrams**



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Opto Symbols

