The S100 Laser Scanner

The compact all-rounder

SICK
Sensor Intelligence.

The S100 laser scanner:
the sensor for improved process performance

Damaged goods, or defective machines and equipment, can impede or stop processes – causing expensive stoppages or downtimes. There is now an efficient and economical way to prevent this: the new S100 laser scanner, specially developed for areas of use in which no equipment is required for human protection. The S100 detects problems, monitors distances and prevents potential collisions.

Another plus: a single device type for many tasks and areas of use. Ideal for object detection as well as for collision prevention on transport vehicles in industrial environments. The scanner is particularly compact, light, and equipped with many impressive user-friendly functions.

THE IDEAL SOLUTION FOR LOGISTICS AND FACTORY AUTOMATION

- Preventing collisions on machines, plants and vehicles
- Controlling doors and gates
- Monitoring transfer and stacks of material
- Checking loads and occupancy
- Approach protection

ALL-ROUND TALENT WITH 270° SCANNING ANGLE

The S100 family of laser scanners is suitable for many different tasks. Even complex monitoring areas can be configured. The wide scanning angle of 270° forms the basis for this, opening up a wide range of activities for the S100 – in horizontal or vertical use.

COMBINED STRENGTHS: RANGE, RESOLUTION, AND MEASUREMENT ACCURACY

Further highlights: 10 m maximum range, adjustable object resolution, 2 simultaneous switching fields with which even objects lying behind one another can be detected. The S100 accurately detects even extremely dark objects – and with a response time of just 40 ms. The S100's temperature range, from −10° to +50°, is particularly impressive in logistical use.
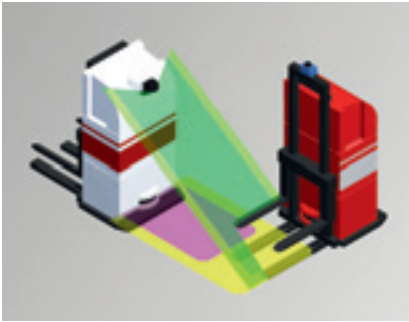
ROBUST, LIGHT AND EASILY INTEGRATED

The data of the robust (IP 65), compact, light (just 1.2 kg) S100 are also convincing. Device connections optionally on the back or bottom simplify installation.
The parameterisation and diagnosis interface on the front is easily accessible. The 7-segment display element permits rapid diagnosis.

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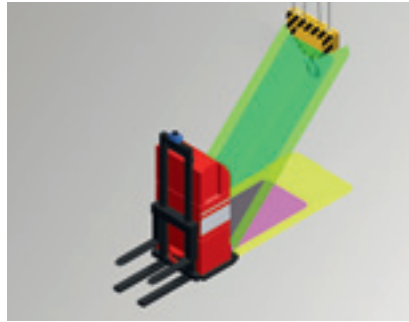# The S100 is impressive in any field.

The series offers two device versions with layered functionality. The Standard version is equipped with one field set, consisting of two simultaneous protective fields, while the Professional variant offers 16 field sets. The S100 is equipped with a CANopen interface and is impressive as a sensor in a CANopen network.
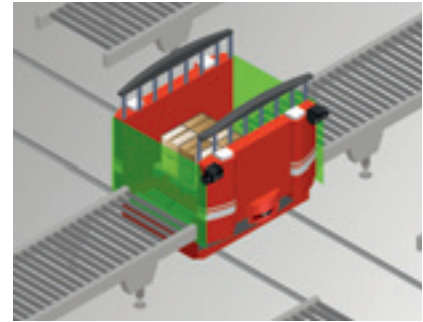
Prevent collisions, protect equipment

Collision prevention on automated guided vehicles – variant 1.
Depending on the task, the switching field can be aligned downwards, e.g. to detect the fork arms of another industrial vehicle. The S100 can detect objects that are too low for the human protection field.
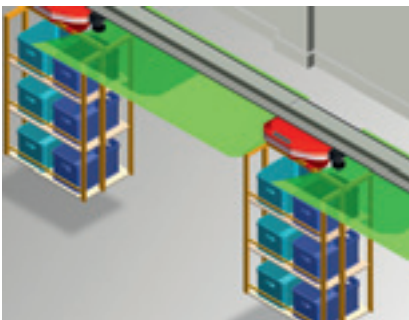

Collision prevention on automated guided vehicles – variant 2.
The switching field can also be aligned upwards, e.g. to detect any hanging objects. Objects that are above the human protection field, or are hanging from the roof of the hall, could block transport.
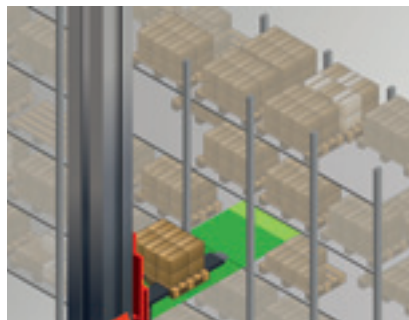

Lateral monitoring on a shunting vehicle.
The vertically mounted S100 sensor scans areas between the vehicle and roller conveyor. Wrongly positioned goods are thus detected in good time – before the vehicle reaches them.

