

#### overview

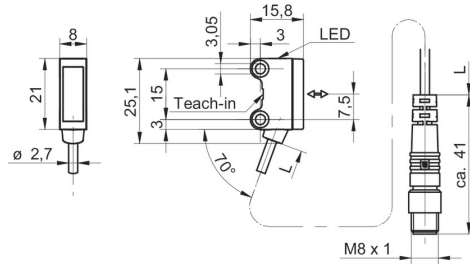
- Extended functional reserve capacities for maximum reliability
- Long-term stable detection of transparent objects thanks to compensation of environmental influences
- Parallel laser beam for uniform detection over the measuring range
- qTeach - tamper-proof, simple teach-in with ferromagnetic tool
- Robust housing with stainless steel spacer sleeves



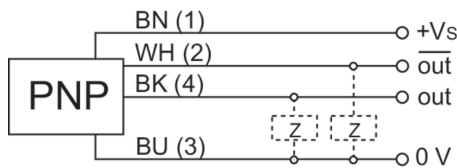
#### Technical data

| general data                        |                               | electrical data                    |                                      |
|-------------------------------------|-------------------------------|------------------------------------|--------------------------------------|
| type                                | retro-reflective sensor       | current consumption max. (no load) | 20 mA (@ 10 VDC)                     |
| version                             | transparency object detection | current consumption typ.           | 10 mA (@ 24 VDC)                     |
| light source                        | pulsed red laser diode        | voltage drop Vd                    | < 2 VDC                              |
| actual range Sb                     | 0,8 m                         | output function                    | light / dark operate                 |
| nominal range Sn                    | 1,2 m                         | output circuit                     | PNP complementary                    |
| polarization filter                 | yes                           | output current                     | < 50 mA                              |
| minimal signal attenuation          | 10 %                          | short circuit protection           | yes                                  |
| alignment / soiled lens indicator   | flashing output indicator     | reverse polarity protection        | yes                                  |
| output indicator                    | LED yellow                    | mechanical data                    |                                      |
| power on indication                 | LED green                     | width / diameter                   | 8 mm                                 |
| sensitivity adjustment              | qTeach                        | height / length                    | 25,1 mm                              |
| laser class                         | 1                             | depth                              | 15,8 mm                              |
| distance to focus                   | parallel beam                 | type                               | rectangular                          |
| wave length                         | 680 nm                        | mechanical mounting                | sleeve smooth (stainless steel)      |
| suppression of reciprocal influence | yes                           | housing material                   | plastic (ASA, PMMA)                  |
| alignment optical axis              | < 1,5°                        | front (optics)                     | PMMA                                 |
| electrical data                     |                               | connection types                   | flylead connector M8 4 pin, L=200 mm |
| response time / release time        | < 0,25 ms                     | cable characteristics              | PVC / PVC 4 x 0,08 mm <sup>2</sup>   |
| jitter                              | < 0,06 ms                     | ambient conditions                 |                                      |
| voltage supply range +Vs            | 10 ... 30 VDC                 | operating temperature              | -20 ... +50 °C                       |
|                                     |                               | protection class                   | IP 67                                |

#### dimension drawing



#### connection diagram



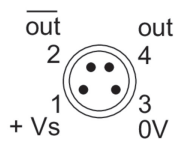
#### laser warning

**CLASS 1 LASER  
PRODUCT**

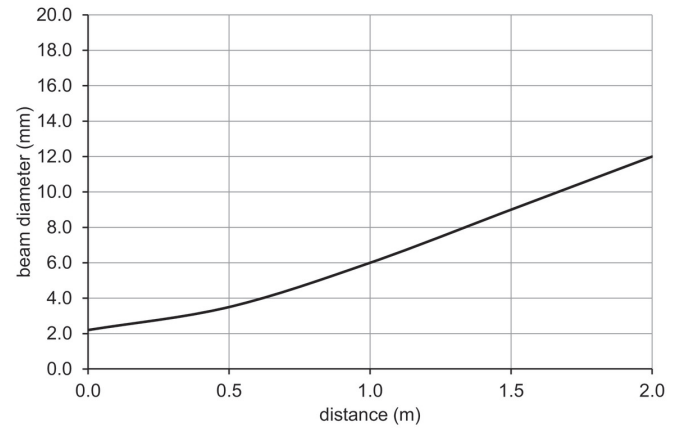
IEC 60825-1/2014

Complies with 21 CFR 1040.10 and 1040.11  
except for deviations pursuant to laser  
notice No. 50, dated June 24, 2007

#### pin assignment



#### beam characteristic (typically)



#### excess gain curve

