

**overview**

- Outstanding reliability and unrivalled immunity against ambient light
- Linear beam for complete detection of irregular, perforated objects
- Precise detection thanks to laser light source
- Manipulation-proof, simple teach-in via qTeach or line teach
- IO-Link for extended parameterization options and additional diagnostic data
- Robust housing with stainless steel spacer sleeves



**Technical data**

**general data**

|                                     |                           |
|-------------------------------------|---------------------------|
| type                                | background suppression    |
| version                             | line beam                 |
| light source                        | pulsed red laser diode    |
| sensing distance Tw                 | 20 ... 120 mm             |
| sensing range Tb                    | 3 ... 132 mm              |
| smallest object recognizable typ.   | 8 mm at 60 mm             |
| alignment / soiled lens indicator   | flashing output indicator |
| power on indication                 | LED green                 |
| output indicator                    | LED yellow                |
| sensing distance adjustment         | Teach-in and IO-Link      |
| laser class                         | 1                         |
| distance to focus                   | 60 mm                     |
| wave length                         | 680 nm                    |
| suppression of reciprocal influence | yes                       |
| beam type                           | line                      |
| alignment optical axis              | < 1,5°                    |

**electrical data**

|                              |                             |
|------------------------------|-----------------------------|
| response time / release time | < 0,25 ms (High Speed Mode) |
| jitter                       | < 0,06 ms (High Speed Mode) |
| voltage supply range +Vs     | 10 ... 30 VDC               |

**electrical data**

|                                    |                      |
|------------------------------------|----------------------|
| current consumption max. (no load) | 20 mA (@ 10 VDC)     |
| current consumption typ.           | 10 mA (@ 24 VDC)     |
| voltage drop Vd                    | < 2 VDC              |
| output function                    | light / dark operate |
| output circuit                     | push-pull            |
| output current                     | < 50 mA              |
| short circuit protection           | yes                  |
| reverse polarity protection        | yes                  |

**communication interface**

|                       |   |
|-----------------------|---|
| baud rate             | 230,4 kBaud (COM 3)   |
| adjustable parameters | switching point<br>switching hysteresis<br>time filters<br>LED status indicators<br>output logic<br>counter<br>operation mode<br>deactivate the sensor element<br>Find Me function<br>Teach-in mode |
| IO-Link port type     | Class A   |
| process data length   | 32 Bit  |

**Technical data**

**communication interface**

|                        |   |
|------------------------|---|
| process data structure | Bit 0 = SSC1 (presence)<br>Bit 2 = quality<br>Bit 3 = alarm<br>Bit 5 = SSC4 (counter)<br>Bit 16-31 = 16 Bit measurement |
|------------------------|---|

|           |              |
|-----------|--------------|
| interface | IO-Link V1.1 |
|-----------|--------------|

|                 |   |
|-----------------|---|
| additional data | excess gain<br>operating cycles<br>device temperature |
|-----------------|---|

|            |          |
|------------|----------|
| cycle time | ≥ 0,6 ms |
|------------|----------|

**mechanical data**

|                  |         |
|------------------|---------|
| width / diameter | 8 mm    |
| height / length  | 25,1 mm |

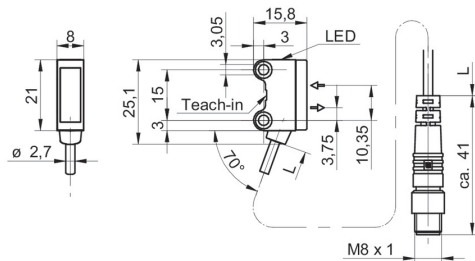
**mechanical data**

|                       |                                      |
|-----------------------|--------------------------------------|
| depth                 | 15,8 mm                              |
| type                  | rectangular                          |
| mechanical mounting   | sleeve smooth (stainless steel)      |
| housing material      | plastic (ASA, PMMA)                  |
| front (optics)        | PMMA                                 |
| connection types      | flylead connector M8 4 pin, L=200 mm |
| cable characteristics | PVC / PVC 4 x 0,08 mm <sup>2</sup>   |

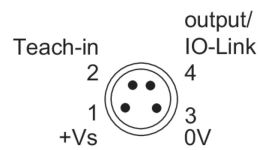
**ambient conditions**

|                       |                |
|-----------------------|----------------|
| operating temperature | -20 ... +50 °C |
| protection class      | IP 67          |

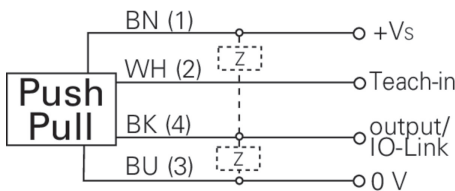
**dimension drawing**



**pin assignment**



**connection diagram**

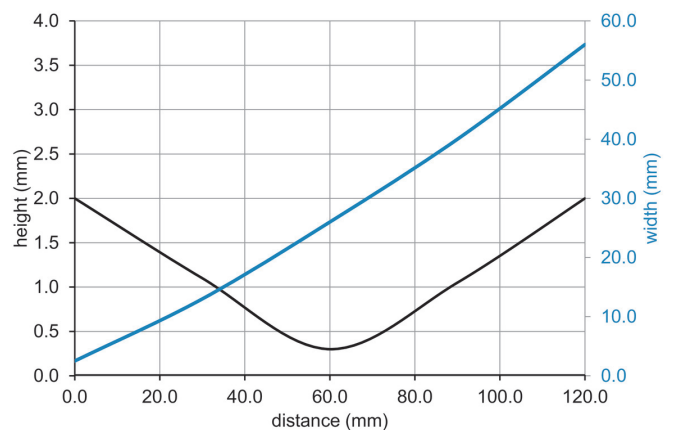


**laser warning**

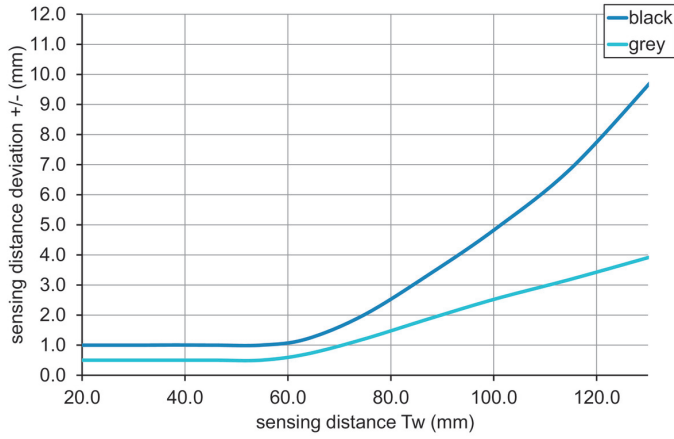


IEC 60825-1/2014  
Complies with 21 CFR 1040.10 and 1040.11  
except for deviations pursuant to laser  
notice No. 50, dated June 24, 2007

**beam characteristic (typically)**



**sensing distance diagram**



**hysteresis curve**

