www.sick.com

SICKinsight

SICK'S CUSTOMER MAGAZINE 1_2013

PROTECTING ART TREASURES

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NEW LOOK

SICKinsight celebrates birthday

EDITORIAL

INTELLIGENT SENSOR TECHNOLOGY: CUSTOMER PAYS ONLY FOR ADDED VALUE

Dear Readers,

The long-term orientation of an enterprise is and will continue to be stable only if customers recognize the added value of products. At SICK, we sell not only sensors. We concentrate exclusively on sensor intelligence, "SICK Sensor Intelligence." – in doing so, however, we cover the entire breadth of technologies and applications. After all, as the term "intelligence" suggests, our business is structured in very complex and challenging ways. All the more, our customers can expect added value from what we offer.

To start with, the breadth of sensor technologies is what defines "SICK Sensor Intelligence.", from photoelectric sensors to time-of-flight technologies and encoders for motors and all the way to ultrasonic flow measuring devices. Just the different physical principles alone pose a great challenge to being able to provide state-of-the-art technology.

For the most part, our customers expect a solution for a specific problem. Therefore, to customers added value is determined by being offered a solution directly and having to deal with the technical background only in passing any more. The sensor business is structured in such a way that many applications can be covered with large numbers of pieces. Others can often be implemented only by means of highly complex systems. However, our customers' satisfaction does not depend on that but rather on the added value they can realize using our solution – whether it be by increasing efficiency or productivity, optimizing costs and processes, or through flexibilization.

"SICK Sensor Intelligence." also means being able to offer customer-specific solutions that generate added value. What is more, it does so in the most diverse sectors that do not make the same demands on our products by any means. In order to enable us to speak to our customers about added value at all, we at SICK have built up wide-ranging application expertise. In addition to technical implementation, we provide competent consulting for our customers worldwide, working out specific solutions together with them.

In the context of our new brand presence, "THIS IS SICK Sensor Intelligence.", SICKinsight now appears in an entirely new design, using concrete examples to show what "SICK Sensor Intelligence." actually represents. Please read up in the Focus Factory Automation, the Focus Logistics Automation, and under the Applications heading about how diverse the tasks of our worldwide customers are for whom we have successfully developed intelligent solutions.

We wish you an inspiring read!

Yours sincerely,

Dr. Robert Bauer
Chairman of the Executive Board

PRESS RELEASE FROM FREIBURG UNIVERSITY:

ONE MILLION EUROS FOR SENSORS

The Gisela and Erwin Sick Professorship for Microoptics at the Technical Faculty of Freiburg University starts in 2013

>> The contract for the hitherto largest joint project between Albert Ludwig University and SICK AG was signed on 10 December 2012: the Gisela and Erwin Sick Professorship for Microoptics will start on 1 January 2013. The company, based in Waldkirch, will finance a named professorship for a period of ten years with a total of one million euros. The new professorship, held by microoptics specialist Prof. Hans Zappe, will be established in the Technical Faculty of Freiburg University. "This latest, particularly prominent, commitment by SICK AG is a clear acknowledgement of Freiburg as a research center", said the University's Principal, Prof. Hans-Jochen Schiewer. "The endowment of a named professorship by one of our region's leading companies demonstrates how attractive our still young Technical Faculty – already top-class in national comparisons – is for local business".

With the named professorship, the daughters of Gisela and Erwin Sick as well as SICK AG want to honor the example of the company's founder, as well as Gisela Sick's unbroken commitment to the company, on the occasion of Gisela Sick's 90th birthday – initiating a new collaboration between science and business.

"As an innovative company we are very interested in an intensive exchange between research and business and are pleased about the good collaboration with Freiburg University in many fields", according to Dr. Robert Bauer, Chairman of the Executive Board of SICK AG.

The field of microoptics was selected because the content examined by the educational and research unit is both closely related to SICK AG's main area of interest and emphatically strengthens the profile of the Technical Faculty. As the holder of this professorship, Hans Zappe will dedicate himself to research in the field of optical sensors. The microoptics specialist is co-spokesman of the new collaborative research center SFB/Transregio "Planar Optronic Systems". The scientists pursue the objective of developing new optical sensors that are extensively printed in thin flexible polymer foils. Such extensive sensor networks can measure, among other things, pressure, temperature or chemical and biological substances. They are used, for example, in medicine, aerospace or building services engineering.

Dr. Martin Krämer (Member of the Executive Board, SICK AG), Renate Sick-Glaser, Dr. Robert Bauer (Chairman of the Executive Board, SICK AG), Gisela Sick, Prof. Dr. h.c. Hans Jochen Schiewer (President, University of Freiburg), Dorothea Sick-Thies, Prof. Dr. Yiannos Manoli (Dean of the Faculty of Engineering, University of Freiburg), Prof. Dr. Hans Zappe (Chair, Gisela and Erwin Sick Professorship of Micro-Optics)

FIFTEEN YEARS OF THE CUSTOMER MAGAZINE SICKinsight

NEW DESIGN ON BIRTHDAY

>> The first issue of our customer magazine, called SICK AKTUELL at the time, appeared parallel to the 1998 Hanover Trade Fair. The number was laid out in newspaper format and it comprised 16 pages. The shift from paper to magazine in 2002 involved a change of name and logo as well: SICK AKTUELL became SICKinsight. Very strictly speaking, the first issue of SICKinsight thus appeared in that year.

SICKinsight not only reports on new products, services, and solutions from SICK but also presents the enterprise and its successes. Over the past 15 years, the magazine not only underwent a name change but also several modifications in design.

In May 2012, however, SICKinsight witnessed a very special change: Since then, the customer magazine has been available online, too. In the context of our new brand presence, "THIS IS SICK Sensor Intelligence.", SICKinsight now appears on its 15th birthday in entirely new design.

Experience SICK from a new perspective!
www.sickinsight-online.com

SICK in the employer evaluation portal

FIRST PLACE FOR SICK

>> Vienna-based kununu GmbH provides one of the fastest growing Internet career platforms at the moment in the German-speaking area. On the platform, all employees, such as part-timers, trainees, working students, and interns can evaluate their employers – doing so in different categories. The webpage gets three million hits a month. The latest ranking dealt with the best employers in the "electrical and electronics" industry. With an average evaluation of 4.23 out of five possible points, SICK AG reached first place. An employee in IT about SICK: "Staff members are seen as humans". One employee from the development department emphasizes above all the work-life balance. A working student is satisfied as well: "Very, very nice co-workers! Fabulous working atmosphere. So far, the best employer I ever had a chance to work for!"

The complete evaluation:
www.kununu.com/news/elektronikbranche-die-10-besten-arbeitgeber-in-deutschland/

CUSTOMERS APPRECIATE “SICK Sensor Intelligence.”

FUTURE-PROOF AND INTELLIGENT SENSOR TECHNOLOGY

Just like company founder Erwin Sick years ago, we at SICK see ourselves as tinkerers and visionaries. For over 60 years, we have been developing innovative sensors that meet our customers’ continually new requirements. After all, with more than 2,000 patents, we rank among the technological and market leaders in the field of sensors.

>> Sensor technology is not just one but in fact the business of SICK. Sensors stand for contact of a machine with its environment. They resemble the sensory organs of machines, assisting, for instance, with their positioning or as well with the process of detecting objects or deciphering codes. The feedback machines receive from sensors make them intelligent machines. In order to be able to provide such feedback at all, sensors must be capable of processing the stimuli picked up from their environment in intelligent ways. At SICK, we equip machines with the capacity of intelligent seeing, detecting, and communicating. Therefore, we have made it our mission to optimize and continuously refine the acquisition and processing of stimuli by sensors. Thus, our customers can achieve production-related improvements on their machines and plants.

INTELLIGENT SENSORS FOR THE FUTURE

“SICK Sensor Intelligence.” hits the mark every time: We concentrate on the area of sensor technology, and from this angle, we are permanently expanding our portfolio and the services we offer. Our entire portfolio stands out due to flexibility and economic efficiency. With respect to nearly all products, features adapt to users’ different wishes in terms of automation and convenience. Customers pay only for what they really need, thus optimizing their total operating costs and achieving the quickest possible amortization. That is another reason why our customers appreciate intelligent sensor technology from SICK and why in some sense, they acquire future security as well.

INTELLIGENT AND INDUSTRY-SPECIFIC SENSOR SOLUTIONS

To users, the extensive breadth of our product range opens up complete solutions from a single source. We position our business in industry-specific ways in order to tailor our products and solutions in an even more well-directed fashion to the applications of our users. This optimizes design, procurement, and stor-

FOR THE WORLD OF AUTOMATION

age processes, enabling internal cost reductions and a great variety of process optimizations. Solutions from SICK are technologically open to the diverse requirements, for example, of automation and control systems. The fact that they feature intelligent sensor and connection concepts and allow for more availability makes them future-proof. This means that entirely without any electrical, mechanical, or software-related special effort, our solutions allow users easy integration into all common machine and control designs.

The industry experts from SICK are insiders in a great variety of different industries. Together with our sales and product specialists, they work out proposals for solutions that are efficient both technically and economically – always with the aim of achieving the best solution for our customers. In doing so, they orient their consultation toward the requirements of the respective task and not toward the possibilities of the broad spectrum of sensors and controllers from SICK.

YOU CAN RELY ON SENSOR INTELLIGENCE FROM SICK

Our customers know that they can rely on SICK as a long-term market partner. Not only by using our sensors but also precisely by means of our solution competence, users can accomplish innovative solutions for their tasks. For solution competence as we understand it is extensive – fulfilling exactly what saves effort on the part of users, reduces costs, increases safety, and guarantees economic efficiency. This added value is what “SICK Sensor Intelligence.” represents.

Therefore, SICK is the top choice wherever the use of sensor technology becomes necessary in an assignment, or wherever the search is on for an improved solution to a task.

“Keeping at it, not giving up, making the impossible possible”. – That is what connects us from SICK with our customers. In the context of our new brand presence, “THIS IS SICK Sensor Intelligence.”, some of our customers explain why they opted for SICK and which kinds of challenges they were able to solve successfully by using our sensor intelligence. We got to know wonderful people, for example, from ASFiNAG in Graz or from Bosch Packaging Technology in Waiblingen, people who faced a great challenge. Exactly like we they are tinkerers who do not give up before solving a task. In the course of our joint projects, we had the privilege of learning how they mastered that challenge successfully.

HOW TO RECOGNIZE A PIRATE WITHOUT A WOODEN LEG.

THIS IS **SICK**

Sensor Intelligence.

Daniel is a product manager at Bosch Packaging Technology in Waiblingen, Germany. Daniel told his nephew he’s a pirate hunter, too. Since 10% of the medicine available worldwide is a fake and sold in counterfeit packaging, someone has to ensure the authenticity of pills. Daniel is that someone, and he’s fighting product piracy using all means. With code readers, scanners, encoders, fork sensors, and photoelectric sensors made by SICK, he develops highly secure packaging technology. The original products can now be separated from the fakes using micro-logos, labels, color codes, special inks, and biological and chemical markers. Daniel has become the scourge of every product pirate. His nephew has become his biggest fan. We think that’s intelligent. www.sick.com

SICK AG AND FRAUNHOFER IML ANNOUNCE CONSOLIDATION OF THEIR COOPERATION AT THE LOGIMAT

INTELLIGENT SENSOR TECHNOLOGY FOR TOMORROW'S LOGISTICS

For several years already, the Fraunhofer Institute for Material Flow and Logistics (IML) in Dortmund and SICK AG have been working together when it comes to developing logistical future concepts. Effective 1 January 2013, both partners have signed a new contract towards expanding this cooperation.

>> In the context of Stuttgart's LogiMAT intralogistics trade fair in mid-February, Fraunhofer IML and SICK officially announced the launch of the new cooperation. It aims at working together in various research laboratories and implementing joint practical projects. To this end, SICK sends to Dortmund its own staff who will then work together with colleagues from IML on concrete solutions. Among other things, the issues include cellular conveying systems, the openID center in Dortmund and the Internet of things. The latest example is implementation of the fully automated "Servapark" parking deck concept in Düsseldorf.

Reinhard Bösl, Member of the Executive Board of SICK AG (left), and Prof. Dr. Michael ten Hompel, Managing Institute Director at Fraunhofer IML

ENTERPRISE LABS COMBINE RESEARCH AND PRACTICE

"From our perspective, logistics requires even more basic and applied research and development alike", said Prof. Dr. Michael ten Hompel, holder of the Chair of Materials Handling and Warehousing Systems and Managing Institute Director at IML, during a joint press conference in Stuttgart. "In the future, we intend to work together with our practical partners from SICK to even further expand this entirely new form of collaborative research in so-called Enterprise Labs, also including additional companies in this cooperation for this purpose".

In an increasingly networked world, intelligent, holistically designed sensor solutions are playing a more important role all the time, and often they provide the basis for being able to realize any further optimizing potential in logistical process sequences at all. "That's why from cooperation with IML we expect very significant impulses towards identifying current market trends and thus also for the practical suitability of existing products and new ones in the pipeline", added Reinhard Bösl, Member of the Executive Board of SICK AG. "Beyond that, we aim at building up active and highly efficient networks together with shared customers, which will then help us provide market-compatible product ranges in the future as well".

Another quite central topic at this year's LogiMAT was the scheduled introduction of the designation of "known shipper" by the German Federal Aviation Office (LBA). It stipulates that from the end of April 2013 onwards, only companies certified by the authorities may ship air cargo or otherwise will have to commission service providers with this task. In the section entitled "Focus Logistics Automation" starting on page 18, you will find additional information about this topic.

Further information about the Fraunhofer IML:
www.iml.fraunhofer.de/en.html

GROWING THROUGH CHANGE

SENSOR TECHNOLOGY FOLLOWS TREND TOWARD MEGACITIES

>> Continuous change marks not only research and technology but also demographic development. Since 2007, as many people have been living in cities as in rural areas. Cities with ten million inhabitants and more, such as Tokyo, Mumbai, New York, or São Paulo are considered so-called megacities. Here the challenges emerging include the creation of living conditions and living space that secure not only the inhabitants' quality of life but also the economic competitiveness of companies in a sustainable way. Green mobility concepts and energy efficient buildings contribute to environmental protection, and SICK is working on finding solutions to these challenges.

