



Solutions for storage and conveyor technology
Exploit wide-ranging expertise
to meet new logistical challenges.



SICK

Your partnership with SICK – when everything has to run optimally.



Automotive



Food



Electronics



Container handling

Whether automotive, food, metalworking, packaging, port automation, printing and paper, electronics or the postal and distribution services: for decades, SICK has been offering innovative sensor systems for storage and conveyor technology, with a level of efficiency and safety, now indispensable in many industrial sectors.

Competence

As one of the world's leading companies for sensor solutions, we know our partners' branches inside out, and numerous projects demonstrate our comprehensive experience. For storage and conveyor systems, in particular, we already offer answers to many of tomorrow's challenges.

Consistency

The name SICK stands for wide-ranging expertise: our innovative sensor systems offer user-oriented and tailor-made solutions that provide flexible integration in all automation environments. Our comprehensive range of products is extraordinarily diverse and sets qualitative standards.

Efficiency

Our customers also profit from first-class service: we offer competent advice, efficient training, reliable commissioning and dependable inspections.

Satisfy yourself about the performance of a company that is successful world-wide. And benefit from its wide-ranging innovations that are as influential in modern logistics as they are indispensable – welcome to SICK.



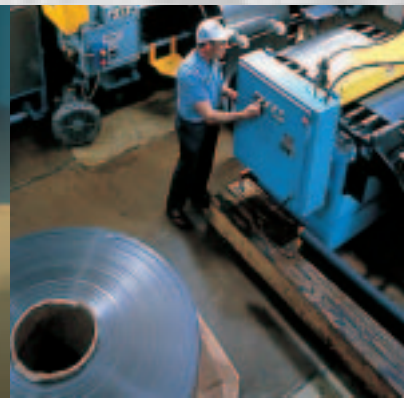
Packaging



Printing and paper



Postal/distribution services



Metalworking

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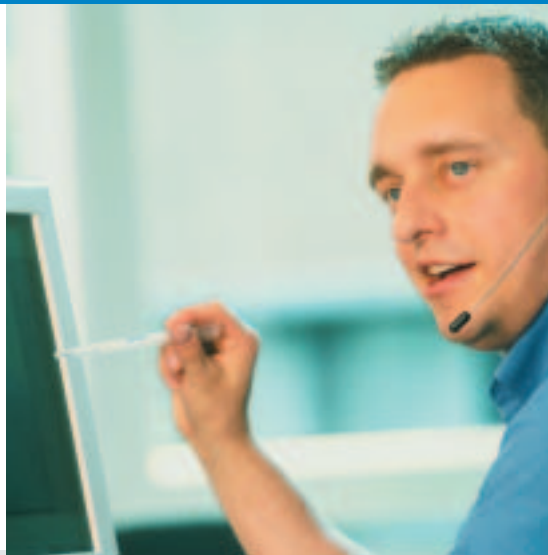
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Watch everything arrive on time. And smooth the way for new opportunities.

Discontent accumulates where stoppages threaten – smooth goods flows are therefore top priority, as they are the operative lifelines of every company. Thus SICK develops solutions with which the time factor is no longer an enemy, but reverts to being a real opportunity. And on the subject of safety: SICK offers sensors and systems that make process structures considerably more efficient.

The ISD data transmission photoelectric switch receives the command to position the high-bay stacker. This action is achieved with the DME distance measuring device. The DS 60 distance sensor checks the presence of the container.





The WT 27 ASI photoelectric reflex switch determines the position of boxes on a roller conveyor system.

SICK sensor technology on conveyor systems clearly minimises error rates – regardless of the type of application profile to be implemented.

SICK technology for conveyor systems

- Checking the presence and position of objects
- Zero-error material flow – prevention of collisions and accidents
- Photoelectric switches with PNP/NPN output or direct control on the actuator level
- Easily integrated miniature photoelectric switches for customer-specific applications
- Protecting access to conveyor systems with safety switches and safety light curtains
- Dynamic protection with safety light curtains and muting systems
- Bar-code reading
- Bar-code reading and volume measurement for the identification and classification of transported goods

A transport box labelled with a bar-code, in a closed conveyor system, is identified with a CLV 430 bar-code scanner. The data supplied are used to guide the box to the correct destination.

