



DATA SHEET

WL24-2X430

W24
Photoelectric sensors

SICK

Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

WL24-2X430

ORDERING INFORMATION

Type	part no.
WL24-2X430	1026037

Further device versions and accessories at www.sick.com/W24



DETAILED TECHNICAL DATA

FEATURES

Functional principle	Photoelectric retro-reflective 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 ... 22 m ¹⁾
Sensing range	0 m ... 15 m ¹⁾
Type of light	Visible red light
Light source	LED ²⁾
Light spot size (distance)	Ø 250 mm (15 m)
Adjustment	Potentiometer
Special applications	Explosive areas

¹⁾ Reflector PL80A.

²⁾ Average service life: 100,000 h at T_u = +25 °C.

MECHANICS/ELECTRONICS

Supply voltage U _s	5 V DC ... 15.5 V DC ¹⁾
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¹⁾ Limit values, supply with switching amplifier EN2Ex (internal resistor approx. 1 kOhm).

²⁾ May not fall below or exceed U_i tolerances.

³⁾ Signal transit time with resistive load.

⁴⁾ With light/dark ratio 1:1.

⁵⁾ A = V_s connections reverse-polarity protected.

⁶⁾ C = interference suppression.

⁷⁾ Reference voltage: 50 V DC.

⁸⁾ For connection to a separately certified intrinsically safe circuit only.

Ripple	$< 0.4 \text{ V}_{\text{pp}}^{2)}$
Switching output	NAMUR
Switching mode	Light switching
Response time	$\leq 10 \text{ ms}^{3)}$
Switching frequency	$50 \text{ Hz}^{4)}$
Connection type	Male connector M12, 4-pin
Circuit protection	A ⁵⁾ C ⁶⁾
Protection class	II ⁷⁾
Weight	330 g
Polarisation filter	✓
Housing material	Metal, zinc diecast
Optics material	Glass, glass
Enclosure rating	IP67
Type approval certificate	PTB 08 ATEX 2029
Certificate (IECEX)	IECEX PTB 14.0031
ATEX marking	ATEX II 2G Ex ia op is IIC T4 Gb according to directive 2014/34/EU
Ex area category	2G
Input voltage U_i max.	$15.5 \text{ V}^{8)}$
Input power P_i max.	$100 \text{ mW}^{8)}$
Input current I_i max.	$53 \text{ mA}^{8)}$
Internal capacitance C_i max.	$80 \text{ nF}^{8)}$
Internal inductance L_i max.	$0 \text{ }\mu\text{H}^{8)}$
Ambient operating temperature	$-20 \text{ }^\circ\text{C} \dots +60 \text{ }^\circ\text{C}$
Ambient temperature, storage	$-25 \text{ }^\circ\text{C} \dots +70 \text{ }^\circ\text{C}$

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⁴⁾ With light/dark ratio 1:1.

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SAFETY-RELATED PARAMETERS

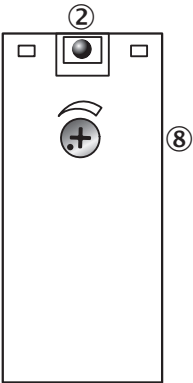
MTTF _D	258 years
DC _{avg}	0 %

CERTIFICATES

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

ATEX certificate	✓
IECEX certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

ADJUSTMENTS

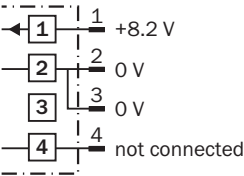


- ② LED signal strength indicator
- ⑧ sensitivity control

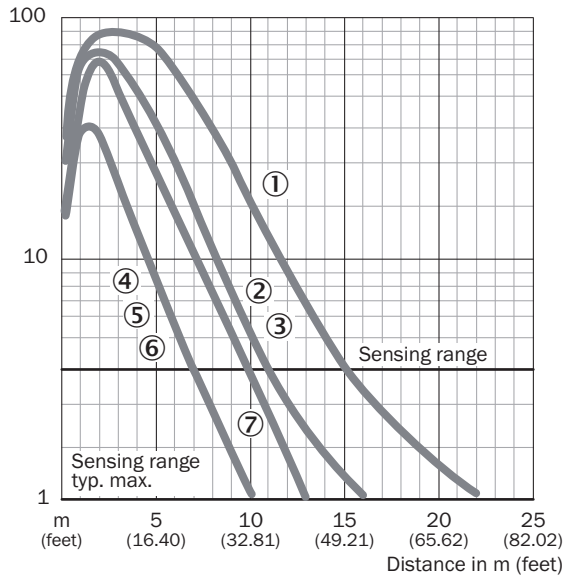
CONNECTION TYPE



CONNECTION DIAGRAM CD-122

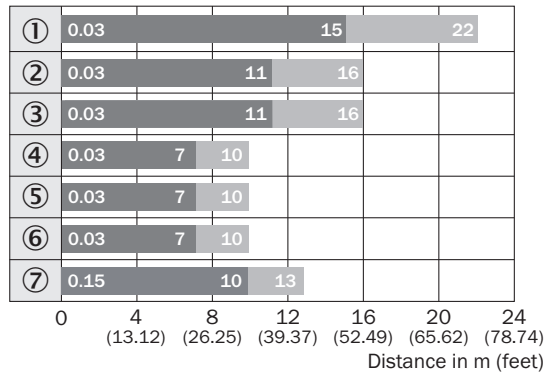


CHARACTERISTIC CURVE



- ① Reflector PL80A
- ② Reflector PL50A
- ③ Reflector PL40A
- ④ Reflector PL30A
- ⑤ Reflector PL20A
- ⑥ Reflective tape Diamond Grade
- ⑦ Reflector C110A

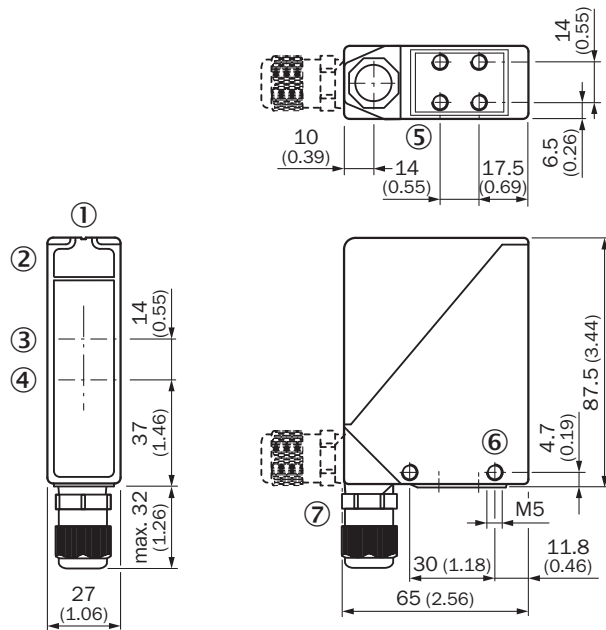
SENSING RANGE DIAGRAM



■ Sensing range ■ Sensing range max.

- ① Reflector PL80A
- ② Reflector PL50A
- ③ Reflector PL40A
- ④ Reflector PL30A
- ⑤ Reflector PL20A
- ⑥ Reflective tape Diamond Grade
- ⑦ Reflector C110A

DIMENSIONAL DRAWING



Dimensions in mm (inch)

- ① Alignment sight
- ② LED signal strength indicator
- ③ Center of optical axis, sender
- ④ Center of optical axis, receiver
- ⑤ M5 threaded mounting hole, 6 mm deep
- ⑥ M5 threaded mounting hole, through-hole
- ⑦ M16 screw fixing 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/1026037



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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

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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