



WSE27X-3P1830

W27-3 Ex

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Ordering information

| Type | Part no. |
|---------------|----------|
| WSE27X-3P1830 | 1027991 |

Other models and accessories → www.sick.com/W27-3_Ex

Illustration may differ



Detailed technical data

Features

| | |
|--|-----------------------------------|
| Sensor/ detection principle | Through-beam photoelectric sensor |
| Dimensions (W x H x D) | 31.4 mm x 112.3 mm x 70.4 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 0 m ... 35 m |
| Sensing range | 0 m ... 25 m |
| Type of light | Visible red light |
| Light source | LED ¹⁾ |
| Light spot size (distance) | Ø 600 mm (25 m) |
| Angle of dispersion | Approx. 1.5° |
| Wave length | 645 nm |
| Adjustment | None |
| Special applications | Explosive areas |

¹⁾ 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⁾ 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 | $\leq 5 V_{pp}$ ²⁾ |
| Power consumption, sender | 35 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} | $\leq 100 mA$ |
| Response time | $\leq 500 \mu s$ ⁴⁾ |
| Switching frequency | 1,000 Hz ⁵⁾ |
| Angle of reception | Approx. 3° |
| Connection type | Cable, 4-wire, 10 m ⁶⁾ |
| Cable material | PVC |
| Circuit protection | A ⁷⁾ B ⁸⁾ C ⁹⁾ |
| Protection class | II ¹⁰⁾ |
| Weight | + 1,500 g |
| Housing material | Stainless steel, plastic, Stainless steel V2A (1.4301) |
| Optics material | Plastic, PMMA |
| Enclosure rating | IP67 |
| ATEX marking | EX II 3G EX nA op is IIB T4 Gc X EX II 3D EX tc IIIB T135 °C Dc IP67 X |
| Ex area category | 3D, 3G |
| Ambient operating temperature | -20 °C ... +50 °C |
| Ambient storage temperature | -40 °C ... +75 °C |
| Part number of individual components | 2033627 WE27X-3P1830 2033628 WS27X-3D1830 |

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% |

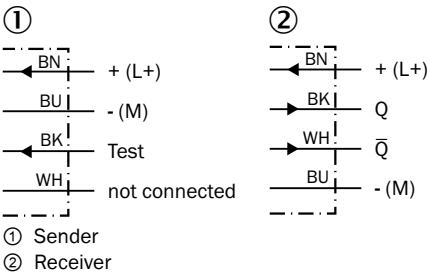
Classifications

| | |
|---------------------|----------|
| ECI@ss 5.0 | 27270901 |
| ECI@ss 5.1.4 | 27270901 |

| | |
|-----------------------|----------|
| ECI@ss 6.0 | 27270901 |
| ECI@ss 6.2 | 27270901 |
| ECI@ss 7.0 | 27270901 |
| ECI@ss 8.0 | 27270901 |
| ECI@ss 8.1 | 27270901 |
| ECI@ss 9.0 | 27270901 |
| ETIM 5.0 | EC002716 |
| ETIM 6.0 | EC002716 |
| UNSPSC 16.0901 | 39121528 |

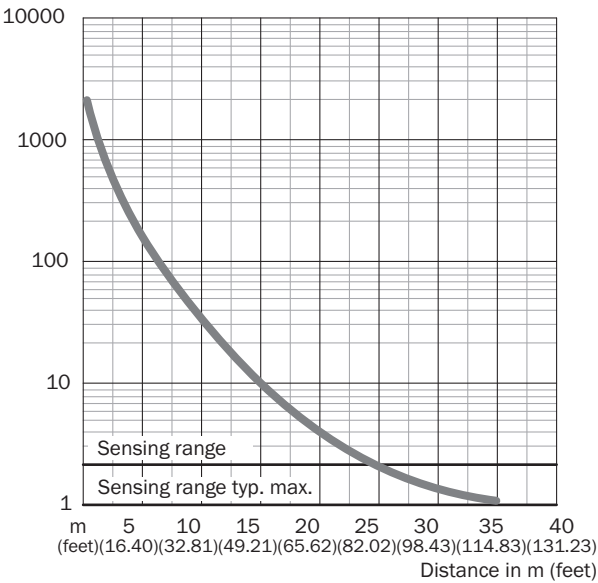
Connection diagram

Connection diagram

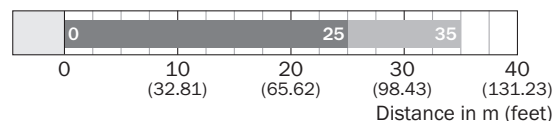


Characteristic curve

WSE27-3 EX



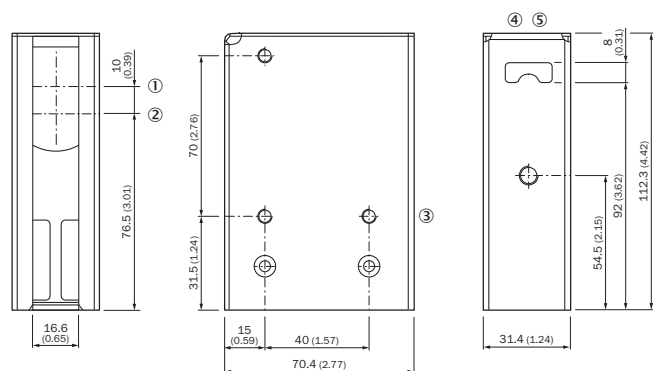
Sensing range diagram



■ Sensing range ■ Sensing range typ. max.

Dimensional drawing (Dimensions in mm (inch))


WSE27-3 EX



- 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/W27-3_Ex

| | Brief description | Type | Part no. |
|---|--|------------|----------|
| Plug connectors and cables | | | |
|  | Head A: male connector, M12, 4-pin, straight Head B: - 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.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com