



WT24-2R220

W24

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | part no. |
|------------|----------|
| WT24-2R220 | 1016854 |

Other models and accessories → www.sick.com/W24

Detailed technical data

Features

| | |
|--|-----------------------------------|
| Functional principle | Photoelectric proximity sensor |
| Functional principle detail | Background suppression |
| Dimensions (W x H x D) | 27 mm x 87.5 mm x 65 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 100 mm ... 2,500 mm ¹⁾ |
| Sensing range | 100 mm ... 2,500 mm ¹⁾ |
| Type of light | Infrared light |
| Light source | LED ²⁾ |
| Light spot size (distance) | Ø 80 mm (2,500 mm) |
| 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 | 20 V AC/DC ... 250 V AC/DC |
| Power consumption | < 3 VA |
| Switching output | Relay, electrically isolated ¹⁾ |

¹⁾ Provide suitable spark suppression for inductive or capacitive loads.

²⁾ With light/dark ratio 1:1.

³⁾ A = V_S connections reverse-polarity protected.

⁴⁾ C = interference suppression.

⁵⁾ Rated voltage: 250 V AC/DC.

⁶⁾ Static, low heat output, use in +5 °C ... +15 °C.

| | |
|--|---|
| Output function | Change-over contacts |
| Switching mode | Light/dark switching ¹⁾ |
| Switching mode selector | Selectable via light/dark selector |
| Switching current (switching voltage) | 4 A @ 250 V AC, 4 A @ 24 V DC, 0.125 A @ 250 V DC UL: 4 A @ 250 V AC, general use / 4 A @ 250 V AC, resistive (NO) / 3 A @ 250 V AC, resistive (NC) / 4 A @ 24 V DC, NO, general use / 3 A @ 24 V DC, NC, general use / R300 / B300 (NO contacts only) |
| Response time | ≤ 10 ms |
| Switching frequency | 10 Hz ²⁾ |
| Time functions | Switch-on delay Off delay |
| Delay time | Adjustable via time delay selector switch, 0.5 s ... 10 s |
| Connection type | Terminal connection with M16 gland |
| Circuit protection | A ³⁾ C ⁴⁾ |
| Protection class | II ⁵⁾ |
| Weight | 330 g |
| Front screen heating | ✓ ⁶⁾ |
| Housing material | Metal, zinc diecast |
| Optics material | Plastic, PMMA |
| Enclosure rating | IP67 |
| Usage category | AC-15, DC-13 According to EN 60947-1 |
| Ambient operating temperature | -40 °C ... +60 °C |
| Ambient temperature, storage | -40 °C ... +75 °C |

¹⁾ Provide suitable spark suppression for inductive or capacitive loads.

²⁾ With light/dark ratio 1:1.

³⁾ A = V_S connections reverse-polarity protected.

⁴⁾ C = interference suppression.

⁵⁾ Rated voltage: 250 V AC/DC.

⁶⁾ Static, low heat output, use in +5° C ... +15° C.

Safety-related parameters

| | |
|-------------------------|-----------|
| MTTF_D | 535 years |
| DC_{avg} | 0 % |

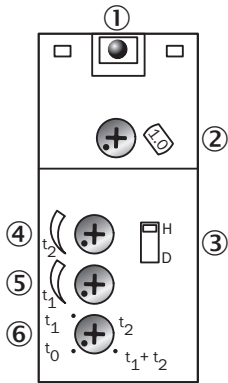
Certificates

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

Classifications

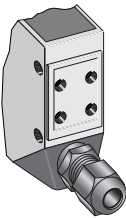
| | |
|-----------------------|----------|
| ECLASS 5.0 | 27270904 |
| ECLASS 5.1.4 | 27270904 |
| ECLASS 6.0 | 27270904 |
| ECLASS 6.2 | 27270904 |
| ECLASS 7.0 | 27270904 |
| ECLASS 8.0 | 27270904 |
| ECLASS 8.1 | 27270904 |
| ECLASS 9.0 | 27270904 |
| ECLASS 10.0 | 27270904 |
| ECLASS 11.0 | 27270904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

