



WL9L-P430

W9

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
WL9L-P430	1023958

Other models and accessories → www.sick.com/W9

Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	With minimum distance to reflector (dual lens system)
Dimensions (W x H x D)	12 mm x 40 mm x 22 mm
Housing design (light emission)	Rectangular
Sensing range max.	0.1 m ... 12 m ¹⁾
Sensing range	0.1 m ... 8 m ¹⁾
Type of light	Visible red light
Light source	Laser ²⁾
Light spot size (distance)	Ø 1 mm (500 mm)
Laser class	2 (IEC 60825-1 / CDRH 1040.10)
Adjustment	Single teach-in button

¹⁾ Reflector PL80A.

²⁾ Average service life: 50,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	35 mA
Switching output	PNP
Output function	Complementary

¹⁾ Limit values.

²⁾ May not fall below or exceed 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⁾ B = inputs and output reverse-polarity protected.

⁷⁾ C = interference suppression.

⁸⁾ Reference voltage: 50 V DC.

Switching mode	Light/dark switching
Signal voltage PNP HIGH/LOW	Approx. $V_S - 2.0\text{ V} / 0\text{ V}$
Output current I_{\max}	$\leq 100\text{ mA}$
Response time	$< 0.6\text{ ms}^{3)}$
Switching frequency	$1,000\text{ Hz}^{4)}$
Connection type	Male connector M12, 4-pin
Circuit protection	A ⁵⁾ B ⁶⁾ C ⁷⁾
Protection class	III ⁸⁾
Weight	20 g
Polarisation filter	✓
Housing material	Plastic, ABS
Enclosure rating	IP67
Ambient operating temperature	$-10\text{ °C} \dots +50\text{ °C}$
Ambient temperature, storage	$-25\text{ °C} \dots +70\text{ °C}$
UL File No.	242368, CDRH-conform

1) Limit values.

2) May not fall below or exceed U_T tolerances.

3) Signal transit time with resistive load.

4) With light/dark ratio 1:1.

5) A = V_S connections reverse-polarity protected.

6) B = inputs and output reverse-polarity protected.

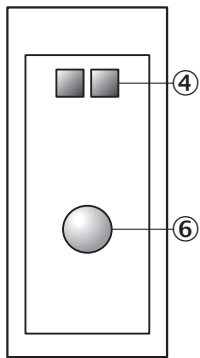
7) C = interference suppression.

8) Reference voltage: 50 V DC.

Classifications

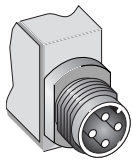
ECLASS 5.0	27270902
ECLASS 5.1.4	27270902
ECLASS 6.0	27270902
ECLASS 6.2	27270902
ECLASS 7.0	27270902
ECLASS 8.0	27270902
ECLASS 8.1	27270902
ECLASS 9.0	27270902
ECLASS 10.0	27270902
ECLASS 11.0	27270902
ECLASS 12.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

