



Photoelectric sensors  
W24-2, Through-beam photoelectric sensor

WS/WE24-2V530S01



**Model Name** > [WS/WE24-2V530S01](#)  
**Part No.** > [1023549](#)



*Illustration may differ*

**At a glance**

- Long sensing range with high operating reserve
- Metal housing that has been IP 69k tested
- 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
- M12 or terminal chamber connection: 90° rotatable

**Your benefits**

- Metal housing that has been IP 69K tested provides reliability and a long service life
- High operating reserve at a long sensing range reduces downtime
- Alarm output signals marginal operation to provide an early warning
- Test input provides diagnostic feedback for example misalignment
- Selectable output type, operating mode, and adjustable time delays makes integration easier and reduce the number of devices needed
- Ensuring reliable operation in environments with temperatures fluctuation due to standard or high-power front lens heating (prevention and reduction of condensation water on the front lens)
- Variants with DC voltage and universal AC/DC voltage provide installation flexibility
- Red light provides easy alignment, which saves time



**Features**

Sensor/detection principle:	Through-beam photoelectric sensor
Dimensions (W x H x D):	27 mm x 87.5 mm x 65 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0 m ... 60 m
Sensing range:	0 mm ... 50 mm
Type of light:	Visible red light
Light source:	LED <sup>1)</sup>
Sensitivity adjustment:	Sensitivity adjustment
Angle of dispersion:	Ca. 1 °
Light spot size (distance):	Ø 700 mm (50 m)

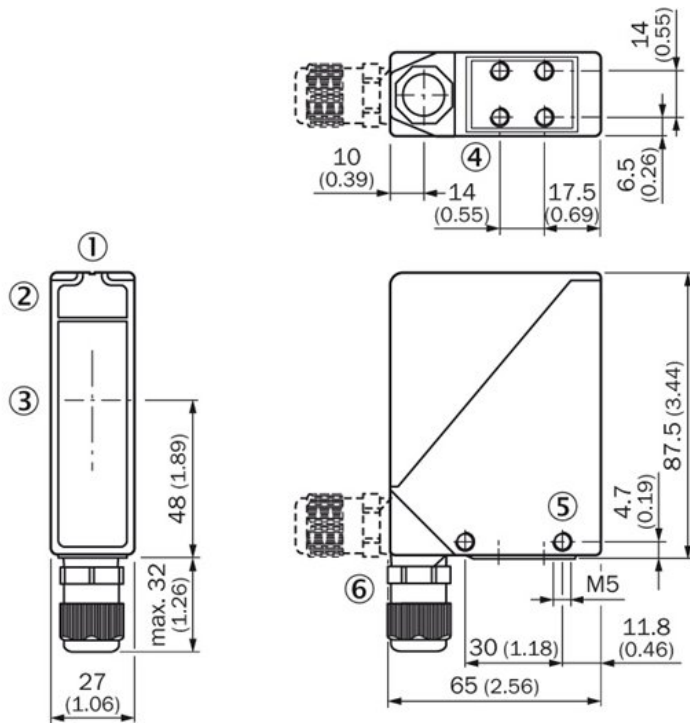
<sup>1)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

## Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	< 5 Vpp <sup>2)</sup>
Power consumption, sender:	150 mA <sup>3)</sup>
Power consumption, receiver:	140 mA <sup>4)</sup>
Output type:	NPN, PNP
Switching mode:	Light/dark-switching
Switching mode selector:	Selectable via light/dark selector, Selectable via NPN/PNP selector
Output current I <sub>max.</sub> :	100 mA
Response time:	≤ 500 μs <sup>5)</sup>
Switching frequency:	1,000 Hz <sup>6)</sup>
Angle of reception:	Ca. 2.5 °
Connection type:	Connector M12, 5-pin <sup>7)</sup>
Circuit protection:::	A, C, D <sup>8) 9) 10)</sup>
Protection class:	II <sup>11)</sup>
Weight:	700 g
Front screen heating:	-
Special device:	✓
Housing material:	Metal, Zinc diecast
Optics material:	Glass
Enclosure rating:	IP 67
Special features:	Dynamic front lense heating, Front lense made of glass
Test input sender off:	TE to 0 V
Ambient operating temperature:	-40 °C ... 60 °C
Ambient storage temperature:	-40 °C ... 75 °C
Part number of individual components:	Receiver, WE24-2V530S01, 2026926, Sender, WS24-2D530S01, 2026925

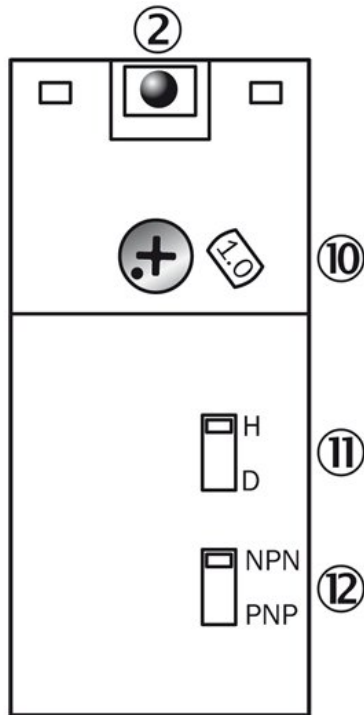
<sup>1)</sup> Limit values, operation in short-circuit protected network max. 8 A <sup>2)</sup> May not exceed or fall short of  $V_S$  tolerances <sup>3) 4)</sup> Without load <sup>5)</sup> Signal transit time with resistive load <sup>6)</sup> With light/dark ratio 1:1 <sup>7)</sup> Connection rotatable by 90° <sup>8)</sup> A =  $V_S$  connections reverse-polarity protected <sup>9)</sup> C = interference suppression <sup>10)</sup> D = outputs overcurrent and short-circuit protected <sup>11)</sup> Reference voltage 50 V DC

