Innovations, application reports, technologies and more ➔ blog.sick.com
THE RIGHT SOLUTIONS FOR MORE FLEXIBILITY AND EFFICIENCY

Many paths, one goal: “Sensor Intelligence.” epitomizes our clear focus on sensor technology as a data provider for the intelligent factory, thus making it the most fundamental module for providing the highest possible levels of transparency in the supply chain. With our broad product and solution portfolio, we make sure that you are able to capture the necessary data reliably, evaluate it intelligently, and employ it purposefully for your application:

- To produce higher-quality goods in a more efficient and flexible way while saving resources
- To enable better traceability of goods
- To implement innovative safety concepts

In the context of Industry 4.0, sensors that communicate not just at controller level but also at the higher data level are needed. Our sensors can already do both: They send data reliably to the PLC, but also to higher-level data and software systems. This ensures that this proven technology can continue to be used going forward but you can take advantage of the additional benefits on a gradual basis.

In this issue of SICKinnovations, we present products, systems, and services which already provide the right solutions for your latest challenges.

For us, innovation means creating something new or improving something that already exists and, in so doing, make you as our customers even stronger. The starting point for this is always our products – high-quality and tailored to your requirements. We would like to present you our most current products on the following pages.
# PRODUCT INNOVATIONS: START BENEFITTING FROM THE ADVANTAGES OF INTELLIGENT SENSORS TODAY WITH SICK

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Product description
The G2 Flat is a miniature photoelectric sensor for use in particularly compact plants and robotics systems. With powerful background suppression (BGS), the sensor can be relied upon to detect objects at distances starting from just 8 mm — virtually regardless of object size and surface. This makes it an excellent solution for all kinds of tasks wherever space is at a premium and opens up entirely new possibilities for miniaturization in industrial environments. Sensor integration and handling could not be easier. As one of the smallest photoelectric sensor product families from SICK, the G2 Flat is the smart application solution in a miniature format for industrial automation.

At a glance
- Ultra-thin housing for the tightest of installation spaces
- BGS: Object detection starting from just 8 mm
- Detection of objects from 0.1 mm in size
- Reliable detection of jet-black, specular, transparent, and shiny objects
- PinPoint LED
- VISTAL® housing, steel mounting plates
- Can be adjusted individually to OEM requirements

Your benefits
- The ultra-thin G2 Flat sensors can be integrated into miniature plants and very tight installation spaces
- Reliable detection: Detect objects with excellent and high-performance background suppression starting from just 8 mm
- Even the smallest of objects can be detected without problems
- Versatility of use: The G2 Flat can be relied upon to detect jet-black, specular, transparent, and shiny objects
- Easy installation and maintenance – not least thanks to easy differentiation between sender and receiver
- Ultra-reliable sensor design with VISTAL® housing and steel mounting plates

👉 www.sick.com/G2F
For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description

In combination with a reflector, the Reflex Array MultiTask photoelectric sensor detects leading edges of small, flat, transparent or unevenly formed objects on conveyor belts within its light array. Detection takes place regardless of where and how the objects are positioned on a conveyor belt. The photoelectric sensor reliably detects objects such as glass bottles and polybags.

The Reflex Array can even detect perforated objects easily without triggering multiple switching operations. This reduces the overall costs and accelerates the commissioning process. Compared to other solutions that involve use of individual photoelectric sensors or small light grids, Reflex Array offers substantial cost benefits.

At a glance

- RAY10: 25 mm-high light array, detects objects ≥ 5 mm
- RAY26: 55 mm-high light array, three variants, detects objects ≥ 3 mm, ≥ 5 mm or ≥ 10 mm

Your benefits

- Reduces the overall costs for detection by up to 50% compared to other solutions
- Detection of objects ≥ 3 mm, ≥ 5 mm or ≥ 10 mm in a 55 mm-high light array or ≥ 5 mm in a 25 mm-high light array
- Display for predictive maintenance on the sensor; transmits maintenance signals to the PLC via IO-Link
- Conveyor belt suppression for RAY26
- PinPoint LED enables great visibility of the light array and easy and fast optical alignment
- Predictive maintenance using Auto-Adapt reduces downtimes

www.sick.com/Reflex_Array

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description
The W16 is equipped with new technologies such as TwinEye, LineSpot, ClearSens and OptoFilter for reliable object detection. It can be quickly and conveniently adjusted via the BluePilot operating and display concept. Since every W16 is designed as a Smart Sensor, it can be configured to fit the application via IO-Link and offers additional diagnostic functions and Smart Tasks. It is therefore a trailblazer on the path to Industry 4.0. The highly-visible PinPoint LED and the infrared LED are available as the light source. The durable laser inscription ensures device identification in the long run. Thanks to the very rugged VISTAL® housing and the predictive maintenance, the W16 offers very high reliability and prevents unplanned machine downtimes.

At a glance
- Technologies: ClearSens, LineSpot, TwinEye with OptoFilter
- BluePilot: Optical alignment aid, adjustment of the sensing range via Teach-Turn adjustment with optical sensing range indicator or via IO-Link
- PinPoint LED: Light-intensive red sender LED
- Smart Sensor: Enhanced Sensing, IO-Link, Diagnostics, Smart Tasks

Your benefits
- Usability and uniform operation thanks to optical quality display on the housing or conveniently via IO-Link
- Simplification when aligning the light beam to the reflector, the receiver or to an object thanks to the highly-visible light spot of the PinPoint LED combined with the optical LED display
- Very high reliability thanks to new detection technologies as well as high optical ruggedness
- The Smart Sensor makes machine processes quicker, more efficient and transparent, enables predictive maintenance and is thereby a trailblazer for Industry 4.0 applications

→ www.sick.com/W16
For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description

The W26 is equipped with new technologies such as TwinEye, LineSpot, ClearSens and OptoFilter for reliable object detection. It can be quickly and conveniently adjusted via the BluePilot operating and display concept. Since every W26 is designed as a Smart Sensor, it can be configured to fit the application via IO-Link and offers additional diagnostic functions and Smart Tasks.

It is therefore a trailblazer on the path to Industry 4.0. The highly-visible PinPoint LED and the infrared LED are available as the light source. The durable laser inscription ensures device identification in the long run. Thanks to the very rugged VISTAL® housing and the predictive maintenance, the W26 offers very high reliability and prevents unplanned machine downtimes.

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

→ www.sick.com/W26
Product description
The Z18 SimpleSense sensors are the ideal detection solution for standard applications at close range. With a wide range of housing options, mounting options, and sensor principles, the hybrid photoelectric sensors are suitable for all kinds of detection environments. The sensors are easy to mount and can also be integrated into existing plants and systems without any problems – including where space is at a premium – thanks to their miniature format. This combination of outstanding performance with maximum cost-effectiveness makes the Z18 SimpleSense sensors the ideal solution wherever reliable presence detection is required.

At a glance
- Modern OES4 ASIC technology for excellent optical performance and ambient light immunity
- Housing formats: Cylindrical (with M18 thread), cuboid, and hybrid
- Wide range of mounting options
- Programmable switching outputs
- No protection class II power supply unit required

Your benefits
- The simple and convenient sensor solution for reliable presence detection
- Cost-effective detection: Optimum optical performance in miniature format delivering outstanding value for money
- Minimum downtimes: Simple design means there is no chance of the sensor being adjusted inadvertently
- Flexible in application: Thanks to numerous housing and mounting options, the Z18 SimpleSense can be integrated into all kinds of application environments, including where space is at a premium
- High compatibility: Programmable switching output for easy integration into existing plants
- Low installation costs thanks to quick and easy mounting

www.sick.com/SimpleSense
For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description
The IMR inductive proximity sensors are not the least bothered by magnetic interference fields or weld spatter, such as arise in resistance welding applications. IMR sensors are made without a ferrite core, which makes them magnetic field resistant, and also have a very high electromagnetic compatibility. Thanks to the rugged non-stick coating made from PTFE, these sensors provide very good protection against flying sparks and slag deposits, thereby guaranteeing a high operational safety. Since IMR sensors operate on the reduction factor 1 principle, they can detect all metals within the same sensing range. The very high sensing ranges of up to 75 mm help reduce mechanical damage to the sensors and therefore sensor failures, and increase plant availability.

