



# S30A-4111DL

S3000 PROFINET IO Professional

SAFETY LASER SCANNERS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

| Type        | Part no. |
|-------------|----------|
| S30A-4111DL | 1052592  |

#### Usage

The system plug has to be ordered separately. For details, see "Accessories, plug connectors and cables".

Network cable and male connector cannot be purchased from SICK.

Other models and accessories → [www.sick.com/S3000\\_PROFINET\\_IO\\_Professional](http://www.sick.com/S3000_PROFINET_IO_Professional)

### Detailed technical data

#### Features

|   |  |
|---|--|
| <b>Usage</b>  | S3000 PROFINET IO does not have any local inputs or outputs and is only operated in a network with corresponding controller. |
| <b>Model</b>  | Sensor without system plug   |
| <b>Application</b>  | Indoor   |
| <b>Protective field range</b>                               | 4 m  |
| <b>Warning field range</b>                                  | 49 m (20 m at 20 % reflectivity)   |
| <b>Distance measuring range</b>                             | 49 m   |
| <b>Number of simultaneously monitored protective fields</b> | 2  |
| <b>Type of field set</b>                                    | Dual field sets  |
| <b>Number of field sets</b>                                 | 8  |
| <b>Number of fields</b>                                     | 16   |
| <b>Number of monitoring cases</b>                           | 16   |
| <b>Scanning angle</b>                                       | 190°   |
| <b>Resolution (can be configured)</b>                       | 30 mm, 40 mm, 50 mm, 70 mm, 150 mm   |
| <b>Angular resolution</b>                                   | 0.5°, 0.25°, depending on range and resolution   |
| <b>Response time</b>  | 60 ms <sup>1)</sup>  |
| <b>Protective field supplement</b>                          | 100 mm   |
| <b>Number of multiple samplings</b>                         | 2 ... 16, configurable   |
| <b>Delay of automatic reset</b>                             | 120 ms ... 4,920 ms, configurable  |

<sup>1)</sup> Depending on basic response time and multiple sampling.

### Safety-related parameters

|   |                                     |
|---|-------------------------------------|
| <b>Type</b>   | Type 3 (IEC 61496)                  |
| <b>Safety integrity level</b>   | SIL 2 (IEC 61508)                   |
| <b>Category</b>   | Category 3 (EN ISO 13849)           |
| <b>Performance level</b>  | PL d (EN ISO 13849)                 |
| <b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b> | 8.0 x 10 <sup>-8</sup>              |
| <b>T<sub>M</sub> (mission time)</b>                                       | 20 years (EN ISO 13849)             |
| <b>Safe state in the event of a fault</b>                                 | The safety-related data is logic 0. |

### Functions

|  |            |
|--|------------|
| <b>Restart interlock</b>                 | ✓          |
| <b>Multiple sampling</b>                 | ✓          |
| <b>Monitoring case switching</b>         | ✓          |
| <b>Simultaneous monitoring</b>           | ✓          |
| <b>Static protective field switching</b> | ✓          |
| <b>Contour as a reference</b>            | ✓          |
| <b>Integrated configuration memory</b>   | ✓          |
| <b>Measured data output</b>              | Via RS-422 |

### Interfaces

|  |  |
|--|--|
| <b>Connection type</b>                         |  |
| Bus connection                                 | Optical fiber conductor (2 female connectors for SCRJ push-pull plug)  |
| Supply connection                              | System plug with or without connecting cable   |
| <b>Configuration and diagnostics interface</b> | RS-232   |
| Transmission rate                              | 9.6 kBaud, 19.2 kBaud, 38.4 kBaud  |
| <b>Fieldbus, industrial network</b>            | PROFINET PROFIsafe   |
| Type of fieldbus integration                   | Integrated in the device   |
| Device properties                              | PROFINET IO device with 2-port real-time switch according to PROFINET specification V2.2<br>PROFIsafe profile with 6-octet input and 6-octet output according to IEC 61784-3-3 V2.4<br>Cycle time 4, 8, 16, 32 ms, etc.<br>GSDML according to GSDML specification V2.25  |
| Switch properties                              | Filtering Data Base according to IEEE 802.1D<br>6 prioritization levels for IEEE 802.1Q – Network prioritization<br>64 KB SRAM memory for caching telegrams, managed in 768-byte segments<br>Resource prioritization for network control and RTC2/3 frames<br>Telegram extension based on "Cut-through"<br>Port status (Disabled, Blocking, Forwarding)<br>Support for non-real-time and real-time data transfer |
| Port properties                                | Auto-negotiation<br>Auto-crossover (MDIX)<br>Auto-polarity<br>100Base-FX   |
| Conformance                                    | Conformance Class B  |
| Topology support                               | SNMP, MIB-2, LLDP according to IEEE 802.1AB<br>MRP client support  |
| Diagnostics                                    | Application-related manufacturer-specific channel diagnostics and channel diagnostics for the<br>PROFIsafe profile, individually switchable<br>Report system errors<br>Maintenance alerts for POF interfaces for signal quality<br>Cable diagnostics   |