In recent years, the company has developed sensor technology, which, e.g., contributes to avoiding traffic problems. Laser detectors monitor buildings and protect property and persons. Analyzers and systems measure emissions and have a significant part in clean air. Logistical processes are monitored and serviced. Safety sensor technology protects humans, not only in industrial environments. These and many more features contribute to facilitating and improving everyday life in megacities. And SICK is steadily pushing ahead with this development. Just as megacities change all the time, the sensor technology from SICK is evolving and optimizing as well.

Further product information:
www.sick.com/products

FACTORY AUTOMATION COMBINES CUSTOMER WISHES AND SOLUTION COMPETENCE

THE OPTIMUM EVOLVES IN DIALOG

The requirements placed on intelligent solutions in factory automation are becoming increasingly complex. This raises both demand for understanding customers, their industries, as well as their applications and the necessity of designing sensor, control, and service solutions in ways custom-tailored to these requirements. Good thing, therefore, that SICK maintains the dialog with customers and markets on so many levels.

>> It is very hard to imagine today's communication without the Internet and social networks. Nevertheless, personal contact often makes tasks transparent and possible approaches to solutions feasible. With its global network of representations in all major industries and global markets as well as presence at the relevant trade and industrial fairs, SICK expands the basis for dialog with customers year after year. In the interplay of the product portfolio and personal, consultative contact, dialog produces optimum solutions that yield substantial individual customer benefit.

TRADE FAIRS ARE IMPORTANT PLATFORMS FOR DIALOG

Trade fairs are ideal platforms for cultivating the dialog with customers. A point in case was the SPS IPC Drives held in Nuremberg last year, which was very successful for SICK. In 2013, too, SICK will rely on this type of exchange with customers and expert knowledge holders from different industries and countries. Thus, the company uses the drinkTec and Productronica trade fairs in Munich, the PACK EXPO in Las Vegas, and the Chinaplas for plastics and rubber in Guangzhou (China) to gain an understanding in personal conversation with customers about the challenges of factory automation and – often using a global approach – to discuss possible solutions.

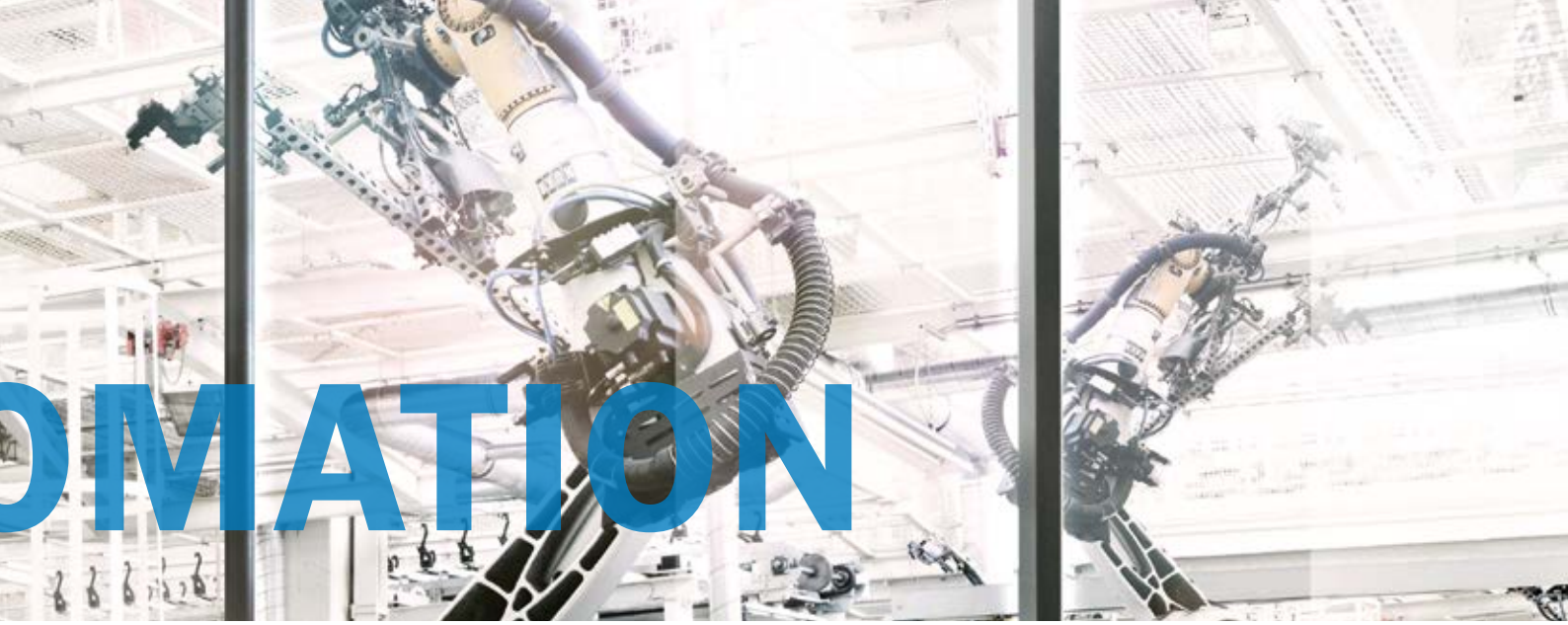
FOUR THEMATIC FIELDS IN FOCUS

What emerges from all customer contacts is that the challenges for factory automation can be assigned to four central thematic areas: flexible automation, safety, track and trace, as well as quality control.

The first essential challenge involves designing a future-proof, i.e. flexible automation. For this purpose, smart sensor solutions powered by IO-Link are becoming more important all the time (see pages 10 and 11). Whether the issue is automatic self-parameterization, downloading of parameters from the controller dependent on product variants, or extended diagnostic options – this technology opens up diverse possibilities. Decisive advantages for customers arise particularly when it comes to machines and plants featuring a large number of sensors, a flexible production and processing spectrum, respectively, and an intelligent service and maintenance concept. Thus, smart sensor solutions powered by IO-Link generate a significant added benefit in terms of flexibility, reliability, availability, user-friendliness, and efficiency – along with parallel cost optimization of individual processes within the machine.

The second thematic field is safety. Customers expect tailor-made safety solutions in connection with their machinery and plants. SICK provides the necessary safety competence and the portfolio in order to recognize hazard potentials in dialog with the customer and to eliminate them in ways efficient both technically and economically. In fact, safety by SICK always includes the aspect of improving productivity of machinery and plants as well.

Track and trace solutions, i.e. production and assembly controlling as well as retracing products and their production and distribution steps, are in many places an operational-econom-



OMATION

ical as well as a legal necessity. Sensors and sensor systems from SICK, e.g. reading systems for identification of bar codes, 2D codes, and plain text or the RFID portfolio form the basis of customer-specific track and trace solutions. They serve to control product creation, retrace manufactured products, identify counterfeit goods, and optimize processes.

Finally, in the area of industrial quality control, SICK is the competent partner to contact with respect to a large number of tasks. The intelligent sensor solutions, e.g. vision sensors or smart cameras can be integrated in the best possible ways into automated production facilities, guaranteeing constantly high levels of quality at customers' operations – in nearly any type of production and distribution process.

BEST TALK TO SICK FIRST!

No matter what challenge you need to master in your enterprise – you best talk to SICK first. Sascha Niederhagen, Head of the Corporate Solution Center Factory Automation, explains why this pays off: "With the industry focus in the area of factory automation, SICK has clearly oriented itself toward the requirements and needs of customers. Our priorities in this connection are the commercial goods, automotive, electronics and solar industries, machine building, as well as motion and drives. We feel it is important to understand the specific requirements of our customers with respect to their applications, thus enabling us to supply the right products, solutions, and services today and tomorrow. Transforming products and their features into real added value for our customer in a dialog based on partnership constitutes our goal – and this goal we achieve through our industry-related application expertise".

Sascha Niederhagen, Head of the Corporate Solution Center Factory Automation

Take advantage of our competence in factory automation. As well, read up on the following pages about how our customers solved their tasks successfully together with us.

Further information:
www.sick.com/industries

SMART SENSOR SOLUTIONS POWERED BY IO-Link

EFFICIENTLY IMPLEMENTING APPLICATIONS IN END-TO-END AUTOMATION NETWORKS

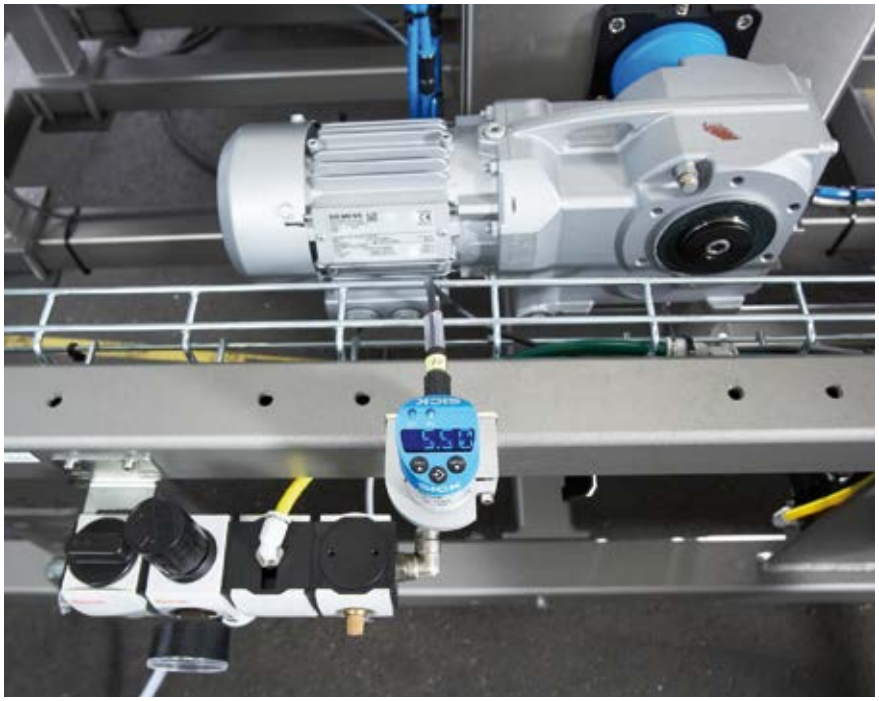
Productivity of a machine is the key to efficient automation. Smart Sensor Solutions powered by IO-Link ensure consistency in automation networks, thus opening up potential for effective application solutions.

>> "More productivity through flexibility" is the maxim when realizing new machine concepts. In this connection, flexibility depends directly on the technical automation functions that innovative sensors, for instance, can provide. Demand by end customers vis-à-vis machine manufacturers for intelligent sensor technology has therefore risen continually for years. It allows developing machines for as great a variety of product variants as possible – yet also adapting them to the regional requirements within the global market and enhancing productivity of machinery in general. Consequently, producers of machines are increasingly searching for innovative solutions in automation technology.

THE SOLUTION: SMART SENSOR SOLUTIONS POWERED BY IO-Link

A technological pioneer in the area of IO-Link, SICK has made a decisive contribution by means of continuous investment in sensor innovations. With Smart Sensor Solutions powered by IO-Link, SICK relies on the latest sensor technologies and their integration into the

This facility involves a combination of controllers and circuitry featuring intelligent sensor solutions from SICK



Intelligence and communication capability of Smart Sensor Solutions open new potentials for enhanced productivity of machinery

IO-Link global communication standard. Special focus is also on decentralization of "smart" automation functionalities within a network, since they have an immediate effect on the productivity of machines.

INNOVATIVE FUNCTIONALITIES AMOUNT TO ADDED BENEFIT

Due to functionalities that were impossible to implement in the past, the intelligence and communication capability of the Smart Sensor Solutions open up new potentials for enhanced machine productivity. The possibility of adjusting sensors flexibly via the automation system is advantageous especially in the case of machines undergoing frequent changes of formats, compositions, or product variants. In particular, machines and plants in the packaging, assembly, wood- and glass-processing industries as well as in the rubber and plastics industries benefit from this functionality. Since downloading parameters directly from a controller to any number of sensors simultaneously saves time, avoids errors, and can be documented at any time. In plants requiring reliable and affordable detection of count values or measurement of speed or rotational speed, respectively, the functionality of a high-speed counter proves its worth.

An additional functionality feasible due to IO-Link is time measurement. It optimizes processes in which exact recording of time serves to determine lengths, to control the number of clock cycles, to distance objects, or in which effective slip control is desirable. The possibility of using Smart Sensor Solutions to detect, measure, sort, and verify profiles optimizes product and process quality in many places or contributes to increased machine performance. In those instance where one has to expect a major amount of interference signals related to the process or the environment, e.g. in plants for wood processing, the functionality of decentralized debouncing proves very useful. In the future, the continuous dialog maintained by SICK with leading players in the important industries will result in the implementation of further innovative functionalities.

IO-Link: COMMUNICATION STANDARD WITH A FUTURE

Thus, Smart Sensor Solutions powered by IO-Link – integrated seamlessly into an automation network – open up new paths toward enhancing flexibility, reliability, efficiency, and cost reductions of machines. SICK will actively accompany this technological development in factory automation in the future as well.

IO-Link

Integrated sensor technology from SICK: WTB27C-3 compact photoelectric sensor, Dx35 distance sensor, WTB12C-3 small photoelectric sensor, PBS pressure switch, MPA analog position sensor

Further product information:
www.sick.com/industrial_communication

MODULARIZED SAFETY CONCEPT IMPROVES PLANT PERFORMANCE

MORE PRODUCTIVITY IN FRENCH FRIES PRODUCTION

In the context of plant modernizations, the Belgian French fries producer Lutosa cooperated with SICK to implement an intelligent concept at the plant in Leuze-en-Hainaut that provides maximum machine safety, while at the same time optimizing output capacity.

