



Safety Laser Scanners

Safety first!
Solve applications efficiently
with SICK's power trio





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SICK Industrial Safety Systems



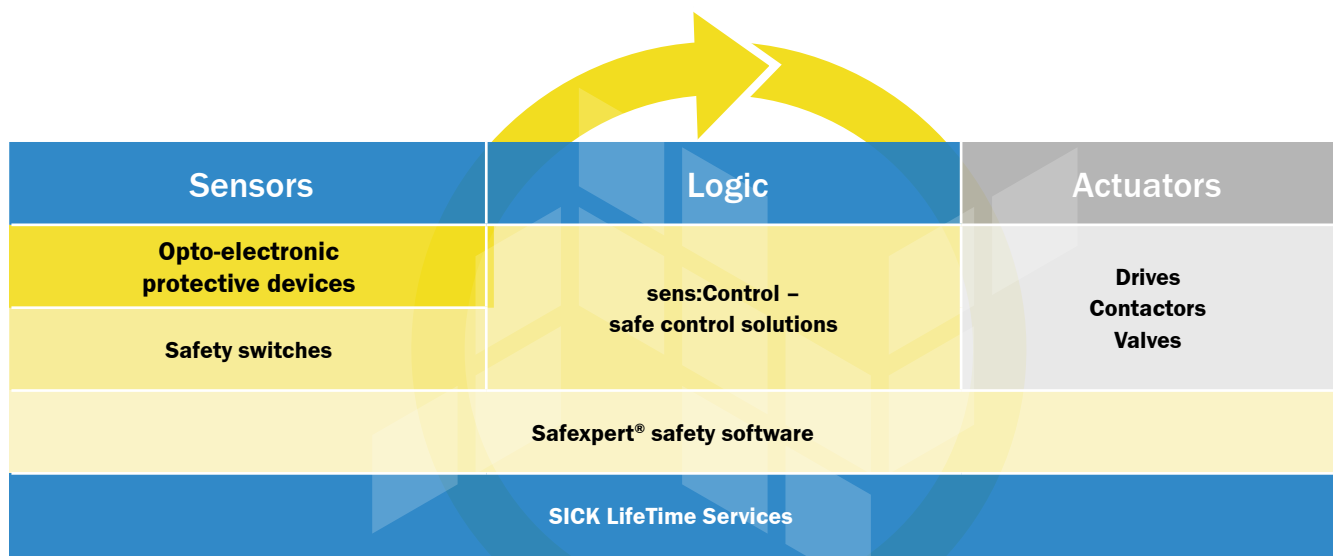
SICK creates sensor solutions for industrial automation – from development to services – based on experience and customer requirements.

This philosophy is reflected in the term “safety-PLUS” in the Industrial Safety Systems sector.

- SICK is dedicated to seamlessly integrating solutions in safety and system environments
- Application-oriented functions and trendsetting products increase system efficiency
- Incorporating the current international standards support global business
- Services range from implementing your vision to regular maintenance
- Tools for safety engineering
- A full range of services to support the safety function on your machines and systems



For comprehensive information, see www.sick-safetyplus.com



safetyPLUS® by SICK for an unbroken safety chain



Safety laser scanners



Safety light curtains,
photoelectric safety switches,
safety camera system



Safety switches



sens:Control –
safe control solutions

SICK safety laser scanners – customized safety for all applications

SICK combines its expertise and experience to design safety laser scanners that are easy to use and offer maximum performance. Whether mobile or stationary, for area protection or access monitoring – our comprehensive portfolio offers the right cost-effective package for every requirement and task.

Your benefits of SICK safety laser scanners at a glance:

+ Easy commissioning

- No special preparation of the system is required
 - Easy mounting
- Sender and receiver unit in a single device
 - No alignment is required

+ More flexibility

- Free configuration of the protective fields and warning fields
 - Scanner quickly adapts to a wide range of ambient conditions
- Wide range of functions
 - Ability to adapt to different hazardous situations
- No changes to the work process required for protection
 - Minimal interference with continuing operation
- Flexible selection of the installation location
 - Simple integration into existing systems

+ 2 in 1

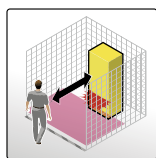
- Performs two tasks simultaneously
 - Machine safeguarding and restart control
 - Vehicle safeguarding and navigation support





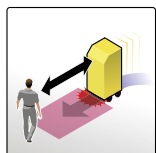
SICK safety laser scanners are used for the following safety-related tasks:

Hazardous area protection



Stationary

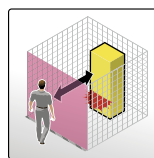
Approaching and present persons are detected by identifying legs in the scanning range.



Mobile

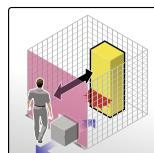
If a vehicle approaches, the person in the hazardous area is detected by identifying legs.

Access protection



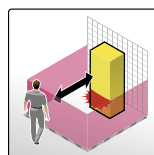
Single-sided access protection

Approaching persons are detected by identifying the person's body.



With differentiation between person and material

Approaching persons are detected by identifying a human body. A distinction is made between humans and material.



Multi-sided access protection



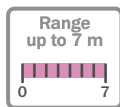
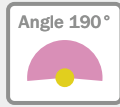
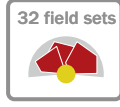
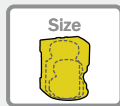
Approaching persons are detected by identifying the person's body.

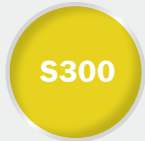
SICK safety laser scanners – More performance. More variants. More solutions.

The right scanner for every application – SICK safety laser scanner portfolio

Flexibility in every situation is the basis for many smart, easy-to-install and easy-to-control safety solutions. The SICK safety laser scanners product family literally leaves no “safety gaps,” either in stationary or in mobile operation.

Main features at a glance

| | | |
|--|--|--|
| |   | |
| | Powerful and modular | |
| Protective field range The protective field range describes the maximum range of the monitored field. |  | |
| Scanning angle The scanning angle describes the maximum viewing angle of the scanner. |  | |
| Field sets The number of field sets indicates how flexibly the scanner can be adapted to different process phases. |  | |
| Size Width x Height x Depth The smaller the device, the simpler it is to integrate in a system. |  155 mm x 185 mm x 160 mm | |
| Key features | → page 30 | |

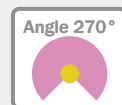
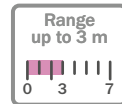
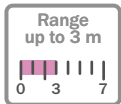


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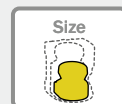


Compact – all functions in a single device

Ultracompact – focused on the essentials



102 mm x 152 mm x 106 mm



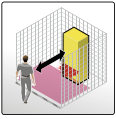
102 mm x 116 mm x 104 mm

→ page 38

→ page 44

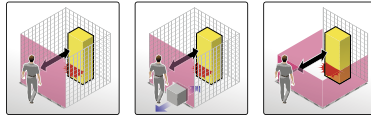
Safety in your industry – typical applications





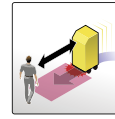
Stationary hazardous area protection

- 1 “Personal protection for machines and systems”, page 12
- 2 “Additional scanner functions for safe interaction between person and machine”, page 14



Access protection

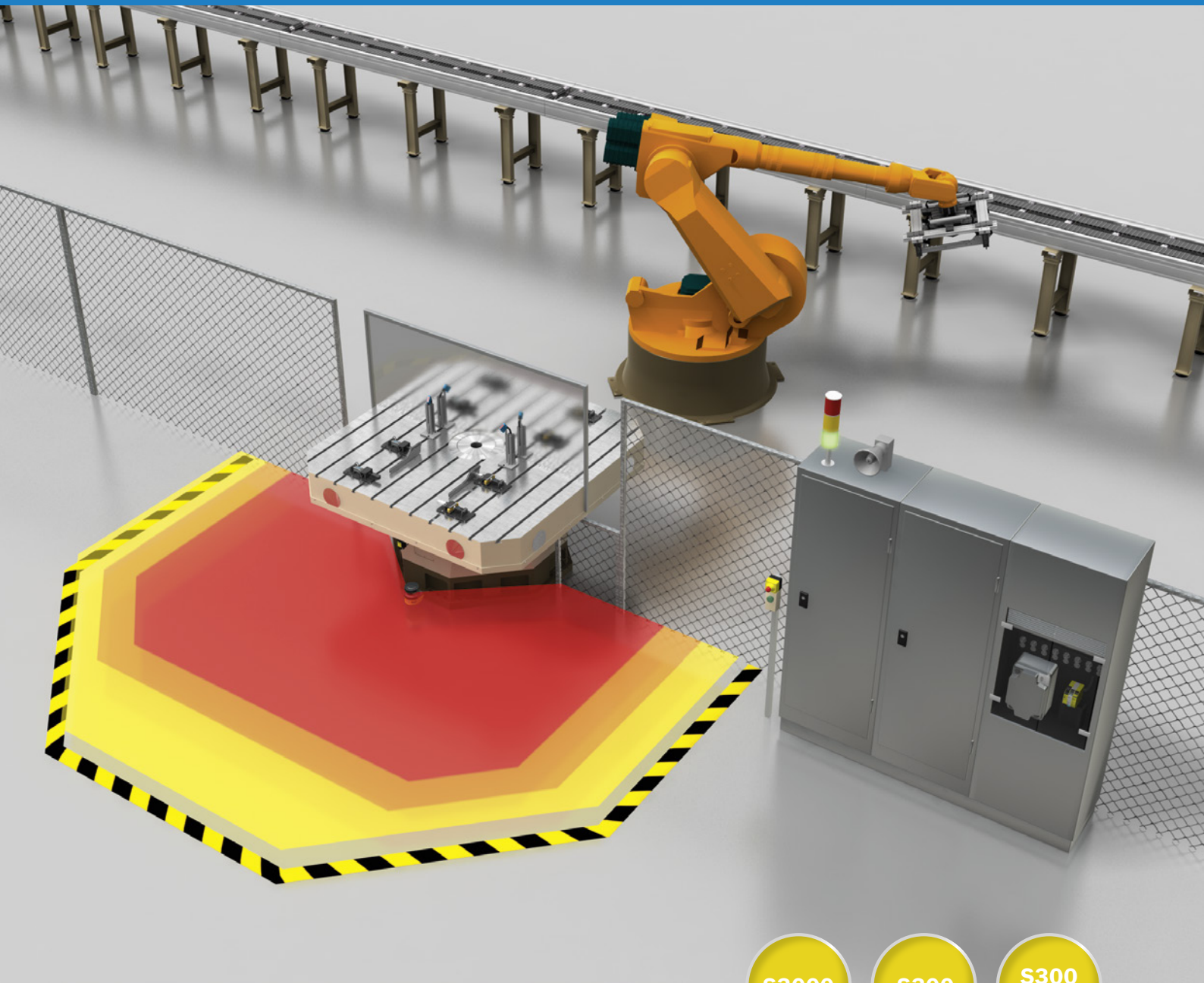
- 3 “Safety laser scanners in vertical applications”, page 16



Mobile hazardous area protection

- 4 “Automated guided carts”, page 18
- 5 “Pallet shuttle systems”, page 20
- 6 “Automated guided vehicles”, page 22
- 7 “Other vehicles”, page 24

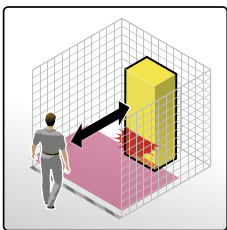




S3000

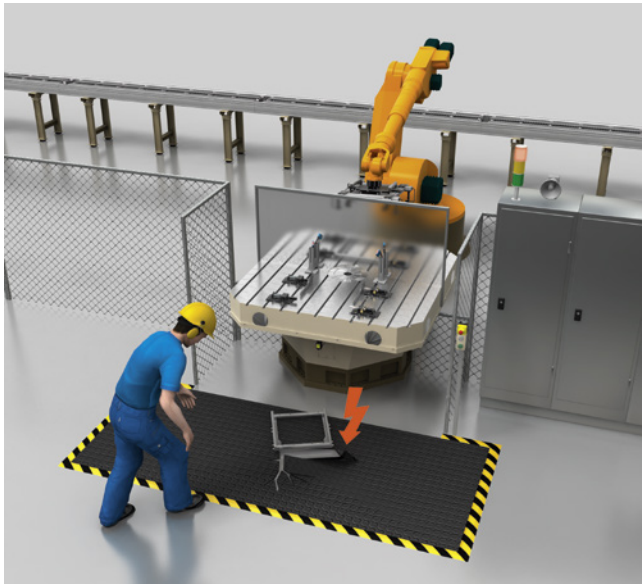
S300

S300 Mini



SICK is the top manufacturer of safety laser scanners and has been setting standards in hazardous area protection for many years. A wide range of machines and systems in many different industries are reliably detected with safety laser scanners. Scanner technology has unbeatable advantages over conventional protection solutions such as fences or safety mats.

For simple protection tasks, our standard versions are the least expensive solution for reducing maintenance costs in the long term and decreasing downtime.