|                                  |  |
|----------------------------------|--|
|                                  | Neighborhood alerts<br>Support for port statistics<br>I&M support from I&M0 to I&M4  |
| Interfaces                       | TCP port 9000 and UDP port 30718<br>RS-232   |
| Functions that are not supported | Multicast communication<br>Supervisor AR<br>MAC-pause mechanism in full duplex<br>Back-pressure in half duplex<br>Static learning<br>Broadcast Storm Control |

### Electrical data

|  |                                   |
|--|-----------------------------------|
| <b>Protection class</b>                | III (VDE 0106, EN 60950)          |
| <b>Supply voltage <math>V_s</math></b> | 24 V DC (16.8 V DC ... 28.8 V DC) |
| <b>Power consumption</b>               | $\leq 0.8 \text{ A}^{1)}$         |

<sup>1)</sup> At 24 V DC without output load.

### Mechanical data

|                                    |  |
|------------------------------------|--|
| <b>Dimensions (W x H x D)</b>      | 155 mm x 185 mm x 160 mm               |
| <b>Weight</b>                      | 3.3 kg                                 |
| <b>Housing material</b>            | Aluminum die cast                      |
| <b>Housing color</b>               | RAL 1021 (yellow)                      |
| <b>Front screen material</b>       | Polycarbonate                          |
| <b>Front screen surface finish</b> | Outside with scratch-resistant coating |

### Ambient data

|                                      |   |
|--------------------------------------|---|
| <b>Enclosure rating</b>              | IP65 (EN 60529)   |
| <b>Ambient operating temperature</b> | -10 °C ... +50 °C   |
| <b>Storage temperature</b>           | -25 °C ... +50 °C   |
| <b>Vibration resistance</b>          | IEC 60068-2-6, IEC 60068-2-64, IEC 60721-3-5, IEC TR 60721-4-5, IEC 61496-3 |
| Class                                | 5M1 (IEC 60721-3-5)   |
| <b>Shock resistance</b>              | IEC 60068-2-27, IEC 60721-3-5, IEC TR 60721-4-5, IEC 61496-3                |
| Class                                | 5M1 (IEC 60721-3-5)   |
| Continuous shock                     | 50 m/s <sup>2</sup> , 11 ms<br>100 m/s <sup>2</sup> , 16 ms                 |

### Other information

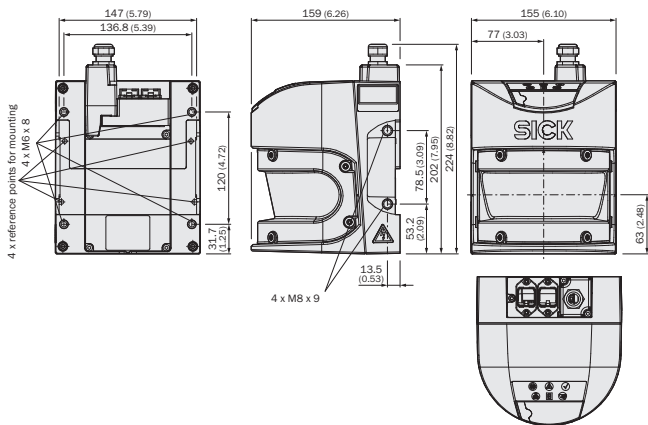
|                                    |   |
|------------------------------------|---|
| <b>Type of light</b>               | Pulsed laser diode                          |
| <b>Wave length</b>                 | 905 nm                                      |
| <b>Detectable remission factor</b> | 1.8 % ... > 1,000 %, reflectors             |
| <b>Laser class</b>                 | 1 (21 CFR 1040.10 and 1040.11, IEC 60825-1) |

