



Photoelectric sensors  
W24-2, Photoelectric proximity sensor,  
Background suppression

WT24-2R210S11

**Model Name** > [WT24-2R210S11](#)  
**Part No.** > [1019359](#)



#### At a glance

- Precise background suppression at ranges up to 2500 mm
- Immune to ambient light and crosstalk from another photoelectric sensor
- Switch selectable PNP or NPN output, Switch selectable Light or Dark operating mode
- Variants with DC voltage and universal AC/DC voltage with UL approval
- Optional test input, adjustable ON and OFF time delays, alarm output and front screen heating also available in high-power version
- M12 or terminal chamber connection: 90° rotatable
- Red light or long-range IR

#### Your benefits

- Metal housing that has been IP 69K tested provides reliability and a long service life
- Immune to ambient light and crosstalk, reducing sensor downtime
- Precise detection at long sensing ranges
- User interface is stored under a durable protection hood to prevent unwanted tampering and protect vital components
- Selectable output type, operating mode, and adjustable time delays makes integration easier and reduce the number of devices needed
- Variants with DC voltage and universal AC/DC voltage provide installation flexibility



#### Features

|                                   |                                                        |
|-----------------------------------|--------------------------------------------------------|
| Sensor/detection principle:       | Photoelectric proximity sensor, Background suppression |
| Dimensions (W x H x D):           | 27 mm x 87.5 mm x 65 mm                                |
| Housing design (light emission):  | Rectangular                                            |
| Sensing range max.:               | 100 mm ... 2,000 mm <sup>1)</sup>                      |
| Sensing range:                    | 100 mm ... 2,000 mm <sup>2)</sup>                      |
| Type of light:                    | Infrared light <sup>3)</sup>                           |
| Light source:                     | LED <sup>3)</sup>                                      |
| Light spot diameter (distance):   | Ø 80 mm (2,500 mm)                                     |
| Adjustment of operating distance: | Potentiometer                                          |

<sup>1) 2)</sup> Object with 90 % reflectance (referred to standard white DIN 5033) <sup>3)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

