Online data sheet



WL24-2X430

W24-2 Ex

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	Part no.
WL24-2X430	1026037

Other models and accessories → www.sick.com/W24-2_Ex

Detailed technical data

Features

Sensor/ detection 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

[1] Reflector PL80A.
[2] Average service life: 100,000 h at T_U = +25 °C.

Communication interface

Communication interface	-

Mechanics/electronics

Supply voltage	5 V DC ... 15.5 V DC [1]
Ripple	< 0.4 V_{pp} [2]
Output type	NAMUR
Switching mode	Light switching

[1] Limit values, supply with switching amplifier EN2Ex (internal resistor approx. 1 kOhm).
[2] May not exceed or fall below U_V 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.

Response time	≤ 10 ms [3]
Switching frequency	50 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
EC Approval Certificate	PTB 08 ATEX 2029
Certificate (IECEx)	IECEx PTB 14.0031
ATEX marking	II 2G Ex ia op is IIC T4 according to directive 2014/34/EX/EU
Ex area category	2G
Input voltage U_i max.	≤ 15.5 V [8]
Input power P_i max.	≤ 100 mW [8]
Input current I_i max.	≤ 53 mA [8]
Internal capacitance C_i max.	80 nF [8]
Internal inductance L_i max.	0 µH [8]
Ambient operating temperature	–20 °C ... +60 °C
Ambient storage temperature	–25 °C ... +70 °C
UL File No.	Ex II 2G EEx ia op is IIC T4, ATEX Nr. PTB08 ATEX 2029

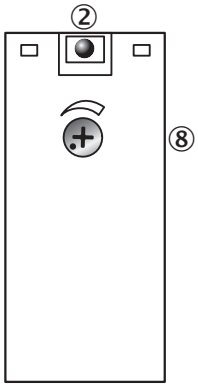
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Classifications

ECl@ss 5.0	27270902
ECl@ss 5.1.4	27270902
ECl@ss 6.0	27270902
ECl@ss 6.2	27270902
ECl@ss 7.0	27270902
ECl@ss 8.0	27270902
ECl@ss 8.1	27270902
ECl@ss 9.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717