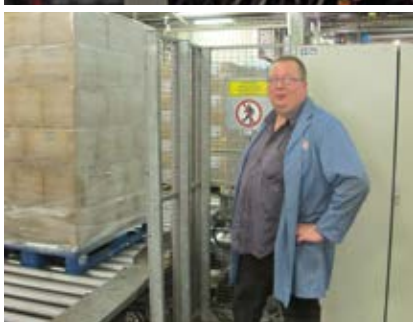
>> Lutosa ranks among the largest producers of deep-frozen French fries and potato specialties worldwide. “Currently, we are processing about 665,000 tons of potatoes a year”, Pierre Eeman, responsible at Lutosa for projects in the fields of electrical engineering and automation, provides a specific figure. Production covers all process steps – from delivery of the potatoes from storage silos and the processing stages of cleaning, cutting, frying, deep freezing all the way to packaging in bags, feeding of the bags into cartons, and fully automated palletizing of the cartons. In order to produce efficiently, Lutosa invests every year in modernizing individual plant sectors, such as, e.g., conveying systems, pallet wrappers, or pallet changing systems. “In this connection, recent years saw optimization of the safety facilities at the French fries production lines – in cooperation with a system integrator on location and SICK”, says Pierre Eeman.

IDEA OF SAFETY CELLS A CONVINCING APPROACH

Analysis of the actual status revealed important potential for improvement. For example, in the past the palletizing unit – together with the rest of the roller conveyor – used to be a single safety area. The problem associated with this was that “for any required operator intervention in the wrapping unit, e.g. for inserting a new roll of packaging film or in the event of torn film, it was necessary to open the safety barriers, which resulted in stoppage of the entire pallet roller conveyor”, Pierre Eeman recalls. This led to the development of a modular safety concept that subdivides the entire facility into safety and work areas, respectively. “Now, if you need to stay in a work area or in one of the safety areas, only the corresponding area goes out of service while the rest of the machine can continue operating without interruptions. This enhances significantly the availability and output capacity of the entire plant”, Pierre Eeman confirms the success of the new safety concept.

SAFETY PORTFOLIO PROVIDES SUITABLE SENSOR AND CONTROL SOLUTIONS

Lutosa decided in favor of SICK as a partner for equipping the plant in terms of safety technology. This decision was based on many years of experience regarding safety sensors already in use, the flexibility and user-friendliness of the Flexi Soft safety controller, as well as awareness of the cost-effective and customized service by SICK. The devices used – in each case adapted to the individual basic conditions and installation locations – are multiple light beam safety devices of the M4000 product family in the Standard version and in the Advanced version with muting function, as well as C4000 palletizer safety light curtains, which in addition are capable of managing without muting sensors. They are monitored using the Flexi Soft safety controller, programmed by Lutosa staff based exclusively on the manual. Providing extra service to the customer, SICK checked and cleared the programs, enabling the machine builder to grant CE certification upon completing implementation of the safety concept.



Top: Flexi Soft safety controller
Bottom: Pierre Eeman, Project Manager Electrical Engineering and Automation at Lutosa

Further applications:
www.mysick.com/applications
More about the customer:
www.lutosa.com

SAFETY LIGHT CURTAIN PROTECTS AUTOMATIC THREADING MACHINE AT WAREMA

SKILLED AT FINDING JUST THE RIGHT THREAD

For protecting an automatic threading machine, the supplier of sun shading technology WAREMA opted for the miniTwin4 safety light curtain from SICK. The deciding factors were design, function, and costs alike.

>> WAREMA is the leading full-range supplier of sun shading technology in Europe. Ranging from external venetian blinds and awnings to roller shutters and sun sails all the way to skylights and patio roofs, the company provides intelligent sun shading solutions and the accompanying control systems. Technically convincing, they are adapted to the individual requirements of builder-owners. The miniTwin4 safety light curtain from SICK was the top choice not only technically but also in terms of design when it came to monitoring access to the hazardous threading head on an automatic threading machine while at the same time setting up effective point-of-operation guarding.

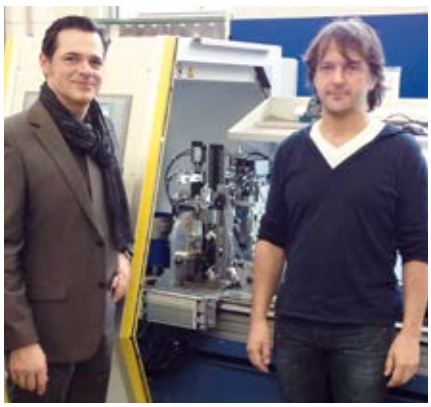
MAXIMUM SAFETY AND CAPACITY FOR INTEGRATION

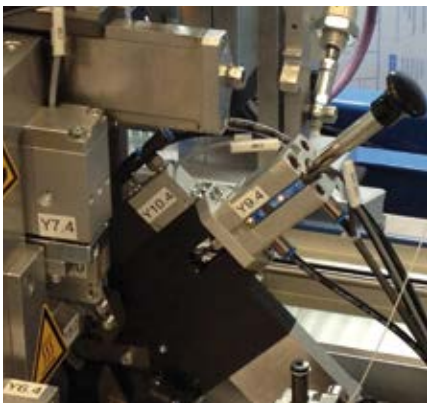
Due to the specific design of the automatic threading machine, the electro-sensitive protective equipment had to meet special demands. “The factors important in addition to the highest protection class were above all compact installation dimension suitable for the machine as well as protection free of blind zones”, explains Peter Groll from WAREMA. The miniTwin4 matched this profile perfectly, so it was possible to integrate the protective device without any design-related changes to the machine. “Moreover, we liked that the miniTwins are easy to align and cascade, which simplifies installation and saves wiring effort”, Peter Groll lists additional strengths of the miniTwin4. Even in a demanding environment like this, all of the benefits mentioned provide for smooth integration of effective point-of-operation protection into a professional overall picture.

MAGNETIC CYLINDER SENSORS FOR POSITION AND PROCESS POLLING

When it comes to equipping the pneumatic cylinders in the threading machine with sensor technology, WAREMA also relies on SICK – more precisely, on the MZ2Q magnetic cylinder sensor. “Two switching points in one sensor save space in the slot as well as unnecessary installation and wiring effort”, Peter Groll describes the most important benefits: “In addition, secure fastening means that the switching points, too, are permanently in the precise spot in which they were set”.

For different inspection tasks in production, SICK is also in action – with vision sensors of the Inspector I40 product family.





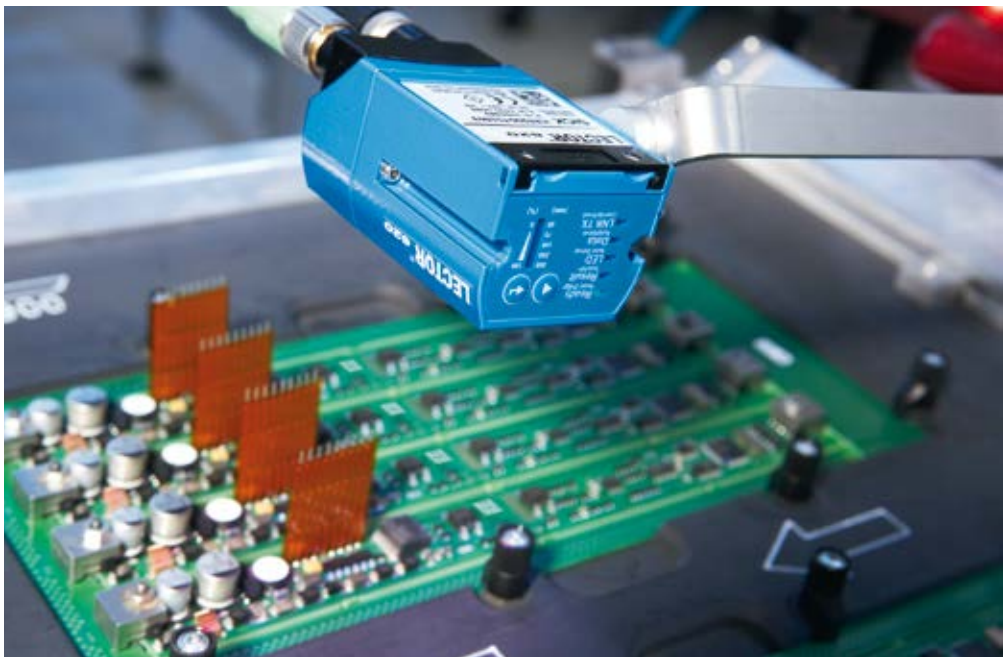
Top: miniTwin4 monitors access to the threading head
Left: Meik Kettinger, SICK Vertriebs-GmbH (left), and Peter Groll, Mechanical Design Department at WAREMA (right)

Further applications:
www.mysick.com/applications
More about the customer:
www.warema.com/en

LECTOR®620 READS MORE THAN 10,000 PCB CODES

TOP READING RATES DUE TO REAL-TIME DECODING

In the testing processes for wireless radio modules of a producer known worldwide, the LECTOR®620 image-based code readers from SICK very reliably identify even poorly printed Data Matrix codes on printed circuit boards.



LECTOR®620 achieves read rates of more than 99 percent, even when quality of codes and contrast is poor

>> Hardly any other market shows miniaturization advancing more rapidly than electronics devices. The reduction of external dimensions goes hand in hand with increasingly marked reduction in the size of electronic components and assemblies on the inside. At the same time, production figures of wireless radio modules, e.g., are rising constantly, and manufacturing and testing processes are becoming faster all the time. This makes special demands on the technologies used for identifying and tracking electronic assemblies, since the markings – generally, two-dimensional Data Matrix codes – are becoming increasingly smaller as well. That's why one of the world's largest electronics corporations relies on the LECTOR®620 from SICK: Even in case of short read times and small codes with a resolution of only 0.15 mm, the image-based code reader delivers read rates exceeding 99 percent – even if the code and contrast quality of the miniature label leaves much to be desired.

LECTOR®620 STANDS THE TEST TEN THOUSAND TIMES EVERY DAY

Compact design, industry-compatible integration into diverse IT environments, intuitive operation, and top reading performance for reliable track and trace make the LECTOR®620 the efficient solution for demanding code reading. This also applies to identifying printed circuit boards for wireless radio modules of the type used in smartphones or tablet PCs. Before integration into these devices, each assembly is put to the test one final time. The PCBs are marked with tiny glued-on Data Matrix codes that can be identified extremely reliably using the LECTOR®620: With more than 10,000 printed circuit boards processed a day, the code reader achieves exceptionally high read rates. What makes this possible is the real-time decoding of all images of a Data Matrix code captured at 60 Hz. In addition, during operation the LECTOR®620 is capable of autonomously readjusting a combination of up to four reading parameters, such as, e.g., brightness and contrast settings. Consequently, the device adapts automatically to fluctuating code qualities, thus avoiding "no reads". This approach allows optimum read results in PCB identification at any time.

SIMPLE INTEGRATION INTO TEST SYSTEMS

In this application, the LECTOR®620 is guided by industrial robot kinematics, enabling it to identify codes at distances between 40 to 300 mm. Integration into the test facility and commissioning turned out to be very simple because operation is intuitive to an extent unrivalled. Laser points visualize the center of the image, allowing rapid alignment. Using pushbuttons mounted on the device, one can start auto setup, i.e. an autonomous teach-in process. In doing so, the LECTOR®620 parameterizes itself, which enables the device to identify the respective code. Since the code reader also illuminates the reading field with red and blue LEDs, one can manage without external sources of light. The inspection results can be saved on an insertable 32 GB Micro card. This constitutes a great benefit, for instance, with a view to quick and convenient parameter cloning or when updating firmware.

The LECTOR®620 is the innovative and efficient code reader platform for reading and testing 1D and 2D codes – not only in the electronics industry.

Further applications:
www.mysick.com/applications

EtherCat®* ENCODERS IN PHARMACEUTICAL PACKAGING MACHINES

SERIALIZING RELIABLY AND QUICKLY

Daniel Sanwald, Product Manager "Track & Trace" at Bosch Packaging Technology (left), in conversation with Jan Schiffer, SICK Vertriebs-GmbH

AFS60 absolute encoders with EtherCAT® interface from SICK ensure unambiguous assignment of serial numbers and products as well as optimum labeling processes in pharmaceutical packaging machines from Bosch Packaging Technology.

>> The "Track & Trace" machine and software portfolio of the Pharma product segment at Bosch Packaging Technology includes intelligent all-in-one solutions for packaging, serialization, and tamper-evident protection of pharmaceutical products. With the CPS product family, the company provides customers with printing and verification solutions that can be combined in modular ways and allow processing of up to 350 folding cartons a minute. The process-reliable function of the labeling, serialization, and tamper-evident modules has absolute priority. "Serialization, for instance, means unambiguous labeling which necessitates no number appearing twice and no gaps emerging in the sequence of numbers. Therefore, the sensor technology must be intelligent and reliable, preventing such errors from occurring. Otherwise, the software miscounts, subsequently making it impossible to physically assign any folding cartons to individual serial numbers", explains Daniel Sanwald, Product Manager "Track & Trace" at Bosch Packaging Technology.

AFS60 EtherCAT®: EASY-TO-INTEGRATE ENCODER WITH FAST DATA TRANSMISSION

With its integrated fieldbus interface, the AFS60 EtherCAT® absolute encoder, which is freely and thus flexibly programmable, lives up to the developments in machine building toward Ethernet-based fieldbus systems. From the perspective of machine builders and integrators, the EtherCAT® interface facilitates the IT-related integration of sensors such as the AFS60 as well as the commissioning of machines. Daniel Sanwald confirms this fact: "Plug in and ready to go – with its EtherCAT® interface, the AFS60 absolute encoder permits very simple fieldbus integration, since the nodes in the network are assigned by automatic incrementing". Other important benefits of the EtherCAT® encoder related to this task were the high speed of data transmission and the diverse diagnostic properties, such as condition monitoring. These features are essential for high-precision position detection and optimum machine availability in both the labeling and the tamper-evident module.