At a glance
- Types: M8 to M30, 40 x 40 mm and 80 x 80 mm
- Increased sensing range: up to 75 mm
- Electrical configuration: DC 3- and 4-conductor
- Enclosure rating: IP68
- Temperature range: –30° C to +85° C
- PTFE coating for cylindrical thread designs
- Reduction factor 1 for all metals

Your benefits
- Switching errors due to electromagnetic fields are precluded
- Long service life, even for welding applications with stringent requirements, thanks to the special PTFE coating
- Extra large sensing range for all metals, e.g. Aluminum or stainless steel, reduces mechanical damage to the sensors and therefore sensor failures, and increases machine availability
- Simple and reliable detection of objects made from different metals
- Reliable even under harsh ambient conditions thanks to the extended temperature range and an IP68 enclosure rating
- Cylindrical design with high switching frequencies for fast automation processes

→ www.sick.com/IMR
For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description
The KTL180 reliably detects contrast differences even at high machine speeds. Thanks to its 31.2 kHz switching frequency, a high grayscale resolution and manual switching threshold adjustment, the KTL180 makes for safe object detection. The response time of 16 µs ensures stable and accurate detection of contrast differences, for example with print marks, even for high-gloss materials. The sensor can be quickly adjusted to the respective application with the 7-segment display and easy menu guidance. Various teach-in processes as well as an integrated job save increase the flexibility during commissioning in a large range of applications - with very high process stability.

At a glance
- 31.2 kHz switching frequency at a response time of 16 µs
- High dynamic range
- Multi-functional 7-segment display
- Job save for easy format change
- 1-point, 2-point and dynamic teach-in
- Master-slave function
- A wide range of different fibers

Your benefits
- Very high switching accuracy: 31.2 kHz switching frequency for use in ongoing machine processes
- Easy sensor handling: Multi-functional display enables flexible, user-friendly sensor settings
- Safe detection and safe processes: Detection of very small contrast differences and high-gloss materials thanks to high grayscale resolution and manual switching threshold adjustment
- Versatile use: Different teach-in operations for ideal sensor settings in different applications
- Fast format change thanks to job save
- Compact design for use with limited installation space

www.sick.com/KTL180
For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description
The FlexChain is a flexibly configurable light grid thanks to the sequential connection of several sensors. There is no need for long connection cables or complex wiring. By pressing a button on the FlexChain Host, the sensors can be addressed and taught-in automatically, meaning the system is immediately ready for use. Different sensor technologies can be combined and freely arranged: Through-beam photoelectric sensors, photoelectric sensors. The raw sensor data is evaluated via the FlexChain Host with integrated logic modules or forwarded directly via IO-Link, CANopen, RS-485 or I/O signals. Detailed diagnostic information ensures optimum process stability and measurement certainty during operation.

At a glance
- Ultra-simple wiring for up to 60 sensors
- Sequential cycling prevents mutual interference
- Free arrangement of various sensor technologies
- Sensors available in different lengths of cable
- Sensor data evaluation in the system or direct transmission of raw data
- Process stability thanks to diagnostic function

Your benefits
- Flexibly expandable light grid system: Up to 60 sensors can be cascaded and controlled centrally via the FlexChain Host
- Ready for operation immediately: The sensors are identified and taught in at the push of a button
- Optimum measurement certainty thanks to sequential sensor cycling without mutual interference
- Highly flexible positioning of through-beam photoelectric sensors, photoelectric retro-reflective sensors and photoelectric proximity sensors at any distances or in any positions
- High process stability thanks to extensive diagnostic function
- High flexibility due to logic configuration in the Host and the IO-Link, CANopen and RS-485 interface variants
Product description

The SIG100 Sensor Integration Gateway is an IO-Link sensor hub which makes collecting and monitoring digital standard signals easier than ever. Logical decisions are made based on the user configuration, and the results are transmitted via IO-Link to any IO-Link master. Devices are parameterized quickly and easily via an integrated USB interface and the SOPAS ET graphical user interface. For various applications, a drag & drop logic editor enables the quick and easy creation of an autonomous sensor system which can be operated separately from the central controller (PLC).

At a glance

• Easy connection of binary sensors to any IO-Link master
• Six configurable ports; each has two binary inputs or outputs for connecting up to 12 standard I/Os
• Quick and easy configuration of an autonomous sensor system, which consists of binary inputs and outputs, via drag & drop logic links without an additional controller
• Reduced wiring effort and expense by consolidating individual sensor signals into a single IO-Link message

Your benefits

• Solution for complex application tasks by creating simple sensor systems using the logic editor integrated into SOPAS ET
• Uniform wiring concept via IO-Link for easy and transparent data integration
• Easy, intuitive parameterization via USB and the SOPAS ET graphical user interface

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

www.sick.com/SIG100
Product description
The new generation of deTec safety light curtains is ideal for the protection of hazardous areas, entrances, and hazardous points. Intelligent and state-of-the-art technologies such as NFC and IO-Link offer completely new possibilities for comprehensive diagnosis, fast installation, and performing automation functions. The standardized connectivity and the compatible accessories for the entire deTec product family reduce variant diversity. The required functions can be activated using the appropriate M12 system plug – without the need for software. With IP65, IP67, and IP69K enclosure ratings available, plus variants for explosion-hazardous areas, solutions can be found for a whole host of different applications in harsh environments.

At a glance
• NFC diagnosis and smartphone app
• Diagnostics and automation via IO-Link
• 2-signal muting
• Smart presence detection
• Dynamic protective field widths
• Configuration of all functions without software
• Reduced resolution: 1 or 2 beams
• IP65, IP67, and IP69K enclosure ratings plus variants for explosion-hazardous areas

Your benefits
• Increased productivity and short downtimes thanks to extensive and innovative diagnostic options
• Safety and automation combined: IO-Link makes cost-effective system design possible
• Muting provides maximum productivity and safety in differentiating between people and material
• High availability: smart presence detection prevents unwanted switch-offs
• Easy commissioning and configuration without the need for software, saving time and money
• IP65, IP67, and IP69K enclosure ratings available, plus variants for explosion-hazardous areas, ensuring maximum reliability in harsh environments

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

www.sick.com/deTec
Product description

In the pharmaceutical industry, extremely aggressive cleaning and decontamination agents require products that are highly resistant and rugged. The TWINOX4 stainless-steel safety light curtain has been designed specifically for use in the pharmaceutical industry. Since it has no edges or gaps, its design is particularly suitable for the protection of machines with stringent hygiene requirements. Due to its compact size, the TWINOX4 is ideal for flexible installation when space is limited. It boasts impressive features – it is rugged, easy to clean, and made of stainless steel.

At a glance

- Media resistance due to stainless-steel housing
- Easy-to-clean design with rounded edges and without undercuts
- Twin concept: Sender and receiver in a single housing
- Restart interlock, external device monitoring (EDM), beam coding
- Enclosure ratings IP65 and IP67

Your benefits

- The small, elegant stainless-steel housing saves space, enables optimum integration into the machine design, and offers great flexibility
- Highest level of media resistance for maximum reliability
- Efficient cleaning ensures high process and production quality and a low risk of contamination
- Efficient ordering process and cost savings due to reduced storage needs and spare parts maintenance
- Adjustable brackets ensure the highest availability
- Quick on-site diagnostics with LED status indicators over the entire protective field height

www.sick.com/TWINOX4

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
THE NEW GENERATION OF SAFETY LASER SCANNERS FOR STATIONARY APPLICATIONS

Product description
The microScan3 Core provides the basis for the product family of the microScan3 safety laser scanners. It is used for the protection of stationary applications such as hazardous areas, access points and hazardous points. The innovative safeHDDM® scanning technology increases the reliability of the microScan3. It is outstanding in dust and ambient light. It increases the productivity and availability of machines.

