WL27-3P3402S21

RAY26 Reflex Array

PHOTOELECTRIC SENSORS

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Illustration may differ

Ordering information

Type	part no.
WL27-3P3402S21	1061706

Other models and accessories ➜ www.sick.com/RAY26_Reflex_Array

Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Dimensions (W x H x D)	24.6 mm x 80 mm x 54.2 mm
Housing design (light emission)	Rectangular
Minimum object size	2 mm, position-independent detection within the light array
Sensing range max.	0 m ... 1.5 m [1]
Sensing range	0 m ... 1.5 m [1]
Distance of the sensor to reflector	0.5 m ... 1.5 m [1]
Type of light	Visible red light
Light source	PinPoint LED [2]
Adjustment	Single teach-in button
AutoAdapt	✓
Special feature	Light band
Special applications	Detecting transparent objects, Detecting perforated objects, Detecting uneven, shiny objects, Detecting objects with position tolerances
Special features	Detection height 10 mm

[1] Reflector PL40A.
[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	35 mA [3]
Switching output	PNP
Output function	Complementary
Switching mode	Light/dark switching
Signal voltage PNP HIGH/LOW	Approx. V_S – 2.5 V / 0 V
Output current $I_{max.}$	≤ 100 mA
Response time	≤ 2.5 ms [4]
Switching frequency	200 Hz [5]
Connection type	Cable with M12 male connector, 4-pin, 270 mm [6]
Cable material	Plastic, PVC
Circuit protection	A [7] B [8] C [9]
Protection class	II [10]
Weight	130 g
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP67
Special feature	Light band
Ambient operating temperature	–30 °C ... +60 °C [11]
Ambient temperature, storage	–40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.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] Signal transit time with resistive load.

[5] With light/dark ratio 1:1.

[6] Do not bend below 0 °C.

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

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

[9] C = interference suppression.

[10] Reference voltage: 50 V DC.

[11] Avoid condensation on the front screen of the sensor and on the reflector.

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

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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
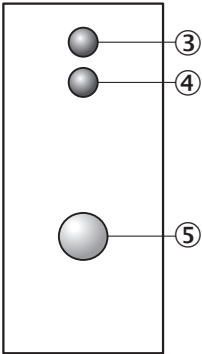
③ LED indicator green: Supply voltage active
④ LED indicator yellow: Status of received light beam
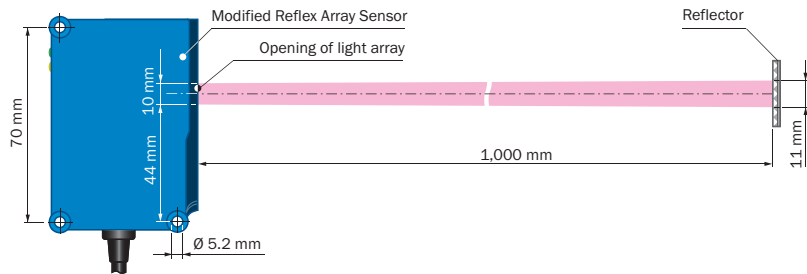⑤ Sensitivity setting: single teach-in button

Connection type
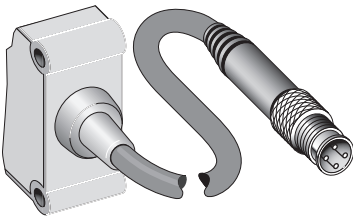
Connection diagram Cd-083
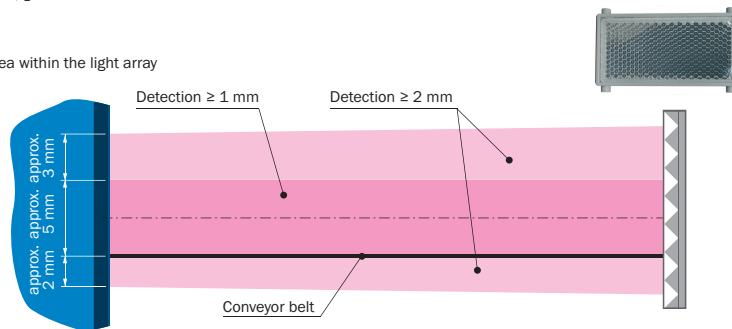

