



# LMS121-10000 Security

## LMS1xx

2D LIDAR SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

| Type                  | part no. |
|-----------------------|----------|
| LMS121-10000 Security | 1051384  |

Other models and accessories → [www.sick.com/LMS1xx](http://www.sick.com/LMS1xx)



### Detailed technical data

#### Features

|                                   |                                                |
|-----------------------------------|------------------------------------------------|
| <b>Application</b>                | Security, Indoor                               |
| <b>Light source</b>               | Infrared (905 nm)                              |
| <b>Laser class</b>                | 1 (IEC 60825-1:2014, EN 60825-1:2014+A11:2021) |
| <b>Aperture angle</b>             |                                                |
| Horizontal                        | 270 °                                          |
| <b>Scanning frequency</b>         | 25 Hz<br>50 Hz                                 |
| <b>Angular resolution</b>         |                                                |
| Horizontal                        | 0.25 °<br>0.5 °                                |
| <b>Heating</b>                    | No                                             |
| <b>Working range</b>              | 0.5 m ... 20 m                                 |
| <b>Scanning range</b>             |                                                |
| At 10% remission factor           | 18 m                                           |
| At 90% remission factor           | 20 m                                           |
| <b>Amount of evaluated echoes</b> | 2                                              |
| <b>Fog correction</b>             | Yes                                            |

#### Mechanics/electronics

|                               |                                           |
|-------------------------------|-------------------------------------------|
| <b>Connection type</b>        | 1 x system plug with screw terminal block |
| <b>Supply voltage</b>         | 9 V DC ... 30 V DC                        |
| <b>Power consumption</b>      | Typ. 8 W                                  |
| <b>Housing color</b>          | Gray (RAL 7032)                           |
| <b>Enclosure rating</b>       | IP65 (EN 60529, Section 14.2.5)           |
| <b>Protection class</b>       | III (EN 61010-1:2010-10)                  |
| <b>Weight</b>                 | 1.1 kg                                    |
| <b>Dimensions (L x W x H)</b> | 105 mm x 102 mm x 152 mm                  |

|              |             |
|--------------|-------------|
| <b>MTBF</b>  | > 100 years |
| <b>MTTFd</b> | > 100 years |

#### Safety-related parameters

|                         |             |
|-------------------------|-------------|
| <b>MTTF<sub>D</sub></b> | > 100 years |
|-------------------------|-------------|

#### Performance

|                                      |                                                                                  |
|--------------------------------------|----------------------------------------------------------------------------------|
| <b>Response time</b>                 | ≥ 20 ms                                                                          |
| <b>Detectable object shape</b>       | Almost any                                                                       |
| <b>Systematic error</b>              | ± 30 mm <sup>1)</sup>                                                            |
| <b>Statistical error</b>             | 12 mm <sup>1)</sup>                                                              |
| <b>Integrated application</b>        | Field evaluation<br>Security conform parameterization<br>Easy Teach lite and pro |
| <b>Number of field sets</b>          | 10 fields                                                                        |
| <b>Simultaneous evaluation cases</b> | 10                                                                               |

<sup>1)</sup> Typical value; actual value depends on environmental conditions.

#### Interfaces

|                               |                        |                                                                                                    |
|-------------------------------|------------------------|----------------------------------------------------------------------------------------------------|
| <b>Ethernet</b>               |                        | ✓ , TCP/IP                                                                                         |
|                               | Function               | Data interface (read result output)                                                                |
|                               | Data transmission rate | 10/100 MBit/s                                                                                      |
| <b>Serial</b>                 |                        | ✓ , RS-232                                                                                         |
|                               | Function               | Service interface                                                                                  |
|                               | Data transmission rate | 9.6 kBaud ... 115.2 kBaud                                                                          |
| <b>CAN</b>                    |                        | ✓                                                                                                  |
|                               | Function               | Extension of outputs                                                                               |
| <b>Digital inputs/outputs</b> |                        |                                                                                                    |
|                               | Inputs                 | 4 digital                                                                                          |
|                               | Outputs                | 3 (2 relay, 1 digital)                                                                             |
| <b>Optical indicators</b>     |                        | 7-segment display (plus 5 LEDs showing device status, contamination warning and initial condition) |

