

WL14-2P430S01

W14

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
WL14-2P430S01	1027213

Other models and accessories → www.sick.com/W14

Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	Dual lens
Dimensions (W x H x D)	17.6 mm x 75.5 mm x 33.5 mm
Housing design (light emission)	Rectangular
Sensing range max.	0.15 m ... 6 m ¹⁾
Sensing range	0.15 m ... 4 m ¹⁾
Focus	Approx. 2°
Type of light	Visible red light
Light source	LED ²⁾
Light spot size (distance)	Ø 140 mm (4 m)
Angle of dispersion	Approx. 2°
Wave length	645 nm
Adjustment	None

¹⁾ Reflector PL80A.

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

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	35 mA ³⁾

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.

Switching output	PNP
Switching mode	Dark switching
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⁾
Weight	40 g
Polarisation filter	✓
Special device	✓
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP67
Ambient operating temperature	-25 °C ... +60 °C
Ambient temperature, storage	-40 °C ... +70 °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.

Safety-related parameters

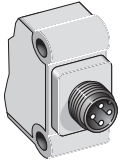
MTTF_D	2,710 years
DC_{avg}	0 %

Classifications

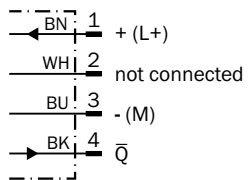
ECLASS 5.0	27270902
ECLASS 5.1.4	27270902
ECLASS 6.0	27270902
ECLASS 6.2	27270902
ECLASS 7.0	27270902
ECLASS 8.0	27270902
ECLASS 8.1	27270902
ECLASS 9.0	27270902
ECLASS 10.0	27270902
ECLASS 11.0	27270902
ECLASS 12.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717

ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

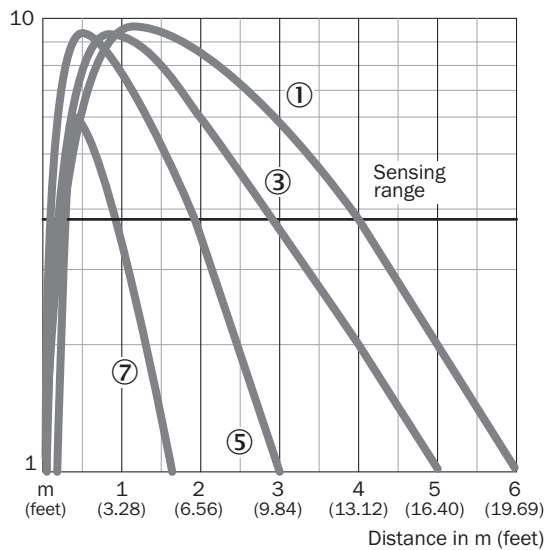
Connection type



Connection diagram Cd-070

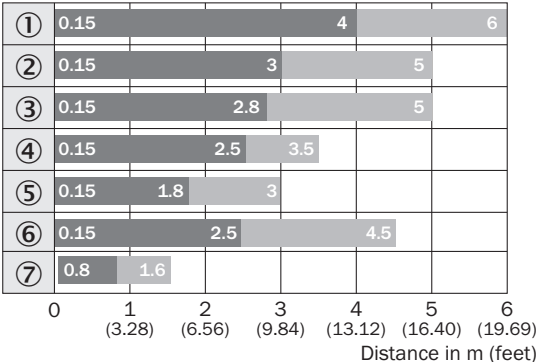


Characteristic curve WL14-2, 6 m



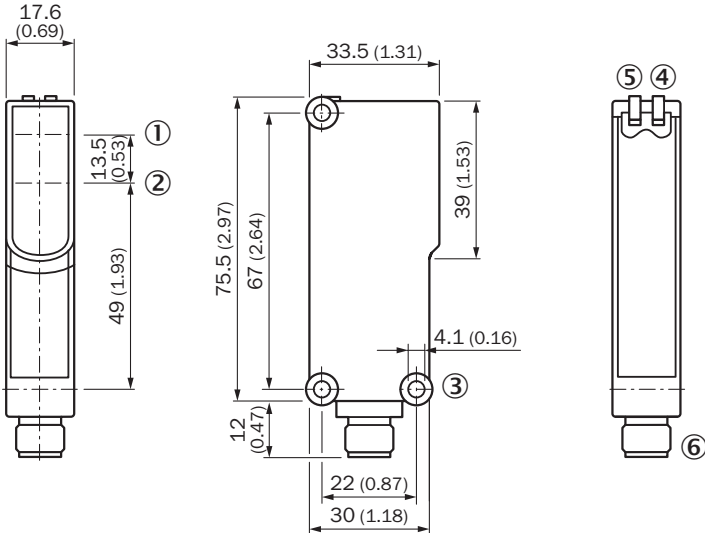
- ① Reflector PL80A
- ③ Reflector PL40A
- ⑤ Reflector PL20A
- ⑦ Reflective tape Diamond Grade

Sensing range diagram WL14-2, 6 m



- Sensing range ■ Sensing range max.
- ① Reflector PL80A
- ② Reflector PL50A
- ③ Reflector PL40A
- ④ Reflector PL30A
- ⑤ Reflector PL20A
- ⑥ Reflector C110A
- ⑦ Reflective tape Diamond Grade






Dimensional drawing WL14-2






- Dimensions in mm (inch)
- ① Center of optical axis, sender
 - ② Center of optical axis, receiver
 - ③ Mounting hole ø 4.1 mm
 - ④ LED indicator yellow: Status of received light beam
 - ⑤ LED indicator green: Supply voltage active
 - ⑥ M12 male connector, 4-pin or 2 m cable

Recommended accessories

Other models and accessories → www.sick.com/W14

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> Description: Mounting bracket Material: Steel Details: Steel, zinc coated Items supplied: Mounting hardware included Suitable for: W14-2, W18-3 	BEF-WN-W14	2019084
	<ul style="list-style-type: none"> Description: Mounting bracket with hinged arm Material: Steel Details: Steel, zinc coated Items supplied: Mounting hardware included Suitable for: W14-2, W18-3 	BEF-WN-W18	2009317
	<ul style="list-style-type: none"> Description: Universal mounting bracket for reflectors Dimensions (W x H x L): 85 mm x 90 mm x 35 mm Material: Steel Details: Steel, zinc coated Suitable for: C110A, P250, PL20, PL30A, PL40A, PL80A 	BEF-WN-REFX	2064574
	<ul style="list-style-type: none"> Description: Plate N11N for universal clamp bracket Material: Stainless steel Details: Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp) Items supplied: Universal clamp (5322627), mounting hardware Usable for: DeltaPac, Glare, WTD20E 	BEF-KHS-N11N	2071081
reflectors and optics			
	<ul style="list-style-type: none"> Description: Rectangular, screw connection Dimensions: 40 mm 60 mm Ambient operating temperature: -30 °C ... +65 °C 	PL40A	1012720

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PUR, halogen-free • Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A14-050UB3XLEAX	2095608
	<ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PVC • Application: Uncontaminated zones, Zones with chemicals 	YF2A14-050VB3XLEAX	2096235
	<ul style="list-style-type: none"> • Description: Unshielded • Connection type head A: Male connector, M12, 4-pin, straight, A-coded • Connection systems: Screw-type terminals • Permitted cross-section: ≤ 0.75 mm² 	STE-1204-G	6009932

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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