By the way ...

SICK offers ice-cold solutions for sunny business: modern delivery chains for frozen goods transport large amounts of food. Worldwide, the most varied of deep frozen products are moved from one place to another without suffering any damage. Demanding sensor solutions from SICK fulfil these tasks reliably and safely even at temperatures down to $-40\text{ }^{\circ}\text{C}$!





Keep everything moving flexibly.
And create the organisation for more.



DME distance measuring devices and ISD data transmission photoelectric switches are used here to control the storage and retrieval of pallets.

The DS 60 distance sensor detects whether the last row of a high-bay stacker is occupied or not. The boxes are positioned accordingly in the first or second row.

A prerequisite for efficient storage logistics is the optimum use of space. Simultaneously, however, room for flexibility is also of central importance in everyday business. For without it, rapid reaction would be as unthinkable as long-term planning. SICK systems and sensors are capable of differentiating between right and wrong, and relevant and irrelevant. In short: they have the capability of creating the organisation for more in every situation.

The ISD data transmission photo-electric switch is mounted on a high-bay stacker and wirelessly, transmits the data required for the storage and retrieval of goods.



SICK offers the right expertise for flexible and efficient storage logistics. From classification to identification, sensors that guarantee a high quality standard make a major contribution of clear benefit to modern storage logistics.

SICK components for all common storage systems

- Circulating stores
- High-bay warehouses for large packages and pallets
- High-load shelving for warehouse applications
- “Pick & place” solutions
- Volume and height classification
- Mobile hand-held scanners
- Bar-code reading on fork-lift trucks
- Protecting aisles between shelving
- Identification systems for data capture for the warehouse management system (WMS)



Transport boxes in closed conveyor circuits are used for the picking process. Sensors and bar-code scanners from SICK ensure that customer orders are reliably put together without omissions, even in cases involving complicated picking sequences.

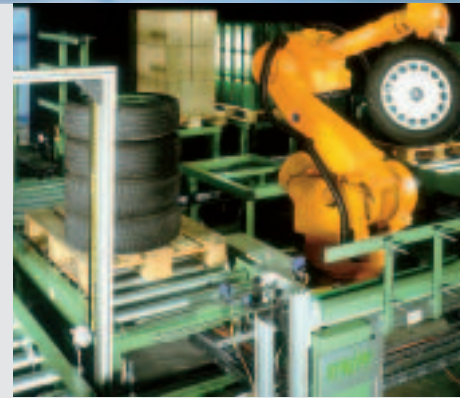
By the way ...

The new S 3000 safety laser scanner from SICK contains the combined applications expertise of many thousand installed PLS laser scanners (representing a total protective field area greater than that of the Canary Islands of Fuerteventura and La Gomera together). The new system offers users even shorter response times, longer scanning ranges and supplementary function modules.



Routinely handle everything quicker.
And reliably safeguard sales.

Those who want to give their undivided attention to sales figures also need a palletising system partner on whom they can rely absolutely. Product cycles are too short-lived, pallet loads are too varied, and general quality demands are too high to try to do without the support of reliable and intelligent sensor technology – SICK has what efficient palletisers need.



The LMS Laser Measurement System detects the position of packing units, and their levels on a pallet, in an automatic supply and palletising module for high-bay reception areas.

SICK sensors for palletising

- Sensors for controlling palletising robots
- Pallet and object detection
- Positioning of fork-lift trucks for pallet pick-up
- Object identification
- Protection of hazardous areas
- Protecting access
- The classification and measurement of object volumes, heights, widths, lengths and profiles



The M 4000 multiple light beam safety device protects access to a handling system.



Get everything into position smoothly.
And be prepared for new successes.


