



multiScan100-S

3D LiDAR sensor with PL b for safe environmental perception in mobile outdoor applications

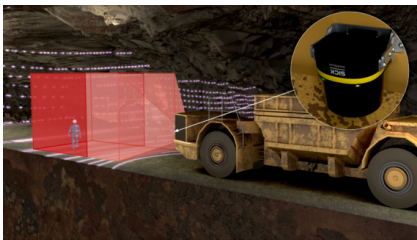
SICK
Sensor Intelligence.

Advantages



As versatile as the outdoor conditions

The multiScan100-S allows new approaches for safely automating your mobile outdoor applications. The 3D LiDAR sensor is certified for outdoor use in accordance with the ISO 13849-1 standard and the IEC/TS 62998-1 standard. It generates safety-related ambient data, which creates the basis for various integration options.



Safe collision avoidance

Even in environments with poor lighting conditions and high levels of contamination and dust, such as underground, the multiScan100-S avoids collisions to protect personnel and capital goods – with PL b safety certification.

Find out more about the application



Safety-related environmental perception

The measurement data from the 3D LiDAR sensor can also be used for simultaneous localization and mapping (SLAM). Thanks to its ability to detect a variety of surfaces, such as the test obstacle in accordance with the agricultural standard ISO 18497, the sensor ensures the safety of people.

Find out more about the application



Safety-related sensor systems (SRSS)

The multiScan100-S can be used as a component in an SRSS, as described in IEC/TR 62998-2 for container handling equipment. Additional diagnostic measures and redundant system architectures enable stringent safety requirements to be met thanks to performance class C (IEC TS 62998-1).

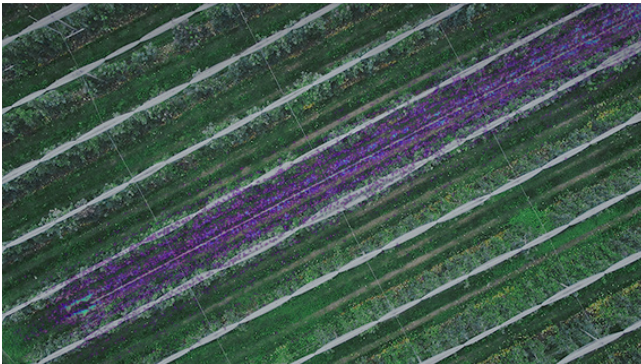
Find out more about the application



Automate your outdoor applications with the multiScan100-S

Safe environmental perception in three dimensions

Thanks to its large field of view and 16 scan layers with a high measurement accuracy, the multiScan100-S ensures precise three-dimensional environmental perception and is therefore versatile in use. The generated 3D point cloud creates the prerequisite for use in complex safety functions. The precise data can also be used for automation tasks such as the creation of 3D maps.



Safety-related measurement data

The PL b (ISO 13849-1) and performance class C (IEC/TS 62998-1) certifications enable the flexible and customized use of the generated measurement data. The measurement data serves as the basis for numerous safety functions – even complex safety functions can be implemented with the help of external data processing.



Flexible application possibilities

The large field of view of the multiScan100-S enables seamless integration into your machine and application designs. Thanks to the aperture angle of 360 x 42 degrees, the sensor can be mounted variably compared to 2D sensors and ensures that obstacles are reliably detected.



Flexible and safe: precise technology for your challenges in dynamic terrains



Rugged and reliable in challenging ambient conditions

The combination of hardware and software performance makes the multiScan100-S a true all-rounder. The robust measurement technology and rugged housing with IP69K enclosure rating ensure high availability in harsh outdoor environments. With smart outdoor filters such as particle and fog filters as well as safe multi-echo technology, the sensor works precisely and efficiently even in changing weather conditions outdoors.



Rugged hardware

Thanks to its ruggedness, the multiScan100-S can withstand strong shocks and vibrations. With leak tightness up to enclosure rating IP69K, the sensor is protected against dust and high-pressure water. This ensures a long service life and reliable performance even under harsh conditions. Suitable accessories for outdoor environments further enhance the usability of the sensor.



Intelligent software

Safe multi-echo technology and smart filter algorithms ensure that the sensor can be used in challenging ambient conditions such as fog, dust, rain or snow. The sensor also works in ambient light and on uneven surfaces. Let your outdoor application benefit from the reliable software performance.



Reliable performance thanks to a targeted combination of hardware and software



Technical data overview

Application	Indoor Outdoor
Scanning angle	Horizontal: 360°, vertical: 42°
Number of fields	48
Number of monitoring cases	48
Integration in the control system	Local inputs and outputs (I/O), Ethernet UDP
Safety level	PL b

Product description

multiScan100-S is a 3D LiDAR sensor with performance level b according to ISO 13849 that has been specially designed for outdoor use. With its large three-dimensional field of view, the sensor solves complex automation tasks in a wide range of dynamic applications. The precise, safe measurement data forms the basis for numerous individual safety functions. The integrated 3D protective field evaluation makes it possible to avoid collisions between mobile machines and people or objects. The function can be easily integrated into safety controllers with the help of digital outputs. Thanks to its rugged housing, intelligent filter algorithms and safe multi-echo technology, the multiScan100-S offers high reliability even in challenging ambient conditions.

At a glance

- 3D LiDAR sensor with PL b (ISO 13849), performance class C (IEC/TS 62998)
- Safety-related measurement data, 3D protective fields
- Large field of view: 16 scan layers, aperture angle: 360° × 42°
- Scanning range: 62 m, safety-related scanning range: up to 20 m
- IP69K enclosure rating, safe multi-echo technology, intelligent filter algorithms

Your benefits

- Precise 3D environmental perception for the safe automation of mobile machines such as agricultural robots
- Safe measurement data allows use in a wide range of custom outdoor applications.
- 3D protective field evaluation enables easy integration into safety controllers via digital outputs
- Detection of large areas and precise fine positioning thanks to high measurement accuracy
- More flexibility in the mounting position thanks to three-dimensional environmental perception
- Rugged hardware and measurement technology for high availability in harsh outdoor environments

Fields of application

- Assistance systems
- Autonomous and semi-autonomous systems
- Mobile machines, e.g. agricultural robots
- Safe localization and mapping for obstacle detection, cliff detection on uneven floors, and general automation tasks
- Collision avoidance

Ordering information

Other models and accessories → www.sick.com/multiScan100-S

- **Aperture angle:** horizontal: 360°, vertical: 42°
- **Scanning frequency:** 20 Hz, 40 Hz, between layer 4 and 13
- **Enclosure rating:** IP65, IP67, IP69, IPX9K
- **Digital add-ons:** Data Reduction & Data Preparation package, Reliability package, Multi-echo technology, Reflector detection, Interlaced mode, IMU (Inertial Measurement Unit), PTP
- **Variant:** standard (not pre-configured)

Integrated application	System plug	Type	Part no.
Safe measurement data output with PL b	See system plug 2116047	MULS1AAS-114322 multiScan165S	1143873
Safe measurement data output with PL b, safe 3D object detection with PL b	See system plug 2130754	MULS1AAS-114322 multiScan165S	1151596

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