LABELING IN THE BEST POSSIBLE WAY WITH PRECISE POSITION DATA

The AFS60 EtherCAT® carries out an exact path measurement for every packaging unit, transmitting the data determined to the controller of the labeling machine. Using the path information and, respectively, the length information derived from that, it is now possible to apply the label accurately down to a fraction of a millimeter. At the same time, the encoder measurement ensures the unambiguity of the packaging; no double trigger signals will occur that cause a number assignment without a package ready in the labeler. In the tamper-evident module, too, Bosch Packaging achieves significant improvement of accuracy when positioning and applying by using the AFS60 EtherCAT®: Following application, the perforation of the security label is in place precisely in the spot where it guarantees tamper-evident protection that cannot be manipulated.

Serializing reliably – SICK provides the suitable sensor technology.

Further applications:
www.mysick.com/applications
More about the customer:
www.boschpackaging.com

SENSOR INTELLIGENCE FOR SOMIC WRAP-AROUND PACKER

BETTER PACKAGING WITH IO-Link

Better machine performance, rapid and safe commissioning, consistently high packaging process quality as well as the opportunity for remote diagnostics – the machine program of the final packaging specialists SOMIC benefits in a variety of ways from IO-Link sensors from SICK.

>> Since 1974, SOMIC Verpackungsmaschinen GmbH & Co. KG has been developing and building packaging systems, predominantly for the food industry. “Our core business today is final packaging machines”, says the founder and owner of the company, Manfred Bonetsmüller. “Along with high quality, we provide our customers with intelligent machine design concepts that improve performance and quality in final packaging with a variety of added benefits”. One example is the SOMIC 424 W2 Wrap-Around Packer. Through intelligent sensor and control technology, including with IO-Link sensors from SICK, the machine opens up additional options for greater operating safety, packaging quality, and output.

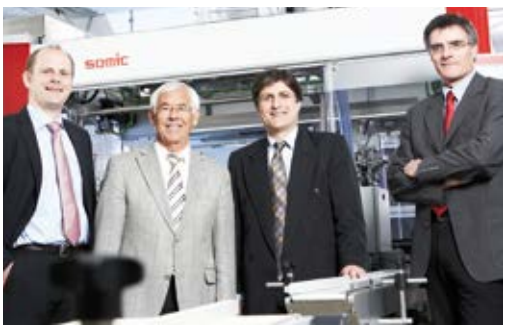
SENSORS WITH IO-Link FROM SICK: INTELLIGENT PROCESS OPTIMIZATION

“As IO-Link sensors, we fit photoelectric sensors from SICK, for example, the WTB4C-3 miniature photoelectric sensor for the detection and counting of products entering machines”, says Stefan Julinek, Head of Design at SOMIC. “The miniature construction of the sensors saves space, they reliably detect different forms of packaging, they have precise background suppression and because of their special chip technology, they have IO-Link ‘on board’ as a standard”.

CONDITION MONITORING BY ACTIVE SENSOR SELF-MONITORING

The SOMIC IO-Link functionality is attractive to customers because of the prospect of rapid and safe commissioning, consistently high quality of the packaging process, improved availability of the final packaging machines, rapid return on investment, and the ability to carry out remote diagnosis. Certainly, the most important function of IO-Link sensors is automatic contamination monitoring. “Using IO-Link with SICK sensors, the machine carries out its own active troubleshooting”, explains Stefan Julinek. “It warns independently if the optics become contaminated by dirt. As a result of this condition monitoring, the machine operator can carry out preventive maintenance on the system, for example during a planned pause in operation, and avoid unplanned downtimes”. This is how IO-Link sensors from SICK contribute to the achievement of even higher levels of availability for SOMIC final packaging machines.

In this way, IO-Link opens up enormous potential for intelligent machine designs, something confirmed, for example, by the SOMIC 424 W2 Wrap-Around Packer

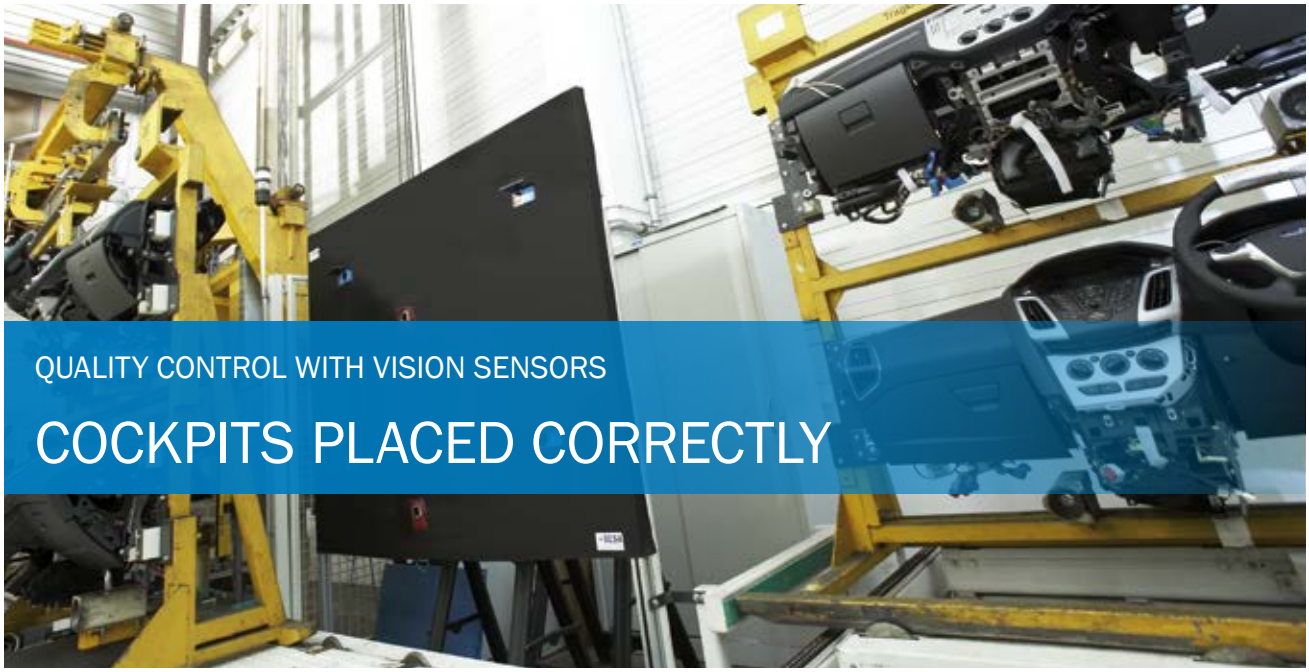


Top: Convinced by the benefits of IO-Link: Roland Krauser, SICK Vertriebs-GmbH; Manfred Bonetsmüller, SOMIC; Frank Moritz, SICK AG and Stefan Julinek, SOMIC (from left to right)

Bottom: A number SICK‘s photoelectric sensors are connected by means of an IO-Link PROFIBUS module and, supported by SICK’s own sensor function blocks, integrated into an ELAU controller

IO-Link

Further applications:
www.mysick.com/applications
More about the customer:
www.somic.de/en



QUALITY CONTROL WITH VISION SENSORS

COCKPITS PLACED CORRECTLY

In the Ford Industrial Park based in Saarlouis (Germany), SAS Automotive Systems assembles cockpits for various car models on behalf of Faurecia Cockpits. Vision sensors from SICK monitor the correct placement of the cockpits in the suspension gear of an electric overhead conveyor.

>> The philosophy of the industrial park directly adjacent to the Ford factory in Saarlouis entails producing entire modules of each of the vehicle types manufactured at the plant close by and delivering them “just in time” and “just in sequence” directly to final assembly by using a sophisticated logistics system involving an industrial park conveyor.

One of the suppliers is the Faurecia Company, for which SAS Automotive Systems assembles the fully wired dashboards. At Ford Saarlouis, currently two basic types of cockpits (Ford Focus right-hand drive and left-hand drive vehicles) are installed. At the interface to the industrial park conveyor, two cockpits each are made available in a suspension gear for transfer to the electric overhead conveyor. Before the cockpits enter the elevator, four Inspector I40 flex vision sensors monitor the correct position of the cockpits on the suspension gear. By employing this sensor inspection, SAS Automotive Systems monitors, among other things, the quality and delivery sequence prior to transfer, thus ensuring reliable transport to final assembly. Based on significant features, the sensors check whether the worker properly mounted the cockpits.

The sensors work autonomously under rather difficult conditions. On the one hand, there is no higher-level controller that specifies the types to be measured. On the other hand, they cannot be shielded against ambient light, since the test station is identical with the hook-in place for following trolleys. Moreover, last but not least, they only have a cycle time of 30 seconds for their measurements.

The RESA Systems company has now installed a solution that stands the test very reliably in three-shift operation. First, the sensor was taught-in the common features of all cockpit types. This involves three fixing screws on the suspension gear and a common drilled hole in the cockpit structure. After detecting the screws, the sensor checks whether a hole is present at the expected place by counting the light pixels. It checks for presence of the cockpit by counting dark pixels in a different area. If the sensor detects an error, it stops onward transport and alerts the worker. With the error corrected, the sensor once again inspects the suspension gear, thus establishing the highest possible safety.

In the meantime, the system has been operating reliably for over a year. False alarms occur only when objects such as loose cables obscure the features in the picture. In this case, analysis of the error patterns saved on an FTP server will provide assistance.

Further applications:
www.mysick.com/applications
More about the customers:
www.faurecia.com
www.ford.com
www.resa.de
www.sas-automotive.com

I40 flex vision sensors check whether the cockpits were mounted correctly

LOGISTICS AU

INTELLIGENT SOLUTIONS FOR BUILDING AUTOMATION

SECURING ASSETS, MONITORING ROOMS AND AREAS, MANAGING INFORMATION

Building automation plays a central role in many areas of logistics, from ports and airports to traffic and all the way to distribution centers of the retail market and of CEP service providers. Precisely because of the new German Aviation Security Act and various initiatives related to the “Customs-Trade Partnership Against Terrorism” (C-TPAT), intelligent sensor solutions such as the Logistics Access Control System (LAC) from SICK are in high demand.

SICK provides versatile and effective options for protecting and managing buildings

>> In the course of increasing globalization, complex international transactions have become the rule. Thus, customs-approved treatment must also contribute to securing international supply chains.

AUTHORIZED ECONOMIC OPERATOR (AEO)

By means of Regulation EC No. 648/2005 of the EU Council of Minister, this security aspect was anchored in customs legislation. The core element of this Regulation is the introduction of the status of an authorized economic operator (AEO), granted to entrepreneurs that meet certain criteria and that are therefore considered reliable trading partners. As a result, it is possible to classify the risk to the security of the supply chain as minimal.

The Customs-Trade Partnership Against Terrorism (C-TPAT) calls for a secure end-to-end supply chain when importing goods to the USA. The aim is to achieve maximum possible protection against the dangers of terrorism. Due to these changes, new requirements result for sensor technology as well. In this connection, SICK developed LAC, an access control system for the field of logistics. It guarantees secure handling of goods exclusively by authorized persons. Additionally, in the area of building automation, this system provides protection of investment goods.

BUILDING AUTOMATION AT SICK

SICK makes available diverse and effective options to manage and protect investment goods. In the area of building automation, SICK adopts a comprehensive perspective, acting as an independent partner to provide consultation, planning, and realization of certified and high-performance solutions. In addition to door and gate applications, building management also includes in-house transportation. In this context, sensor solutions are used in elevators, escalators, or park decks. In the field of health and comfort, too, SICK supplies automation solutions. When it comes to securing public buildings, industrial complexes, or private residences, structural measures or protection through security staff often reach their limits. Electrical or electronic protective devices are meaningful complements in this connection.

LOGISTICS TRADE FAIRS AND CONGRESSES

SHARING KNOWLEDGE, CREATING NETWORKS

SICK shows its industry expertise in the area of logistics automation at international trade fairs and congresses. Retrospect on important events and trade fairs presents SICK as a competent partner for logistics.

BVL

The motto of the 29th German Logistics Congress organized by the German Federal Logistics Association (BLV) was "Excellent networking". Gerhard Mutter, Head of the Corporate Solution Center Logistics Automation of SICK AG, sums up the bottom line: "For SICK, two major aspects can be extracted from the BVL Congress. On the one hand, it is the megatrend of urbanization. In this respect, we intend to become increasingly active in the field of building automation. On the other hand, an important point will be the future use of flexible robots in warehouses as well. In connection with these challenges, sensors will obviously play an outstanding role".

SICK 物流行业创新研讨会
SICK LA Innovation Day

At the industrial exhibition of the 19th ITS World Congress in Vienna, SICK presented intelligent sensor systems, such as the TIC102 traffic information collector, which can be used in flowing traffic for toll collection and traffic management. Another trade fair highlight was the VHD vehicle hot spot detector that combines thermal imaging cameras and laser scanners to detect overheated vehicles. In addition, SICK presented systems for identifying hazardous goods placards on vehicles, for monitoring external contours of trains, as well as automatic measurement of vehicle dimensions.

CeMAT ASIA

Under the motto of "Sensor Intelligence for Next Level of Automation", SICK started its Customer Day. More than 40 customers attended the presentations on new systems and trends, as well providing information in person concerning the use of products and systems from SICK in their applications. At the trade show of the CeMAT, the leading trade fair for intralogistics in Asia taking place simultaneously in Shanghai, SICK showcased its logistics competence, presenting the latest sensors for volume measurement, identification and distance measurement, for example, the compact and cost-effective TiM3xx 2D laser scanner. In addition, well-known customers had integrated Omni Portal systems from SICK into their exhibits.

PROMAT 2013
AN MHIA INTERNATIONAL EXPO

ProMat is North America's premier material handling, supply chain and logistics event. January 21 – 24, SICK showcased its newest intelligent sensor solutions for material handling and logistics at the show. On display were the RFU630 RFID interrogator, the SVP SICK Visualization Platform, the CLV690 bar code scanner and much more. From vendor compliance, print and apply of labels and revenue recovery to sortation, dimensioning, safety, and track and trace, SICK is an experienced logistics automation solution partner for optimizing distribution and fulfillment processes.

