

1) Display and control panel, 2) Optical axis, 3) rotatable 270°



IND. CONT. EQ  
 77HA  
 for use in the secondary of  
 a class 2 source of supply



### Basic features

|                               |                                     |
|-------------------------------|-------------------------------------|
| <b>Approval/Conformity</b>    | CE<br>cULus<br>WEEE                 |
| <b>Basic standard</b>         | IEC 60947-5-2                       |
| <b>Principle of operation</b> | Photoelectric sensor                |
| <b>Series</b>                 | 26K                                 |
| <b>Style</b>                  | Square<br>Connection can be rotated |

### Display/Operation

|                 |   |
|-----------------|---|
| <b>Adjuster</b> | Potentiometer 270°  |
| <b>Display</b>  | Output function- LED yellow<br>Error - LED red<br>Switching dist. - dig. disp.<br>Stability - LED green |
| <b>Setting</b>  | Sensitivity (Sn)  |

### Electrical connection

|                                    |                              |
|------------------------------------|------------------------------|
| <b>Connection</b>                  | Connector, M12x1-Male, 4-pin |
| <b>Polarity reversal protected</b> | yes                          |
| <b>Short-circuit protection</b>    | yes                          |

### Electrical data

|   |             |
|---|-------------|
| <b>Load capacitance max. at Ue</b>                      | 1 µF        |
| <b>No-load current I<sub>o</sub> max. at Ue</b>         | 30 mA       |
| <b>Operating voltage U<sub>b</sub></b>                  | 10...30 VDC |
| <b>Protection class</b>                                 | II          |
| <b>Rated insulation voltage U<sub>i</sub></b>           | 75 V DC     |
| <b>Rated operating current I<sub>e</sub></b>            | 200 mA      |
| <b>Rated operating voltage U<sub>e</sub> DC</b>         | 24 V        |
| <b>Ripple max. (% of U<sub>e</sub>)</b>                 | 10 %        |
| <b>Switching frequency</b>                              | 1000 Hz     |
| <b>Turn-off delay t<sub>off</sub> max.</b>              | 0.5 ms      |
| <b>Turn-on delay t<sub>on</sub> max.</b>                | 0.5 ms      |
| <b>Utilization category</b>                             | DC -13      |
| <b>Voltage drop U<sub>d</sub> max. at I<sub>e</sub></b> | 2.4 V       |

Photoelectric Sensors  
**BOS 26K-PA-1QE-S4-C**  
**Order Code: BOS008M**



**Environmental conditions**

|                                |  |
|--------------------------------|--|
| <b>Ambient temperature</b>     | -20...60 °C                            |
| <b>EN 60068-2-27, Shock</b>    | Half-sinus, 30 gn, 11 ms, 3x6          |
| <b>EN 60068-2-6, Vibration</b> | 10...55 Hz, amplitude 0.5 mm, 3x30 min |
| <b>Protection degree</b>       | IP67                                   |

**Functional safety**

|                     |     |
|---------------------|-----|
| <b>MTTF (40 °C)</b> | 6 a |
|---------------------|-----|

**Material**

|                                 |      |
|---------------------------------|------|
| <b>Housing material</b>         | ABS  |
| <b>Material sensing surface</b> | PMMA |

**Mechanical data**

|                  |                 |
|------------------|-----------------|
| <b>Dimension</b> | 17 x 50 x 50 mm |
| <b>Mounting</b>  | Screw M4        |

**Optical features**

|                                       |                        |
|---------------------------------------|------------------------|
| <b>Ambient light max.</b>             | 5000 Lux               |
| <b>Light type</b>                     | LED, red light         |
| <b>Polarizing filter</b>              | yes                    |
| <b>Principle of optical operation</b> | Retroreflective sensor |
| <b>Special optical feature</b>        | Coaxial optics         |
| <b>Switching function, optical</b>    | Light-on<br>dark-on    |
| <b>Wave length</b>                    | 660 nm                 |

**Output/Interface**

|                         |   |
|-------------------------|---|
| <b>Switching output</b> | PNP normally open (NO)<br>PNP NC Pins 4-2 |
|-------------------------|---|

**Range/Distance**

|                                    |                  |
|------------------------------------|------------------|
| <b>Range</b>                       | 0...5.5 m        |
| <b>Rated operating distance Sn</b> | 5.5 m Adjustable |

**Remarks**

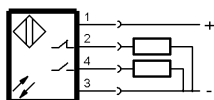
The sensor is functional again after the overload has been eliminated.  
 Order accessories separately.  
 Only for applications per NFPA 79 (machines with a supply voltage of maximum 600 V). Use an R/C (CYJV2) cable with suitable properties for attaching the device.  
 For additional information, refer to user's guide.  
 Polarizing filters prevent spurious switching due to reflecting and shiny parts.  
 Actuation object (target): gray card, 200 x 200, 90 % remission, lateral approach, approach direction vertical to lens axis plane.  
 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.

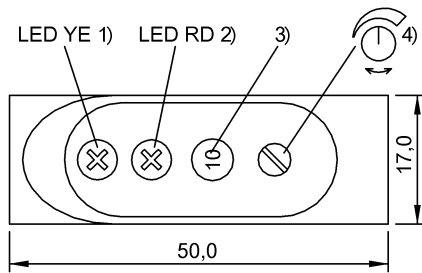
**Connector Drawings**



**Wiring Diagrams**



## Help Views



- 1) Output function
- 2) Stability
- 3) Switching dist. dig. displ.
- 4) Sensitivity

## Opto Symbols

