

## 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

|                                     |                           |
|-------------------------------------|---------------------------|
| Type                                | Background suppression    |
| Sensing distance Tw                 | 20 ... 120 mm             |
| Sensing range Tb                    | 3 ... 132 mm              |
| Smallest object recognizable typ.   | 0.05 mm at 40 mm          |
| Power on indication                 | LED green                 |
| Alignment / soiled lens indicator   | Flashing output indicator |
| Output indicator                    | LED yellow                |
| Sensing distance adjustment         | Teach-in and IO-Link      |
| Distance to focus                   | 40 mm                     |
| Suppression of reciprocal influence | Yes                       |
| Beam type                           | Point                     |
| Alignment optical axis              | < 1,5°                    |

### Light Source

|              |                        |
|--------------|------------------------|
| Light source | Pulsed red laser diode |
| Laser class  | 1                      |
| Wave length  | 680 nm                 |

### 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               |
| 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                   |

### Electrical data

|                             |       |
|-----------------------------|-------|
| Output current              | 50 mA |
| Short circuit protection    | Yes   |
| Reverse polarity protection | Yes   |

### Communication interface

|                        |                                                                                                                                                                                                     |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Interface              | IO-Link V1.1                                                                                                                                                                                        |
| IO-Link port type      | Class A                                                                                                                                                                                             |
| Baud rate              | 230,4 kBaud (COM 3)                                                                                                                                                                                 |
| Cycle time             | ≥ 0.6 ms                                                                                                                                                                                            |
| Process data length    | 32 Bit                                                                                                                                                                                              |
| 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                                                                             |
| 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 |

|                 |                                                       |
|-----------------|-------------------------------------------------------|
| Additional data | Excess gain<br>Operating cycles<br>Device temperature |
|-----------------|-------------------------------------------------------|

### Mechanical data

|                  |             |
|------------------|-------------|
| Width / diameter | 8 mm        |
| Height / length  | 25.1 mm     |
| Depth            | 15.8 mm     |
| Design           | Rectangular |

#### Technical data

##### Mechanical data

|                     |                                 |
|---------------------|---------------------------------|
| Mechanical mounting | Sleeve smooth (stainless steel) |
| Housing material    | Plastic (ASA, PMMA)             |
| Front (optics)      | PMMA                            |
| Connection types    | Cable 4 pin, 2 m                |

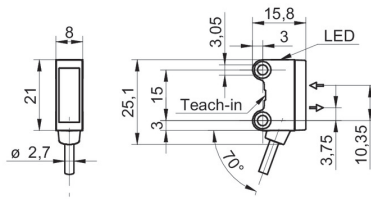
##### Mechanical data

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

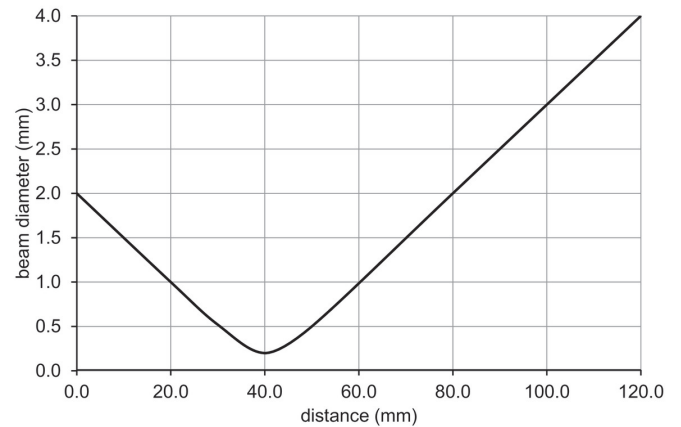
##### Ambient conditions

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

#### Dimension drawing



#### Beam characteristic (typically)



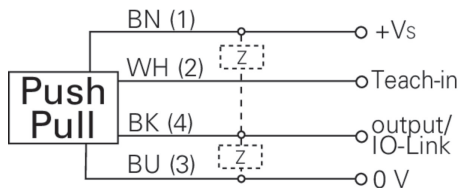
#### Laser warning

### CLASS 1 LASER PRODUCT

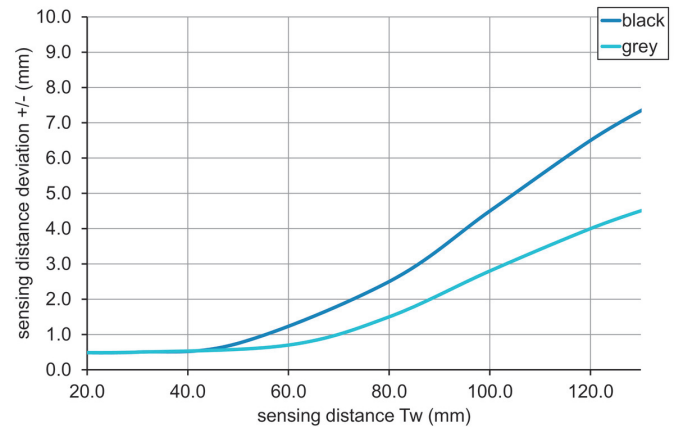
IEC 60825-1/2014

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



#### Sensing distance diagram



#### Hysteresis curve