Further information:
www.sick.com/building-automation

TOLL SYSTEM WITH COLLECTION BY STRETCH ACTUALLY TRAVELED IS ALREADY A REALITY IN BRAZIL

FAIRER, MORE MODERN AND EFFICIENT SYSTEM

In order to reduce distortions related to the current toll collection model in Brazil and, at the same time, offer the user a fairer, more modern and efficient system, the government of São Paulo State created the Point-to-Point program, the first toll system in the country collected by kilometer actually traveled. The pilot project, launched in April, has the LMS511 2D laser scanner from SICK and was implemented on a highway between the São Paulo State cities of Itatiba and Jundiaí.

>> Electronic collection systems scan tags installed on the vehicles and then the toll is prepaid. To make the collection by kilometer actually traveled possible, tags similar to those used by the electronic collection system were installed on the vehicles. But here, gates had been established at certain points of the highway, which automatically scan the tags, recognizing the appliance, and debiting only the credit amount from the user.

BEST PERFORMANCE

In accordance with Alexandre Fontes, IT manager of Concessionária Rota das Bandeiras S.A, each gate has two LMS511 2D laser scanner, together with RFID antennas and video cameras, and software developed by TECSIDEL. “The vehicles have an RFID tag which contains information. Upon passing the gate, the LMS511 identifies the vehicle profile and activates the gate RFID antenna, which scans the RFID tags and activates the video camera which records an image of them. We are extremely satisfied with the performance and the value which the LMS511 has added to the toll without barriers project denominated ‘Point-to-Point’, developed together with ARTESP and also with our collection system integrator, TECSIDEL. Without it, we would not be able to ensure a synchronism of starting the images obtained by the cameras and we would also have to install the traditional electromagnetic loop amplifiers in the paving, i.e., besides not being intrusive, the system is practical and quickly implemented anywhere. Moreover, it will allow other analyses to be made, due to its capacity of classifying vehicles into differentiated categories”, points out Alexandre Fontes. And adds: “This product will certainly be used at all the other gates of the Point-to-Point system foreseen for our stretch”.

Further applications:
www.mysick.com/applications
More about the customers:
www.tecsidel.com.br
www.rotadasbandeiras.com.br
www.artesp.sp.gov.br

Sensor technology from SICK used in the “toll without barriers project”

NEW SORTING AND DETECTION SYSTEM IN THE PARCEL SORTING CENTER

COMPLETE SOLUTION FROM A SINGLE SOURCE FOR IDENTIFICATION AND VOLUME MEASUREMENT

Arto Tampio, Development Manager at Itella (left), with Kari Kautsalo from SICK Finland

Itella, the Finnish mail and communication company (formerly Finnish Post) benefits from integrated, complete solutions by SICK for identification and volume measurement for letters, small packages, parcels and bundle mail.

>> Itella has invested in new sorting and detection systems at several parcel sorting centers. As a first in this sector, combined sorting of letters, small packages, parcels and bundles takes place in all of these centers. The throughput of tote boxes for letters and flats is up to 5,000 units per hour and system. For small packages, parcels and bundled mail, the throughput is 10,000 units per hour for each system. Ensuring such throughput performance technically and at the same time integrating aspects of economic efficiency and invoicing of services rendered is possible only due to sophisticated 1D and 2D code readers featuring integrated imaging for further OCR processing and video coding, as well as legal-for-trade volume measurement systems for the larger containers. All components needed to be integrated into the sorting system via a common control system. The task was to realize permanent monitoring of the device and system functions as well as the option of remote diagnostics and maintenance from a single source, and to do so together with the overall sensor system combination.

TURNKEY COMPLETE SOLUTION FOR RELIABLE DESTINATION CONTROL, AND MAXIMUM AVAILABILITY

Itella decided to acquire the entire technology for the identification, volume measurement, and system monitoring from a single source. The fundamental components of SICK's system combination in each sorting center are the ICR890 image-based 1D and 2D code readers as well as the VMS520 volume measurement system. The code readers identify and decode the 1D and 2D codes on the items and send the image data to the subsystems for OCR processing and video coding. The volume measurement systems for precise detection of the height, width, length, and shape of sorting objects are calibrated and legal for trade. In this way, they form the basis for precise invoicing of the services performed. Each complete system is connected to the system control unit by a controller (MSC800). Use of a tool for monitoring system output and for remote maintenance (RDT400) guarantees the desired availability both of individual components and of the entire systems.

EXACT IDENTIFICATION OF OBJECTS AND ERROR-FREE DESTINATION CONTROL

SICK is the technological leader in the field of identification and volume measurement for sorting systems. By opting for SICK, Itella is not only using the latest future-proof, industry-proven technology; it also received complete solutions from a single source, without any interface risk and with all the components specially adjusted to each other. The uniformity of the solutions also reduced the costs for system tests, implementation, and commissioning. "The identification system works impressively well. One could even say it has exceeded our expectations", says Arto Tampio from Itella. The system minimizes units not identified and thus the manual workflow. Thanks to the legal-for-trade volume measurement system, Itella can use the measurement and ID data to invoice services actually performed, even in case of high throughput rates.

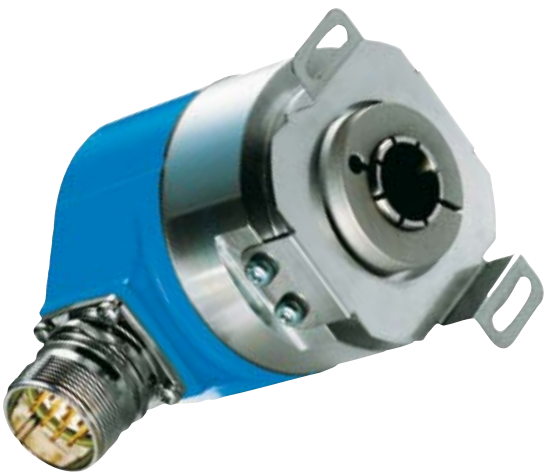
Further applications:
www.mysick.com/applications
More about the customer:
www.itella.com

MONITORING THE DRIVES OF HOISTING WINCHES

AUTOMATIC POSITIONING OF "HOISTING WALLS" FOR THEATER STAGE SETS

Hoisting walls are installations for lifting and lowering stage sets. In this connection, it is essential that the required path and position data be detected with great precision. ATM60 SSI absolute encoders (multiturn) provide for highly accurate moving and positioning of hoisting walls for stage sets using hoisting winch drives.

>> Specialists in stagecraft install hoisting walls for lifting and lowering stage sets. Increasingly, automatic controllers implement the upward and downward movement of the heavy scenery. In doing so, they relocate the set parts at a speed of 1.8 m/s. The sequence of movements, in part very complex, must be carried out with high precision. The engineers from the controllers department of a company specializing in stagecraft were looking for rotary sensors capable of detecting the necessary path and position information with great accuracy.



LARGE BASIC RESOLUTION FOR HIGH PRECISION

Each hoisting winch is equipped with two extremely robust ATM60 SSI absolute encoders featuring an SSI interface. In this rotary measuring system, a sensor scans permanent magnetic elements mounted on a magnetic reference mark. Due to the large basic resolution of 8,192 steps per revolution, the ATM60 SSI offers high precision. Several reduction gears with magnets mounted on them provide for the encoder's multiturn properties. The SSI interface transmits the ATM60 SSI's absolute position to the controller of the hoisting wall automation. The first encoder is located behind, on the hoisting winch's electric motor; the second above, directly on the hoisting winch itself. A safety module constantly compares the two output signals with one another.

If the module detects any discrepancies this means there may be a risk of injury for persons located beneath the suspended set part – the movement of the scenery is stopped immediately. This method achieves exact positioning of the automated theater hoisting walls and safety-capable monitoring of the movement of the stage set.

MOTORS ALREADY EQUIPPED WITH ENCODERS

The ATM60 SSI encoders are robust and extremely reliable path and position detection systems. The manufacturer already integrates them into the motors of the hoisting winches at the factory. A safety module compares the values of the encoder on the motor with those of the encoder mounted to the hoisting winch. This provided the prerequisites for fulfilling the SIL3 requirements. In this way, one can obtain the highest possible safety certificate for this type of installation. The stagecraft specialist produces several hundred hoisting winches each year. They are used both in new theater buildings and for modernizing playhouses, theaters, and cultural centers.

Further applications:
www.mysick.com/applications

FOR RAPID CLOSING OF ROLLING SHUTTERS

OBJECT DETECTION IN THE CLEAR OPENING

High-performance photoelectric sensors from SICK enable efficient operation of automatic quick-acting rolling shutters that are constructed in accordance with the DIN EN 13241-1 product standard for door and gate systems.

>> The rolling shutter systems made by an internationally known manufacturer open and close almost noiselessly and with speeds of up to 3 m/s. They are used in many fields of the manufacturing and storage industries – both as indoor gates between two adjacent workshops and as gates to the outdoor area. Many operators attach great importance to short opening and closing cycles, for the longer an outside door remains open unnecessarily, the greater, e.g., the loss of heating or air conditioning energy to the outside. Therefore, rolling shutters are best meant to close immediately, as soon as the door opening is clear again, for instance, after a forklift truck passing through.

PHOTOELECTRIC SENSORS FOR GATES FROM SICK ENABLE CLOSING

The W24-2 and W280 product families used in automatic rolling shutters are rugged photoelectric sensors from SICK that deliver reliable detection. The sensors deliver convincing performance because of long sensing ranges and substantial operating reserves. Special features of the W280 are the detachable and, respectively, clip-on back piece of the housing, which facilitates both initial mounting and replacement of the device, and compliance with the maximum permissible values for electromagnetic emissions in residential, commercial and light industrial areas as well as small businesses in accordance with EN 61000-6-3. The W24-2 is used primarily on rolling shutters in outdoor areas. The tough metal housing, high insensitivity to ambient light, and useful additional options such as front pane heating, cooling elements, or a dust protection tube with air purging make this sensor the optimum solution in harsh environments. Whether W24-2 or W280 – as long as the photoelectric sensors detect an obstacle in the clear opening of the rolling shutters after a signal request by the gate controller, they block the automatic closing process. Once the opening is clear, the gate is allowed to close.

No unnecessary opening periods – thanks to the W24-2 and W280 photoelectric sensors from SICK.

Further applications:
www.mysick.com/applications

Photoelectric sensors from SICK monitor gates both in indoor and outdoor areas

CUSTOMS-COMPLIANT ACCESS CONTROL SYSTEM

LOGISTICS ACCESS CONTROL (LAC): FOR THE SECURE MOVEMENT OF GOODS

According to the U.S. Customs Authority, the best way to protect against terrorism when importing goods into the United States is a secure, end-to-end supply chain. The Customs-Trade Partnership Against Terrorism (C-TPAT) calls for the implementation of a number of organizational and technical measures. SICK's Logistics Access Control (LAC) is an access control system that ensures that goods are handled securely and only by those who are authorized to do so.

>> BLAC offers a complete ready-to-use solution involving laser measurement technology, radio frequency identification (RFID), and sensor integrated software. It was developed in line with the objectives of the C-TPAT and the requirements for obtaining European "Authorized Economic Operator" (AEO) status. The sensor detects persons and vehicles in motion, while maintaining the flow of traffic, and identifies them with the help of coded transponder cards. Any unauthorized persons or items are reliably detected and prevented from accessing other areas.

C-TPAT AND AEO REQUIRE ORGANIZATIONAL AND TECHNICAL MEASURES TO BE TAKEN

The C-TPAT and AEO requirements were valid until end of March 2013, so those involved in goods handling still have time to become certified as a "known shipper" by C-TPAT or an "Authorized Economic Operator" by AEO authorities and immediately gain the benefits.

LAC: CUSTOMS-COMPLIANT ACCESS CONTROL SYSTEM FOR INTRALOGISTICS

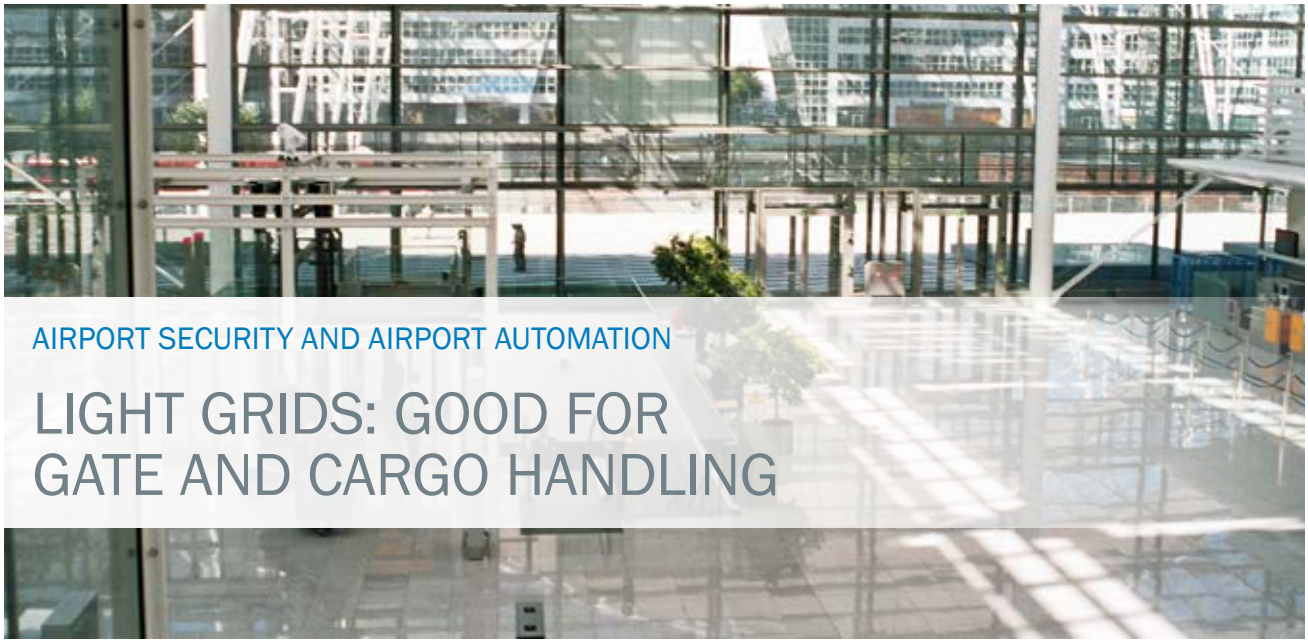
The LAC combines non-contact laser measurement and long-range identification technologies in one complete ready-to-use system with integrated evaluation and monitoring software – the LAC runs autonomously and requires no external control unit or separate PC/PLC. A LMS123 laser detector and a RFU630 interrogator with UHF identification system are included. The LAC can be integrated as a stand-alone system or as part of a network and can be connected to common intrusion detection and alarm systems.