UNSPSC 16.0901	39121528

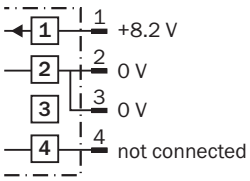
Adjustments possible



② LED signal strength indicator
⑧ Sensitivity control

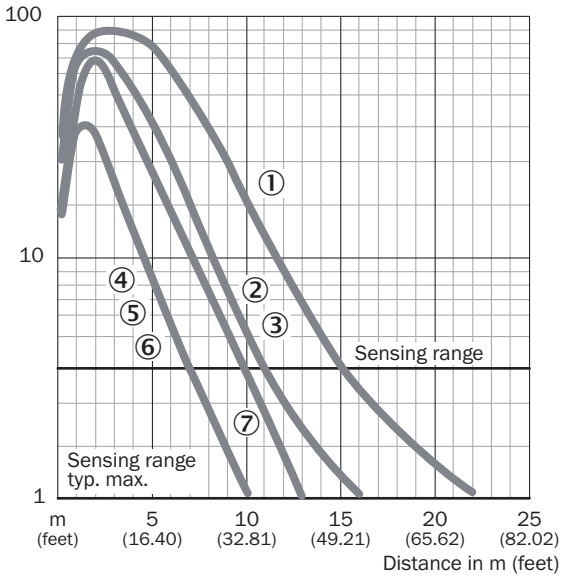
Connection diagram

Cd-122



Characteristic curve

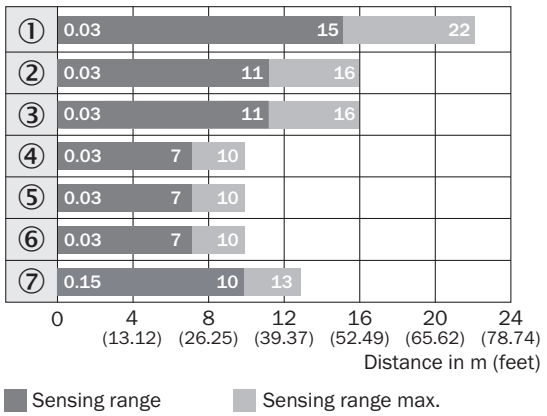
WL24-2



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

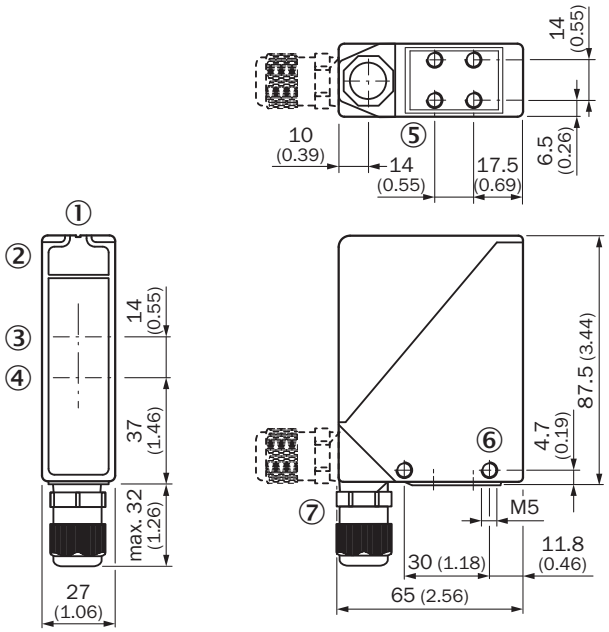
Sensing range diagram

WL24-2



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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°

Recommended accessories

Other models and accessories ➜ www.sick.com/W24-2_Ex

	Brief description	Type	Part no.
Universal bar clamp systems			
	Universal bar clamp for mounting bars with 12 mm diameter, Zinc diecast, without mounting plate and screws	BEF-KHS-KH3	5322626
	Plate N03 for universal clamp bracket, zinc coated, Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (5322626), mounting hardware	BEF-KHS-N03	2051609
	Plate N04 for universal clamp, steel, Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (5322626), mounting hardware	BEF-KHS-N04	2051610
Device protection (mechanical)			
	Water cooling plate	BEF-KP-W24	2015071
	Dust protection tube, air-purged, Aluminum (anodised), mounting hardware included	OBS-W24	2015069

	Brief description	Type	Part no.
	Weather hood for universal clamp bracket, steel, zinc coated, mounting hardware included	OBW-KHS-M01	2023240
	Weather hood, Aluminum (anodised), mounting hardware included	OBW-W24	2015070
		WSG1-01	1018470
Mounting brackets and plates			
	Mounting bracket, small, Stainless steel, without mounting hardware	BEF-WK-W24	4027532
	Mounting bracket, Stainless steel (1.4301), mounting hardware included	BEF-WN-W24	2015248
Modules and gateways			
	NAMUR isolatig amplifier, Cable fault detection, Switching outputs: 2 NO relay (1 per channel), Supply voltage: 24 V ... 230 V, Voltage type: AC/DC	EN2-2EX1	6041096
	NAMUR isolatig amplifier, Cable fault detection, Switching outputs: 2 NO relay (1 per channel), Supply voltage: 19,2 V ... 30 V, Voltage type: DC	EN2-2EX3	6041095
Alignment aids			
	Adapter for alignment aid AR60	Adapter AR60 for W24-2	4032976
Reflectors			
	Rectangular, screw connection, 47 mm x 47 mm, PMMA/ABS, Screw-on, 2 hole mounting	P250	5304812
	Rectangular, screw connection, 38 mm x 15 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL20A	1012719
	Rectangular, screw connection, 56 mm x 28 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL30A	1002314
	Rectangular, screw connection, 37 mm x 56 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL40A	1012720
	Rectangular, screw connection, 80 mm x 80 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL80A	1003865
	Self-adhesive	REF-IRF-56	5314244
	Round, screw connection, PMMA/ABS, Center hole mounting, screw-on	C110A	5304549

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com