



DATA SHEET

# RAY26P-24862130A00

RAY26 Reflex Array  
Photoelectric sensors

# SICK

Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

RAY26P-24862130A00

ORDERING INFORMATION

| Type               | part no. |
|--------------------|----------|
| RAY26P-24862130A00 | 1120666  |

Further device versions and accessories at [www.sick.com/RAY26\\_Reflex\\_Array](http://www.sick.com/RAY26_Reflex_Array)



DETAILED TECHNICAL DATA

FEATURES

|                                     |                                                                                                                                                                  |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Functional principle                | Photoelectric retro-reflective sensor                                                                                                                            |
| Functional principle detail         | Without reflector minimum distance (autocollimation/coaxial optics), 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                 | 1 mm, position-independent detection within the light array                                                                                                      |
| Detection height                    | 20 mm                                                                                                                                                            |
| Sensing range max.                  | 0 m ... 1.5 m <sup>1) 2)</sup>                                                                                                                                   |
| Distance of the sensor to reflector | ≥ 0 m                                                                                                                                                            |
| Type of light                       | Visible red light                                                                                                                                                |
| Light source                        | PinPoint LED <sup>3)</sup>                                                                                                                                       |
| Light spot size (distance)          | 24 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                           | ✓                                                                                                                                                                |
| Special applications                | Detecting objects with position tolerances, Detecting perforated objects, Detecting uneven, shiny objects, Detecting transparent objects, Detecting flat objects |

<sup>1)</sup> Reflector PL80A.  
<sup>2)</sup> At minimum object size 1 mm.  
<sup>3)</sup> Average service life: 100,000 h at T<sub>u</sub> = +25 °C.

**MECHANICS/ELECTRONICS**

|                               |                                                                                                                                                  |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Supply voltage $U_B$          | 10 V DC ... 30 V DC <sup>1)</sup>                                                                                                                |
| Ripple                        | < 5 V <sub>pp</sub>                                                                                                                              |
| Current consumption           | 25 mA <sup>2)</sup><br>40 mA <sup>3)</sup>                                                                                                       |
| Switching output              | PNP <sup>4)</sup>                                                                                                                                |
| Output: $Q_{L1}$ / C          | Switching output or IO-Link mode                                                                                                                 |
| Output function               | Factory setting: Pin 2 / white (MF): PNP normally open (dark switching), Pin 4 / black (QL1 / C): 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                                                                                                                      |
| Output current $I_{max}$      | ≤ 100 mA                                                                                                                                         |
| Response time                 | ≤ 3 ms <sup>5)</sup>                                                                                                                             |
| Switching frequency           | 170 Hz <sup>6)</sup>                                                                                                                             |
| Connection type               | Male connector M12, 4-pin                                                                                                                        |
| Circuit protection            | A <sup>7)</sup><br>B <sup>8)</sup><br>C <sup>9)</sup><br>D <sup>10)</sup>                                                                        |
| Protection class              | III                                                                                                                                              |
| Weight                        | 80 g                                                                                                                                             |
| Housing material              | Plastic, VISTAL®                                                                                                                                 |
| Optics material               | Plastic, PMMA                                                                                                                                    |
| Enclosure rating              | IP66<br>IP67                                                                                                                                     |
| Ambient operating temperature | –40 °C ... +60 °C <sup>11) 12)</sup>                                                                                                             |
| Ambient temperature, storage  | –40 °C ... +75 °C                                                                                                                                |
| UL File No.                   | NRKH.E181493 & NRKH7.E181493                                                                                                                     |

<sup>1)</sup> Limit values.<sup>2)</sup> 16 V DC ... 30 V DC, without load.<sup>3)</sup> 10 V DC ... 16 V DC, without load.<sup>4)</sup> Pin 4: This switching output must not be connected to another output.<sup>5)</sup> Signal transit time with resistive load in switching mode.<sup>6)</sup> With light/dark ratio 1:1 in switching mode.<sup>7)</sup> A =  $V_S$  connections reverse-polarity protected.<sup>8)</sup> B = inputs and output reverse-polarity protected.<sup>9)</sup> C = interference suppression.<sup>10)</sup> D = outputs overcurrent and short-circuit protected.<sup>11)</sup> Avoid condensation on the front screen of the sensor and on the reflector.<sup>12)</sup> Allowed temperature change after Teach +/- 20 K.**SAFETY-RELATED PARAMETERS**

|                   |           |
|-------------------|-----------|
| MTTF <sub>D</sub> | 709 years |
| DC <sub>avg</sub> | 0 %       |

COMMUNICATION INTERFACE

|                             |                                                                                                              |
|-----------------------------|--------------------------------------------------------------------------------------------------------------|
| IO-Link                     | ✓ , IO-Link V1.1                                                                                             |
| Data transmission rate      | COM2 (38,4 kBaud)                                                                                            |
| Cycle time                  | 2.3 ms                                                                                                       |
| Process data length         | 16 Bit                                                                                                       |
| Process data structure      | Bit 0 = switching signal Q <sub>L1</sub><br>Bit 1 = switching signal Q <sub>L2</sub><br>Bit 2 ... 15 = empty |
| VendorID                    | 26                                                                                                           |
| DeviceID HEX                | 0x80025A                                                                                                     |
| DeviceID DEC                | 8389210                                                                                                      |
| Compatible master port type | A                                                                                                            |
| SIO mode support            | Yes                                                                                                          |