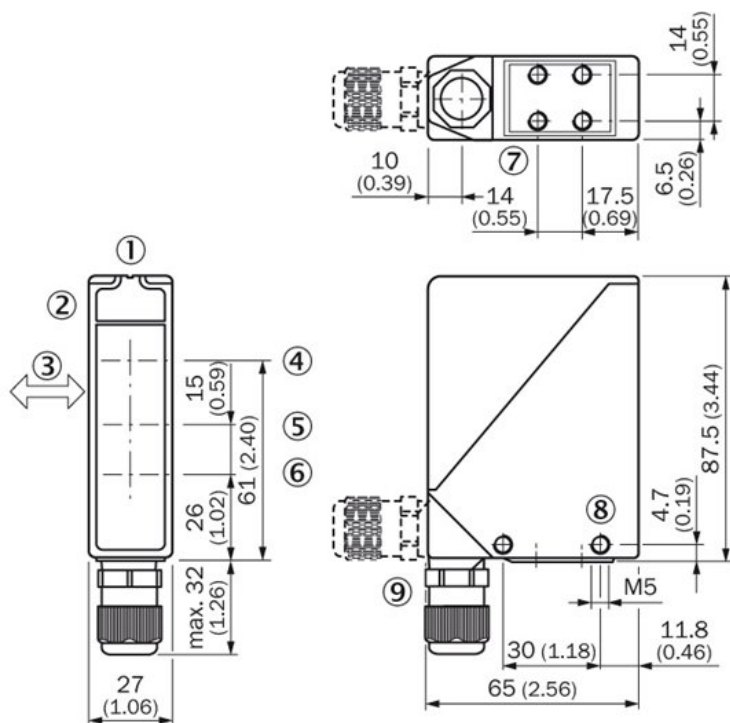
#### Mechanics/electronics

|                                        |                                                                                                                            |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Supply voltage::                       | 12 V DC ... 240 V DC <sup>1) 2)</sup>                                                                                      |
| Power consumption:                     | < 2 VA                                                                                                                     |
| Output type:                           | Relay, Light/dark-switching, selectable via light/dark selector, change-over contacts, electrically isolated <sup>3)</sup> |
| Output function:                       | Change-over contacts                                                                                                       |
| Switching mode selector:               | Selectable via light/dark selector                                                                                         |
| Switching current (switching voltage): | 4 A (24 V DC), 4 A (250 V AC)                                                                                              |
| Response time:                         | ≤ 10 ms                                                                                                                    |
| Switching frequency:                   | 10 Hz <sup>4)</sup>                                                                                                        |
| Connection type:                       | Terminal connection with M16 gland <sup>5)</sup>                                                                           |
| Circuit protection::                   | A, C <sup>6) 7)</sup>                                                                                                      |
| Protection class:                      | II <sup>8)</sup>                                                                                                           |
| Weight:                                | 330 g                                                                                                                      |
| Special device:                        | ✓                                                                                                                          |
| Housing material:                      | Zinc diecast                                                                                                               |
| Optics material:                       | PMMA                                                                                                                       |
| Enclosure rating:                      | IP 67                                                                                                                      |
| Special features:                      | Very resistant against shock and vibration                                                                                 |
| Usage category:                        | AC-15, DC-13, According to EN 60947-1                                                                                      |
| Ambient operating temperature:         | -40 °C ... 60 °C                                                                                                           |
| Ambient storage temperature:           | -40 °C ... 75 °C                                                                                                           |
| Switching mode characteristic:         | Electrically isolated                                                                                                      |

Provide suitable spark suppression for inductive or capacitive loads;

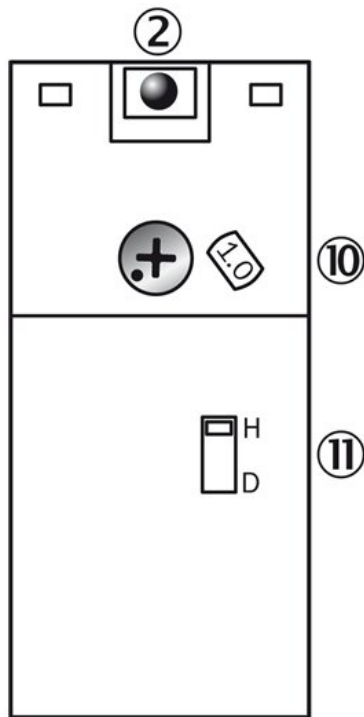
1) Limit values, operation in short-circuit protected network max. 8 A 2) +/- 10 % 3) Provide suitable spark suppression for inductive or capacitive loads 4) With light/dark ratio 1:1 5) Connection rotatable by 90° 6)  $A = V_S$  connections reverse-polarity protected 7) C = interference suppression 8) Rated voltage 250 V AC/DC

Dimensional drawing



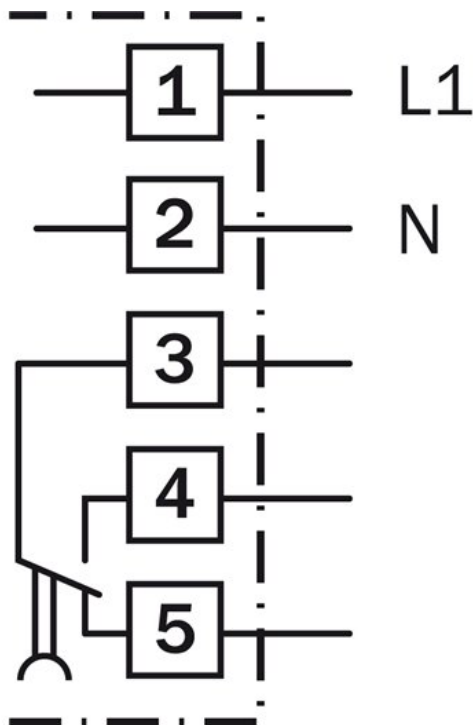
- |1| Alignment sight
- |2| LED signal strength indicator
- |3| Standard direction of the material being scanned
- |4| Center of optical axis, sender
- |5| Centre of optical axis, receiver (close range)
- |6| Centre of optical axis, receiver (far range)
- |7| M5 threaded mounting hole, 6 mm deep
- |8| M5 threaded mounting hole, through-hole
- |9| M16 screw fixing and plug rotatable by 90°

Adjustments possible

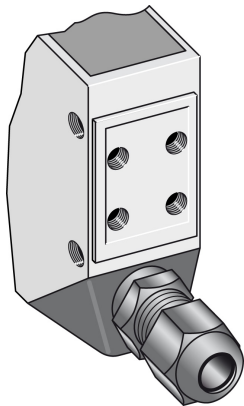


- |2| LED signal strength indicator
- |10| Adjustment sensing range  
(WT) / sensitivity (WL, WS/WE)
- |11| Light/dark selector

Connection diagram



Connection type



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