



WS/WE24-2R240

W24

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|---------------|----------|
| WS/WE24-2R240 | 1017864 |

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

Detailed technical data

Features

| | |
|--|-----------------------------------|
| Functional principle | Through-beam photoelectric sensor |
| Dimensions (W x H x D) | 27 mm x 87.5 mm x 65 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 0 m ... 60 m |
| Sensing range | 0 m ... 50 m |
| Focus | Approx. 1° |
| Type of light | Visible red light |
| Light source | LED ¹⁾ |
| Light spot size (distance) | Ø 700 mm (50 m) |
| Angle of dispersion | Approx. 1° |
| Adjustment | Potentiometer |

¹⁾ Average service life: 100,000 h at T_J = +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⁾ |
| Output function | Change-over contacts |
| Switching mode | Light/dark switching 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.

| | |
|--|---|
| 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⁾ |
| Angle of reception | Approx. 2.5° |
| 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 | 660 g |
| Front screen heating | ✓ ⁶⁾ |
| Housing material | Metal, zinc diecast |
| Optics material | Plastic, PMMA |
| Enclosure rating | IP67 |
| Ambient operating temperature | -40 °C ... +60 °C |
| Ambient temperature, storage | -40 °C ... +75 °C |
| UL File No. | NRKH.E181493 & NRKH7.E181493 |
| Part number of individual components | 2021159 WS24-2U240 2021163 WE24-2R240 |

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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 | 327 years |
| DC_{avg} | 0 % |

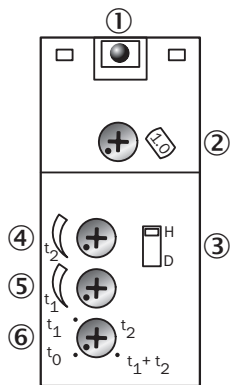
Classifications

| | |
|---------------------|----------|
| ECLASS 5.0 | 27270901 |
| ECLASS 5.1.4 | 27270901 |
| ECLASS 6.0 | 27270901 |
| ECLASS 6.2 | 27270901 |
| ECLASS 7.0 | 27270901 |
| ECLASS 8.0 | 27270901 |
| ECLASS 8.1 | 27270901 |
| ECLASS 9.0 | 27270901 |
| ECLASS 10.0 | 27270901 |
| ECLASS 11.0 | 27270901 |

| | |
|-----------------------|----------|
| ECLASS 12.0 | 27270901 |
| ETIM 5.0 | EC002716 |
| ETIM 6.0 | EC002716 |
| ETIM 7.0 | EC002716 |
| ETIM 8.0 | EC002716 |
| UNSPSC 16.0901 | 39121528 |

Adjustments

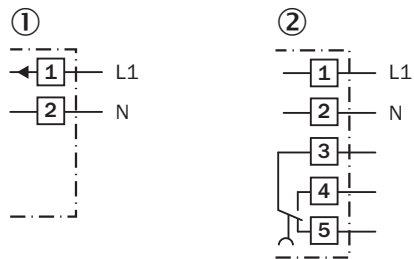
WT24-2, WL24-2, WS/WE24-2, AC/DC, with time functions



- 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 diagram

Cd-127

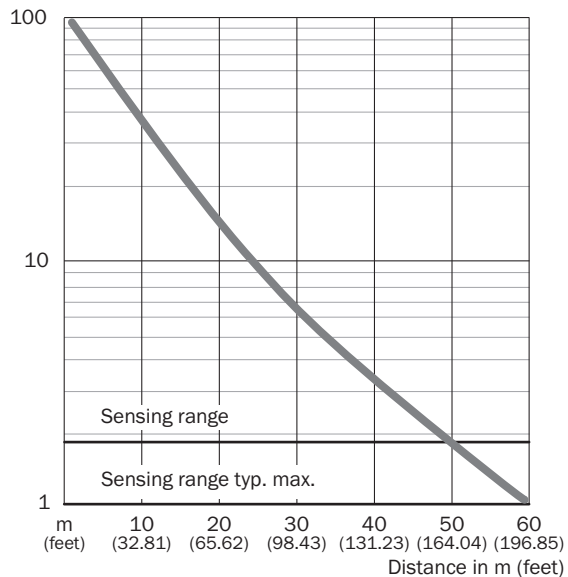


- ① Sender
- ② Receiver

Characteristic curve

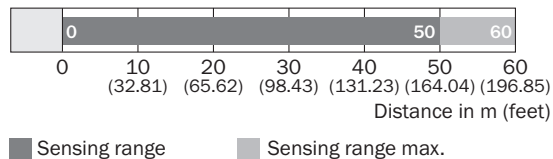
WS/WE24-2

Function reserve



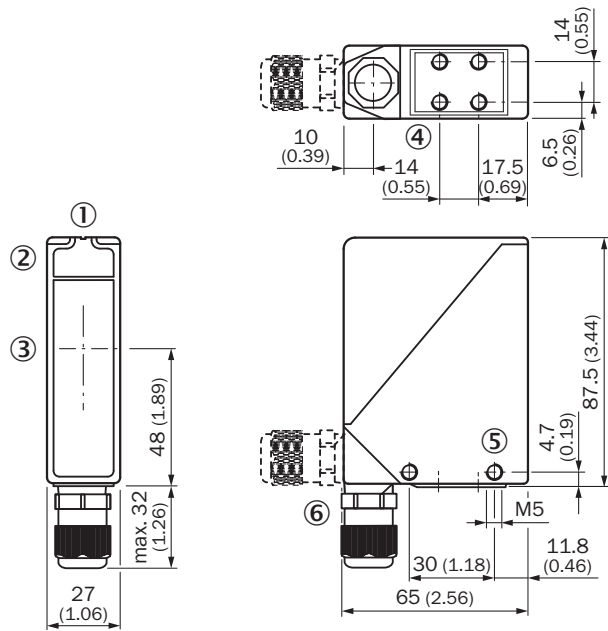
Sensing range diagram

WS/WE24-2



Dimensional drawing (Dimensions in mm (inch))


WS/WE24-2



- ① Alignment sight
- ② LED signal strength indicator
- ③ Center of optical axis
- ④ M5 threaded mounting hole, 6 mm deep
- ⑤ M5 threaded mounting hole, through-hole
- ⑥ M16 screw fixing and plug rotatable by 90°

Recommended accessories

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

| | Brief description | Type | Part no. |
|---|--|-------------|-----------------|
| Mounting brackets and plates | | | |
|  | Mounting bracket, large, stainless steel, without mounting hardware for the sensor | BEF-WG-W24 | 4026324 |

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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