#### Ambient data

|                                            |                                               |
|--------------------------------------------|-----------------------------------------------|
| <b>Remission factor</b>                    | 3 % ... > 1,000 % (reflectors)                |
| <b>Electromagnetic compatibility (EMC)</b> | EN 61000-6-2:2005 / EN 61000-6-3:2007+A1:2011 |
| <b>Vibration resistance</b>                | EN 60068-2-6 (1995-04)                        |
| <b>Shock resistance</b>                    | EN 60068-2-27 (1993-03)                       |
| <b>Ambient operating temperature</b>       | 0 °C ... +50 °C                               |
| <b>Storage temperature</b>                 | -30 °C ... +70 °C                             |
| <b>Ambient light immunity</b>              | 80,000 lx                                     |

#### General notes

|                    |                                                                                                         |
|--------------------|---------------------------------------------------------------------------------------------------------|
| <b>Note on use</b> | The sensor does not constitute a safety component as defined by relevant legislation on machine safety. |
|--------------------|---------------------------------------------------------------------------------------------------------|

#### Certificates

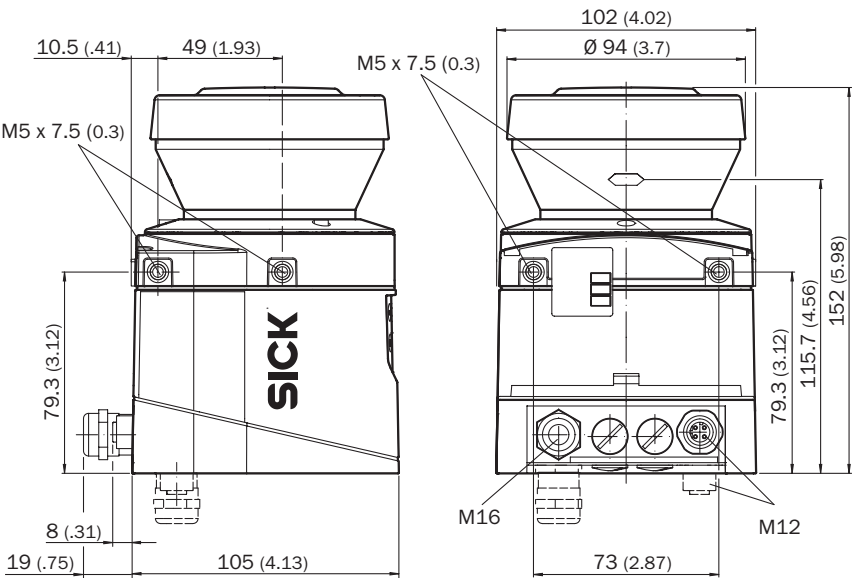
|                                     |   |
|-------------------------------------|---|
| <b>EU declaration of conformity</b> | ✓ |
|-------------------------------------|---|

|                                                                       |   |
|-----------------------------------------------------------------------|---|
| UK declaration of conformity                                          | ✓ |
| ACMA declaration of conformity                                        | ✓ |
| China RoHS                                                            | ✓ |
| cTUVus certificate                                                    | ✓ |
| Information according to Art. 3 of Data Act (Regulation EU 2023/2854) | ✓ |

Classifications

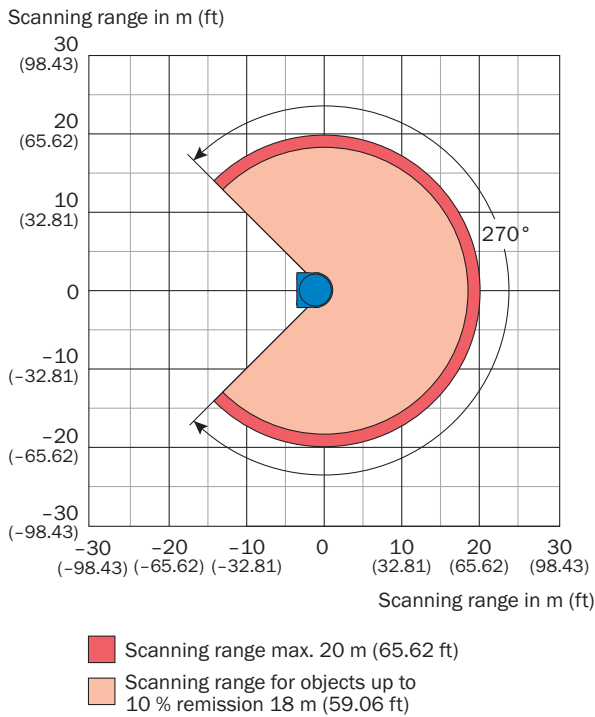
|                |          |
|----------------|----------|
| ECLASS 5.0     | 27270990 |
| ECLASS 5.1.4   | 27270990 |
| ECLASS 6.0     | 27270913 |
| ECLASS 6.2     | 27270913 |
| ECLASS 7.0     | 27270913 |
| ECLASS 8.0     | 27270913 |
| ECLASS 8.1     | 27270913 |
| ECLASS 9.0     | 27270913 |
| ECLASS 10.0    | 27270913 |
| ECLASS 11.0    | 27270913 |
| ECLASS 12.0    | 27270913 |
| ETIM 5.0       | EC002550 |
| ETIM 6.0       | EC002550 |
| ETIM 7.0       | EC002550 |
| ETIM 8.0       | EC002550 |
| UNSPSC 16.0901 | 41111615 |

