Efficient Solutions for the Printing Industry

Achieving more with intelligent sensors

SICK
Sensor Intelligence.

The all-in-one provider for complex applications

For top production performance

As a leading developer and manufacturer of intelligent sensor technology worldwide, SICK plays a vital role in the optimization of industrial processes – throughout the world.

From photoelectric sensors to high-tech safety applications – our solutions help provide safe, fast and cost-effective production.
Our mission is to optimize the quality of our sensors continuously in order to prevent machine failures and reduce downtime.
Fast conversion times increase productivity, which is always our primary goal in the development of our sensor solutions.
SICK stands for automation and benefits from decades of practical experience and expertise in just about every industry – this is what Sensor Intelligence is all about.

Photo: KBA, Würzburg

Photo: KBA, Würzburg

Title photo: KBA, Würzburg

Photo: KBA, Würzburg

Photo: KBA, Würzburg

Photo: KBA, Würzburg

Contents

We deliver Sensor Intelligence.

SICK sensor solutions for industrial automation are the result of exceptional dedication and experience. From development all the way to service: The people at SICK are committed to investing all their expertise in providing with the very best sensors and system solutions possible.

A company with a culture of success

Approximately 5,000 people are on staff, with products and services available to help SICK sensor technology users increase their productivity and reduce their costs. Founded in 1946 and headquartered in Waldkirch, Germany, SICK is a global sensor specialist with more than 50 subsidiaries and representations worldwide. Our exemplary corporate culture fosters an optimum work-life balance, thus attracting the best employees from all over the world. SICK is one of the best employers – we have been among the winners of the prestigious German "Great Place to Work" award for many years in succession.

Innovation for the leading edge

SICK sensor systems simplify and optimize processes and allow for sustainable production. SICK operates thirteen research and development centers all over the world. Co-designed with customers and universities, our innovative sensor products and solutions are made to give a decisive edge. With an impressive track record of innovation, we take the key parameters of modern production to new levels: reliable process control, safety of people and environmental protection.

A corporate culture for sustainable excellence

SICK is backed by a holistic, homogeneous corporate culture. We are an independent company. And our sensor technology is open to all system environments. The power of innovation has made SICK one of the technology and market leader – sensor technology that is successful in the long term.

Sensor Intelligence for all requirements

SICK is a renowned expert in many industries, and is entirely familiar with the critical challenges they face. While speed, accuracy and availability take center stage in all industries, technical implementations vary greatly. SICK puts its vast experience to use to provide with precisely the solution you need.

For applications worldwide

Hundreds of thousands of installations and applications go to prove that SICK knows the different industries and their processes inside out. This tradition of uncompromising expertise is ongoing: As we move into the future, we will continue to design,

implement and optimize customized solutions in our application centers in Europe, Asia and North America. You can count on SICK as a reliable supplier and development partner.
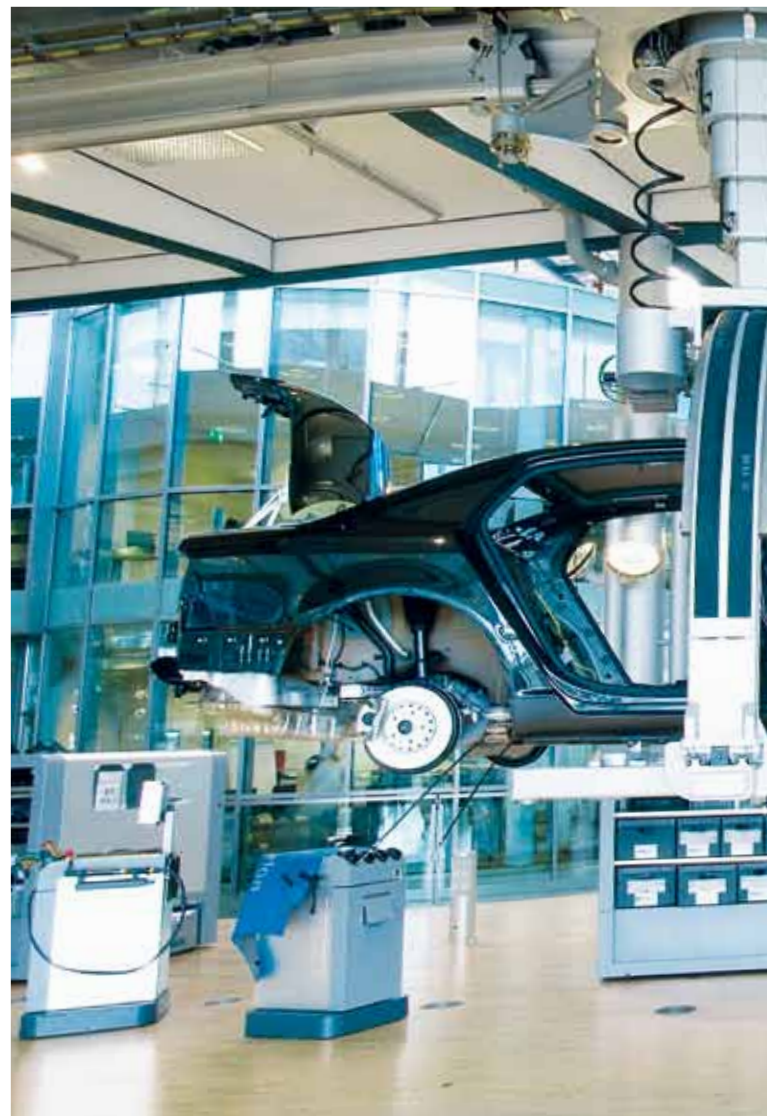
For your specific industry

With a track record of proven expertise in a great variety of industries, SICK has taken quality and productivity to new heights. The automotive, pharmaceutical, electronics and solar industries are just a few examples of sectors that benefit from our know-how. In addition to increasing speed and improving traceability in warehouses and distribution centers, SICK solutions provide accident protection for automated guided vehicles. SICK system solutions for analysis and flow measurement of gases and liquids enable environmental protection and sustainability in, for example, energy production, cement production or waste incineration plants.

For performance across the board

SICK provides the right technology to respond to the tasks involved in industrial automation: measuring, detecting, monitoring and controlling, protecting, networking and integrating, identifying, positioning. Our development and industry experts continually create groundbreaking innovation to solve these tasks.

www.sick.com/Industries

For safety and productivity:
SICK LifeTime Services

SICK LifeTime Services is a comprehensive set of high-quality services provided to support the entire life cycle of products and applications from system design all the way to upgrades. These services increase the safety of people, boost the productivity of machines and serve as the basis for our customers' sustainable business success.

Benefit from an array of services

Each of our products and solutions is accompanied by a comprehensive range of services tuned precisely to the requirements of the product or solution – along its entire life cycle. Backed by extensive industry know-how and more than sixty years of experience, LifeTime Services stand for maximum availability and an exceptional service life of our products and solutions.

Training & Education

- User training
- Seminars
- WebTraining

Product & System Support

- Commissioning
- Spare parts and repairs
- Remote support
- Hotline

Verification & Optimization

- Barcode checks
- Consulting/Engineering service
- Inspection
- Maintenance
- Accident analysis
- Stop time measurement
- Noise measurement

Consulting & Design

- System inspection
- Risk assessment
- Safety concepts
- Feasibility studies
- Software and hardware design

Upgrade & Retrofits

- Machine conversion
- Sensor upgrades
- Sensor replacements
- Retrofitting of technology

www.sick.com/service

Challenges for the printing industry

In focus: optimized processes for a measurable increase in success

The demands in the printing industry are diverse and exacting. Fast, safe and efficient production processes are indispensable for high productivity in the pre-press, press and post-press fields. SICK offers a variety of perfected products and complete system solutions to achieve optimized production results. As the worldwide leading developer and manufacturer of intelligent sensor technology, SICK has extensive, expert knowledge from many years of experience in factory, logistics and process automation. For optimized processes along the added-value chain in the printing industry, partner with SICK.

Safety

Access and hazardous point protection plays an important role when delivering material to the pre-press area and moving it on to the post-press area. In the area of the machine, the protective devices not only safeguard the hazardous points at punches, cutters or roll changers - they also optimize the production process. SICK's wide product portfolio provides mature solutions for all requirements.

Quality control

SICK offers the matching solution for all quality control applications: fast, precise sensors from SICK produce first-class printing quality. Cameras monitor a print image or punched contours, prevent production of incorrect sheets and check the safety features. Contrast and luminescence sensors evaluate the adhesive coating for gluing and binding machines.

Photo: Fa. August Faller KG

Track & Trace

Supply parts, such as rolls or stacks of paper, are identified without omissions and introduced to the production process. After checking the delivery, proof of shipment is archived. Paper handling machines come equipped with code reading systems to ensure Track & Trace functionality for mass mailings and letters. SICK offers ideal solutions for the entire process.

Flexible automation

"Print on demand" is the latest trend. The demand for special, smaller volumes with shorter delivery times is increasing rapidly. For production, this entails shorter conversion times, simple operation, less downtime and a high diagnostic capability with minimum material waste. Modern, intelligent sensors from SICK save the settings with automatic teach-in, have a diagnostic capability and thereby contribute significantly to providing a solution to these tasks.

Sensor solutions for the printing industry

Prepress

Press

Postpress

1

2

3

4

6
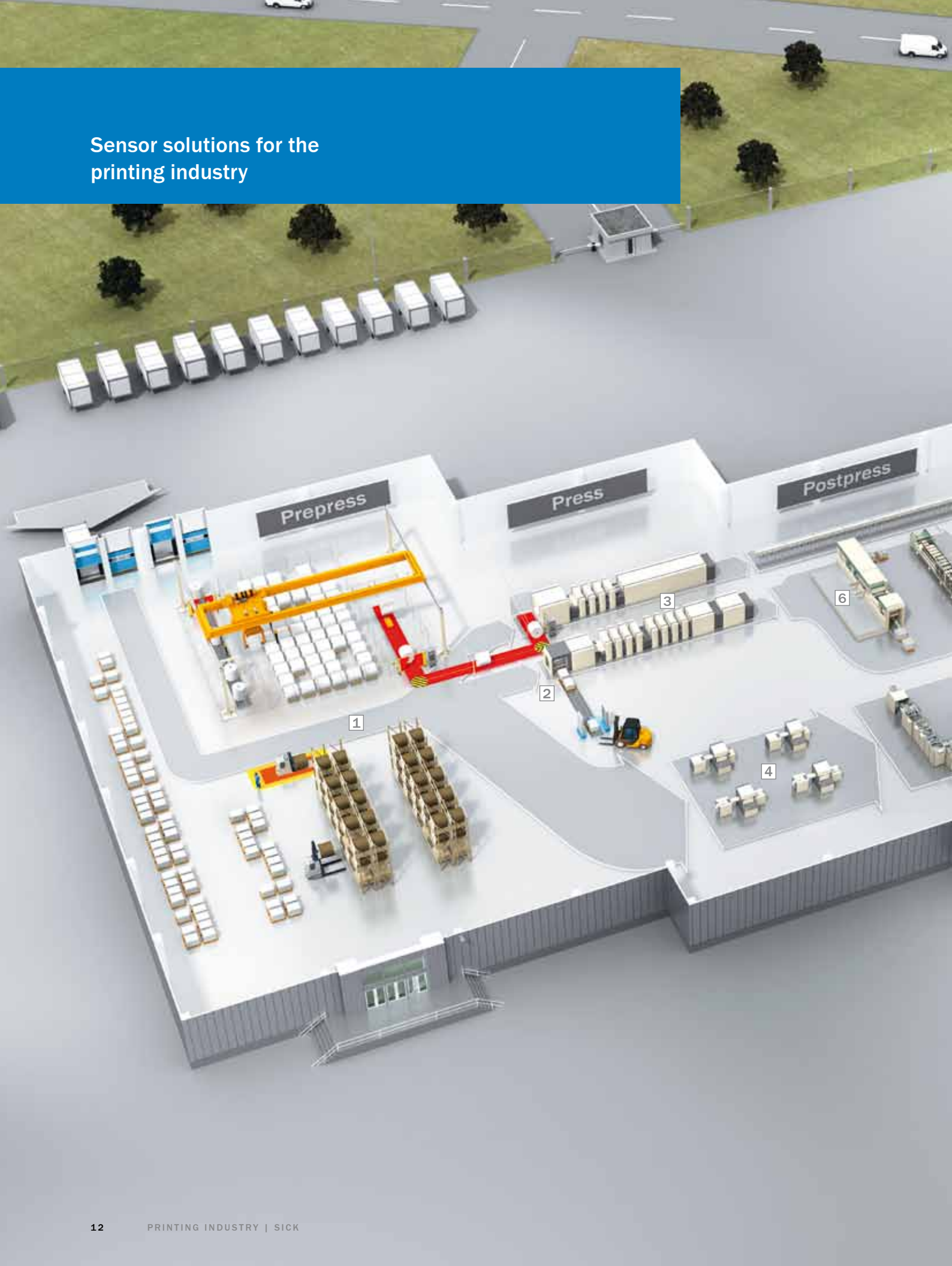
The following pages contain example applications to demonstrate the use of SICK products in different phases of production.

Focus 1
Prepress: paper handling and transport

Access protection

The M4000 multiple light beam safety device safeguards access to the crane loading station. WL18-3 small photoelectric sensors differentiate between person and paper roll and mute the system accordingly. The Flexi Soft safety controller connects the reset pushbutton, the ES21 emergency stop pushbutton and all other safety components.
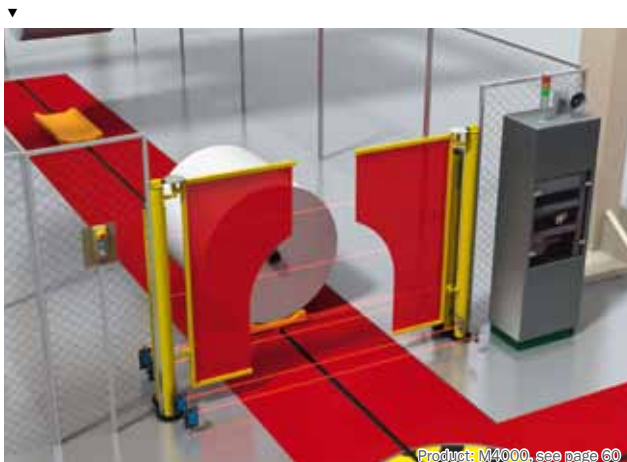
Personnel and plant safety

Safety is the highest priority in automated transport processes. S3000, S300 or S300 Mini safety laser scanners are used where flexible and efficient personnel and plant safety is a must. This provides economic and customized solutions to satisfy the requirements for automated guided vehicles (AGVs).

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Product: M4000, see page 60

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Product: S300 Mini, see page 57

Shelf assignment

The CLV650 bar code scanner reads the bar code at the shelf and delivers the data to a central computer. This assigns the corresponding path to the automated guided vehicle (AGV) to incorporate the paper roll into the production process as scheduled. The autofocus function in real time achieves a greater depth of field. This enhances the scan rate. The EcoLine wire draw encoder measures the lifting height at the AGV, while the AFS/AFM60 SSI absolute encoder takes care of steering control.