Operators of container ports will in future also have to adapt to growing international cost pressure. From the unloading to the transshipment of goods: the trend towards full automation is not just unmistakable, but also irreversible. SICK has developed optimally co-ordinated sensor solutions to ensure that neither safety, nor the goods, fall by the wayside. Cranes, goods vehicles and loading stations operate smoothly and reliably with our technology – even under hectic conditions.

SICK technology for container ports

- Checking the positioning of cranes and goods vehicles
- Determining container position with pin-point accuracy
- Detecting container contours and other objects
- Highly precise control of containers, loading stations and vehicles
- Monitoring vehicle and crane movements
- Checking rocking motion
- Monitoring loading and measuring volumes
- Preventing collisions for cranes and automated transport systems

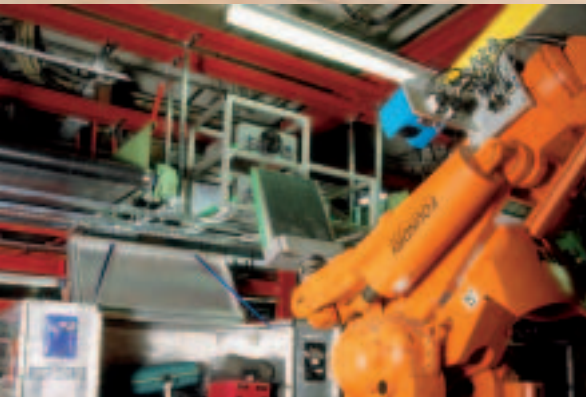
By the way ...

The POMUX KH 53 path measurement system from SICK-STEGMANN requires no reference run on plant start-up and offers extremely high functional reliability during operation. It is largely immune to environmental factors such as dirt, rain, ice or snow. It has an operating temperature range of -20 to $+85$ °C. The system is in use at numerous loading plants worldwide, e.g. at Hamburg's Altenwerder seaport, the first fully automatic container terminal of its type.



The LMS 200 Laser Measurement System allows more rapid and safer handling of containers at ports.

Get everything to its destination safely. And look forward to further growth.



Automatic loading control: LMS 200 Laser Measurement Systems detect whether, and where, there is still space in a loading container for luggage.



Reading systems with 10 CLV490 barcode readers and an OTC evaluation unit each are installed above a case sorter and identify the flight baggage.



Volume measurement and checking for projections with the LMS: the system allows fully automatic loading of aircraft and prevents potential damage to aircraft projecting containers.



