



Photoelectric sensors

W34, Photoelectric proximity sensor, Background suppression

WT34-B450



Model Name > WT34-B450
Part No. > 1019234



Illustration may differ

At a glance

- Precise background suppression at long ranges
- Immune to ambient light and crosstalk from another sensor
- Switch selectable PNP or NPN output and light/dark switching
- Versions with DC voltage (10...30V) or universal AC/DC voltage (12 ... 240 V DC / 24 ... 240 V AC)
- Optional test input, adjustable ON and OFF time delays, alarm output
- M12 or terminal chamber connection: 90° rotatable
- UL approval

Your benefits

- Versions with IR LED provide precise object detection at sensing ranges of 2500 mm
- Immune to ambient light and crosstalk from another sensor, providing reliable operation and less downtime
- The sensor cover protects configuration components against environmental hazards
- Adjustable time delay, alarm output, test input, and universal AC/DC voltage provide additional flexibility and reduce the number of part numbers needed



Features

Sensor/detection principle:	Photoelectric proximity sensor, 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⁾
Wave length:	660 nm
Light spot diameter (distance):	Ø 40 mm (1,200 mm)
Adjustment of operating distance:	Potentiometer
Time type:	Time delay off
Delay time:	Adjustable via time delay selector switch: 0.5 ... 10 s

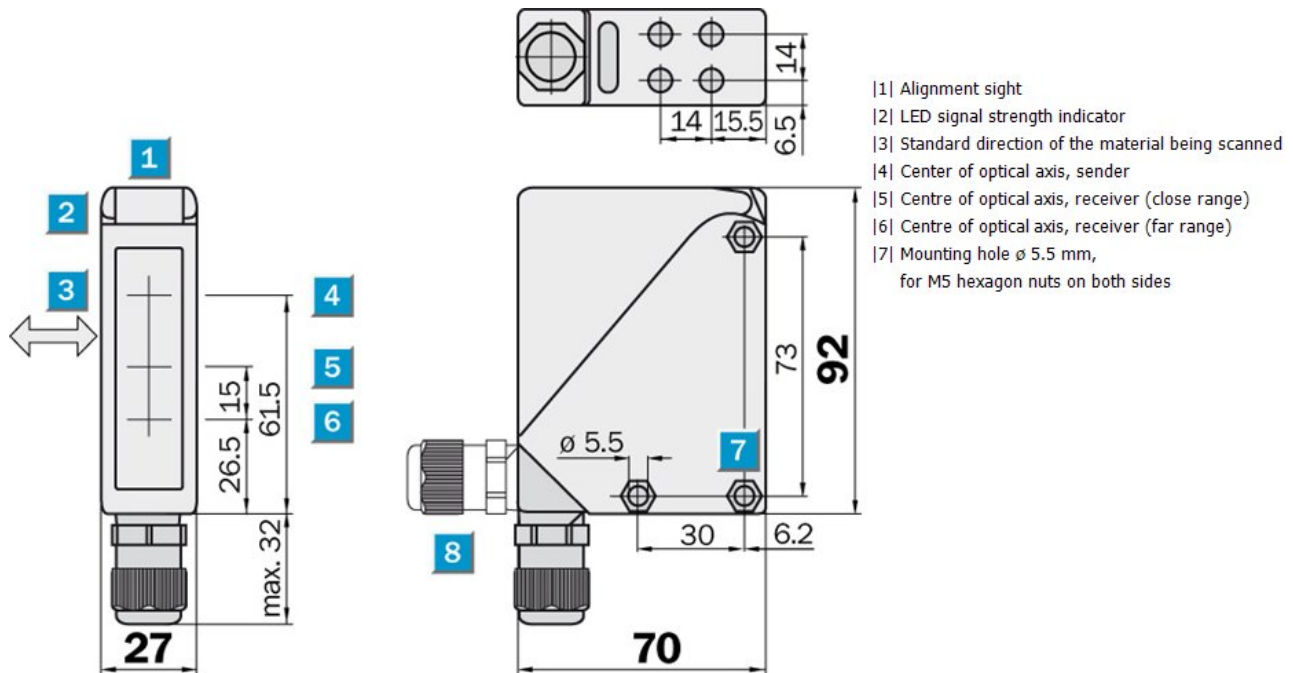
¹⁾ Object with 90 % reflectance (referred to standard white DIN 5033) ²⁾ Average service life of 100,000 h at T_A = +25 °C

Mechanics/electronics

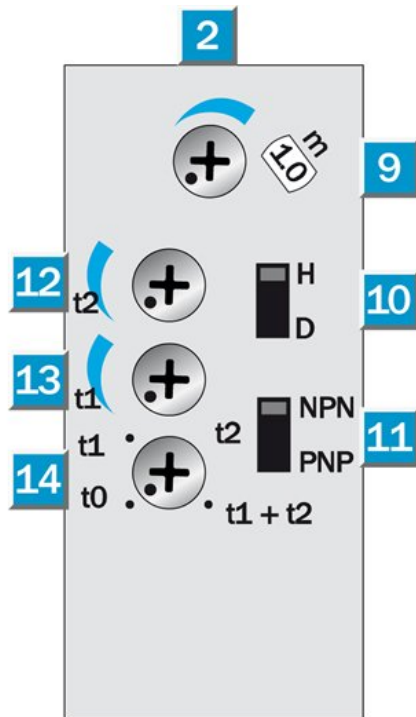
Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	< 5 V _{pp} ²⁾
Power consumption:	≤ 50 mA
Output type:	NPN, PNP
Switching mode:	Dark-switching, Light switching
Switching mode selector:	Selectable via light/dark selector, Selectable via PNP/NPN selector
Output current I _{max} ::	100 mA
Response time:	≤ 500 μs ³⁾
Switching frequency:	1,000 Hz ⁴⁾
Connection type:	Connector M12, 4-pin ⁵⁾
Circuit protection:::	A, C, D ⁶⁾ ⁷⁾ ⁸⁾
Protection class:	II ⁹⁾
Weight:	140 g
Special device:	-
Housing material:	ABS
Enclosure rating:	IP 67
Test input sender off:	TE to 0 V
Ambient operating temperature:	-40 °C ... 60 °C
Ambient storage temperature:	-40 °C ... 75 °C
UL File-No.:	UL No. NRKH.E181493 & cUL No. NRKH7.E181493