Non-contact protection

- Replaces safety mats – the operating principle of the safety laser scanner provides detection functions without mechanical loads
- Falling parts (e. g., tools, components) do not damage the protective device
- Less downtime and fewer maintenance costs

+ High reliability

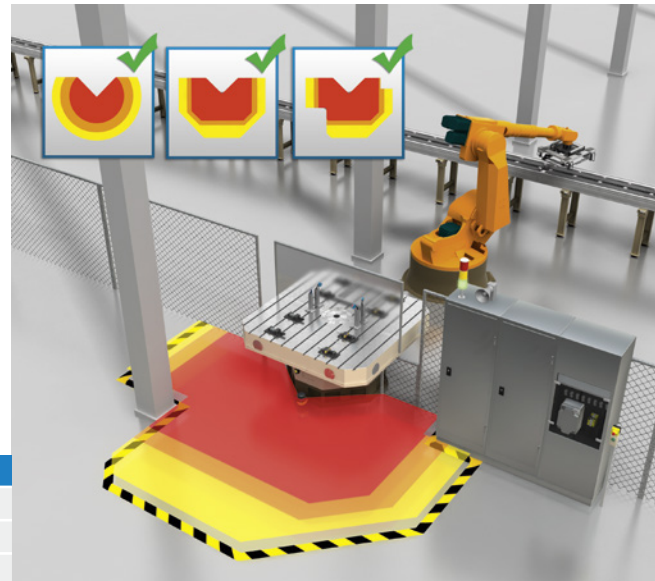
Recommended product

| | |
|------------------------------|-----------|
| S3000 Standard (4 m) | → page 32 |
| S300 Standard (2 m/3 m) | → page 40 |
| S300 Mini Standard (2 m/3 m) | → page 46 |

Quick and easy field adjustment

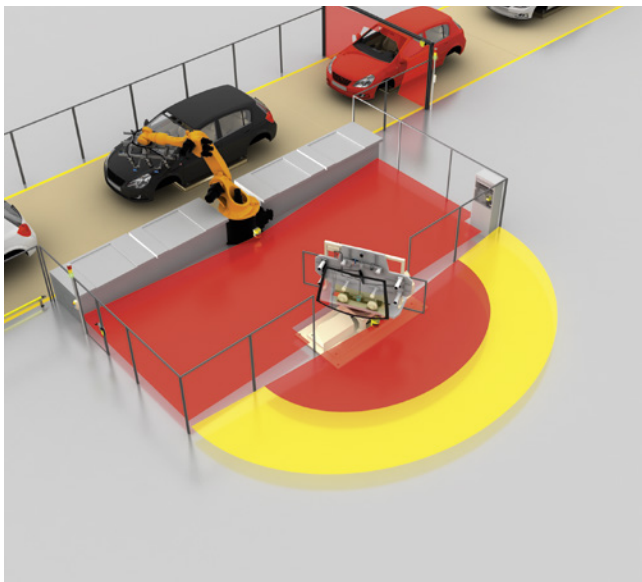
- Protective and warning fields can be adapted to structural conditions around the machine
- In the event that ambient conditions change, the scanner can be adapted rapidly via reconfiguration

+ Easy to integrate and low conversion and system adjustment costs



Recommended product

| | |
|------------------------------|-----------|
| S3000 Standard (4 m) | → page 32 |
| S300 Standard (2 m/3 m) | → page 40 |
| S300 Mini Standard (2 m/3 m) | → page 46 |



Always the right scanning range

- A wide selection of device variants with scanning ranges from 2 m ... 7 m allows the most cost-effective scanner to be chosen for the application
- With the exceptional scanning range of 7 m, no additional scanners are required for large protective fields

+ Optimized price/performance ratio due to a customized solution

Recommended product

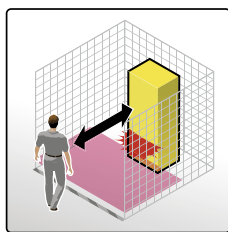
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|------------------------|-----------|
| S3000 Standard (5.5 m) | → page 32 |
| S3000 Standard (7 m) | → page 32 |



S3000

S300

S300
Mini



Interaction between person and machine (e. g., loading and unloading) is becoming more and more important at many workplaces – this increases the demands on the safety equipment. SICK safety laser scanners allow you to react rapidly to changing hazardous situations. Since only the hazardous area is protected, adjacent areas can be used simultaneously as work areas. Additional scanner functions (e. g., triple fields, simultaneous fields) can be used to prevent downtime.



Two warning fields, one protective field

- In accessible areas, employees can enter the protective field of the scanner unintentionally, causing the system to stop. A triple field with two warning fields and one protective field prevents the system from stopping:
 - Warning field 2 (yellow) = e. g., signal horn sounds
 - Warning field 1 (orange) = e. g., controlled braking of robot movement
 - Protective field (red) = system stop

+ Increased productivity of the system with minimal wear on the system

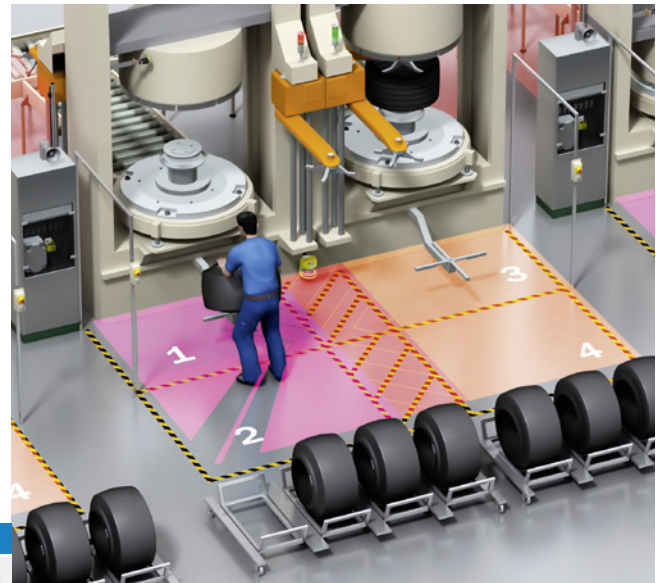
Recommended product

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|--------------------|-----------|
| S3000 Standard | → page 32 |
| S300 Standard | → page 40 |
| S300 Mini Standard | → page 46 |

Simultaneous monitoring of up to four areas

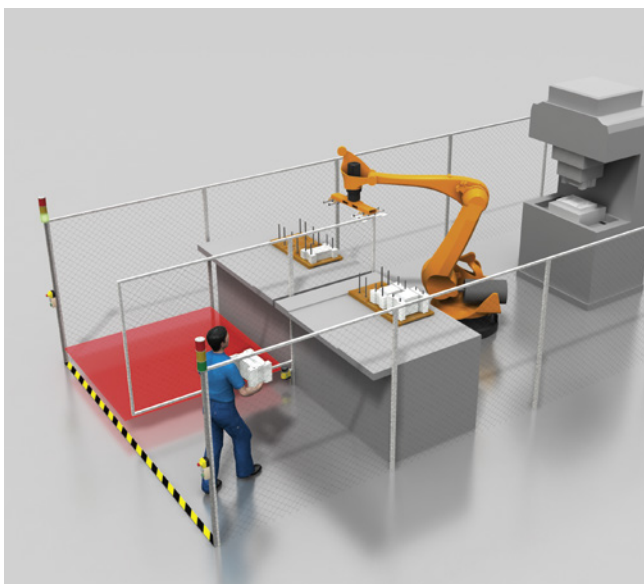
- The S3000 allows simultaneous and independent monitoring of four hazardous areas with just one scanner
- Easy programming with only one safety laser scanner and the safety controller Flexi Soft
- Only the part of the system that must be accessed for loading and unloading purposes is stopped

+ Improved system ergonomics and productivity by optimizing safety distances. Less complexity, optimized protection without protective field switching



Recommended product

S3000 Standard + Flexi Soft → page 32 + 51



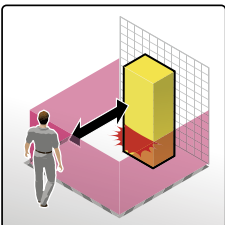
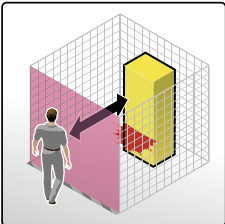
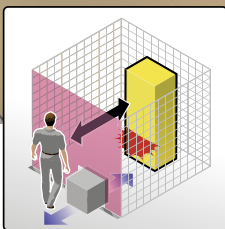
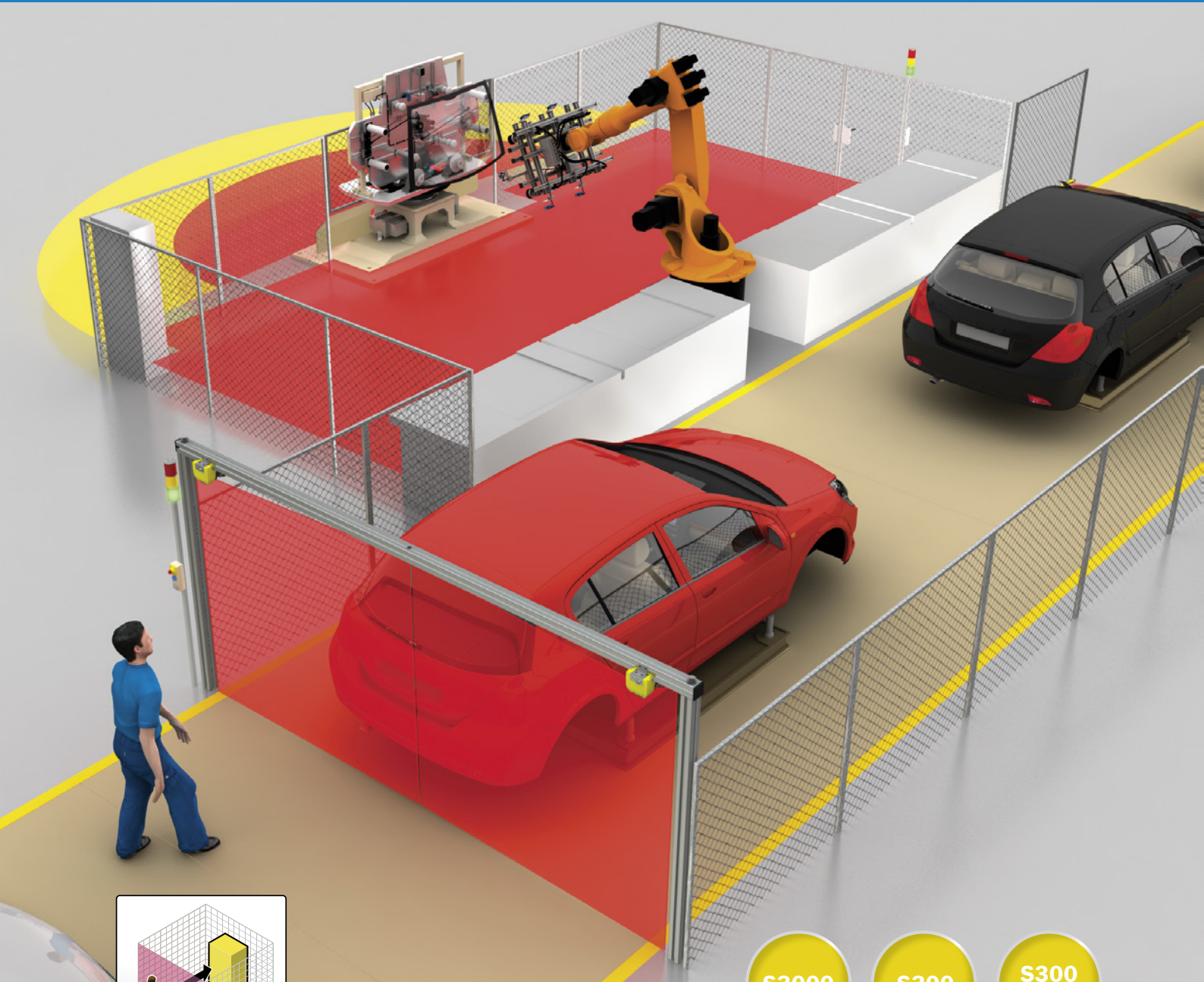
Alternating monitoring of 2 areas

- During operation, the motion of the hazard (e. g., robot) changes the hazardous area to be protected. The hazardous area becomes the work area (e. g., loading/unloading) and vice versa.
- By switching the protective field, the protective field of the scanner can be adapted to the current hazardous situation. The current hazardous area is protected, and work can be carried out in the other area.

+ Flexible adaptation to dangerous areas leads to efficient machine operation

Recommended product

| | |
|----------------|-----------|
| S3000 Advanced | → page 32 |
| S300 Advanced | → page 40 |

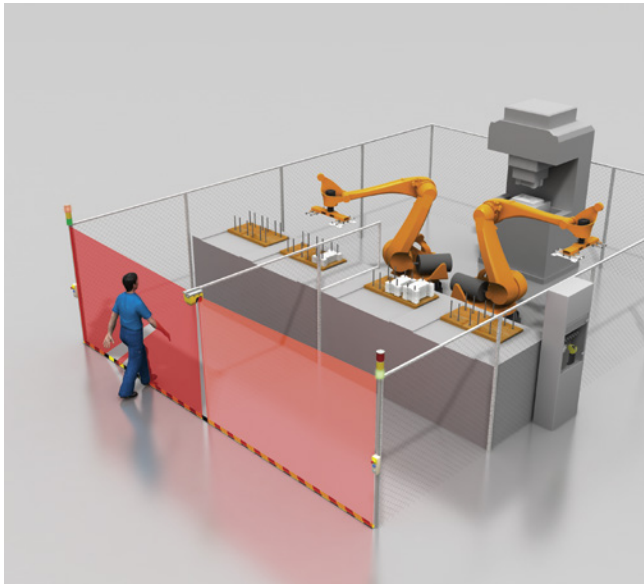


S3000

S300

S300
Mini

In a wide range of areas, access protection prevents access to hazardous areas. Solutions such as doors/gates, rotary locks or opto-electronic protective devices are typical safety solutions. Applications in which access by persons must be prevented but material can continue to be fed in and removed require a special form of access protection. Where a high degree of flexibility is required, SICK safety laser scanners are ideal due to their compact size, advanced functions, and integrated sender and receiver in one device.



