



DATA SHEET

WL9-3P2462

W9
Photoelectric sensors

SICK

Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

WL9-3P2462

ORDERING INFORMATION

Type	part no.
WL9-3P2462	1049061

Further device versions and accessories at www.sick.com/W9



DETAILED TECHNICAL DATA

FEATURES

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	Without reflector minimum distance (autocollimation/coaxial optics)
Dimensions (W x H x D)	12.2 mm x 52.2 mm x 23.6 mm
Housing design (light emission)	Rectangular
Mounting hole	M3
Sensing range max.	0 m ... 0.4 m ¹⁾
Sensing range	0 m ... 0.3 m ¹⁾
Type of light	Visible red light
Light source	PinPoint LED ²⁾
Light spot size (distance)	Ø 2 mm (35 mm)
Wave length	650 nm
Adjustment	Single teach-in button
Special feature	Focused optics
Special applications	Detecting small objects

¹⁾ Reflector PL80A.
²⁾ Average service life: 100,000 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	30 mA ³⁾
Switching output	PNP ⁴⁾
Output function	Complementary
Switching mode	Light/dark switching ⁴⁾
Output current I_{max}	≤ 100 mA ⁵⁾
Response time	< 0.5 ms ⁶⁾
Switching frequency	1,000 Hz ⁷⁾
Connection type	Male connector M12, 4-pin
Circuit protection	A ⁸⁾ B ⁹⁾ C ¹⁰⁾
Protection class	III
Weight	13 g
Polarizing filter	✓
Housing material	Plastic, VISTAL®
Optics material	Plastic, PMMA
Enclosure rating	IP66 IP67 IP69K
Special feature	Focused optics
Ambient operating temperature	-40 °C ... +60 °C
Ambient temperature, storage	-40 °C ... +75 °C
UL File No.	NRKH.E181493

¹⁾ Limit values when operated in short-circuit protected network: max. 8 A.

²⁾ May not fall below or exceed U_V tolerances.

³⁾ Without load.

⁴⁾ Q = light switching.

⁵⁾ At and above T_u 50 °C, a max. load current of I_{max} = 50 mA is permitted.

⁶⁾ Signal transit time with resistive load.

⁷⁾ With light/dark ratio 1:1.

⁸⁾ A = $V_{\pm}$ connections reverse-polarity protected.

⁹⁾ B = inputs and output reverse-polarity protected.

¹⁰⁾ C = interference suppression.

SAFETY-RELATED PARAMETERS

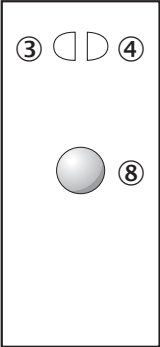
MTTF _D	1,668 years
DC _{avg}	0 %
T _M (mission time)	20 years

CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓

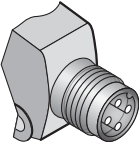
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓
ECOLAB certificate	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

ADJUSTMENTS SINGLE TEACH-IN BUTTON

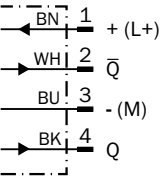


- ③ LED indicator yellow: Status of received light beam
- ④ LED indicator green: power on
- ⑧ Teach-in button

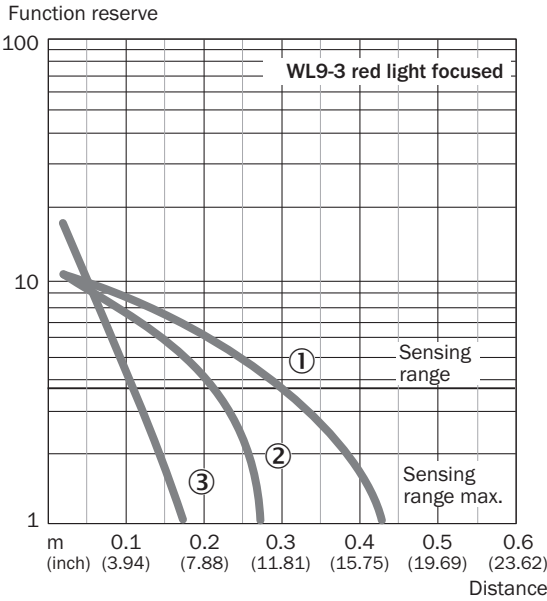
CONNECTION TYPE



CONNECTION DIAGRAM CD-084

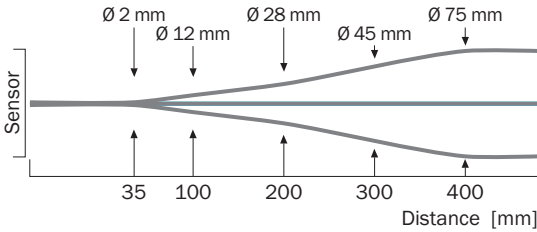


CHARACTERISTIC CURVE WL9-3, RED LIGHT, 0.4 M

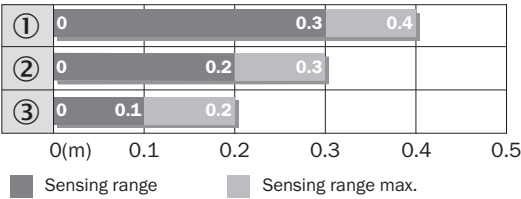


- ① Reflecter PL80A
- ② Reflecter PL40A
- ③ Reflective tape REF-IRF-56

LIGHT SPOT SIZE WL9-3, RED LIGHT, 0.4 M

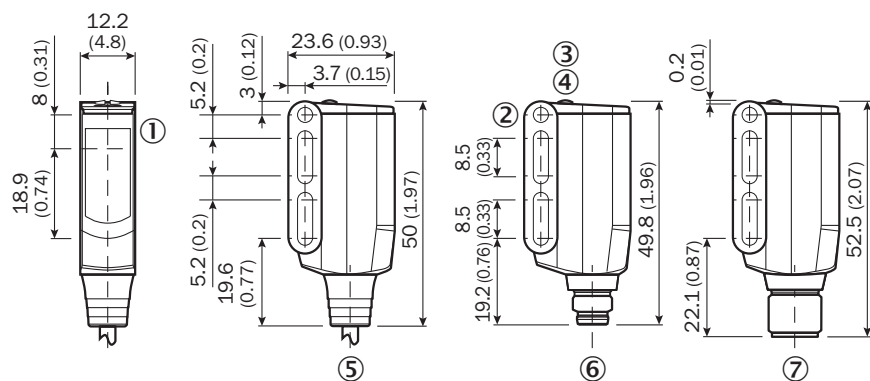


SENSING RANGE DIAGRAM WL9-3, RED LIGHT, 0.4 M



- ① Reflecter PL80A
- ② Reflecter PL40A
- ③ Reflective tape REF-IRF-56

DIMENSIONAL DRAWING WL9-3, WSE9-3



Dimensions in mm (inch)

- ① Sender and receiver optical axis center
- ② Mounting hole M3 (Ø 3.1 mm)
- ③ LED indicator yellow: Status of received light beam
- ④ LED indicator green: power on
- ⑤ Connecting cable or connector
- ⑥ male connector M8, 4-pin
- ⑦ male 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/1049061



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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

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