The housing is rugged. Smart connectivity facilitates safe integration into networks and cuts cabling costs. Using the Safety Designer software, the microScan3 can be intuitively configured and commissioned. The operational status can be called up and read clearly on the multicolored display or via the network. What can first impress, and repeatedly generate enthusiasm? The microScan3 from SICK.

At a glance
- Innovative safeHDDM® scanning technology
- Protective field range: Up to 9 m, scanning angle: 275°
- Up to 8 freely configurable fields
- Up to 4 simultaneous protective fields
- System plug with configuration memory and M12 plug connectors
- Safe machine integration via I/Os or via network with EtherNet/IP™ CIP Safety™ or PROFINET PROFIsafe
- Safe SICK device communication via EFI-pro
- Intuitive operation: Easy commissioning with the Safety Designer software and diagnostic options via the display, pushbuttons, or network
- Intelligent functions: Simultaneous protective fields, contour detection fields or measurement data output - with the help of the intelligent functions, the sensor settings can be optimally adjusted to the different requirements.

Your benefits
- Reliable technology and a rugged design: microScan3 Core safety laser scanners are at home in harsh industrial environments. Even in environments with dirt, dust and ambient light, the new generation of scanners shows how extremely resistant it is - thanks to the safeHDDM® scan technology, aluminum housing and well-designed fastening concept.
- Smart integration: Low cabling costs due to standardized interfaces, fast device change due to configuration memory, and safe machine integration via networks possible
- For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

→ www.sick.com/microScan3_Core
Product description
With the microScan3 Pro, SICK is expanding the product family of the microScan3 safety laser scanners - perfectly suited for safety and navigation in mobile applications as well as the intelligent protection of complex stationary applications. The innovative safeHDDM® scanning technology increases the reliability of the microScan3. It is outstanding in dust and ambient light. It increases the productivity and availability of machines. Smart connectivity facilitates safe integration into networks and cuts cabling costs. Using Safety Designer software, the microScan3 can be intuitively configured and commissioned. The operational status can be called up and read on the display or via the network. What can first impress, and repeatedly generate enthusiasm? The microScan3 from SICK.

At a glance
- Innovative safeHDDM® scanning technology
- Protective field range: Up to 9 m, scanning angle: 275°
- Up to 128 freely configurable fields
- Up to 8 simultaneous protective fields
- Ethernet-based output for high-precision measurement data
- Safe machine integration with EtherNet/IP™ CIP Safety™ or PROFINET PROFINsafe
- Safe SICK device communication via EFI-pro

Your benefits
- Reliable technology and a rugged design: microScan3 Pro safety laser scanners are at home in harsh industrial environments. Even in environments with dirt, dust and ambient light, the new generation of scanners shows how extremely resistant it is - thanks to the safeHDDM® scan technology, aluminum housing and well-designed fastening concept.
- Smart integration: Low cabling costs due to standardized interfaces, fast device change due to configuration memory, and safe machine integration via networks possible
- Intuitive operation: easy commissioning with the Safety Designer software and diagnostic options via the display, pushbuttons, or network
- Intelligent functions: Simultaneous protective fields, contour detection fields or measurement data output - with the help of the intelligent functions, the sensor settings can be optimally adjusted to the different requirements.

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description
The outdoorScan3 safety laser scanner protects people in a wide range of mobile and stationary outdoor applications. Thanks to intelligent algorithms and the outdoor safeHDDM® scanning technology, operation is reliable even in harsh weather conditions, which considerably increases your productivity. The outdoorScan3 stands out thanks to the rugged housing, smart connectivity and advanced diagnostic functions. The Safety Designer configuration software from SICK also enables easy and intuitive operation.

At a glance
- Certified in accordance with ISO 13849 and IEC 62998 for indoor and outdoor use
- outdoor safeHDDM® scanning technology
- Individual field settings
- Optimized product design for outdoor use
- Protective field range: 4 m
- Up to 128 freely configurable fields
- Safe networking with Flexi Soft safety controller

Your benefits
- High productivity due to safe human-machine cooperation in outdoor areas
- Outstanding availability even in harsh weather conditions
- Flexibility for safe, customized automation processes
- User-friendly and suited for outdoor use
- Easy access to diagnostic data
- Precise localization due to highly precise measurement data
- Continuous material flow due to intralogistics processes between buildings

www.sick.com/outdoorScan3
For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description
To offer customers a complete, scalable 2D LiDAR sensor portfolio, SICK is supplementing the TiM series to include safety-related sensors which satisfy performance level b: TiM-S devices. They were developed, among other things, for mobile applications such as mobile platforms, automated guided vehicles (AGVs) and mobile service robots. The sensors support localization and collision avoidance in these applications. The TiM-S devices can also be used for safety tasks in stationary applications. Equipped with the HDDM/HDDM+ measurement process, the TiM-S devices are very resistant to ambient light and reliably detect people and objects. The small sensor size and the intuitive commissioning using the SOPAS configuration software enables customized, nearly invisible sensor integration.

At a glance
- Wide detection range: 0.05 m up to maximum 25 m
- Certified in accordance with ISO 13849
- Low power consumption (typically: 4 W, maximum: 16 W)
- Immediate commissioning and configuration via USB interface
- Communication interface which combines intelligent field evaluation and measurement data output

Your benefits
- Coverage of large measuring ranges
- Safety-related, dynamic field evaluation and raw data output combined with the newest ROS drivers enable the use of TiM-S devices in nearly any application, both mobile and stationary
- Easy commissioning with rotatable connections and accessories perfectly attuned to the sensors; only a few adjustable SOPAS software parameters are necessary for commissioning
- Certification according to ISO 13849 allows for the use of the safety-relevant 2D LiDAR sensors in applications in personal protection in which performance level b is required, among others

www.sick.com/TiM-S
For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description
The inductive safety switches of the IME2S product family are used for safe position and area monitoring. Thanks to the very compact design and wide range of connection variants, they offer optimum integration into the machine design. The IME2S switches work without making contact and are low-wear. The safety switches do not require a separate actuator to do their monitoring tasks. On the contrary, detection of the IME2S is generally activated by metals, for example on machines. The safety switches are largely independent of installation tolerances, thereby simplifying mounting and adjustment. The IME2S can be connected to a safety control solution via its self-monitoring switching outputs (OSSDs), allowing for high safety with PL d (EN ISO 13849).

At a glance
- Types: M12 to M30
- Increased response ranges: 4 mm to 15 mm
- Two OSSD safety outputs
- Enclosure rating: IP67
- Temperature range: -25 °C to +70 °C
- Nickel-plated brass housing, plastic sensing face
- Up to performance level PL d (EN ISO 13849)
- Connection variants: M12 male connector, cable or cable with M12 male connector

Your benefits
- High machine availability thanks to low susceptibility to dirt and moisture
- Long product service life due to low-wear and low-maintenance workings
- Easy integration: Sensors can be mounted to save space thanks to their compact design and do not need a separate actuator
- Fast diagnostics via LED status indicator
- High reliability and precise switching behavior due to proven ASIC technology
- Safe, direct connection to a safety control solution by means of OSSDs
- Easy and flexible connection options thanks to variants with male connector, cable or cable with male connector

→ www.sick.com/IME2S
For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
SAFETY LOCKING DEVICE WITH TRANSPONDER MONITORING

Product description
The TR110 Lock safety locking device unites the best of proven technologies: high manipulation protection of the transponder technology for monitoring the actuator and the ruggedness and reliability of the mechanical locking device. The self-monitoring semiconductor outputs (OSSDs) with PL e (EN ISO 13849) result in a high level of safety, both for the door and for the locking monitoring. The optional escape release enables unlocking of the locking device from the hazardous area.