Simultaneous monitoring of 2 entrances

- Two entrances are monitored simultaneously and independently of one another with just one device
- The large scanning range of the S3000 permits protection of wide entrances with just one device
- During operation, productivity is optimized since only the actual dangerous movement is stopped

+ Smart safety technology optimizes manufacturing productivity

Recommended product

S3000 Standard + Flexi Soft

→ page 32 + 51

Material passes through safely

- Additional sensors distinguish whether a person or material is approaching the protective device
 - If it is material: The opening size in the protective field is switched to the permitted material shape and acceptable materials can pass through the protective device
 - If it is a person: The protective field remains closed and the system stops when the person enters
- No additional safety devices (e. g., hard guards) are required

+ Protective field can be flexibly adapted to the material form



Recommended product

S3000 Advanced/Professional

→ page 32

S300 Advanced/Professional

→ page 40

S300 Mini Remote + Flexi Soft

→ page 46 + 51



Compact size for tight spaces

- Simple integration options and easy installation of the S300 and S300 Mini in restricted spaces
- Ideal for smaller entrances with lower scanning range requirements

+ Cost-optimized solution for smaller entrances

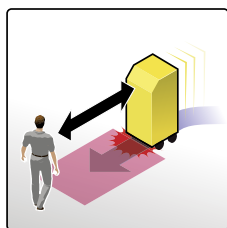
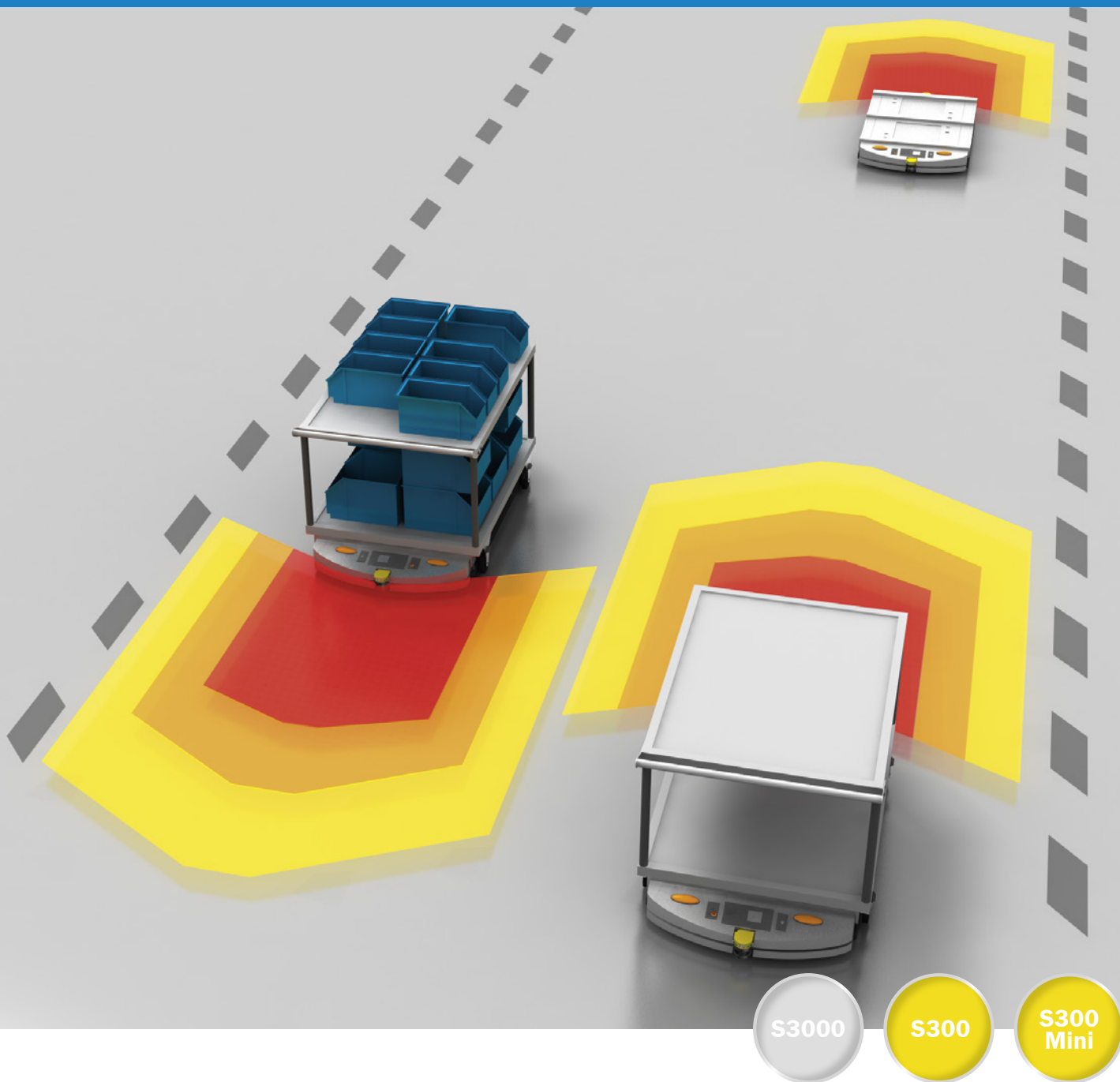
Recommended product

S300 Advanced/Professional (3 m) – Stand-alone solution

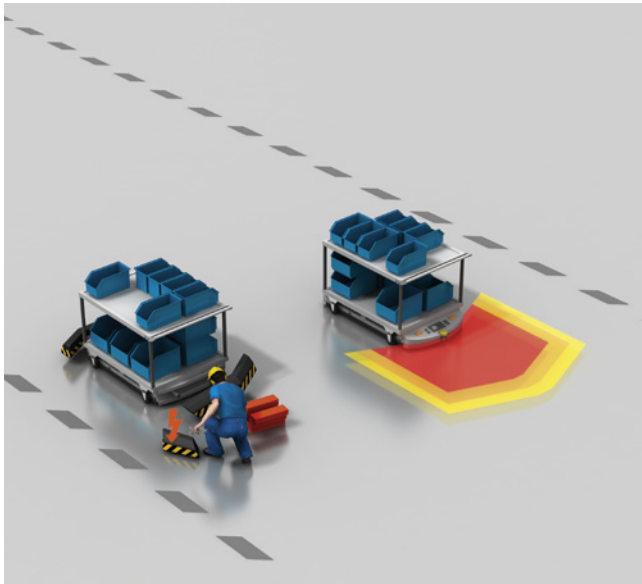
→ page 40

S300 Mini Remote (3 m) + Flexi Soft

→ page 46 + 51



Automated guided carts (AGCs) are becoming increasingly important. Safety remains the primary focus for compact flexible systems. Due to their compact dimensions, the S300 and S300 Mini can be easily integrated in small vehicles. While the S300 Mini Standard focuses on the basics, the S300 Mini Remote – combined with the Flexi Soft safety controller – offers an impressive range of features using minimal space. The S300 offers a complete range of scanning functions directly in the device, which provides increased safety and productivity.



Non-contact protection

- Scanners detect persons and objects that are in the path of an automated guided cart without contact
- Damaged bumpers and broken safety edges are a thing of the past
- The protective fields of the scanner can be configured flexibly

+ High reliability with low wear to the vehicle

Recommended product

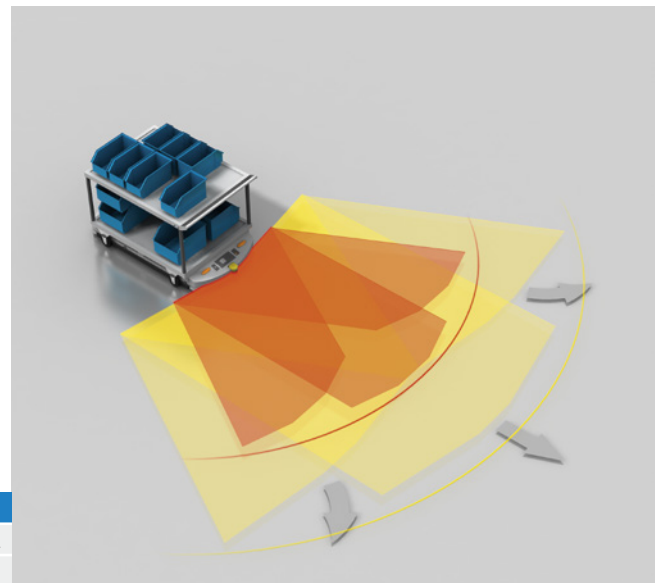
S300 Mini Standard

→ page 46

Optimal protection when turning

- Automated guided carts turn and change direction to follow the route
- 16 different field sets can be configured for the S300 Mini Remote, i. e., 16 different placements of one protective field and two warning fields each. Depending on the current travel situation, it is possible to switch between them to the appropriate protective fields and warning fields.

+ Increased performance due to application flexibility



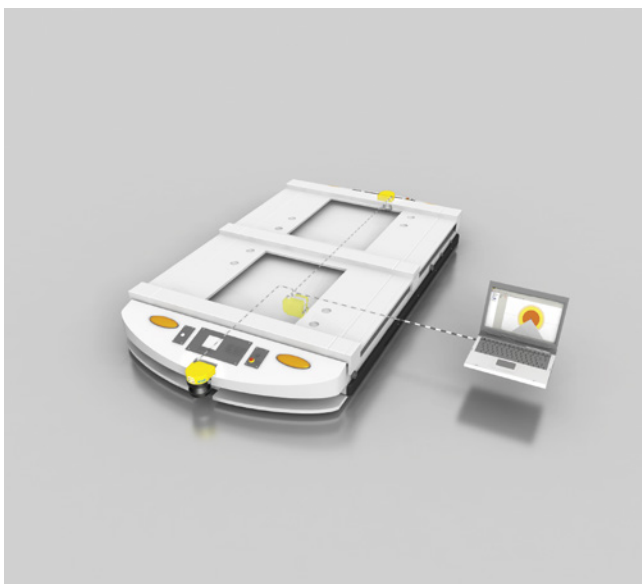
Recommended product

S300 Mini Remote + Flexi Soft

→ page 46 + 51

S300 Expert

→ page 46



Quick commissioning, maintenance and diagnostics

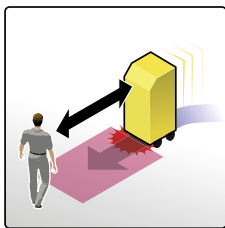
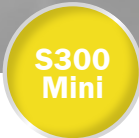
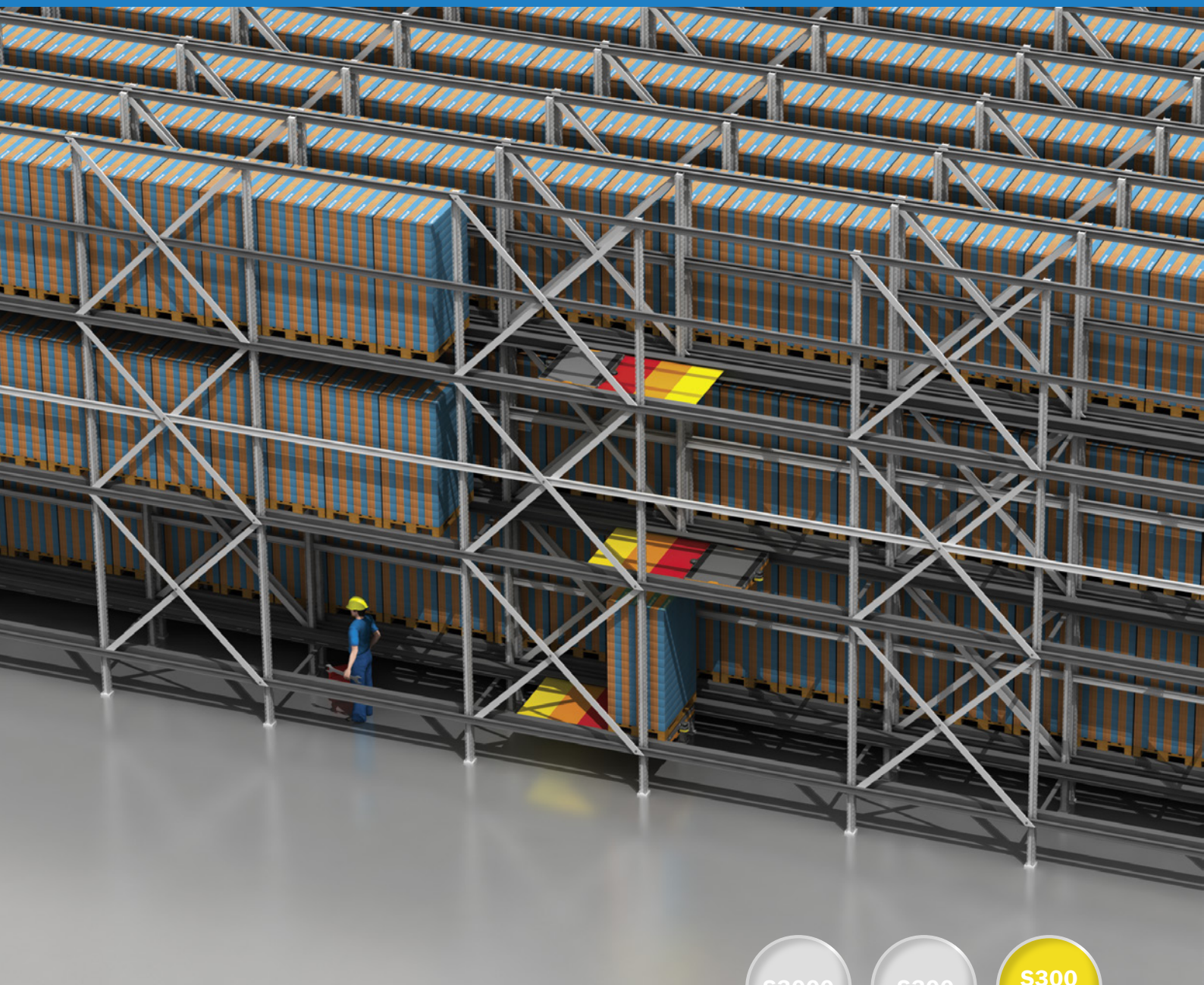
- A central interface on the Flexi Soft safety controller allows the complete system to be configured and diagnosed
- Reduced workload and time savings

+ Quick commissioning = quick production start
Low service times = high productivity

Recommended product

S300 Mini Remote + Flexi Soft

→ page 46 + 51



Pallet shuttle systems are used in channel storage facilities to move pallets forward and backward automatically. Persons in the storage rack (e. g., for maintenance purposes) are in danger of being run over by the shuttle. With the S300 Mini, SICK offers a compact protection solution that is easy to integrate into small vehicles while preventing harm to persons and damage to material.



