



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

WT24-2B210



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

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



Actual item may differ



Features

Dimensions (W x H x D):	27 mm x 87.5 mm x 65 mm
Sensing range max.:	100 mm ... 2,500 mm ¹⁾
Sensing range:	100 mm ... 2,500 mm
Housing desig (light emission):	Cuboid
Light source:	LED ²⁾
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)

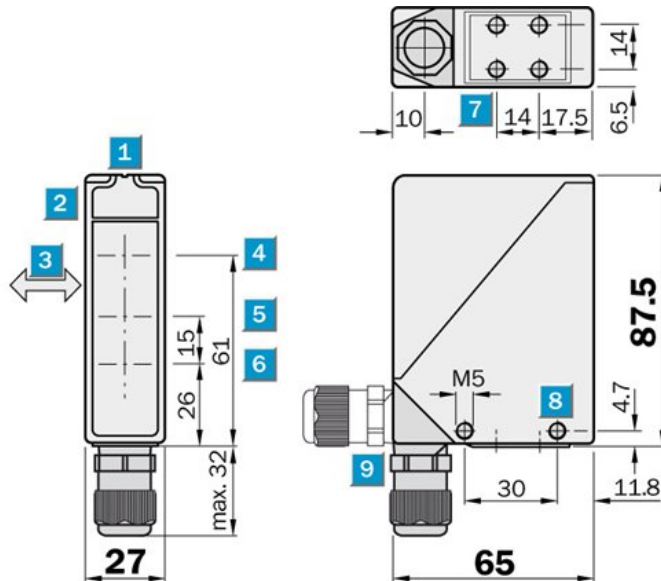
¹⁾ Object with 90 % reflectance (referred to standard white DIN 5033) ²⁾ Average service life 100,000 h at Ta = +25 °C

Mechanics/electronics

Enclosure rating:	IP 69K
Supply voltage:	10 V DC ... 30 V DC
Residual ripple:	< 5 Vpp ²⁾
Power consumption:	≤ 50 mA ³⁾
Switching output:	NPN, light/dark-switching, selectable via NPN/PNP selector PNP, light/dark-switching, selectable via light/dark selector
Output current I _{max.} :	100 mA
Response time:	≤ 500 μs ⁴⁾
Switching frequency:	1,000 Hz ⁵⁾
Connection type:	Terminal connection with M16 gland ⁶⁾
Protection class:	II ⁷⁾
Circuit protection:::	A C ^{8) 9) 10)} 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
Special device:	-
Front screen heating:	-

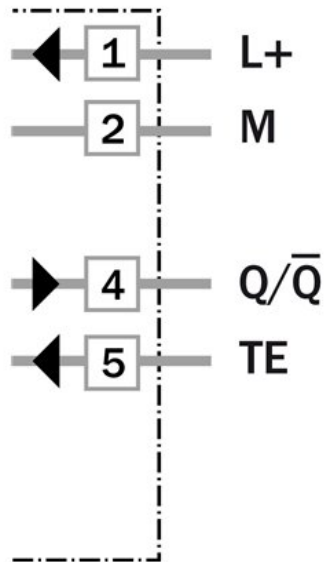
1) Limit values 2) May not exceed or fall short of V_S 3) Without load 4) Signal transit time with resistive load 5) With light/dark ratio 1:1 6) Connection rotatable by 90° 7) Reference voltage 50 V DC 8) A = V_S connections reverse-polarity protected 9) C = interference suppression 10) D = outputs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

Dimensional drawing

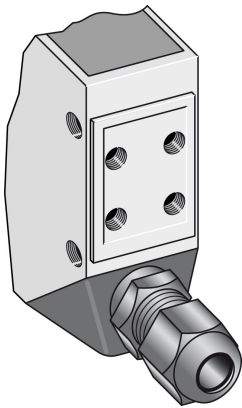


- [1] Alignment sight
- [2] LED signal strength indicator
- [3] Standard direction of the material being scanned
- [4] Center of optical axis, sender
- [5] Centre of optical axis, receiver (close range)
- [6] Centre of optical axis, receiver (far range)
- [7] M5 threaded mounting hole, 6 mm deep
- [8]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

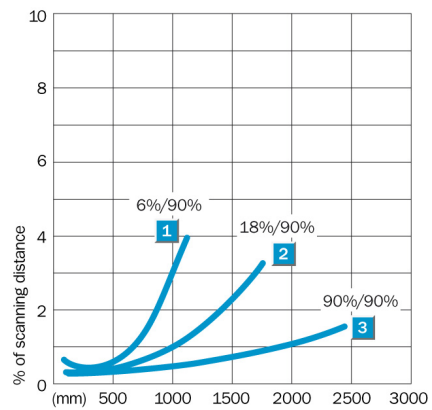
Connection diagram



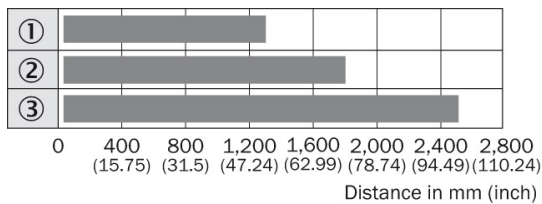
Connection type



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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