Approach protection on Telpher 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 sensor checks whether the storage bay is free. Even storage spaces lying behind one another can be scanned simultaneously – using differing switching field depths.
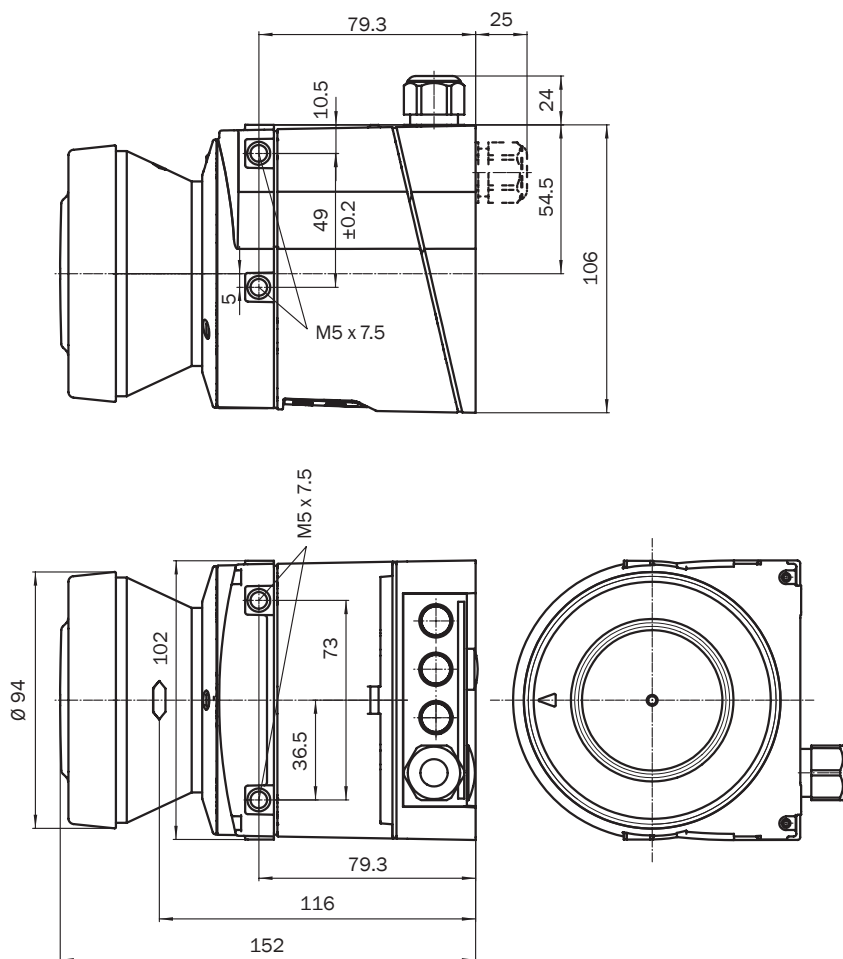

Monitoring the space behind a forklift truck.
The S100 laser scanner supports drivers during reversing manoeuvres, because their angle of view is particularly unfavourable here. A warning signal is generated if the scanner detects an object or obstacle in switching field 1. In addition, the speed is cut if the object or obstacle is in switching field 2.

Installation, commissioning and diagnosis made easy

Intelligent hardware solutions and practical accessories round out the range of solutions offered by the S100 series. Thus, for example, the connection plug also stores the configuration data. Couldn't be simpler: the plug & play function of the S100 provides the configuration data within seconds and permits the plant to be rapidly restarted – without using a PC. Mounting sets, brackets and cables of differing lengths simplify installation and device maintenance in mobile and stationary use.

YOUR ADVANTAGES

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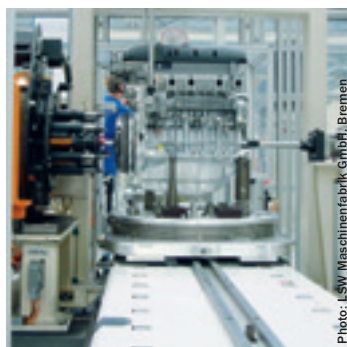- Suitable mounting sets available

Photo: LSW Maschinenfabrik GmbH, Bremen

Technical data	S100 Standard	S100 Professional
Field sets (2 switching fields)	1	16
Field switching inputs	–	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	
Parameterisation/diagnosis 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 mm³	

Article	Article number
Sensor head, S100 Standard	1042266
Sensor head, S100 Professional	1042267
Connection plug without cable	2032807
Connection plug with 5 m cable	2032859
Connection plug with 10 m cable	2032860
Connection plug with 20 m cable	2032851
Mounting bracket 1a	2034324
Mounting bracket 1b	2034325
Mounting bracket 2	2039302
Mounting bracket 3	2039303
Service cable 2 m	6021195
Service cable 4 m	2027649

FACTORY AUTOMATION

With its intelligent sensors, safety systems, and auto ident applications, SICK realises comprehensive solutions for factory automation.

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

LOGISTICS AUTOMATION

Sensors made by SICK form the basis for automating material flows and the optimisation of sorting and warehousing processes.

- Automated identification with bar code and RFID 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 by SICK MAIHAK provides for the best possible acquisition of environmental and process data.

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

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