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Product data sheet



WL11-2K2432

W11-2

SMALL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

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WL11-2K2432 | W11-2

SMALL PHOTOELECTRIC SENSORS



Illustration may differ

Ordering information

Type	Part no.
WL11-2K2432	1054233

Other models and accessories → www.sick.com/W11-2

Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	Dual lens
Dimensions (W x H x D)	15.6 mm x 48.5 mm x 42 mm
Housing design (light emission)	Rectangular
Sensing range max.	0.15 m ... 10 m [1]
Sensing range	0.15 m ... 8 m [1]
Focus	Approx. 2.2°
Type of light	Visible red light
Light source	LED [2]
Light spot size (distance)	Ø 50 mm (3 m)
Angle of dispersion	Approx. 2.2°
Wave length	640 nm
Adjustment	Single teach-in button

[1] Reflector PL80A.

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

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Mechanics/electronics

Supply voltage U_B	10 V DC ... 30 V DC [1]
Ripple	< 5 V_{pp} [2]
Current consumption	30 mA [3]
Switching output	PNP
Output function	Complementary
Switching mode	Light/dark switching
Signal voltage PNP HIGH/LOW	Uv - 2.5 V / approx. 0 V
Output current $I_{max.}$	≤ 100 mA
Response time	≤ 2.5 ms [4]
Switching frequency	200 Hz [5]
Connection type	Male connector M12, 4-pin
Circuit protection	A [6] C [7] D [8]
Protection class	II [9]
Weight	120 g
Polarisation filter	✓
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP66 IP67 IP69K
Ambient operating temperature	–30 °C ... +60 °C
Ambient temperature, storage	–40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

[1] Limit values when operated in short-circuit protected network: max. 8 A.
[2] May not exceed or fall below 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 DC 50 V.

Safety-related parameters

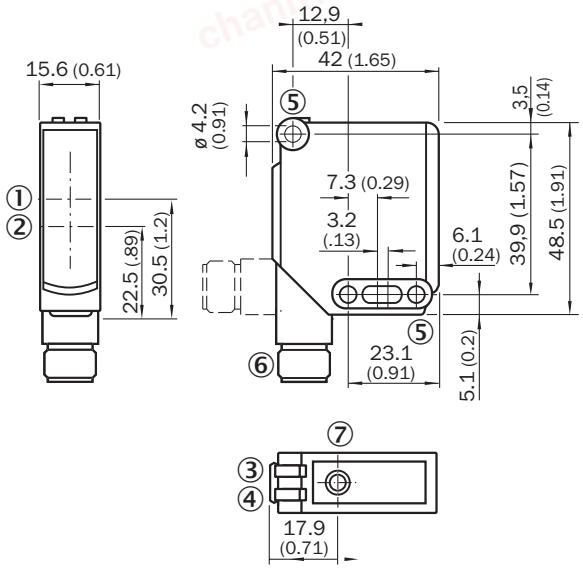
$MTTF_D$	1,625 years
DC_{avg}	0 %
T_M (mission time)	20 years

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
eCl@ss 10.0	27270902
eCl@ss 11.0	27270902
eCl@ss 12.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

Dimensional drawing (Dimensions in mm (inch))

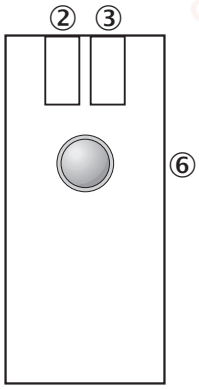


① Optical axis, sender
② Optical axis, receiver
③ LED indicator yellow: Status of received light beam
④ LED indicator green: Supply voltage active
⑤ Mounting hole ø 4.2 mm
⑥ Male connector M12, 4-pin

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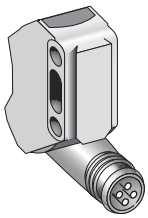
Adjustments

Teach-in



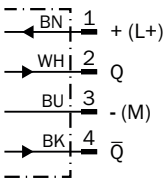
② LED indicator yellow: Status of received light beam
③ Green LED indicator: power on, teach-in mode IBlue LED indicator: teach-in mode II
⑥ Single teach-in button, Function 1: teach-in sensitivity on reflector, Function 2: change operation/teach-in mode

Connection type

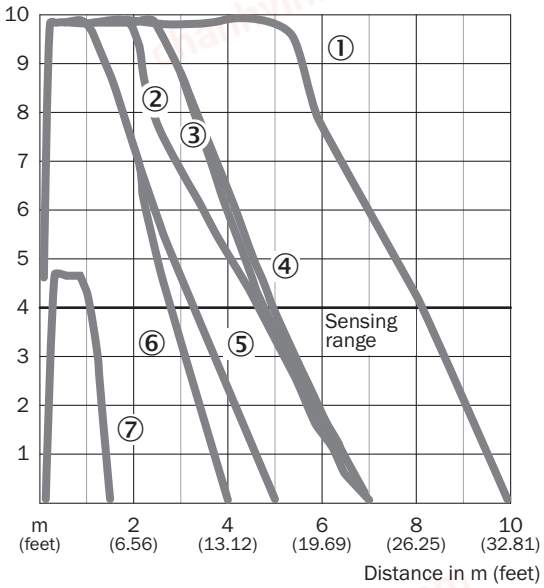


Connection diagram

Cd-101

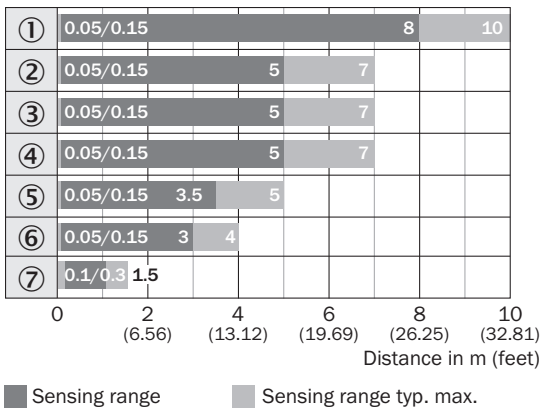


Characteristic curve



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

Sensing range diagram



Sensing range Sensing range typ. max.

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

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Recommended accessories

Other models and accessories ➜ www.sick.com/W11-2

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting bracket, large, stainless steel, mounting hardware included	BEF-WG-W12	2013942
	Universal mounting bracket for reflectors, steel, zinc coated	BEF-WN-REFX	2064574
Plug connectors and cables			
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF2A14-050VB3XLEAX	2096235
	Head A: male connector, M12, 4-pin, straight Cable: unshielded	STE-1204-G	6009932
Reflectors			
	Rectangular, screw connection, 40 mm x 60 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL40A	1012720

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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."

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