

WT14-2P422S05

W14

SMALL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|---------------|----------|
| WT14-2P422S05 | 1041933 |

Other models and accessories → www.sick.com/W14

Detailed technical data

Features

| | |
|--|---------------------------------|
| Functional principle | Photoelectric proximity sensor |
| Functional principle detail | Background suppression |
| Dimensions (W x H x D) | 17.6 mm x 75.5 mm x 33.5 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 20 mm ... 500 mm ¹⁾ |
| Sensing range | 80 mm ... 500 mm ¹⁾ |
| Type of light | Infrared light |
| Light source | LED ²⁾ |
| Light spot size (distance) | Ø 14 mm (300 mm) |
| Wave length | 870 nm |
| Adjustment | Potentiometer, 4 turns |
| Special features | Heightened vibration resistance |

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 | 10 V DC ... 30 V DC ¹⁾ |
|-----------------------|-----------------------------------|

¹⁾ Limit values when operated in short-circuit protected network: max. 8 A.

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⁾ C = interference suppression.

⁸⁾ D = outputs overcurrent and short-circuit protected.

| | |
|--|---|
| Ripple | < 5 V _{pp} ²⁾ |
| Current consumption | 30 mA ³⁾ |
| Switching output | PNP |
| Output function | Complementary |
| Switching mode | Light/dark switching |
| Output current I_{max.} | ≤ 100 mA |
| Response time | ≤ 2.5 ms ⁴⁾ |
| Switching frequency | 200 Hz ⁵⁾ |
| Connection type | Male connector M12, 4-pin |
| Circuit protection | A ⁶⁾ C ⁷⁾ D ⁸⁾ |
| Weight | 40 g |
| Special device | ✓ |
| Housing material | Plastic, ABS |
| Optics material | Plastic, PMMA |
| Enclosure rating | IP67 |
| Ambient operating temperature | -25 °C ... +60 °C |
| Ambient temperature, storage | -40 °C ... +70 °C |
| UL File No. | NRKH.E181493 & NRKH7.E181493 |

1) Limit values when operated in short-circuit protected network: max. 8 A.

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) C = interference suppression.

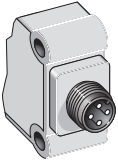
8) D = outputs overcurrent and short-circuit protected.

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 |

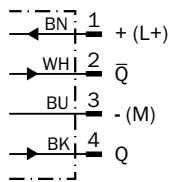
| | |
|-----------------------|----------|
| ETIM 7.0 | EC002719 |
| ETIM 8.0 | EC002719 |
| UNSPSC 16.0901 | 39121528 |

Connection type



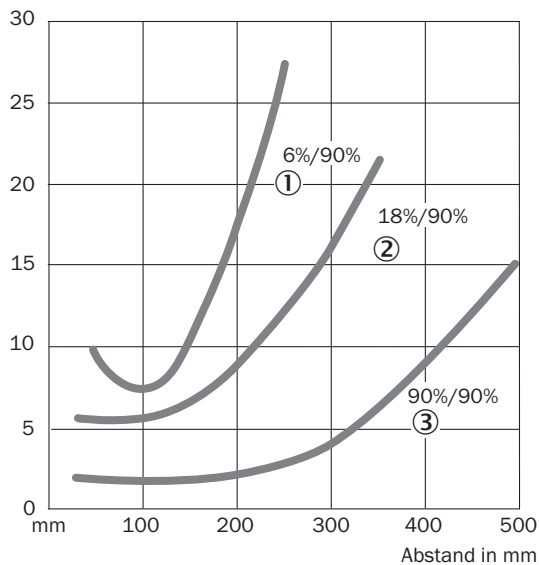
Connection diagram

Cd-083



Characteristic curve

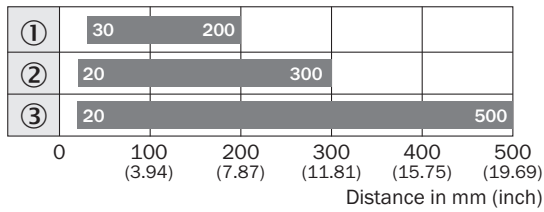
WT14-2, infrared light, 500 mm



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

Sensing range diagram

WT14-2, infrared light, 500 mm

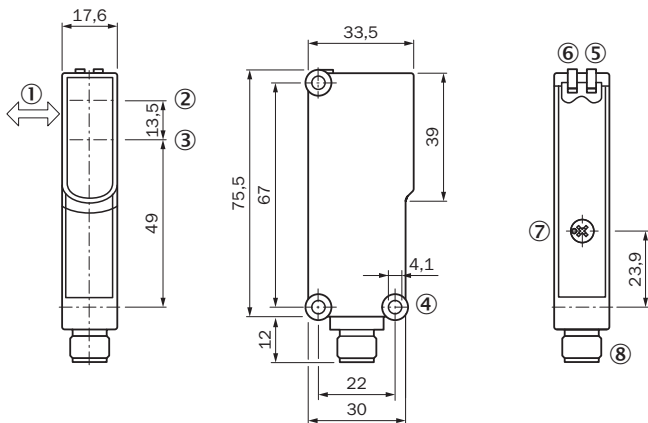


■ Sensing range

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


Dimensional drawing (Dimensions in mm (inch))


WT14-2, potentiometer



Recommended accessories

Other models and accessories → www.sick.com/W14

| | Brief description | Type | Part no. |
|---|---|--------------------|----------|
| Plug connectors and cables | | | |
|  | Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YF2A14-050VB3XLEAX | 2096235 |

| | Brief description | Type | Part no. |
|---|---|------------|----------|
|  | Head A: male connector, M12, 4-pin, straight Cable: unshielded | STE-1204-G | 6009932 |

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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