



Photoelectric sensors
W45, Through-beam photoelectric sensor

WS/WE45-R660



Model Name > [WS/WE45-R660](#)
Part No. > [1010997](#)



Illustration may differ

At a glance

- Long sensing range
- Rugged metal housing
- Optional: Powerful front lens heating
- Optional test input, time delays and alarm output
- Variants for 10 - 60 V DC or 24 - 240 V DC / 24 - 240 V AC voltage supply

Your benefits

- Very long sensing range with a high operating reserve at 100 m provides reliable continuous operation
- Rugged metal housing ensures a long service life in harsh industrial environments
- Front lens heating prevents condensation and frost for reliable operation in outdoor applications
- Scope alignment aid ensures easier alignment to long sensing ranges
- Multiple functions for simpler integration of individual systems
- Variants DC voltage and universal AC/DC voltage provides installation flexibility due to same housing



Features

Sensor/detection principle:	Through-beam photoelectric sensor
Dimensions (W x H x D):	60 mm x 105 mm x 105 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0 m ... 350 m
Sensing range:	0 m ... 300 m
Type of light:	Infrared light
Light source:	LED ¹⁾
Time type:	Time delay off, ON and OFF delay, Switch on delay
Delay time:	Adjustable via time delay selector switch: 0.5 ... 12 s
Angle of dispersion:	Ca. 0.9 °
Adjustment:	Potentiometer
Light spot size (distance):	Ø 4.5 m (300 m)

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

Mechanics/electronics

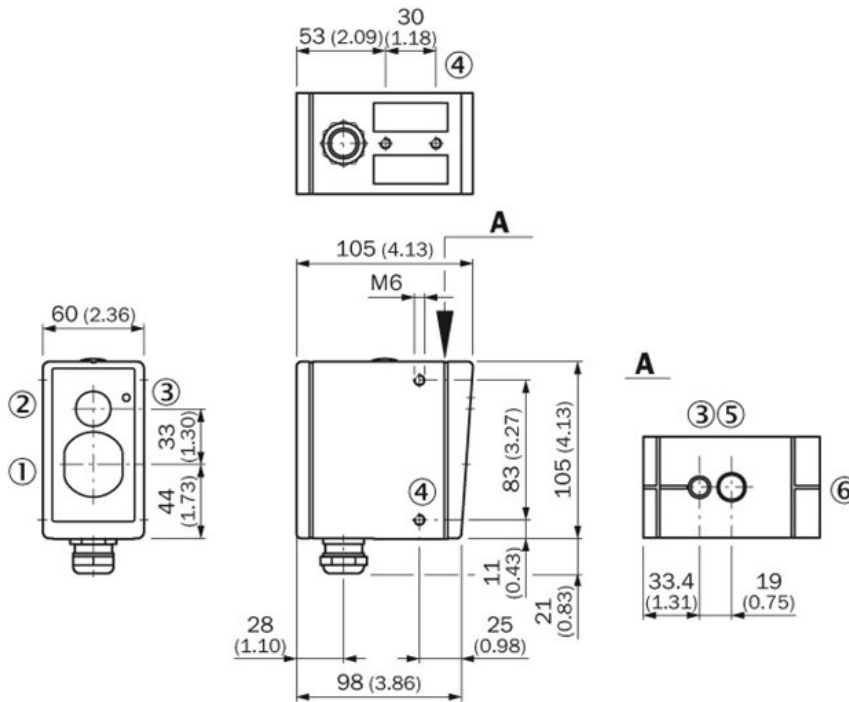
Supply voltage:	24 V AC/DC ... 240 V AC/DC ¹⁾
Power consumption, sender:	≤ 3 VA

Power consumption, receiver:	≤ 3 VA
Output type:	Relay ²⁾
Output function:	Change-over contacts
Switching mode:	Light/dark-switching ³⁾
Output characteristic:	Electrically isolated
Switching mode selector:	Light-/dark-switching selectable via time delay selector switch
Switching current (switching voltage):	4 A (24 V DC), 4 A (240 V AC)
Response time:	≤ 10 ms
Switching frequency:	10 Hz ⁴⁾
Connection type:	Connector Hirschmann, 6-pin
Circuit protection::	A, C ^{5) 6)}
Protection class:	I
Weight:	1,600 g
Front screen heating:	-
Special device:	-
Housing material:	Metal
Enclosure rating:	IP 65
Special features:	Pulsating
Usage category:	AC-15, DC-13, According to EN 60947-1
Ambient operating temperature:	-25 °C ... 55 °C ⁷⁾
Ambient storage temperature:	-40 °C ... 70 °C
UL File No.:	NRKH.E181493 & NRKH7.E181493

1) +10 %, -25% ^{2) 3)} Provide suitable spark suppression for inductive or capacitive loads ⁴⁾ With light/dark ratio 1:1 ⁵⁾ A = V_S connections reverse-polarity protected ⁶⁾

