Product data sheet

# WT150-P460

## W150

**MINIATURE PHOTOELECTRIC SENSORS**

SICK
Sensor Intelligence.

Illustration may differ

## Ordering information

| Type | Part no. |
|---|---|
| WT150-P460 | 6011050 |

**Included in delivery:** BEF-W150-A (1)

Other models and accessories → www.sick.com/W150

## Detailed technical data

### Features

| | |
|---|---|
| **Functional principle** | Photoelectric proximity sensor |
| **Functional principle detail** | Background suppression |
| **Dimensions (W x H x D)** | 10 mm x 28 mm x 18 mm |
| **Housing design (light emission)** | Rectangular |
| **Sensing range max.** | 2 mm ... 100 mm [1] |
| **Focus** | Approx. 5 ° |
| **Type of light** | Visible red light |
| **Light source** | LED [2] |
| **Angle of dispersion** | Approx. 5 ° |
| **Adjustment** | Potentiometer, 5 turns |

[1] Object with 90% remission (based on standard white, DIN 5033).
[2] Average service life: 100,000 h at $T_U$ = +25 °C.

### Mechanics/electronics

| | |
|---|---|
| **Supply voltage $U_B$** | 10 V DC ... 30 V DC [1] |
| **Ripple** | ± 10 % [2] |
| **Current consumption** | 20 mA [3] |
| **Switching output** | PNP |
| **Switching mode** | Light/dark switching |

[1] Limit values.
[2] May not exceed or fall below $U_V$ 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] C = interference suppression.
[9] D = outputs overcurrent and short-circuit protected.

| | |
|---|---|
| **Switching mode selector** | Selectable via L/D control cable |
| **Output current $I_{max.}$** | ≤ 100 mA |
| **Response time** | ≤ 0.5 ms [4] |
| **Switching frequency** | 1,000 Hz [5] |
| **Connection type** | Male connector M8, 4-pin |
| **Circuit protection** | A [6]<br>B [7]<br>C [8]<br>D [9] |
| **Protection class** | II |
| **Weight** | 7 g |
| **Housing material** | Plastic, ABS |
| **Optics material** | Plastic, PC |
| **Enclosure rating** | IP67 |
| **Items supplied** | BEF-W150-A mounting bracket |
| **Ambient operating temperature** | –25 °C ... +55 °C |
| **Ambient temperature, storage** | –40 °C ... +75 °C |
| **UL File No.** | NRNT2.E128350 & NRNT8.E128350 |

[1] Limit values.
[2] May not exceed or fall below $U_V$ tolerances.
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[6] A = $V_S$ connections reverse-polarity protected.
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## Safety-related parameters

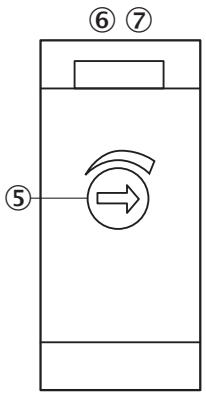
| | |
|---|---|
| **$MTTF_D$** | 1,686 years |
| **$DC_{avg}$** | 0 % |

## Classifications

| | |
|---|---|
| **eCl@ss 5.0** | 27270903 |
| **eCl@ss 5.1.4** | 27270903 |
| **eCl@ss 6.0** | 27270903 |
| **eCl@ss 6.2** | 27270903 |
| **eCl@ss 7.0** | 27270903 |
| **eCl@ss 8.0** | 27270903 |
| **eCl@ss 8.1** | 27270903 |
| **eCl@ss 9.0** | 27270903 |
| **eCl@ss 10.0** | 27270904 |
| **eCl@ss 11.0** | 27270904 |
| **eCl@ss 12.0** | 27270903 |
| **ETIM 5.0** | EC001821 |

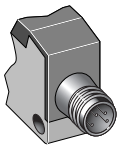
| | |
|---|---|
| **ETIM 6.0** | EC001821 |
| **ETIM 7.0** | EC002719 |
| **ETIM 8.0** | EC002719 |
| **UNSPSC 16.0901** | 39121528 |