Product: CLV650, see page 45

## Omni-directional identification of paper rolls

Two CLV650 bar code scanners are mounted to project the laser lines crosswise onto the bar code. Combined with the real-time autofocus function, an omni-directional read ensures the highest performance.
The WL18-3 small photoelectric sensor uses a trigger signal to activate the bar code scanner.
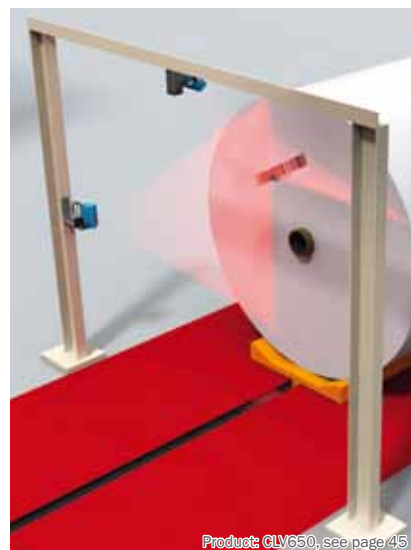
Product: CLV650, see page 45

Identifying paper stack

The pallets have transponders attached that contain all the data required for unique identification of the paper stack.
The RFU63x interrogator detects this data and forwards it to the control center. This ensures that the paper stack enters the production process correctly.
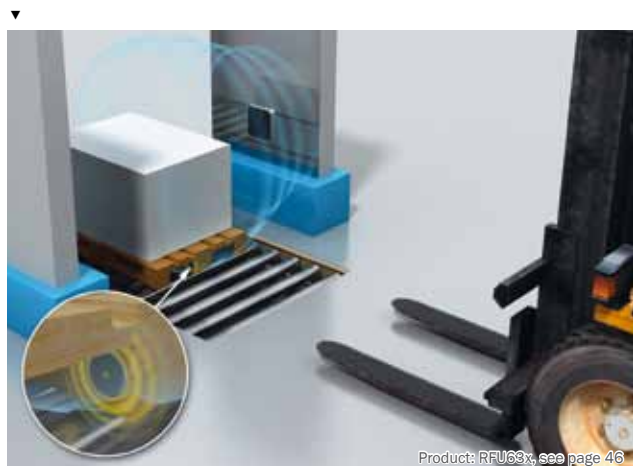
Product: RFU63x, see page 46

Web and position detection for paper rolls

It is necessary to detect the position of the paper rolls over the entire production process and measure the path traveled.
Accuracy and immunity against external influences are special characteristics of the OLM100 linear measurement sensor. Mounted in the underfloor conveyor system, it becomes practically invisible and does not interfere at any point in the production process.
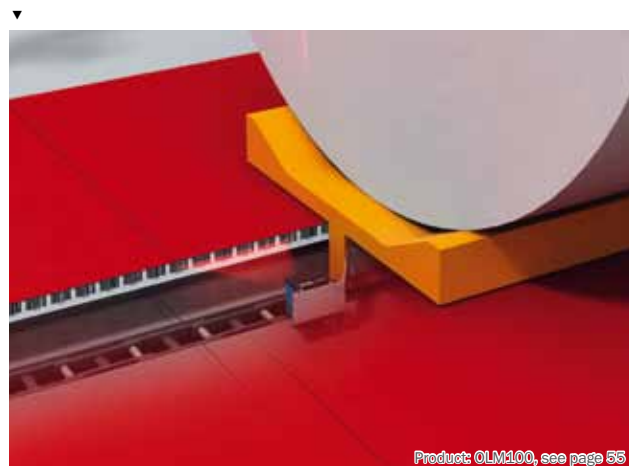
Product: OLM100, see page 55

Focus 2
Prepress: paper feed

Area monitoring

The C4000 safety light curtain detects the paper roll as a closed contour (in contrast to a worker) and enables access to the safety area. All safety components are connected to the Flexi Soft safety controller. This safely deactivates the machine (when a worker enters the hazardous area, for example).

Slack regulation on winders and unwinders

Dx50 or Dx35 distance sensors measure the depth of the paper slack on the winders and unwinders.
This optimizes the paper flow and prevents tearing in extreme cases.

Product: C4000, see page 59
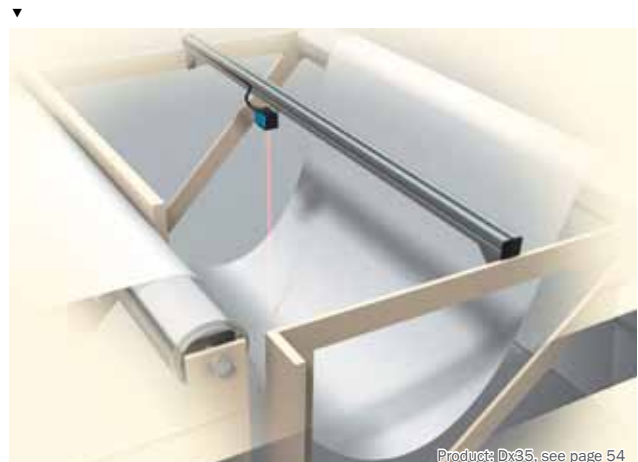
Product: Dx35, see page 54

Positioning the paper stack
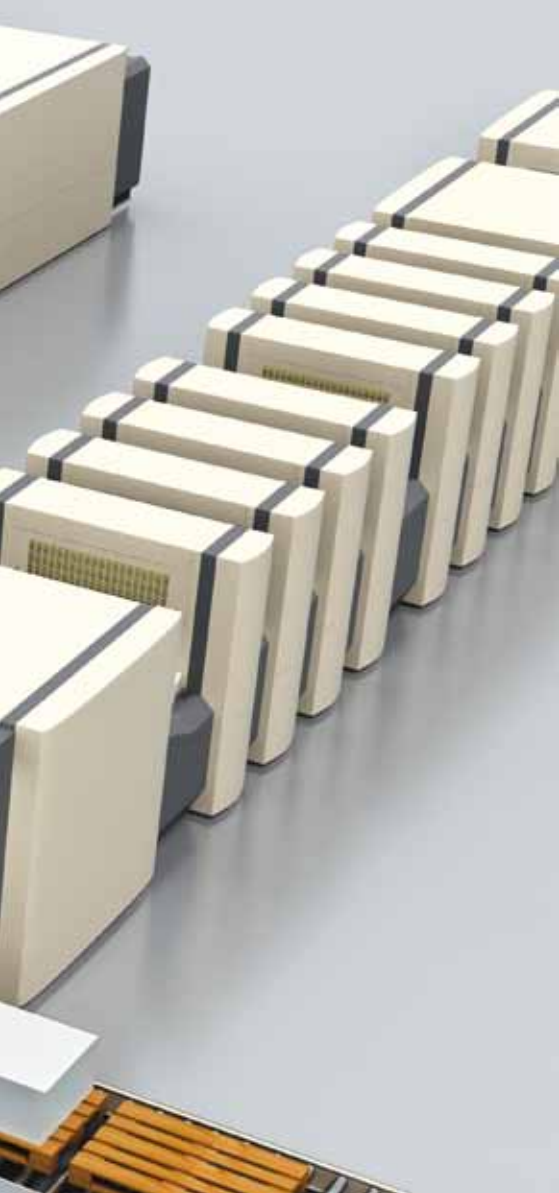OD Value, Dx50 or Dx35 distance sensors ensure precise side positioning of the stack at the feeder, depending on the application details. This guarantees accurate positioning when removing the paper sheets.

Product: OD Value, see page 53

Measuring the diameter of the paper roll
The Dx50 distance sensor reliably measures the diameter of the roll. Before the end of the roll is reached, it initiates the roll change process.
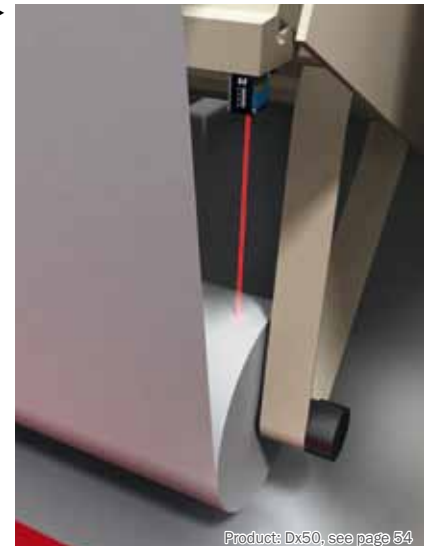
Product: Dx50, see page 54

Hazardous point protection for paper stack feeding
The L21 single-beam photoelectric safety switches and mirror columns provide simple, tailor-made protection for the paper feed. They ensure that personnel cannot crawl beneath the lifting device or sit on it.

Product: L21, see page 60

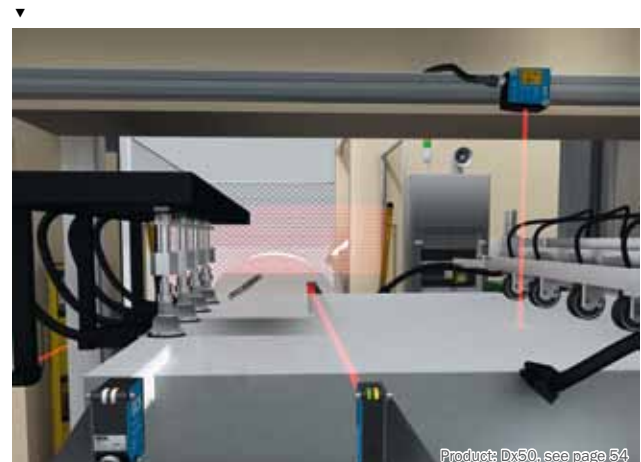**Measuring the height of the paper stack**
Using the Dx50 distance sensor at the top or on the side, the Ax20 array sensor can measure the height of the paper stack in the paper feeder.
If the height of the paper stack is to be detected at only one point, W9-3, W12-3 or W18-3 small photoelectric sensors that supply a digital switching signal provide the optimal solution.

Product: Dx50, see page 54

Focus 3
Press: paper guide
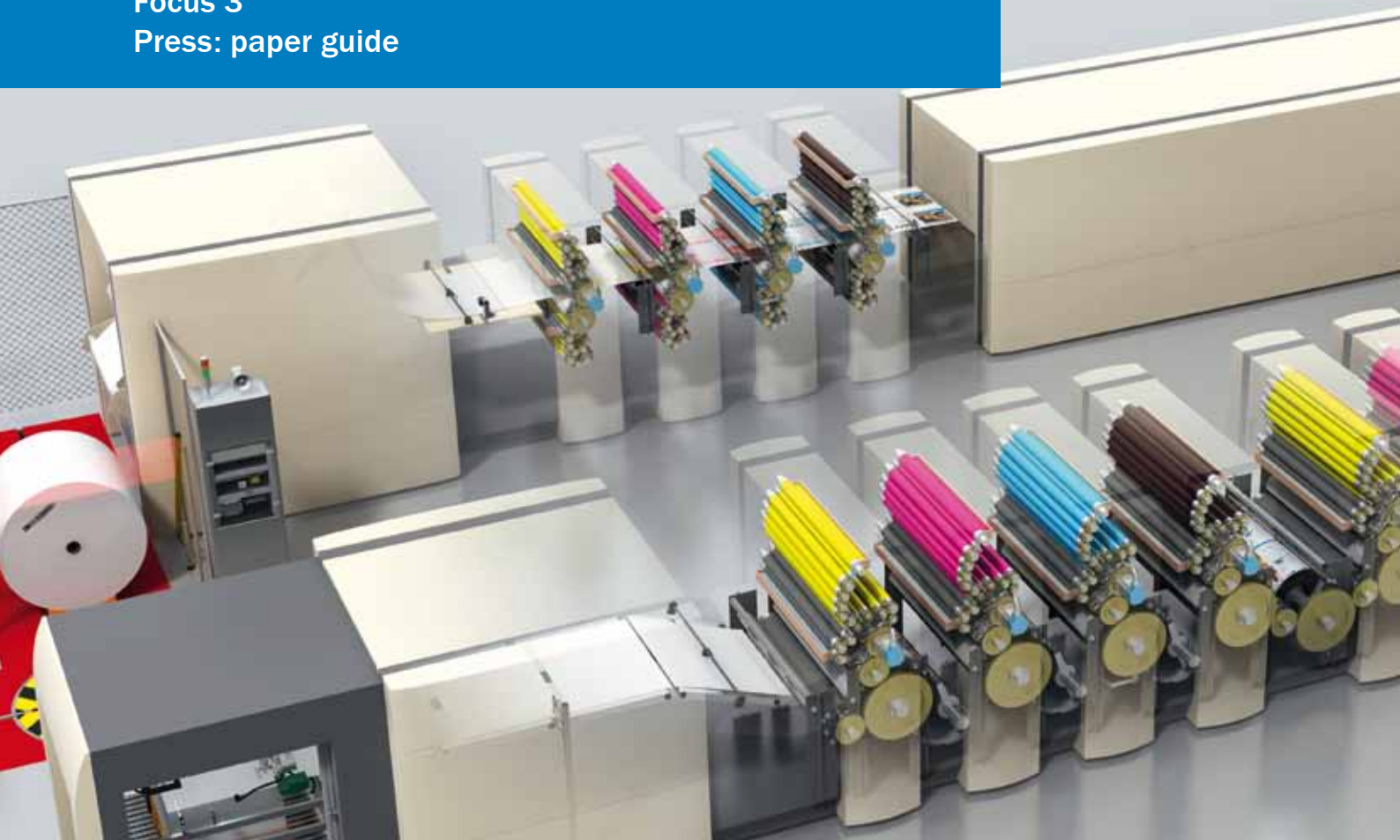
Presence check for paper

WT4-3, WT9-3, WT12-3 or WT18-3 miniature or small photoelectric sensors reliably detect the presence of a print sheet or paper sheet regardless of their colors. They forward this information to the controller of the printing machine in the form of a control signal. This allows detection of a non-synchronous paper feed and monitors the correct paper flow.
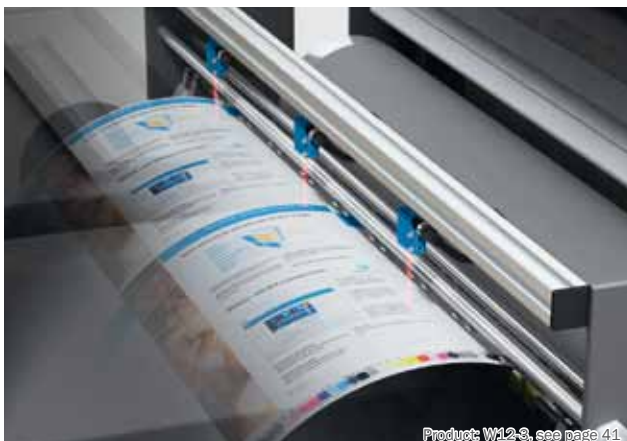
Triggering with fork sensors

WF or WFS fork sensors detect affixed labels extremely fast and accurately. In addition to their use in counting functions, this makes them ideal for deriving machine cycles and trigger functions for cutting, punching or folding processes.

UF3 fork sensors that operate according to the ultrasonic principle are available for highly transparent labels.

