

## overview

- Extended functional reserve capacities for maximum reliability
- Long-term stable detection of transparent objects thanks to compensation of environmental influences
- Parallel laser beam for uniform detection over the measuring range
- qTeach - tamper-proof, simple teach-in with ferromagnetic tool
- Quick mounting by means of M3 threaded bushes made of stainless steel



## Technical data

### general data

|                                     |                               |
|-------------------------------------|-------------------------------|
| type                                | retro-reflective sensor       |
| version                             | transparency object detection |
| light source                        | pulsed red laser diode        |
| actual range Sb                     | 0,8 m                         |
| nominal range Sn                    | 1,2 m                         |
| polarization filter                 | yes                           |
| minimal signal attenuation          | 10 %                          |
| alignment / soiled lens indicator   | flashing output indicator     |
| output indicator                    | LED yellow                    |
| power on indication                 | LED green                     |
| sensitivity adjustment              | qTeach                        |
| laser class                         | 1                             |
| distance to focus                   | parallel beam                 |
| wave length                         | 680 nm                        |
| suppression of reciprocal influence | yes                           |
| alignment optical axis              | < 1,5°                        |

### electrical data

|                              |               |
|------------------------------|---------------|
| response time / release time | < 0,25 ms     |
| jitter                       | < 0,06 ms     |
| 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                     | NPN complementary    |
| output current                     | < 50 mA              |
| short circuit protection           | yes                  |
| reverse polarity protection        | yes                  |

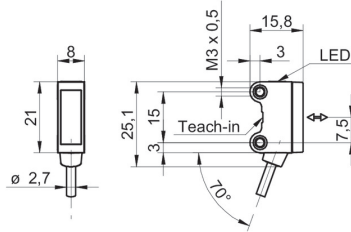
### mechanical data

|                       |                                       |
|-----------------------|---------------------------------------|
| width / diameter      | 8 mm                                  |
| height / length       | 25,1 mm                               |
| depth                 | 15,8 mm                               |
| type                  | rectangular                           |
| mechanical mounting   | threaded sleeves M3 (stainless steel) |
| housing material      | plastic (ASA, PMMA)                   |
| front (optics)        | PMMA                                  |
| connection types      | cable 4 pin, 2 m                      |
| cable characteristics | PVC / PVC 4 x 0,08 mm²                |

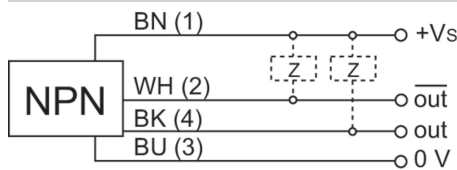
### ambient conditions

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

#### dimension drawing



#### connection diagram



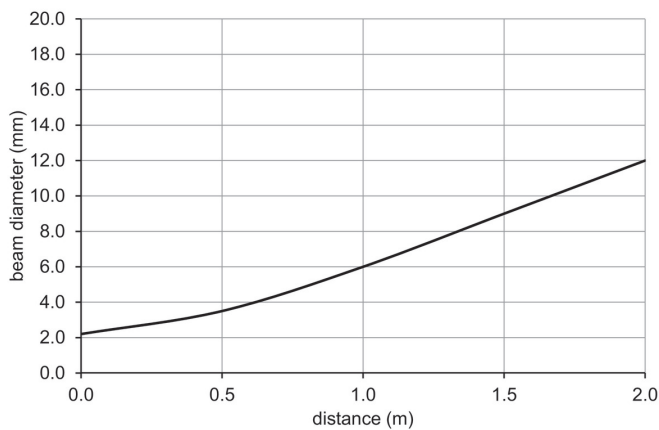
#### laser warning

**CLASS 1 LASER  
PRODUCT**

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)



#### excess gain curve

