



Photoelectric sensors
W34, Through-beam photoelectric sensor

WS/WE34-B440



Model Name > [WS/WE34-B440](#)
Part No. > [1019255](#)



Illustration may differ

At a glance

- High operating reserve at a long range
- 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

- High operating reserve at a long range minimizes downtime
- Alarm output provides early warning that maintenance may be needed
- Test input allows users to validate that the sensor is operating as expected
- 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:	Through-beam photoelectric sensor
Dimensions (W x H x D):	27 mm x 92 mm x 70 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0 m ... 60 m
Sensing range:	0 m ... 60 m
Type of light:	Visible red light
Light source:	LED ¹⁾
Wave length:	660 nm
Time type:	Off delay, On delay, Adjustable
Delay time:	Adjustable via time delay selector switch: 0.5 ... 10 s
Angle of dispersion:	Ca. 1 °
Adjustment:	Potentiometer
Light spot size (distance):	Ø 700 mm (50 m)

¹⁾ Average service life of 100,000 h at T_A = +25 °C

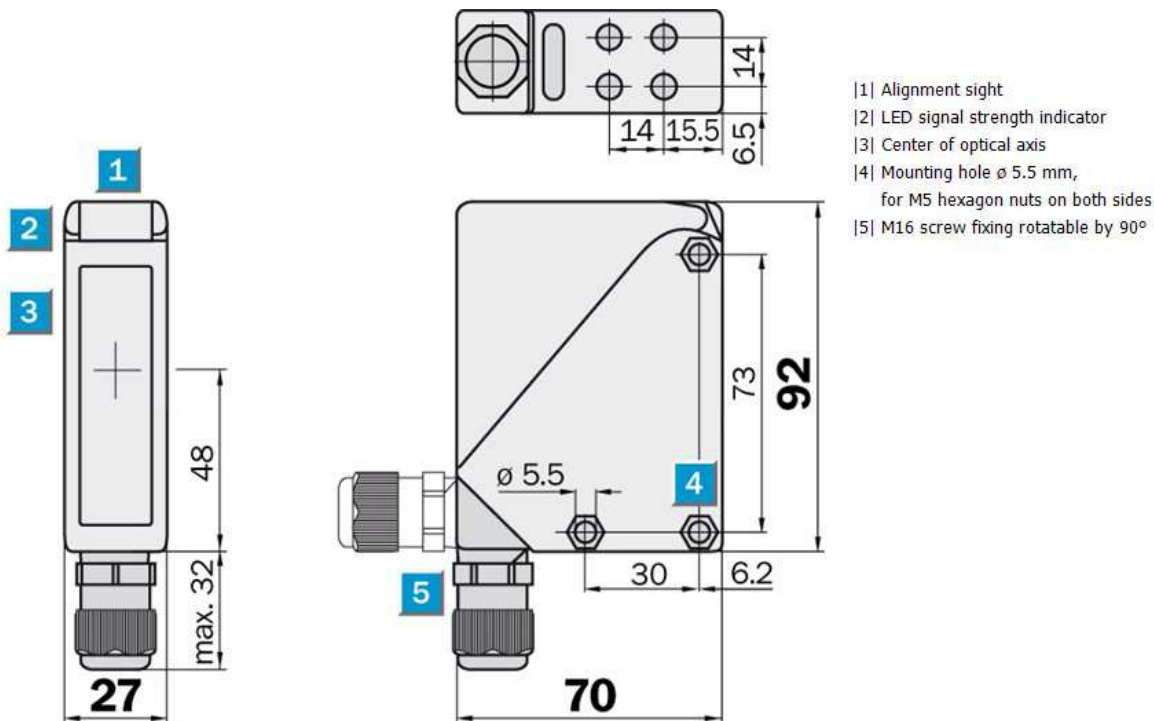
Mechanics/electronics

Supply voltage: 10 V DC ... 30 V DC ¹⁾

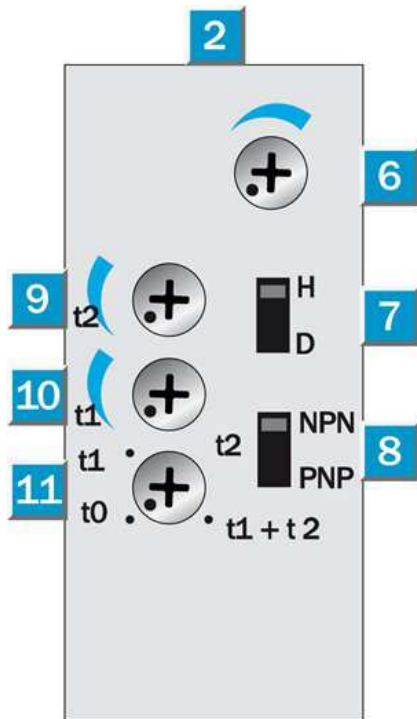
Ripple:	< 5 Vpp ²⁾
Power consumption, sender:	50 mA
Power consumption, receiver:	40 mA
Output type:	NPN, PNP
Switching mode:	Dark switching, Light switching
Switching mode selector:	Selectable via light/dark selector, Selectable via PNP/NPN selector
Output current I _{max.} :	100 mA
Response time:	≤ 500 μs ³⁾
Switching frequency:	1,000 Hz ⁴⁾
Angle of reception:	Ca. 2.5 °
Connection type:	Connector M12, 4-pin ⁵⁾
Circuit protection:::	A, C, D ^{6) 7) 8)}
Protection class:	II ⁹⁾
Weight:	280 g
Housing material:	ABS, Plastic
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
Part number of individual components:	Receiver, WE34-B440, 2022812, Sender, WS34-D440, 2022820
UL File No.:	NRKH.E181493 & 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