At a glance
- PL e for door and locking monitoring (EN ISO 13849)
- Locking force: up to 3,900 N
- Actuator with high coding level (EN ISO 14119)
- Enclosure rating: IP67, IP69K
- Power to lock or power to release variants
- Three actuation directions
- Optional escape release

Your benefits
- Highest level of safety for door and locking monitoring with just one device
- High level of machine availability due to a rugged metal locking head and high locking force
- High coding level of the actuator fulfills the requirements of EN ISO 14119 on manipulation protection without additional measures
- Easy mounting thanks to three actuation directions
- The escape release enables use of the locking device in applications in which the hazardous area is not completely visible
- Additional application diagnostic outputs simplify diagnostics

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

www.sick.com/TR110_Lock
Product description
The MB1 mechanical bolt is the ideal addition to non-contact safety switches and safety locking devices from SICK. Precise guiding of the actuator increases the tolerance to door offset and ensures correct functioning of an installed safety switch at all times. In addition, a mechanical bolt effectively prevents actuator breakage. The fault exclusion realized in this way enables a high performance level for the overall structure. Additional options such as a mechanical lock with padlock receptacle lock or an emergency release reliably protect maintenance staff from accidental entrapment.

At a glance
• Rugged design
• Variants with ANSI-compliant locking mechanism
• Standardized frame plates suitable for many safety switches from SICK
• Horizontal installation tolerance of 27 mm
• Compensation of vertical door offset up to ± 7 mm
• Variants with catch release button and emergency release

Your benefits
• Reliable and cost-optimized solution for door locking
• Increased productivity thanks to the rugged design and protection of the sensor
• High performance level due to fault exclusion, prevents actuator breakage
• Flexible mounting: Bolt can be used for right- or left-hinged doors
• Protection of employees from accidental entrapment thanks to locking function with padlock
• Protection from unwanted actuation for variants with catch release button

→ www.sick.com/MB1
For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Safe EFI-pro System

SAFE INTEGRATION FOR A PRODUCTIVE INTERACTION

Product description
Safe EFI-pro system is the result of the consistent development of the successful EFI interface and enables intelligent safeguarding of AGVs, robots and other challenging applications. The industrial Ethernet-based EFI-pro network technology enables the quick exchange and transmission of safe and non-safe data throughout all levels of communication. The central component is the EFI-pro gateway. It ensures safe and fast integration of innovative sensor solutions from SICK as well as direct integration of robot controls into the Flexi Soft safety controller via EtherNet/IP™ CIP Safety™. The Safe EFI-pro system is therefore a crucial enabler for implementing Industry 4.0.

At a glance
- Industrial Ethernet-based, safe network technology
- Configuration via Safety Designer
- Safe integration of up to 6 safety laser scanners
- Safe integration of robot controls via EtherNet/IP™ CIP Safety™
- Safe, integrated movement monitoring
- Simultaneous monitoring of up to 48 protective fields

Your benefits
- Perfect interaction in the safety system: Optimal connectivity of safety sensors, safety controllers and actuators connected via EtherNet/IP™ CIP Safety™
- Fast, intuitive commissioning: Safety Designer for the configuration of SICK system components and clever connectivity
- Secure productivity: Combination of safe motion monitoring, simultaneous protection field monitoring and extended network integration
- Optimized processes:Extensive diagnostic options via Safety Designer and device data via Ethernet from the field level into the cloud
- Safe investment: Future-proof industrial Ethernet technology

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

www.sick.com/Safe_EFI-pro_System
Product description
Safe linear position is well-suited for various applications in which safe linear positioning is machines is required. The clever combination of proven linear measurement sensors with a modular, high-performance safety controller and pre-developed safety logics guarantees the highest availability and reliability. Functions such as safe position monitoring and drive safety functions (SLS, SLP, SCA, SS1, SS2, etc.) are already implemented and TÜV-certified. Commissioning of the application is quick and easy with the configuration of just a few parameters. There is no need for complex sensor integration into the control. In addition, the system can be extended at any time, providing investment security.

At a glance
- Certified up to SILCL3 (EN 62061), PL e (EN ISO 13849-1)
- Slip-free thanks to camera-supported absolute positioning
- Drive safety functions (SLS, SLP, SCA, SS1, SS2)
- Position resolution: 0.01 mm or 0.1 mm
- Additional sensors and signals unnecessary
- Extendable system

Your benefits
- Time and money savings: TÜV-certified safety system does away with additional safety considerations
- Low maintenance effort and permanent calibration due to the use of a camera-based system
- Investment security: Can be used and extended flexibly
- Quick and easy retrofitting of existing automated conveyor systems thanks to easy integration of the safety system
- Highest availability and reliability due to the combination of proven linear measurement sensors with a modular, high-performance safety controller
- Plug and play installation and intuitive commissioning

→ www.sick.com/Safe_Linear_Positioning
For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description
Safety systems from SICK such as Safe Robotics Area Protection are the starting point for safe interaction between humans and robots: This system enables safe, cooperative, and freely accessible robot applications. Safe Robotics Area Protection consists of safety sensors, a safety controller, and functional logic with safety and non-safety functions. Thanks to the instructional documentation and pretested safety logic, the system can be integrated easily into robot controls and expanded flexibly. Safe Robotics Area Protection ensures that robots and operators work together on a cooperative basis and can share the same workspace. This reduces downtimes, optimizes work processes, and increases productivity.

At a glance
• Safety functions thanks to ready-made, tested functional logic
• Proven safety logic triggers robot safety functions
• Performance level PL d
• Automated robot restart possible

Your benefits
• Free, safe access to cooperative robot applications for high productivity, low downtimes, and optimum work processes
• High flexibility as the system is easy to adapt to the robot application and production environment
• Future-proof, as it can be flexibly expanded
• Detailed documentation for robot integration, compliant with relevant standards
• Low costs as the system is easy to integrate into common industrial robot controllers, thanks to generic or specific safety systems
• Reliable safety for your plant – proven safety logic, developed by SICK experts

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

www.sick.com/Safe_Robotics_Area_Protection
Product description

SICK Safe Portal Solutions are specifically tailored to ensure efficient protection for material transfer stations in a way that complies with safety standards. Vertically aligned safety laser scanners with intelligent monitoring of case switching provide access protection. Objects with predefined contours are able to pass through the portal safely. This ensures a very flexible production process at the highest possible productivity. The customized safety solution includes all technical protective devices and the associated engineering. It also contains diagrams in EPLAN format as well as configuration and validation for the customer on-site. This saves time and costs, and ensures safety at all levels.

At a glance

- Intelligent protective field evaluation
- Rugged, space-saving solution without muting sensors
- PL d (EN ISO 13849)
- Logic integration even into third-party controls, e.g. SIEMENS or Allen-Bradley

Your benefits

- Access protection permanently active – no muting necessary
- Maximum productivity thanks to use of reliable hardware
- Safety through fulfillment of EN ISO 13849 requirements
- Future-proof integration into the existing infrastructure, flexible adjustment if there are changes in production processes

- Engineering documentation with SICK VERIFIED SAFETY quality seal
- Hardware, engineering, commissioning and documentation from a single source
- Legally-compliant, transparent and comprehensive documentation: Archived for you for 30 years according to the harmonized worldwide standard
- Customized, risk-minimized and economic solution thanks to quick, routine implementation by SICK

→ www.sick.com/Safe_Portal_Solutions

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description
Safety is essential for the collaboration between humans and machines. SICK is offering Safe Robotics Area Protection Solutions to enable free and safe access of the worker to the robot work area. The tailored complete solutions contain hardware and engineering services: From planning to implementation to commissioning. The goal is the optimization of robot applications by protecting hazardous areas in accordance with international standards. These SICK safety solutions increase productivity, enable ergonomic processes and save time and money. Safe Robotics Area Protection Solutions prevent unnecessary robot stops. Automated restart can be implemented depending on the robot application.

