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DATA SHEET

WL23-2P2460

W23-2
Photoelectric sensors

SICK

Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

WL23-2P2460

ORDERING INFORMATION

Type	part no.
WL23-2P2460	1044165

Further device versions and accessories at www.sick.com/WL23-2

DETAILED TECHNICAL DATA

FEATURES

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	Dual lens
Dimensions (W x H x D)	24.6 mm x 80.6 mm x 54 mm
Housing design (light emission)	Rectangular
Sensing range max.	0.1 m ... 12 m ¹⁾
Sensing range	0.3 m ... 9 m ¹⁾
Focus	1.5°
Type of light	Visible red light
Light source	PinPoint LED ²⁾
Light spot size (distance)	Ø 45 mm (2.7 m)
Angle of dispersion	1.5°
Wave length	660 nm
Adjustment	None

¹⁾ Reflector PL80A.

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

MECHANICS/ELECTRONICS

Supply voltage U_s	10 V DC ... 30 V DC ¹⁾
Ripple	$< 5 \text{ V}_{pp}$ ²⁾
Current consumption	35 mA ³⁾
Switching output	PNP
Output function	Complementary
Switching mode	Light/dark switching
Signal voltage PNP HIGH/LOW	Approx. $V_s - 2.5 \text{ V} / 0 \text{ V}$
Output current I_{max}	$\leq 100 \text{ mA}$
Response time	$\leq 2.5 \text{ ms}$ 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	100 g
Polarisation filter	✓
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP67
Ambient operating temperature	-30 °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_s 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.

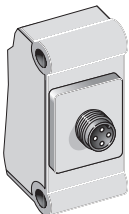
⁷⁾ C = interference suppression.

⁸⁾ D = outputs overcurrent and short-circuit protected.

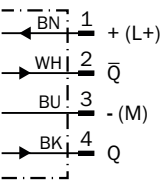
⁹⁾ Reference voltage: 50 V DC.

SAFETY-RELATED PARAMETERS

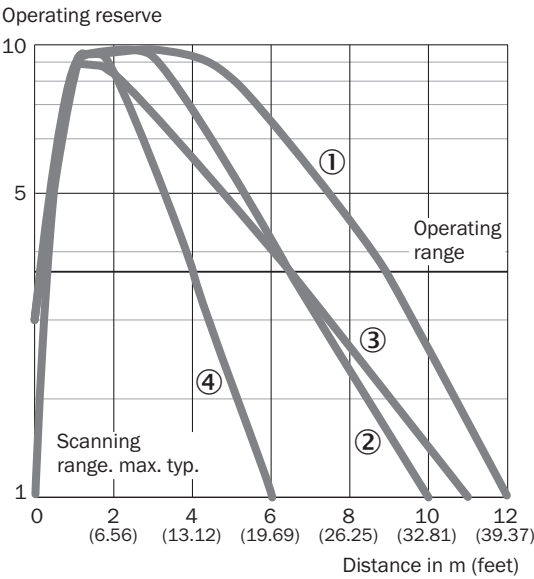
MTTF _D	2,205 years
DC _{avg}	0 %

CONNECTION TYPE

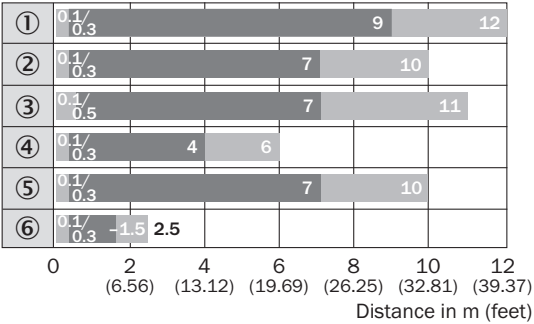
CONNECTION DIAGRAM CD-083



CHARACTERISTIC CURVE WL23-2, PINPOINT



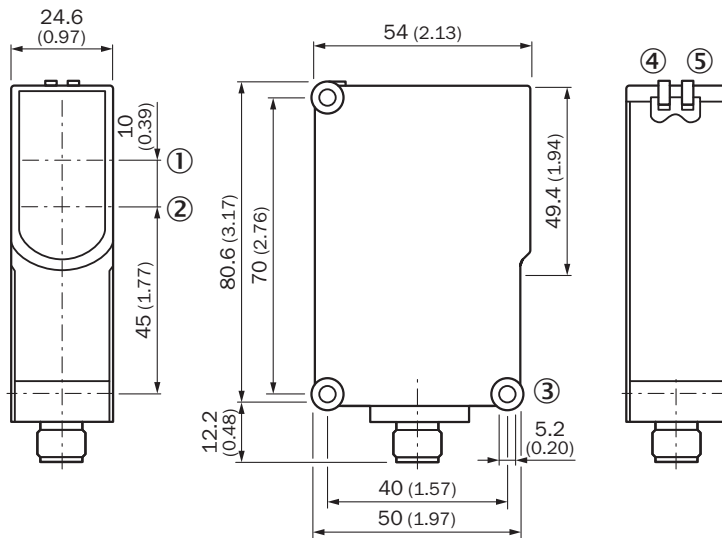
SENSING RANGE DIAGRAM WL23-2, PINPOINT



■ Sensing range ■ Sensing range max.

- ① Reflector PL80A
- ② Reflector PL40A
- ③ Reflector C110A
- ④ Reflector PL20A
- ⑤ Reflector P250
- ⑥ Reflective tape Diamond Grade

DIMENSIONAL DRAWING WL23-2



Dimensions in mm (inch)

- ① Optical axis, sender
- ② Optical axis, receiver
- ③ Mounting hole $\varnothing$ 5.2 mm
- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam

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/1044165



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SICK AT A GLANCE

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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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