### Classifications

|                     |          |
|---------------------|----------|
| <b>ECLASS 5.0</b>   | 27272705 |
| <b>ECLASS 5.1.4</b> | 27272705 |
| <b>ECLASS 6.0</b>   | 27272705 |
| <b>ECLASS 6.2</b>   | 27272705 |
| <b>ECLASS 7.0</b>   | 27272705 |




|                       |          |
|-----------------------|----------|
| <b>ECLASS 8.0</b>     | 27272705 |
| <b>ECLASS 8.1</b>     | 27272705 |
| <b>ECLASS 9.0</b>     | 27272705 |
| <b>ECLASS 10.0</b>    | 27272705 |
| <b>ECLASS 11.0</b>    | 27272705 |
| <b>ECLASS 12.0</b>    | 27272705 |
| <b>ETIM 5.0</b>       | EC002550 |
| <b>ETIM 6.0</b>       | EC002550 |
| <b>ETIM 7.0</b>       | EC002550 |
| <b>ETIM 8.0</b>       | EC002550 |
| <b>UNSPSC 16.0901</b> | 39121528 |





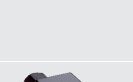


### Dimensional drawing (Dimensions in mm (inch))



### Recommended accessories

Other models and accessories → [www.sick.com/S3000\\_PROFINET\\_IO\\_Professional](http://www.sick.com/S3000_PROFINET_IO_Professional)

|   | Brief description  | Type                    | Part no. |
|---|--|-------------------------|----------|
| Mounting brackets and plates  |  |                         |          |
|  | 1 piece, Visor for heavy duty mounting kit (2080350), steel, painted (RAL 1021)  | Heavy duty sight        | 2083733  |
|  | 1 piece, Mounting bracket, heavy-duty version, with protection cover, for floor mounting, adjustable longitudinal and lateral axes via alignment plate, height adjustment possible. Tilt angle ± 5°. Additional mounting brackets are not required., steel, painted (RAL 1021) | Heavy-duty mounting kit | 2080350  |
|  | 1 piece, mounting bracket for direct mounting, from the rear, on wall or machine, not adjustable, Aluminum   | Mounting kit 1          | 2015623  |

|  | Brief description   | Type               | Part no. |
|--|---|--------------------|----------|
|   | 1 piece, mounting bracket for rear mounting on wall or machine, adjustable longitudinal and lateral axes, only in conjunction with mounting kit 1 (2015623), Aluminum   | Mounting kit 2     | 2015624  |
|   | 1 piece, mounting bracket for rear mounting on wall, floor, or machine, adjustable longitudinal and lateral axes, only in conjunction with mounting kit 1 (2015623) and 2 (2015624), Aluminum   | Mounting kit 3     | 2015625  |
| Others   |   |                    |          |
|   | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Male connector, M8, 4-pin, straight</li> <li>• <b>Connection type head B:</b> Male connector, USB-A, straight</li> <li>• <b>Cable:</b> 10 m, 4-wire, PVC</li> <li>• <b>Description:</b> Unshielded, Configuration cable with integrated RS-232 transducer on USB for connecting a sensor configuration connection (M8, 4-pin) to the USB interface of a PC</li> </ul> | DSL-8U04G10M025KM1 | 6034575  |
|   | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Male connector, M8, 4-pin, straight</li> <li>• <b>Connection type head B:</b> Male connector, USB-A, straight</li> <li>• <b>Cable:</b> 2 m, 4-wire, PVC</li> <li>• <b>Description:</b> Unshielded, Configuration cable with integrated RS-232 transducer on USB for connecting a sensor configuration connection (M8, 4-pin) to the USB interface of a PC</li> </ul>  | DSL-8U04G02M025KM1 | 6034574  |
|   | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> System plug</li> <li>• <b>Description:</b> Without cable, Not for use of incremental encoders, integrated configuration storage, For S3000 PROFINET IO Advanced and Professional</li> <li>• <b>Items supplied:</b> With 1 x cable gland M16</li> </ul>  | SX1A-A0000L        | 2047286  |
|   | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> System plug</li> <li>• <b>Cable:</b> 1 m, 2-wire, PVC</li> <li>• <b>Description:</b> Pre-assembled, Not for use of incremental encoders, integrated configuration storage, unshielded, For S3000 PROFINET IO Advanced and Professional</li> <li>• <b>Connection systems:</b> Flying leads</li> <li>• <b>Items supplied:</b> With 1 x cable gland M16</li> </ul>       | SX1A-B0201L        | 2049575  |
|  | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> System plug</li> <li>• <b>Cable:</b> 1 m, 2-wire, PVC</li> <li>• <b>Description:</b> Pre-assembled with power y-junction, Not for use of incremental encoders, integrated configuration storage, unshielded, For S3000 PROFINET IO Advanced and Professional</li> <li>• <b>Items supplied:</b> With 1 x cable gland M16</li> </ul>                                    | SX1A-B0201M        | 2049857  |

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)