At a glance
- Safety solutions for freely-accessible robot applications
- Custom-made solutions from a single source including product management, software, hardware and engineering
- Performance level PL d
- Complies with international standards, e.g. EN ISO 10218-2
- Engineering documentation with SICK VERIFIED SAFETY quality seal

Your benefits
- Tailored safety solutions developed and tested by SICK safety experts
- Free, safe access to cooperative robot applications for high productivity, low downtimes, and optimum work processes
- High flexibility due to individualized adaptation of the solutions to the robot application and production environment
- Cost-effective solutions due to quick implementation by experienced SICK safety experts
- Future-proof solutions which can be expanded flexibly

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

www.sick.com/Safe_Robotics_Area_Protection_Solutions
**Product description**

The MCS200HW is a multi-component analyzer system for continuous monitoring of up to 10 IR measurement components in flue gases of industrial combustion plants. The MCS200HW is hot/wet extractive: All parts which touch media, from the gas sampling probe to the cell, are heated above the dew point and therefore protected from corrosion.

An integrated oxygen sensor also measures oxygen. As an option, a TOC measurement can be supplemented via an integrated GMS811 FIDORi. Internal reference point monitoring allows for a quick check of the measured values with test gases. The web display and the task assistant integrated in the software makes operation very easy.

**At a glance**

- Measurement of up to 10 IR components plus O₂ and TOC
- Hot/wet extractive measurement technology
- Wear-free gas distribution through ejector pumps
- Reference point monitoring with internal calibration cells
- Certified digital Modbus® interface
- Web server for platform-independent device control
- Use of dry test gases for HCl and NH₃

**Your benefits**

- Reliable measurement results, even for water-soluble gas components
- Only one analyzer necessary for simultaneous monitoring of up to 12 gas components
- Measurement components can be put together flexibly and extended at any time
- Convenient, task-oriented operation
- Remote access without additional software
- High availability due to certified internal third-party monitoring (QAL3) without test gases
- Low service costs thanks to minimal maintenance requirements
- Complete data transmission through only one interface possible

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description
SICK’s Tire Analytics software provides comprehensive, real-time performance and health monitoring of automated identification systems in the tire industry. From tracking an individual tire on a conveyor - to a facility processing thousands of tires a day, Tire Analytics helps drive timely decision-making in high-volume applications. Throughout your green and finished tire identification process, this software helps you prepare for Industry 4.0 by boosting traceability, accuracy and efficiency.

At a glance
• Reliable aggregation and visualization of SICK sensor data
• Modern, responsive user interface accessible on multiple form factors
• Data Analysis Package based on time, read-rates and barcode type
• Easy installation and configuration
• Time limited license for evaluation

Your benefits
• Gain secure access on multiple form factors (mobile/tablet/desktop) for round the clock monitoring
• Increase operational efficiency when tracking green and finished tires
• Improve compliance by easily sharing images and data
• Identify trends to improve track and trace system/facility level performance

→ www.sick.com/Tire_Analytics
For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description

FieldEcho® allows for parameterization and monitoring of all IO-Link devices in a plant throughout the whole life cycle – regardless of the PLC, fieldbus, or IO-Link master used. FieldEcho® communicates with a PLC through OPC UA. Using the SICK generic function block, FieldEcho® provides access to the IO-Link device process and service data. FieldEcho® consists of a server that is responsible for the communication. It can read and write IO-Link device data as well as provide them for the FieldEcho front end. Due to its REST API, these data are also accessible for any third-party application. Its front end interprets IODDs and provides a graphical user interface for the whole system as well as for any single IO-Link device.

At a glance

- Suitable to parameterize and monitor all IO-Link devices in a plant
- Platform-independent access to IO-Link device data
- OPC UA client to communicate with PLCs
- Automatic IO-Link devices discovery
- Interface to IODDfinder
- Server and client can be distributed in the network
- Usable in browsers or integrated in HMIs

Your benefits

- Parameterizes and monitors all IO-Link devices in the plant, using a modern, web-based graphical user interface
- Available over the entire life cycle – during commissioning and runtime, up to the device replacement and maintenance
- To a fully configured system with only a few clicks
- Automatic discovery of connected IO-Link devices
- No long search for suitable IODDs required – IODDs are automatically downloaded
- Only one single FB call in the PLC program required
- Simply use the OPC UA server of the PLC to connect to FieldEcho
- Access to IO-Link device data from the system visualization or from any Internet browser

→ www.sick.com/FieldEcho

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
The Remote Service Connect sensor app makes it possible to reach SICK devices via SICK Remote Service. The app is designed to offer a pure remote service software solution for all programmable SICK devices. Neither a meeting point router nor special hardware is needed to connect SICK devices to the remote service platform. There are no additional costs for the customer for a gateway or a router.

At a glance
- Safe remote maintenance connection
- Exact monitoring via maintenance access
- Easy download, configuration and installation
- Seamless integration into existing systems
- Enables meeting point router functions on programmable devices (an App Engine 2.7 and Ethernet interface are necessary here)

Your benefits
- Very high availability of systems and sensors
- No additional hardware and no meeting point router necessary
- Low maintenance costs
- Support from qualified experts - from commissioning to operation
- Proactive support as well as very short response and solution times
- Quick assistance provided by experts
- Secure, high-performance communication platform
- Easy and flexible integration into existing IT infrastructure via LAN

www.sick.com/Remote_Service_Connect
For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description
The SCPS process gas analyzer system is used for gas measurement directly on rotary kilns. Rugged sample probes, effective cleaning mechanisms combined with hot or cold extractive analyzer systems and flexible remote maintenance - SICK is the only manufacturer that delivers the whole portfolio of products from a single source. The analyzers are configured to measure not only the important combustion parameters $O_2$, $CO$, $CO_2$, $NO$ and, if applicable, $CH_4$, but also process parameters such as $SO_2$, $HCL$ and $NH_3$. Thanks to their minimal maintenance, maximum availability, and precise measured values, the SCPS system really shines, especially when it comes to combustion with high levels of sulfur or chlorine.

At a glance
- Simultaneous measurement of all relevant gas component such as $O_2$, $CO$, $CO_2$, $NO_x$, $CH_4$, $SO_2$, $HCL$, $NH_3$
- Rugged and cooled sample probes, can be used up to 1,400 °C and 2,000 g/m³ dust
- Up to 98% availability of the complete system
- Quick service thanks to remote maintenance

Your benefits
- Prevention of system downtimes due to timely detection of problems in the process
- Uniformly high product quality thanks to process control
- Lower energy costs due to an optimized combustion process
- Rugged and proven technology for minimal maintenance work
- High system availability due to harmonized components from a single source
- Quick and capable assistance thanks to remote access and an experienced service team that is active all over the world

→ www.sick.com/SCPS
For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description

The VMS4200/5200 track and trace system is ideal for challenging applications in the field of non-contact dynamic measurement and position determination for objects on a diverse range of conveyor systems. The smallest cuboid that fully encloses the object is precisely determined using two laser-based measuring heads, virtually regardless of the shape of the object. With the certified system variant, the dimension data can be used for billing purposes. The SIM2000 system controller makes it possible to separate metrologically relevant software from application-specific software. The modular system construction ensures compatibility with existing solutions from SICK and enables adaptations to customer-specific applications.

