

WT18-3P020S15

W18-3

SMALL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|---------------|----------|
| WT18-3P020S15 | 1029590 |

Other models and accessories → www.sick.com/W18-3

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. | 10 mm ... 1,000 mm ¹⁾ |
| Sensing range | 50 mm ... 1,000 mm ¹⁾ |
| Type of light | Infrared light |
| Light source | LED ²⁾ |
| Light spot size (distance) | Ø 30 mm (600 mm) |
| Wave length | 870 nm |
| Adjustment | Potentiometer, 4 turns |
| Health output | ✓ |

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⁾ |
| Ripple | < 5 V _{pp} ²⁾ |
| Current consumption | 55 mA ³⁾ |
| Switching output | PNP |
| Switching mode | Dark switching |
| Output current I_{max.} | ≤ 100 mA |
| Response time | < 700 μs ⁴⁾ |
| Switching frequency | 700 Hz ⁵⁾ |
| Connection type | Cable with MOLEX-connector, 1 m ⁶⁾ |
| Cable material | PVC |
| Circuit protection | A ⁷⁾ C ⁸⁾ D ⁹⁾ |
| Weight | 120 g |
| Special device | ✓ |
| Housing material | Plastic, ABS |
| 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 |

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⁾ C = interference suppression.

⁹⁾ D = outputs overcurrent and short-circuit protected.

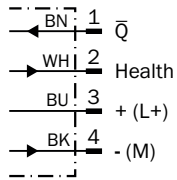
Classifications

| | |
|---------------------|----------|
| 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 |
| eCl@ss 12.0 | 27270903 |

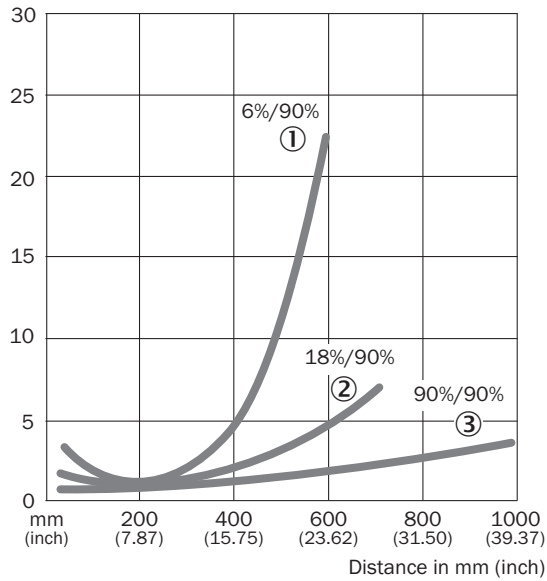
| | |
|-----------------------|----------|
| ETIM 5.0 | EC002719 |
| ETIM 6.0 | EC002719 |
| ETIM 7.0 | EC002719 |
| ETIM 8.0 | EC002719 |
| UNSPSC 16.0901 | 39121528 |

Connection diagram

Cd-103

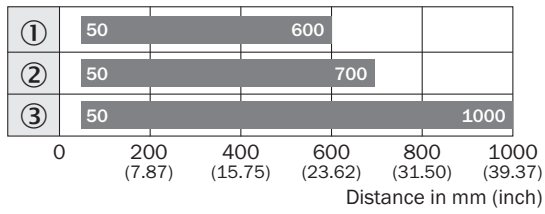


Characteristic curve



Sensing range diagram

WT18-3 (Ex), infrarret, 1,000 mm

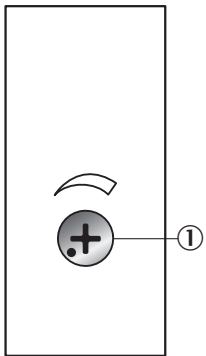


■ Sensing range

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

Adjustments

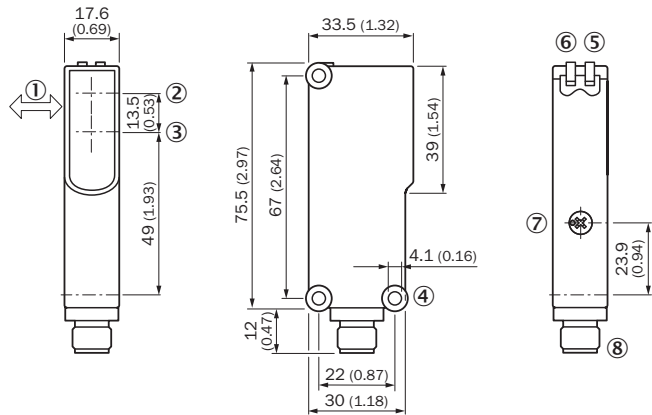
Potentiometer



- ① Setting of the sensing range: potentiometer, 4 revolutions

Dimensional drawing (Dimensions in mm (inch))

WT18-3, potentiometer



- ① Standard direction of the material being detected
- ② Center of optical axis, sender
- ③ Center of optical axis, receiver
- ④ Mounting hole \varnothing 4.1 mm
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ LED indicator green: Supply voltage active
- ⑦ Setting of the sensing range: potentiometer, 4 revolutions
- ⑧ 4-pin M12 male connector or 2 m cable or 6-pin cubic connector

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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