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DATA SHEET

WT34-R250

W34
Photoelectric sensors

SICK Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

WT34-R250

ORDERING INFORMATION

Type	part no.
WT34-R250	1019240

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 ... 1,200 mm [1]
Sensing range	100 mm ... 1,200 mm
Type of light	Visible red light
Light source	LED [2]
Light spot size (distance)	Ø 40 mm (1,200 mm)
Wave length	660 nm
Adjustment	Potentiometer

[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 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 Off delay 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] C [4]
Protection class	II [5]
Weight	140 g
Housing material	Plastic, ABS
Enclosure rating	IP67
Usage category	AC-15, DC-13 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.

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SAFETY-RELATED PARAMETERS

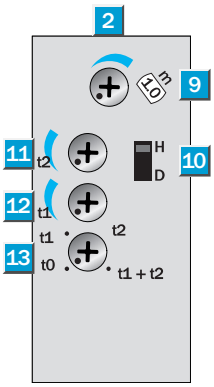
$MTTF_D$	487 years
DC_{avg}	0 %
T_M (mission time)	20 years
B_{10D}	59,123 Switching cycles [1]

[1] Only for devices containing electro-mechanical components. In this case, the $MTTF_D$ value of the entire device must be calculated from the given B_{10D} value, the number of switching cycles and the given $MTTF_D$ value.

CERTIFICATES

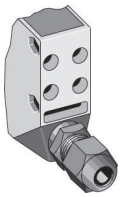
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
CCC certificate	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

ADJUSTMENTS

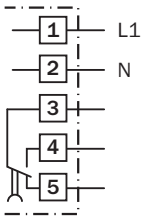


② LED signal strength indicator
⑨ Adjustment of sensing range
⑩ Light/dark selector
⑪ time control t_2= OFF delay
⑫ time control t_1= ON delay
⑬ time delay selector switch

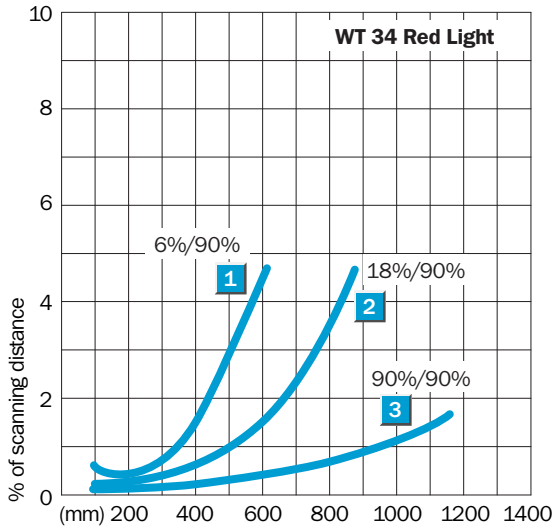
CONNECTION TYPE



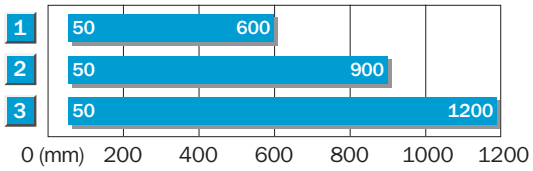
CONNECTION DIAGRAM CD-167



CHARACTERISTIC CURVE

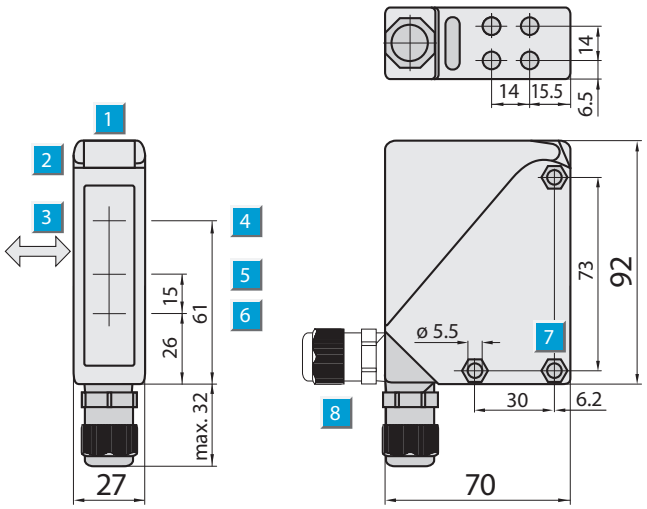


SENSING RANGE DIAGRAM



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/1019240

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SICK AT A GLANCE

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SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

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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