Automatic baggage identification systems at automatic self-check-in counters

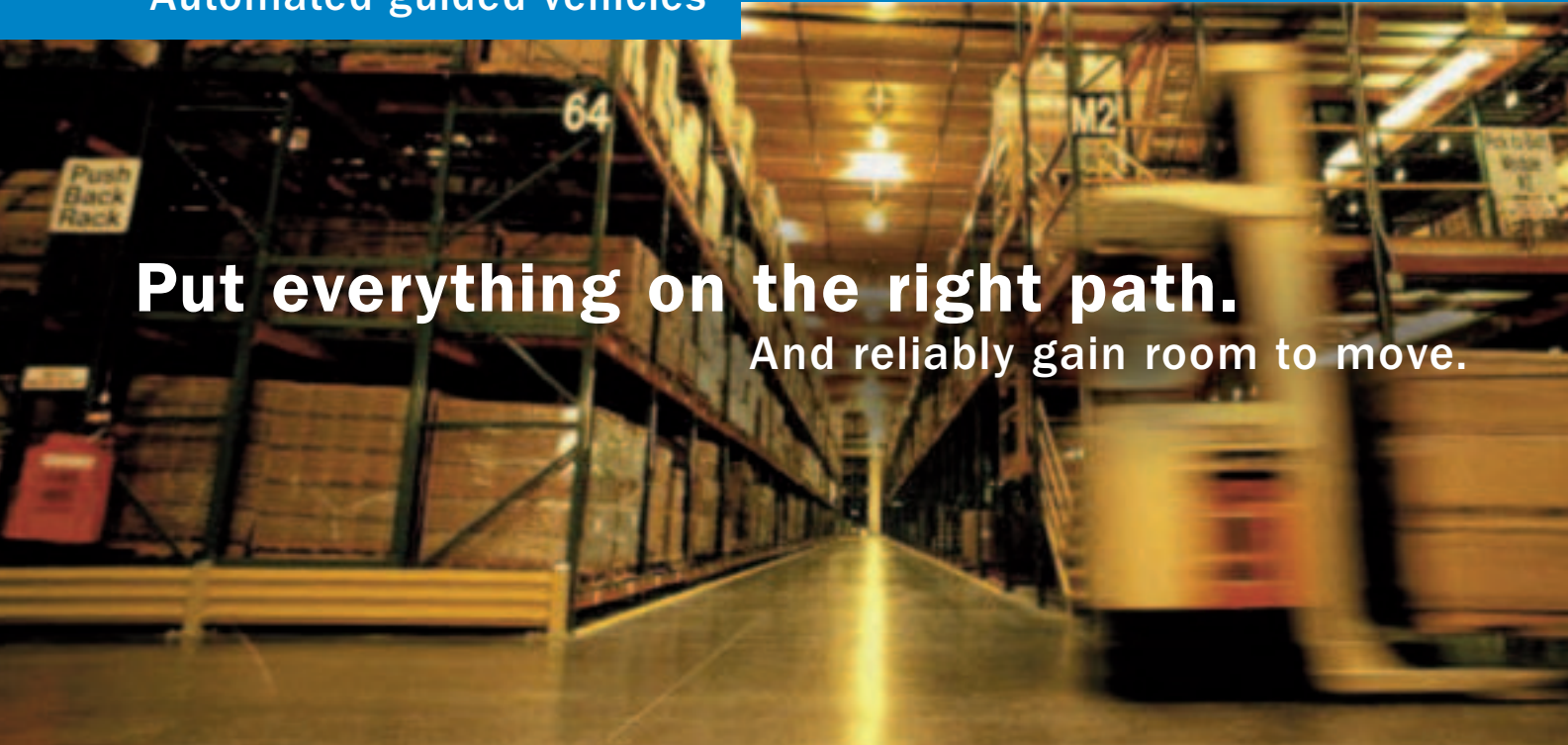
Rapidity with a high level of safety: designing efficient airports is one of the biggest challenges. Not only does the rapidly growing quantity of baggage and freight necessitate increasingly efficient technical solutions, rising numbers of passengers are also gaining in significance in airport logistics. Whether for identification, guidance or loading: SICK offers solutions that are simply indispensable for forward-looking airports.

SICK technology for airports

- Control of baggage movements on conveyor systems
- Omnidirectional reading of IATA baggage labels
- Fixed scanners and hand-held systems for automatic and manual identification
- Identification and classification of cargo containers
- Height and volume classification
- Assistance in guiding aircraft to their parking locations
- Monitoring aircraft position on leaving the parking location with the help of aircraft-movers
- Determination of visitor flows for building management control systems

By the way ...

Thanks to SMART code recognition technology, bar-code reading systems from SICK achieve read rates of 98 % and higher – even if bar-codes are misaligned, bent or damaged. This is one of the factors that has resulted in the worldwide use of ALIS (Airport Luggage Identification System) from SICK at airports including Frankfurt, Munich, London, Paris, Hong Kong or Vancouver, among others.



Put everything on the right path.
And reliably gain room to move.

The reliability of automated guided vehicles is not a question of trust, but of technical advantage. Whether a technology remains in step with a company with the necessary flexibility is demonstrated, in particular, by its ability to adapt. Versatile sensor innovations from SICK for AGVs can, however, do even more: they also enable their users to clearly increase their lead over the competition.



The S 3000 safety laser scanner is used here to protect a free-moving automated guided vehicle that transports small parts in boxes.

