# LMS511-12100 Heavy Duty
LMS5xx

**2D LIDAR SENSORS**

**SICK**
Sensor Intelligence.

# LMS511-12100 Heavy Duty | LMS5xx
## 2D LIDAR SENSORS

## Ordering information

| Type | Part no. |
|------|----------|
| LMS511-12100 Heavy Duty | 1071590 |

Other models and accessories ➜ www.sick.com/LMS5xx

## Detailed technical data

### Features

| | |
|---|---|
| **Variant** | Heavy Duty |
| **Application** | Outdoor |
| **Resolution power** | Standard Resolution |
| **Light source** | Infrared (905 nm) |
| **Laser class** | 1 (IEC 60825-1:2014, EN 60825-1:2014) |
| **Aperture angle** | |
| Horizontal | 190 ° |
| **Scanning frequency** | 25 Hz / 35 Hz / 50 Hz / 75 Hz / 100 Hz |
| **Angular resolution** | 0.167 °<br>0.25 °<br>0.333 °<br>0.5 °<br>0.667 °<br>1 ° |
| **Heating** | Yes |
| **Working range** | 1 m ... 80 m |
| **Scanning range** | |
| At 10% remission | 40 m |
| **Spot size** | 11.9 mrad |
| **Amount of evaluated echoes** | 5 |
| **Fog correction** | Yes |

### Mechanics/electronics

| | |
|---|---|
| **Electrical connection** | 4 x M12 round connector (stainless steel) |
| **Supply voltage** | 24 V DC |
| **Power consumption** | 22 W, + 55 W heating (typical) |
| **Housing color** | Gray (RAL 7032) |

| | |
|---|---|
| **Enclosure rating** | IP65, IP67 (IEC 60529 Edition 2.2:2013-08) |
| **Protection class** | III (EN 60529, Section 14.2.7) |
| **Weight** | 3.7 kg |
| **Dimensions (L x W x H)** | 160 mm x 155 mm x 185 mm |

## Performance

| | |
|---|---|
| **Response time** | ≥ 10 ms |
| **Detectable object shape** | Almost any |
| **Systematic error** | ± 25 mm (1 m … 10 m)<br>± 35 mm (10 m … 20 m)<br>± 50 mm (20 m … 30 m) [1] |
| **Statistical error** | 6 mm (1 m … 10 m)<br>8 mm (10 m … 20 m)<br>14 mm (20 m … 30 m) [1] |
| **Integrated application** | Field evaluation |
| **Number of field sets** | 10 fields |
| **Simultaneous evaluation cases** | 10 |

[1] Typical value; actual value depends on environmental conditions.

## Interfaces

| | |
|---|---|
| **Ethernet** | ✔, TCP/IP |
| Remark | OPC |
| Function | Host |
| Data transmission rate | 10/100 MBit/s |
| **Serial** | ✔, RS-232, RS-422 |
| Function | Host |
| Data transmission rate | 9.6 kBaud … 500 kBaud |
| **CAN** | ✔ |
| Function | Extension of outputs |
| **USB** | ✔ |
| Remark | Mini-USB |
| Function | AUX |
| Data transmission rate | 9.6 kBaud … 500 kBaud |
| **Digital inputs** | 4 (Encoders) |
| **Digital outputs** | 6 |
| **Optical indicators** | 5 LEDs (Additional 7-segment display) |
| **Parameter storage** | Integrated into system plug with cloning parameter memory |

## Ambient data

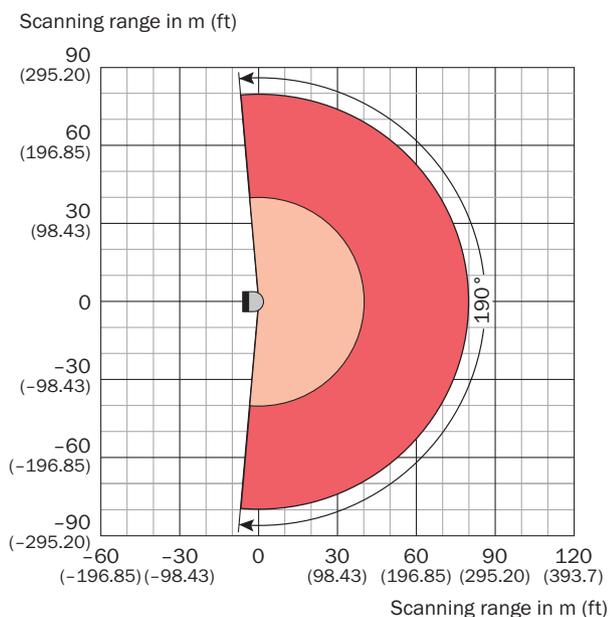| | |
|---|---|
| **Object remission** | 2 % … > 1,000 % (reflectors) |
| **Electromagnetic compatibility (EMC)** | IEC 61000-6-2:2016-08 / IEC 61000-6-4:2006+A1:2010 |
| **Vibration resistance** | IEC 60068-2-6:2007-12 |
| **Shock resistance** | IEC 60068-2-27:2008-02 |
| **Ambient operating temperature** | –40 °C … +60 °C |
| **Storage temperature** | –40 °C … +70 °C |

| Ambient light immunity | 70,000 lx |
|---|---|

## General notes

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

## Classifications

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

## Working range diagram

Scanning range in m (ft)



Scanning range in m (ft)

■ Scanning range max. 80 m (262.47 ft)

■ Scanning range for objects up to 10 % remission 40 m (131.23 ft)

## Recommended accessories

Other models and accessories ➜ www.sick.com/LMS5xx

| | Brief description | Type | Part no. |
|---|---|---|---|
| **Device protection (mechanical)** | | | |
| | Weather hood (180°), vertical mounting | Weather protection hood | 2063050 |
| **Mounting brackets and plates** | | | |
| | 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 |
| **Plug connectors and cables** | | | |
| | Head A: female connector, M12, 4-pin, straight<br>Head B: Flying leads<br>Cable: PUR, halogen-free, shielded, 5 m | DOL-1204-G05MAC0 | 6054495 |
| | Head A: female connector, M12, 12-pin, straight<br>Head B: Flying leads<br>Cable: PUR, halogen-free, shielded, 5 m | DOL-1212-G05MAC0 | 2094407 |
| | Head A: male connector, M12, 12-pin, straight<br>Head B: Flying leads<br>Cable: PUR, halogen-free, shielded, 5 m | STL-1212-G05MAC0 | 2094409 |
| | Head A: male connector, M12, 4-pin, straight, D-coded<br>Head B: male connector, RJ45, 8-pin, straight<br>Cable: Ethernet, PUR, shielded, 5 m | YM2D24-050PN4MRJA4 | 6054493 |

## 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**

SICK AG   |   Waldkirch   |   Germany   |   www.sick.com