Adjustments

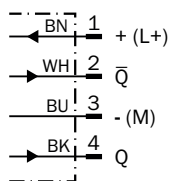


- ④ Receive indicator
- ⑥ Teach-in button

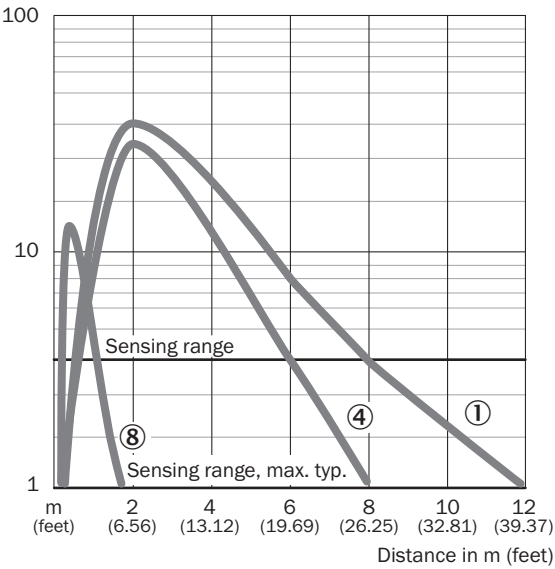
Connection type



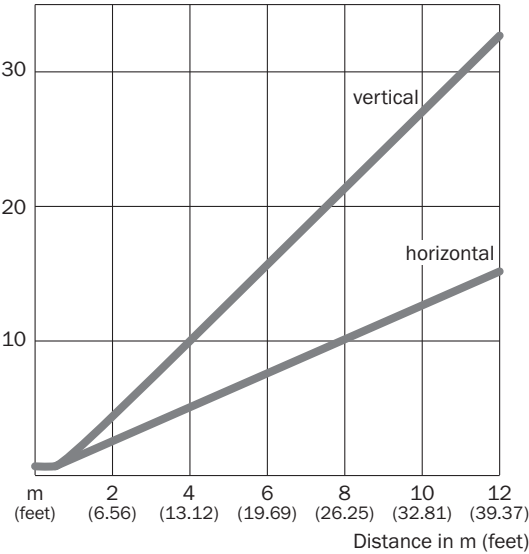
Connection diagram Cd-083



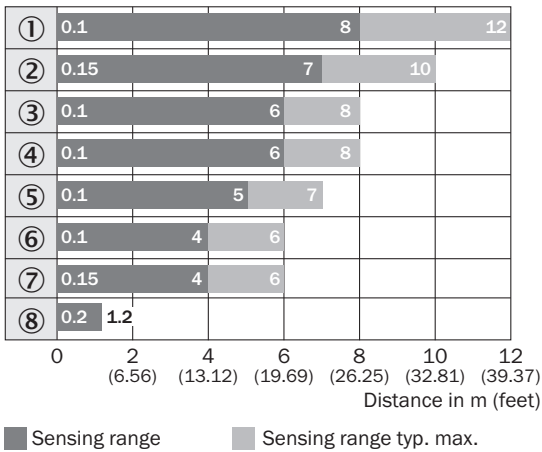
Characteristic curve



Light spot size



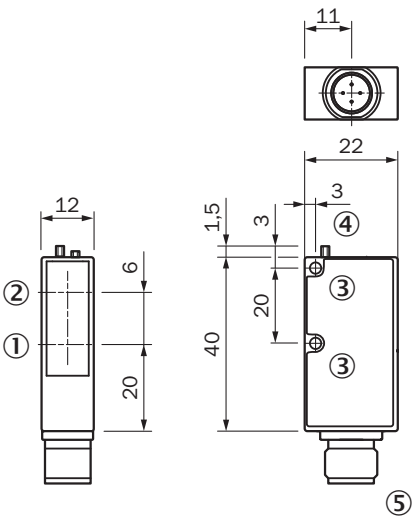
Sensing range diagram



Reflector type

- ① PL80A
- ② PL250F
- ③ PL50A
- ④ PL40A
- ⑤ PL30A
- ⑥ PL20A
- ⑦ PL20F
- ⑧ Reflective tape

Dimensional drawing



Dimensions in mm (inch)

- ① Center of optical axis, sender
- ② Center of optical axis, receiver
- ③ mounting hole \varnothing 3.2 mm
- ④ LED signal strength indicator
- ⑤ Connector M12 or M8, 4-pin, 2 m connection cable or 120 mm cable with connector M12, 4-pin

Recommended accessories

Other models and accessories → www.sick.com/W9

	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: W9-3 	BEF-WN-W9-2	2022855
reflectors and optics			
	<ul style="list-style-type: none"> Description: Fine triple reflector, screw connection, suitable for laser sensors Dimensions: 20 mm 32 mm Ambient operating temperature: -30 °C ... +65 °C 	PL10F	5311210
connectors and cables			
	<ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² 	STE-1204-G	6009932
	<ul style="list-style-type: none"> 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 Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF2A14-050VB3XLEAX	2096235

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:

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