

WL250-2P2431

W250-2

PHOTOELECTRIC SENSORS





Illustration may differ



Ordering information

Туре	part no.
WL250-2P2431	6044699

Included in delivery: P250 (1), BEF-W250 (1)

Other models and accessories → www.sick.com/W250-2

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)	20 mm x 65 mm x 43.9 mm	
Housing design (light emission)	Rectangular	
Sensing range max.	0.01 m 15 m ¹⁾ 0.01 m 12 m ²⁾	
Sensing range	0.01 m 13 m ¹⁾ 0.01 m 11 m ²⁾	
Focus	Approx. 2°	
Type of light	Visible red light	
Light source	LED ³⁾	
Light spot size (distance)	Ø 260 mm (8 m)	
Angle of dispersion	Approx. 2°	
Adjustment	Potentiometer, 2 turns ⁴⁾	

¹⁾ Reflector PL80A.

²⁾ Reflector P250.

 $^{^{3)}}$ Average service life: 100,000 h at T_{U} = +25 °C.

 $^{^{4)}}$ With position indicator.

Mechanics/electronics

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Supply voltage U _B	10 V DC 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	20 mA ³⁾
Switching output	PNP
Switching mode	Light/dark switching
Switching mode selector	Selectable via L/D control cable
Output current I _{max.}	≤ 100 mA
Response time	≤ 0.5 ms ⁴⁾
Switching frequency	1,000 Hz ⁵⁾
Connection type	Male connector M12, 4-pin ⁶⁾
Circuit protection	A ⁷⁾ B ⁸⁾ C ⁹⁾ D ¹⁰⁾
Protection class	III
Weight	40 g
Polarisation filter	√
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP67
Items supplied	Reflector P250, BEF-W250 mounting bracket
Electromagnetic compatibility (EMC)	EN 60947-5-2 ¹¹⁾
Ambient operating temperature	-25 °C +55 °C
Ambient temperature, storage	-40 °C +70 °C
UL File No.	NRKH2.E300503 & NRKH8.E300503

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

Safety-related parameters

MTTF _D	1,832 years
DC _{avg}	0 %

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓

 $^{^{2)}}$ May not fall below or exceed UV tolerances.

³⁾ Without load.

 $^{^{4)}}$ Signal transit time with resistive load.

⁵⁾ With light/dark ratio 1:1.

 $^{^{6)}}$ Rotatable through 90 $^{\circ}.$

 $^{^{7)}}$ A = V_S connections reverse-polarity protected.

⁸⁾ B = inputs and output reverse-polarity protected.

⁹⁾ C = interference suppression.

 $^{^{10)}}$ D = outputs overcurrent and short-circuit protected.

¹¹⁾ The AC/DC devices comply with the Radio Safety Requirements for the industrial sector (Radio Safety Class A). They may cause radio interference if used in a residential area.

WL250-2P2431 | W250-2

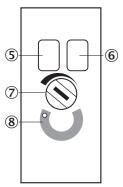
PHOTOELECTRIC SENSORS

ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cRUus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

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 WL250-2

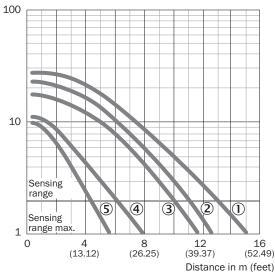


- ⑤ LED indicator green: Stability indicator
- (6) LED indicator yellow: Status of received light beam
- ⑦ Sensitivity control: potentiometer
- ® Position indicator for sensitivity setting (270°)

Connection diagram Cd-087

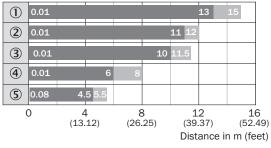
Characteristic curve

Function reserve



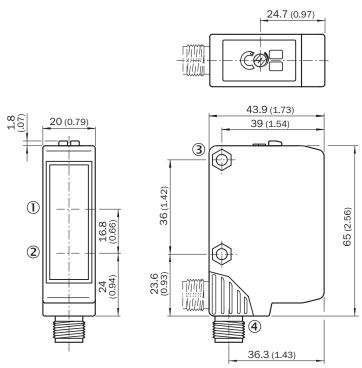
- ① Reflector PL80A, C110A
- ② Reflector P250
- 3 Reflector PL50A, PL40A, PL30A, PL31A
- 4 Reflector PL20A
- ⑤ Diamond Grade reflective tape, 100 mm x 100 mm

Sensing range diagram



- Sensing range
- Sensing range max.
- ① Reflector PL80A, C110A
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- 3 Reflector PL50A, PL40A, PL30A, PL31A
- 4 Reflector PL20A
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Dimensional drawing WL250-2, DC, connector



Dimensions in mm (inch)

- ① Reception axis
- ② Axis of sender
- 3 mounting hole ø 4.2 mm, for M4 hexagon nuts on both sides
- 4 Connector M12, 4-pin:
- ④ Connector position rotatable by 90° (V>H);
- 4 V: Vertikal final position;
- 4 H: Horizontal final position, can be locked with slider

Recommended accessories

Other models and accessories → www.sick.com/W250-2

	Brief description	Туре	part no.
Mounting systems			
	 Description: Mounting bracket Material: Steel Details: Steel, zinc coated Items supplied: Mounting hardware included Suitable for: W250-2 	BEF-W250	5305850
a a a a a a a a a a a a a a a a a a a	 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
	 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		
	 Description: Rectangular, screw connection Dimensions: 51 mm 61 mm Ambient operating temperature: -30 °C +65 °C 	P250	5304812
connectors ar	nd cables		
P	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
	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 Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-050UB3XLEAX	2095608
	 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

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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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