Dimensional drawing

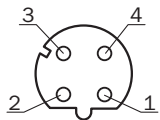


Dimensions in mm (inch)

## Working range diagram



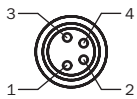
## Connection type Ethernet



M12 female connector, 4-pin, D-coded

- ① TX+
- ② RX+
- ③ TX-
- ④ RX-

## PIN assignment Service interface



female connector M8, 4-pin

- ① Reserved
- ② RxD AUX
- ③ GND RS
- ④ TxD AUX

### Recommended accessories

Other models and accessories → [www.sick.com/LMS1xx](http://www.sick.com/LMS1xx)

|                                                                                     | Brief description                                                                                                                                                                                                                                                                                                                                                                                                                                              | Type                | part no. |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------|
| Mounting systems                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                     |          |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket for rear mounting on wall or machine</li> <li><b>Material:</b> Anodized aluminum</li> <li><b>Details:</b> AIMg3</li> <li><b>Packing unit:</b> 1 piece</li> <li><b>Items supplied:</b> Mounting bracket, 4 x M5 x 10 countersunk screws</li> </ul>                                                                                                                                  | Mounting kit 1a     | 2034324  |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket for rear mounting on wall or machine with protection of optics hood</li> <li><b>Material:</b> Anodized aluminum</li> <li><b>Details:</b> AIMg3</li> <li><b>Packing unit:</b> 1 piece</li> <li><b>Items supplied:</b> Mounting bracket, 4 x M5 x 10 countersunk screws</li> </ul>                                                                                                   | Mounting kit 1b     | 2034325  |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket, adjustable lateral axis, only in conjunction with mounting kit 1a (2034324) or 1b (2034325)</li> <li><b>Material:</b> Anodized aluminum</li> <li><b>Details:</b> AIMg3</li> <li><b>Packing unit:</b> 1 piece</li> <li><b>Items supplied:</b> Mounting bracket, 4 x M4 x 10 countersunk screws, spring ring</li> </ul>                                                             | Mounting kit 2      | 2039302  |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting plate, adjustable longitudinal axis, only in conjunction with mounting kit 2 (2039302)</li> <li><b>Material:</b> Anodized aluminum</li> <li><b>Details:</b> AIMg3</li> <li><b>Packing unit:</b> 1 piece</li> <li><b>Items supplied:</b> Mounting plate, 2 x M4 x 10 countersunk screws, spring ring</li> </ul>                                                                             | Mounting kit 3      | 2039303  |
| connectors and cables                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                     |          |
|   | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 4-pin, straight, D-coded</li> <li><b>Connection type head B:</b> Male connector, RJ45, 4-pin, straight</li> <li><b>Signal type:</b> Ethernet, PROFINET</li> <li><b>Cable:</b> 5 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Ethernet, shielded, PROFINET</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li> </ul> | YM2D24-050P-N1MRJA4 | 2106184  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Flying leads</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Items supplied:</b> By the meter</li> <li><b>Cable:</b> 15-wire, AWG20, PVC</li> <li><b>Description:</b> Unshielded</li> <li><b>Note:</b> On 100 m reel</li> </ul>                                                                                                                                         | Connecting cable    | 6030795  |

## 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)