At a glance

- Measurement accuracy up to 5 mm x 5 mm x 2 mm
- Object sizes up to 5,500 mm x 1,600 mm x 1,100 mm
- Reliable operation at conveyor belt speeds of up to 4.0 m/s
- Certified according to MID and NTEP (OIML)
- Option of output as point cloud
- Flexibility thanks to separation of metrologically relevant software and application-specific software

Your benefits

- Increased throughput thanks to non-contact, dynamic measurement of objects virtually regardless of their shape
- Optimizes material handling processes and the use of vehicle and storage capacities
- Increased sales thanks to validated revenue recovery of freight costs
- Material flow optimization through inline object measurement
- Increased system availability and reduction in operating costs thanks to short MTTR
- Time savings thanks to easy installation with maximum modularity
- Range of options: stand-alone solution or in combination with reading station and weighing technology

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description

The linear encoders from the MAX® product family enable non-contact, completely integrated and absolute position measurement in hydraulic cylinders. Suitable for use under extreme ambient and operating conditions in applications in mobile machines. The proven magnetostriction technology is highly reliable. Valuable diagnosis functions considerably reduce operating costs. Easy integration into existing cylinder constructions. The smaller installation housings of the MAX® are perfectly suited for cylinders with very tight installation space.

At a glance

- Measuring ranges: 50 mm to 2,500 mm (depending on the type)
- Typical resolution: 0.1 mm
- Analog, digital interfaces as well as PWM signals available
- Stainless-steel housing, operating pressure up to 400 bar (depending on the type)
- Fluid temperature: Up to +95 °C
- Installation room: 10 mm, cushion zone: 30 mm
- Position magnet does not need a spacer disk

Your benefits

- Reliable, safe and wear-free due to magnetostriction
- Mechanically and electrically compatible with existing constructions
- Very good utilization of the piston stroke, even if the installation space in the cylinder is very tight.
- Extremely stable signal behavior and very good EMC properties: resistant to radiated or coupled faults in the on-board electrical power supply
- Thanks to the large temperature range compared to other devices, it is more resistant to thermal stresses caused by hot fluids
- Monitoring of hydraulic cylinders: storage of power-up cycles, piston path, fluid temperature and supply voltage
- Good cost-benefit ratio

→ www.sick.com/MAX

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description

Precision, speed and dynamics play a particularly important role in the measurement of linear movements. The compact linear measurement system TTK70 with HIPERFACE® or SSI interface fulfills all these properties. The magnetic principle of operation, the long measuring lengths, and the extremely high resolution open up all kinds of application possibilities for absolute position and speed recording. The non-contact measuring system consists of a compact read head and magnetic tape. The read head is responsible for recording position values. The magnetic tape is the measuring element and features a magnetic division into an incremental and an absolute track.

At a glance

- Non-contact absolute position and speed recording
- With HIPERFACE® or SSI interface
- Measurement lengths of up to 4 m
- For high traversing speeds of up to 10 m/s
- Reliable measurements, even in the event of contamination and condensation on the magnetic tape
- Small, compact read head
- Certified according to SIL2 and PL d (HIPERFACE® interface)

Your benefits

- Available with the HIPERFACE® and SSI interfaces
- Measurement lengths of up to 4 m
- Maintenance and wear-free thanks to non-contact measurement principle
- Compact design, low weight, and high traversing speed
- Immune to ambient conditions such as contamination and condensation
- No need for a reference run due to the absolute position recording
- Certification allows for easy integration into a safe drive system

www.sick.com/TTK70

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description

Precision, speed, dynamic, stiffness and a high level of control quality – these are the features that play an important part in high-end applications of drive technology. The TTK50 linear measuring system meets all these requirements. It is a very compact motor feedback system with a HIPERFACE® interface. The magnetic principle of operation, the large measured lengths and the very high resolution open up a multitude of applications for absolute position determination on linear motors. Inside, the TTK50 features the latest sensor and evaluation technology. The sensor board aligned with the measuring plane is equipped with hall sensors on two parallel tracks. Their arrangement corresponds to the division of the magnetic tape into an incremental and an absolute component. To calculate the absolute position values during operation, the read head first records the absolute initial position when the linear motor starts. Then all other actual positions of the drive are determined via the incremental position on the magnetic track or sine/cosine signals.

At a glance

- Absolute, non-contact, wear-free length measurement system for linear motors
- Measured lengths of up to 1 m
- Suitable for high traverse speeds of up to 10 m/s
- Reliable location positioning even in the event of condensation and contamination of the magnetic tape
- Electronic type label and programming of the position value
- Absolute location positioning, no reference run
- HIPERFACE® interface
- Certified according to SIL2 and PL d

Your benefits

- Reference traverse no longer necessary due to absolute measuring system
- Maintenance-free thanks to non-contact measuring principle
- Simple integration of the system due to the HIPERFACE® interface
- Developed specifically for use in linear direct drives
- Also for use in rough ambient conditions
- Certification allows for easy integration into a safe drive system

→ www.sick.com/TTK50

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description

The AHS/AHM36 IO-Link Inox absolute encoders set standards in resistance to environmental influences and IO-Link communication. Due to the stainless-steel design and enclosure rating IP69, the encoders are suitable for use in very harsh ambient conditions. With various mounting hole patterns and adapter flanges, the AHS/AHM36 IO-Link Inox absolute encoders fit into nearly every application. The IO-Link interface enables economical encoder integration into Ethernet and fieldbus networks. The configuration can be adjusted individually using SOPAS or IO-Link master. The rugged, reliable, fully magnetic sensor system achieves a maximum resolution of 14 bits for the singleturn variant and maximum 26 bits for the multiturn variant.

At a glance

- Compact 36 mm absolute encoder with maximum 26 bits (AHM36) or 14 bits (AHS36)
- Housing, flange, shaft made of stainless steel 1.4305
- IP69 enclosure rating
- Face mount flange, servo flange, blind hollow shaft
- M12 male connector or cable connection
- Configuration and process data communication via IO-Link
- Operating temperature range: −40 °C ... +85 °C

Your benefits

- High resistance to environmental influences due to stainless-steel design
- Enclosure rating IP69 and shaft sealing ring for optimal tightness
- Easy and economical integration of the encoder into various higher-level networks via IO-Link interface
- Easy encoder configuration via IO-Link master or SOPAS
- Quick and easy mechanical installation with various mounting hole patterns and many different shafts
- Rugged, reliable, fully-magnetic sensors which can also be used in harsh environments

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

www.sick.com/AHS_AHM36_IO-Link_Inox
Product description
The AHS/AHM36 SSI Inox absolute encoders set standards in resistance to environmental influences and SSI communication. Due to the stainless-steel design and enclosure rating IP69K, the encoders are suitable for use in very harsh ambient conditions. With various mounting hole patterns and adapter flanges, the AHS/AHM36 SSI Inox absolute encoders fit into nearly every application. In addition to single-/multiturn resolution, the counting direction and other parameters, the structure of the SSI protocol to be output can be individually adapted using a programming tool. The rugged, reliable, fully magnetic sensor system achieves a maximum resolution of 14 bits for the singleturn variant and maximum 26 bits for the multiturn variant.

At a glance
- Compact 36 mm absolute encoder with maximum 26 bits (AHM36) or 14 bits (AHS36)
- Housing, flange, shaft made of stainless steel 1.4305
- IP69K enclosure rating
- Face mount flange, servo flange, blind hollow shaft
- M12 male connector or cable connection
- Programmable version: Resolution, etc. can be programmed
- Operating temperature range: −40 °C ... +100 °C

Your benefits
- High resistance to environmental influences due to stainless-steel design
- Enclosure rating IP69K and shaft sealing ring for optimal tightness
- Simple and flexible electrical installation with various configuration options (programmable SSI version)
- Easy setup for various applications allowing binary, non-binary, and non-integer resolutions with the round axis functionality (programmable version)
- Quick and easy mechanical installation with various mounting hole patterns and many different shafts
- Rugged, reliable, fully-magnetic sensors which can also be used in harsh environments

→ www.sick.com/AHS_AHM36_SSI_Inox
For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
AHS/AHM36 CANopen Inox ABSOLUTE ENCODERS

RESISTANT, SMART, COMPACT: ENCODERS FOR HARSH ENVIRONMENTS

Product description

The AHS/AHM36 CANopen Inox absolute encoders set standards in resistance to environmental influences and CANopen communication. Due to the stainless-steel design and enclosure rating IP69K, the encoders are suitable for use in very harsh ambient conditions. With various mounting hole patterns and adapter flanges, the AHS/AHM36 CANopen absolute encoders fit into nearly every application. The configuration can be individually adjusted when integrating into the CANopen network. The encoder also communicates diagnostic data such as temperature or operating time. The rugged, reliable, fully magnetic sensor system achieves a maximum resolution of 14 bits for the singleturn variant and maximum 26 bits for the multiturn variant.

