



WT24-2X200

W24-2 Ex

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|------------|----------|
| WT24-2X200 | 1041910 |

Other models and accessories → www.sick.com/W24-2_Ex

Detailed technical data

Features

| | |
|--|--|
| Device type | Photoelectric sensors |
| Sensor/ detection principle | Photoelectric proximity sensor, 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. | 40 mm ... 2,000 mm ¹⁾ |
| Sensing range | 100 mm ... 2,000 mm ¹⁾ |
| Type of light | Infrared light |
| Light source | LED ²⁾ |
| Light spot size (distance) | Ø 50 mm (2,000 mm) |
| Adjustment | Potentiometer |
| Special applications | Explosive areas |

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033).

²⁾ Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

| | |
|-------------------------|-------------------------------------|
| Supply voltage | 5 V DC ... 15.5 V DC |
| Ripple | < 0.4 V _{pp} ¹⁾ |
| Switching output | NAMUR |

¹⁾ May not exceed or fall below U_v tolerances.

²⁾ Signal transit time with resistive load.

³⁾ With light/dark ratio 1:1.

⁴⁾ A = V_S connections reverse-polarity protected.

⁵⁾ C = interference suppression.

⁶⁾ Reference voltage: 50 V DC.

⁷⁾ For connection to a separately certified intrinsically safe circuit only.

| | |
|--|--|
| Switching mode | Light switching |
| Response time | ≤ 10 ms ²⁾ |
| Switching frequency | 50 Hz ³⁾ |
| Connection type | Terminal connection with M16 gland |
| Circuit protection | A ⁴⁾ C ⁵⁾ |
| Protection class | II ⁶⁾ |
| Weight | 330 g |
| Housing material | Metal, zinc diecast |
| Optics material | Glass, glass |
| Enclosure rating | IP67 |
| Type approval certificate | PTB 03 ATEX 2105 |
| Certificate (IECEX) | IECEX PTB 14.0030 |
| ATEX marking | Ex II 2G Ex ia op is IIC T4 Gb according to directive 2014/34/EU |
| Ex area category | 2G |
| Input voltage U_i max. | ≤ 15.5 V ⁷⁾ |
| Input power P_i max. | ≤ 100 mW ⁷⁾ |
| Input current I_i max. | ≤ 53 mA ⁷⁾ |
| Internal capacitance C_i max. | 80 nF ⁷⁾ |
| Internal inductance L_i max. | 0 μH ⁷⁾ |
| Ambient operating temperature | -20 °C ... +60 °C |
| Ambient temperature, storage | -25 °C ... +70 °C |

¹⁾ May not exceed or fall below U_y tolerances.

²⁾ Signal transit time with resistive load.

³⁾ With light/dark ratio 1:1.

⁴⁾ A = V_S connections reverse-polarity protected.

⁵⁾ C = interference suppression.

⁶⁾ Reference voltage: 50 V DC.

⁷⁾ For connection to a separately certified intrinsically safe circuit only.

Safety-related parameters

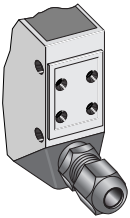
| | |
|-------------------------------------|-----------|
| MTTF_D | 227 years |
| DC_{avg} | 0 % |
| T_M (mission time) | 20 years |

Classifications

| | |
|---------------------|----------|
| ECl@ss 5.0 | 27270904 |
| ECl@ss 5.1.4 | 27270904 |
| ECl@ss 6.0 | 27270904 |
| ECl@ss 6.2 | 27270904 |
| ECl@ss 7.0 | 27270904 |
| ECl@ss 8.0 | 27270904 |
| ECl@ss 8.1 | 27270904 |

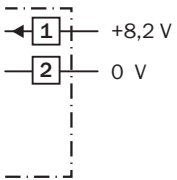
| | |
|-----------------------|----------|
| ECl@ss 9.0 | 27270904 |
| ECl@ss 10.0 | 27270904 |
| ECl@ss 11.0 | 27270904 |
| ETIM 5.0 | EC002719 |
| ETIM 6.0 | EC002719 |
| ETIM 7.0 | EC002719 |
| ETIM 8.0 | EC002719 |
| UNSPSC 16.0901 | 39121528 |

Connection type



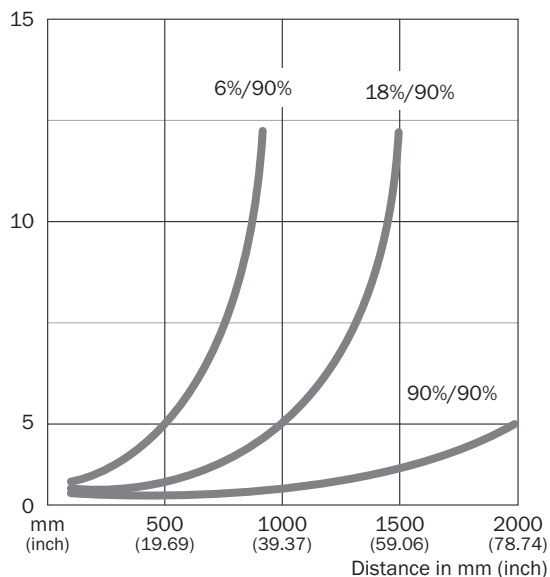
Connection diagram

Cd-050



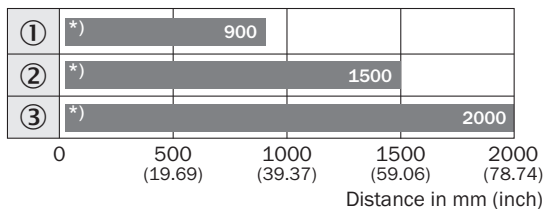
Characteristic curve

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Sensing range diagram

WT24-2

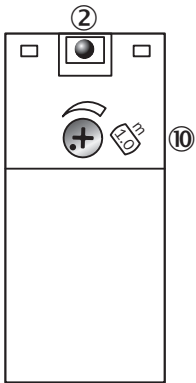


■ Sensing range

*) Lower bound of detection area depending on the adjusted sensing distance (see blind zone curve)

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

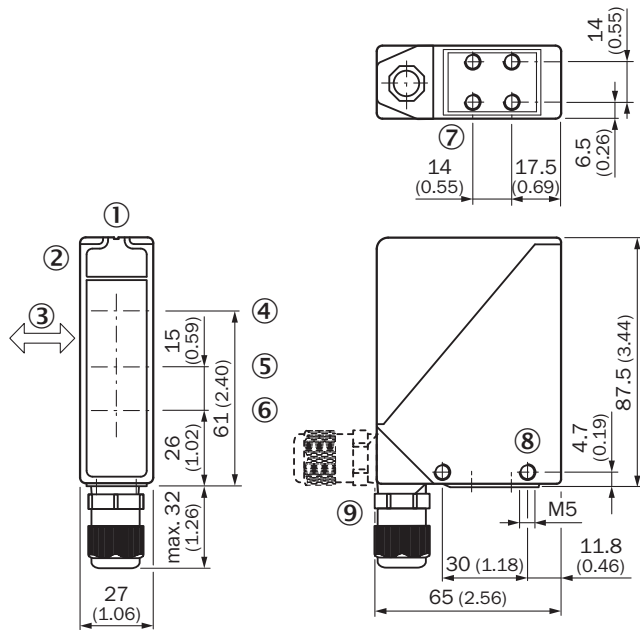
Adjustments



- ② LED signal strength indicator
- ⑩ Adjustment of sensing range

Dimensional drawing (Dimensions in mm (inch))


WT24-2 EX



- 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/W24-2_Ex

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

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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.

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