

## The S100 Laser Scanner



Compact, flexible.

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**SICK**  
Sensor Intelligence.

## The S100 laser scanner: the sensor for improved process performance

Damaged machines and equipment impede or stop processes — causing downtime, which is expensive. The S100 detects problems, monitors distances and prevents potential collisions in conveying applications where people are not present.

The S100 is a non-safety-rated solution ideal for object detection as well as for collision prevention on transport vehicles in indoor industrial environments. This flexible scanner is compact, light, and equipped with powerful and user-friendly functions.



### THE IDEAL SOLUTION FOR LOGISTICS AND FACTORY AUTOMATION

- Preventing the collision of equipment in manufacturing environments
- Controlling doors and gates
- Monitoring transfer and stacks of material
- Checking loads and occupancy
- Approach protection



### **FLEXIBLE SOLUTION WITH 270° SCANNING ANGLE**

The S100 family of laser scanners is a flexible solution for indoor use. Even complex monitoring areas can be configured. Its 270° scanning angle opens up a wide range of applications for horizontal or vertical use.

### **COMBINED STRENGTHS: RANGE, RESOLUTION, AND MEASUREMENT ACCURACY**

Additional highlights: 10 m maximum range, adjustable object resolution, 2 simultaneous switching fields capable of detecting objects lying behind one another. The S100 also accurately detects dark objects — and with a response time of just 40 ms. The S100's temperature range, from -10° to +50° C, is ideal for logistics applications.

### **ROBUST, LIGHT AND EASILY INTEGRATED**

Its compact size, light weight (just 1.2 kg), and easy-to-access device connections greatly simplify installation. It is also rated IP 65 for tough environments.

The device status and diagnostic interface on the front is easily accessible. The 7-segment display permits rapid diagnostics.

**Standard or Professional?  
The S100 is impressive in any field.**



**The series offers two versions with layered functionality. The Standard version is equipped with one field set, consisting of two simultaneous protective fields. The Professional variant offers 16 field sets. The S100 is also equipped with a CANopen interface.**

# Prevent collisions, protect equipment



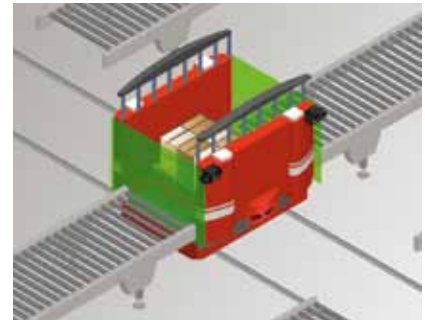
## Collision prevention on automated guided vehicles – variant 1.

The switching field can be aligned downwards, e.g. to detect the fork arms of another industrial vehicle.



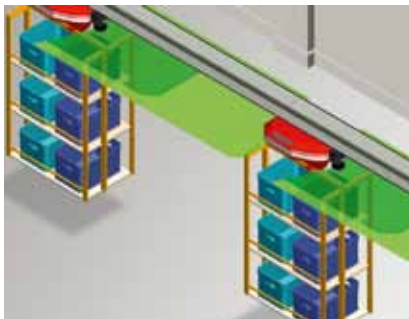
## Collision prevention on automated guided vehicles – variant 2.

The switching field can also be aligned upwards, e.g. to detect any hanging objects. Objects that are above the human protection field, or are hanging from the roof of the plant, could block transport.



## Lateral monitoring on a transfer vehicle.

The vertically mounted S100 sensor scans areas between the vehicle and roller conveyor. Goods that are positioned incorrectly are detected – before the vehicle reaches them.



## Approach protection on monorail systems.

Switching Field 1 leads to deceleration, switching Field 2 stops the hanger. Switchable field shapes permit optimum distance monitoring, even in curves.



## Checking storage bays on a high-bay stacker.

Before goods can be stored, the S100 checks whether the storage bay is free. Even storage spaces lying behind one another can be scanned simultaneously – using differing switching field depths.

