**Photoelectric sensors**
**W8 Inox, Photoelectric proximity sensor,**
**energetic**

WTE8-N2231V

**SICK**
Sensor Intelligence.

| | |
|---|---|
| **Model Name** | **> WTE8-N2231V** |
| **Part No.** | **> 6041471** |

*Illustration may differ*

## At a glance

- Rugged IP 69K stainless steel housing 1.4404/316L
- Front screen made of high-performance PPSU plastic that is resistant to heat and chemicals
- Potentiometer made of mechanically stable, high-performance PEEK plastic
- Constructed from FDA-approved materials
- Well-defined, highly visible light spot
- M3 threaded mounting holes and stainless steel mounting bracket (1.4301/304) included with delivery

## Your benefits

- High reliability due to an IP 69K stainless steel housing, which withstands aggressive cleaning agents or cooling lubricants
- Quick and easy mounting due to universally compatible M3 threaded mounting holes
- Compact housing saves space (equal to W8 plastic version)
- Highly visible light spot provides easy alignment
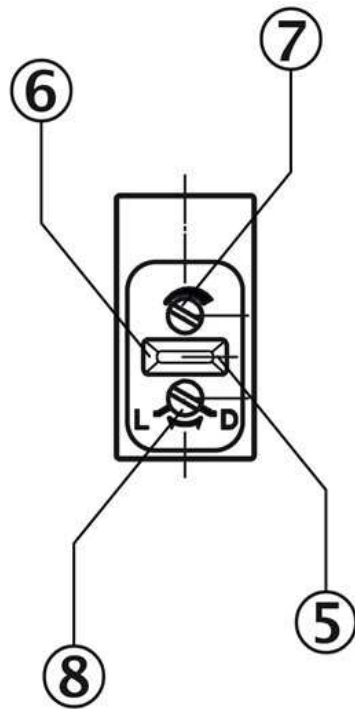- All necessary accessories are included, which simplifies installation

$C \epsilon$ ⬦III IP 69K

## Features

| | |
|---|---|
| Sensor/detection principle: | Photoelectric proximity sensor, energetic |
| Dimensions (W x H x D): | 11 mm x 21 mm x 33.3 mm |
| Housing design (light emission): | Rectangular |
| Sensing range max.: | 0 mm ... 950 mm [1] |
| Sensing range: | 0 mm ... 700 mm [2] |
| Type of light: | Visible red light |
| Light source: | LED [3] |
| Wave length: | 645 nm |
| Light spot diameter (distance): | Ø 35 mm (700 mm) |
| Adjustment of operating distance: | Potentiometer, 270° |
| Angle of dispersion: | Ca. 3 ° |

[1] [2] Object with 90 % reflectance (referred to standard white DIN 5033)   [3] Average service life of 100,000 h at $T_A$ = +25 °C

## Mechanics/electronics

| | |
|---|---|
| Supply voltage: | 10 V DC ... 30 V DC [1] |
| Residual ripple: | ± 10 % [2] |
| Power consumption: | ≤ 30 mA [3] |

| | |
|---|---|
| Output type: | NPN, Light/dark-switching, selectable via light/dark selector |
| Signal voltage NPN HIGH/LOW: | Approx. VS/< 1.8 V |
| Output current Imax.: | 100 mA |
| Response time: | ≤ 0.5 ms [4] |
| Switching frequency: | 1,000 Hz [5] |
| Electrical connection: | Connector M8, 4-pin |
| Circuit protection::: | A, B, D [6] [7] [8] |
| Protection class: | III |
| Weight: | 83.6 g |
| Housing material: | Stainless steel V4A (1.4404, 316L) |
| Enclosure rating: | IP 69K |
| Items supplied: | Stainless steel mounting bracket (1.4301/304) BEF-W100-A |
| Ambient temperature operation: | -30 °C ... 60 °C [9] |
| Ambient storage temperature: | -40 °C ... 70 °C |
| UL File-No.: | FDA |

[1] Limit values, reverse-polarity protected operation in short-circuit protected network max. 8 A [2] May not exceed or fall short of $V_S$ tolerances [3] Without load [4] Signal transit time with resistive load [5] With light/dark ratio 1:1 [6] A = $V_S$ connections reverse-polarity protected [7] B = inputs and output reverse-polarity protected [8] D = outputs overcurrent and short-circuit protected [9] At an air humidity of 35 ... 95 %