At a glance

- Compact 36 mm absolute encoder with maximum 26 bits (AHM36) or 14 bits (AHS36)
- Housing, flange, shaft made of stainless steel 1.4305
- IP69K enclosure rating
- Face mount flange, servo flange, blind hollow shaft
- M12 male connector or cable connection
- Configurable parameterization and diagnostic functions
- Operating temperature range: −40 °C ... +85 °C

Your benefits

- High resistance to environmental influences due to stainless-steel design
- Enclosure rating IP69K and shaft sealing ring for optimal tightness
- Simple network installation with various configuration options
- Intelligent diagnostic functions evaluate maintenance intervals for the entire system, thereby increasing system reliability
- Quick and easy mechanical installation with various mounting hole patterns and many different shafts
- Rugged, reliable, fully-magnetic sensors which can also be used in harsh environments

→ www.sick.com/AHS_AHM36_CANopen_Inox

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description

The digital HIPERFACE DSL® interface has played a significant role in shaping drive technology over recent years. EDS/EDM35 motor feedback systems come with HIPERFACE DSL® and ensure outstanding performance for high-precision servo drives used in safety applications. Fitted with a standardized mechanical interface, they are highly flexible, particularly when used in conjunction with EES/EEM37 motor feedback systems.

EDS/EDM35 systems have a newly developed optical scanning system with dual-channel scanning and are highly resistant to shocks and vibrations. Features such as secure singleturn absolute positioning and electronic type labels EDS/EDM35 make them the ideal solution for a wide range of applications, for example in the packaging and machine tool industries.

At a glance

- Optical motor feedback system with HIPERFACE DSL®
- Up to 24-bit resolution per revolution and 4,096 revolutions with the multi-turn system
- Certified according to SIL2 and PL d
- Status monitoring and mission time histogram; temperature, speed, and revolution data are stored throughout the service life of the device

Your benefits

- A single model with different performance levels allows system suppliers to implement a variety of applications using only one type of encoder
- EDS/EDM35 motor feedback systems are ideal for use in high-precision, dynamic applications
- The 13-bit secure absolute singleturn resolution meets the requirements of tomorrow’s safety servo drives

→ www.sick.com/EDS_EDM35

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description

The Lector62x is a compact image-based code reader for the reliable detection of 1D, 2D, and stacked codes as well as plain text. Its high-performance DPM decoder can read even lasered or dot-peened codes perfectly – even in the case of low contrast levels, contamination, or poor code quality. Thanks to the powerful illumination concept with bi-color LEDs, the Lector62x is particularly immune to ambient light. It ensures stable reading even in changing light conditions. The compact housing with swivel connector makes it the ideal code reader for production lines where space is tight.

At a glance

• Intelligent decoding algorithms and high-performance DPM decoder
• Immune to ambient light
• Powerful LEDs in red, blue, infrared
• Flexible optical accessories such as polarizing filter or dome attachment
• Compact housing with swivel connector
• Setup wizard with auto focus, aiming laser, green feedback LED
• microSD card for storing images and backup copies of parameters
• Innovative data handling with comprehensive sorting, filtering, and output formatting functions

Your benefits

• Intelligent decoding algorithms for maximum reading performance and high throughput, even with highly reflective or contaminated codes
• Variable illumination concept ensures stable reading even in changing light conditions
• Maximum reliability on shiny or reflective surfaces thanks to flexible optical accessories
• Compact design and swivel connector for easy integration even if installation space is tight
• Automated setup wizard with auto focus and aiming laser makes commissioning faster and more cost-effective
• Short downtimes when devices are replaced thanks to parameter backup on MicroSD card
• Programming is quick and easy since read results can be transmitted to the control system in the desired format

www.sick.com/Lector62x

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description
The TriSpectorP1000 is a programmable 3D camera ready for Industry 4.0. Part of the SICK AppSpace eco-system, the 3D camera and the software tools that are included open up possibilities for tailor-made solutions – with easy commissioning and operation in areas such as quality control, robot handling, and profile verification. The TriSpectorP1000 operates stand-alone and contains imaging, lighting, and analysis in a single rugged housing. Laser triangulation technology provides color-independent, contrast-independent, and true object shape data in millimeters. The TriSpectorP1000 is the perfect choice for fully flexible, cost-efficient, in-line industry automation solutions.

At a glance
- 3D, 2D, and profile inspection of moving parts
- Imaging, lighting, and analysis in one housing
- SICK AppSpace, programmable 3D camera
- Full flexibility for tailored solutions
- SICK Algorithm API and HALCON
- Factory-calibrated 3D data
- Web user interface

Your benefits
- Fully flexible automation thanks to contrast-independent, true shape data in mm
- Tailor-made solutions with SICK AppSpace development framework
- Cost-efficient solutions with stand-alone 3D camera, ready for Industry 4.0
- Increased quality and less waste with in-line inspections of all parts in three dimensions
- Easy operation with customized web interface
- Commissioning and device replacement made easy with guaranteed field of view
- Operation in harsh environments with IP67 housing

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description
Highly accurate and with an unmatched measurement speed, the next generation Ranger3 streaming cameras can be configured for a wider range of needs. Powered by our unique 3D sensor tailored for demanding vision applications, Ranger3 will serve as a key component in inspection systems worldwide. The camera extracts the true 3D shape of an object, regardless of its contrast or color and as a result, improves quality for a multitude of products. Cost-effective integration is guaranteed through GigE Vision and GenICam compliance. Ranger3 offers big 3D performance in a small housing.

At a glance
- SICK CMOS sensor with ROCC technology for superior 3D performance
- Up to 15.4 Gigapixels processed per second
- 3D profiles at 7 kHz full frame
- Sensor resolution 2,560 x 832 pixels
- GigE Vision and GenICam compliant
- 3D, reflectance and scattered light measurement in one device
- Industrial housing with IP65/67 option

Your benefits
- Unique CMOS sensor enables fast 3D measurement speed for increased throughput
- Reliable and accurate measurements on dark and bright surfaces enable flexible production - an enabler for Industry 4.0
- High light sensitivity allows 3D inspection without higher laser power
- Accurate shape, volume and position measurements for a wide range of objects improving product quality
- Standardized software integration with GigE Vision and GenICam
- Easy mechanical integration thanks to a compact housing, the ProFlex-Front, industrial connectors and 4Dpro accessories

www.sick.com/Ranger3
For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
INTELLIGENT IDENTIFICATION IN THE SMALLEST OF SPACES

Product description
The RFU61x is the smallest read/write device in the UHF range of this product family. Its small size enables use in applications with little installation space. In spite of its size, it can reliably read and write transponders up to scanning ranges of 0.5 m. The countless interfaces of the RFU61x enable the connection of various trigger sensors, whereby the sensor can be used as a remote, self-supporting unit. In combination with the SICK AppSpace eco-system, it can also be programmed very flexibly and in line with individual customer requirements. The RFU61x is therefore a future-proof identification solution for the entire production and logistics process.

