



## MRS6000

3D LiDAR sensor with multilayer technology and large vertical aperture angle

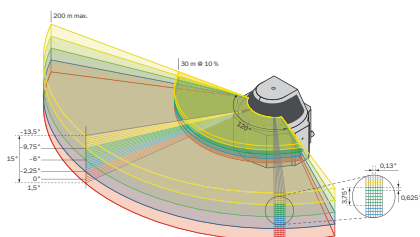
**SICK**  
Sensor Intelligence.

## Advantages



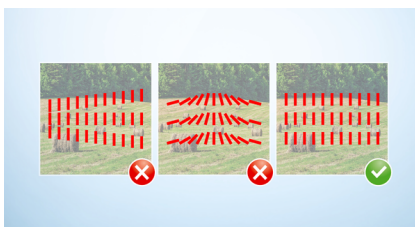
## With 24 layers, almost nothing can go unnoticed

The high performance of the MRS6000 3D LiDAR sensors is based on an innovative mirror technology which enables a nearly realistic 3D scan image with 24 measuring lines arranged nearly gap-free. The high scan point density is concentrated on the defined area so that even small objects can be detected reliably. Together with the remission data (RSSI), a unique image of the scan area can be generated in real time and good results can be achieved even on low-reflectance surfaces. This makes it possible to reliably monitor areas and register objects in the area of interest, for example. Due to its outstanding outdoor performance, the MRS6000 can also be used under harsh weather conditions.



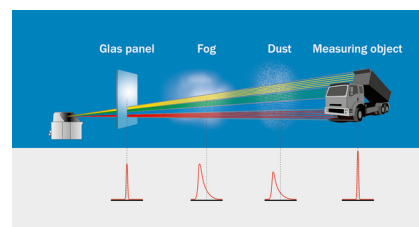
### High scan point density for nearly gap-free detection

With up to 880,000 measurement points per second, almost nothing gets by the MRS6000. At a distance of 25 m, the MRS6000 stretches over a scanning field with roughly 72 measuring points per m<sup>2</sup> throughout the entire aperture angle of 120°. The distance between the individual measuring points is thereby only 4.3 mm.



### innovative mirror technology for high scan field stability

In comparison to conventional mirror technologies, the MRS6000 works with a special polygon mirror which helps generate an extremely straight scan field line without distortion.



### multi-echo evaluation for higher reliability

The distance between the 3D LiDAR sensor and an object is calculated using the time-of-flight of the emitted pulse. The MRS6000 can evaluate up to four echo signals for each measuring beam, delivering reliable measurement results at all times. Even for applications with poor visibility, such as in tunnels or in mines, the MRS6000 always has the best perspective.



**Excellent results even on low-reflectance surfaces and gap-free scanning for a reliable 3D image.**

## SICK LifeTime Services

**SICK's services increase machine and plant productivity, enhance the safety of people all over the world, provide a solid foundation for a sustainable business operation, and protect investment goods. In addition to its usual consulting services, SICK provides direct on-site support during the conceptual design and commissioning phases as well as during operation.**

**The range of services not only covers aspects like maintenance and inspection, but also includes performance checks as well as upgrades and retrofits. Modular or customized service contracts extend the service life of plants and therefore increase their availability. If faults occur or limit values are exceeded, these are detected at all times by the corresponding sensors and systems.**



### Consulting and design

Application-specific advice on the product, its integration and the application itself.



### commissioning and maintenance

Application-optimized and sustainable — thanks to professional commissioning and maintenance by a trained SICK service technician.



### service contracts

Extended warranty, SICK Remote Service, 24-hour helpdesk, maintenance, availability guarantees and other modular components can be individually combined on request.



### Technical data overview

|                                      |                                                                       |
|--------------------------------------|-----------------------------------------------------------------------|
| <b>Application</b>                   | Outdoor                                                               |
| <b>Aperture angle</b>                | Horizontal 120°                                                       |
|                                      | Vertical 15°                                                          |
| <b>Angular resolution</b>            | 0.13°, horizontal<br>0.625°, vertical                                 |
| <b>Working range</b>                 | 0.5 m ... 200 m                                                       |
| <b>Scanning range</b>                | At 10% remission 30 m, x 1.4 (typ.) in mode: Extended measuring range |
|                                      | At 90% remission 75 m, x 1.4 (typ.) in mode: Extended measuring range |
| <b>Amount of evaluated echoes</b>    | 4                                                                     |
| <b>Scanning frequency</b>            | 10 Hz                                                                 |
| <b>Ambient operating temperature</b> | -20 °C ... +60 °C                                                     |
| <b>Ethernet</b>                      | ✓                                                                     |
| <b>Weight</b>                        | 2.4 kg                                                                |
| <b>Application</b>                   | Outdoor                                                               |
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|                                      | Vertical 15°                                                          |
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| <b>Weight</b>                        | 2.4 kg                                                                |

### Product description

The MRS6000 3D LiDAR sensor uses a high scanning point density and an aperture angle of 120° to reliably detect its environment across 24 layers. Special mirror technology ensures high scanning field stability. With the aid of multi-echo technology, the sensor scans through rain, dust, and fog, while simultaneously multiplying the point density. These properties are particularly useful for creating a 3D point cloud without any gaps, which can be used to tackle a whole host of demanding applications.

### At a glance

- Gap-free detection across 24 scanning layers at an aperture angle of 120°
- Fine angular resolution with high scanning point density
- Reliability thanks to multi-echo technology
- Convenient and customer-friendly web server interface for configuration

## Your benefits

- The high scanning point density across 24 layers enables reliable detection
- Special mirror technology ensures high scanning field stability
- High resolution (vertical and horizontal) for the precise and rapid detection of a large working range
- Measurement data transferred in real time via the 1-Gbit Ethernet connection
- Compact and rugged design with IP67 enclosure rating for adverse ambient conditions

## Fields of application

- Counting people at passenger locks
- Monitoring properties and buildings
- Rear space monitoring on automated guided vehicles
- Volume monitoring
- Automated guided vehicle systems for outdoors
- Robot area
- Traffic and parking management systems

## Ordering information

Other models and accessories → [www.sick.com/MRS6000](http://www.sick.com/MRS6000)

- **Scanning frequency:** 10 Hz
- **Application:** Outdoor

| Aperture angle                      | Scanning range                                                                                                                                                   | Enclosure rating | Weight | Type            | Part no. |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------|-----------------|----------|
| Horizontal (120°)<br>Vertical (15°) | At 10% remission<br>30 m, x 1.4 (typ.)<br>in mode: Extended<br>measuring range<br>At 90% remission<br>75 m, x 1.4 (typ.)<br>in mode: Extended<br>measuring range | IP65, IP67       | 2.4 kg | MRS6224R-131001 | 6081153  |

## 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)