



# LMS511-21100 Lite

LMS5xx

2D LIDAR SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

| Type              | Part no. |
|-------------------|----------|
| LMS511-21100 Lite | 1054154  |

Other models and accessories → [www.sick.com/LMS5xx](http://www.sick.com/LMS5xx)



### Detailed technical data

#### Features

|                                   |                                       |
|-----------------------------------|---------------------------------------|
| <b>Variant</b>                    | Lite                                  |
| <b>Application</b>                | Outdoor                               |
| <b>Resolution power</b>           | High Resolution                       |
| <b>Light source</b>               | Infrared (905 nm)                     |
| <b>Laser class</b>                | 1 (IEC 60825-1:2014, EN 60825-1:2014) |
| <b>Aperture angle</b>             | Horizontal 190°                       |
| <b>Scanning frequency</b>         | 25 Hz / 35 Hz / 50 Hz / 75 Hz         |
| <b>Angular resolution</b>         | 0.25°<br>0.5°<br>1°                   |
| <b>Heating</b>                    | Yes                                   |
| <b>Working range</b>              | 0.7 m ... 80 m                        |
| <b>Scanning range</b>             | At 10% remission 26 m                 |
| <b>Spot size</b>                  | 4.7 mrad                              |
| <b>Amount of evaluated echoes</b> | 2                                     |
| <b>Fog correction</b>             | Yes                                   |

#### Mechanics/electronics

|                              |  |
|------------------------------|--|
| <b>Electrical connection</b> | 4 x M12 round connector                    |
| <b>Supply voltage</b>        | 24 V DC                                    |
| <b>Power consumption</b>     | 22 W, + 55 W heating (typical)             |
| <b>Housing color</b>         | Gray (RAL 7032)                            |
| <b>Enclosure rating</b>      | IP65, IP67 (IEC 60529 Edition 2.2:2013-08) |
| <b>Protection class</b>      | III (EN 60529, Section 14.2.7)             |

|                               |                          |
|-------------------------------|--------------------------|
| <b>Weight</b>                 | 3.7 kg                   |
| <b>Dimensions (L x W x H)</b> | 160 mm x 155 mm x 185 mm |

## Performance

|                                      |   |
|--------------------------------------|---|
| <b>Response time</b>                 | ≥ 13 ms   |
| <b>Detectable object shape</b>       | Almost any  |
| <b>Systematic error</b>              | ± 25 mm (1 m ... 10 m)<br>± 35 mm (10 m ... 20 m) <sup>1)</sup> |
| <b>Statistical error</b>             | 7 mm (1 m ... 10 m)<br>9 mm (10 m ... 20 m) <sup>1)</sup>       |
| <b>Integrated application</b>        | Field evaluation  |
| <b>Number of field sets</b>          | 4 fields  |
| <b>Simultaneous evaluation cases</b> | 4   |

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

## Interfaces

|                           |                                       |
|---------------------------|---------------------------------------|
| <b>Ethernet</b>           | ✓, TCP/IP                             |
| Remark                    | OPC                                   |
| Function                  | Host                                  |
| Data transmission rate    | 10/100 MBit/s                         |
| <b>Serial</b>             | ✓, RS-232, RS-422                     |
| Function                  | Host                                  |
| Data transmission rate    | 9.6 kBaud ... 500 kBaud               |
| <b>USB</b>                | ✓                                     |
| Remark                    | Mini-USB                              |
| Function                  | AUX                                   |
| Data transmission rate    | 9.6 kBaud ... 500 kBaud               |
| <b>Digital inputs</b>     | 2                                     |
| <b>Digital outputs</b>    | 3                                     |
| <b>Optical indicators</b> | 5 LEDs (Additional 7-segment display) |

## Ambient data

|  |  |
|--|--|
| <b>Object remission</b>                    | 2 % ... > 1,000 % (reflectors)                     |
| <b>Electromagnetic compatibility (EMC)</b> | IEC 61000-6-2:2016-08 / IEC 61000-6-4:2006+A1:2010 |
| <b>Vibration resistance</b>                | IEC 60068-2-6:2007-12                              |
| <b>Shock resistance</b>                    | IEC 60068-2-27:2008-02                             |
| <b>Ambient operating temperature</b>       | -30 °C ... +50 °C                                  |
| <b>Storage temperature</b>                 | -30 °C ... +70 °C                                  |
| <b>Ambient light immunity</b>              | 70,000 lx  |

## General notes

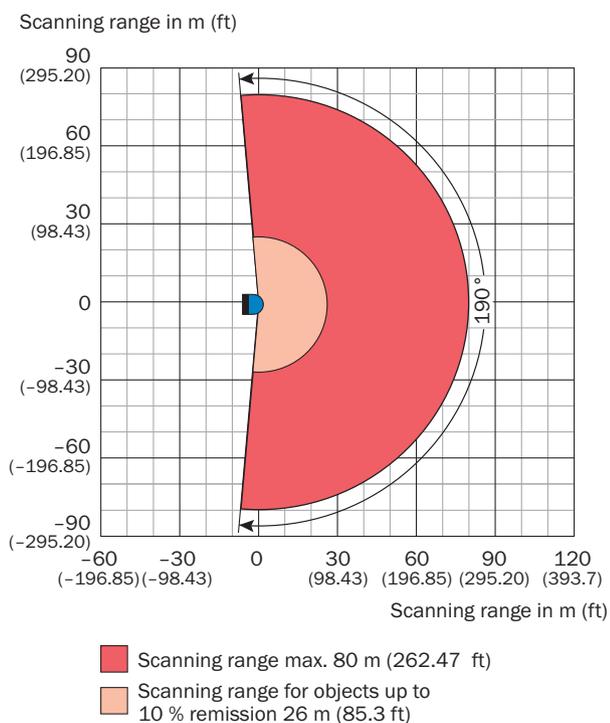
|                    |   |
|--------------------|---|
| <b>Note on use</b> | The sensor does not constitute a safety component as defined by relevant legislation on machine safety. |
|--------------------|---|