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Product: W12-3, see page 41

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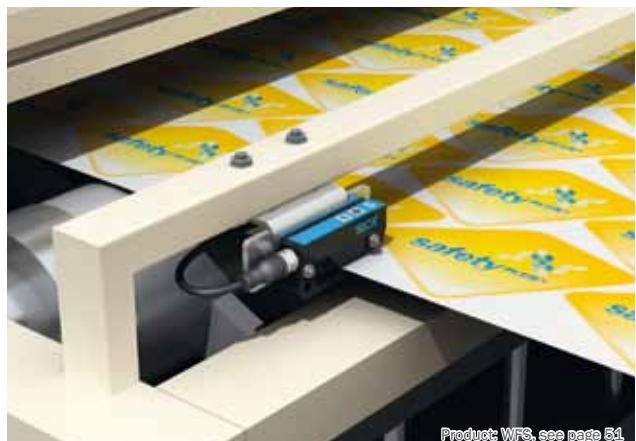
Product: WFS, see page 51

Paper tear monitor

The WT4-3, WT9-3 or WT12-3 miniature and small photoelectric sensors detect paper tears fast and reliably. Equally important is the absolutely reliable detection of the paper web, even with varying surface reflections. This prevents unnecessary machine downtime. Background suppression ensures that the rear web has no impact on the paper tear check of the front web.

Product: W9-3, see page 41

Controlling the print head on ink jet printers

Certain digital printing machines fire individual ink droplets onto the paper per drop-on-demand and with the highest accuracy. The DFS60 incremental encoder uses a measuring wheel to detect the speed of the paper web. Its resolution of up to 65,536 pulses per revolution provides fast and high-precision control for this process. These encoders also control continuous ink jet printers.

Product: DFS60, see page 63

Web edge control

The optical paper edge detection system is capable of regulating a web with an accuracy of approximately 50 μm. The AT20 array sensor works according to the scanning principle and therefore does not require a reflector. Mounted above the paper web, it is not susceptible to contamination. For sophisticated applications (transparent films, for example), it is also possible to use the AL20 array sensor with a reflector.
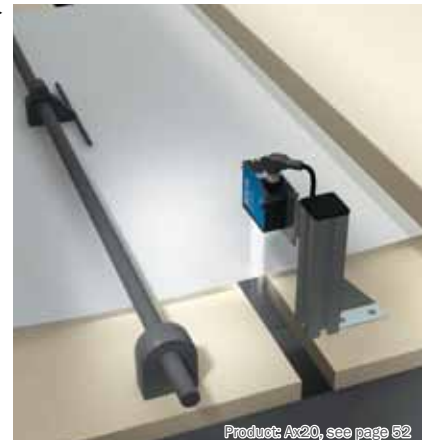
Product: Ax20, see page 52

Detection of paper edges

WT4-3, WT9-3 or WT12-3 fast miniature and small photoelectric sensors use a precise light spot to detect the positions of the paper front and back edges, regardless of the color of the paper. This determines the length of the paper sheet precisely and eliminates any background disturbances.

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Product: W9-3, see page 41

Double-sheet detector

UM18 ultrasonic sensors reliably check whether a paper sheet is present in the paper feeder. Double or missing sheets cause the printing process to stop. Ultrasonic technology ensures that the detection is independent of the sheet material (fine paper, transparent rolls, cardboard and metallic film, for example).

Product: UM18, see page 55

Focus 4
Press: print control and monitoring
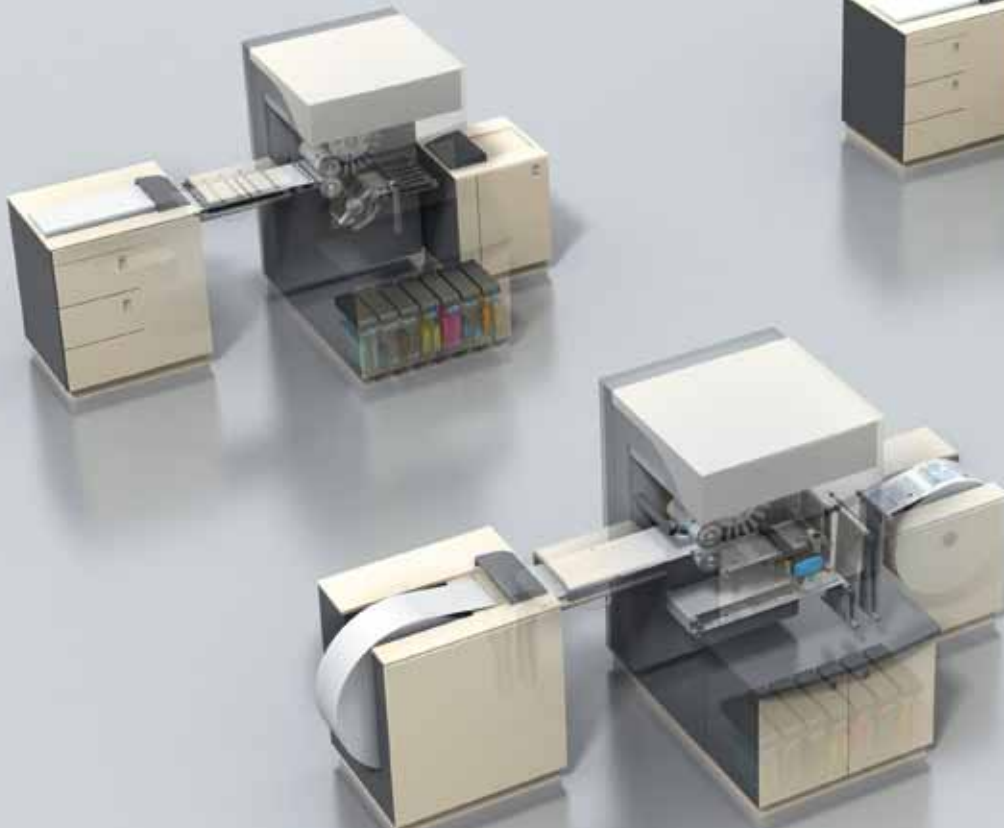
Sensors for register control

RS10 register sensors quickly and accurately measure the different-colored triangular marks attached to the paper web. This ensures the highest-precision control of the side and length registers of the printing unit.
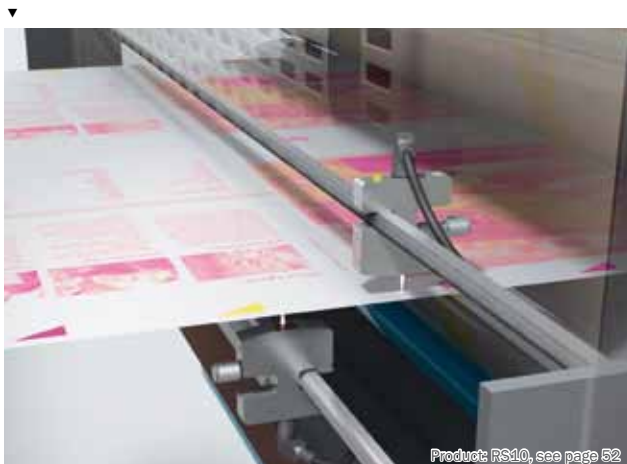
Sensors for register control in ATEX areas

RS25 register sensors are used to detect triangular marks in an explosive area (ATEX). The sensor head connects to an evaluation unit via a fiber-optic cable.
This intelligent system operates with RGB light so that it can also identify optically critical marks. The Ethernet Powerlink interface provides enhanced ease of use in real time.

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Product: RS10, see page 52

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Product: RS25, see page 53

Process synchronization

To optimize the printing process, it is essential to synchronize the servo drives, machine controller and actual paper web. The high-performance SRS/SRM50 motor feedback systems with a resolution of 32,768 steps per revolution guarantee the optimal print image. The HIPERFACE® DSL interface integrates communication into the motor cable. This saves one connector and enables condition monitoring of the servo drive.

Product: SRS/SRM50, see page 64

Contrast mark detection

Fast, precise KT3, KT5, KT8 or KT10 contrast sensors have multi-colored light sources, such as RGB, white light or laser. They detect colors from very faint to high-gloss qualities. The contrast sensors have conventional interfaces, making them ideal for integration in all important industrial networks.

Product: KT3, see page 47

Toner fill level detection

CQ28 and CQ35 capacitive proximity sensors detect the fill level of the toner through the plastic wall. This ensures that the fill level is always within a defined minimum and maximum level. Depending on the material of the toner housing, measurement from above using UP56, UC4, UC12 or UM18 ultrasonic sensors is the ideal solution.

Product: CQ28, see page 43

Sheet alignment

The AT20 array sensor detects the position of a sheet edge and supplies an analog signal that is proportional to this position. This enables control of the sheet position and sheet travel with an accuracy of 50 µm.

Product: Ax20, see page 52

Incorrect sheet monitoring

The Inspector vision sensor or LECTOR®62x image-based code reader compares each print image with the taught pattern. This allows correction of position offsets, reliable detection and if necessary discharge of incorrect sheets.
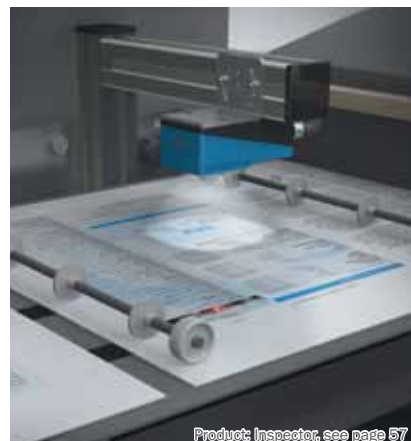
Product: Inspector, see page 57

Focus 5
Postpress: paper and document handling

Identifying 2D codes

The LECTOR®62x image-based code reader identifies 2D codes on letters and mass mailings even at high transport speeds. This enables detection and sorting of individual mailings and thus guarantees comprehensive proof of shipment.

Detection of print marks

The KT8 or KT10 contrast sensors also detect narrow print marks precisely and very fast. This initiates further processes, such as perforation or folding at the correct position. The OMR codes (Optical Mark Recognition) control the insertion machine.

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Product: LECTOR®62x, see page 45

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Product: KT10, see page 49

Copy counting

The WTD20 detects letters and leaflets in the shingled stream. Detection is independent of the color and surface and of the thickness of the envelopes and leaflets. This allows non-contact, wear-free and reliable counting.

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Product: WTD20, see page 42

Contour detection

The Inspector vision sensor compares one section of the image with a taught reference pattern. This way, incorrect documents are reliably detected.

▶

Product: Inspector, see page 57

Leading edge detection and presence checking

WT2, WT4-3, WT9-3 or WT12-3 miniature or small photoelectric sensors reliably detect the position of the leading edge regardless of the colors. Background suppression minimizes faults. A reliable check is performed subsequently to establish that the document is present. This controls the correct handling process.

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Product: W4-3, see page 40

Stamp monitoring

The CS8 color sensor securely and reliably checks that the taught red stamping is present and legible.

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Product: CS8, see page 49

Identifying 1D codes

Easy operation with high reading performance and enhanced depth of field are the characteristic features of the compact CLV5xx and CLV6xx bar code scanners. This enables detection and sorting of individual mailings.

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Product: CLV5xx, see page 44

Focus 6
Postpress: cutting and punching
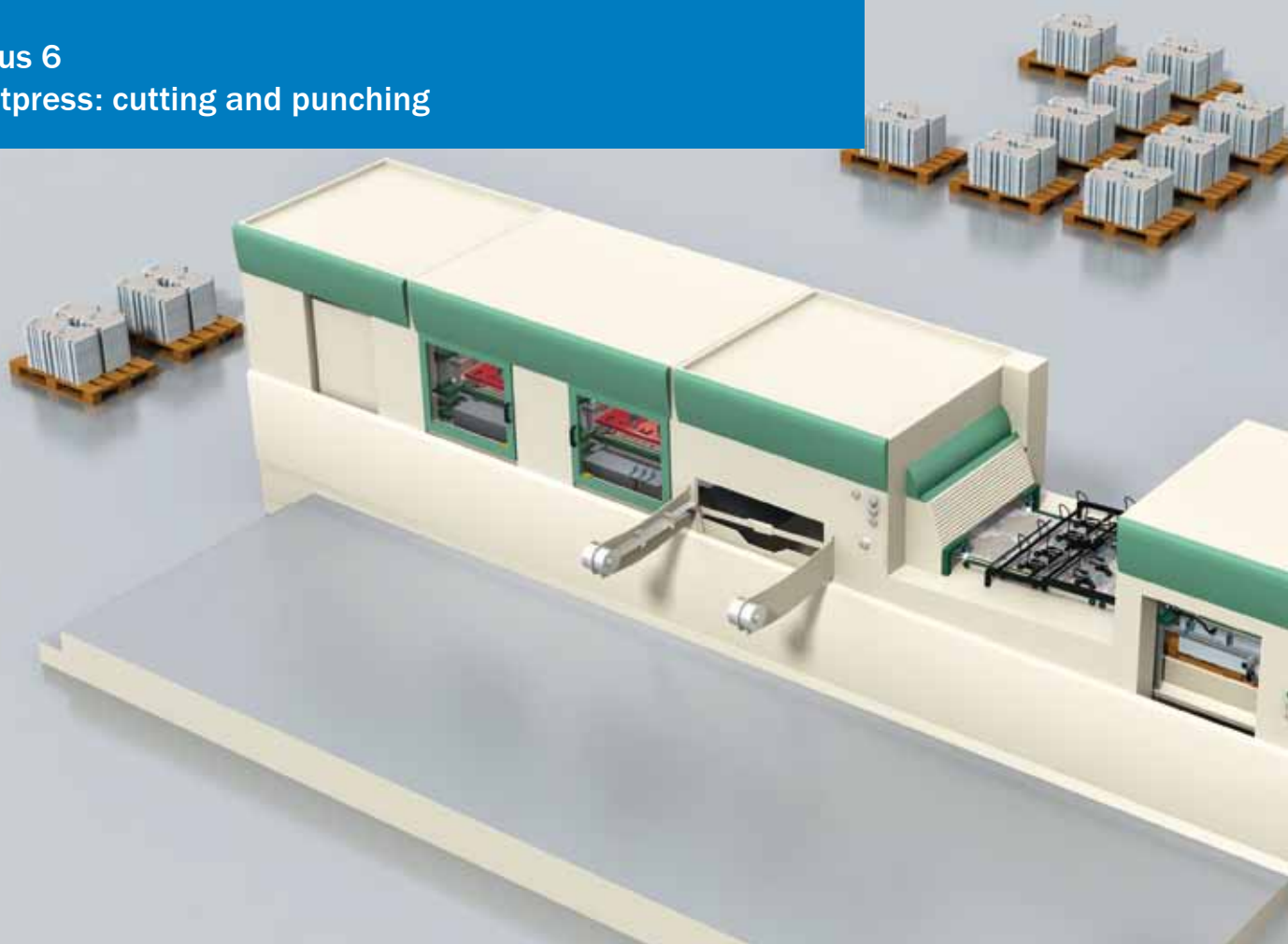
Access protection at punching machines

M4000 multiple light beam safety devices safeguard the access to the feeder of the punching machine. The transmitter and receiver are located on one side in the same housing. The opposite housing accommodates only zero-current passive components such as a deflector mirror and mechanical parts. The savings in cabling reduces installation work. The Flexi Classic safety controller safely deactivates the machine in the event of a hazard.

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Product: M4000, see page 60

Stack positioning

OD Value or Dx50 distance sensors continuously measure the side position of the paper stack while it is moving into the target position. The Ax20 analog array sensor can measure the height of the stack. If the height of the paper stack is to be detected at only one point, W9-3, W12-3 or W18-3 small photoelectric sensors that supply a digital switching signal provide the optimal solution.