Adjustments WT24-2, WL24-2, WS/WE24-2, AC/DC, with time functions

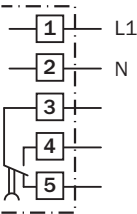


- ① Receive indicator
- ② Adjustment sensing range (WT) / sensitivity (WL, WS/WE)
- ③ Light/dark selector
- ④ time control t_2 = OFF delay
- ⑤ time control t_1 = ON delay
- ⑥ time delay selector switch

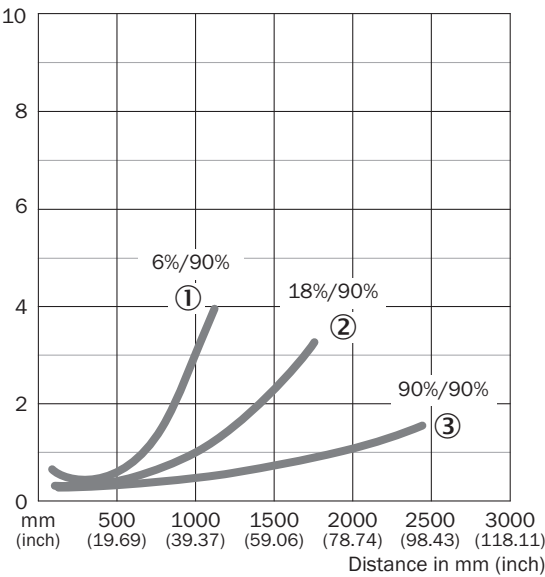
Connection type



Connection diagram Cd-167

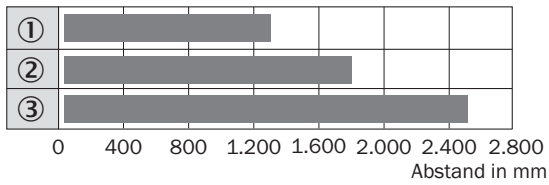


Characteristic curve WT24-2, infrared light



- ① Sensing range on black, 6% remission factor
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on white, 90% remission factor

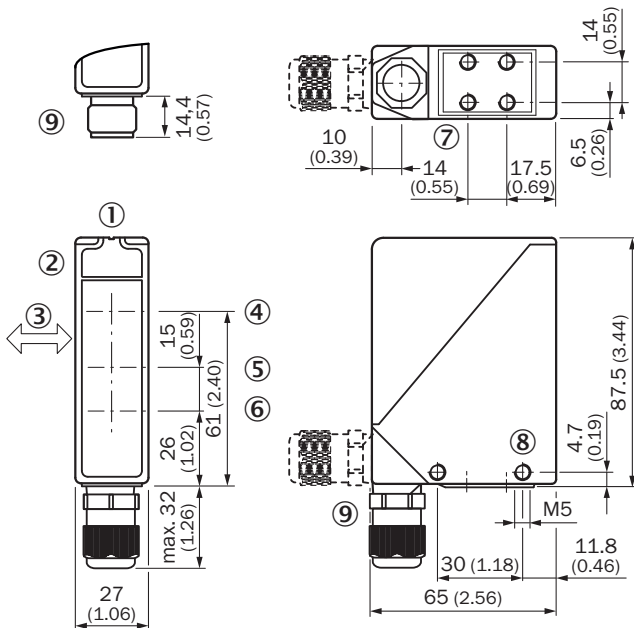
Sensing range diagram WT24-2, infrared light



■ Schaltabstand

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Dimensional drawing WT24-2





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 M5 threaded mounting hole, 6 mm deep
- ⑧ M5 threaded mounting hole, through-hole
- ⑨ M16 screw fixing and plug rotatable by 90°

Recommended accessories

Other models and accessories → www.sick.com/W24

| | Brief description | Type | part no. |
|---|---|------------|----------|
| Mounting systems | | | |
|  | <ul style="list-style-type: none"> Description: Mounting bracket, large Material: Stainless steel Details: Stainless steel Items supplied: Without mounting hardware for the sensor Suitable for: W24-2 | BEF-WG-W24 | 4026324 |
|  | <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 |

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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