## Dimensional drawing



|1| Threaded mounting hole M3, max. tightening torque of 1.8 Nm for M3 screw with washer, spring ring and mounting bracket ( 2 x 3.2 mm borehole
|2| Center of optical axis, receiver
|3| Center of optical axis, sender
|4| Connection

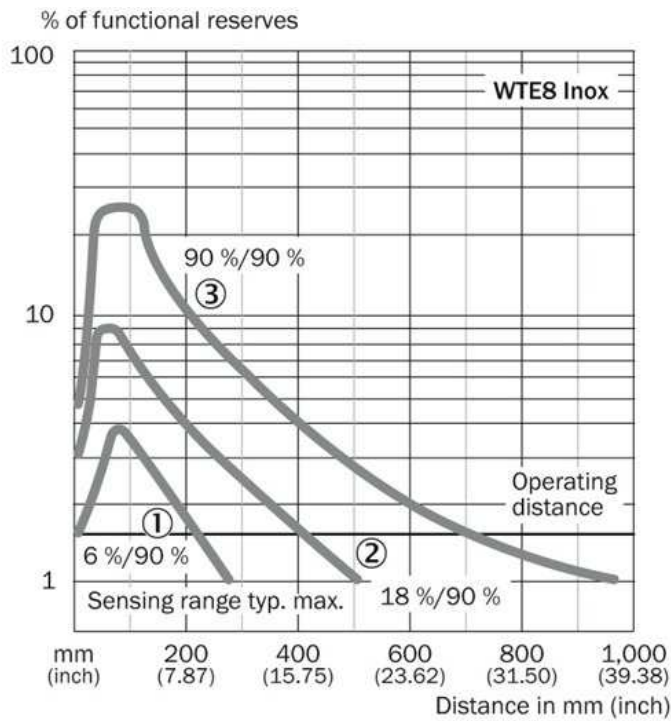All dimensions in mm (inch)

## Adjustments possible



|5| Orange LED indicator : switching output active
|6| LED indicator green: stability
   indicator goes on if light received < 0.
   9 or > 1.1 (based on switching threshold Q = 1)
|7| Sensitivity control; Potentiometer 270°
|8| Light/ dark rotary switch L =
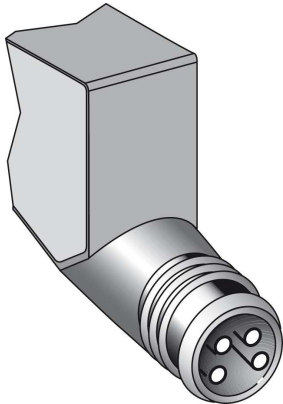   light switching, D = dark switching

## Connection diagram



brn 1  + (L+)

wht 2  not connected

blu 3  - (M)

blk 4  Q

## Characteristic curve



% of functional reserves

WTE8 Inox
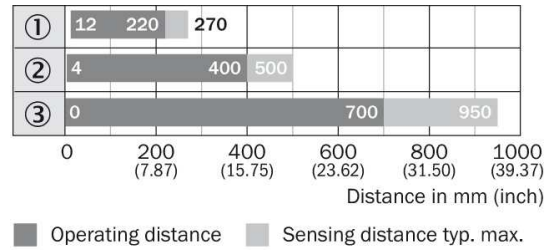
|1| Sensing range on black, 6 % remission
|2| Sensing range on grey, 18 % remission
|3| Sensing range on white, 90 % remission

90 %/90 %
③
Operating distance
6 %/90 %
① ②
Sensing range typ. max.
18 %/90 %

| mm (inch) | 200 (7.87) | 400 (15.75) | 600 (23.62) | 800 (31.50) | 1,000 (39.38) |

Distance in mm (inch)

## Connection type



## Sensing range diagram

| | | | | | | |
|---|---|---|---|---|---|---|
| ① | 12 | 220 | 270 | | | |
| ② | 4 | | 400 | 500 | | |
| ③ | 0 | | | 700 | | 950 |

| 0 | 200 (7.87) | 400 (15.75) | 600 (23.62) | 800 (31.50) | 1000 (39.37) |

Distance in mm (inch)

■ Operating distance  ■ Sensing distance typ. max.

① Sensing distance on black, 6 % remission
② Sensing distance on gray, 18 % remission
③ Sensing distance on white, 90 % remission

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