



RAY26P-24162930A00

Reflex Array

MULTITASK PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

| Type | Part no. |
|--------------------|----------|
| RAY26P-24162930A00 | 1221949 |

Other models and accessories → www.sick.com/Reflex_Array



Detailed technical data

Features

| | |
|--|--|
| Sensor/ detection principle | Photoelectric retro-reflective sensor, autocollimation Reflex Array |
| Dimensions (W x H x D) | 24.6 mm x 82.5 mm x 53.3 mm |
| Housing design (light emission) | Rectangular |
| Minimum object size | 10 mm, position-independent detection within the light array |
| Detection height | 55 mm |
| Sensing range max. | 0 m ... 4.5 m ^{1) 2)} |
| Distance of the sensor to reflector | ≥ 0 m |
| Conveyor belt suppression | Manual |
| Type of light | Visible red light |
| Light source | PinPoint LED |
| Light spot size (distance) | 55 mm x 9 mm (1 m) |
| Wave length | 635 nm |
| Adjustment | BluePilot: Teach-in IO-Link |
| Pin 2 configuration | External Input (test), Teach-in, switching signal |
| AutoAdapt | ✓ |

¹⁾ Reflector PL80A.

²⁾ At minimum object size 10 mm.

| | |
|-----------------------------|--|
| Special applications | Detecting objects with position tolerances, Detecting perforated objects, Detecting uneven, shiny objects, Detecting transparent objects, Detecting flat objects |
|-----------------------------|--|

¹⁾ Reflector PL80A.

²⁾ At minimum object size 10 mm.

Mechanics/electronics

| | |
|--|---|
| Supply voltage | 10 V DC ... 30 V DC ¹⁾ |
| Ripple | < 5 V _{pp} |
| Current consumption | 25 mA ²⁾ 40 mA ³⁾ |
| Power consumption, sender | ³⁾ |
| Power consumption, receiver | ³⁾ |
| Switching output | Push-pull: PNP/NPN |
| Output: Q_{L1} / C | Switching output or IO-Link mode |
| Output function | Factory setting: Pin 2 / white (MF): NPN normally closed (light switching), PNP normally open (dark switching), Pin 4 / black (QL1 / C): NPN normally open (dark switching), PNP normally closed (light switching), IO-Link |
| Switching mode | Light/dark switching |
| Switching mode selector | Via IO-Link |
| Signal voltage PNP HIGH/LOW | Approx. V _S - 2.5 V / 0 V |
| Signal voltage NPN HIGH/LOW | Approx. V _S / < 2.5 V |
| Output current I_{max.} | ≤ 100 mA |
| Response time | ≤ 3 ms ⁴⁾ |
| Switching frequency | 170 Hz ⁵⁾ |
| Connection type | Male connector M12, 4-pin |
| Circuit protection | A ⁶⁾ B ⁷⁾ C ⁸⁾ D ⁹⁾ |
| Protection class | III |
| Weight | 80 g |
| Housing material | Plastic, VISTAL® |
| Optics material | Plastic, PMMA |
| Enclosure rating | IP66 IP67 |

¹⁾ Limit values.

²⁾ 16 V DC ... 30 V DC, without load.

³⁾ 10 V DC ... 16 V DC, without load.

⁴⁾ Signal transit time with resistive load in switching mode. Different values possible in COM2 mode.

⁵⁾ With light/dark ratio 1:1 in switching mode. Different values possible in IO-Link mode.

⁶⁾ A = V_S connections reverse-polarity protected.

⁷⁾ B = inputs and output reverse-polarity protected.

⁸⁾ C = interference suppression.

⁹⁾ D = outputs overcurrent and short-circuit protected.

¹⁰⁾ Avoid condensation on the front screen of the sensor and on the reflector.

