



WT34-B450

W34

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Ordering information

| Type | part no. |
|-----------|----------|
| WT34-B450 | 1019234 |

Other models and accessories → www.sick.com/W34

Illustration may differ



Detailed technical data

Features

| | |
|--|-----------------------------------|
| Functional principle | Photoelectric proximity sensor |
| Functional principle detail | Background suppression |
| Dimensions (W x H x D) | 27 mm x 92 mm x 70 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 100 mm ... 1,200 mm ¹⁾ |
| Sensing range | 100 mm ... 1,200 mm |
| Type of light | Visible red light |
| Light source | LED ²⁾ |
| Light spot size (distance) | Ø 40 mm (1,200 mm) |
| Wave length | 660 nm |
| Adjustment | Potentiometer |

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 | < 5 V _{pp} ²⁾ |

¹⁾ Limit values.

²⁾ May not fall below or exceed U_V tolerances.

³⁾ Signal transit time with resistive load.

⁴⁾ With light/dark ratio 1:1.

⁵⁾ A = V_S connections reverse-polarity protected.

⁶⁾ C = interference suppression.

⁷⁾ D = outputs overcurrent and short-circuit protected.

⁸⁾ Reference voltage: 50 V DC.

| | |
|--|---|
| Current consumption | 50 mA |
| Switching output | NPN, PNP |
| Switching mode | Light switching, Dark switching |
| Switching mode selector | Selectable via PNP/NPN selector, selectable via light/dark selector |
| Output current I_{max} | ≤ 100 mA |
| Response time | ≤ 500 μ s ³⁾ |
| Switching frequency | 1,000 Hz ⁴⁾ |
| Time functions | Switch-on delay Off delay Adjustable |
| Delay time | Adjustable via time delay selector switch, 0.5 s ... 10 s |
| Connection type | Male connector M12, 4-pin |
| Circuit protection | A ⁵⁾ C ⁶⁾ D ⁷⁾ |
| Protection class | II ⁸⁾ |
| Weight | 140 g |
| Housing material | Plastic, ABS |
| Enclosure rating | IP67 |
| Test input sender off | TE to 0 V |
| Ambient operating temperature | -40 °C ... +60 °C |
| Ambient temperature, storage | -40 °C ... +75 °C |
| UL File No. | NRKH.E181493 & NRKH7.E181493 |

1) Limit values.

2) May not fall below or exceed U_V tolerances.

3) Signal transit time with resistive load.

4) With light/dark ratio 1:1.

5) A = V_S connections reverse-polarity protected.

6) C = interference suppression.

7) D = outputs overcurrent and short-circuit protected.

8) Reference voltage: 50 V DC.

Safety-related parameters

| | |
|-------------------------------------|-----------|
| MTTF_D | 564 years |
| DC_{avg} | 0 % |
| T_M (mission time) | 20 years |

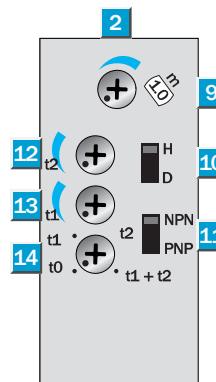
Certificates

| | |
|--|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |
| cULus certificate | ✓ |
| Photobiological safety (DIN EN 62471) certificate | ✓ |

Classifications

| | |
|-----------------------|----------|
| ECLASS 5.0 | 27270904 |
| ECLASS 5.1.4 | 27270904 |
| ECLASS 6.0 | 27270904 |
| ECLASS 6.2 | 27270904 |
| ECLASS 7.0 | 27270904 |
| ECLASS 8.0 | 27270904 |
| ECLASS 8.1 | 27270904 |
| ECLASS 9.0 | 27270904 |
| ECLASS 10.0 | 27270904 |
| ECLASS 11.0 | 27270904 |
| ECLASS 12.0 | 27270903 |
| ETIM 5.0 | EC002719 |
| ETIM 6.0 | EC002719 |
| ETIM 7.0 | EC002719 |
| ETIM 8.0 | EC002719 |
| UNSPSC 16.0901 | 39121528 |