BN 1 + (L+)
WH 2 $\overline{Q}$
BU 3 - (M)
BK 4 Q
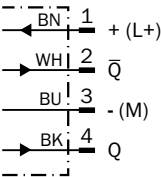
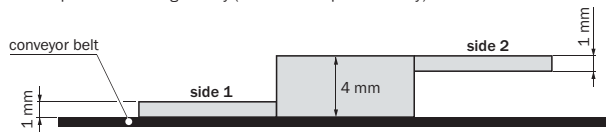## Recommended settings

Recommendation for alignment:
Reflex Array Sensor WL27-3P3402S21, 1061706, with 10 mm light array can be used in a gap between two conveyor belts, but not for the detection of an object which are conveyed on the belt.

Detection area within the light array

Tool for checking the correct position of the light array (not in the scope of delivery)


The light array has to be aligned that approx. 2 mm of the lower part of the light array is below of the level of the conveyor belt. The light array has to be positioned in the gap between two conveyor belts with enough space to the belts to avoid wrong detection. The reflector, PL21MS07P11, 1053122, has to be installed horizontical (see picture above). The correctness of the alignment of the light array in the gap has to be checked with an additional tool. First, to check the detection with the side 1 in front of the Reflex Array Sensor and in front of the reflector. Second, to check the detection with side 2 in front of the Reflex Array Sensor and in front of the reflector. If all detections are OK then the light array is aligned in the correct position. If the test was not successful, the light array has to be moved just a little up or down.

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Dimensional drawing WL27-3P3402S17
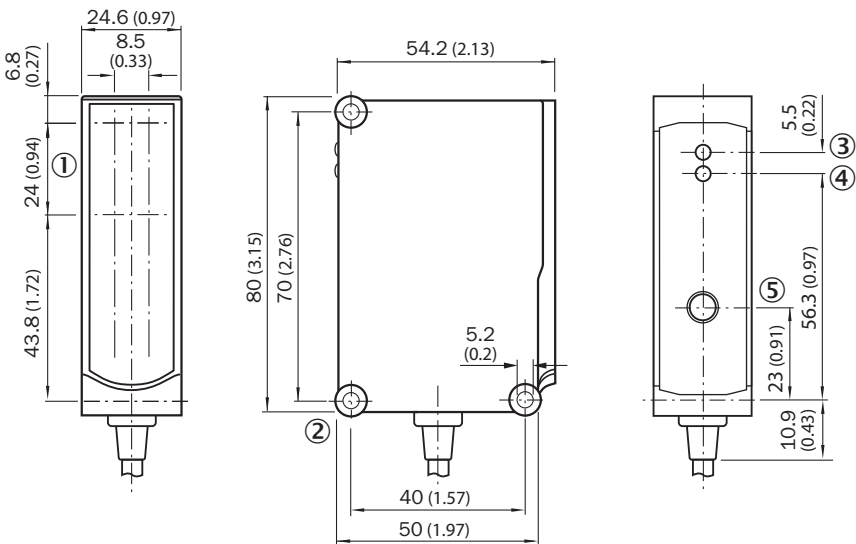
Dimensions in mm (inch)
① Opening of light band
② Mounting hole ø 5.2 mm
③ LED indicator green: Supply voltage active
④ LED indicator yellow: Status of received light beam
⑤ Sensitivity setting: single teach-in button

Recommended accessories

Other models and accessories ➜ www.sick.com/RAY26_Reflex_Array

	Brief description	Type	part no.
Mounting systems			
	• **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:** 84 mm 84 mm • **Ambient operating temperature:** –30 °C ... +65 °C	PL80A	1003865

Brief description	Type	part no.
connectors and cables		
• **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:** 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:** 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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