Simple and safe integration in small vehicles

- Mobile protection solutions on the vehicle itself have clear advantages over stationary access protection at shelf openings
- In PL d per EN ISO 13849-1, the S300 Mini fulfills the required safety standards for mobile protection solutions and can be easily integrated in the application

+ High safety performance and easy integration

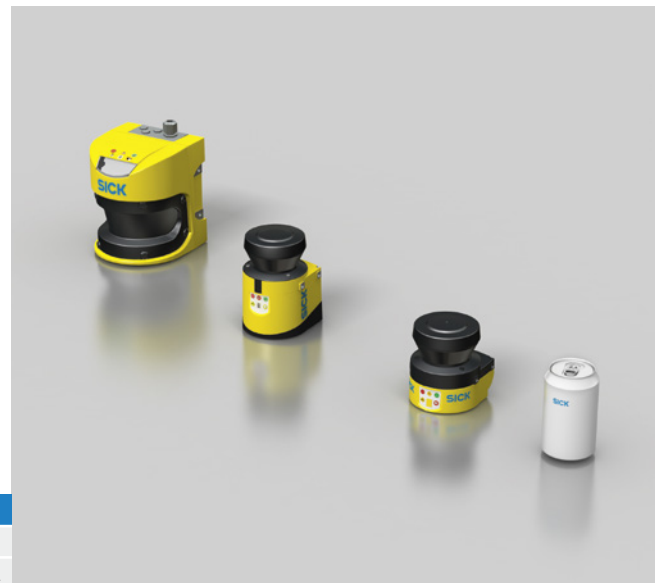
Recommended product

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|-------------------------------|----------------|
| S300 Mini Standard | → page 46 |
| S300 Mini Remote + Flexi Soft | → page 46 + 51 |

Small, smaller, smallest

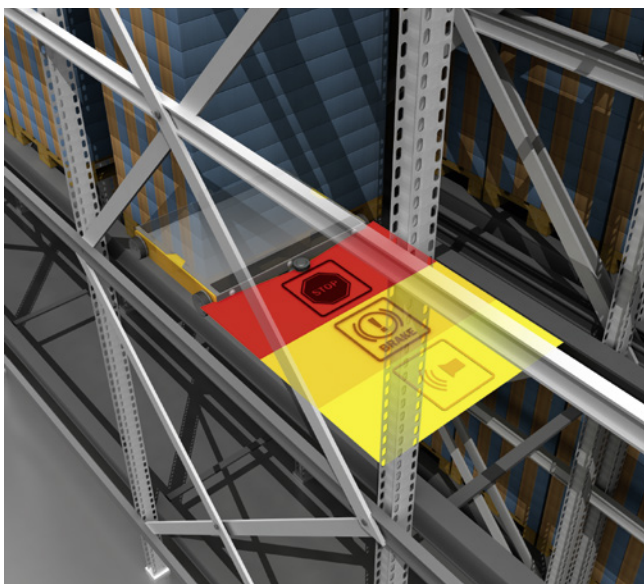
- Small vehicles need small, easy-to-integrate protective devices
- The minimal dimensions of the S300 Mini, at just 102 mm x 116 mm x 104 mm (W x H x D), make it the most compact SICK safety laser scanner

+ Fits absolutely anywhere



Recommended product

| | |
|-------------------------------|----------------|
| S300 Mini Standard | → page 46 |
| S300 Mini Remote + Flexi Soft | → page 46 + 51 |



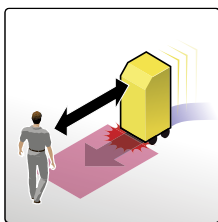
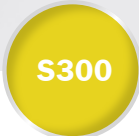
Advance braking, not emergency braking

- Every emergency stop places great stress on the vehicle's brake system
- The triple field function (2 warning fields and 1 protective field) prevents unnecessary emergency stopping:
 - Warning field 1 (yellow) = e. g., triggering a warning signal
 - Warning field 2 (orange) = e. g., reducing the speed of the vehicle
 - Protective field (red) = vehicle stop

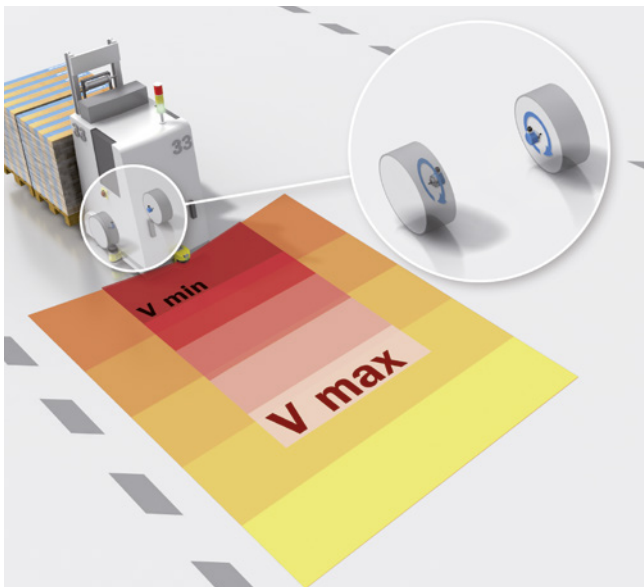
+ Less wear and maintenance and fewer vehicle repair costs

Recommended product

| | |
|-------------------------------|----------------|
| S300 Mini Standard | → page 46 |
| S300 Mini Remote + Flexi Soft | → page 46 + 51 |



Automated guided vehicles (AGVs) are available in a wide range of types. SICK offers the right protection solution for all types of automated guided vehicles. The features of SICK safety laser scanners ensure the safety of the AGV, and also increase productivity. Plus, large vehicles with high loads and speeds can be protected efficiently. In addition to protection, many additional tasks can be performed with SICK sensors.



Always the right protective field

- Dynamic inputs allow safety laser scanners to be supplied with current speed information by encoders
- Changes in speed result in changes to the hazardous area in front of the vehicle. The right protective field is activated accordingly.
- Appropriate protective fields help to ensure vehicle safety and prevent unintentional stops

+ No unnecessary downtime

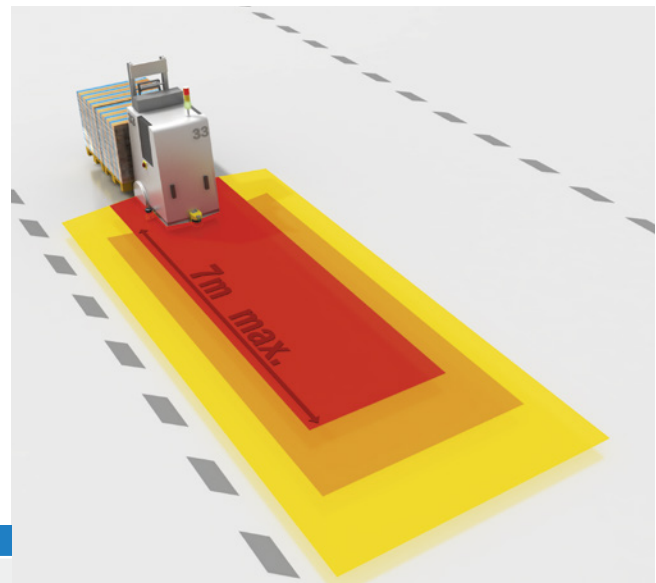
Recommended product

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| S3000 Professional and Expert | → page 32 |
| S300 Professional and Expert | → page 40 |

Great scanning range enables a high throughput

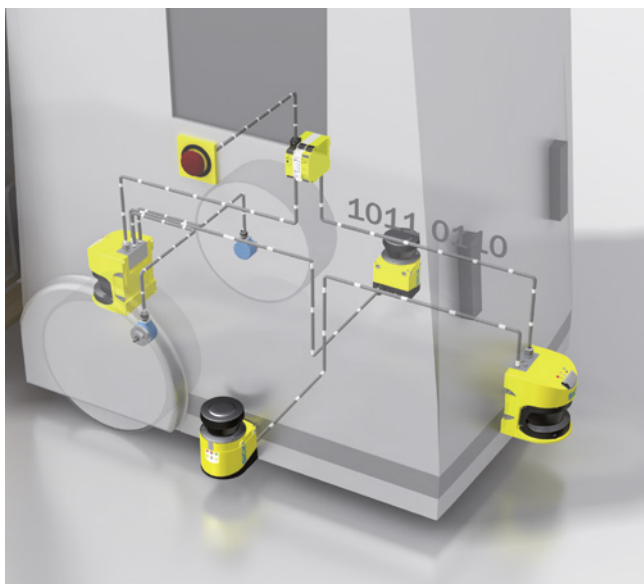
- The throughput and productivity are highly dependent on the speed and maximum load of the AGV
- High speeds and/or heavy loads lead to long braking distances, which means that a large area must be monitored in the direction of travel
- With excellent protective field ranges of 5.5 m and 7 m, the S3000 safety laser scanner is ideal for these applications

+ High throughput for maximum productivity



Recommended product

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|----------------------------|-----------|
| S3000 Expert (5.5 and 7 m) | → page 32 |
|----------------------------|-----------|



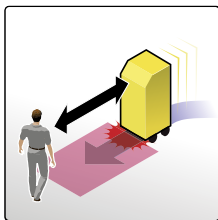
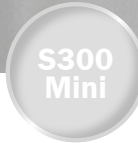
Complete solution

- Multiple components are required to protect AGVs
- In addition to the safety solution, SICK offers many automation solutions for navigation, positioning, presence checking, etc.
- SICK offers comprehensive services for sensors and applications

+ The full range of services allows optimal integration of all components

Recommended product

| | |
|-------------------|----------|
| Overall portfolio | |
| SICK safetyPLUS® | → page 4 |



In addition to AGVs, SICK safety laser scanners can be used to protect persons and prevent vehicle collisions, e. g., narrow aisle stackers, transfer vehicles or storage and retrieval systems.

As protection is implemented on the vehicle itself, no additional access protection and monitoring are required, reducing the application complexity and increasing flexibility.



Great protective field range

- High speeds are essential for a high throughput in narrow aisle warehouses. This entails longer braking distances and large hazardous areas in the direction of travel.
- With an excellent protective field range of 7 m, people obstructing the path of the vehicle are quickly detected, even when the vehicle is traveling at high speeds

+ High safety without compromising productivity

Recommended product

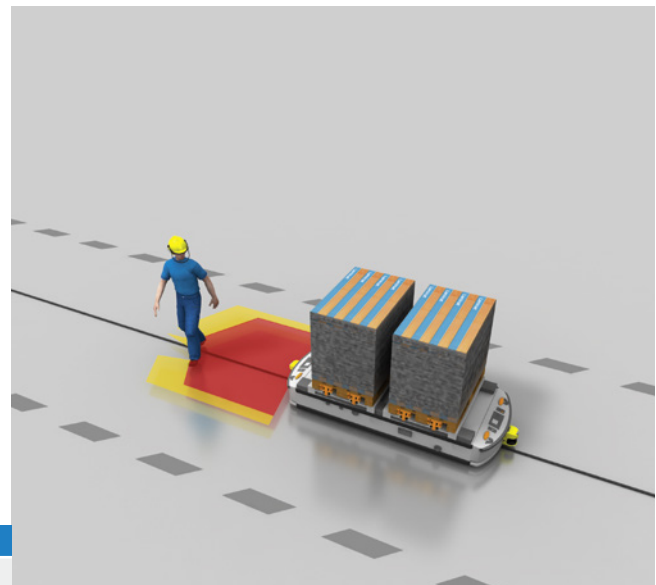
S3000 (7 m)

→ page 32

Forward and backward protection

- Safety must be ensured when traveling forward and backward
- That can be implemented via a host-guest combination using the S3000 Professional and S3000 Remote. The host device then controls the guest.
- This simplifies the system architecture, speeds up commissioning and saves costs

+ Perfectly matched



Recommended product

S3000 Remote

→ page 32



Anticipatory personal protection

- A safety device is required whenever a storage and retrieval system is used in areas where people may also be present
- With a protective field range of 7 m, the S3000 has a large scanning range even at high speeds

+ Safe personal protection in automatic processes

Recommended product

S3000

→ page 32

Sensor Intelligence is a promise

At SICK, sensor solutions are developed for industrial automation with commitment and experience. From development to product support, every employee is completely committed to ensuring that sensors and application solutions from SICK optimally fulfill their versatile functions.

+ SICK invented it

Safety laser scanners based on time-of-flight measurements were invented by SICK engineers. Continuous development in response to customer requirements combined with the latest technology opens the door to new and increasingly innovative products.

- 20 years of experience
- + Tens of thousands of solutions on the market
- = **Thousands of satisfied customers**

+ Free choice

Choose the ideal safety laser scanner for your application based on costs and functionality: S3000, S300 and S300 Mini.

