



# WT34-R220

## W34

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

Type	part no.
WT34-R220	1019233

Other models and accessories → [www.sick.com/W34](http://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 <sup>1)</sup>
Sensing range	100 mm ... 2,500 mm
Type of light	Infrared light
Light source	LED <sup>2)</sup>
Light spot size (distance)	Ø 80 mm (2,500 mm)
Adjustment	Potentiometer

<sup>1)</sup> Object with 90% remission (based on standard white, DIN 5033).

2) Average service life: 100,000 h at  $T_U = +25\text{ }^{\circ}\text{C}$ .

## Mechanics/electronics

<b>Supply voltage U<sub>B</sub></b>	20 V AC/DC ... 250 V AC/DC
<b>Power consumption</b>	< 2 VA
<b>Switching output</b>	Relay, electrically isolated <sup>1)</sup>
<b>Output function</b>	Change-over contacts

1) Provide suitable spark suppression for inductive or capacitive loads.

2) With light/dark ratio 1:1.

3) A = V<sub>S</sub> connections reverse-polarity protected.

4) C = interference suppression.

5) Rated voltage: 250 V AC/DC.

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

<sup>1)</sup> Provide suitable spark suppression for inductive or capacitive loads.

<sup>2)</sup> With light/dark ratio 1:1.

<sup>3)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>4)</sup> C = interference suppression.

<sup>5)</sup> Rated voltage: 250 V AC/DC.

## Safety-related parameters

<b>MTTF<sub>D</sub></b>	487 years
<b>DC<sub>avg</sub></b>	0 %
<b>T<sub>M</sub> (mission time)</b>	20 years
<b>B<sub>10D</sub></b>	59,123 Switching cycles <sup>1)</sup>

<sup>1)</sup> Only for devices containing electro-mechanical components. In this case, the MTTF<sub>D</sub> value of the entire device must be calculated from the given B<sub>10D</sub> value, the number of switching cycles and the given MTTF<sub>D</sub> value.

## Certificates

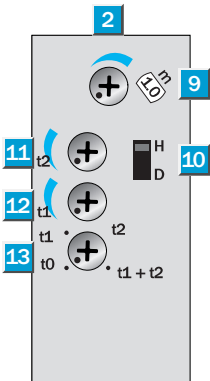
<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓
<b>China RoHS</b>	✓
<b>CCC certificate</b>	✓
<b>cULus certificate</b>	✓

Photobiological safety (DIN EN 62471) certificate	✓
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Classifications

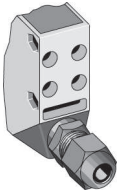
ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Adjustments

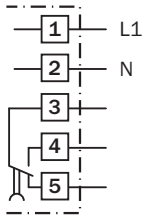


- ② LED signal strength indicator
- ⑨ Adjustment of sensing range
- ⑩ Light/dark selector
- ⑪ time control  $t_2$ = OFF delay
- ⑫ time control  $t_1$ = ON delay
- ⑬ time delay selector switch

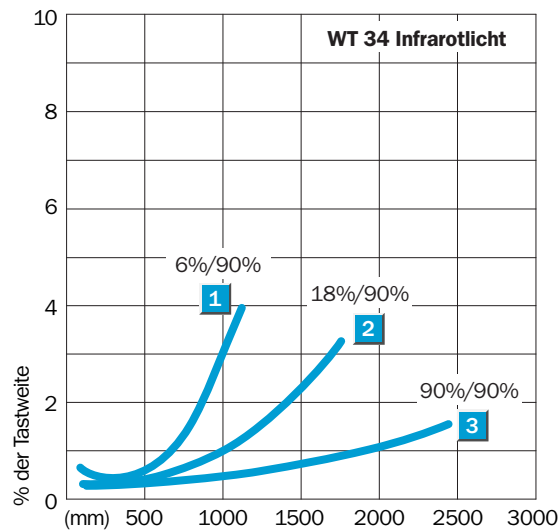
## Connection type



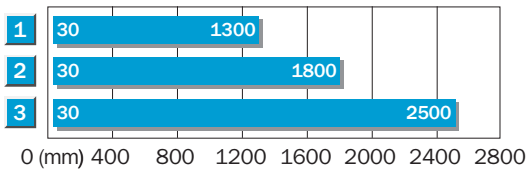
## Connection diagram Cd-167



## Characteristic curve

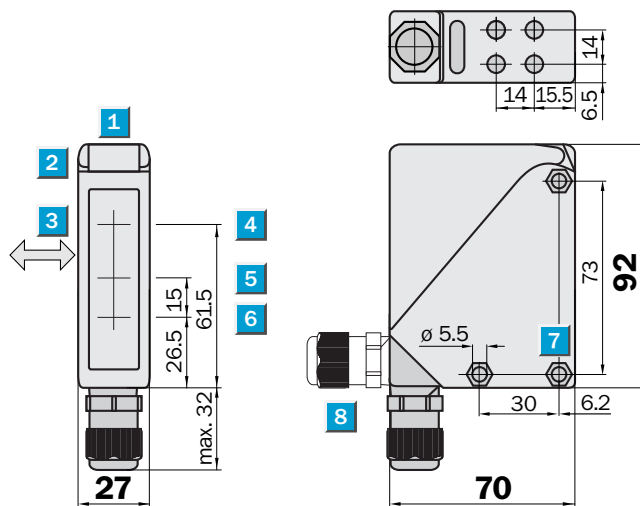


## Sensing range diagram



1	Scanning distance on black <sup>9)</sup>
2	Scanning distance on grey <sup>9)</sup>
3	Scanning distance on white <sup>9)</sup>

## 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  $\varnothing$  5.5 mm, for M5 hexagon nuts on both sides

Recommended accessories

Other models and accessories → [www.sick.com/W34](http://www.sick.com/W34)

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"><li>• <b>Description:</b> Mounting bracket</li><li>• <b>Material:</b> Stainless steel</li><li>• <b>Details:</b> Stainless steel (1.4301)</li><li>• <b>Items supplied:</b> Mounting hardware included</li><li>• <b>Suitable for:</b> W24-2, W34</li></ul>	BEF-WN-W24	2015248

## 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](http://www.sick.com)