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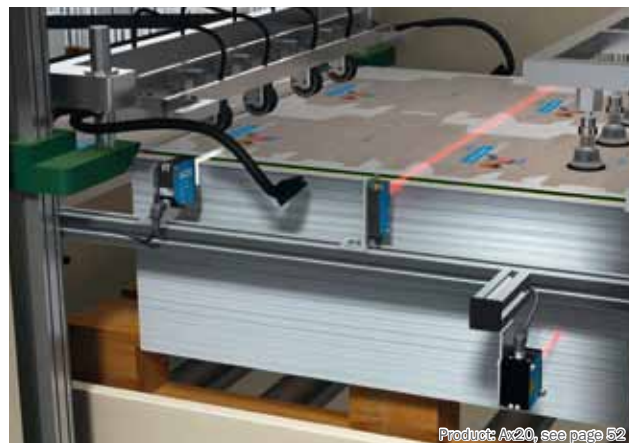
Product: Ax20, see page 52

Hazardous point protection for cutting machines

The miniTwin safety light curtain has no blind zone and offers new safety potential, while replacing a mechanical protective hood. The easy-to-configure Flexi Classic safety controller allows connection of safety components to deactivate the machine in the event of a hazard.
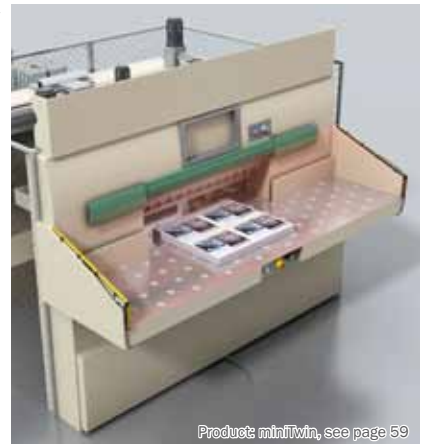
Product: miniTwin, see page 59

Identification of codes in paper stack processing

Format changes are frequent during punching and cutting processes. Using 1D and 2D codes to identify the order ensures that the correct settings are available fast and reliably. Format adjustment takes place automatically. The solution utilizes the new generation of image-based code readers such as the LECTOR®62x or a bar code scanner from the CLV6xx product family.
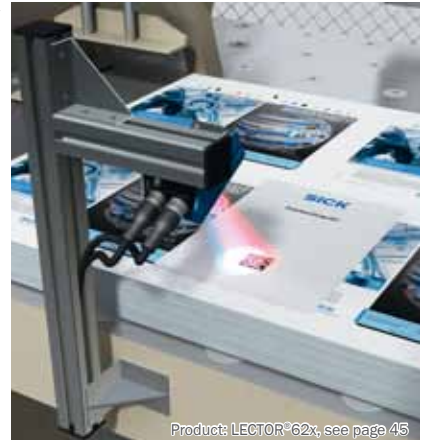
Product: LECTOR®62x, see page 45

Sheet presence and punch monitoring

WT4-3, WT9-3, WT12-3 or WT18-3 miniature or small photoelectric sensors reliably detect the presence of the punched sheets, regardless of color.

WL12-3 small photoelectric sensors below the sheet check whether the punched edges are cut off accurately and have dropped down.

Product: W12-3, see page 41

Monitoring of protective doors

RE27 non-contact safety switches monitor all doors that have a protective function. In conjunction with the Flexi Soft safety controller, they ensure that the machine cannot start if a door is opened, or if it is already running, that it stops.
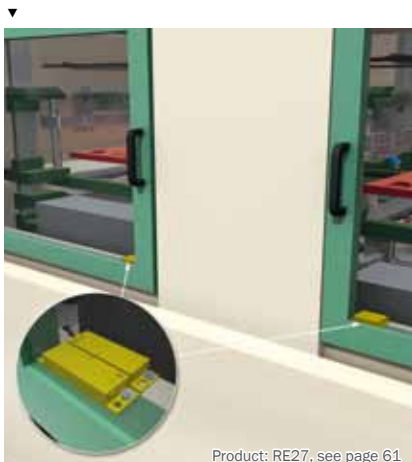
Product: RE27, see page 61

Sheet alignment to the print image

The AT20 scanning array sensor positions a sheet based on the printed mark or the print image itself. This procedure does not require a reflector. A further advantage of the scanning principle is that the sheets are punched precisely to match the image. This eliminates the tolerance to the edge of the sheet.

Product: Ax20, see page 52

Focus 7
Postpress: folding and gluing

Sheet presence and position monitoring

WT4-3, WT9-3, WT12-3 or WT18-3 miniature or small photoelectric sensors reliably detect the presence of the print sheets, regardless of their colors. Furthermore, the tabs are checked for correct fold and correct position.

Contour monitoring and layer determination

The Inspector vision sensor or LECTOR®62x image-based code reader check the contour and position of the tabs on folding boxes in two dimensions. Its Ethernet interface means that it is easy to integrate into the control network.

Product: W12-3, see page 41

Product: Inspector, see page 57
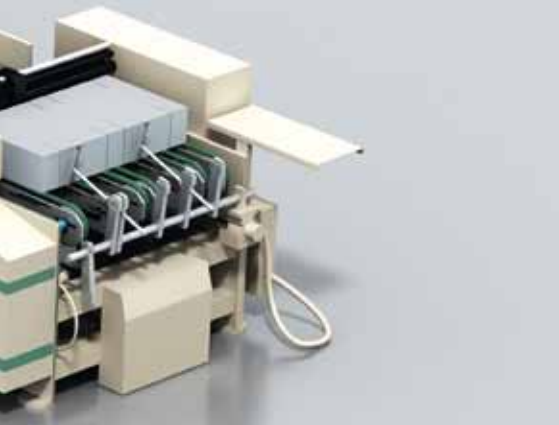
Synchronization of machine processes

The folding process, the adhesive joints and the paper travel must match exactly. The actual values in the process must also be compared to the positions of the drives. The extremely high resolution means that the DFS60 incremental encoder satisfies the requirements for accurate synchronization. The easy programming capability enables adaptation to special customer requirements.

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Product: DFS60, see page 63

Position detection

IM8, IM12 or IM18 inductive proximity sensors are quick to detect the precise positions of cams, metal gearings or gear wheels. In this way, they monitor and maintain synchronization of the work processes at the machine.

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Product: IM12, see page 43

Monitoring the adhesive layer

When the dispenser has applied the adhesive layer, the LUT9 luminescence sensor checks that the adhesive is present based on if the luminophores are present in the adhesive.

Counting folding boxes

The WTD20 copy counter detects folding boxes in the shingled stream even if these are close to each other to enable the packaging of specifically defined quantities. Detection is independent of the color and surface and of the thickness of the folding boxes and leaflets. This allows non-contact, wear-free and reliable counting.

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Product: LUT9, see page 50

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Product: WTD20, see page 42

Focus 8
Postpress: material handling

Copy counting

The WDT20 copy counter detects newspapers, magazines and supplements in the shingled stream. Detection is independent of the color and surface, and of the thickness of the products and height of the shingled stream. This achieves the highest non-contact, wear-free counting accuracy.

Presence monitoring and counting process

WT4-3 and WT9-3 miniature and small photoelectric sensors detect the "shoulders" of the copies and check that they are present. Non-contact and wear-free copy counting takes place at the same time.

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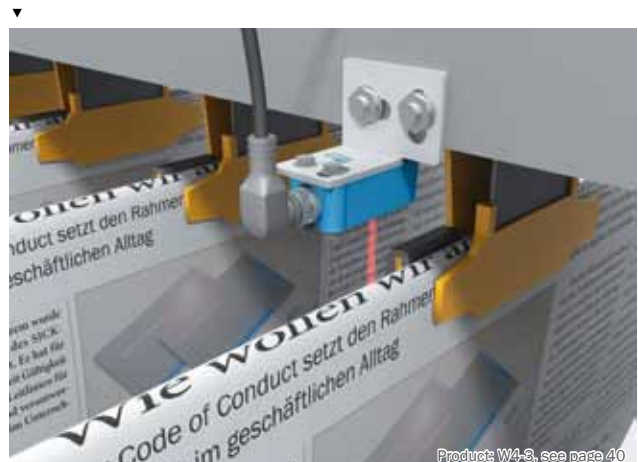
Product: S3000, see page 58
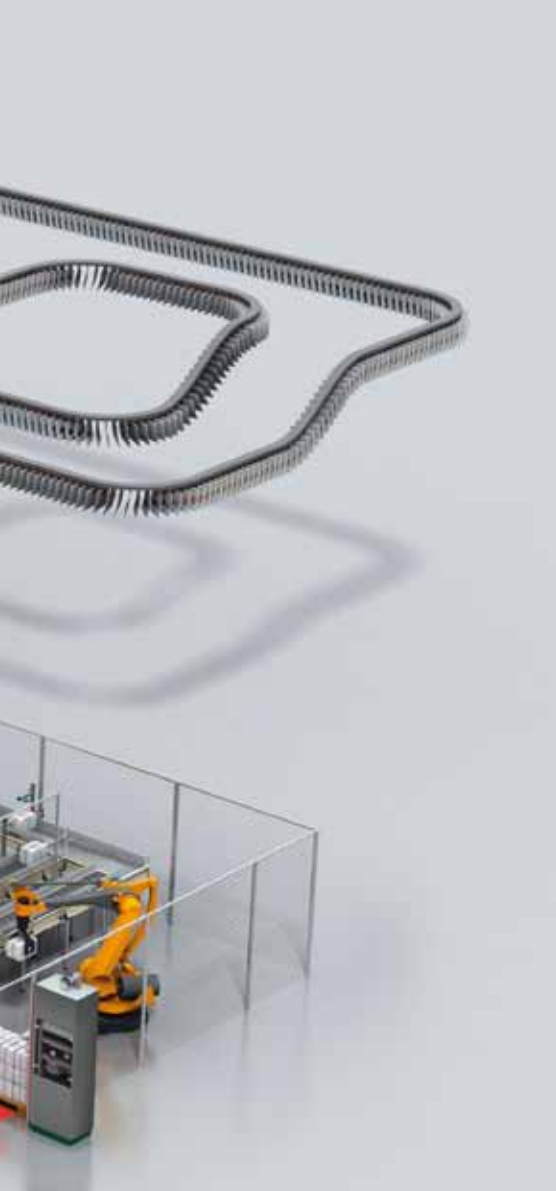
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Protection of palletizer stations

The S3000 safety laser scanner uses two simultaneous protective fields to enable simultaneous and independent monitoring of two hazardous areas.

When a hazardous area is entered, only the palletizer robot in operation is stopped. The other robot continues to work. All safety components connect to the Flexi Soft safety controller, which deactivates the relevant robot in the event of a hazard.

Identifying stacks

The CLV6xx bar code scanners or LECTOR®62x image-based code readers read the codes on the cover sheet of magazine or newspaper stacks. In this way, it identifies the stacks. The deliveries are detected and sorted with simultaneous proof of shipment. The W12-3 small photoelectric sensor issues a signal to trigger reading when it detects the stack and simultaneously counts the magazine or newspaper stack.

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Product: CLV6xx, see page 44

Automatic palletizing of newspaper packages

The JEF500 laser sensor detects the profile of newspaper stack to notify the robot of the correct gripping position. The 3D scanner checks the packing format during palletizing by comparing it with the data stored in the controller.

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Product: JEF500, see page 46

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.

More information on system integration, standards and laws, can be found at www.sick-safetyplus.com

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

Space-saving – rapid – transparent

Simple system integration plays a key role in the commissioning and ongoing operation of your machines. With the SICK-specific interface (EFI), our products permit rapid communication for automatic operation and convenient configuration and diagnostic functions for setup and maintenance work. Higher speed of safe communication also means decreasing the minimum distances and thus saving expensive machine space.

You are given full transparency of the sensors in your industrial network, e. g., PROFINET with PROFIsafe.

Integrated, intelligent functions and coordinated interfaces make additional hardware unnecessary, reducing the number of devices and wires required for your machines.

Complete safety solution from SICK: foil wrapping machine with automatic material transport

Global sales successes with your machines via conformity with international safety solutions and globally available service.

Worldwide – available – legally secure

SICK ensures that the safety solutions conform with the international safety standards. Our experts are members of 65 standards committees worldwide. That means that we and you are always a step ahead.

Our service network consists of 120 employees in almost 50 countries. No matter where you deliver or produce your machines: SICK service technicians understand your problems and offer a rapid solution to ensure high reliability of your machines.

To ensure that you always receive expert support, SICK has established an international training program for its machine safety specialists.

Benefit from our expertise.

Accurate printing, reduced waste, faster and more efficient processes

Intelligent sensors from SICK for register control put you fully in charge of length and side registers. They reliably detect start codes, identify mark patterns precisely with a high level of repeat accuracy (even read weak marks and paint coatings) – on all printed materials.

Function and register control

Δa: Distance key-code to first reading window
Δbx: Widths of the mark windows
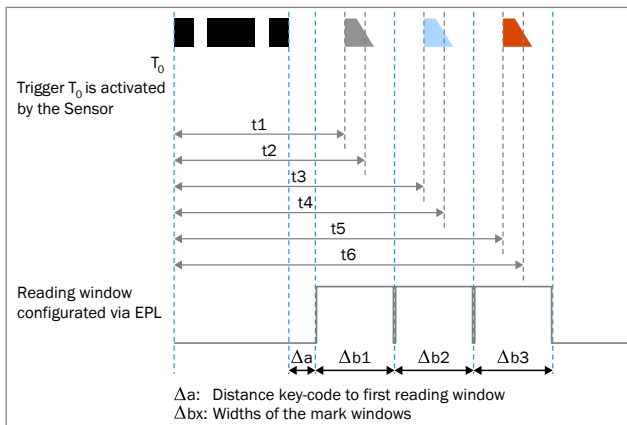
Register control is required for all types of web printing presses. To obtain a sharp print image as a result, the individual colors must be printed accurately over matching layers.

Fast, high-precision register sensors detect the wedged control marks. These special sensors measure both the distance and also the thickness of the wedge marks.

The distance between the marks is needed to regulate the longitudinal register; the thickness of the marks regulates the lateral register.

Efficient solution

The RS10 register sensor is quick to implement and delivers precise results.

Product: RS10, see page 52
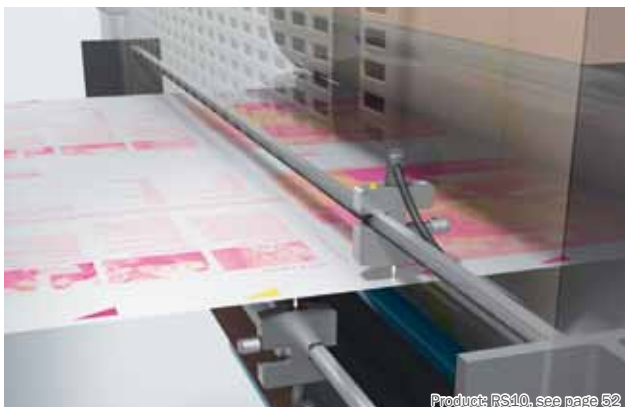
Clever mechanical solution

The housing with adjusting screw makes for easy mounting and adjustment of the RS10.

