



DATA SHEET

WS/WE24-2B430

W24
Photoelectric sensors

SICK

Sensor Intelligence



WS/WE24-2B430

Type	part no.
WS/WE24-2B430	1017853

CE cULus UK
CA

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 ¹⁾
Light spot size (distance)	Ø 700 mm (50 m)
Angle of dispersion	Approx. 1°
Adjustment	Potentiometer

¹⁾ Average service life: 100,000 h at $T_{11} = +25\text{ }^{\circ}\text{C}$.

Supply voltage U _B	10 V DC ... 30 V DC ¹⁾
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Limit values when operated in short-circuit protected network: max. 8 A.

²⁾ May not fall below or exceed U_v tolerances.

3) Without load.

4) **Signal transit time with resistive load.**

5) With light/dark ratio 1:1.

6) $A = V_S$ connections reverse-polarity protected.

⁷⁾ C = interference suppression.

8) D = outputs overcurrent and short-circuit protected.

9) Reference voltage: 50 V DC.

Ripple	$< 5 \text{ V}_{pp}^{2)}$
Power consumption, sender	$50 \text{ mA}^{3)}$
Power consumption, receiver	$40 \text{ mA}^{3)}$
Switching output	NPN, PNP
Switching mode	Light/dark switching
Switching mode selector	Selectable via PNP/NPN selector, selectable via light/dark selector
Output current I_{max}	$\leq 100 \text{ mA}$
Response time	$\leq 500 \mu\text{s}^{4)}$
Switching frequency	$1,000 \text{ Hz}^{5)}$
Angle of reception	Approx. 2.5°
Connection type	Male connector M12, 4-pin
Circuit protection	A ⁶⁾ C ⁷⁾ D ⁸⁾
Protection class	II ⁹⁾
Weight	660 g
Housing material	Metal, zinc diecast
Optics material	Plastic, PMMA
Enclosure rating	IP69K
Test input sender off	TE to 0 V
Ambient operating temperature	$-40^\circ\text{C} \dots +60^\circ\text{C}$
Ambient temperature, storage	$-40^\circ\text{C} \dots +75^\circ\text{C}$
UL File No.	NRKH.E181493 & NRKH7.E181493
Part number of individual components	2021144 WS24-2D430 2021145 WE24-2B430

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SAFETY-RELATED PARAMETERS

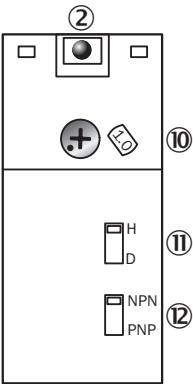
$MTTF_D$	378 years
DC_{avg}	0 %
T_M (mission time)	20 years

CERTIFICATES

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

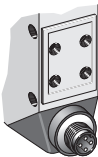
China Compulsory Product Certification (CCC) exempt	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

ADJUSTMENTS WT24-2, WL24-2, WS/WE24-2, DC

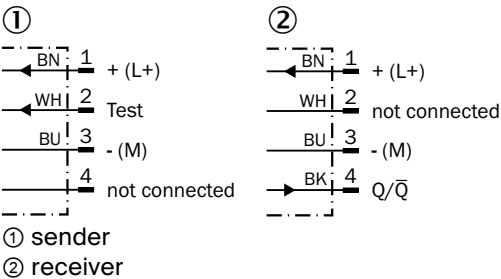


- ② LED signal strength indicator
- ⑩ Adjustment sensing range (WT) / sensitivity (WL, WS/WE)
- ⑪ Light/dark selector
- ⑫ NPN/PNP changeover switch

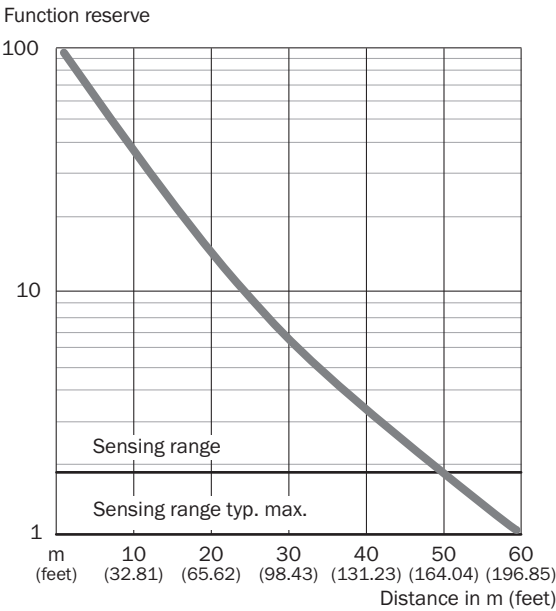
CONNECTION TYPE



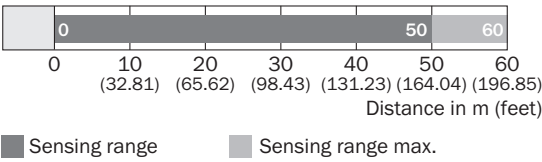
CONNECTION DIAGRAM CD-118



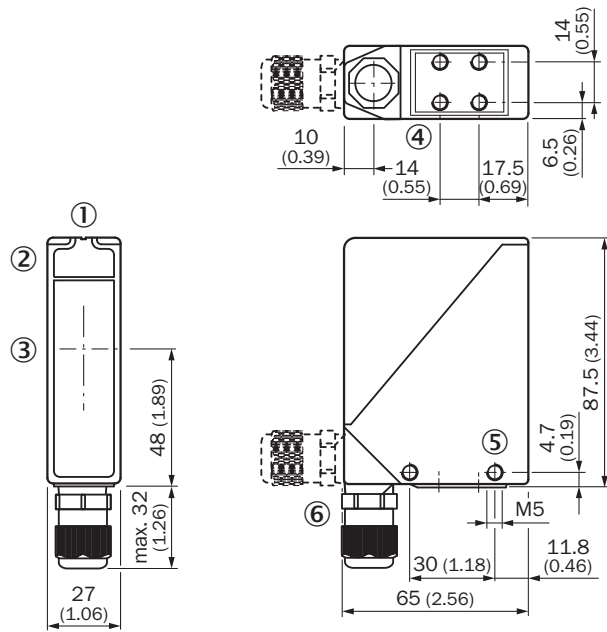
CHARACTERISTIC CURVE WS/WE24-2



SENSING RANGE DIAGRAM WS/WE24-2



DIMENSIONAL DRAWING WS/WE24-2



Dimensions in mm (inch)

- 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°

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1017853



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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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