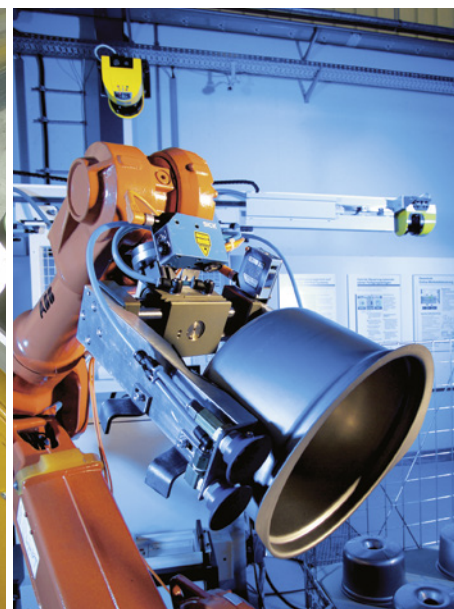
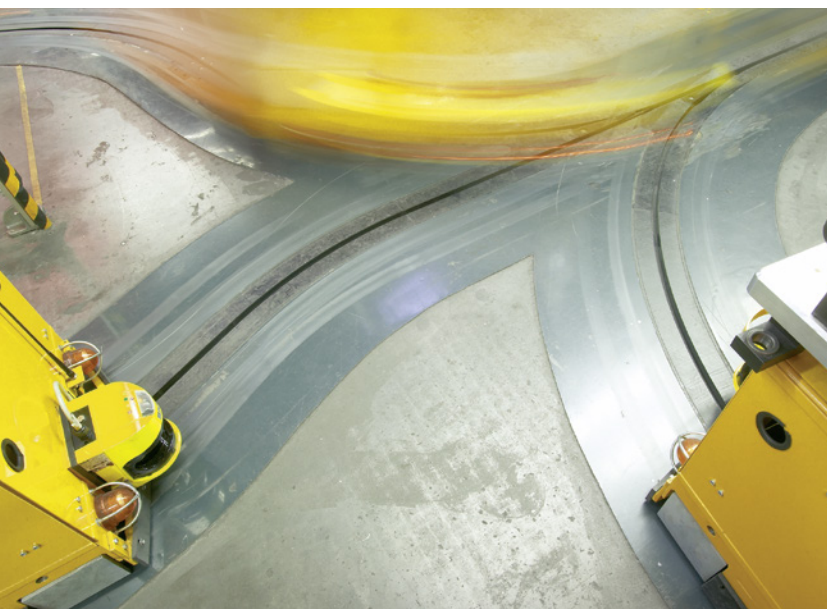
The following solutions are available:

- The ultra-compact **S300 Mini**
- The compact **S300**,
- The safety laser scanner with the unbeatable protective field range of 7 m – **S3000**
- The only safety laser scanner that can be integrated directly and safely in PROFINET PROFIsafe – **S3000 PROFINET IO**
- The “coolest” safety laser scanner, which even performs reliably at $-30\text{ }^{\circ}\text{C}$ – **S3000 Cold Store**

→ Your proven and reliable partner

→ The right scanner for your requirements every time

+ SICK offers thousands of applications in which safety laser scanners ensure the safety of your employees and colleagues while maintaining maximum machine productivity





+ Stacks of arguments

Starting on page 30, we will show you the excellent features of SICK's safety laser scanner product families.

Key features of our scanners:

- **Rugged design** that withstands dust and vibrations and, as a result, reliable operation even in difficult ambient conditions
- **Safe networking options** from scanner to scanner, scanner to controller, and scanner to network
- **Simple and quick configuration** even for multiple scanners
- **Top diagnostic reports** for quick and easy troubleshooting

+ Thinking beyond the product

SICK continues to support you after you buy a safety laser scanner. We provide you with additional services to help you integrate and operate your purchased product easily.

Wide variety of accessories

- Mounting brackets, connecting cables, system plugs, etc.

Info service

- Multi-language operating instructions, dimensional drawings and CAD models, connection diagrams, sample applications, animations, tutorials and quick starts are included
- After-Sales support, e.g., for subsequent system expansions



www.sick.com/service

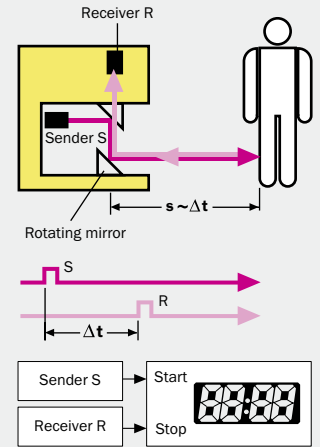
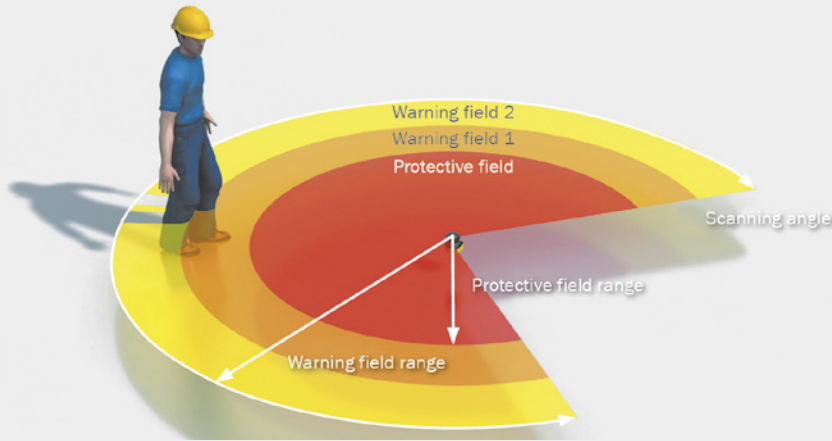
→ Great performance for high productivity

→ Service and support for smooth operation





Principle of operation of a SICK safety laser scanner



SICK safety laser scanners are based on the principle of time-of-flight measurement. The scanner emits very short pulses of light, while an electronic stopwatch runs simultaneously. If the light strikes an object, it is reflected and received by the safety laser scanner. The safety laser scanner calculates the distance to the object based on the time between sending and reception. As soon as the safety laser scanner detects an object in the protective field, it switches off the OSSD (output signal switching device = safe switching outputs of the laser scanner) and thus causes the machine to deactivate or the vehicle to stop. Warning fields can be defined so that objects are detected before reaching the actual hazardous area, e. g., to trigger a warning signal. Protective fields and warning fields form the field set. The fields are configured using the CDS configuration and diagnostic software.

Trouble-free production

Unbeatable rugged design

There are tough ambient conditions in many applications. Dust, external light, vibrations and electromagnetic influences are just a few of the adverse conditions a safety laser scanner must overcome. As a result of its many years of experience with applications, SICK knows these requirements and designs its sensors to withstand these challenges. In internal and external tests, the devices are subject to maximum loads to ensure trouble-free operation even in tough environments.

As a result, SICK can maximize productivity of your machines due to the ruggedly designed safety laser scanners.



| Measure | Result |
|--|---|
| Non-stick coated, downward-tilted front screen | Resistant to dirt and dust |
| Rugged metal housing | Solid protection against mechanical effects |
| Filter-switched electrical inputs | Minimization of EMC influences |
| Special evaluation algorithms | Minimum dust-sensitivity |

Simple configuration

Intuitive software

SICK safety sensors are configured using the CDS (configuration and diagnostic software). Its intuitive user interface permits simple and quick design and implementation of the application required. CDS provides users with all configuration and diagnostic data for rapid commissioning and effective troubleshooting. Standard communication interfaces (TCI, FDT/DTM) can be used to integrate CDS simply and effectively into your automation environment. This allows you to configure and diagnose the system during commissioning or maintenance via the standard protocol.



| Function | Your benefits |
|--|---|
| Standard configuration software for all opto-electronic protective devices from SICK | Rapid integration and low administrative workload |
| Clear configuration and diagnostic functions | Simple operation and rapid troubleshooting |
| Automatic creation of safety-relevant reports | Complete documentation of all safety-relevant parameters |
| Ability to assign different levels of authorization via multiple password levels | High security that prevents unauthorized or unintentional changes to the settings |
| Supports TCI and FTD/DTM | Simple integration in your engineering tool |

Safe networking

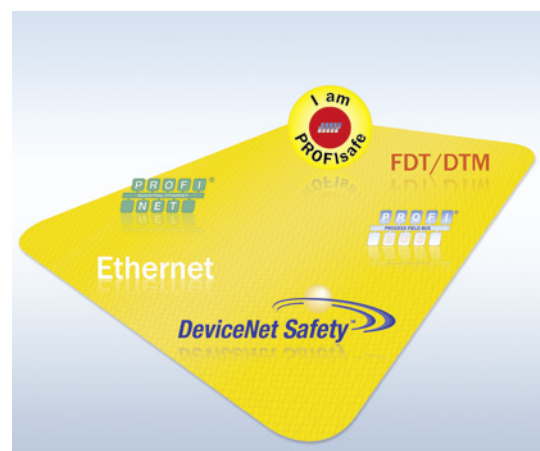
Safe SICK system

The SICK-specific interface (EFI ¹⁾) permits safe communication between opto-electronic protective devices, safety controllers and gateways by SICK. Network devices use this interface to exchange safety-relevant information and other data.

Safe network integration

Devices can be integrated into a variety of networks via gateways using the EFI.

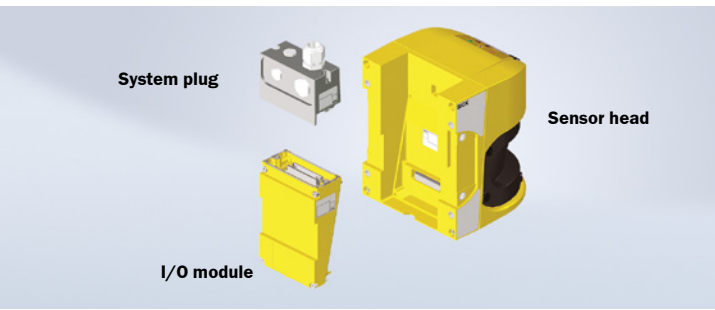
In the S3000 PROFINET IO, SICK offers the first safety laser scanner for direct integration in the PROFINET PROFIsafe safety bus system.



¹⁾ EFI = Enhanced Function Interface

| Enhanced functions | Your benefits |
|--|--|
| Transmission of safety-relevant information and other data via an interface | Reduced wiring work saves time |
| A central system access point to configure and diagnose all network devices | Rapid commissioning and reduced downtime |
| All input and output signals can be transmitted to the network (no local inputs and outputs) | Complete and standardized integration in your overall system |





Outstanding 7 m scanning range

- Second scanners are no longer needed for large monitored areas
- Increase the productivity of automated guided vehicles with higher speeds



Modular concept

- If the requirements change, you can adapt the functions and/or the scanning range by exchanging the I/O module and/or the sensor head



Proven and tested

- Thousands of validated S3000 units installed worldwide prove its reliability



Quick device replacement

- The configuration memory in the system plug prevents downtime when replacing the devices via plug & play

S3000 special versions



Use in cold areas

- The S3000 Cold Store is the only safety laser scanner in the world that can be used reliably at temperatures as low as $-30\text{ }^{\circ}\text{C}$



Safe integration into PROFINET PROFIsafe

- The S3000 PROFINET IO is the first safety laser scanner for direct and safe fieldbus integration without additional hardware costs



Product family overview

| | | | |
|--|---|--|---|
| |  |  |  |
| | S3000 Standard | S3000 Advanced | S3000 Professional |
| | Economical yet reliable | Optimize production processes safely | Flexible high-performance – the right protection for any speed |

Technical specifications

| | | | |
|--|------------------------------------|------------------------------------|------------------------------------|
| Protective field range | 4 m/5.5 m/7 m | 4 m/5.5 m/7 m | 4 m/5.5 m/7 m |
| Warning field range | 49 m | 49 m | 49 m |
| Scanning angle | 190° | 190° | 190° |
| Response time | 60 ms or 120 ms | 60 ms or 120 ms | 60 ms or 120 ms |
| Object resolution ¹⁾ | 30 mm/40 mm/50 mm/ 70 mm/150 mm | 30 mm/40 mm/50 mm/ 70 mm/150 mm | 30 mm/40 mm/50 mm/ 70 mm/150 mm |

Functions

| | | | |
|--|-------------|-------------|-------------|
| Triple field mode ^{2)/} Dual field mode ³⁾ | Triple/Dual | Triple/Dual | Triple/Dual |
| Number of field sets | 1 | 4 | 8 |
| Monitoring cases | 1 | 4 | 16 |
| Static inputs on the device for protective field switching | - | 2 | 4 |
| Dynamic inputs ⁵⁾ on the device for protective field switching | - | - | Yes |
| OSSDs in the device | Yes | Yes | Yes |
| Integrated external device monitoring (EDM) | Yes | Yes | Yes |
| Number of simultaneously monitored protective fields ⁶⁾ | Up to 4 | Up to 4 | Up to 4 |
| Integrated configuration memory in the system plug | Yes | Yes | Yes |
| Contour as a reference ⁷⁾ | Yes | Yes | Yes |

Interfaces

| | | | |
|---|----------|----------|----------|
| EFI ⁸⁾ | Yes | Yes | Yes |
| Measured data output (RS-422) | Standard | Standard | Standard |
| Safe integrated bus connection (PROFINET IO) | - | - | - |

Certifications

| | | | |
|--|----------------------|----------------------|----------------------|
| Type (EN 61496-1) / Safety integrity level (IEC 61508) / Performance Level (EN ISO 13849-1) | Type 3 / SIL2 / PL d | Type 3 / SIL2 / PL d | Type 3 / SIL2 / PL d |
|--|----------------------|----------------------|----------------------|

General information

| | | | |
|---|--------------------------|--------------------------|--------------------------|
| Dimensions (W x H x D) ⁹⁾ | 155 mm x 185 mm x 160 mm | 155 mm x 185 mm x 160 mm | 155 mm x 185 mm x 160 mm |
| Enclosure rating (EN 60529) | IP 65 | IP 65 | IP 65 |
| Operating temperature range | -10 °C ... +50 °C | -10 °C ... +50 °C | -10 °C ... +50 °C |

Electrical details

| | | | |
|---|-------------|-------------|-------------|
| Type of connection | System plug | System plug | System plug |
| Power consumption ¹⁰⁾ | 14 W | 14 W | 14 W |

Detailed information

| | | | |
|--|---------------------------|---------------------------|---------------------------|
| | → page 34 | → page 34 | → page 34 |
|--|---------------------------|---------------------------|---------------------------|

¹⁾ 30/40 mm = hand detection; 50/70 mm = leg detection; 150 mm = body detection.