INTELLIGENT MONITORING

An intelligent LAC software manages the functions of LMS123 and RFU630. In addition to controlling access, the linking logarithm of the software also assists logistics employees in their supervisory role: The LAC detects an unauthorized entry, even if the door is still open. Any unidentified individual who tries to slip through after another person will be detected by the laser detector. If the RFU630 does not identify a transponder or a valid transponder, an alarm will activate.

Further applications:
www.mysick.com/applications

The LAC access control system ensures safe handling of goods



AIRPORT SECURITY AND AIRPORT AUTOMATION

LIGHT GRIDS: GOOD FOR GATE AND CARGO HANDLING

Automation light grids from SICK constitute efficient solutions for safety and trouble-free process sequences at airports. They are used successfully on barriers between landside and airside areas, in access monitoring for security and VIP areas, in baggage conveying systems, or for container and cargo handling.

>> SICK is able to provide both integrators and end customers worldwide with timely project and service support for these security and intralogistics applications.

MLG APPROVED AS ONE-WAY BARRIER SENSOR

The MLG is a measuring light grid already approved at numerous airports as an integrated sensor solution for one-way barriers (anti-return gates). The resolution of these light grids is so fine that they reliably detect and report even flat objects pushed through along the hall floor or along the top of the gate but also any objects thrown through the zone. Detection of direction is achieved by a duo concept, i.e. by two MLGs installed side by side within a few millimeters. If a person or object disrupts the system in the wrong direction, the system output issues a report, locking any gate door to the airside that may still be open.

SAS: SMART SOLUTION FOR STAFF AND VIP ENTRANCES

For airplane crews, ground personnel, and specific groups of persons, many airports feature separate facilities for controlled access from the public landside to the safety-relevant airside. Frequently, the systems used are medium-high turnstiles and lower security interlocks, often equipped with SICK's switching SAS (smart area sensor) smart light grid. In addition to detection reliability, integrators and airport operators praise above all the space-saving design of the flat and slim housing variants as well as the simple installation.

CARGO AND BAGGAGE HANDLING: CHECKING FOR PROJECTIONS USING MLG

The higher the degree of automation in the airport's internal logistics, the more important is the protection of the automated processes from malfunctions. These may be caused, e.g., by baggage projecting in the sorting facilities or by air cargo containers shifting during transportation on the transfer cars. Thanks to its rugged design, the MLG is the ideal solution for these tasks. In operation, it ensures reliable checking for projections. Moreover, by means of integrated height measurement, it is capable of classifying objects and providing information relevant for loading.

Automation light grids from SICK recognize even persons moving in the wrong direction

The bottom line: Light grids from SICK are security and automation solutions suited for many tasks in airports. They prove their reliability on a daily basis at numerous airports around the globe.

Further applications:
www.mysick.com/applications

PROTECTING CULTURAL ASSETS

SAFE ENJOYMENT OF ART WITHOUT IMPAIRMENT

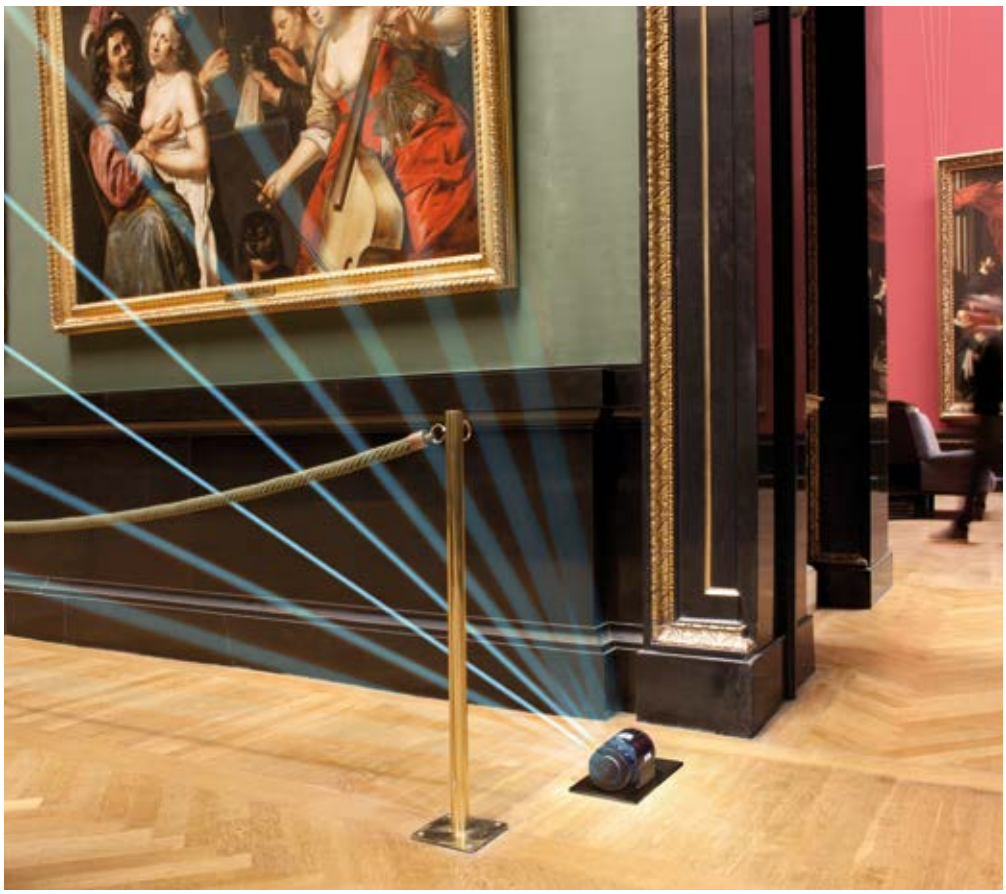
SICK has developed innovative solutions for security at museums and exhibitions that do not interfere with their infrastructure. The devices in question are laser detectors that form virtual surface areas and walls. They can be integrated into the logical protective zones for individual works of art or entire exhibition areas.

>> Paintings and sculptures must be protected against vandalism, theft, and inadvertent damage. Preventing unauthorized touching is a challenge: Protection has to take place in ways not impairing the work of curators and the visitors' enjoyment of art. Therefore, the more invisibly, accurately, and reliably the works of art are protected, the better the fulfillment of this requirement – without neglecting the protection of property. Moreover, renovations and adjustments for new exhibitions with their paintings and sculptures, etc. must be manageable without any problems. If those responsible for security management rely on sensor technology, dust and dirt as well as the daily cleaning of the museum halls constitute additional difficulties.
In the past, many museums opted for cameras, which, however, do not provide adequate security due to lacking protection against tampering. Consequently, the desire has emerged for a sabotage-proof and interference-free solution that guards the work of art around the clock.

VERSATILE IN USE AND NEARLY INVISIBLE

LMS1xx or LD-OEM laser detectors from SICK meet this requirement. Their uses are versatile: vertically for painting respectively wall protection as a "curtain detector" or horizontally for ceiling respectively floor protection as a "breakthrough detector". Decisive advantages of the sensors are easy and nearly invisible installation and their ability to protect in fact only in those places where protection is required. As a result, the visitor can view important information

about the work of art from very close up. Activities such as renovations for new exhibitions, cleaning measures, etc. are possible without switching off protection of the objects. The daytime and nighttime setting of the laser detectors from SICK makes it possible to structure the safety concept in a flexible way. Thus, during the day, for instance, the sensors can monitor only individual areas or objects; at night, on the other hand, entire walls including the entrance. A breach of the monitored field causes immediate – i.e. real-time – triggering of the alarm. Thanks to relay and OPC interfaces, the laser detector can be operated both in independent mode or integrated into an existing alarm management system.



FLEXIBLE USE OF AREAS

The functional principle of the detectors is quite simple. The active scanner of the measurement system transmits an invisible fan-shaped light pulse and measures the time lapsed until receiving the reflection. Therefore, as soon as a person reaches into or enters the monitoring field around the work of art, this causes a change in the time of flight of the transmitted light impulse, which triggers an alarm signal. In addition, the system would also be able to determine the person's position within the monitoring field and thus to align and focus observation cameras very precisely. Due to dual digital signal processors, operators can adjust the measurement system according to its environment. When paintings are replaced or new walls put up, the software in the device can take that into account. In this way, one can continue using the wall areas flexibly.

IN USE ACROSS EUROPE

Numerous European museums and exhibitions have already opted for the reliable laser detectors from SICK. The LMS1xx or LD-OEM monitor art treasures in many countries. Outdoor variant types of the LMS can also protect façades against persons intruding from the outside, especially at night.

As a result, works of art that call to mind earlier epochs and convey their knowledge and splendor will survive for future generations as well.

Protection of paintings and sculptures

Laser detectors are used in diverse ways: for protecting pictures respectively walls (vertical) or for ceiling respectively floor protection (horizontal). With respect to objects such as sculptures or jewelry in wall recesses, light grids have also done a good job for protection.

Unnoticed "fishing" for the object is not possible because of the fast detection of the intervention. In contrast to two-dimensional protection of a painting, more dimensions have to be covered to secure sculptures. To this end, one may also use a distance-measuring vision system.

Further applications:
www.mysick.com/applications

VIEWS & VOIC

PROTECTING EXHIBITS RELIABLY AGAINST THEFT AND VANDALISM

LASER TECHNOLOGY PROVIDES VISITOR-FRIENDLY PROTECTION OF EXHIBITS

With its art treasures spanning seven millennia – from the earliest civilizations in ancient Egypt to the end of the eighteenth century – the Kunsthistorische Museum (KHM) in Vienna ranks among the world's greatest and most significant museums. SICKinsight spoke with Felia Brugger (M.Sc.), who is responsible for the KHM's security management, about strategies towards effective and yet visitor-friendly protection of the exhibits.

Felia Brugger (M.Sc.), Head of Security Management at the Kunsthistorische Museum in Vienna, gave SICKinsight an interview

SICKinsight: What makes the Kunsthistorische Museum in Vienna one of the greatest and most significant museums in the world?

Felia Brugger: The KHM network includes several museums, and for every single one of these museums, it is appropriate to use superlatives. Just in terms of architecture, the Kunsthistorische Museum on its own is among the most important buildings of Vienna's Ringstrasse boulevard. The Picture Gallery accommodated there is world famous. The same building also houses our collection of Greek and Roman antiquities, the Egyptian and Near Eastern collection, as well as the coin collection, which features about 700,000 items, making it one of the world's largest coin collections. Every year, our museums captivate thousands of visitors. I feel it to be a privilege every day to be able to work in a house like this.

SICKinsight: Which kinds of problems and challenges arise when it comes to protecting works of art in museums?

Felia Brugger: Security in museums encompasses the area of conflicting priorities between presenting and conserving. After all, the objects are supposed to be close to the viewer, they

are meant to touch, as it were, without being touched. Protection requires making compromises on a permanent basis. In historical buildings like ours, some measures are either impossible to implement altogether or only with very extensive efforts. Therefore, the protective action always constitutes a combination of structural, mechanical, technical, personnel, and organizational measures.

SICKinsight: What were your goals when you took on the museums' security management?

Felia Brugger: One of my prime objectives after assuming this responsibility in 2008 was the number of false alarms. You may have heard about the theft of the "Saliera" or "Salt Cellar" in 2003. At the time, a person forced his way into the KHM via scaffolding. In doing so, the man triggered the alarm, something the team of security guards in the security center ignored because that entirely normal day had seen numerous alarms triggered due to obsolete safety technology. The thief got away with an exhibit estimated at 36.5 million euros. My efforts, therefore, aimed at eliminating false alarms as far as possible. A second important issue is protection against vandalism. Frequently, mere seconds make a difference in whether a work of art can be saved or not. Security often translates into a gain in time.

SICKinsight: What are the demands you make on security measures?

Felia Brugger: It is essential that security-relevant conditions be indicated reliably. On top of that, the security technology used must be compatible with already existing measures and, as far as possible, with future systems as well. To me it is also important that a system is as easy to operate as possible. Of course, staff has received special training and clear instructions. However, anything that is easy to operate in an alarm event increases security.

SICKinsight: Why did you decide in favor of sensor technology from SICK?

Felia Brugger: To begin with, the deciding factor was that these laser detectors work extremely accurately and reliably. There are practically no false alarms. We receive exact data about any instance of someone coming too close to a painting, enabling us to react immediately. Another reason was the type of detection. The laser detectors from SICK provide the option of detecting spray mist comprised of diverse media, thus recognizing vandal attacks. I know of no other system capable of doing that. The third argument was the flexibility of the laser detectors. In the Picture Gallery, we often see re-hangings and special exhibitions take place. Whereas other systems had to be readjusted in elaborate ways, laser detectors provide the possibility of securing the entire wall, no matter what changes on it.

SICKinsight: What has improved by using the laser detectors?

Felia Brugger: From many years of experience, I can only confirm that the systems work extremely accurately. False alarms practically do not happen at all anymore; "real" alarms are indicated very precisely. That is why in the meantime laser detectors see use in other areas of our houses as well, for instance, to secure outside façades or to protect items such as large tapestries.

SICKinsight: Mrs. Brugger, thank you very much for the interesting information and the interview.

Further information:
www.khm.at

Everything "in sight": the laser detector from SICK

LASER MEASUREMENT ENABLES NON-CONTACT INTERACTION

TOUCHLESS NAVIGATION TOWARD THE FUTURE

Navigating through interactive contents by movements of the hand like Tom Cruise in Minority Report – this is the dream that the Swiss Atracsys company has made a reality with the beMerlin LV. The LMS100 laser detector from SICK supplies a high-quality signal whose evaluation enables the user to carry out intuitive and futuristic navigation.