¹¹⁾ Allowed temperature change after Teach +/- 20 K.

| | |
|--------------------------------------|--------------------------------------|
| Ambient operating temperature | -40 °C ... +60 °C ^{10) 11)} |
| Ambient storage temperature | -40 °C ... +75 °C |
| UL File No. | NRKH.E181493 & NRKH7.E181493 |

- 1) Limit values.
- 2) 16 V DC ... 30 V DC, without load.
- 3) 10 V DC ... 16 V DC, without load.
- 4) Signal transit time with resistive load in switching mode. Different values possible in COM2 mode.
- 5) With light/dark ratio 1:1 in switching mode. Different values possible in IO-Link mode.
- 6) A = V_S connections reverse-polarity protected.
- 7) B = inputs and output reverse-polarity protected.
- 8) C = interference suppression.
- 9) D = outputs overcurrent and short-circuit protected.
- 10) Avoid condensation on the front screen of the sensor and on the reflector.
- 11) Allowed temperature change after Teach +/- 20 K.

Safety-related parameters

| | |
|-------------------------|-----------|
| MTTF_D | 709 years |
| DC_{avg} | 0% |

Communication interface

| | |
|---------------------------------------|--|
| Communication interface | IO-Link V1.1 |
| Communication Interface detail | COM2 (38,4 kBaud) |
| Cycle time | 2.3 ms |
| Process data length | 16 Bit |
| Process data structure | Bit 0 = switching signal Q _{L1} Bit 1 = switching signal Q _{L2} Bit 2 ... 15 = empty |
| VendorID | 26 |
| DeviceID HEX | 0x800219 |
| DeviceID DEC | 8389145 |

Smart Task

| | |
|----------------------------|--|
| Smart Task name | Base logics |
| Logic function | Direct AND OR Window Hysteresis |
| Timer function | Deactivated On delay Off delay ON and OFF delay Impulse (one shot) |
| Inverter | Yes |
| Switching frequency | SIO Direct: 170 Hz ¹⁾ SIO Logic: 170 Hz ²⁾ IOL: 170 Hz ³⁾ |

- 1) SIO Direct: sensor operation in standard I/O mode without IO-Link communication and without using internal sensor logic or time parameters (set to "direct"/"deactivated").
- 2) SIO Logic: Sensor operation in standard I/O mode without IO-Link communication. Sensor-internal logic or timing parameters plus Automation Functions used.
- 3) IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.

| | |
|--|--|
| Response time | SIO Direct: 3 ms ¹⁾ SIO Logic: 3 ms ²⁾ IOL: 3 ms ³⁾ |
| Repeatability | SIO Direct: 1,5 ms ¹⁾ SIO Logic: 1,5 ms ²⁾ IOL: 1,5 ms ³⁾ |
| Switching signal Q_{L1} | Switching output |
| Switching signal Q_{L2} | Switching output |

¹⁾ SIO Direct: sensor operation in standard I/O mode without IO-Link communication and without using internal sensor logic or time parameters (set to "direct"/"deactivated").

²⁾ SIO Logic: Sensor operation in standard I/O mode without IO-Link communication. Sensor-internal logic or timing parameters plus Automation Functions used.

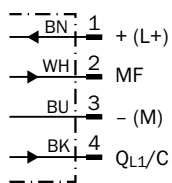
³⁾ IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.

Classifications

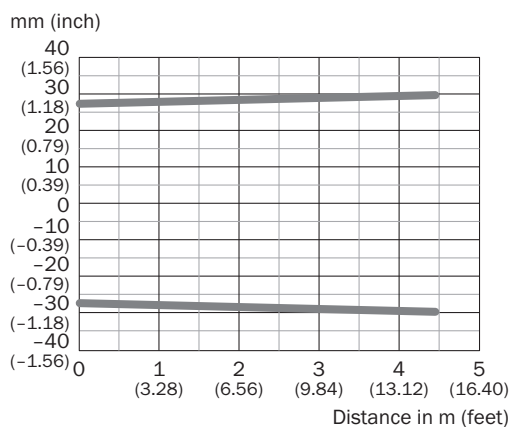
| | |
|-----------------------|----------|
| ECl@ss 5.0 | 27270902 |
| ECl@ss 5.1.4 | 27270902 |
| ECl@ss 6.0 | 27270902 |
| ECl@ss 6.2 | 27270902 |
| ECl@ss 7.0 | 27270902 |
| ECl@ss 8.0 | 27270902 |
| ECl@ss 8.1 | 27270902 |
| ECl@ss 9.0 | 27270902 |
| ECl@ss 10.0 | 27270902 |
| ECl@ss 11.0 | 27270902 |
| ETIM 5.0 | EC002717 |
| ETIM 6.0 | EC002717 |
| ETIM 7.0 | EC002717 |
| UNSPSC 16.0901 | 39121528 |