Product: RS10, see page 52

RS25: register sensor optimizes your machine processes

Simple and fast operability with automatic teach-in mechanisms reduce machine setup and conversion times and produce much less waste. The sum of these benefits considerably reduces costs for the machine manufacturer and end customer.

Use of RGB light ensures excellent reading quality and combined with the extremely fast response time (4 us jitter), the sensor achieves the desired precise print quality.

The RS25 is ATEX-certified and ideal for use in areas that contain explosive gases.

Communication via an Ethernet Powerlink enables integration of the sensor operation into the overall machine operating concept.

High-performance solution

The RS25 sensor satisfies all demands for technology, machine operation and quality.

Product: RS25, see page 53

Tailored solutions

We can develop special solutions for existing platforms on request.

Future-proof investment in the right solution

ID*pro* represents SICK's expertise in all three automatic identification technologies: laser scanner, camera and RFID. All ID*pro* devices are compatible and exchangeable via our uniform ID*pro* platform. To help you choose the ideal identification technology, we will provide you with comprehensive, objective information.

ID*pro* – At A Glance

Interchangeable:
Identification solution with
- Identical wiring technique
- Identical user interface
- Identical accessories

RFID

Camera

Laser scanner

| 1D | 2D | 1D |
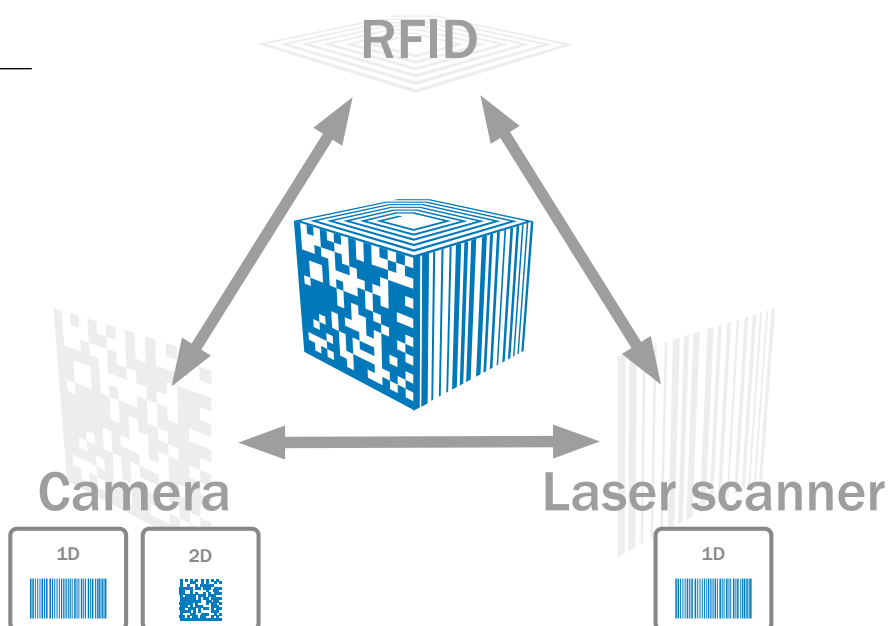
ID*pro* – Your Benefits

- Security of investment thanks to the option of switching between technologies with the same connectivity
- Reduced integration effort due to uniform ID*pro* platform
- Easy commissioning thanks to the standardized operating concept with a single operation software
- Fast and flexible exchange thanks to standardized connectivity

- Highest system availability through storage of parameters when replacing devices
- Low storage effort, low storage costs due to reduced component variety and accessory parts
- Cross-technology, comprehensive and objective information from a single source

www.sick-idpro.com

ID*pro*

Higher speed, greater efficiency

The compact LECTOR®620 image-based code readers identify 1D bar codes, stacked codes, 2D-matrix codes and DPM codes with the highest reliability – even if the code quality is poor.

The LECTOR®620 High Speed from SICK ensures the highest throughput with object speeds up to 6 m/s – ideal for high-speed packaging and document handling.

Reading codes on letters

- Proof of shipment without any omissions
- Registering and sorting of various shipments
- Reads at rapid cycle rates and speeds

Print and document handling

High-performance code readers make it possible to identify many objects at high conveyor speeds:
- Detecting and sorting of individual shipments in sorter machines
- Checking shipments for completeness
- Code reading in high speed inserters

Product: LECTOR®620, see page 45

Versatile product range for industrial automation

From the simple acquisition task to the key sensor technology in a complex production process: with every product from its broad portfolio, SICK offers a sensor solution that best combines cost effectiveness and safety.

www.sick.com/products

Photoelectric sensors

- Miniature photoelectric sensors
- Small photoelectric sensors
- Compact photoelectric sensors
- Fiber-optic sensors and fibers
- Cylindrical photoelectric sensors
- Zone control

Proximity sensors

- Inductive proximity sensors
- Capacitive proximity sensors
- Magnetic proximity sensors

Magnetic cylinder sensors

- Analog position sensors
- Sensors for T-slot cylinders
- Sensors for C-slot cylinders
- Sensor adapters for other cylinder types

Identification solutions

- Bar code scanners
- Image-based code readers
- Hand-held scanners
- RFID

Detection and ranging solutions

- Laser measurement technology

System solutions

- Volume measurement systems
- Code reading systems
- Dimension weighing scanning systems

Fluid sensors

- Level sensors
- Pressure sensors
- Flow sensors
- Temperature sensors

Registration sensors

- Contrast sensors
- Color sensors
- Luminescence sensors
- Fork sensors
- Array sensors

Distance sensors

- Short range distance sensors (displacement)
- Mid range distance sensors
- Long range distance sensors
- Linear measurement sensors
- Ultrasonic sensors
- Double sheet detector
- Optical data transmission
- Position finders

Automation light grids

- Advanced automation light grids
- Standard automation light grids
- Smart light grids

Vision

- Vision sensors
- Smart cameras
- 3D cameras
- Vision systems

Opto-electronic protective devices

- Safety laser scanners
- Safety camera systems
- Safety light curtains
- Multiple light beam safety devices
- Single-beam photoelectric safety switches
- Mirror and device columns
- Upgrade kits

Safety switches

- Electro-mechanical safety switches
- Non-contact safety switches
- Safety command devices

sens:Control – safe control solutions

- Safety relays
- Safety controllers
- Network solutions

Motor feedback systems

- Interfaces: incremental, HIPER-FACE® and HIPERFACE DSL®
- Safety motor feedback systems
- Rotary and linear motor feedback systems for asynchronous, synchronous motors, and linear motors

Encoders
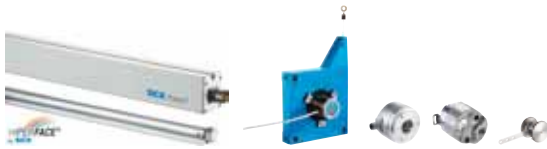
- Rotary incremental encoders
- Rotary absolute encoders
- Wire draw encoders
- Absolute linear encoders

Analyzers and systems

- Gas analyzers
- Dust measuring devices
- Analyzer systems
- Liquid analyzers
- Data acquisition systems
- Tunnel sensors

Gas flow measuring devices

- Gas flow meters
- Mass flow meters
- Volume flow meters

W2 Slim – at a glance

- Durable, overmolded housing with metal sleeves for 3 mm fixing bolts
- Background suppression proximity sensor with laser-like light spot
- PinPoint LED in all models provides small, bright, uniform light spot
- Fast response time of 0.6 ms

Your benefits

- Rugged yet slim housing withstands ingress and vibrations, ensuring a long service life with fewer replacement costs
- PinPoint LED with highly visible light spot enables precise detection of objects with a high level of accuracy
- Durable metal sleeves for 3 mm fixing screws enable simple, time-saving machine integration

→ **www.mysick.com/en/W2_Slim**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

W4-3 – at a glance

- Best-in-class background suppression, reliable detection of critical objects and a high immunity to ambient light
- Quick and easy setup using a precise 5-turn potentiometer, control wire or teach function
- Best background suppression in its class
- PinPoint LED for brightest light spot in its class
- IO-Link (depending on type)

Your benefits

- Low-cost integration due to optimal machine integration in areas with limited space
- Application versatility due to reliable detection of shiny, transparent or jet-black objects
- IO-Link or teach-in pushbuttons enable quick commissioning
- Rugged mounting system with M3 threaded metal inserts reduces maintenance costs due to a long service life
- High immunity to ambient light reduces downtime caused by false trips
- Clearly visible light spot simplifies alignment
- Low maintenance due to a high performance device that will consistently detect challenging objects

→ **www.mysick.com/en/W4-3**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

W9-3 – at a glance

- High-performance sensor in ultra-rugged VISTAL™ housing
- PinPoint LED for highly visible and precise light spot
- Two emitter LEDs for best-in-class background suppression
- Variable mounting with M3 or M4 hole pattern
- Wide range of connection options

Your benefits

- Robustness with the VISTAL™ housing
- Best in class performance
- Wide variance in connection, mouting and optic

➜ **www.mysick.com/en/W9-3**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

W12-3 – at a glance

- Best-in-class optical performance due to superior OES technology
- Autocollimation with retro-reflective sensors
- Background and foreground suppression with second emitter LED on proximity sensors
- Highly visible, precise light spot and high-energy IR transmitters
- Rugged die-cast zinc housing, optional with Teflon® coating
- Connection via cable or rotatable connector
- Mounting options with through holes, base blind holes, oblong through holes and dovetail
- IO-Link communication available (optional)

Your benefits

- Reliable detection due to superior ASIC (application-specific integrated circuit) technology and immunity to optical interference factors from the industrial environment
- PinPoint LED technology provides a bright, small and precise light spot that enables quick and easy sensor alignment
- Precise switching characteristics ensure reliable object detection, reducing downtime caused by re-adjusting sensors during recipe changes
- Wide range of products enclosed in a rugged metal housing enables application flexibility in a broad range of industrial environments
- Remote diagnostics and maintenance using IO-Link reduces overall downtime (optional)
- Flexible mounting options reduce installation time
- Easy installation using SICK accessories

➜ **www.mysick.com/en/W12-3**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

W18-3 – at a glance

- Best-in-class optical performance due to superior OES technology
- Autocollimation optics
- Background suppression with second sender LED
- Slim, durable plastic housing
- IO-Link communication
- Operation via double teach-in push-button or potentiometer
- Wide variety of options for operation, connection, and optics

Your benefits

- Reliable object detection due to best-in-class background suppression and resistance to ambient light
- A wide range of product variants provides increased user flexibility
- Less downtime in industrial environments
- IO-Link enables remote diagnostics and maintenance as well as application-specific add-on functionalities
- Quick and easy installation using SICK accessories saves time

→ www.mysick.com/en/W18-3

For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

WTD20 – at a glance

- PinPoint technology: intensive red emitter LEDs with homogeneous light spots
- Swivel M12 connection plug with two logical PNP outputs for "Specimen present" and a configurable signal between 20 ms and 100 ms per detected specimen
- IO-Link communication
- Small, compact housing with the dimensions 45 mm x 45 mm x 50 mm

Your benefits

- High reliability in industrial environments
- Flexible and reliable application – the IO-Link communication facilitates remote diagnosis and the setting of the signal length per detected specimen. The Delta 20 has a default setting of 20 ms.
- Fast and convenient plug-and-play installation – the Delta 20 requires no adjustment and can be connected using a standard M12 connection cable.
- Secure function monitoring through easily visible display LEDs
- The small and compact housing permits space-saving installation under tight conditions

Available in March 2013

IM Standard – at a glance

- Precise operating distances due to ASIC technology
- Extra tough thanks to high fastener torque and hot melt adhesive filling
- M8 to M30 sizes available
- Operating distance from 1.5 mm to 20 mm
- IP 67 enclosure rating
- Operating temperature from -25° C to +70° C
- DC, AC and AC/DC versions available
- Customer-specific models available

Your benefits

- Reduced machine downtime
- Reduced mechanical damage
- Fewer maintenance costs due to longer service life
- High resistance to shock and vibrations

→ **www.mysick.com/en/IM_Standard**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

CQ – at a glance

- Rectangular housing
- Detects powders, granulates, liquids and solids.
- Best-in-class high electromagnetic compatibility
- Electrical design: DC 4-wire
- Supply voltage: CQ35 10 ... 40 VDC and CQ28 10...30 VDC
- Short-circuit, reverse polarity and power-up pulse suppression protection

Your benefits

- Non-contact level measurement, even through container or tank walls, which eliminates drilling holes and thus reduces installation time
- Durable housing withstands harsh industrial applications, reducing maintenance costs
- Quick and easy adjustment of the switching point - via pushbutton, remote teach for the CQ28 and via potentiometer for CQ35 - saves time
- Simple and save detection alternative to photoelectric and inductive sensors in applications such as detecting product in a sealed box, container or tank

→ **www.mysick.com/en/CQ**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

Fixed Focus

CE

CLV50x – at a glance

- Extremely compact
- Lightweight
- Easy commissioning
- Fast and reliable decoding even on poorly printed or partly damaged codes
- Available in RS-232 version with flying leads and USB version
- Pushbutton trigger
- Discrete trigger input and good read/ no read outputs (flying lead variant only)
- CLV505 available in raster version

Your benefits

- Small size and simple setup enables fast installation, even in compact machines
- Fast and easy commissioning using configuration bar codes (shipped with each scanner) and the online tool
- Excellent reading performance – even with poorly printed codes – ensures high throughput
- Pushbutton trigger, onboard LED, and audible beep simplify setup and troubleshooting

➜ www.mysick.com/en/CLV50x

For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

SMART620 | Intelligent Auto Setup | Fixed Focus | CAN

Ethernet

ID pro

CE · III · c UL us

CLV62x – at a glance

- CAN, Ethernet TCP/IP, PROFINET, and EtherNet/IP available on board, no additional gateway needed (depending on variant)
- SMART620 code reconstruction technology
- Flexible sorting, filtering, and logical functions
- Advanced, easy-to-use SOPAS configuration software
- High scanning frequency of up to 1,200 Hz
- Small housing
- Advanced remote diagnostics and network monitoring capabilities available over Ethernet
- IP 65 rated

Your benefits

- High read rate on damaged and obscured codes using SMART620 code recognition technology
- Increased scanner intelligence enables sophisticated configuration of logical operations, reducing the control system programming effort. Data is then delivered in the desired format
- No supplementary Ethernet gateway required with Ethernet models – lowers costs
- The CLV62x scanner can be used as a multiplexer in any CAN scanner network from SICK – no supplementary multiplexer necessary
- Real-time decoding at very high speeds
- Small size and simple setup enables fast installation, even in compact machines

➜ www.mysick.com/en/CLV62x

For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

CLV65x – at a glance

- Huge depth of field due to auto focus
- Integrated pushbuttons for auto setup and reading diagnostics
- CAN, Ethernet TCP/IP, PROFINET, and EtherNet/IP available on board, no additional gateway needed (depending on variant)
- Enhanced SMART code reconstruction technology

- Flexible sorting, filtering, and logical functions
- Integrated web server provides remote diagnostics and monitoring
- Advanced, easy-to-use SOPAS configuration software
- Integrated LED bar graph

Your benefits

- Economical, as auto focus means no versions or additional light barriers are required for focus adjustment
- Intelligent auto setup and multi-function pushbuttons save time during commissioning
- Teach-in of match code possible via the pushbuttons
- Easily execute firmware updates using the SD memory card: no need for a PC
- No supplementary Ethernet gateway required with Ethernet models – lowers costs

