

## Overview

- Outstanding reliability and unrivalled immunity against ambient light
- Focused laser beam for small objects or gaps
- 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



Picture similar



## Technical data

| General data                        |                             | Electrical data             |                                                                                                                                                                                                     |
|-------------------------------------|-----------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type                                | Background suppression      | Output current              | 50 mA                                                                                                                                                                                               |
| Sensing distance Tw                 | 20 ... 120 mm               | Short circuit protection    | Yes                                                                                                                                                                                                 |
| Sensing range Tb                    | 3 ... 132 mm                | Reverse polarity protection | Yes                                                                                                                                                                                                 |
| Smallest object recognizable typ.   | 0.05 mm at 40 mm            | Communication interface     |                                                                                                                                                                                                     |
| Power on indication                 | LED green                   | Interface                   | IO-Link V1.1                                                                                                                                                                                        |
| Alignment / soiled lens indicator   | Flashing output indicator   | IO-Link port type           | Class A                                                                                                                                                                                             |
| Output indicator                    | LED yellow                  | Baud rate                   | 230,4 kBaud (COM 3)                                                                                                                                                                                 |
| Sensing distance adjustment         | Teach-in and IO-Link        | Cycle time                  | ≥ 0.6 ms                                                                                                                                                                                            |
| Distance to focus                   | 40 mm                       | Process data length         | 32 Bit                                                                                                                                                                                              |
| Suppression of reciprocal influence | Yes                         | 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                                                                             |
| Beam type                           | Point                       | 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 |
| Alignment optical axis              | < 1,5°                      | Additional data             | Excess gain<br>Operating cycles<br>Device temperature                                                                                                                                               |
| Light Source                        |                             | Mechanical data             |                                                                                                                                                                                                     |
| Light source                        | Pulsed red laser diode      | Width / diameter            | 8 mm                                                                                                                                                                                                |
| Laser class                         | 1                           | Height / length             | 25.1 mm                                                                                                                                                                                             |
| Wave length                         | 680 nm                      | Depth                       | 15.8 mm                                                                                                                                                                                             |
| Electrical data                     |                             | Design                      | Rectangular                                                                                                                                                                                         |
| Response time / release time        | < 0.25 ms (High Speed Mode) |                             |                                                                                                                                                                                                     |
| Jitter                              | < 0.06 ms (High Speed Mode) |                             |                                                                                                                                                                                                     |
| Voltage supply range +Vs            | 10 ... 30 VDC               |                             |                                                                                                                                                                                                     |
| 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                   |                             |                                                                                                                                                                                                     |

#### Technical data

##### Mechanical data

|                     |                                      |
|---------------------|--------------------------------------|
| Mechanical mounting | Sleeve smooth (stainless steel)      |
| Housing material    | Plastic (ASA, PMMA)                  |
| Front (optics)      | PMMA                                 |
| Connection types    | Flylead connector M8 4 pin, L=200 mm |

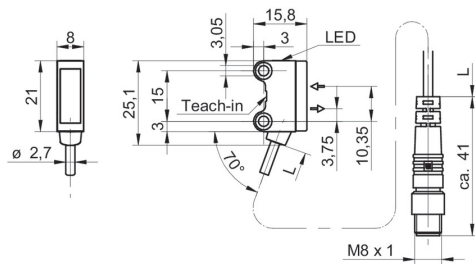
##### Mechanical data

|                       |                                    |
|-----------------------|------------------------------------|
| Cable characteristics | PVC / PVC 4 x 0.08 mm <sup>2</sup> |
|-----------------------|------------------------------------|

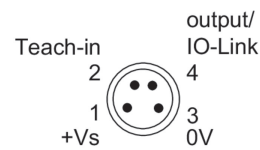
##### Ambient conditions

|                       |                |
|-----------------------|----------------|
| Protection class      | IP 67          |
| Operating temperature | -20 ... +50 °C |

#### Dimension drawing



#### Pin assignment



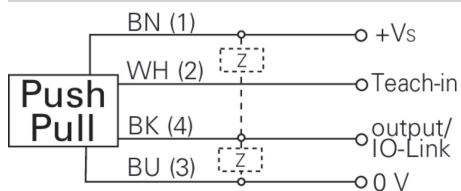
#### Laser warning

### CLASS 1 LASER PRODUCT

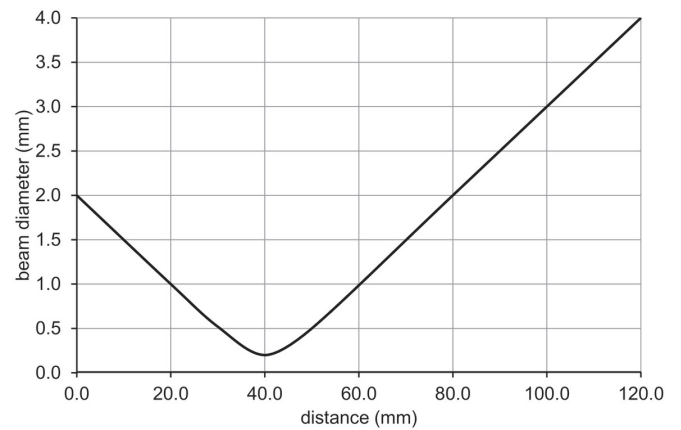
IEC 60825-1/2014

Complies with 21 CFR 1040.10 and 1040.11 except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019

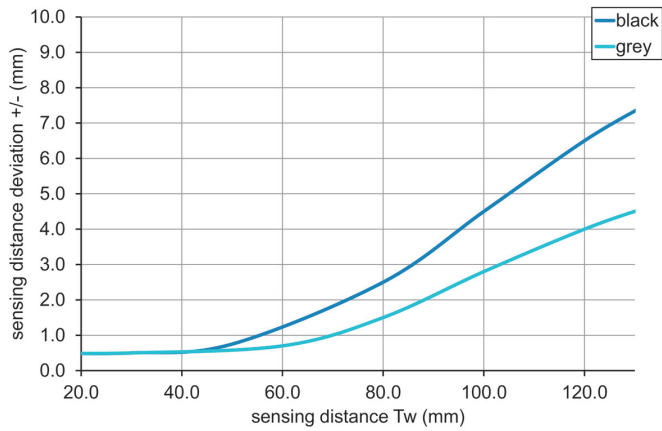
#### Connection diagram



#### Beam characteristic (typically)



**Sensing distance diagram**



**Hysteresis curve**

