SICK.COM

DATA SHEET

WL9L-P430

W9
Photoelectric sensors

SICK Sensor Intelligence

Illustration may differ

PHOTOELECTRIC SENSORS

WL9L-P430

ORDERING INFORMATION

Type	part no.
WL9L-P430	1023958

Further device versions and accessories at 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) [3]
Adjustment	Single teach-in button

[1] Reflector PL80A.

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

[3] Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

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

[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.

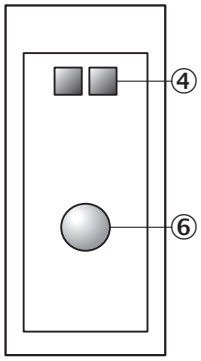
[5] A = V_S connections reverse-polarity protected.

[6] B = inputs and output reverse-polarity protected.

[7] C = interference suppression.

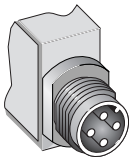
[8] Reference voltage: 50 V DC.

ADJUSTMENTS

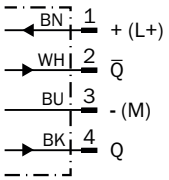


④ Receive indicator
⑥ Teach-in button

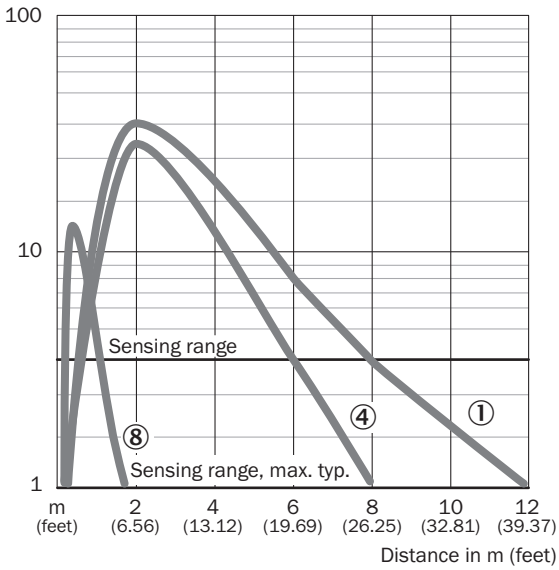
CONNECTION TYPE



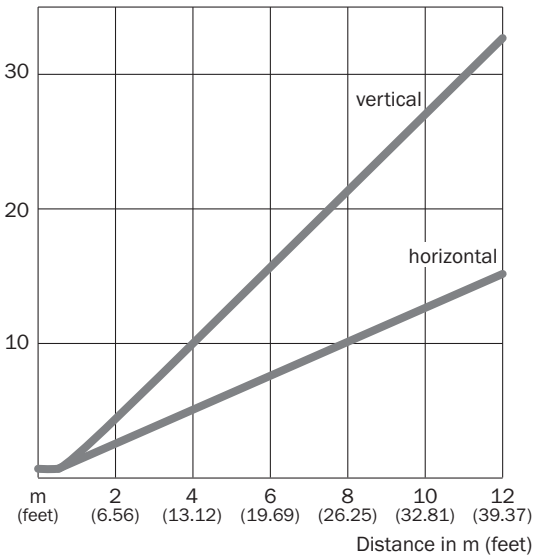
CONNECTION DIAGRAM CD-083



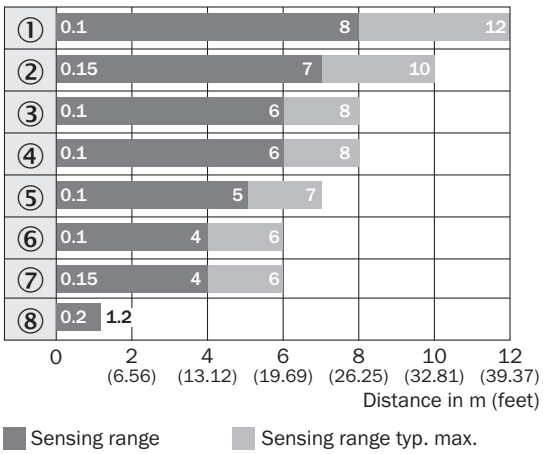
CHARACTERISTIC CURVE



LIGHT SPOT SIZE



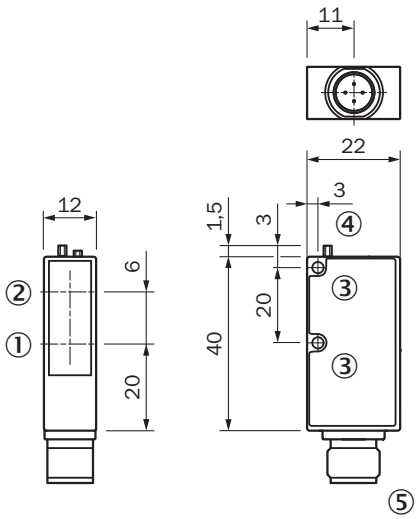
SENSING RANGE DIAGRAM



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 Ø 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

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/1023958

SICK AG
WALDKIRCH
GERMANY
SICK.COM

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

SICK

Sensor Intelligence