At a glance
- Extremely compact design
- Scanning range up to 0.5 m
- Connection option for trigger sensors
- Linkage option to superior control system and up into the cloud
- Antenna and data processing integrated in the sensor
- Configuration via SOPAS ET or integrated web server
- Can be used with SICK AppSpace
- Rugged design in accordance with IP67

Your benefits
- The small size enables versatile application possibilities even if space is tight
- Direct connection option for trigger sensor saves time and money during installation
- Very little programming work needed in the control due to intelligent process logics in the device
- Easy configuration through SOPAS ET or the integrated web server saves time and commissioning costs
- Compatible with SICK AppSpace - for maximum flexibility when programming tailored software solutions
- The rugged design enables reliable operation - even in tough industrial environments

www.sick.com/RFU61x
For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description

The LMS4000 2D LiDAR sensor is particularly well-suited for use in intralogistics, material handling and in all areas in which goods must be quickly and systematically analyzed and moved. With the LMS4000, SICK is offering the ideal solution for measuring objects regarding their position, shape, volume or surface quality and evaluating and processing them correspondingly. Regardless of the object position in containers, cartons or on pallets, or whether they are free-standing or touching one another, the sensor measures precisely with high sampling density and a wide dynamic range. A high throughput with comprehensive process reliability and low maintenance needs is the result.

At a glance

- Precise measurement, even with very dark or glossy objects
- Fine angular resolution for high measurement point density
- High speed measurement with 600 Hz and fast data transmission with Gigabit Ethernet
- Synchronization of devices without mutual interference
- Industry-grade M12 connections

Your benefits

- Precise measurement of quickly moving objects, large and small, independent of their shape, color or surface quality
- Very detailed object scanning with a high depth of field and a wide range of dynamics without external illumination or additional line lasers
- Need-based extension of the measuring range as several devices can be mounted next to one another without mutual interference
- Quick installation, high availability, simple maintenance

www.sick.com/LMS4000

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
**Product description**

The RMS3xx radar sensor combines the high-performance radar technology from SICK on a foundation of trusted hardware and efficient software. The sensor reliably identifies objects such as obstacles within its detection range. It not only outputs the identification number of the object, but also its direction of movement, speed and distance to the sensor. Thanks to the individually adjustable monitored areas, the RMS3xx identifies objects on-time, e.g. to detect collision risks for driver assistance systems in a timely manner and prevent damage.

Simultaneous detection of several objects and provision of associated object data secure operation even in areas in which several objects have to be monitored or in harsh environments.

**At a glance**

- Detection of static and movable objects
- 4 freely programmable transistor switching outputs
- Output of identification number, speed, direction of movement of the object via Ethernet
- Large scanning range for detection angles of ± 50° (azimuth) and ± 8° (elevation)
- Dust-free, waterproof housing (IP67)

**Your benefits**

- Quick and precise object detection
- Monitored areas can be adapted individually to applications
- Freely programmable transistor outputs for quick, break-free and stable data transmission
- Output of identification number, speed and direction of movement of the object via Ethernet
- Simultaneous determination of object distance and speed as well as the angle between sensor and object
- Simple configuration and installation

→ [www.sick.com/RMS3xx](http://www.sick.com/RMS3xx)

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description

SICK is adding the TiM7xx to the TiM series for a seamless and scalable 2D-LiDAR sensor portfolio. This sensor combines intelligent field evaluation and measurement data output in one device. This makes it possible to output both data about the presence of an object in a defined area and exact measured data of the scanned surface. The TiM7xx is SICK’s solution for reducing the number of sensors needed for mobile applications. This enables customers to develop customized solutions for their applications. The compact design of the sensors is ideal for applications such as mobile platforms, automated guided vehicles (AGVs) and mobile service robots. The TiM7xx supports localization and collision avoidance in these applications.

At a glance

- Wide detection range: 0.05 m up to maximum 25 m
- Low power consumption (typically: 4 W)
- Immediate commissioning and configuration via USB and Ethernet
- Intelligent field evaluation and measurement data output in one device
- Rugged design suitable for industry thanks to enclosure rating up to IP67

Your benefits

- Enables new solutions for mobile applications by combining intelligent field evaluation and measurement data output.
- Reliable object detection independent of the object, even with strong ambient light
- Easy integration into compact AGVs thanks to small size of the sensor
- Easy commissioning with rotatable connections and accessories perfectly attuned to the sensors; only a few adjustable SOPAS software parameters are necessary for commissioning
- Improved behavior for edge hits thanks to HDDM*

www.sick.com/TiM7xx

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Product description
The T-Easic® FTS thermal flow switch measures flow and temperature in accordance with the calorimetric principle. With two digital outputs, it monitors the measured values and sends these to a superior control as soon as a set limit value is exceeded or undercut. The parameter settings can be done via IO-Link. As an industrial design, it also offers an OLED display and operating buttons. Values preset at the factory for media such as oil and water simplify and accelerate commissioning; nearly all liquids can be calibrated quickly and easily. The extremely rugged VISTAL® housing of the industrial design protects the sensor during cleaning processes, the hygienic design also available also withstands CIP/SIP conditions.

At a glance
• Flow monitoring and temperature measurement in one sensor
• Optimized for water and oil; teach-in option of other liquids
• IP 67/IP 69 enclosure rating and IO-Link 1.1
• Industrial design in VISTAL® housing with 180°-rotatable OLED display
• Stainless steel hygienic variant, completely CIP-/SIP-capable, process temperatures up to 150 °C

Your benefits
• One sensor, two measurements - reduces costs and hygiene risk thanks to a unique installation point
• Cost savings thanks to speedy installation via mounting adapter
• Time savings due to easy commissioning without calibration for taught-in media
• User-friendly industrial version with intuitive menu guidance and display for fast commissioning
• Reduced storage needs thanks to flexible adjustment to the pipe diameter
• Less wiring is required thanks to IO-Link 1.1 with convenient adjustment as well as integration and cloning functions
• Low downtimes thanks to low-maintenance system


For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
**Product description**

Visionary-T 3D vision sensors from SICK offer maximum flexibility for indoor use due to their innovative 3D-snapshot technology. The Visionary-T provides real-time depth information for each pixel – even for stationary applications – based on time-of-flight measurement. It is possible to transfer either all of the raw data or data that has been specifically pre-processed for the application in question. In addition, however, it is also possible to transfer measured values that have already been evaluated, resulting in simple sensor responses. In this way, the right information is always transferred – customized to suit the respective application. High-performance visualization tools and reliable 3D information make Visionary-T the ideal solution in applications including intralogistics, robotics, or industrial vehicles.

**At a glance**

- Record up to 50 3D images per second
- Distance values: 144 x 176 pixels per recording
- Output of 3D data via a Gigabit Ethernet interface up to simple digital outputs
- Solutions which provide the information required for the application
- Temperature range: 0 °C to 50 °C or up to 45 °C (depending on the housing), enclosure rating: IP67

**Your benefits**

- More than 25,000 distance and intensity values in a single recording.
- 3D information is also available for stationary applications.
- Easy mounting and rapid sensor replacement
- Programming interface for using 3D data for further analysis on an external host
- Visionary-T AG supports intelligent data reduction
- Visionary-T DT is a configurable 3D detection sensor

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

www.sick.com/Visionary-T
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SERVICES FOR MACHINES AND SYSTEMS: SICK LifeTime Services

Our comprehensive and versatile LifeTime Services are the perfect addition to the comprehensive range of products from SICK. The services range from product-independent consulting to traditional product services.

Consulting and design
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Product and system support
Reliable, fast and on-site

Verification and optimization
Safe and regularly inspected

Upgrade and retrofits
Easy, safe and economical

Training and education
Practical, focused and professional
SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 8,800 employees and over 50 subsidiaries and equity investments as well as numerous agencies worldwide, SICK is always close to its customers. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents, and preventing damage to the environment.

SICK has extensive experience in various industries and understands their processes and requirements. With intelligent sensors, SICK delivers exactly what the customers need. In application centers in Europe, Asia, and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes SICK a reliable supplier and development partner.

Comprehensive services round out the offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

That is “Sensor Intelligence.”

Worldwide presence:

Australia, Austria, Belgium, Brazil, Canada, Chile, China, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, Hong Kong, India, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Norway, Poland, Romania, Russia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, USA, Vietnam.

Detailed addresses and further locations ➔ www.sick.com