**Dimensional drawing**



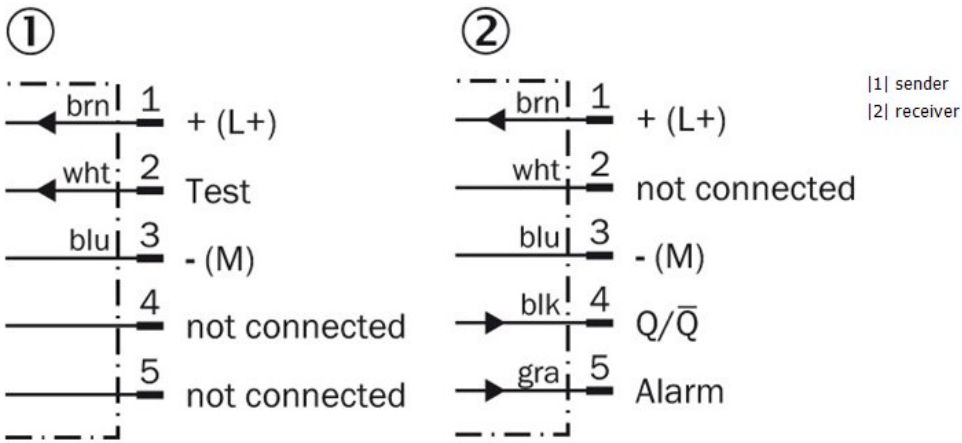
- |1| Alignment sight
- |2| LED signal strength indicator
- |3| Center of optical axis
- |4| M5 threaded mounting hole, 6 mm deep
- |5| M5 threaded mounting hole, through-hole
- |6| M16 screw fixing and plug rotatable by 90°

**Adjustments possible**

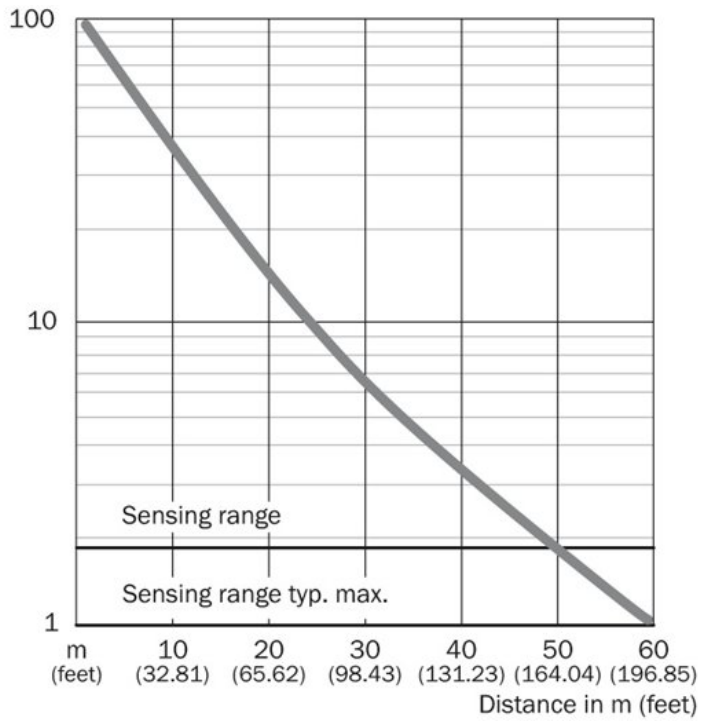


- |2| LED signal strength indicator
- |10| Adjustment sensing range  
(WT) / sensitivity (WL, WS/WE)
- |11| Light/dark selector
- |12| NPN/ PNP selector

**Connection diagram**

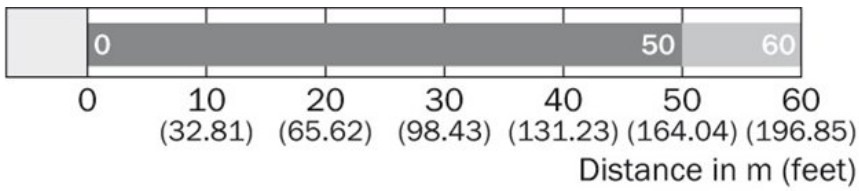


**Characteristic curve**



### Sensing range diagram

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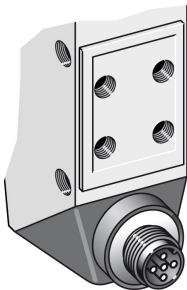


■ Sensing range

■ Sensing range typ. max.

### Connection type

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