- Enhanced SMART technology reads damaged and partially obscured codes, increasing read rates
- Increased scanner intelligence enables sophisticated configuration of logical operations, reducing the control system programming effort. Data is then delivered in the desired format
- Integrated web server provides remote diagnostics and monitoring, no additional software required

➜ **www.mysick.com/en/CLV65x**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

LECTOR®62x – at a glance

- Decoding of most popular code types: 1D, 2D, direct part marking
- Easy integration with industrial networks: serial, USB, several fieldbus technologies
- Auto setup with function buttons, aiming laser, focus adjustment and green feedback LED – for quick setup without PC

- Compact design and industrial housing
- Analysis tools include live image capturing, code verification and read rate view

Your benefits

- Intelligent decoding algorithms provide reliable reading performance for improved read rates and throughput
- IDpro facilitates integration with most popular industrial networks
- Intuitive setup with function buttons, auto setup, aiming laser, focus adjustment and green feedback LED reduces training and installation time and costs

- Compact design and flexible interface connections make it easy to install in reduced spaces
- Quick analysis of read rate performance and code quality allows for efficient control
- Cloning back-up systems ensure low machine downtime in the event of unexpected incidents
- SICK LifeTime Services give you peace of mind

➜ **www.mysick.com/en/LECTOR62x**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

RFU63x – at a glance

- UHF RFID read/write unit for industrial applications
- Compact device with integrated antenna (additional external antennas can be connected)
- Standard-compliant transponder interface (ISO/IEC 18000-6C/EPC G2C1)
- Supports common industrial data interfaces and fieldbuses
- MicroSD memory card for device parameter cloning
- Several diagnostic and service options available

Your benefits

- Intelligent technology allows stand-alone usage
- Highest reading/writing performance
- Flexible integration in common industrial fieldbuses via IDpro compatibility
- Less maintenance time due to an integrated cloning back-up system using microSD memory card
- Easily adapts to application requirements via SOPAS parameter setting tool
- Free usable feedback LED quickly provides read results and diagnostic information directly to the user

➜ **www.mysick.com/en/RFU63x**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

JEF5xx – at a glance

- 2D and 3D laser measurement sensor
- Multiple I/O and interfacing
- Large working range without any additional focal adjustments
- Output of reflectivity data

Your benefits

- Simple 3D measurement with one sensor
- Large area can be measured with one sensor
- No additional illumination needed

➜ **www.mysick.com/en/JEF5xx**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

UP56-2 – at a glance

- Non-contact level measurement up to 3.4 m operating distance / 8.0 m limit scanning distance
- Pressure resistant up to 6 bar (87 psi)
- Transducer protected by PVDF cover for increased resistance
- 3-in-1: continuous level measurement, level switch and display
- Analog output switchable between 4 mA ... 20 mA and 0 V ... 10 V
- Process connector thread G 1 and G 2
- IP 67 enclosure rating
- Easy to set parameters, also via connect+

Your benefits

- Non-contact measurement in pressurized containers – no wear over time
- Easy to set parameters, saving time
- Flexible measurement system for different container sizes – standardization and stock reduction
- One product for point level and continuous applications, reduces the number of sensors required

→ **www.mysick.com/en/UP56-2**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

KT3 – at a glance

- Very small housing
- RGB 3-color technology
- Laser version with long sensing distance
- Simple teach-in (when machine is stopped or during operation)
- Integrated switching threshold adjustment for high-gloss objects
- Reliable operation for jittering materials
- Switching frequency of 10 kHz

Your benefits

- Compact design fits in limited space applications
- Very good contrast resolution for detecting print marks, even where the variation between the mark and the background is minimal
- Laser version for the smallest marks and long sensing distances
- Automatic adaptation for high-gloss objects ensures high throughput
- Reliable operation for jittering materials
- Accurate positioning in rapid production processes
- Red/green/blue LEDs detect all registration marks in all applications

→ **www.mysick.com/en/KT3**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.
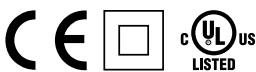
KT5 – at a glance

- Best contrast resolution thanks to RGB LED technology
- Intuitive 10-segment bar display indicates the detection reliability
- Dynamic or static teach-in method or manual potentiometer
- Switching frequency of 10 kHz
- Automatic gloss adjustment for highly reflective materials
- Various sensing distances and light spot directions
- M12 plug can be rotated 90°

Your benefits

- Able to process all packaging materials (yellow mark/white background), resulting in high machine throughput
- Reliable operation, even with jittering and high gloss materials
- High positioning accuracy improves packaging quality
- Simple teach-in and highly visible light spot ensure easy setup
- A range of sensing distances, light spot directions and 180° rotatable plug enables optimal integration
- Interchangeable lenses for maximum mounting flexibility
- Application-specific teach-in processes

→ **www.mysick.com/en/KT5**

For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

KT8 – at a glance

- Laser version offers sensing distances of 30 mm to 800 mm
- Very small and precise laser light spot (Class II)
- Fast switching frequency of 17 kHz
- Detection reliability displayed in the bar graph display
- CAN interface version for parameter setup, diagnostics and function selection
- Very precise light spot

Your benefits

- Wide selection of varying distances, depending on the application
- Precise detection of the smallest marks and objects, e.g., 1 x 1 mm²
- Reliable operation, even with unsteady objects
- Easy integration into machine designs, thanks to standard CAN protocol
- Access to the sensor via the control system saves the machine operator time and effort during configuration
- Individual, application-specific configuration and settings
- Automatic drift correction ensures high production reliability with faded print marks and other difficult to detect marks
- Reliable operation, even with high-gloss reflective surfaces, increasing throughput

→ **www.mysick.com/en/KT8**

For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

KT10 – at a glance

- Very low jitter (< 10 µs)
- Precise light spot
- Best contrast resolution thanks to RGB LED technology
- Two interchangeable light exits
- Five storage banks for settings
- Automatic drift correction
- Fast switching frequency of 25 kHz
- Easy-to-read bar graph display

Your benefits

- Very precise detection of print marks enables optimal results for packaging and printing applications
- All contrast marks, even pale yellow on white paper, can be reliably detected thanks to RGB LED technology
- Automatic drift correction helps detect difficult to see marks, such as faded print marks, enabling higher production reliability
- Reliable operation, even with high-gloss reflective surfaces, increasing throughput
- Simple teach-in via an external signal can be performed while the material is moving, enabling shorter setup time
- Long-lasting, tough metal housing

→ **www.mysick.com/en/KT10**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.
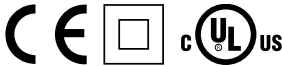
CS8 – at a glance

- One (CS8-1) or four (CS8-4) colors can be saved
- 12.5 mm or 60 mm sensing distance
- Fast response time up to 85 µs
- High resolution color
- Bar graph display shows the correlation of the colors
- Extremely precise light spot and high resolution
- Metal housing with two light exits (interchangeable)

Your benefits

- Identify and store up to four colors. No need to reprogram the sensor for changeovers, reducing downtime.
- High resolution colors can be matched exactly for better process reliability
- Maintains the extreme precision of the light spot, enabling a consistent object detection
- A bar graph display provides information about the color quality and detection reliability, ensuring simple process monitoring
- Broad spectrum of color tolerances enables more flexible use
- Fast response times at high speeds for reliable detection
- Detection reliability is not affected by varying temperatures

→ **www.mysick.com/en/CS8**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.
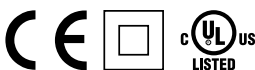
LUT9 – at a glance

- Simple teach-in
- Operating range up to 250 mm
- Version with IO-Link for remote monitoring
- Bar graph display provides information about the luminescence intensity
- High speed (6.5 kHz), standard (2.5 kHz), high resolution (500 Hz) models
- Additional optical filters suppress background luminescence
- Fiber-optic cable connection (with 20 mm lens)
- Switching and analog output

Your benefits

- Simple sensitivity adjustment via teach-in for optimum adaptation to the application
- Long sensing distance tolerance leads to less mechanical height adjustments of the sensor on the machine
- Using IO-Link, the sensor can be configured and monitored by the central control system, enabling simple, cost-effective diagnostics and data collection
- Bar graph display provides continual process control through easy visualization of the luminescence intensity
- Filters ensure that background luminescence is reliably suppressed, ensuring greater process reliability
- Interchangeable lenses for different sensing distances and the second light exit provide flexibility
- High detection reliability ensures the process and reduces downtime
- Select speed or high resolution, making it ideal for any application.

→ **www.mysick.com/en/LUT9**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.
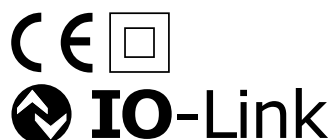
UF – at a glance

- Detection of transparent, opaque or printed labels
- Unaffected by metallic foils and labels
- Fast response time of 250 µs
- Simple and accurate adjustment via "+"/"−"-buttons or teach-in
- Rugged, IP 65 aluminum housing

Your benefits

- Reliable label detection, regardless if labels are transparent, opaque or have a printed design, ensuring greater flexibility with one sensor
- Fast response times enable precise detection – even at high web speeds
- The aluminum housing meets all requirements for use in harsh industrial conditions
- Setting the switching threshold using the +/- push buttons or teach-in
- Ultrasonic technology prevents false detection, which may be caused by ambient light or shiny surfaces

→ **www.mysick.com/en/UF**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

WF – at a glance

- Infrared light source
- Simple and accurate adjustment via teach-in or manually via "+"/"–" buttons
- Fast response time (max. 100 µs)
- PNP and NPN switching output
- Light/dark switching function
- 21 different models with different fork widths and depths
- Rugged, IP 65 aluminum housing

Your benefits

- Fast response time and fine resolution ensure reliable detection even at high speeds
- Infrared light source provides excellent ambient light immunity
- User friendly setting via teach-in or "+"/"–" button
- A wide range of different fork sizes enables flexible installation
- The aluminum housing meets all requirements for use in harsh industrial conditions

➜ **www.mysick.com/en/WF**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

WFS – at a glance

- Optimized housing with slim fork shape
- Dynamic teach-in via teach or control panel and manual fine adjustment with "+"/"–" buttons
- Light/dark switching function
- Fast response time of 50 µs
- PNP or NPN
- IP 65 plastic housing
- Switching output also during teach-in active

Your benefits

- Slim design allows flexible mounting close to the dispenser of the label which ensures higher accuracy in the process
- Compact housing ensures space-saving installation
- User friendly adjustment allows easy and quick start-up
- External teach-in allows automatic threshold adjustment via the PLC during the process which ensures reliable detection all the time
- Short and fast response times enables precise detection – even at high web speeds

➜ **www.mysick.com/en/WFS**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

Ax20 – at a glance

- Proximity contrast line sensor in a compact housing
- Application-specific sensor functions
- Detect position of edge of material
- Diameter, width and gap detection of different objects
- Very high reproducibility of 0.03 mm
- Large measurement range: 30 mm
- Visible white LED light spot to enable accurate alignment
- Simple setup, no teach-in necessary

Your benefits

- Cost-effective solution to reliably determine edge position and width measurement
- Easy-to-integrate, compact housing can be mounted over the web so less downtime is required for maintenance
- No reflector is required, reducing maintenance and providing greater product reliability. Reduces down-time. Only array sensors available in diffuse mode, making them ideal for environments where dirt and dust can interfere with other types of solutions that require a reflector.
- High reproducibility of 0.03 mm and industry-leading resolution enable greater accuracy and quality control
- Highly visible white LED light spot ensures fast and accurate align-ment, reducing time-consuming fine adjustment
- No teach, program or menu activities make setup virtually hassle free

→ **www.mysick.com/en/Ax20**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

RS10 – at a glance

- The register is controlled with indivi-dual thresholds
- Unique housing: one screw mounting
- Tight dual-sensor mounting ability
- Detects 1-18 marks of different colors
- Easy teach-in via button

Your benefits

- Better performance in low contrast applications or with many color marks (>8)
- Unique housing allows for quick mounting and adjustment
- Dual sensors detect a double co-lumns of marks
- Fast teach procedure for less down-time on the production line

→ **www.mysick.com/en/RS10**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.
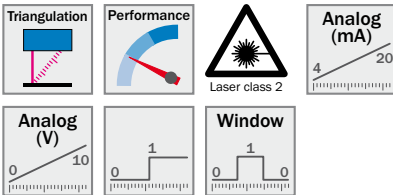
RS25 – at a glance

- PLC embedded register control
- Multi LED (RGB)
- Fast communication via Ethernet Powerlink
- Minimized jitter (4us) for very high repeatability
- Detects up to 18 marks of different colors
- Reading window for improved reliability

Your benefits

- High precision to enhance print quality
- Sensor for explosive gas areas – ATEX certified
- Flexible solution via the PLC embedded register control unit
- Cost-saving potential with less material waste and less production conversion time

➜ **www.mysick.com/en/RS25**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

OD Value – at a glance

- Several measurement ranges from 26 mm ... 34 mm to 100 mm ... 400 mm
- CMOS receiving element for measurement independent of surface
- Easy, LED-based user and teach-in concept
- Wide range of models and a wide range of standard interfaces
- Laser technology for precise measurement of very small objects
- Compact stand-alone device
- Excellent price-performance ratio

Your benefits

- Reliable measurement independent of surface, minimizes machine downtime
- Extremely simple sensor teach-in makes setup faster and more cost-effective
- Minimal space requirements and less wiring due to its compact, standalone design
- Many measurement ranges and output interfaces make it ideal for cost-effective integration into any production environment
- Low investment costs make consistent, regular quality inspection possible
- Non-contact measurement technology from a safe distance allows the inspection to be carried out directly during the production process
- Wear and damage-free inspection, due to non-contact measurement

➜ **www.mysick.com/en/OD_Value**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

Dx35 – at a glance

- HDDM™ technology provides the best reliability, ambient light immunity and price/performance ratio
- Measuring range: 50 mm … 12,000 mm, depending on individually adjustable response time
- Response time: 2.5 ms … 192 ms

- Accuracy: ± 10 mm
- Repeatability: 0.5 mm … 5 mm
- Small housing size
- Laser classes 1 and 2 available
- IO-Link as well as analog and switching output

Your benefits

- Smallest blind zone and reduced housing size allow for use in confined spaces
- Consistent, reliable and precise measurement even when measuring extremely shiny or dark objects
- Ideal solution for any application requirement by choosing response time and measurement range individually
- Three switching modes provide a simple solution to challenging applications

- No cross talk allows several sensors to be used simultaneously in confined spaces
- Simple and fast teach-in reduces commissioning costs
- IO-Link enables fast batch changes as well as simple maintenance and remote diagnostics
- Low investment costs and high performance guarantee quick return on investment

➜ www.mysick.com/en/Dx35
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

Dx50 – at a glance

- HDDM technology offers best reliability, immunity to ambient light and price/performance ratio
- Measurement ranges of 10 or 20 m directly onto the object or even 50 m on reflector
- Different performance levels depending on product and laser class chosen

- Different interfaces: switching, analog or serial interface
- Display with intuitive and consistent operating concept
- Robust die-cast zinc metal housing
- Operating temperature from –30 °C to +65 °C

Your benefits

- Wide measurement ranges up to 10, 20 or 50 m in combination with different interfaces allow an easy and fast integration in any production environment
- Highly reliable and precise measurement helps to increase process quality and stability
- High measurement or switching frequencies enable a fast material flow
- Dx50 product family is based on a common platform, offering multiple performance levels, making it easy to accommodate future changes