SICK sensors for AGVs

- Vehicle positioning and guidance
- Protection of the vehicle path with warning and protective fields
- Dynamic adaptation of protective fields
- Navigation control through measurement of vehicle position via reflectors
- Free navigation through measurement of vehicle's surroundings
- Destination guidance for pallet vehicles



The LMS Laser Measurement System for preventing collisions outdoors on trucks without drivers.

S 3000 laser scanners monitor the path of "giant" AGVs at a clay tile works.

Detect and identify everything reliably. And exploit the code to success daily.



Delivery accuracy is hardly possible without identification of goods and objects that is as unambiguous as possible. Those who expect maximum reliability here require sophisticated technology that is precisely co-ordinated to meet the particular task. Whether in postal and package distribution centres; during the transportation of goods by road, rail or air; and wherever logistical processes in the supply chain require monitoring: SICK offers a wide range of intelligent reading and volume measurement technology.



A consistent data capture system must be implemented for the accurate control of the supply chain. SICK hand-held scanners offer a solution for many applications.

SICK technology for identification

- Components and reading systems for all common bar-code standards
- Omnidirectional reading of bar-codes and 2-D codes for reliable data capture
- Volume measurement (calibrated in compliance with OIML R129) for packages and irregularly shaped objects
- Wireless and cable-connected hand-held reading devices
- Height measurement for packages and pallets
- Volume classification of goods; identification of goods profiles



Powerful scanner systems are required for the automatic identification of packages and other objects on conveyor systems with high transport speeds. Modular OMNI-reading gates with CLV490 bar-code scanners ensure reliable code reading for single- and multi-sided applications.

By the way ...

If desired, sensor and scanner systems supply more data than many think possible. Code readers and volume measurement systems can be integrated in the conveyor plant if, for example, further information is required in addition to the orientation of individual packages. Address data can thus be detected for the sorter control system. Volume data, on the other hand, ensure economically optimum utilisation of conveyor systems. In combination with weighing devices, such data can be used to check whether the transport fee quoted is actually correct (revenue recovery).

Everything from a first-class company.

And all for the best for you, too.

Worldwide, the name SICK is synonymous with high-quality sensors. In order to live up to this reputation, a wide variety of services guarantee that SICK sensor solutions operate reliably and effectively – at all times and in all places. With competence and quality we ensure maximum availability and cost-effective use of our products and system solutions.



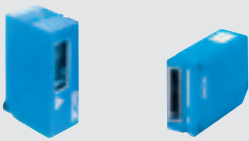
Everything for your precise solutions.

And for opening up new market potentials.

Many of our sensors offer a range of functional possibilities and can be used for a variety of tasks. They can be individually integrated in existing system environments and thus offer you optimum applicability, made-to-measure to meet your needs.

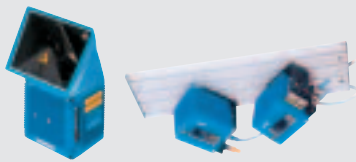
Identification

Bar-code scanners



CLV 430
Code reading with SMART identification for medium scanning ranges
ICR 850
For reading 2-D codes

Omnidirectional bar-code reading systems



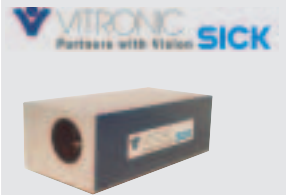
CLX 490
Compact OMNI-scanner
OPS Systems
Modular portal systems

Hand-held scanners



IT 3800
Robust hand-held scanner based on CCD
IT 3875
Mobile data capture terminal with keyboard and display
IT 4600
For reading 2-D codes

Camera systems



Vitronic
Camera systems for 1-D, 2-D codes as well as OCR and telecoding applications