²⁾ 1 field set = 2 warning fields + 1 protective field.

³⁾ 1 field set = 1 warning field + 1 protective field.

⁴⁾ 16 monitoring cases with static control inputs on the device, 32 monitoring cases with dynamic inputs on the device or via EFI.

⁵⁾ For connecting incremental encoders to switch protective fields depending on the speed.

| |  |  |  |  |  |
|--|---|---|---|--|---|
| | S3000 Expert | S3000 Remote | S3000 PROFINET IO Advanced | S3000 PROFINET IO Professional | S3000 Cold Store |
| | Safety gaps have no chance – with 64 fields | The scanner for more safety | Always available – safety technology in your network | Always available – safety technology in your network | Reliable safety for tough requirements in cold storage |
| | 4 m/5.5 m/7 m | 4 m/5.5 m/7 m | 4 m/5.5 m/7 m | 4 m/5.5 m/7 m | 7 m |
| | 49 m | 49 m | 49 m | 49 m | 49 m |
| | 190° | 190° | 190° | 190° | 180° |
| | 60 ms or 120 ms | 60 ms or 120 ms | 60 ms or 120 ms | 60 ms or 120 ms | 60 ms |
| | 30 mm/40 mm/50 mm/70 mm/150 mm | 30 mm/40 mm/50 mm/70 mm/150 mm | 30 mm/40 mm/50 mm/70 mm/150 mm | 30 mm/40 mm/50 mm/70 mm/150 mm | 30 mm/40 mm/50 mm/70 mm/150 mm |
| | Triple/Dual | Triple/Dual | Dual | Dual | Triple/Dual |
| | 21/32 | 21/32 | 4 | 8 | 4 |
| | 32 ⁴⁾ | 32 | 4 | 16 | 4 |
| | 4 | - | - | - | - |
| | Yes | - | - | - | - |
| | Yes | Yes | - | - | Yes |
| | Yes | Yes | - | - | - |
| | Up to 4 | Up to 4 | Up to 2 | Up to 2 | Up to 4 |
| | Yes | Yes | Yes | Yes | No |
| | Yes | Yes | Yes | Yes | Yes |
| | Yes | Yes | - | - | Yes |
| | Advanced | Standard | - | - | - |
| | - | - | Yes (copper or fiber-optic cable) | Yes (copper or fiber-optic cable) | - |
| | Type 3 / SIL2 / PL d | Type 3 / SIL2 / PL d | Type 3 / SIL2 / PL d | Type 3 / SIL2 / PL d | Type 3 / SIL2 / PL d |
| | 155 mm x 185 mm x 160 mm | 155 mm x 185 mm x 160 mm | 155 mm x 185 mm x 160 mm | 155 mm x 185 mm x 160 mm | 351 mm x 265 mm x 195 mm |
| | IP 65 | IP 65 | IP 65 | IP 65 | IP 67 |
| | -10 °C ... +50 °C | -10 °C ... +50 °C | -10 °C ... +50 °C | -10 °C ... +50 °C | -30 °C ... +50 °C |
| | System plug | System plug | System plug | System plug | System plug |
| | 14 W | 14 W | 17 W | 17 W | 14 W ¹¹⁾ |
| | → page 34 | → page 34 | → page 34 | → page 34 | → page 34 |

⁶⁾ If more than one protective field is monitored simultaneously, then the safe output signals must be routed to safe outputs of a Flexi Soft safety controller, or via a safe EFI Gateway.

⁷⁾ If the scanner is used vertically, a contour must be configured as a reference.

⁸⁾ "Enhanced Function Interface" for connecting multiple scanners simply and safely, or for connecting the scanners with the Flexi Soft safety controller.

⁹⁾ Without protruding cable glands when the system plugs are mounted.

¹⁰⁾ Without output load.

¹¹⁾ Plus power consumption from heating (24 V, 6 A).



At a glance

- Modular design
- 4 m, 5.5 m or 7 m protective field range
- Up to 21 switchable field sets (21 protective fields, 42 warning fields)
- EFI interface for safe SICK device communication
- Selectable resolution for hand, leg or body detection
- Configuration memory integrated in the system plug
- Direct integration in PROFINET IO safe bus system
- Incremental encoder inputs for speed-dependent field switching

Your benefits

- Tailored solutions for your applications
- Easy installation, commissioning and maintenance for stationary and mobile applications
- Largest protective field range available in the market increases the variety of application possibilities
- Variety of field sets ensures safety and productivity when protecting vehicles or moving machine parts
- Easily expandable modular system, simple cabling and additional functions using SICK safety controllers with EFI
- Quick recommissioning via configuration memory
- Decades of proven safety technology guarantee maximum reliability and productivity – even under difficult conditions

Ordering information

See www.mysick.com/products for additional accessories

S3000 variants

| Variant | Field sets | Protective field range | Model name | Part no. |
|--------------------|---------------------|------------------------|-------------|----------|
| S3000 Standard | 1 | 4 m | S30A-4011BA | 1028934 |
| | | 5.5 m | S30A-6011BA | 1023546 |
| | | 7 m | S30A-7011BA | 1023890 |
| S3000 Advanced | 4 | 4 m | S30A-4011CA | 1028935 |
| | | 5.5 m | S30A-6011CA | 1023547 |
| | | 7 m | S30A-7011CA | 1023891 |
| S3000 Professional | 8 | 4 m | S30A-4011DA | 1028936 |
| | | 5.5 m | S30A-6011DA | 1019600 |
| | | 7 m | S30A-7011DA | 1023892 |
| S3000 Expert | 21/32 ¹⁾ | 4 m | S30A-4011GB | 1052107 |
| | | 5.5 m | S30A-6011GB | 1052108 |
| | | 7 m | S30A-7011GB | 1052109 |
| S3000 Remote | 21/32 ¹⁾ | 4 m | S30A-4011EA | 1028938 |
| | | 5.5 m | S30A-6011EA | 1023548 |
| | | 7 m | S30A-7011EA | 1023893 |
| S3000 Cold Store | 4 | 7 m | S31A-7011CA | 1041648 |

¹⁾ Triple field mode/dual field mode.

| Variant | Field sets | Connection type | Protective field range | Model name | Part no. |
|--------------------------------|------------|---|------------------------|-------------|----------|
| S3000 PROFINET IO Advanced | 4 | 2 bushes for RJ45 push-pull plug for copper lines | 4 m | S30A-4111CP | 1045650 |
| | | | 5.5 m | S30A-6111CP | 1045652 |
| | | | 7 m | S30A-7111CP | 1045654 |
| | | 2 bushes for SCRJ push-pull plug for fiber optic cables | 4 m | S30A-4111CL | 1052591 |
| | | | 5.5 m | S30A-6111CL | 1052593 |
| | | | 7 m | S30A-7111CL | 1052595 |
| S3000 PROFINET IO Professional | 8 | 2 bushes for RJ45 push-pull plug for copper lines | 4 m | S30A-4111DP | 1045651 |
| | | | 5.5 m | S30A-6111DP | 1045653 |
| | | | 7 m | S30A-7111DP | 1045655 |
| | | 2 bushes for SCRJ push-pull plug for fiber optic cables | 4 m | S30A-4111DL | 1052592 |
| | | | 5.5 m | S30A-6111DL | 1052594 |
| | | | 7 m | S30A-7111DL | 1052596 |

Accessories required for commissioning

| Description | Number | | | | | | | | |
|--|------------------------|----------------|----------------|--------------------|--------------|--------------|----------------------------|--------------------------------|------------------|
| | | S3000 Standard | S3000 Advanced | S3000 Professional | S3000 Expert | S3000 Remote | S3000 PROFINET IO Advanced | S3000 PROFINET IO Professional | S3000 Cold Store |
| Mounting kit | 1 | ● | ● | ● | ● | ● | ● | ● | - |
| Adjustment bracket (specially for Cold Store) | 1 | - | - | - | - | - | - | - | ● |
| System plug | 1 ¹⁾ | ● | ● | ● | ● | ● | - | - | - |
| Power supply plug (PROFINET IO) | 1 | - | - | - | - | - | ● | ● | - |
| Service cable for configuration and diagnostics | Can be used repeatedly | ● | ● | ● | ● | ● | - | - | - |
| Service cable (configuration cable) ²⁾ (specially for Cold Store) | 1 | - | - | - | - | - | - | - | ● |
| CDS (configuration and diagnostic software) ³⁾ | Can be used repeatedly | ● | ● | ● | ● | ● | ● | ● | ● |

¹⁾ If system plugs without cables are used, an additional connecting cable is required.





²⁾ See "Recommended accessories for S3000 Cold Store", page 37.

³⁾ Included in delivery if a device variant is ordered.

Recommended accessories S3000



See www.mysick.com/products for further accessories

Mounting bracket/plates



| Figure | Description | Model name | Part no. |
|---|---|-----------------------------|----------|
|  | Mounting bracket for direct mounting at the rear of the wall or machine. No adjustment option. | Mounting kit 1 | 2015623 |
|  | Bracket only in conjunction with mounting kit 1. Mounting at rear of the wall or machine. Adjustment by longitudinal and lateral axis possible. | Mounting kit 2 | 2015624 |
|  | Bracket only in conjunction with mounting kit 1 and 2. Mounting on the wall at the rear or at the base at the wall, floor or machine. Adjustment by longitudinal and lateral axis possible. | Mounting kit 3 | 2015625 |
|  | Mounting bracket, heavy version, with protective hood, steel, painted, for floor mounting, height adjustment possible. | Heavy-duty mounting bracket | 7087514 |

Plug connectors and cables





System plugs without cables

| Figure | Description | Model name | Part no. |
|--|---|-------------|----------|
|  | For S3000 Standard, Advanced, Remote, Professional and Expert (not for use with incremental encoders) | SX0A-A0000B | 2023797 |
|  | For S3000 Professional and Expert (for use with incremental encoders) | SX0A-A0000D | 2023310 |

System plugs pre-assembled


| Figure | Description | Length of cable | Model name | Part no. |
|---|---|-----------------|-------------|----------|
|  | For S3000 Standard and Remote | 5 m | SX0A-B0905B | 2027170 |
| | For S3000 Standard and Remote, cable outlet at rear | 5 m | SX0A-B0905G | 2049222 |
| | For S3000 Standard and Remote | 10 m | SX0A-B0910B | 2027171 |
| | For S3000 Standard and Remote | 20 m | SX0A-B0920B | 2027814 |
| | For S3000 Advanced | 5 m | SX0A-B1305B | 2027172 |
| | For S3000 Advanced | 10 m | SX0A-B1310B | 2027173 |
| | For S3000 Advanced | 20 m | SX0A-B1320B | 2027815 |
| | For S3000 Professional and Expert (not for use with incremental encoders) | 5 m | SX0A-B1705B | 2027174 |
| | For S3000 Professional and Expert (not for use with incremental encoders) | 10 m | SX0A-B1710B | 2027175 |
|  | For S3000 Professional and Expert (not for use with incremental encoders) | 20 m | SX0A-B1720B | 2027816 |
| | For S3000 Professional and Expert (for use with incremental encoders) | 5 m | SX0A-B1305D | 2027176 |
| | For S3000 Professional and Expert (for use with incremental encoders) | 10 m | SX0A-B1310D | 2027177 |

System plug (PROFINET IO)


| Figure | Description | Length of cable | Model name | Part no. |
|---|--|-----------------|---------------|----------|
|  | For S3000 PROFINET IO Advanced and Professional | - | SX1A-A0000L | 2047286 |
|  | For S3000 PROFINET IO Advanced and Professional | 1 m | SX1A-B0201L | 2049575 |
|  | Power-Y distributor with power supply plug for S3000 PROFINET IO Advanced and Professional | - | SX1A-B0201M | 2049857 |
|  | Adapter cable, RJ45/M12 | - | Adapter cable | 6044052 |

Additional accessories for PROFINET connection technology, e.g., **RJ-45 or SCRJ push-pull connection plug**, see www.phoenixcontact.de.


Other accessories**Spare parts set for front screen**

| Figure | Description | Model name | Part no. |
|---|---|------------|----------|
|  | Front screen with spare seal and screws | - | 2027180 |



Recommended accessories for S3000 Cold Store**Mounting bracket/plates**

| Figure | Description | Model name | Part no. |
|---|--|--------------------|----------|
|  | Adjustment bracket for wall mounting, metal, weight approx. 1.6 kg (including mounting material) | Adjustment bracket | 2018303 |

Other accessories

| Figure | Description | Model name | Part no. |
|---|-------------------------------|------------------------|----------|
|  | With screw threads, M36 x 1.5 | Drying agent cartridge | 5306179 |

Plug connectors and cables

| Figure | Description | Model name | Part no. |
|---|--|-----------------|----------|
|  | 16-pin connection plug, complete with housing | Connection plug | 2018301 |
|  | Pre-assembled to RS-232. For inclusion in existing wiring. | Service cable | 2019561 |

For general accessories, see page 50.



For enhanced system solutions, see page 51.