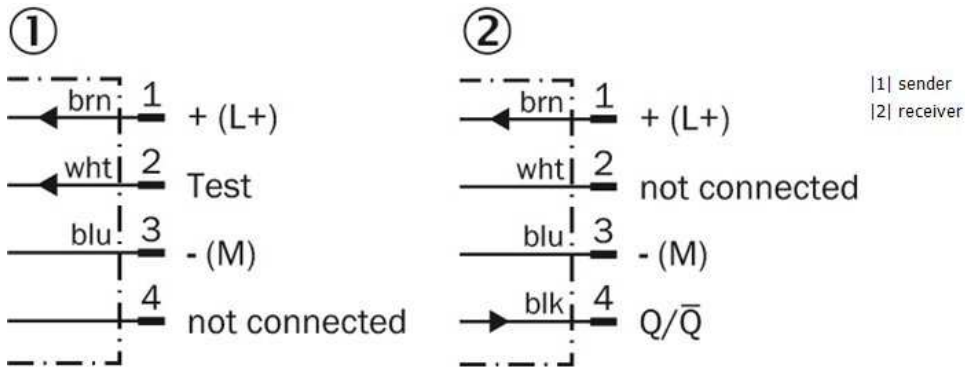


Adjustments possible

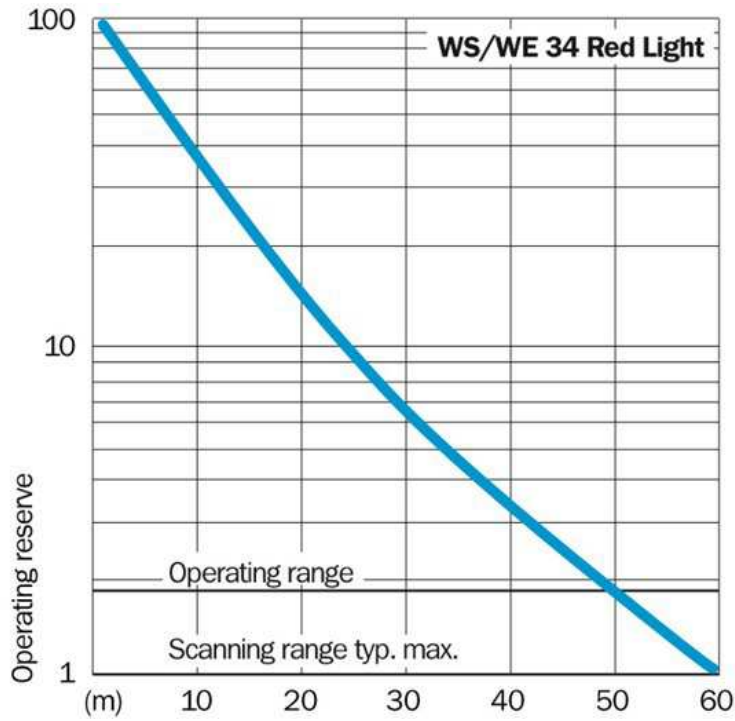


- |2| LED signal strength indicator
- |6| Sensitivity adjustment
- |7| Light/dark selector
- |8| NPN/ PNP selector
- |9| Time control t2=OFF-delay
- |10| Time control t1=ON-delay
- |11| Status indicator

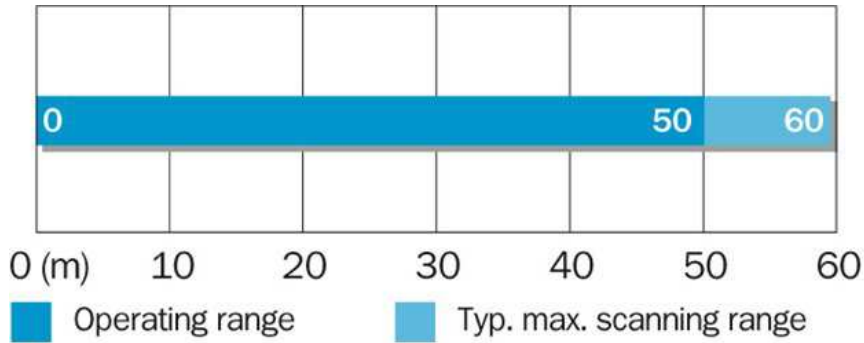
Connection diagram



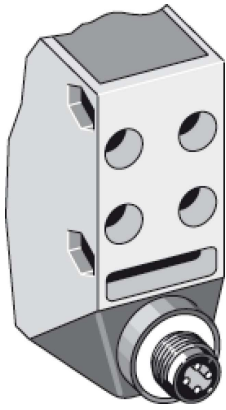
Characteristic curve



Sensing range diagram



Connection type



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