- Intuitive setup via display or remote teach reduces installation time and costs
- Temperature range from –30 °C to +65 °C allows for outdoor use without additional cooling or heating
- Up to 40 klx ambient light immunity – allows for use in optically challenging environments
- Low to reasonable investment costs and high to very high performance levels ensure short return on investment

➜ www.mysick.com/en/Dx50
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

OLM100 – at a glance

- Control marks for special functions and sensor configuration
- Measurement range up to 10 km
- High repeatability of 1 mm
- Adjustable resolution as low as 0.1 mm
- Multiple interfaces: SSI, RS-422, RS-485 and CANopen
- Self-adjusting quadruple redundant red LED lighting
- Integrated skew and bank angle for fast parallel mounting, therefore alignment only in one axis is necessary
- Large temperature range from –30 °C to +60 °C

Your benefits

- Precise positioning with speeds of up to 4 m/s significantly increases throughput
- Camera-based system with no moving parts in combination with tough metal housing ensure increased lifetime, thus reducing replacement costs
- High ambient light safety due to selfadjusting LED illumination ensures reliable operation, thus increasing machine availability
- Large temperature range from –30 °C to +60 °C offers flexible and reliable use in many applications
- Various interfaces (RS-422, RS-485, SSI and CANopen) offer highest flexibility and easiest system integration, hence saving costs for interface converters and protocol adaption
- Smallest available housing for common industrial serial interfaces offers easy integration in confined spaces, therefore allowing the customer to save room on his machine design

→ **www.mysick.com/en/OLM100**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.
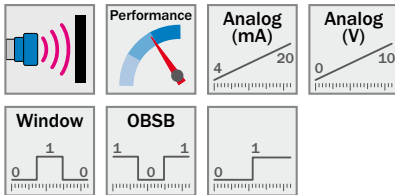
UM18 – at a glance

- Reliable measurement independent of material color, transparency, gloss and ambient light
- Ranges up to 8 m
- High immunity to dirt, dust, humidity and fog
- Time-of-flight measurement ensures precise background suppression
- Internal temperature compensation
- Tough housing designs in varying shapes and sizes
- Large operational temperature range
- Single button teach-in or advanced setup options available

Your benefits

- Intelligent measurement filters assure reliable measurement results for highest process stability
- Synchronization or multiplexing allows simultaneous use of up to 10 sensors, which improves application flexibility and process stability
- Best process quality thanks to high measurement accuracy based on continuous temperature compensation
- Various housing types, different measurement ranges, and several setup options fit a wide range of applications
- Tough sensor designs ensure long lifetime and low service costs
- Compatible housings allow easy interchange of optical and ultrasonic sensors in challenging applications
- Reliable operation in optically challenging applications

→ **www.mysick.com/en/UM18**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

UC4 – at a glance

- Integrated time-of-flight technology detects objects such as glass, liquids and transparent foils, independent of color
- Three operation modes: Distance to Object (DtO), Window (Wnd) or Object between sensor and background (OBSB)
- Immunity to dirt, dust and fog
- One PNP/NPN switching output
- Excellent background suppression

Your benefits

- Mini housing allows for quick and easy integration, even in the most confined spaces
- Immunity to dirt and dust ensures reliable object detection, even in challenging environmental conditions
- Integrated temperature compensation ensures high measurement accuracy
- Various switching outputs provide application flexibility, which increases reliability and productivity
- Full mechanical compatibility to photoelectric sensors increase application flexibility without machine modification
- Economical version available for simple, cost-sensitive applications
- Fast machine setup due to easy-to-use teach-in button

→ **www.mysick.com/en/UC4**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

UC12 – at a glance

- Object detection independent of material color and ambient light – even transparent foils, glass, liquids and bottles are reliably detected
- Fast and easy teach-in with single push-button
- Immune to dirt, dust and fog
- Two ambivalent switching outputs (Q, /Q)
- Excellent background suppression
- Three operation modes: Distance to Object (DtO), Window (Wnd) or Object between sensor and background (OBSB)

Your benefits

- Fast commissioning due to single-button teach-in
- Full mechanical compatibility to photoelectric sensors increase application flexibility without machine modification
- Standard proximity, window and reflection modes provide application flexibility, which increases reliability and productivity
- Integrated temperature compensation ensures high measurement accuracy
- Complementary switching outputs immediately signal broken wiring, reducing faulty production results

→ **www.mysick.com/en/UC12**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

Inspector – at a glance

- High-speed positioning and inspection
- Powerful "object locator" tool, independent of position, rotation and scale
- Multi-reference object teaching and multi-feature inspections
- Unique, interchangeable housing design supporting dome and various optical accessories
- Simple step-by-step configuration in PC including emulator
- Easy-to-use operator interfaces
- Flexible machine and HMI design interfaces

Your benefits

- Powerful yet simple tools enable flexibility in various positioning and inspection applications
- The powerful "object locator" tool guarantees high quality result even at your toughest production conditions
- Unique, interchangeable housing design provides the easiest way to improve image quality
- The simple configuration in SOPAS, including emulator for offline configuration and testing, will reduce downtimes in production to a minimum
- The easy-to-use operator interfaces are optimized to make it easier for the operator to oversee daily work more efficiently
- Ethernet communication and web API gives excellent connectivity and freedom to customize user's HMI

→ **www.mysick.com/en/Inspector**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

S300 Mini Standard – at a glance

- Very compact design
- 2 m or 3 m protective field range
- 270° scan angle
- 1 field set (1 protective fields, 2 warning fields)
- Selectable resolution for hand, leg or body detection
- Contour as reference for vertical applications
- Integrated external device monitoring (EDM)
- 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
- Safety engineering - with no loss of productivity.
- Decades of proven safety technology guarantee maximum reliability and availability – even under difficult conditions
- Easy to manage, reducing costs and work time
- Reduction of downtime and brake wear thanks to triple field function
- Simple alignment and safe operation in vertical mode

→ **www.mysick.com/en/S300_Mini_Standard**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

S300 Professional – at a glance

- Compact design
- 2 m or 3 m protective field range
- 270° scan angle
- 8 switchable field sets (8 protective fields, 16 warning fields)
- Configuration memory integrated in the system plug
- EFI interface for safe SICK device communication
- Incremental encoder inputs for speed-dependent field switching
- Measured data output via RS-422

Your benefits

- Simple integration due to compact design
- Unbeatable cost-effectiveness – 270° scan angle allows complete application protection with only two scanners
- Easy installation, commissioning and maintenance for stationary and mobile applications
- Variety of field sets guarantees safety and productivity when protecting vehicles or moving machine parts
- Quick recommissioning via configuration memory
- Easy modular expansions, simple cabling and additional functions using SICK safety controllers with EFI
- The correct protective field at any speed avoids unnecessary stops.
- Personnel protection and navigation support in one device

➜ **www.mysick.com/en/S300_Professional**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

S3000 PROFINET IO Professional – at a glance

- Direct integration in PROFINET IO safe bus system
- 4 m, 5.5 m or 7 m protective field range
- 8 switchable field sets (8 protective fields, 8 warning fields)
- Managed 2-Port switch for copper or optical fiber based conductors
- Configuration memory integrated in the system plug
- Remote diagnostics and configuration through safety controller
- Simultaneous monitoring of two protective fields

Your benefits

- Reliable, fault-tolerant communication with PLC controller using state-of-the-art fiber-optic technology.
- Efficient, cost-effective protection - networked through direct connection to PROFINET IO networks
- Rapid diagnosis by means of remote access prevents downtimes
- Standardized integration in PLC controllers, thanks to GSDML generic station description
- Largest protective field range available in the market increases the variety of application possibilities
- Quick recommissioning via configuration memory
- Easy installation, commissioning and maintenance for stationary and mobile applications
- Decades of proven safety technology guarantee maximum reliability and availability – even under difficult conditions

➜ **www.mysick.com/en/S3000_PROFINET_IO_Professional**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

C4000 Standard – at a glance

- Type 4 (IEC 61496), PL e (EN ISO 13849)
- 7-segment display
- PSDI mode with the UE402 switching amplifier
- External device monitoring (EDM) and restart interlock (RES)
- Configuration and diagnostics via PC
- Cascade up to three systems
- ADO (Application Diagnostic Output) signaling output for contamination indicator
- Accessory Clone Plug – for configuration memory

Your benefits

- 7-segment display saves time during alignment and diagnostics
- Beam coding protects the systems against opticalinterference by ensuring a high level of availability
- Ability to cascade up to three systems optimizes the safety application and reduces wiring costs
- Preconfigured light curtains and the clone plug enables easy and rapid commissioning
- Precise, convenient configuration and diagnostics reduces downtime

→ **www.mysick.com/en/C4000_Standard**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

miniTwin2 – at a glance

- Type 2 (IEC 61496), PL d (EN ISO 13849)
- Compact cross section (15 x 32 mm) with no dead zones
- Cascadable twin stick design – sender and receiver in a single housing
- Customized protective field heights in 60-mm increments from 120 to 1200 mm
- Typical scanning ranges 0 ... 8 m
- Intelligent, software-free configuration of external device monitoring (EDM) and reset function (RES)
- M12, 5-pin device connection

Your benefits

- Cost-effective machine integration: its small design, cascadable features and incremental protective field heights enable a flexible adjustment to the machine design
- Standardization saves time and resources because of more straightforward logistics, order entry and service
- Simplified handling and setup: Software-free, almost fully automatic commissioning and intuitive operation with sustainable optics
- Bright LED display provides fast alignment, easy start up and clear protective field visualization ensure quick diagnostics
- End-to-end coverage in cascadable applications eliminates dead zones and shortens the safety distance, increasing productivity
- Application-specific brackets provide increased flexibility and reduce installation time

→ **www.mysick.com/en/miniTwin2**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

M4000 Standard – at a glance

- Type 4 (IEC 61496), PL e (EN ISO 13849)
- Robust housing with three mounting grooves
- 7-segment display
- Wide scanning range, up to 70 m
- External device monitoring (EDM), re-start interlock (RES) and application diagnostic output (ADO)
- Standardized M12 connectivity
- Optional integration features: laser alignment aid, LED or AS-i interface
- Configuration keys located directly on the device

Your benefits

- The wide scanning range allows the device to be customized according to the application
- Robust design with a high level of resistance to environmental changes ensures high machine availability, even under special ambient conditions
- Customized protection field adaption with deflection mirror reduces installation costs
- Mounting grooves on three housing sides ensure more flexibility during mounting and simplify machine integration
- Customer-friendly interfaces and status display simplify commissioning and maintenance
- Fast start-up times due to easy alignment, using the optional laser alignment aid and performing configuration directly on the device
- Reduced downtime through 360° visible LED and diagnostics displays

→ **www.mysick.com/en/M4000_Standard**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

L21 – at a glance

- Type 2 (IEC 61496), PL c (EN ISO 13849), only in conjunction suitable testing device, e.g., Flexi Classic, DeviceNet Safety
- Small M18 sensors with ranges up to 10 m
- Compact M30 sensors with ranges up to 60 m
- Enclosure rating IP 67
- Temperature range from –40 °C ... +55 °C
- Metal and plastic version
- Radial optics (90° deflector mirror)
- Straightforward diagnostics and service

Your benefits

- Easy integration due to small, compact versions with maximum range
- Directly connect to a safety controller – without a separate evaluation unit, reducing costs
- Flexible device integration makes it possible to set up individual protective fields
- Well suited to withstand extreme ambient conditions such as heat, cold or moisture

→ **www.mysick.com/en/L21**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

RE27 – at a glance

- Response range of up to 9 mm
- 3 N/O contacts
- Up to performance level PL e / Cat. 4 (EN ISO 13849)
- Direct connection to safe control solution possible
- Sensors with plug connector or connected cable
- LED status indicator

Your benefits

- Long service life due to durable and low-maintenance design
- Just one safety switch in conjunction with a suitable safety module makes it possible to solve applications up to PL e and Cat. 4 (EN ISO 13849)
- High level of machine availability due to high tolerances for door misalignment
- Direct connection to the safe control solution eliminates any additional wiring and reduces installation time
- The devices are easy to clean, making them suitable for contaminated areas or environments with strict hygiene standards
- Fast diagnostics via LED status indicator

→ **www.mysick.com/en/RE27**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

ES21 – at a glance

- Either as surface-mounted version with housing or as built-in version (Ø 22 mm)
- Built-in version for machine control panels with self-monitoring contacts between the pushbutton and switching element
- Surface-mounted version for direct mounting on different machines and systems
- Rotational or key unlocking
- Variants with LED ring lighting
- Available with protective collar to prevent inadvertent actuation

Your benefits

- Increased safety due to self-monitoring contacts
- Reduction in accidental faults due to variants with a protective collar
- User-friendly status indicator identified by a colored mark or LED ring around the pushbutton simplifies diagnostics
- Successful down to the last detail: award-winning and appealing design

→ **www.mysick.com/en/ES21**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

Flexi Soft – at a glance

- Modularly expandable (12 … 144 inputs/outputs)
- Intuitive configuration software: easy operation, simulation mode, wiring diagrams, freely downloadable
- Configuration memory in the system plug

- Safely link up to four Flexi Soft safety controllers via EFI
- Integration into all common fieldbus systems
- Enhanced sensor functionalities via EFI interface
- 38 TÜV certified function blocks

Your benefits

- Prevention of redundant inputs and outputs saves money
- Fast commissioning via a system plug that saves and stores system configurations
- Less downtimes due to gateways, e.g., PROFINET IO, PROFIBUS-DP, EtherCAT, CANopen, Modbus TCP, Ethernet (TCP/IP)
- Safe communication without additional hardware saves time, space and money

- Standard RS-232 diagnosis via the main module enables real-time diagnostics for quick commissioning, faster troubleshooting and reduced downtime
- Fast electronic installation via complete wiring diagram
- Simulation mode allows a user to verify the safety functions before installation
- Fast hardware selection by drag and drop from a list of simple to understand element icons

➜ **www.mysick.com/en/Flexi_Soft**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

Flexi Classic – at a glance

- Rotary DIP switch for easy adjustment
- Modularly expandable
- Direct wiring for all types of sensors
- Logic functions (AND/ OR/ Muting/ Bypass/ Reset/ EDM)

- Integration into all common networks (PROFIBUS-DP, DeviceNet, CANopen, Modbus TCP, Ethernet (TCP/IP), EtherNet/IP and PROFINET IO)

Your benefits

- Optimal scalability prevents extra inputs and outputs, reducing unnecessary hardware
- Configuration via rotary DIP switch reduces wiring and simplifies logic configuration

- The Flexi Classic Configurator tool offers easy logic configuration and wiring help
- Complete diagnostics of the system reduces downtime
- Its compact design makes it possible to save space in the control cabinet

➜ **www.mysick.com/en/Flexi_Classic**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.
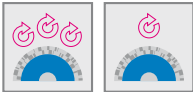
DFS60 – at a glance

- Compact installation depth
- High resolution up to 16 bits
- Optionally programmable: Output voltage, zero pulse position, zero pulse width and number of pulses
- Connection: Radial or axial cable outlet, M23 or M12 connector, axial or radial
- Electrical interfaces: 5V & 24V TTL/ RS-422, 24 V HTL/push pull
- Mechanical interfaces: face mount or servo flange, blind or through hollow shaft
- Remote zero set possible