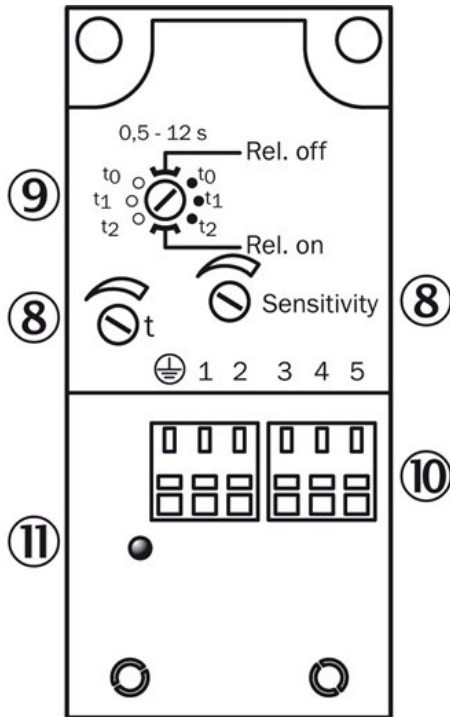
C = interference suppression ⁷⁾ Up to 140 °C with cooling plates (see accessories)

Dimensional drawing



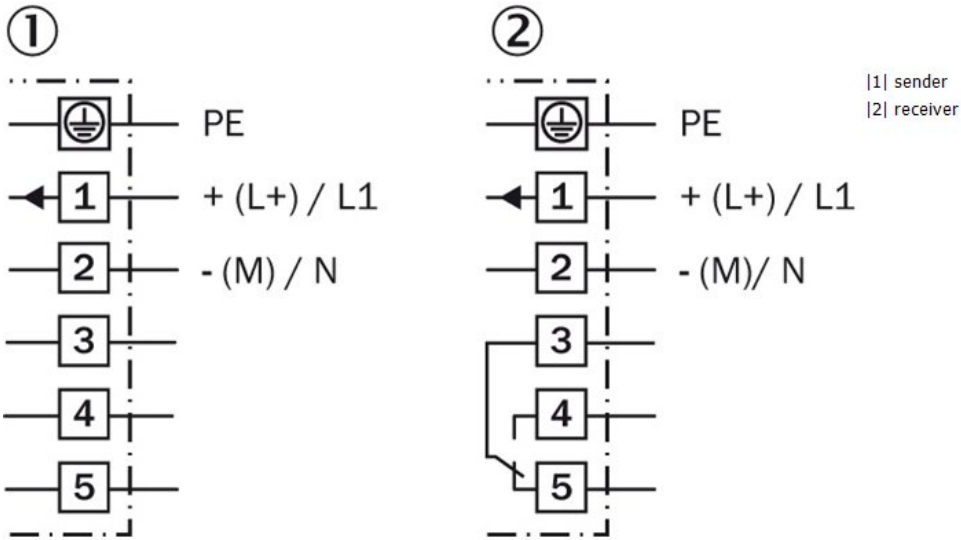
- |1| Center of optical axis, sender (WS), Center of optical axis, receiver (WE)
- |2| View finder lens
- |3| LED signal strength indicator
- |4| M6 threaded mounting hole, 8 mm deep
- |5| Eyepiece for alignment aid
- |6| Alignment sight

Adjustments possible

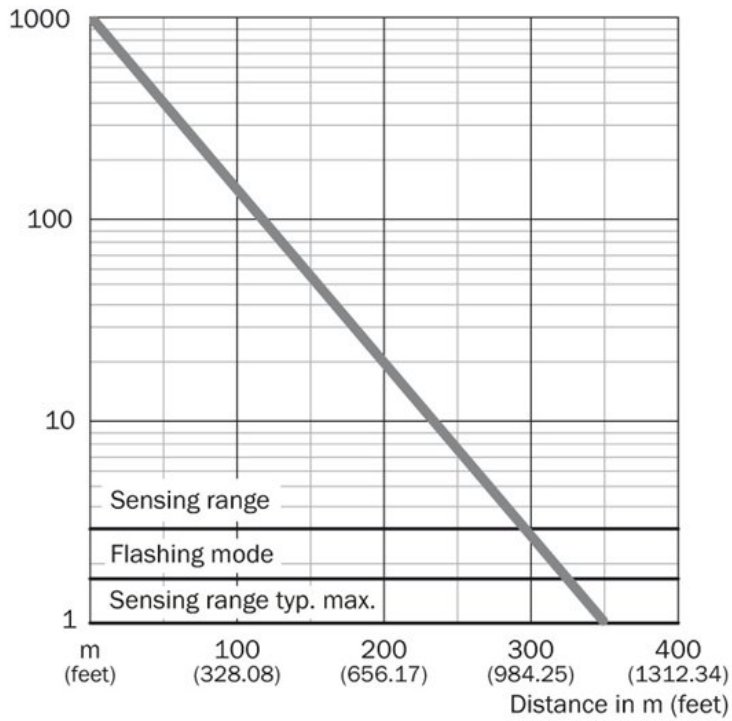


- |7| Sensitivity adjustment
- |8| Time control
- |9| time delay selector switch
- |10| terminal strip
- |11| Status indicator

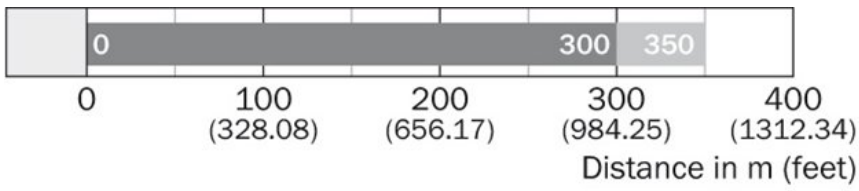
Connection diagram



Characteristic curve



Sensing range diagram



■ Sensing range ■ Sensing range typ. max.

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