



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

WT24-2B210



**Model Name** > [WT24-2B210](#)  
**Part No.** > [1016931](#)



Actual item may differ

**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**

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

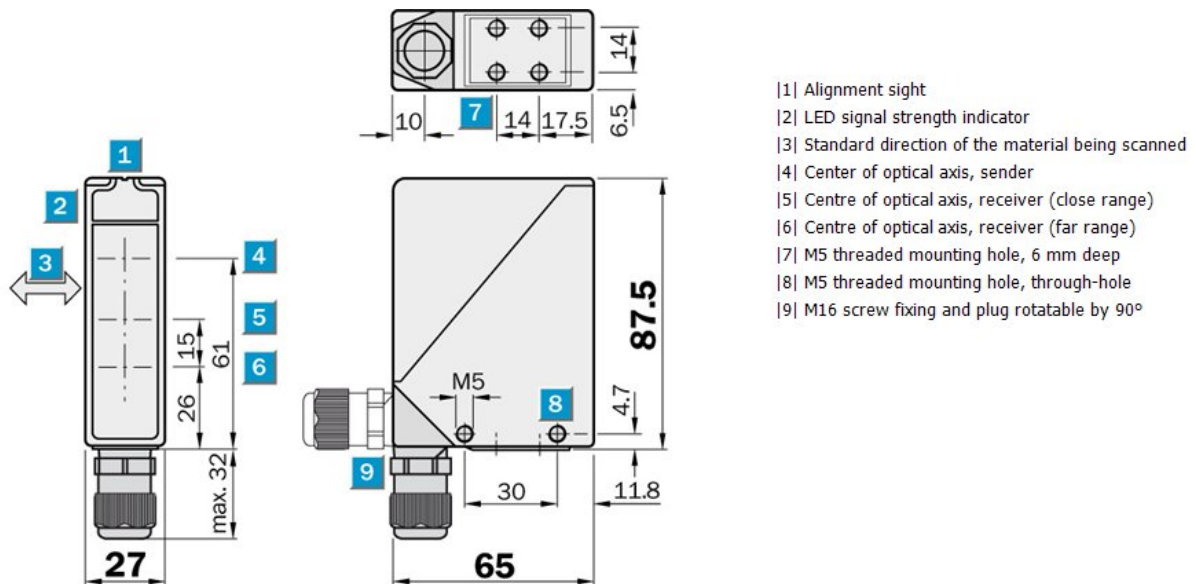
<sup>1)</sup> Object with 90 % reflectance (referred to standard white DIN 5033) <sup>2)</sup> Average service life 100,000 h at Ta = +25 °C

**Mechanics/electronics**

Enclosure rating:	IP 69K
Supply voltage:	10 V DC ... 30 V DC
Residual ripple:	< 5 Vpp <sup>2)</sup>
Power consumption:	≤ 50 mA <sup>3)</sup>
Switching output:	NPN, light/dark-switching, selectable via NPN/PNP selector PNP, light/dark-switching, selectable via light/dark selector
Output current I <sub>max.</sub> :	100 mA
Response time:	≤ 500 μs <sup>4)</sup>
Switching frequency:	1,000 Hz <sup>5)</sup>
Connection type:	Terminal connection with M16 gland <sup>6)</sup>
Protection class:	II <sup>7)</sup>
Circuit protection:::	A C <sup>8) 9) 10)</sup> D
Weight:	330 g
Housing material:	Zinc diecast
Optics material:	PMMA
Ambient temperature, operation:	-40 °C ... 60 °C
Ambient temperature, storage:	-40 °C ... 75 °C
Test input sender off:	TE to 0 V
Front screen heating:	-

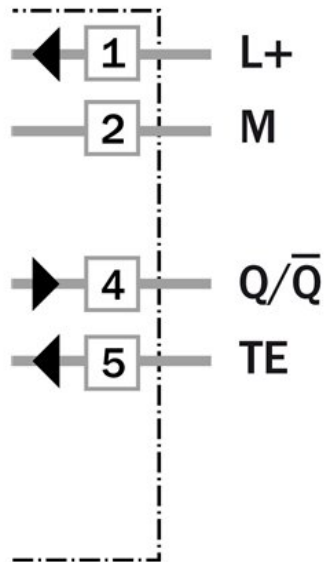
1) Limit values 2) May not exceed or fall short of V<sub>S</sub> 3) Without load 4) Signal transit time with resistive load 5) With light/dark ratio 1:1 6) Connection rotatable by 90° 7)  
Reference voltage 50 V DC 8) A = V<sub>S</sub> connections reverse-polarity protected 9) C = interference suppression 10) D = outputs overcurrent and short-circuit protected

## Dimensional drawing

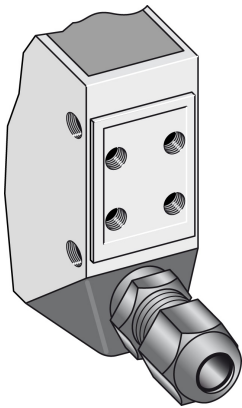


- [1] Alignment sight
- [2] LED signal strength indicator
- [3] Standard direction of the material being scanned
- [4] Center of optical axis, sender
- [5] Centre of optical axis, receiver (close range)
- [6] Centre of optical axis, receiver (far range)
- [7] M5 threaded mounting hole, 6 mm deep
- [8]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

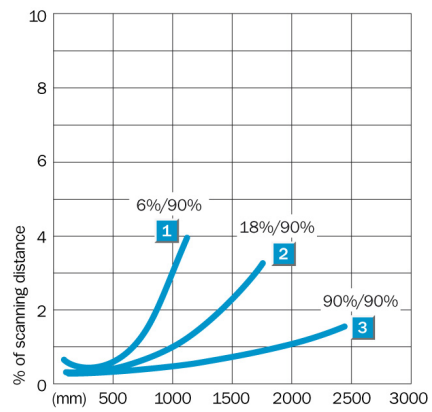
## Connection diagram



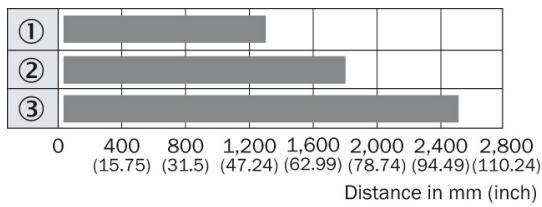
## Connection type



## Characteristic curve



## Sensing range diagram



■ Operating distance

- ① Scanning distance on black, 6 % remission
- ② Scanning distance on grey, 18 % remission
- ③ Scanning distance on white, 90 % remission

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