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DATA SHEET

# WS/WE24-2R240

W24  
Photoelectric sensors

**SICK** Sensor Intelligence

## PHOTOELECTRIC SENSORS

## WS/WE24-2R240

## ORDERING INFORMATION

Type	part no.
WS/WE24-2R240	1017864

Further device versions and accessories at [www.sick.com/W24](http://www.sick.com/W24)



Illustration may differ



## DETAILED TECHNICAL DATA

## FEATURES

Functional 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 m ... 50 m
Focus	Approx. 1°
Type of light	Visible red light
Light source	LED <sup>1)</sup>
Light spot size (distance)	Ø 700 mm (50 m)
Angle of dispersion	Approx. 1°
Adjustment	Potentiometer
Special features	Front screen heating, permanent, in conjunction with plastic front screen

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

**MECHANICS/ELECTRONICS**

Supply voltage $U_b$	20 V AC/DC ... 250 V AC/DC
Power consumption	< 3 VA
Switching output	Relay, electrically isolated <sup>1)</sup>
Output function	Change-over contacts
Switching mode	Light/dark switching <sup>1)</sup>
Switching mode selector	Selectable via light/dark selector
Switching current (switching voltage)	4 A @ 250 V AC, 4 A @ 24 V DC, 0.125 A @ 250 V DC UL: 4 A @ 250 V AC, general use / 4 A @ 250 V AC, resistive (NO) / 3 A @ 250 V AC, resistive (NC) / 4 A @ 24 V DC, NO, general use / 3 A @ 24 V DC, NC, general use / R300 / B300 (NO contacts only)
Response time	≤ 10 ms
Switching frequency	10 Hz <sup>2)</sup>
Angle of reception	Approx. 2.5°
Time functions	Switch-on delay Off delay
Delay time	Adjustable via time delay selector switch, 0.5 s ... 10 s
Connection type	Terminal connection with M16 gland
Circuit protection	A <sup>3)</sup> C <sup>4)</sup>
Protection class	II <sup>5)</sup>
Weight	660 g
Front screen heating	✓ <sup>6)</sup>
Housing material	Metal, zinc diecast
Optics material	Plastic, PMMA
Enclosure rating	IP67
Usage category	AC-15, DC-13 According to EN 60947-1
Ambient operating temperature	-40 °C ... +60 °C
Ambient temperature, storage	-40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493
Part number of individual components	2021159 WS24-2U240 2021163 WE24-2R240

<sup>1)</sup> Provide suitable spark suppression for inductive or capacitive loads.

<sup>2)</sup> With light/dark ratio 1:1.

<sup>3)</sup> A =  $V_b$  connections reverse-polarity protected.

<sup>4)</sup> C = interference suppression.

<sup>5)</sup> Rated voltage: 250 V AC/DC.

<sup>6)</sup> Static, low heat output, use in +5° C ... +15° C.

**SAFETY-RELATED PARAMETERS**

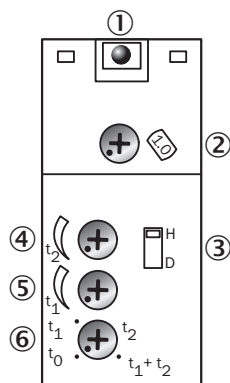
MTTF <sub>D</sub>	327 years
DC <sub>avg</sub>	0 %

**CERTIFICATES**

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓

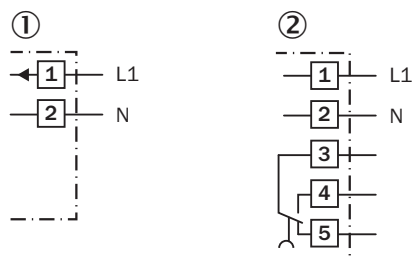
China RoHS	✓
CCC certificate	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

**ADJUSTMENTS WT24-2, WL24-2, WS/WE24-2, AC/DC, WITH TIME FUNCTIONS**



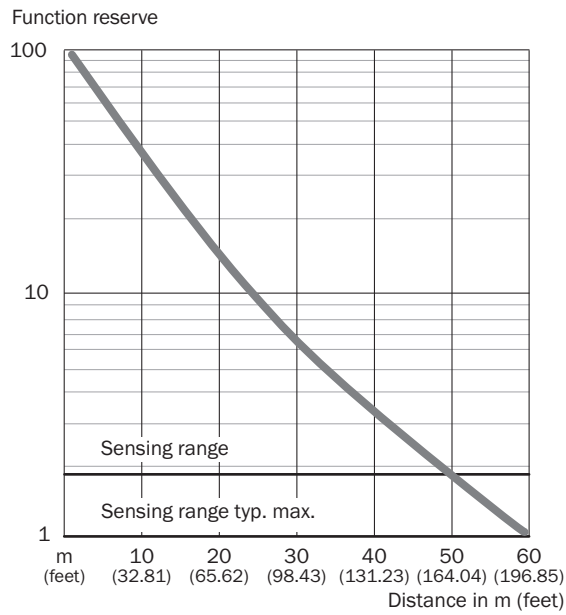
- ① Receive indicator
- ② Adjustment sensing range (WT) / sensitivity (WL, WS/WE)
- ③ Light/dark selector
- ④ time control  $t_2$  = OFF delay
- ⑤ time control  $t_1$  = ON delay
- ⑥ time delay selector switch

**CONNECTION DIAGRAM CD-127**

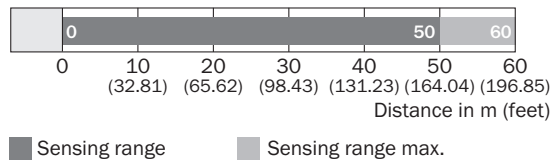


- ① sender
- ② receiver

**CHARACTERISTIC CURVE WS/WE24-2**



**SENSING RANGE DIAGRAM WS/WE24-2**





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# SICK AT A GLANCE

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SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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