¹⁾ Limit values ²⁾ May not exceed or fall short of V_S tolerances ³⁾ Signal transit time with resistive load ⁴⁾ With light/dark ratio 1:1 ⁵⁾ Connection rotatable by 90° ⁶⁾ A = V_S connections reverse-polarity protected ⁷⁾ C = interference suppression ⁸⁾ D = outputs overcurrent and short-circuit protected ⁹⁾ Reference voltage 50 V DC

Dimensional drawing

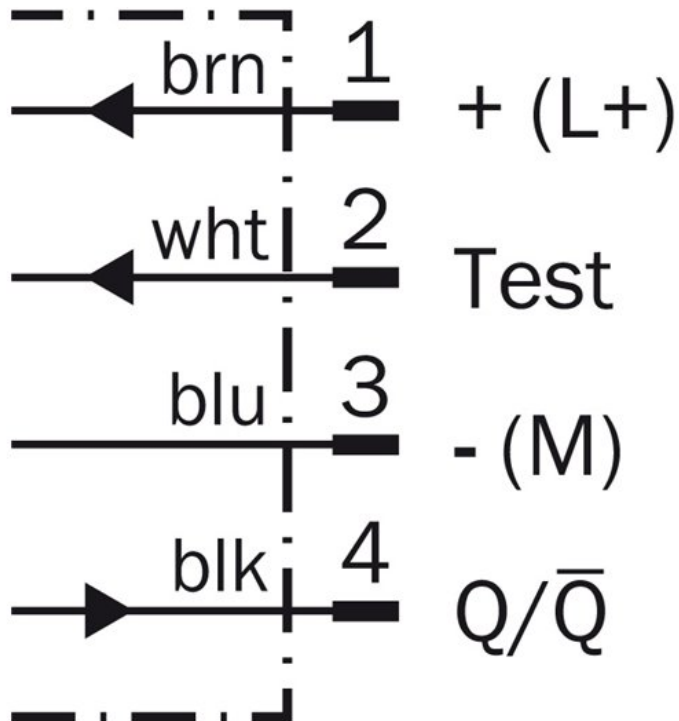


Adjustments possible

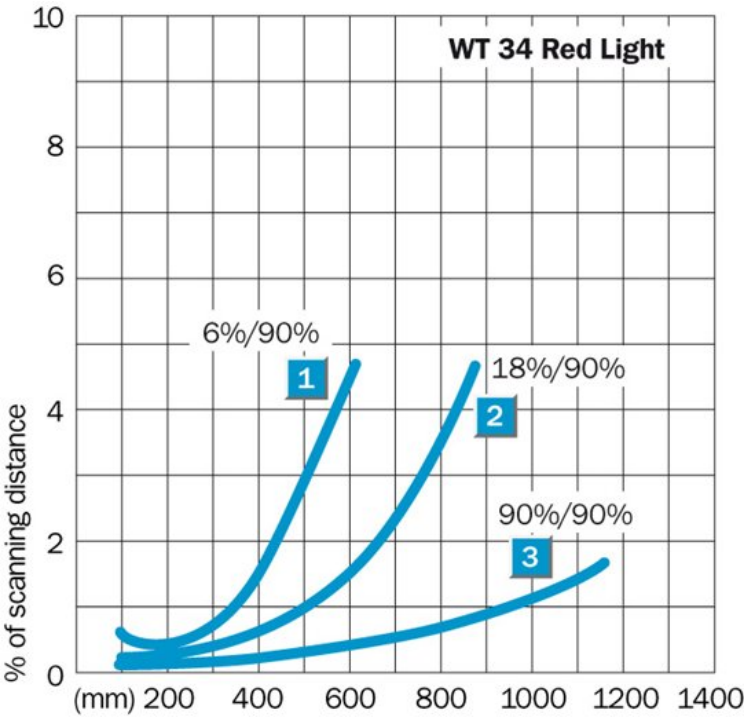


- |2| LED signal strength indicator
- |9| Sensing range adjustment
- |10| Light/dark selector
- |11| NPN/ PNP selector
- |12| Time control t2=OFF-delay
- |13| Time control t1=ON-delay
- |14| time delay selector switch

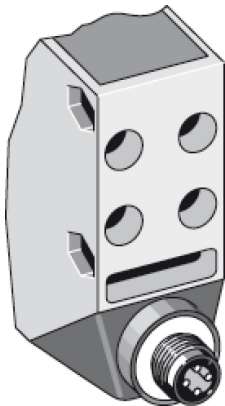
Connection diagram



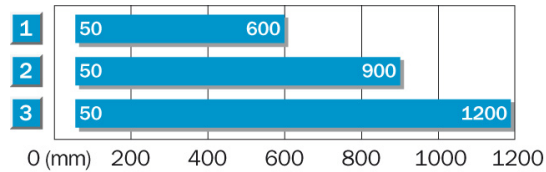
Characteristic curve



Connection type



Sensing range diagram



1	Scanning distance on black ⁹⁾
2	Scanning distance on grey ⁹⁾
3	Scanning distance on white ⁹⁾

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