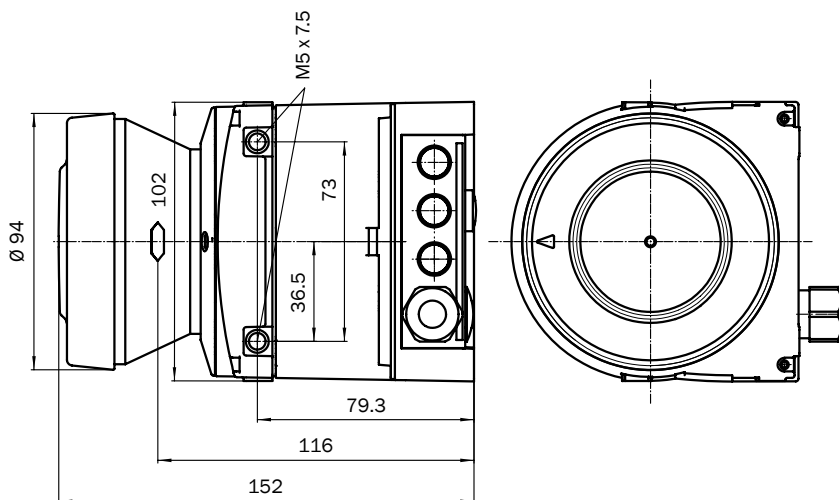
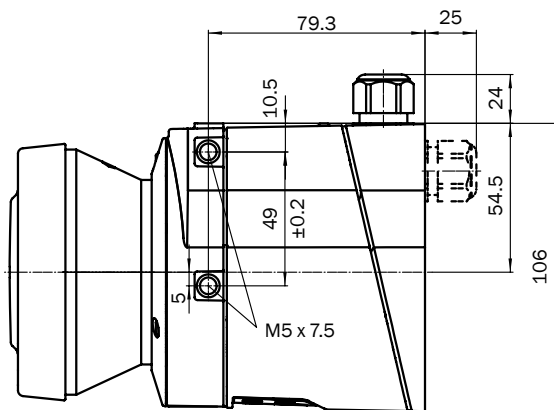


## Monitoring the space behind a forklift truck.

The S100 laser scanner supports drivers during a reverse maneuver, because their angle of view is particularly unfavorable. A warning signal is generated if the scanner detects an object or obstacle in switching Field 1. In addition, the speed may be cut if the object or obstacle is in switching Field 2.

# Installation, commissioning and diagnostics made easy

Intelligent hardware solutions and practical accessories round out the range of solutions offered by the S100 series. For example, the system plug also stores the configuration data. The S100's plug & play function provides configuration data within seconds and permits the scanner to be rapidly restarted – without the need for a PC. Mounting sets, brackets and cables of differing lengths simplify installation and device maintenance in mobile and stationary applications.



## ADVANTAGES

- Compact housing
- Light – weighs 1.2 kg
- Device connection on back or bottom
- Integrated parameter memory in system plug – plug & play
- 7-segment display element for rapid diagnostics
- Easily accessible device status and diagnostics interface on the front of the device
- CANopen interface
- Robust IP 65 design
- Low energy consumption due to stand-by mode
- Suitable mounting sets available



Photo: LSW Maschinenfabrik GmbH, Bremen



Technical data	S100 Standard	S100 Professional
Field sets (2 switching fields)	1	16
Field switching inputs (static control)	-	4
Stand-by input	Yes	
Switching field range (radial)	Max. 10 m	
Scanning angle	270°	
Angular resolution	0.5°	
Object resolution, configurable	10 or 30 ... 150 mm (distance-dependent)	
Detection capability	1.8% (2 m), 10% (4.5 m)	
Response time	Min. 40 ms	
Switching field outputs	2 x 250 mA / 2 x 100 mA (inverted)	
Signalling output (device status)	1 x 100 mA	
Device status/diagnostic interface	RS-232	
Fieldbus interface	CANopen	
Laser Protection Class	1 (eye-safe)	
Supply voltage, DC	16.8 ... 30 V	
Power consumption	8 W	
Operating temperature	-10 ... +50 °C	
Enclosure rating	IP 65	
Weight	1.2 kg	
Dimensions (W x H x D)	102 x 152 x 105 mm <sup>3</sup>	

Description	Part number
Sensor head, S100 Standard	1042266
Sensor head, S100 Professional	1042267
System plug without cable	2032807
System plug for S100 Standard, 5 m cable	2032859
System plug for S100 Standard, 10 m cable	2032860
System plug for S100 Standard, 20 m cable	2032861
System plug for S100 Professional, 5 m cable	2034264
System plug for S100 Professional, 10 m cable	2034265
Mounting bracket 1a, for direct mount on wall or machine	2034324
Mounting bracket 1b, for direct mount with top protection	2034325
Mounting bracket 2, used with 1a or 1b for tilt adjustment	2039302
Mounting bracket 3, used with bracket 2	2039303
Communication cable, 2 m	6021195
Communication cable, 8 m	2027649

## RANGE OF EXPERTISE

### FACTORY AUTOMATION

With its intelligent sensors, safety systems, and auto identification solutions, SICK offers comprehensive solutions for factory automation.

- Non-contact detecting, counting, classifying, and positioning of any type of object
- Accident protection and personal safety using sensors, as well as safety software and services



### LOGISTICS AUTOMATION

Solutions from SICK automate material flows and optimize sorting and warehousing processes.

- Automated identification with bar code reading devices for the purpose of sorting and target control in industrial material flow
- Detecting volume, position, and contours of objects and surroundings with laser measurement systems



### PROCESS AUTOMATION

Analyzers and process instrumentation from SICK provide the best possible acquisition of environmental and process data.

- Complete system solutions for gas analysis, dust measurement, flow rate measurement, water analysis, liquid analysis, and level measurement as well as other tasks



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