Connection diagram

Cd-390

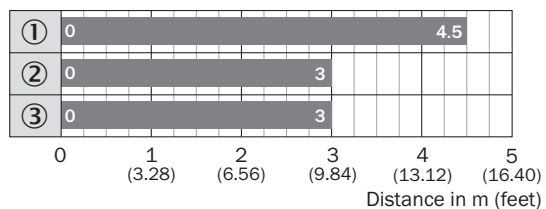


Light spot size



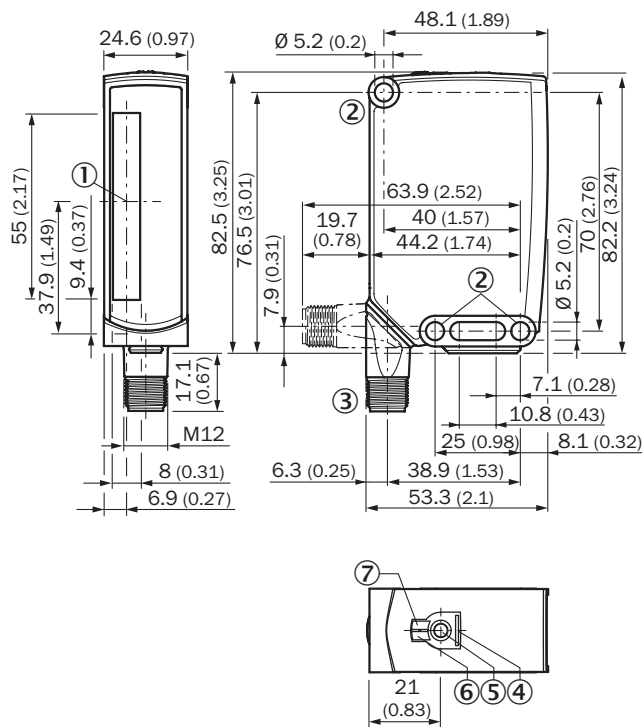
Sensing range diagram

Sensing range diagram (MDO 10 mm)



- Sensing range
- ① Reflector PL80A
- ② Reflector PL81
- ③ Reflector PL100





Dimensional drawing (Dimensions in mm (inch))





- ① Center of optical axis
- ② Mounting hole, Ø 5.2 mm
- ③ Connection
- ④ BluePilot blue: AutoAdapt indicator during run mode
- ⑤ Teach-in button
- ⑥ LED indicator yellow: Status of received light beam
- ⑦ LED indicator green: Supply voltage active

Recommended accessories

Other models and accessories → www.sick.com/Reflex_Array

| | Brief description | Type | Part no. |
|---|---|------------|----------|
| Mounting brackets and plates | | | |
|  | Mounting bracket, steel, zinc coated, mounting hardware included | BEF-WN-W23 | 2019085 |
| Reflectors | | | |
|  | Rectangular, screw connection, 100 mm x 100 mm, PMMA/ABS, Screw-on, 2 hole mounting | PL100 | 5321625 |
|  | Rectangular, screw connection, 84 mm x 84 mm, PMMA/ABS, Screw-on, 2 hole mounting | PL80A | 1003865 |
|  | Rectangular, self-adhesive, 50 mm x 80 mm, PMMA/ABS, self-adhesive | PL81 | 5322795 |

| | Brief description | Type | Part no. |
|---|---|--------------------|----------|
| Plug connectors and cables | | | |
|  | Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YF2A14-050VB3XLEAX | 2096235 |
|  | Head A: male connector, M12, 4-pin, straight Head B: - Cable: unshielded | STE-1204-G | 6009932 |

Recommended services

Additional services → www.sick.com/Reflex_Array

| | Type | Part no. |
|---|------------------------|------------|
| Function Block Factory | | |
| <ul style="list-style-type: none"> Description: The Function Block Factory supports common programmable logic controllers (PLCs) from various manufacturers, such as Siemens, Beckhoff, Rockwell Automation and B&R. More information on the FBF can be found <a _blank"="" href="https://fbf.cloud.sick.com target=">here. | Function Block Factory | On request |

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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.

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