## Classifications

|                   |          |
|-------------------|----------|
| <b>ECl@ss 5.0</b> | 27270990 |
|-------------------|----------|

|                       |          |
|-----------------------|----------|
| <b>ECl@ss 5.1.4</b>   | 27270990 |
| <b>ECl@ss 6.0</b>     | 27270913 |
| <b>ECl@ss 6.2</b>     | 27270913 |
| <b>ECl@ss 7.0</b>     | 27270913 |
| <b>ECl@ss 8.0</b>     | 27270913 |
| <b>ECl@ss 8.1</b>     | 27270913 |
| <b>ECl@ss 9.0</b>     | 27270913 |
| <b>ETIM 5.0</b>       | EC002550 |
| <b>ETIM 6.0</b>       | EC002550 |
| <b>UNSPSC 16.0901</b> | 46171620 |

### Working range diagram



### Recommended accessories

Other models and accessories → [www.sick.com/LMS5xx](http://www.sick.com/LMS5xx)

|   | Brief description                      | Type                    | Part no. |
|---|--|-------------------------|----------|
| Device protection (mechanical)  |  |                         |          |
|  | Weather hood (180°), vertical mounting | Weather protection hood | 2063050  |

|   | Brief description   | Type                                       | Part no. |
|---|---|--|----------|
| <b>Mounting brackets and plates</b>   |   |  |          |
|  | 1 piece, mounting bracket for direct mounting, from the rear, on wall or machine, not adjustable  | Mounting kit 1                             | 2015623  |
|  | 1 piece, mounting bracket for rear mounting on wall or machine, adjustable longitudinal and lateral axes, only in conjunction with mounting kit 1 (2015623) | Mounting kit 2                             | 2015624  |
| <b>Plug connectors and cables</b>   |   |  |          |
|  | Head A: female connector, M12, 8-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: RS-232, RS-422, shielded, 5 m                                     | Connecting cable (female connector - open) | 6036153  |
|  | Head A: male connector, M12, 8-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: PUR, halogen-free, shielded, 5 m                                    | YF2A28-050UA6XLEAX                         | 6036155  |
|  | Head A: female connector, M12, 5-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Power, shielded, 5 m  | YF2A64-050XXXLEAX                          | 6036159  |

### Recommended services

Additional services → [www.sick.com/LMS5xx](http://www.sick.com/LMS5xx)

|   | Type                        | Part no. |
|---|-----------------------------|----------|
| <b>Warranty extensions</b>  |                             |          |
| <ul style="list-style-type: none"> <li>• <b>Product area:</b> Identification solutions, Vision, Distance sensors, Detection and ranging solutions</li> <li>• <b>Range of services:</b> The services correspond to the scope of the statutory manufacturer warranty (SICK general terms and conditions of purchase), Long-term protection for calculable lump sum.</li> <li>• <b>Duration:</b> Five-year warranty from date of purchase.</li> </ul>  | Five-year extended warranty | 1680671  |
| <b>Training</b>   |                             |          |
| <ul style="list-style-type: none"> <li>• <b>Product family group:</b> 2D LiDAR sensors, 3D LiDAR sensors</li> <li>• <b>Range of services:</b> The training format and location can be worked out in collaboration with SICK</li> <li>• <b>Note:</b> A minimum and maximum number of participants is determined based on the training format, depending on the training format, content and location, a training course may take place over the course of one or more work days</li> <li>• <b>Duration:</b> The fixed price includes the specific training services agreed upon with the customer, the fixed price includes the work time required for the training services, the required work time depends on the range of services, Additional work will be invoiced separately based on time spent</li> <li>• <b>Travel expenses:</b> The prices include costs for the travel time and expenses, travel costs, such as flight or hotel expenses, are not included</li> </ul> | Training LMS/MRS/NAV/TiM    | 1612234  |

|  | Type  | Part no. |
|--|---|----------|
| Commissioning  |   |          |
| <ul style="list-style-type: none"> <li>• <b>Product area:</b> 2D LiDAR sensors, 3D LiDAR sensors</li> <li>• <b>Range of services:</b> Inspection of connection, fine adjustment, configuration of monitored areas, configuration and optimization of parameters of the LMS/MRS/NAV/TiM as well as verification tests, Setup of previously defined functions of basic settings, parameters of field application, filters for raw data output and product-specific configuration</li> <li>• <b>Documentation:</b> Archiving of product parameters in a SICK database, Documentation of performance, Creation of a commissioning log</li> <li>• <b>Duration:</b> Additional work will be invoiced separately based on time spent</li> <li>• <b>Note:</b> The prices do not include expenses or costs for the travel time</li> </ul> | Commissioning LMS/MRS/NAV/TiM (Prime package) | 1680672  |
| Maintenance  |   |          |
| <ul style="list-style-type: none"> <li>• <b>Product area:</b> 2D LiDAR sensors, 3D LiDAR sensors</li> <li>• <b>Range of services:</b> Inspection, analysis and restoring of defined functions, Inspection and adaptation of basic settings, parameters of field application, filters for raw data output, and product-specific configuration</li> <li>• <b>Documentation:</b> Documentation of operating hours and archiving of parameters in a SICK database, Creation of a maintenance log</li> <li>• <b>Duration:</b> Additional work will be invoiced separately based on time spent</li> <li>• <b>Note:</b> The prices do not include expenses or costs for the travel time</li> </ul>  | Maintenance LMS/MRS/NAV/TiM                   | 1682593  |

## 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)