



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

WT24-2X200



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

**Model Name** > [WT24-2X200](#)  
**Part No.** > [1041910](#)



Actual item may differ

**At a glance**

- Classification: EX II 2G Ex ia op is IIC T4 according to Directive 94/9/EC (ATEX)
- Corresponds to Category 2G
- Output type: EN 60947-5-6 (NAMUR)
- Long sensing range with very precise background suppression
- M12 or terminal chamber connection: 90° rotatable
- Durable metal housing

**Your benefits**

- Allows longer sensing range despite the limited factors of the norms for Category 2G (ATEX, explosive environments)
- Metal housing that has been IP 69K tested provides reliability and a long service life
- Flexible installation due to 90° rotatable connector



**Features**

Dimensions (W x H x D)::	27 mm x 87.5 mm x 65 mm
Sensing range max.:	40 mm ... 2,000 mm <sup>1)</sup>
Sensing range:	100 mm ... 2,000 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):	50 mm (2,000 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

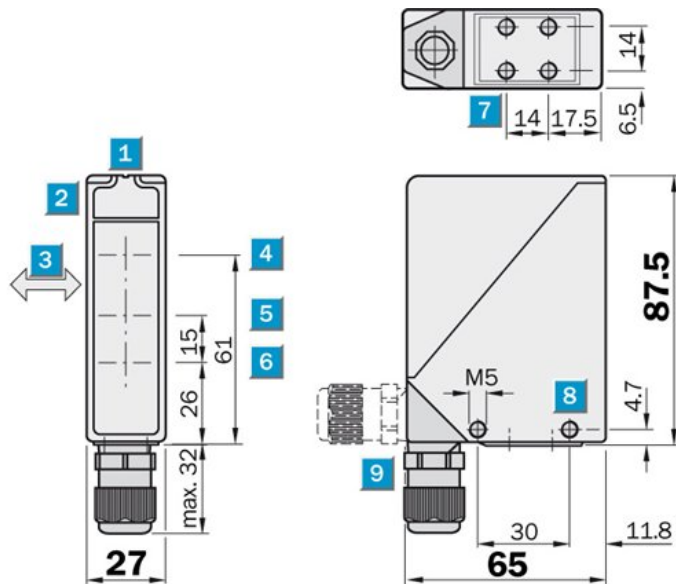
**Mechanics/electronics**

Enclosure rating:	IP 67
Supply voltage:	5 V DC ... 15.5 V DC <sup>1)</sup>
Residual ripple:	< 0.4 Vpp <sup>2)</sup>
Switching output:	NAMUR, light switching
Response time:	≤ 10 ms <sup>3)</sup>
Switching frequency:	50 Hz <sup>4)</sup>
Connection type:	Terminal connection with M16 gland <sup>5)</sup>

Protection class:	II <sup>6)</sup>
Circuit protection::	A <sup>7)</sup> 8) C
Weight:	330 g
Housing material:	Zinc diecast
Optics material:	glass
Ambient temperature, operation:	-20 °C ... 60 °C
Ambient temperature, storage:	-25 °C ... 70 °C
Front screen heating:	-
EC type approval certificate:	PTB 03 ATEX 2105
Ex marking (ATEX):	II 2G Ex ia op is IIC T4 according to directive 94/9/EG (ATEX)
Hazardous area category:	2G
Input voltage U <sub>i</sub> max:	15.5 V <sup>9)</sup>
Input power P <sub>imax</sub> ::	100 mW <sup>10)</sup>
Input current I <sub>i</sub> max:	53 mA <sup>11)</sup>
Internal capacitance C <sub>i</sub> max.:	80 nF <sup>12)</sup>
Internal inductance L <sub>i</sub> max.:	0 μH <sup>13)</sup>

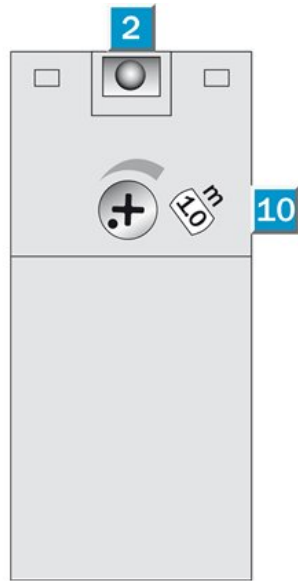
1) Limit values, supply with switching amplifier EN2Ex (internal resistor approx. 1 kOhm) <sup>2)</sup> May not exceed or fall short of V<sub>S</sub> <sup>3)</sup> Signal transit time with resistive load <sup>4)</sup> With light/dark ratio 1:1 <sup>5)</sup> Connection rotatable by 90° <sup>6)</sup> Reference voltage 50 V DC <sup>7)</sup> A = V<sub>S</sub> connections reverse-polarity protected <sup>8)</sup> C = interference suppression <sup>9)</sup> <sup>10)</sup> <sup>11)</sup> <sup>12)</sup> <sup>13)</sup> For connection to a sperately certified intrinsically safe circuit only

## Dimensional drawing



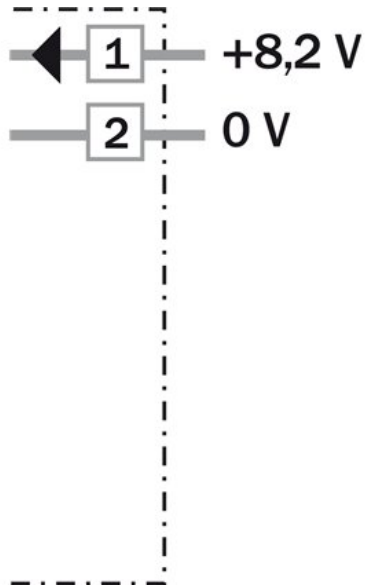
- [1] Alignment sight
- [2] LED signal strength indicator
- [3] Standard direction of the material being scanned
- [4] Center of optical axis, sender
- [5] Centre of optical axis, receiver (close range)
- [6] Centre of optical axis, receiver (far range)
- [7] M5 threaded mounting hole, 6 mm deep
- [8]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

## Einstell-Möglichkeiten

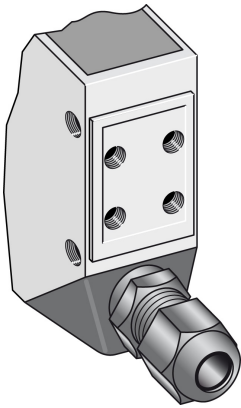


|2| LED signal strength indicator  
|10| Sensing distance adjustment

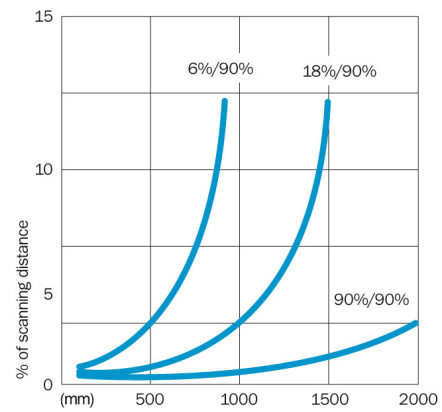
## Connection diagram



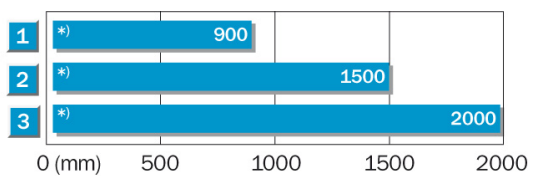
## Connection type



## Characteristic curve



## Sensing range diagram



\*) Lower bound of detection area depending on the adjusted scanning distance (see Blind zone curve)

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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