>> Non-contact, interactive, and innovative navigation is suited for a large number of exhibition, presentation, game, and information applications in which the user can navigate through individual subject areas using symbols or gestures. In this connection, Atracsys goes one step further, as CEO Gaëtan Marti explains: "Currently, we are testing so-called shop window systems, which allow passers-by to navigate interactively through contents in front of a shop window, with the bulk of the technology used installed safe from vandals indoors behind the window pane. Initial field tests received very positive reviews by customers". What used to be a future vision in the past is now becoming a reality.

QUICK REACTION OF THE SURFACES DECISIVE FOR ACCEPTANCE

In order that an application can be used intuitively and is considered attractive, the sensor must perceive the interaction instantaneously and accurately. Rapid detection is crucial for acceptance and thus for the success of the solutions made by Atracsys, since only swift opening of the selected control element lives up to the user's intuitive demand on ergonomics. In cooperation with SICK in the area of 3D measurement, Christian Scheidegger from SICK Sales Switzerland and the LMS product specialist Roland Odermatt worked together with the engineering team from Atracsys to identify the LMS100 laser detector as the suitable solution.

EASY HANDLING OF THE beMerlin LV

The LMS100 is installed next to the surface intended for interactive design. This area is defined and parameterized as the measuring field. The laser detector detects very quickly and accurately where a hand is located within the measuring field. Atracsys' software evaluates this signal in order to process it for the interactive navigation. "The LMS is the technically superior product to implement such touchless navigation solutions", confirms Gaëtan Marti. "In addition, SICK has a worldwide presence in terms of service as well, which means it can take on after-sales service with our international customers if required".

LMS100 FROM SICK IS CONVINCING

For applications requiring reliable detection of small objects in a random position within a large surface area, the laser detector of the LMS100 product family from SICK deliver highly available and economical results. The measurement system is very accurate: With an angular resolution of 0.25° and scanning frequencies of up to 50 Hz, it emits an invisible, fan-shaped laser pulse at an angle of 270°, measuring the time lapsed until reception of the reflections. Due to its innovative multi-echo technology, the LMS100 also provides detec-

Interaction is not just fun, it also helps remembering the content of things experienced

tion reliability that is unprecedented to date. In combination with the integrated distance measurement, this allows extremely stable field monitoring along with very accurate object localization within the two-dimensional monitoring field. All of this matches precisely the features Atracsys requires for navigation on two-dimensional monitors and projection surfaces. For outdoor use, SICK offers the LMS111 and the LMS511, two powerful variant types featuring even more measuring accuracy.

ATRACSYS: VISION TECHNOLOGY FOR INTERACTIVE MARKETING

In order find economical uses of the knowledge derived from more than ten years of research at the Swiss Federal Technical Institute in Lausanne (EPFL) in the area of minimally invasive surgery (or: keyhole surgery) and optical tracking, the year 2004 saw the founding of Atracsys LLC. In addition to devices for cutting-edge optical 3D tracking in medical research, teaching, and industry, today the company also develops and produces interactive marketing systems for trade fairs, sales departments, and the distributive trades. Atracsys integrates standard solutions, such as the beMerlin LV and multi-touch tables featuring object detection into customer-specific software solutions in order to offer powerful marketing solutions. In addition, mobile apps complement the portfolio. All of the technologies used at Atracsys aim at one thing: Instead of remembering the technology, the customer is supposed to remember the contents for the long term.

Further applications:
www.mysick.com/applications
More about the customer:
www.atracsys.com

360° PROTECTION FOR COLLISION-FREE MOBILITY IN THE WAREHOUSE

ALL-INCLUDED SERVICE PACKAGE FOR AUTOMATED GUIDED VEHICLES

Safety for automated guided vehicles on all paths and in all direction, combined with economic efficiency – this specification from the Spanish intralogistics provider ASTI is fulfilled by complete protection comprised of S300 Mini safety laser scanners and SICK's Flexi Soft safety controller.

>> Personal safety and collision protection, performance without compromise – all of this is made possible by the 360° safety solution developed specifically for automated guided vehicles and mobile platforms. In terms of sensor technology, it consists of two S300 Mini safety laser scanners. Installed diagonally across, they utilize their 270° scanning angle to permit complete all-round monitoring of vehicles. They are integrated safely using the Flexi Soft safety controller, which in addition is also capable of processing signals from other sensors.

SPACE-SAVING INTEGRATION INVOLVING MINIMUM CONNECTION EXPENSE

The S300 Mini safety laser scanner meets the technical safety requirements of performance level d in accordance with EN ISO 13849 and SIL2 in accordance with IEC 61508, and complies with the requirements for opto-electronic protective devices according to IEC 61496 type 3. Developed particularly for mobile applications, it features an overall height of only 116 mm, making it the space wizard among safety laser scanners. However, it manages not only installation space economically; its wiring technique also avoids unnecessary costs. Using EFI – the SICK-specific "enhanced function interface" – two S300 Mini and one Flexi Soft per vehicle are combined in one safety network. The design was convincing due to dramatically reduced wiring expense, less weight, as well as easy installation and integration of the solution into the vehicles from ASTI. At the same time, the Flexi Soft becomes the central interface for configuration and extended diagnosis of the two connected S300 Mini. The result is minimum cost in production as well as rapid and smooth commissioning at the place of operation.

EVERYTHING IN SIGHT WITH 16 TRIPLE FIELD SETS

For all-round monitoring, ASTI uses the full functionality of the S300 Mini and the 16 flexibly configurable triple field sets – each with one protective and two warning fields. This setup allows reacting individually to different traveling situations. This includes, for example, dynamic switching of the field sets independent of the travel path or position when decelerating or accelerating. For ASTI's fast vehicles in particular, this feature constitutes a decisive advantage, as the finely graduated monitoring cases enable optimized deceleration and acceleration cycles.

S300 Mini and Flexi Soft – ASTI relies on the 360° safety solution for mobile intralogistics and service logistics.

Further applications:
www.mysick.com/applications

More about the customer:
www.asti.es

ASSURING STERILE AND LEAK-PROOF MILK BOTTLES

VISION SENSORS ENABLE FATIGUE-FREE QUALITY CONTROL

Logoplaste, an internationally operating manufacturer of plastic bottles for the beverage and packaging industry, achieves product quality that pays off using vision sensors from the SICK Inspector product family.

>> In contrast to inspection with the human eye, the vision sensors not only work fatigue-free but also faster and more accurately. This approach allows prompt detection of potential flaws as well as quick reaction during the manufacturing process. In turn, this ensures for the customer – a major producer of dairy products in Great Britain – documentable product quality in the form of sterile and leak-proof 2-liter plastic milk bottles.

LOGOPLASTE: PLASTIC BOTTLES FOR A VARIETY OF LIQUID PRODUCTS

In 18 countries and 62 plants worldwide, the British Logoplaste Company produces rugged plastic bottles for a number of important industries. These include, among others, the markets for personal care products, household cleaners, oils and lubricants, as well as the food and beverage industry. At the Hatfield Peverel plant, blow molding serves to produce about 6,000 milk bottles an hour on two lines approx. 500 m in length. In this process, plastic burrs may form around the bottle opening as well as on the carrying handle. “In order to avoid any problems with leaky or non-sterile bottles emerging later on, these burrs have to be removed completely by means of an automated process”, explains Jon Hart, the Manager of the Logoplaste plant.

RELIABLY DETECTING EVEN MINUTE PLASTIC BURRS

To detect even the smallest remnants of burrs reliably and identify flawed bottles and processes early on, Logoplaste has very successfully used vision sensors from the SICK Inspector I20 product family for about a year and a half. Two “Inspectors” are used in each line: One monitors the area around the bottle opening, while the other checks the carrying handle. “Any deburring faults are detected reliably and promptly”, Jon Hart confirms the efficiency of the vision sensors. “In this way, we can react quickly, enabling us to eliminate rejects almost completely”.

EASY-TO-INTEGRATE SOLUTION WITH POTENTIAL FOR MORE

Converting the testing process to the vision sensors was very simple. “The easy-to-use interface and support by SICK were convincing both during the two-day test phase and the subsequent integration of the sensors”, Jon Hart says in retrospect. “Moreover, using the I20, we are able to check features as precisely as practically no other vision sensor can”.

Therefore, it is hardly surprising that the plant manager at Hatfield Peverel likes to present and recommend SICK’s Inspector solution to colleagues in charge of other Logoplaste production sites as well.

The I20 vision sensor from SICK helps reliably detect even minute plastic burrs

Further applications:
www.mysick.com/applications
More about the customer:
www.logoplaste.com

GREEN ENERGY FROM SÖDERENERGI – SÖDERTÄLJE, STOCKHOLM

A PIONEER OF SUSTAINED DEVELOPMENT

"When the sun vanishes behind the clouds, we see energy demand shoot up", says Peter Hillblom, a mechanical engineer at the Igelsta plant in Södertälje. "We use measuring technology from SICK – the MCS100FT CEMS solution and also the DUSTHUNTER FWE200 scattered light dust measuring device for wet gases – to monitor our emissions, ensuring that they always fall within legal limits. Our aim is to keep improving".

>> Not only is the Igelsta plant one of Sweden's largest biomass power plants; situated in a very scenic location near the entrance to the Baltic Sea, the plant received recognition as the "Building of the Year" in 2009. It produces green energy for 100,000 homes and district heating for 50,000 homes. In order to meet these power and heat generation requirements, the power plant requires approx. 17,000 tonnes of fuel every week.

HIGH-ENERGY FUELS FOR THE "ST. MARTIN'S GOOSE" TURBINE

The fuels used are mainly derived from forestry waste, such as chopped up wood from trees, supplemented by fuels derived from non-recyclable waste from the local area, such as waste wood, plastic, and paper. The steam produced through this combustion process is used to heat water for district heating and also to power the "St Martin's Goose" steam turbine. The turbine was commissioned on St Martin's Day in 2009 and takes its name from the meal traditionally eaten at this time of feasting. Nevertheless, the powerful red turbine looks more like an organic monster than a high-tech creation. In the middle of the plant, the turbine is driven by high-pressure steam at a temperature of 540 °C. This in turn powers an enormous generator which supplies 11 kV and 85 MW of power – enough to light up over 1.4 million 60 W-light bulbs.

SÖDERENERGI – A PIONEER IN THE USE OF SECONDARY FUELS

Coal was the fuel used in the first Igelsta plant back in 1982. Social changes and the introduction of a CO_2 tax brought about a change: "We were very quick to start cutting down on fossil fuels and were soon able to switch to biomass and recycled raw materials. Our CO_2 emissions fell by 80 %", explained Madeleine Engfeldt-Julin, Communications Manager at Söderenergi. "We can consider ourselves successful pioneers in the use of secondary fuels. Our highly developed gas cleaning system means that the emissions coming

urement accuracy for up to 14 components measured used together in the same system.

The DUSTHUNTER FWE200 from SICK uses an extractive dust measuring system to determine particle emissions at temperatures below 100 °C (below the acid dew point of the exhaust emissions). The SICK measuring systems are part of a monitoring and IT network which allows various measurement points within the plant to be remote controlled. This has one distinct advantage for Peter Hillblom: "I can access the same images as the IT staff in the control room without having to go there myself".

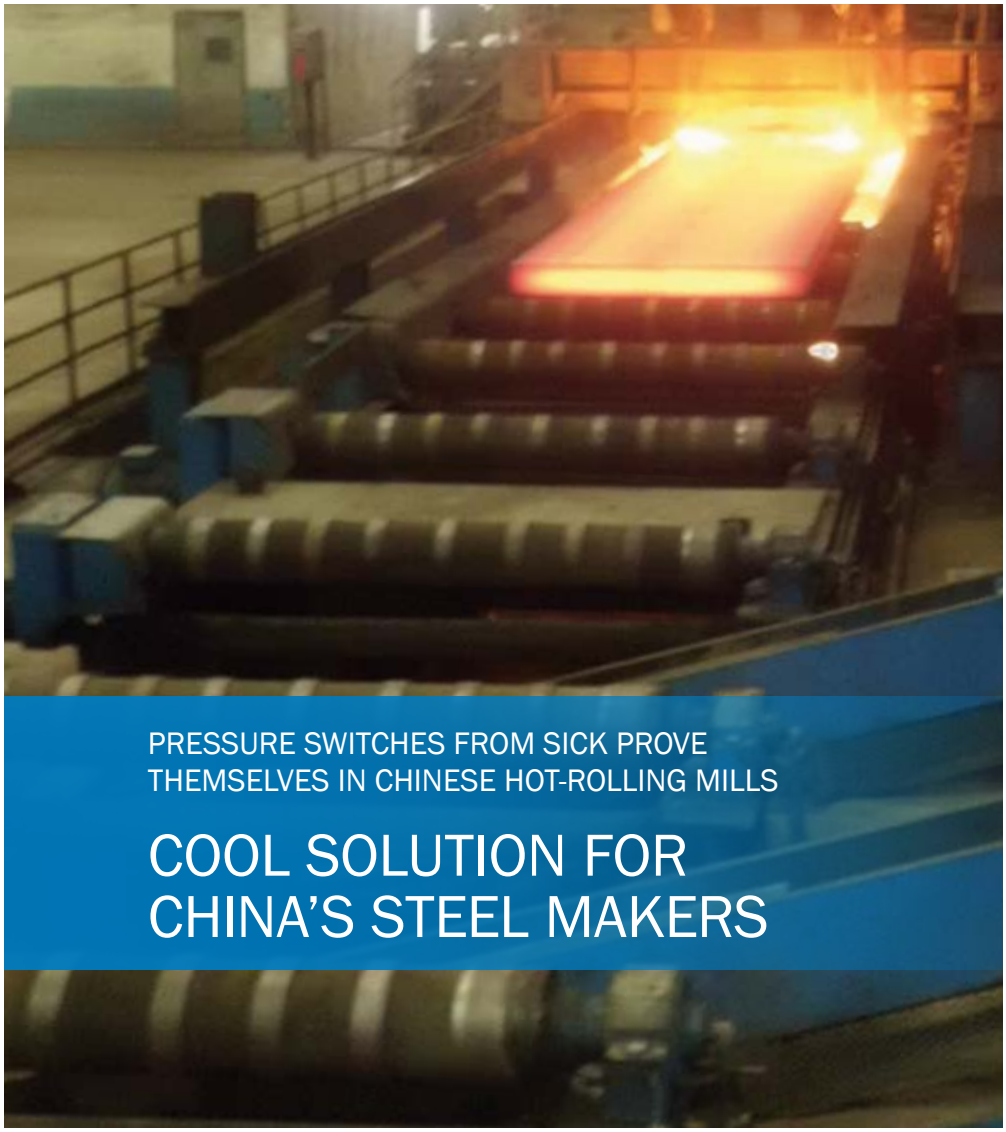
Further applications:
www.mysick.com/applications
More about the customer:
www.soderenergi.se

Top: Steam turbine "St. Martin's Goose"
Bottom: Kristina Arveng, Peter Hillblom, Mirjana Mijatovic and Niclas Thorell from Igelsta. Torbjörn Melin (right), service manager from SICK

out of our chimneys are almost exclusively steam", she added. "Not only is the number of pollutants very low now; Söderenergi is also constantly developing and refining its use of biological and recycled fuels".