Positioning

Photoelectric switches



W 18-3



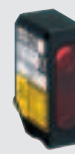
W 24-2



W 27



W 100



W 190



W 260

Photoelectric switches



MH 15



WTR
Special photoelectric switch



ZLM
Zone Logic Module

Positioning

Ultrasonic sensors



UM 18
Ultrasonic checking of double sheets



UM 30
Ultrasonic proximity sensor

Encoders



ATM
Multiturm encoder



ARS
Single-turn encoder



BTF and PRF
Wire-draw encoder

Linear encoders



POMUX
Absolute encoder

Position finder



DMP
Position finder

Laser scanners



LMS 200
Laser Measurement System for medium and long scanning ranges

Inductive, capacitive, magnetic sensors



IM 18
Inductive proximity sensors



IQ 40



CM 30
Capacitive sensors



MZT6/RZT6
Magnetic cylinder sensors

Sorting

Vision sensors



ICS 100
Intelligent Camera Sensor



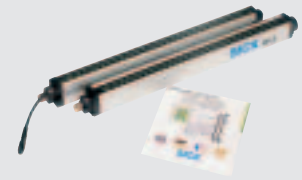
CVS 2
Color Vision Sensor

Color sensors



CSM 1

Automation light grid



MLG

Measurement

Volume measurement systems



VMS 520
Can be calibrated in compliance with OIML R129

Distance sensors



DME 3000
Distance measuring device



DME 5000
Distance measuring device



DT 500
Distance measuring device



DMT
Distance measuring device

Laser measurement systems



LMS 400



LD OEM

Protection

Laser scanners



S 3000
Safety laser scanner

Light curtains



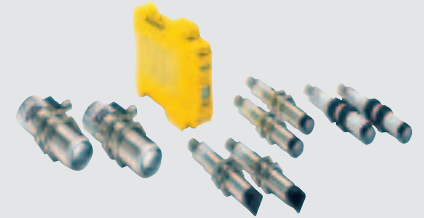
C 4000/M 4000
Safety light curtains

Safety switches



i 110 RP

Single-beam photoelectric switches



L 4000-System

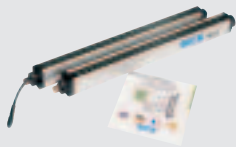
Picking transmission

Laser scanners



LMS

Automation light grid



MLG

Hand-held scanners



IT 3800
Robust hand-held scanner based on CCD
IT 3875
Mobile data capture terminal with keyboard and display
IT 4600
For 2-D reading

Data

Data transmission systems



ISD 300
Data transmission photoelectric switch

Collision prevention

Laser measurement systems



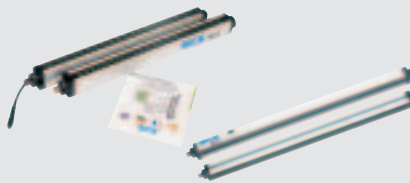
LMS
LMS Laser Measurement System

Laser scanners



S 3000
Safety laser scanner

Automation light grids



MLG

ELG

Navigation

Laser scanners



S 3000
Professional CMS



NAV 200
Laser positioning system

Integration

SICK sensors are open for all common bus systems





Our complete range of sensors provides answers to suit any application in the field of automation. Even under rugged ambient conditions objects are reliably detected, counted and positioned in respect of their form, location and surface finish, as well as their distances established with pin-point accuracy.



Comprehensive safeguarding of both personnel and machinery! As specialists in Sensor Technology, SICK develops and manufactures pioneering products for providing protection in hazardous zones, dangerous locations and for safeguarding access points. By providing services, which encompass all aspects of machine safety and security, SICK is setting new standards in Safety Technology.



System control, maintaining setpoints, optimising process control and monitoring the flow of materials – the instruments and services for Analysis and Process Measurement, supplied by SICK-MAIHAK, are setting the standards for these applications in terms of Technology and Quality.



Whether the tasks involve identification, handling, classification or volume measurement, innovative Auto Ident systems and laser measuring systems function extremely reliably, even under rapid cycle times. They conform to the latest Standards and can be simply and speedily integrated in all industrial environments and external applications.

SICK Sensor Intelligence.

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