## Adjustments



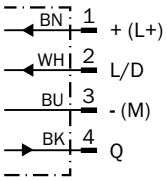

⑤ Sensing range adjustment: potentiometer, 5 turns
⑥ LED indicator green: stability indicator
⑦ LED indicator orange: output active

## Connection type

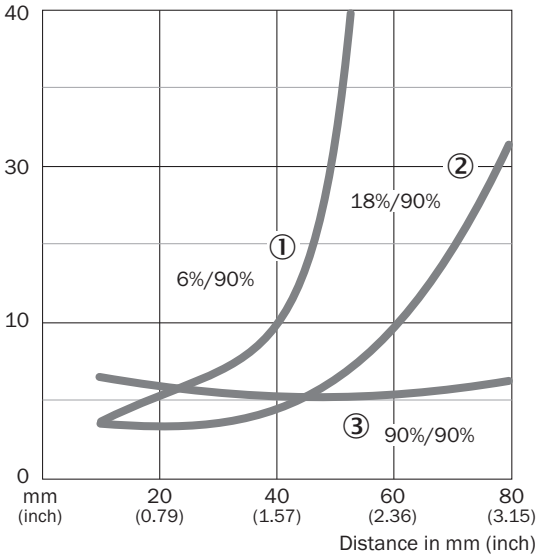


## Connection diagram

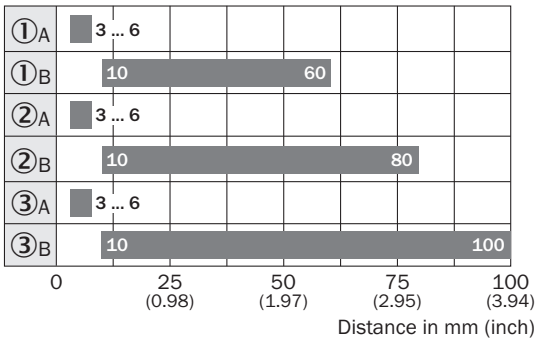
Cd-087



## Characteristic curve



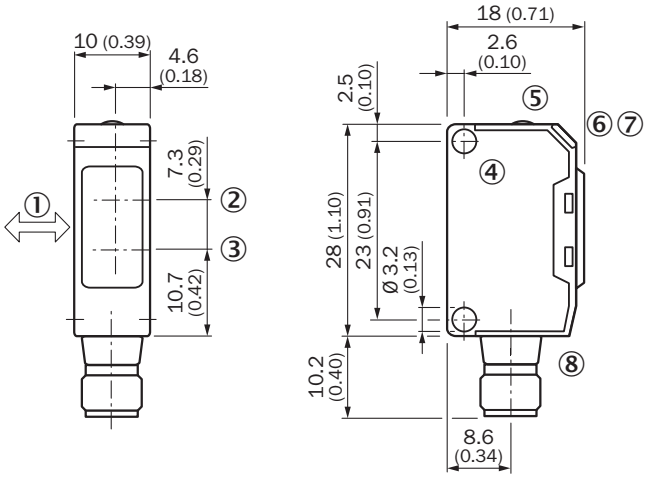

## Sensing range diagram




Sensing range

① Sensing range on black [12]/white background
② Sensing range on gray [12]/white background
③ Sensing range on white [12]/white background
A Sensing range control set to MIN
B Sensing range control set to MAX

## Dimensional drawing (Dimensions in mm (inch))




① Standard direction of the material being detected
② Center of optical axis, receiver
③ Center of optical axis, sender
④ Mounting hole, ø approx. 3.1 mm
⑤ Sensing range adjustment: potentiometer, 5 turns
⑥ LED indicator green: stability indicator
⑦ LED indicator orange: output active
⑧ Connection

## Recommended accessories

Other models and accessories ➜ www.sick.com/W150

| | Brief description | Type | Part no. |
|---|---|---|---|
| Plug connectors and cables | | | |
| | Head A: female connector, M8, 4-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YF8U14-050VA3XLEAX | 2095889 |
| | Head A: male connector, M8, 4-pin, straight<br>Cable: unshielded | STE-0804-G | 6037323 |

# SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

**For us, that is “Sensor Intelligence.”**

# WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com



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