Adjustments

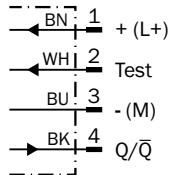


- ② LED signal strength indicator
- ⑨ Adjustment of sensing range
- ⑩ Light/dark selector
- ⑪ NPN/PNP changeover switch
- ⑫ time control t_2 = OFF delay
- ⑬ time control t_1 = ON delay
- ⑭ time delay selector switch

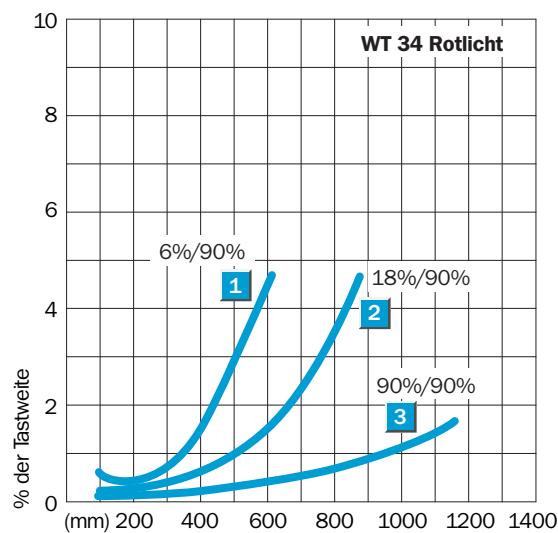
Connection type



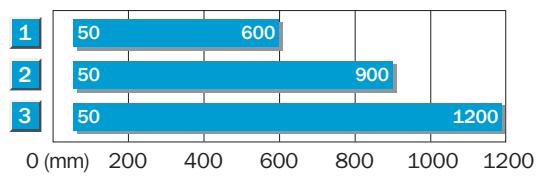
Connection diagram Cd-117



Characteristic curve

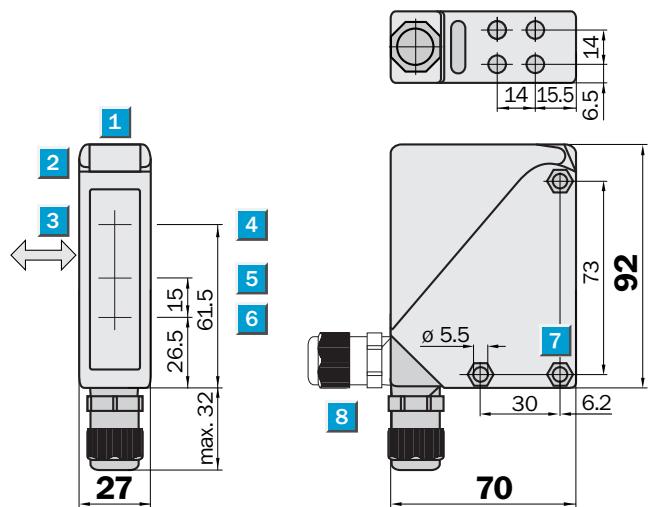


Sensing range diagram



- 1 Scanning distance on black ⁹⁾
- 2 Scanning distance on grey ⁹⁾
- 3 Scanning distance on white ⁹⁾

Dimensional drawing



Dimensions in mm (inch)

- ① Alignment sight
- ② LED signal strength indicator
- ③ Standard direction of the material being detected
- ④ Center of optical axis, sender
- ⑤ Center of optical axis, receiver (close range)
- ⑥ Center of optical axis, receiver (far range)
- ⑦ Mounting hole ø 5.5 mm, for M5 hexagon nuts on both sides

Recommended accessories

Other models and accessories → www.sick.com/W34

| | Brief description | Type | part no. |
|------------------|--|------------|----------|
| Mounting systems | | | |
| | <ul style="list-style-type: none"> • Description: Mounting bracket • Material: Stainless steel • Details: Stainless steel (1.4301) • Items supplied: Mounting hardware included • Suitable for: W24-2, W34 | BEF-WN-W24 | 2015248 |

| | Brief description | Type | part no. |
|---|--|--------------------|----------|
| connectors and cables | | | |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with chemicals | YF2A14-050VB3XLEAX | 2096235 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: $\leq 0.75 \text{ mm}^2$ | STE-1204-G | 6009932 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YF2A14-050UB3XLEAX | 2095608 |

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."

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