



WSE27-3P1710

W27

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|--------------|----------|
| WSE27-3P1710 | 1028059 |

Other models and accessories → www.sick.com/W27

Detailed technical data

Features

| | |
|--|-----------------------------------|
| Functional principle | Through-beam photoelectric sensor |
| Dimensions (W x H x D) | 24.6 mm x 80.6 mm x 54 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 0 m ... 35 m |
| Sensing range | 0 m ... 25 m |
| Focus | Approx. 6° |
| Type of light | Infrared light |
| Light source | LED ¹⁾ |
| Light spot size (distance) | Ø 3.7 m (25 m) |
| Angle of dispersion | Approx. 6° |
| Wave length | 880 nm |
| Adjustment | None |

¹⁾ Average service life: 100,000 h at T_J = +25 °C.

Mechanics/electronics

| | |
|-------------------------------------|-----------------------------------|
| Supply voltage U_B | 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⁾ Do not bend below 0 °C.
- ⁷⁾ A = V_S connections reverse-polarity protected.
- ⁸⁾ B = inputs and output reverse-polarity protected.
- ⁹⁾ C = interference suppression.
- ¹⁰⁾ Reference voltage: 50 V DC.

| | |
|---|---|
| Ripple | < 5 V _{pp} ²⁾ |
| Power consumption, sender | 45 mA ³⁾ |
| Power consumption, receiver | 20 mA ³⁾ |
| Switching output | PNP |
| Output function | Complementary |
| Switching mode | Light/dark switching |
| Signal voltage PNP HIGH/LOW | Approx. V _S - 2.5 V / 0 V |
| Output current I_{max.} | ≤ 100 mA |
| Response time | ≤ 500 μs ⁴⁾ |
| Switching frequency | 1,000 Hz ⁵⁾ |
| Angle of reception | Approx. 3° |
| Connection type | Cable, 4-wire, 3 m ⁶⁾ |
| Cable material | Plastic, PVC |
| Circuit protection | A ⁷⁾ B ⁸⁾ C ⁹⁾ |
| Protection class | II ¹⁰⁾ |
| Weight | 200 g |
| Housing material | Plastic, ABS |
| Optics material | Plastic, PMMA |
| Enclosure rating | IP66 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 |
| Part number of individual components | 2033699 WE27-3P1710 2033700 WS27-3D1710 |

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) Do not bend below 0 °C.

7) A = V_S connections reverse-polarity protected.

8) B = inputs and output reverse-polarity protected.

9) C = interference suppression.

10) Reference voltage: 50 V DC.

Safety-related parameters

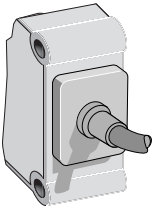
| | |
|-------------------------|-----------|
| MTTF_D | 996 years |
| DC_{avg} | 0 % |

Classifications

| | |
|---------------------|----------|
| ECLASS 5.0 | 27270901 |
| ECLASS 5.1.4 | 27270901 |

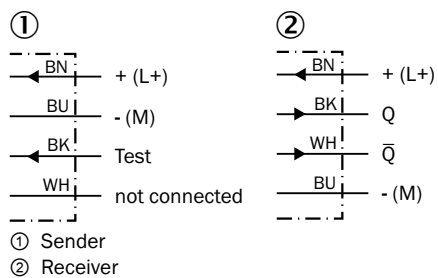
| | |
|-----------------------|----------|
| ECLASS 6.0 | 27270901 |
| ECLASS 6.2 | 27270901 |
| ECLASS 7.0 | 27270901 |
| ECLASS 8.0 | 27270901 |
| ECLASS 8.1 | 27270901 |
| ECLASS 9.0 | 27270901 |
| ECLASS 10.0 | 27270901 |
| ECLASS 11.0 | 27270901 |
| ECLASS 12.0 | 27270901 |
| ETIM 5.0 | EC002716 |
| ETIM 6.0 | EC002716 |
| ETIM 7.0 | EC002716 |
| ETIM 8.0 | EC002716 |
| UNSPSC 16.0901 | 39121528 |

Connection type

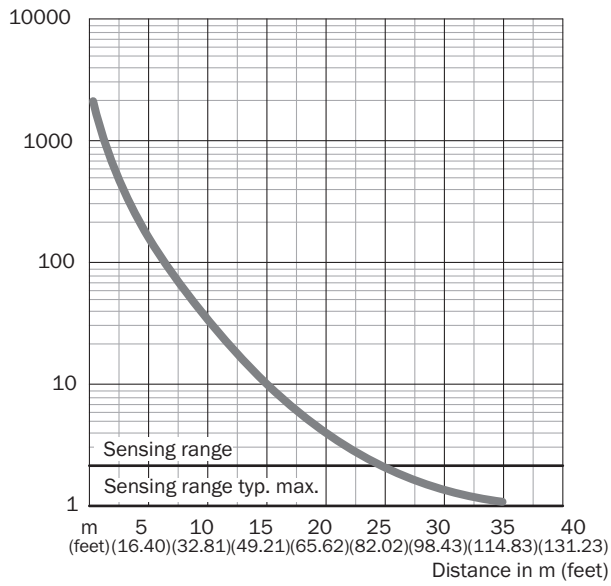


Connection diagram

Cd-088

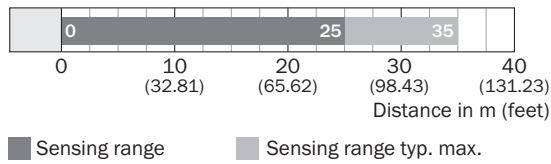


Characteristic curve



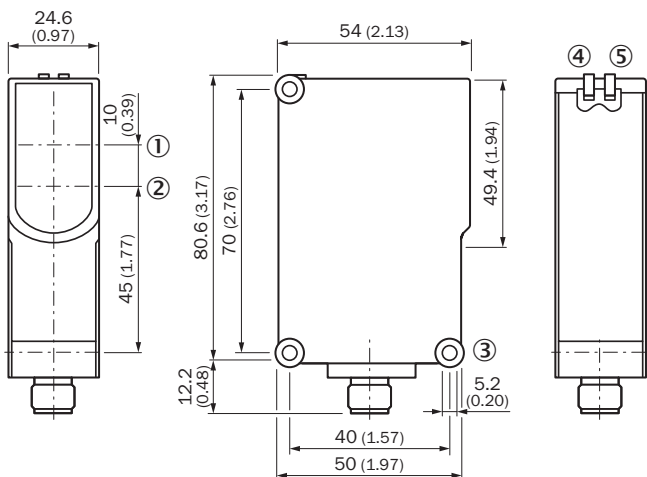
Sensing range diagram

WSE27-3



Dimensional drawing (Dimensions in mm (inch))



WL27-3, WSE27-3



- ① Optical axis, sender
- ② Optical axis, receiver
- ③ Mounting hole \varnothing 5.2 mm
- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam

Recommended accessories

Other models and accessories → www.sick.com/W27

| | Brief description | Type | Part no. |
|---|--|------------|----------|
| Device protection (mechanical) | | | |
|  | Protective housing for W26, W27-3 and mounting rods with diameter 12 mm ... 20 mm, Zinc plated steel (protective housing), Zinc die cast (clamping bracket), Universal clamp BEF-KHS-KH1 (2022726), mounting hardware | BEF-SG-W27 | 2039601 |
| Others | | | |
|  | <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 |

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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