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DATA SHEET

# WT34-R220S07

W34
Photoelectric sensors

SICK Sensor Intelligence




Illustration may differ

# PHOTOELECTRIC SENSORS

# WT34-R220S07

## ORDERING INFORMATION

| Type | part no. |
|---|---|
| WT34-R220S07 | 1102367 |

Further device versions and accessories at www.sick.com/W34

## DETAILED TECHNICAL DATA

### FEATURES

| | |
|---|---|
| Functional principle | Photoelectric proximity sensor |
| Functional principle detail | Background suppression |
| Dimensions (W x H x D) | 27 mm x 92 mm x 70 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 100 mm ... 2,500 mm [1] |
| Sensing range | 100 mm ... 2,500 mm |
| Type of light | Infrared light |
| Light source | LED [2] |
| Light spot size (distance) | Ø 80 mm (2,500 mm) |
| Adjustment | Potentiometer |
| Special features | Black mask between sender and receiver |

[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 $U_B$ | 20 V AC/DC ... 250 V AC/DC |
| Power consumption | < 2 VA |
| Switching output | Relay, electrically isolated [1] |
| Output function | Change-over contacts |

[1] Provide suitable spark suppression for inductive or capacitive loads.

[2] With light/dark ratio 1:1.

[3] A = $V_S$ connections reverse-polarity protected.

[4] C = interference suppression.

[5] Rated voltage: 250 V AC/DC.

| | |
|---|---|
| Switching mode | Light switching, Dark switching [1] |
| Switching mode selector | Selectable via light/dark selector |
| Switching current (switching voltage) | 4 A @ 250 V AC, 4 A @ 24 V DC, 0.125 A @ 250 V DC<br>UL: 4 A @ 250 V AC, general use / 4 A @ 250 V AC, resistive (NO) / 3 A @ 250 V AC, resistive (NC) / 4 A @ 24 V DC, NO, general use / 3 A @ 24 V DC, NC, general use / R300 / B300 (NO contacts only) |
| Response time | ≤ 10 ms |
| Switching frequency | 10 Hz [2] |
| Time functions | Switch-on delay<br>Off delay<br>Adjustable |
| Delay time | Adjustable via time delay selector switch, 0.5 s ... 10 s |
| Connection type | Terminal connection with M16 gland |
| Circuit protection | A [3]<br>C [4] |
| Protection class | II [5] |
| Weight | 140 g |
| Housing material | Plastic, ABS |
| Enclosure rating | IP67 |
| Usage category | AC-15, DC-13<br>According to EN 60947-1 |
| Ambient operating temperature | –40 °C ... +60 °C |
| Ambient temperature, storage | –40 °C ... +75 °C |
| UL File No. | NRKH.E181493 & NRKH7.E181493 |

[1] Provide suitable spark suppression for inductive or capacitive loads.

[2] With light/dark ratio 1:1.

[3] A = $V_S$ connections reverse-polarity protected.

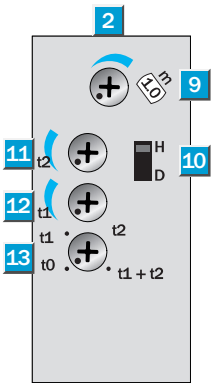
[4] C = interference suppression.

[5] Rated voltage: 250 V AC/DC.

## CERTIFICATES

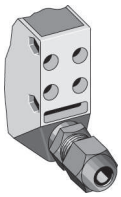
| | |
|---|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |
| CCC certificate | ✓ |
| cULus certificate | ✓ |
| Photobiological safety (DIN EN 62471) certificate | ✓ |

## ADJUSTMENTS

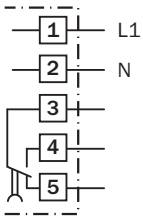



② LED signal strength indicator
⑨ Adjustment of sensing range
⑩ Light/dark selector
⑪ time control $t_2$= OFF delay
⑫ time control $t_1$= ON delay
⑬ time delay selector switch

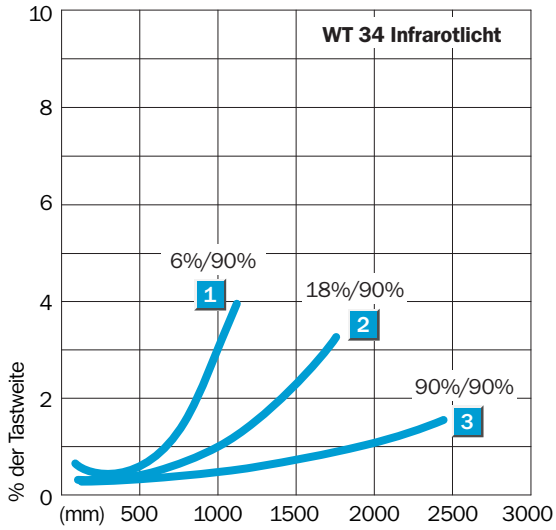
## CONNECTION TYPE



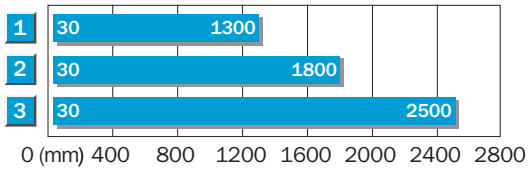
## CONNECTION DIAGRAM CD-167



## CHARACTERISTIC CURVE

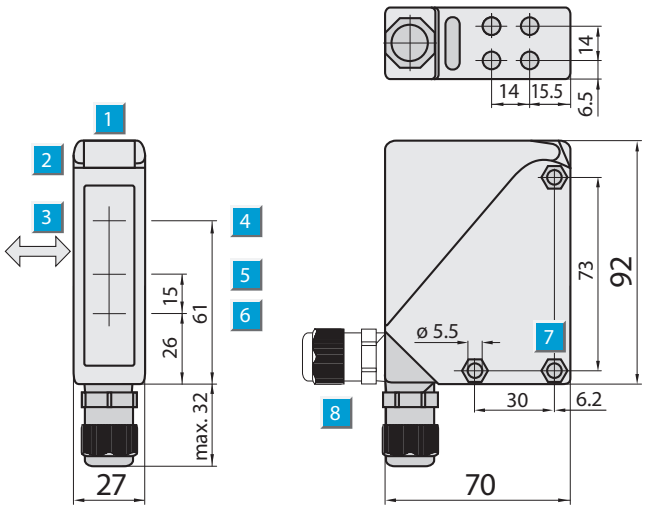



## SENSING RANGE DIAGRAM




| | |
|---|---|
| 1 | Scanning distance on black [9] |
| 2 | Scanning distance on grey [9] |
| 3 | Scanning distance on white [9] |

**DIMENSIONAL DRAWING**




Dimensions in mm (inch)
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 Mounting hole ø 5.5 mm, for M5 hexagon nuts on both sides

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1102367

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# SICK AT A GLANCE

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Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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