Compact size with a wide range of functions

- No other safety laser scanner offers as much functionality in such a compact format



Quick device replacement

- The configuration memory in the system plug prevents downtime when replacing the devices via plug & play



Navigation support with extended measured data output (CMS)



- 2 in 1 – reduced costs due to safety technology and navigation support via measured data output in a single unit



Dynamic inputs for encoders

- Protective field switching prevents unintentional stops and thus increase productivity

Product family overview

| |  S300 Standard Economical yet reliable |  S300 Advanced Optimize production processes safely |
|--|--|---|
| Technical specifications | | |
| Protective field range | 2 m/3 m | 2 m/3 m |
| Warning field range | 8 m | 8 m |
| Scanning angle | 270° | 270° |
| Response time | 80 ms | 80 ms |
| Object resolution ¹⁾ | 30 mm/40 mm/50 mm/70 mm/150 mm ²⁾ | 30 mm/40 mm/50 mm/70 mm/150 mm ²⁾ |
| Functions | | |
| Triple field mode ^{3)/} Dual field mode ⁴⁾ | Triple | Triple |
| Number of field sets | 1 | 4 |
| Monitoring cases | 1 | 4 |
| Static inputs on the device for protective field switching | 0 | 2 |
| Dynamic inputs ⁶⁾ on the device for protective field switching | - | - |
| OSSDs in the device | Yes | Yes |
| Integrated external device monitoring (EDM) | Yes | Yes |
| Simultaneous monitoring of two protective fields | - | - |
| Integrated configuration memory in the system plug | Yes | Yes |
| Contour as a reference ⁷⁾ | Yes | Yes |
| Interfaces | | |
| EFI ⁸⁾ | Yes | Yes |
| Measured data output (RS-422) | Standard | Standard |
| Safe integrated bus connec- tion (PROFINET IO) | - | - |
| Certifications | | |
| Type (EN 61496-1) / Safety integrity level (IEC 61508) / Performance Level (EN ISO 13849-1) | Type 3 / SIL2 / PL d | Type 3 / SIL2 / PL d |
| General information | | |
| Dimensions (W x H x D) | 102 mm x 152 mm x 106 mm | 102 mm x 152 mm x 106 mm |
| Enclosure rating (EN 60529) | IP 65 | IP 65 |
| Operating temperature range | -10 °C ... +50 °C | -10 °C ... +50 °C |
| Electrical details | | |
| Type of connection | System plug | System plug |
| Power consumption ⁹⁾ | 6 W | 6 W |
| Detailed information | → page 42 | → page 42 |

¹⁾ 30/40 mm = hand detection; 50/70 mm = leg detection; 150 mm = body detection.

²⁾ Only with the 3 m variant.

³⁾ 1 field set = 2 warning fields + 1 protective field.

⁴⁾ 1 field set = 1 warning field + 1 protective field.

⁵⁾ 8 monitoring cases with static control inputs on the device, 32 monitoring cases via dynamic inputs or EFI.

⁶⁾ For connecting incremental encoders to switch protective fields depending on the speed.

⁷⁾ If the scanner is used vertically, a contour must be configured as a reference.

⁸⁾ "Enhanced Function Interface" for connecting multiple scanners simply and safely, or for connecting the scanners to the Flexi Soft safety controller.

⁹⁾ Without output load.



S300 Professional

High-performance – the right protection for any speed



S300 Expert

Flexible and pioneering – for challenging applications

| | | |
|--|--|--|
| | 2 m/3 m | 2 m/3 m |
| | 8 m | 8 m |
| | 270° | 270° |
| | 80 ms | 80 ms |
| | 30 mm/40 mm/50 mm/70 mm/150 mm ²⁾ | 30 mm/40 mm/50 mm/70 mm/150 mm ²⁾ |
| | Triple | Triple |
| | 8 | 16 |
| | 32 ⁵⁾ | 32 ⁵⁾ |
| | 3 | 3 |
| | Yes | Yes |
| | Yes | Yes |
| | Yes | Yes |
| | - | - |
| | Yes | Yes |
| | Yes | Yes |
| | Yes | Yes |
| | Standard | Advanced |
| | - | - |
| | Type 3 / SIL2 / PL d | Type 3 / SIL2 / PL d |
| | 102 mm x 152 mm x 106 mm | 102 mm x 152 mm x 106 mm |
| | IP 65 | IP 65 |
| | -10 °C ... +50 °C | -10 °C ... +50 °C |
| | System plug | System plug |
| | 6 W | 6 W |
| | → page 42 | → page 42 |



At a glance

- Compact design
- 2 m or 3 m protective field range
- 270° scan angle
- Up to 16 switchable field sets (16 protective fields, 32 warning fields)
- EFI interface for safe SICK device communication
- Selectable resolution for hand, leg or body detection
- Configuration memory integrated in the system plug
- Incremental encoder inputs for speed-dependent field switching

Your benefits

- Simple integration due to compact design
- Easy installation, commissioning and maintenance for stationary and mobile applications
- Unbeatable cost-effectiveness – 270° scan angle allows complete application protection with only two scanners
- Variety of field sets ensures safety and productivity when protecting vehicles or moving machine parts
- Easy modular expansions and additional functions using SICK safety controllers with EFI
- Quick recommissioning via configuration memory
- Decades of proven safety technology guarantee maximum reliability and availability – even under difficult conditions

Ordering information

See www.mysick.com/products for additional accessories

S300 variants

| Variant | Field sets | Protective field range | Model name | Part no. |
|-------------------|------------|------------------------|-------------|----------|
| S300 Standard | 1 | 2 m | S30B-2011BA | 1026820 |
| | | 3 m | S30B-3011BA | 1056427 |
| S300 Advanced | 4 | 2 m | S30B-2011CA | 1026821 |
| | | 3 m | S30B-3011CA | 1056428 |
| S300 Professional | 8 | 2 m | S30B-2011DA | 1026822 |
| | | 3 m | S30B-3011DA | 1056429 |
| S300 Expert | 16 | 2 m | S30B-2011GB | 1050193 |
| | | 3 m | S30B-3011GB | 1057641 |

Accessories required for commissioning

| Description | Number | | | | |
|---|------------------------|---------------|---------------|-------------------|-------------|
| | | S300 Standard | S300 Advanced | S300 Professional | S300 Expert |
| Mounting kit | 1 | ● | ● | ● | ● |
| System plug | 1 ¹⁾ | ● | ● | ● | ● |
| Service cable for configuration and diagnostics | Can be used repeatedly | ● | ● | ● | ● |
| CDS (configuration and diagnostic software) ²⁾ | Can be used repeatedly | ● | ● | ● | ● |




¹⁾ If system plugs without cables are used, an additional connecting cable is required.

²⁾ Included in delivery if a device variant is ordered.

Recommended accessories S300


See www.mysick.com/products for additional accessories

Mounting bracket/plates



| Figure | Description | Model name | Part no. |
|---|--|-----------------|----------|
|  | Mounting bracket for direct mounting at the rear of the wall or machine | Mounting kit 1a | 2034324 |
|  | Mounting bracket for direct mounting at the rear of the wall or machine, with the protection of the optical hood | Mounting kit 1b | 2034325 |
|  | Mounting bracket only in conjunction with mounting brackets 1a or 1b. Adjustment by lateral axis possible. | Mounting kit 2 | 2039302 |
| | Holding plate only in conjunction with mounting bracket 2. Adjustment by longitudinal axis possible. | Mounting kit 3 | 2039303 |

Plug connectors and cables

System plugs without cables


| Figure | Description | Model name | Part no. |
|---|--|-------------|----------|
|  | For S300 Standard, Advanced, Expert and Professional (not for use with incremental encoders) | SX0B-A0000G | 2032807 |
| | For S300 Expert and Professional (for use with incremental encoders) | SX0B-A0000J | 2032856 |

System plugs pre-assembled

| Figure | Description | Length of cable | Model name | Part no. |
|---|--|-----------------|-------------|----------|
|  | For S300 Standard | 5 m | SX0B-B1105G | 2032859 |
| | For S300 Standard | 10 m | SX0B-B1110G | 2032860 |
| | For S300 Standard | 14 m | SX0B-B1114G | 2047875 |
| | For S300 Standard | 20 m | SX0B-B1120G | 2032861 |
| | For S300 Advanced, Expert and Professional (not for use with incremental encoders) | 5 m | SX0B-B1505G | 2034264 |
| | For S300 Advanced, Expert and Professional (not for use with incremental encoders) | 10 m | SX0B-B1510G | 2034265 |
|  | For S300 Expert and Professional (for use with incremental encoders) | 5 m | SX0B-B1105J | 2032857 |
| | For S300 Expert and Professional (for use with incremental encoders) | 10 m | SX0B-B1110J | 2032858 |

Other accessories

Optical hood spare parts set

| Figure | Description | Model name | Part no. |
|---|---|------------|----------|
|  | Optical hood with spare seal and screws | - | 2039248 |

For general accessories, see page 50.



For enhanced system solutions, see page 51.





Maximum safety in a miniature format

- Ultracompact safety laser scanner is ideal for small automated guided carts



Optimal integration

- Minimal space requirements make it easy to integrate in any machine or vehicle design



Safety reduced to essentials

- A cost-optimized solution can be implemented for simple applications with the S300 Mini Standard



Maximum functionality in external intelligence

- Up to 16 field sets in the S300 Mini Remote offer maximum flexibility



Additional Flexi Soft benefits

- Simple and rapid commissioning and maintenance via a central access point using Flexi Soft
- Up to four S300 Mini units can be connected
- Additional safety sensors can be connected



Added value via triple field sets

- Two warning fields permit controlled braking of the driverless vehicle, resulting in lower loads for the braking system.

Product family overview



S300 Mini Standard

Economical yet reliable

Technical specifications

| | |
|---------------------------------|--|
| Protective field range | 2 m/3 m |
| Warning field range | 8 m |
| Scanning angle | 270° |
| Response time | 80 ms |
| Object resolution ¹⁾ | 30 mm/40 mm/50 mm/70 mm/150 mm ²⁾ |

Functions

| | |
|---|--------|
| Triple field mode ^{3)/} Dual field mode ⁴⁾ | Triple |
| Number of field sets | 1 |
| Monitoring cases | 1 |
| Static inputs on the device for protective field switching | 0 |
| Dynamic inputs ⁵⁾ on the device for protective field switching | - |
| OSSDs in the device | Yes |
| Integrated external device monitoring (EDM) | Yes |
| Simultaneous monitoring of two protective fields | - |
| Integrated configuration memory in the system plug | - |
| Contour as a reference ⁸⁾ | Yes |

Interfaces

| | |
|---|---|
| EFI ⁹⁾ | - |
| Measured data output (RS-422) | - |
| Safe integrated bus connec- tion (PROFINET IO) | - |

Certifications

| | |
|--|----------------------|
| Type (EN 61496-1) / Safety integrity level (IEC 61508) / Performance Level (EN ISO 13849-1) | Type 3 / SIL2 / PL d |
|--|----------------------|

General information

| | |
|-----------------------------|--------------------------|
| Dimensions (W x H x D) | 102 mm x 116 mm x 104 mm |
| Enclosure rating (EN 60529) | IP 65 |
| Operating temperature range | -10 °C ... +50 °C |

Electrical details

| | |
|----------------------------------|--|
| Type of connection | Cable tail with circular plug-in connector |
| Power consumption ¹⁰⁾ | 4.8 W |

Detailed information

→ page 48

¹⁾ 30/40 mm = hand detection; 50/70 mm = leg detection; 150 mm = body detection.

²⁾ Only with the 3 m variant.

³⁾ 1 field set = 2 warning fields + 1 protective field.

⁴⁾ 1 field set = 1 warning field + 1 protective field.

⁵⁾ For connecting incremental encoders to switch protective fields depending on the speed.

⁶⁾ Function available via EFI device.

⁷⁾ Configuration memory available via Flexi Soft with ACR function.

⁸⁾ If the scanner is used vertically, a contour must be configured as a reference.

⁹⁾ "Enhanced Function Interface" for connecting multiple scanners simply and safely, or for connecting the scanners to the Flexi Soft safety controller.

¹⁰⁾ Without output load.



S300 Mini Remote

Very high functionality in mini format

| | |
|--|--|
| | 2 m/3 m |
| | 8 m |
| | 270° |
| | 80 ms |
| | 30 mm/40 mm/50 mm/70 mm/150 mm ²⁾ |
| | Triple |
| | 16 |
| | 32 |
| | 5 (only via EFI) |
| | - ⁶⁾ |
| | - |
| | Yes |
| | - |
| | - ⁷⁾ |
| | Yes |
| | Yes |
| | - |
| | - |
| | Type 3 / SIL2 / PL d |
| | 102 mm x 116 mm x 104 mm |
| | IP 65 |
| | -10 °C ... +50 °C |
| | Cable tail with circular plug-in connector |
| | 4 W |
| | → page 48 |



At a glance

- Very compact design
- 2 m or 3 m protective field range
- 270° scan angle
- Up to 16 switchable field sets (16 protective fields, 32 warning fields)
- EFI interface for safe SICK device communication
- Selectable resolution for hand, leg or body detection
- Contour as reference for vertical applications
- Easy-to-configure fields and functions

Your benefits

- Simple integration due to ultracompact design
- Easy installation, commissioning and maintenance for stationary and mobile applications
- Unbeatable cost-effectiveness – 270° scan angle allows complete application protection with only two scanners
- Variety of field sets guarantees safety and productivity when protecting vehicles or moving machine parts
- Easy modular expansions, simple cabling and additional functions using SICK safety controllers with EFI
- Easy to manage, reducing costs and work time
- Reduction of downtimes and brake wear thanks to triple field function
- Decades of proven safety technology guarantee maximum reliability and availability – even under difficult conditions

Ordering information

See www.mysick.com/products for further accessories

S300 Mini variants

| Variant | Field sets | Protective field range | Model name | Part no. |
|--------------------|------------|------------------------|-------------|----------|
| S300 Mini Standard | 1 | 2 m | S32B-2011BA | 1050932 |
| | | 3 m | S32B-3011BA | 1056430 |
| S300 Mini Remote | 16 | 2 m | S32B-2011EA | 1051884 |
| | | 3 m | S32B-3011EA | 1056431 |

Accessories required for commissioning

| Description | Number | | |
|---|------------------------|------------------|--------------------|
| | | S300 Mini Remote | S300 Mini Standard |
| Mounting kit | 1 | ● | ● |
| Connecting cable | 1 | ● | ● |
| EFI partner device | 1 ¹⁾ | ● | - |
| Service cable for configuration and diagnostics | Can be used repeatedly | ● | ● |
| CDS (configuration and diagnostic software) ²⁾ | Can be used repeatedly | ● | ● |





¹⁾ Applies for S300 Mini Remote only: As the S300 Mini Remote does not have local OSSDs on the device, it must be connected to an EFI partner device (e. g., Flexi Soft).