SMART TASK

|                     |                                                                                                        |
|---------------------|--------------------------------------------------------------------------------------------------------|
| Smart Task name     | Base logics                                                                                            |
| Logic function      | Direct<br>AND<br>OR<br>Window<br>Hysteresis                                                            |
| Timer function      | Deactivated<br>Switch-on delay<br>Off delay<br>ON and OFF delay<br>Impulse (one shot)                  |
| Inverter            | Yes                                                                                                    |
| Switching frequency | SIO Direct: 170 Hz <sup>1)</sup><br>SIO Logic: 170 Hz <sup>2)</sup><br>IOL: 170 Hz <sup>3)</sup>       |
| Response time       | SIO Direct: 3 ms <sup>1)</sup><br>SIO Logic: 3 ms <sup>2)</sup><br>IOL: 3 ms <sup>3)</sup>             |
| Repeatability       | SIO Direct: 1,5 ms <sup>1)</sup><br>SIO Logic: 1,5 ms <sup>2)</sup><br>IOL: 1,5 ms <sup>3)</sup>       |
| Switching signal    | Switching signal Q <sub>L1</sub> Switching output<br>Switching signal Q <sub>L2</sub> Switching output |

<sup>1)</sup> 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").

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

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

DIAGNOSIS

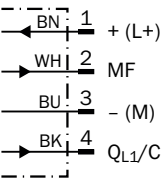
|                  |                            |
|------------------|----------------------------|
| Device status    | Yes                        |
| Quality of teach | Yes                        |
| Quality of run   | Yes, Contamination display |

CERTIFICATES

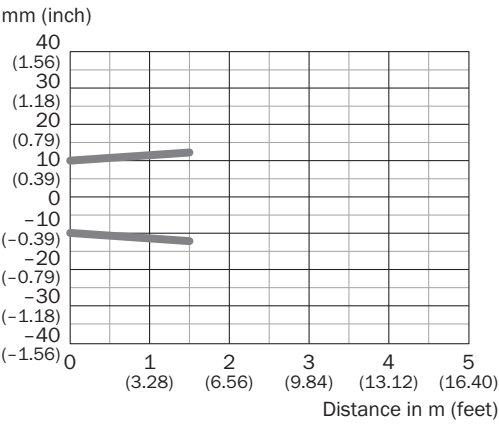
|                                |   |
|--------------------------------|---|
| EU declaration of conformity   | ✓ |
| UK declaration of conformity   | ✓ |
| ACMA declaration of conformity | ✓ |

|                                                                       |   |
|-----------------------------------------------------------------------|---|
| Moroccan declaration of conformity                                    | ✓ |
| China RoHS                                                            | ✓ |
| China Compulsory Product Certification (CCC) exempt                   | ✓ |
| cULus certificate                                                     | ✓ |
| Photobiological safety (DIN EN 62471) certificate                     | ✓ |
| Information according to Art. 3 of Data Act (Regulation EU 2023/2854) | ✓ |

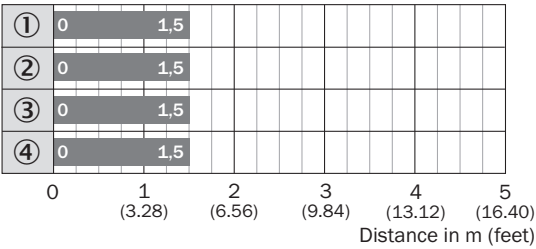
CONNECTION DIAGRAM CD-390



LIGHT SPOT SIZE

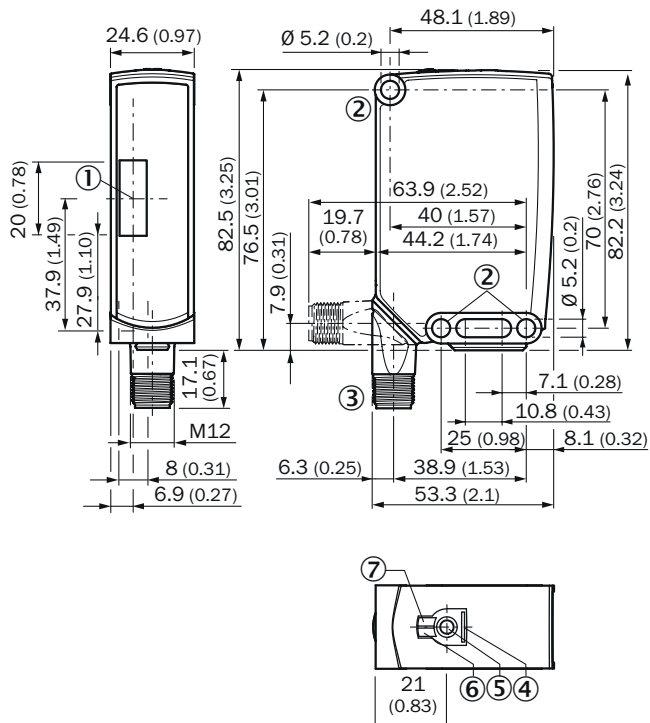


SENSING RANGE DIAGRAM



- Sensing range
- ① Reflector PL80A
  - ② Reflector PL40A
  - ③ Reflector PL30A
  - ④ Reflector P250F

## DIMENSIONAL DRAWING



Dimensions in mm (inch)

- ① Center of optical axis
- ② Mounting hole,  $\varnothing 5.2$  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

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/1120666](http://www.sick.com/1120666)



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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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