Your benefits

- Reduced storage costs and downtime due to customer-specific programming
- Variety of different mechanical and electrical interfaces enable the encoder to be optimally adjusted to fit the installation situation
- Excellent concentricity even at high speeds
- High resolution of up to 16 bits ensures precise measurements
- Permanent and safe operation due to a high enclosure rating, temperature resistance and a long bearing lifetime
- Programmability via the PGT-08 programming software and the PGT-10-S display programming tool allow the encoder to be adapted flexibly and quickly according to customer needs
- Programmable zero pulse position simplifies installation

➜ **www.mysick.com/en/DFS60**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

AFS/AFM60 SSI – at a glance

- High-resolution absolute encoders with up to 30 bits (AFM60) or up to 18 bits (AFS60)
- Face mount flange, servo flange, blind or through hollow shaft
- SSI, SSI + Incremental or SSI + Sin/ Cos interface
- Programmable resolution and offset (dependent on type)
- Connection system: M12, M23 connector or cable outlet
- Enclosure rating: IP 67 (housing), IP 65 (shaft)
- Operating temperature: –30 °C to +100 °C (depends on type)

Your benefits

- Programmability of the encoders means less storage, greater machine availability and easy installation
- Precise positioning due to high resolutions
- Large selection of mechanical interfaces and electrical contacting possibilities: Suitable for all applications
- Suitable for applications with limited space requirements (extremely short installation depth of 30 mm)
- Very good rotation accuracy due to increased bearing distance
- One programming tool and software with automatic encoder detection for AFS60/AFM60/DFS60

➜ **www.mysick.com/en/AFS_AFM60_SSI**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

EcoLine – at a glance

- Measuring lengths of 1.25 m, 3 m, 5 m, and 10 m
- Various interfaces thanks to modular concept - all servo flange encoders can be mounted
- Analog interface with push-button teach availeable
- Very small housing (55 ... 190 mm)
- Slim housing with spring integrated in the measuring drum
- Light yet shock-proof and temperature-resistant plastic housing (Noryl)

Your benefits

- Space- and cost-saving design thanks to slime mechanics
- The absolute analog output allows for the use of a cost-effective interface card
- Easy to install thanks to pushbutton teach
- Numerous combinations of interfaces and measuring lengths
- Advanced programming options lead to a reduction in the amount of variants, save costs, and reduce storage

➔ **www.mysick.com/en/EcoLine**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

SRS/SRM50 – at a glance

- Motor feedback systems for the top performance range
- 1,024 sine/ cosine periods per revolution
- Absolute position with a resolution of 32,768 increments per revolution and 4,096 revolutions with the multi-turn system
- HIPERFACE® interface: Programming of the position value and electronic type label
- Insert shaft or tapered shaft with various torque supports
- Integrated version, mounted version or stand-alone design
- Certified according to SIL2/PL d (only valid for SRS50S/SRM50S...)
- Conforms to RoHs

Your benefits

- Motor feedback system with HIPER-FACE® interface
- High shock/vibration resistance thanks to built-in metal code disk
- Consistent motor design due to identical size of single and multiturn design
- Compliance with the new machine directive thanks to use of a motor feedback system certified according to SIL2/PL d
- Very smooth running thanks to maximum ball bearing distance

SinCos®

HIPERFACE® by SICK

➔ **www.mysick.com/en/SRS_SRM50**
For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

HIPERFACE DSL® – the digital evolution

HIPERFACE DSL® leaves behind the need for analog circuitry, and places the motor control system entirely in the digital domain.
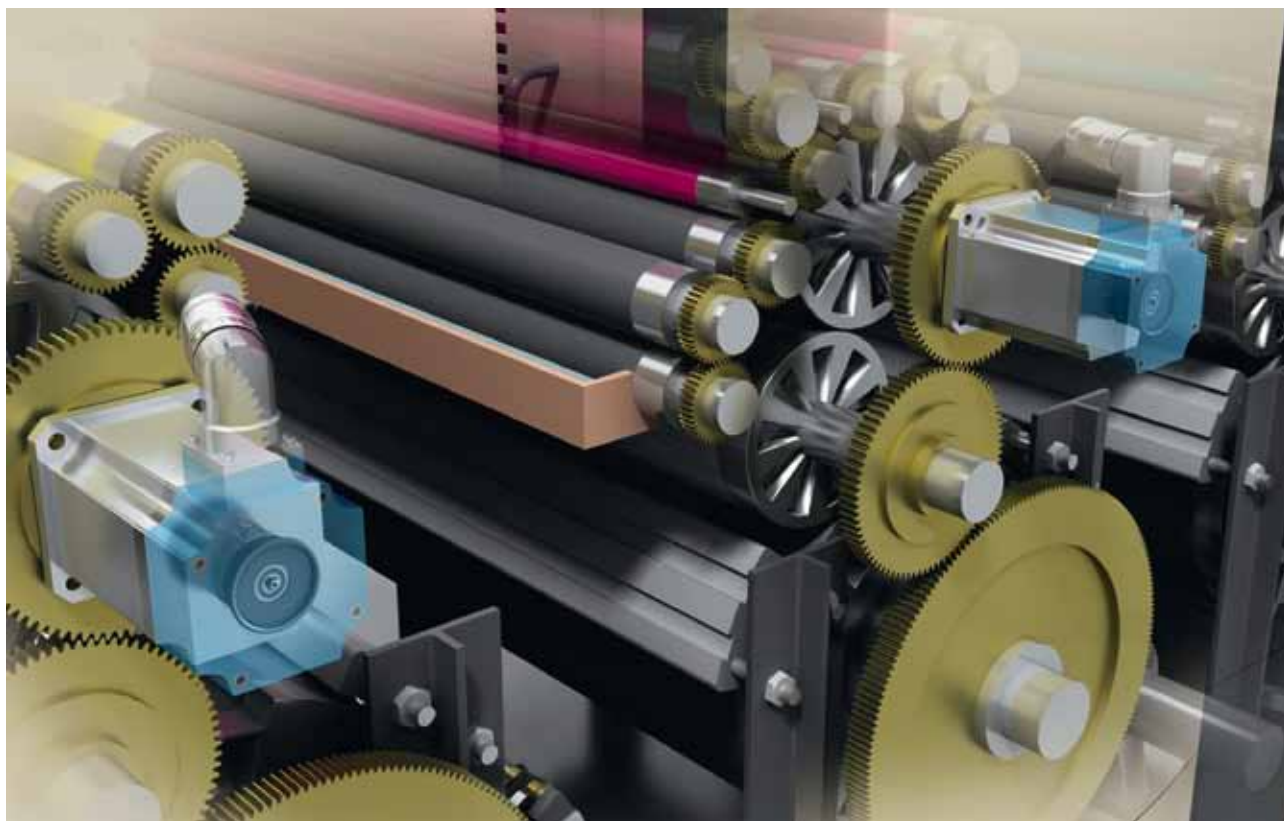
The Challenge

Develop a purely digital, 2-wire protocol that can share the motor power cable to provide bidirectional data between the drive and the servo motor.

The result

HIPERFACE DSL® supports a synchronous transmission speed of 9.216 Mbaud over standard cables to 100 meters.

Your competitive advantage

- Connection/cabling costs halved
- No analog to digital conversions required
- Automatic synchronization between the servo drive and motor
- Data communication certified up to SIL3, Performance Level e
- Up to 658 kbps reserved for user defined applications: e.g., extra temperature sensors, actuators, etc.

ID pro

| RFID Interrogator	Hand-held scanners	Connection box	Image-based code readers	Bar code scanners
Serial Ethernet TCP/IP EtherNet/IP, PROFINET IO CANopen	Serial USB	PROFIBUS, PROFINET IO Ethernet TCP/IP EtherNet/IP, DeviceNet CANopen	Serial Ethernet TCP/IP EtherNet/IP, PROFINET IO CANopen	Serial Ethernet TCP/IP EtherNet/IP, PROFINET IO CANopen

Serial PROFIBUS	Ethernet TCP/IP EtherNet/IP	PROFIBUS, PROFINET EtherNet/IP EtherCAT, CANopen …	PROFIBUS, PROFINET DeviceNet, EtherNet/IP	EtherNet/IP, PROFINET SERCOS III, EtherCAT
Linear positioning	**Vision sensors**		**Encoder**	

IO-Link – the new sensor/actuator interface

Thanks to IO-Link, passive sensors and actuators become active process participants that communicate directly with the control level. The IO interface, which is part of bidirectional and continuous data exchange, automatically transfers the device status and any malfunctions. This makes for more efficient plant operation.

IO-Link

Photoelectric sensors	Cylinder sensors	Pressure sensors

HIPERFACE DSL®

Motor feedback systems
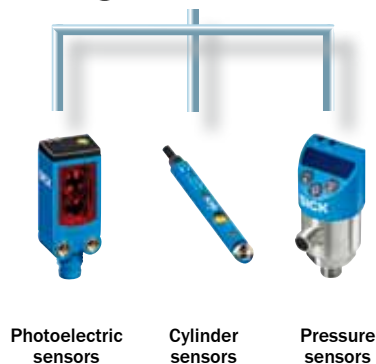
safetyPLUS® from SICK is a comprehensive safety concept for the field of industrial safety systems. It encompasses products, services and tools for safety engineering. Our offer for safety components provides the optimal solution for a wide range of requirements.

Made by SICK. safetyPLUS®

PROFINET IO
EtherNet/IP, EtherCAT
Ethernet TCP/IP, Modbus TCP
PROFIBUS, CANopen, CC Link

PROFIsafe for PROFINET IO

Safety laser scanners

PROFIsafe PROFIBUS PROFINET IO CANopen Ethernet TCP/IP

EFI Gateways

DeviceNet Safety

Secure network solutions

Safety camera system

Safety light curtain

Safety light curtain

Safety laser scanners

Safety light curtain

Safety position switches

Simple integration into your automation world

Our intelligent sensor solutions and safety controllers make available different integration technologies that allow easy access – from HMI, PLC, and Engineering Tools – to data from our sensors. In this way, we support you towards solving your application rapidly and easily and increase machine availability with a continuous diagnostic concept.

Industrial communication

SICK's fieldbus and network solutions allow sensors and safety controllers from SICK to be connected to all common automation systems. This guarantees simple and fast access to all available data and information.

PLC and Engineering Tool integration

Whether the issue is generic integration using device description files, standardized interfaces (e. g. TCI, FDT/DTM) for diagnosis or integration into the PLC program via function blocks – the user-friendly tools from SICK support you in implementation.

HMI integration

SICK offers a wide range of means to integrate process, status, and diagnostic data from SICK sensors into a visualization system. Tools such as OPC servers, web servers, or SCL allow simple and fast integration into your individual HMI solution – independent of the technology used.

Software and tools

Our software tools support you in establishing connections, parameterizing and diagnosing sensors and safety controllers from SICK. The intuitive user interface permits simple and fast designing and realization of the application required.

www.sick.com/industrial-communication

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Applications
Literature
Service
Connection diagram
Accessories
Spare part
Software
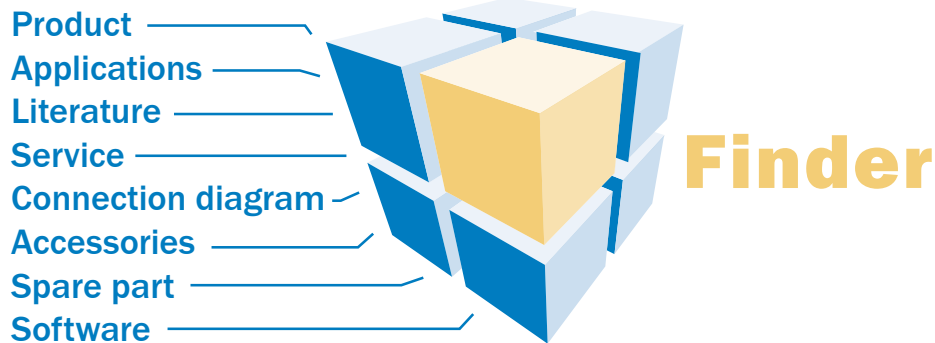
Finder

Product Finder: We can help you to quickly target the product that best matches your application.

Applications Finder: Select the application description on the basis of the challenge posed, industrial sector, or product group.

Literature Finder: Go directly to the operating instructions, technical information, and other literature on all aspects of SICK products.

These and other Finders at www.mysick.com

Efficiency – with SICK e-commerce tools

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www.mysick.com
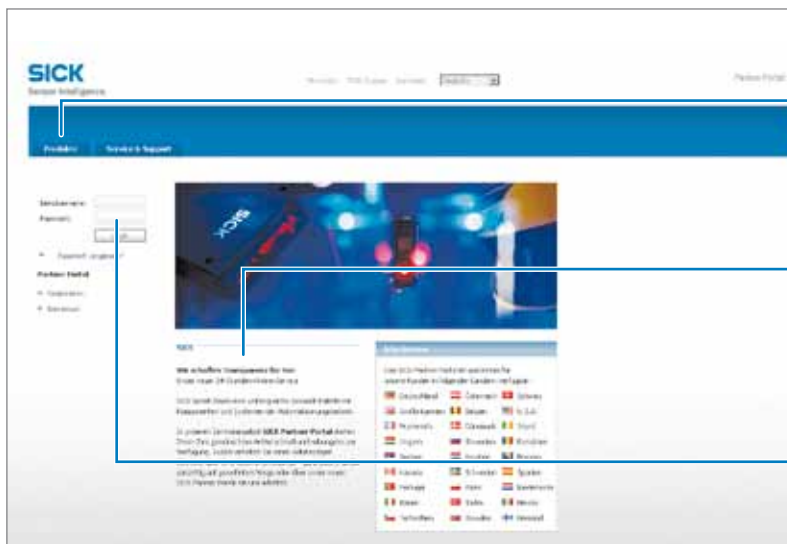
Clearly structured: You can find everything you need for your sensor planning under the menu items Products, Information, and My Account.

Available 24 hours a day: Regardless of where you are in the world or what you would like to know – everything is just a click away at www.mysick.com.

Safe: Your data is password-protected and only visible to you. With the individual user management, you define who can see what data and who can execute what actions.

Find out prices and availability
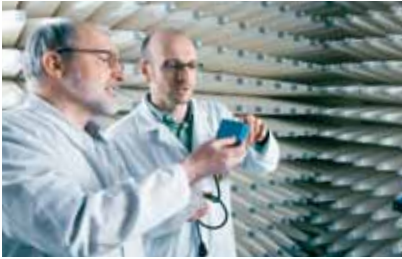Determine the price and possible delivery date of your desired product simply and quickly at any time.

Request or view a quote
You can have a quote generated online here.
Every quote is confirmed to you via e-mail.

Order online
You can go through the ordering process in just a few steps.

SICK at a glance

Leading technologies

With a staff of more than 5,000 and over 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

Worldwide presence with subsidiaries in the following countries:

Australia
Belgium/Luxembourg
Brasil
Ceská Republika
Canada
China
Danmark
Deutschland
España
France
Great Britain
India
Israel
Italia
Japan

México
Nederland
Norge
Österreich
Polska
România
Russia
Schweiz
Singapore
Slovenija
South Africa
South Korea
Suomi
Sverige
Taiwan
Türkiye
United Arab Emirates
USA

Please find detailed addresses and additional representatives and agencies in all major industrial nations at **www.sick.com**

SICK
Sensor Intelligence.