²⁾ Included in delivery if a device variant is ordered.

Recommended accessories

See www.mysick.com/products for additional accessories



Mounting bracket/plates

| Figure | Description | Model name | Part no. |
|---|--|-----------------|----------|
|  | Mounting bracket for direct mounting at the rear of the wall or machine | Mounting kit 1a | 2034324 |
|  | Mounting bracket for direct mounting at the rear of the wall or machine, with the protection of the optical hood | Mounting kit 1b | 2034325 |
|  | Mounting bracket only in conjunction with mounting brackets 1a or 1b. Adjustment by lateral axis possible. | Mounting kit 2 | 2039302 |
|  | Holding plate only in conjunction with mounting bracket 2. Adjustment by longitudinal axis possible. | Mounting kit 3 | 2039303 |


Plug connectors and cables

Pre-assembled connection cables

- For S300 Mini Standard (8-core, screened)


| Figure | Description | Length of cable | Model name | Part no. |
|---|-----------------------|-----------------|--------------------|----------|
|  | Straight cable socket | 2.5 m | DOL-127SG2M5E25KM0 | 6020537 |
| | | 5 m | DOL-127SG05ME25KM0 | 6020354 |
| | | 7.5 m | DOL-127SG7M5E25KM0 | 6020353 |
| | | 10 m | DOL-127SG10ME25KM0 | 6020352 |
| | | 20 m | DOL-127SG20ME25KM0 | 6033096 |
|  | Angled cable socket | 5 m | DOL-127SW05ME25KM0 | 6021342 |
| | | 7.5 m | DOL-127SW7M5E25KM0 | 6034783 |
| | | 10 m | DOL-127SW10ME25KM0 | 6035566 |
| | | 15 m | DOL-127SW15ME25KM0 | 6021343 |

- For S300 Mini Remote (8-core, screened)

| Figure | Description | Length of cable | Model name | Part no. |
|---|-----------------------|-----------------|--------------------|----------|
|  | Straight cable socket | 2.5 m | DOL-1SS2G2M5E15KM3 | 6042337 |
| | | 5 m | DOL-1SS2G5M0E15KM3 | 6042338 |
| | | 7.5 m | DOL-1SS2G7M5E15KM3 | 6042339 |
| | | 10 m | DOL-1SS2G10ME15KM3 | 6042340 |
| | | 15 m | DOL-1SS2G15ME15KM3 | 6042341 |
| | | 20 m | DOL-1SS2G20ME15KM3 | 6042342 |

Other accessories

Optical hood spare parts set

| Figure | Description | Model name | Part no. |
|---|---|------------|----------|
|  | Optical hood with spare seal and screws | - | 2039248 |


For general accessories, see page 50.




For enhanced system solutions, see page 51.

General accessories


Lens cloths

| Figure | Description | Model name | Part no. |
|---|--|------------|----------|
|  | Cloth for cleaning the optical hood/front screen | Lens cloth | 4003353 |



Cleaning agent

| Figure | Description | Model name | Part no. |
|---|--|-----------------|----------|
|  | Plastic cleaner and polish, anti-static, 1 liter | Plastic cleaner | 5600006 |



Software

| Figure | Description | Model name | Part no. |
|---|---|------------|----------|
|  | CDS (configuration and diagnostic software) | CDS | 2032314 |

Service cables

| Figure | Description | Type of connection | Length of cable | Model name | Part no. |
|---|---|-------------------------|-----------------|------------|----------|
|  | For connecting the configuration connection to the serial interface of the PC | M8 x 4, SUB-D 9-pin | 2 m | | 6021195 |
| | | | 10 m | | 2027649 |
|  | For connecting the configuration connection to the USB interface of the PC | M8 x 4-pin / USB-A plug | 2 m | | 6034574 |
| | | | 10 m | | 6034575 |

Enhanced system solutions

| Figure | Description | Technical details | Model name | Part no. | |
|---|---|---|--|-------------|---------|
|  | UE10 safety relay – the simplest solution for integrating the contact outputs | With removable terminals, 2 contact outputs | UE10-2FG3D0 | 1043916 | |
| | | With removable terminals, 3 safety capable outputs, 1 application diagnostic output | UE10-30S3D0 | 6024918 | |
|  | UE 12 safety relay – the simplest solution for cascading the contact outputs | With removable terminals, up to 20 contact outputs via cascading | UE12-2FG3D0 | 1043918 | |
|  | Flexi Soft safety controller – with software (Flexi Soft Designer) configurable safety controller | Flexi Soft CPU0 main unit, without EFI connections, plug-in spring terminals | FX3-CPU000000 | 1043783 | |
|  | | Flexi Soft CPU1 main unit, 2 EFI connections, plug-in spring terminals | FX3-CPU130002 | 1043784 | |
|  | | Flexi Soft XTIO extension unit, 8 inputs/4 outputs, plug-in spring terminals | FX3-XTIO84002 | 1044125 | |
|  | | Flexi Soft XTDI input expansion unit, 8 inputs, plug-in spring terminals | FX3-XTDI80002 | 1044124 | |
|  | | Flexi Soft system plug | FX3-MPL000001 | 1043700 | |
|  | | Flexi Classic safety controller – safety controller configurable with a screwdriver | Flexi Classic main unit, plug-in spring terminals | UE410-MU3T5 | 6026136 |
|  | | | Flexi Classic extension unit, plug-in spring terminals | UE410-XU3T5 | 6032470 |
|  | Flexi Classic input expansion unit, plug-in spring terminals | | UE410-8DI3 | 6026139 | |

SICK – your partner for machine safety

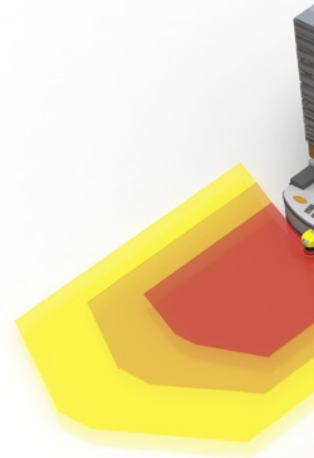
SICK safety solutions allow you to create efficiency today and in the future.

Customer-oriented – efficient – innovative

Safety devices should not prevent increases in the productivity of your machines and systems. This is why SICK surveys customers before making new product developments.

In addition to the technological developments, SICK adapts the customer's requirements and needs. This has led to trendsetting products like safety laser scanners, miniTwin safety light curtains and the Flexi Soft modular safety controller.

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Intelligent networking allows you to cover all safety functions with just a few SICK devices.

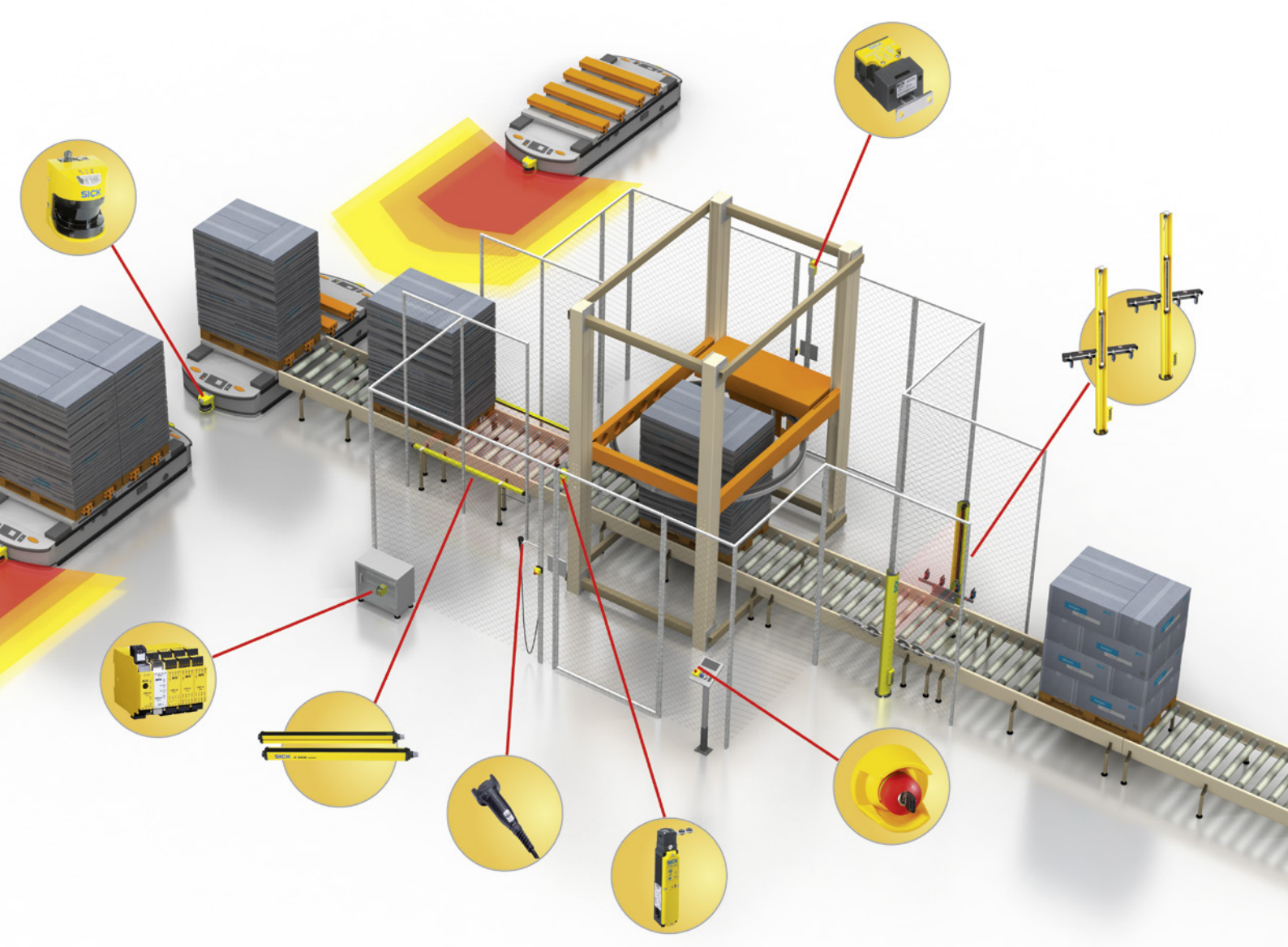


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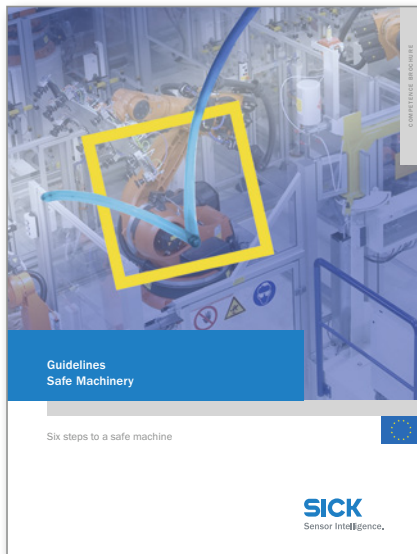
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It contains structured information on:

- Legal requirements for machines
- Safety-relevant directives, regulations and standards
- Selection and application of safety devices
- Examples of how to protect machines and persons against accidents
- Examples of the application of the new standards EN ISO 13849-1 and EN 62061 to determine the PL or SIL



“Safe machine guide – Six steps to a safe machine” is available for download at www.mysick.com in the SICK Literature Finder (publication type brochure) or for order as a printed brochure from your SICK representative.

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8008007 German, 8007988 English

Item number of the North American edition:

7028282 English

“Industrial Safety Systems” product catalog

The catalog contains information about our safety products, including accessories and services with order numbers.



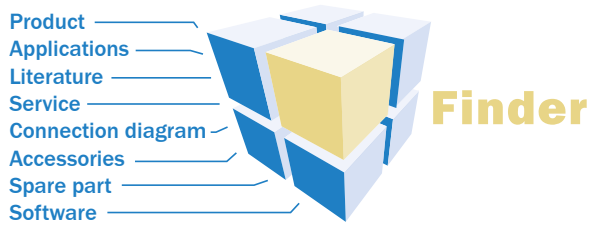
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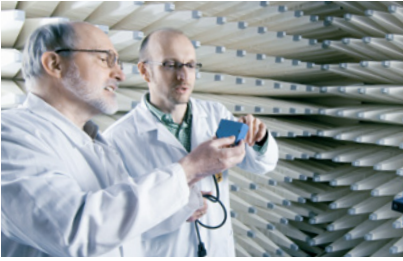
Uncovers new potential for machines and systems



Training & Education

Employee qualification for increased competitiveness

SICK at a glance



Leading technologies

With a staff of more than 5,800 and nearly 50 subsidiaries and representations worldwide, SICK is one of the leading and most successful manufacturers of sensor technology. The power of innovation and solution competency have made SICK the global market leader. No matter what the project and industry may be, talking with an expert from SICK will provide you with an ideal basis for your plans – there is no need to settle for anything less than the best.



Unique product range

- Non-contact detecting, counting, classifying, positioning and measuring of any type of object or media
- Accident and operator protection with sensors, safety software and services
- Automatic identification with bar code and RFID readers
- Laser measurement technology for detecting the volume, position and contour of people and objects
- Complete system solutions for analysis and flow measurement of gases and liquids



Comprehensive services

- SICK LifeTime Services – for safety and productivity
- Application centers in Europe, Asia and North America for the development of system solutions under real-world conditions
- E-Business Partner Portal www.mysick.com – price and availability of products, requests for quotation and online orders

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