THE FIRST COMPANY IN SWEDEN TO USE SICK'S FTIR MEASURING TECHNOLOGY

In 2009 Söderenergi became the first company in Sweden to measure emissions using the new MCS100FT CEMS solution, which is based on FTIR technology (Fourier transform infrared spectroscopy). The system measures HF, HCl, NH_3, H_2O, CH_4, SO_2, N_2O, CO, NO, NO_2, CO_2, and O_2. As an option, it can also determine both NO_x and VOC/THC concentrations. Research proves that the gas analysis systems deliver results with a consistently high meas-



PRESSURE SWITCHES FROM SICK PROVE THEMSELVES IN CHINESE HOT-ROLLING MILLS

COOL SOLUTION FOR CHINA'S STEEL MAKERS

The PBS pressure switch from SICK can be set up without any tools using three buttons

Whether at Jiangsu Sha Steel or Jiangyin Xingcheng Special Steel – due to its ruggedness and precision as well as its easy installation and user-friendliness, the PBS pressure switch from SICK sees frequent use in Chinese steel mills.

>> The Jiangsu Sha Steel Group is the largest private steel group in the People's Republic of China. A wide variety of production lines covers the entire production process. The annual production capacity is 30.5 million tons of iron, 37.8 million tons of steel, and 36.6 million tons of rolled steel. The steel products manufactured are quite diverse – among others, steel plates, sheet metals, wires, and stainless steel – and feature over 2,000 specifications. In order to manufacture products of the highest quality, the Jiangsu Sha Steel Group relies on automated processes. Sensors used in this context must meet special requirements due to the harsh operating conditions.

PBS PRESSURE SWITCH WIDELY USED

Particularly in the hot-rolling mills of the Jiangsu Sha Steel Group, the PBS pressure switch from SICK enjoys high esteem. The transmitter, pressure switch, and display are accommodated in a single compact sensor housing featuring an IP 65 or, respectively, IP 67 enclosure rating. It is used, among other things, for detection of oil and water pressures. The circularly welded stainless steel membrane makes the PBS very resistant against numerous aggressive media. The user-friendliness of the PBS receives particular praise: For optimum installation, the electrical connector and the sensor head with the blue 14-segment display can be rotated and aligned depending on the respective installation situation. This approach ensures optimum cable routing and ideal readability. Setup of the PBS takes place in a simple, fast, and thus cost-saving way using three buttons – without any tools. The pressure switch is available in diverse variants featuring different output signals. On top of that, IO-Link is also available for extended operating and polling options.

JIANGYIN XINGCHENG SPECIAL STEEL

For monitoring pressure at its hot-rolling mills, the leading Chinese bearing and special steel producer, Jiangyin Xingcheng Special Steel, also relies on the PBS pressure switch from SICK. In this connection, too, the accuracy and ruggedness of the maintenance-free sensor are crucial arguments in favor of the PBS.

Further applications:
www.mysick.com/applications

More about the customer:
www.sha-steel.com

LINEAR MEASUREMENT SENSOR MAKES 4D CINEMA TECHNOLOGY POSSIBLE

IN THE MIDDLE OF MOVIE ACTION WITH MOBILE BOX SEAT

Anyone who believes to be part of the action in a 3D movie is well-advised to experience 4D cinema technology. Mobile cinema seats cause gravitational and centrifugal forces, among others, to impact the audience. OLM linear measurement sensors from SICK ensure that the visual action and the action felt fit together.

>> The target group for the 4D cinema technology made by the Chinese producer Shenzhen Advance Tech Ltd. is above all amusement parks that provide the spatial and investment-related conditions for the construction and operation of such action theaters. Their special feature is mobile cinema chairs. Lying rather than sitting in them, the audience watches a 3D movie projected on to the ceiling of the movie theater. The chair itself, mounted to a platform traversable on rails, can be moved in addition on the platform as well. In this way, the makers of the 4D cinema technology by Advance Tech Ltd. manage to transfer the dynamics of the action to viewers in a physically noticeable way. Plane crashes, rocket launches, pursuits by water, by land, and by air – the action does not merely hit the brain but also the gut.

OLM100 SYNCHRONIZES VISIBLE WITH EXPERIENCED ACTION

Obviously, there is innovative technology behind the new cinema enjoyment – among other things, in the shape of the OLM100 linear measurement sensor. Its task is delivering information regarding the position of the mobile cinema chair on the rail system to the plant control in a timely and accurate manner. For this purpose, the OLM100 scans a bar code strip on the rails. Development engineers, product specialists, and sales engineers from SICK cooperated with Advance Tech Ltd. to harmonize the operating mode of the OLM100 with the requirements of 4D cinema technology. Even when it comes to fast movements of the cinema chair, one can always take for granted a chronologically synchronous experience of the action on the silver screen and the matching experience of accelerations, speeds, rotary motion, and vibrations.

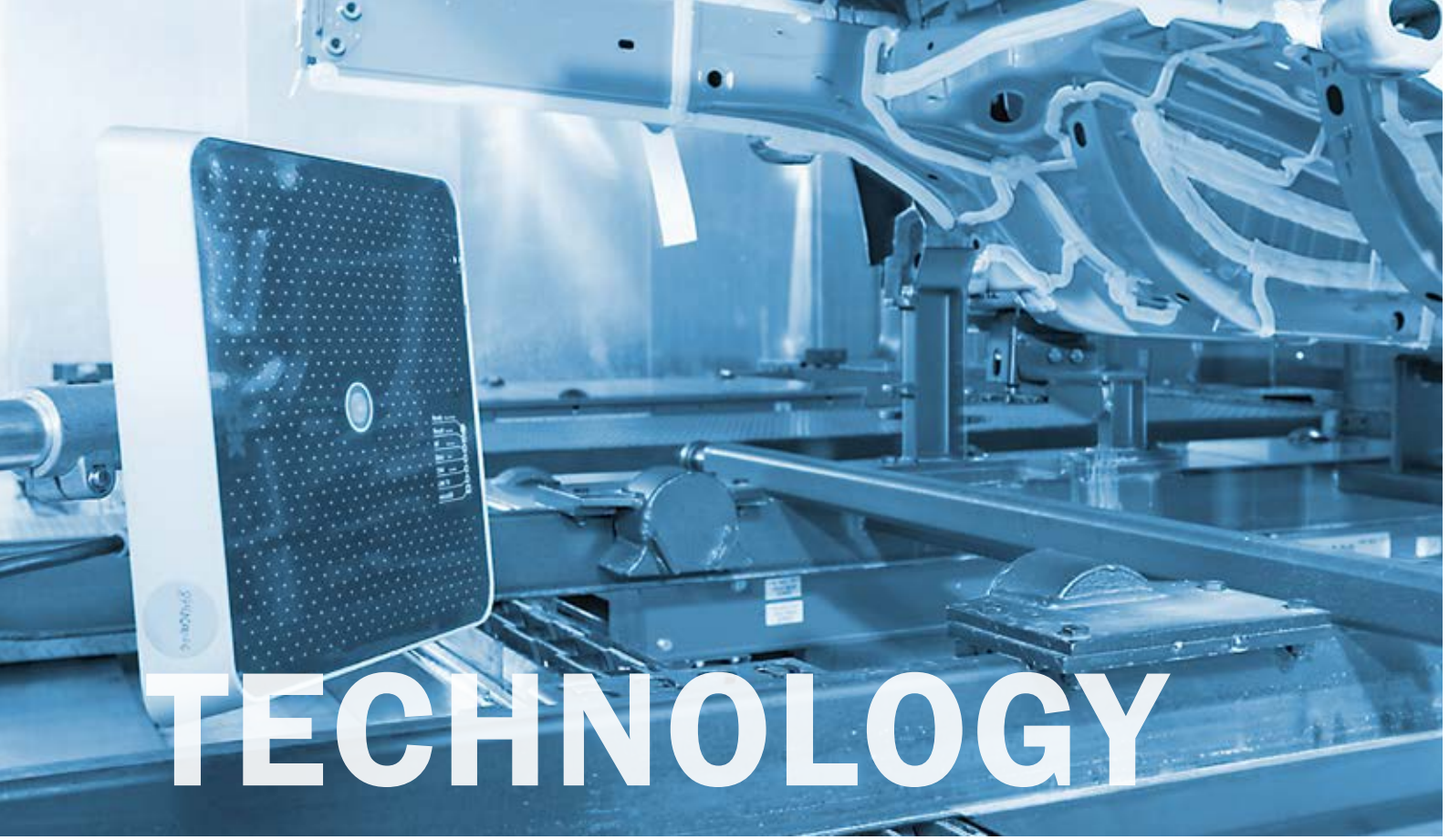
EASY TO INSTALL AND RESISTANT TO VIBRATIONS

In addition to the demands on precision and repeat accuracy that allowed the OLM100 to win the tests during the project-planning phase, the people at Advance Tech Ltd. paid special attention to questions of integration and ruggedness. Thus, the linear measurement sensor from SICK is convincing due to its easy installation and alignment. As opposed to other systems, the housing and electronics design of the OLM100 takes into account the alignment angle required for installation to such an extent that it is necessary to adjust the sensor only with respect to height and distance. As a image-based system, the OLM100 manages without moving components on the inside. This makes the linear measurement sensor highly resistant to shocks and vibrations and thus fail-safe – in contrast to laser positioning sensors that do not feature this high level of ruggedness due to an integrated oscillating mirror and other moving parts. For Advance Tech Ltd. as a 4D cinema manufacturer, this means ultimate availability over an extended period of time – and therefore, neither maintenance effort nor the risk of sensor breakdown.

As a result, full 4D adventure action is guaranteed thanks to OLM100, when things become really exciting during the movie – and thus, in the mobile cinema chair ...

OLM100 linear measurement sensor from SICK is convincing due to simple installation and alignment as well

Further applications:
www.mysick.com/applications
More about the customer:
www.advance.so/en



TECHNOLOGY

HUMAN-MACHINE INTERFACE

EFFECTS OF IMPROVED ERGONOMICS OF RFID PRODUCTS

For over 60 years, SICK has been active as a company developing intelligent sensors for automating value creation in many industries. However, such sensors are not always used only in fully automated plants, which means the products often serve as a link between humans and technology as well. As a result, product ergonomics as the science concerning the principles of human labor is becoming more important all the time – in the development of sensors as well.

>> Can improvement of the human-machine interface further increase acceptance of RFID technology and optimize process sequences?

ERGONOMICS AS AN INTERDISCIPLINARY SCIENCE

Mistakenly, ergonomics is often reduced to adaptation of machines to the human body. In fact, ergonomics has long since become an interdisciplinary science that combines research fields in engineering and human sciences.

POSITIVE USER EXPERIENCE

In recent years, close cooperation of industrial designers and industrial and organizational psychologists has shown that an appealing design must not only fit the requirements specified for a company's corporate identity but has substantial influence on acceptance by users. The design of products may result in a transformation of fear, doubt, and apprehension vis-à-vis newly introduced technology into a positive user experience. However, appealing industrial design, such as in the case of the new RFU630 interrogator, and the numerous design awards for many other products from SICK are merely an initial prerequisite for good ergonomics. Only the case of the human-machine interface (HMI), developed by engineering psychologists, will eventually reveal whether a product is really user-friendly.

HUMAN-MACHINE INTERACTION

Even as early as designing a machine, the planning phase ought to be supported by modular, scalable, and ergonomic product platforms. The ID*pro* platform allows planners and design engineers to concentrate on the ergonomic arrangement of work processes, since, independent of the AutoID technology selected, the connection technology, documentation, and configuration for all ID*pro* products were developed consistently and in consideration of the latest aspects of software ergonomics. Even if human-machine interaction is necessary only during commissioning or occasional adjustments, ergonomics regarding planning and installation have an influence on the suitability for use of intelligent sensors. The uniform ID*pro* configuration interface works as an abstraction layer, guiding the commissioning technicians through the set-up process. Intuitive and supported by a detailed online help function, the RFID

Particularly for application in car manufacturing, the RFU630 with UHF technology provides excellent reliability when reading and writing data on transponders

sensors can be configured as easily as classical bar code scanners.

STRUCTURED PROCESSING OF INFORMATION

Subsequently, following transfer into everyday production operations, the quality of the user-machine interface determines whether the machine will also meet with favorable acceptance as an auxiliary tool. In the RFU630, SICK has implemented, for the first time, an innovative human-machine interface. Two essential insights of work psychology and perceptual psychology went into this concept. Humans absorb almost 80 percent of the information around them visually. However, in contrast to typical visualizations by means of complex process diagrams, the RFU630 uses a central, attention enhancing, and easily visible multicolor LED with different flashing frequency.

SUSCEPTIBILITY TO ERRORS REDUCED SIGNIFICANTLY

A multitude of status data and instructions is transformed into a small number of information packets. This structured processing helps enhance recall performance and significantly reduce susceptibility to errors due to interfering information.

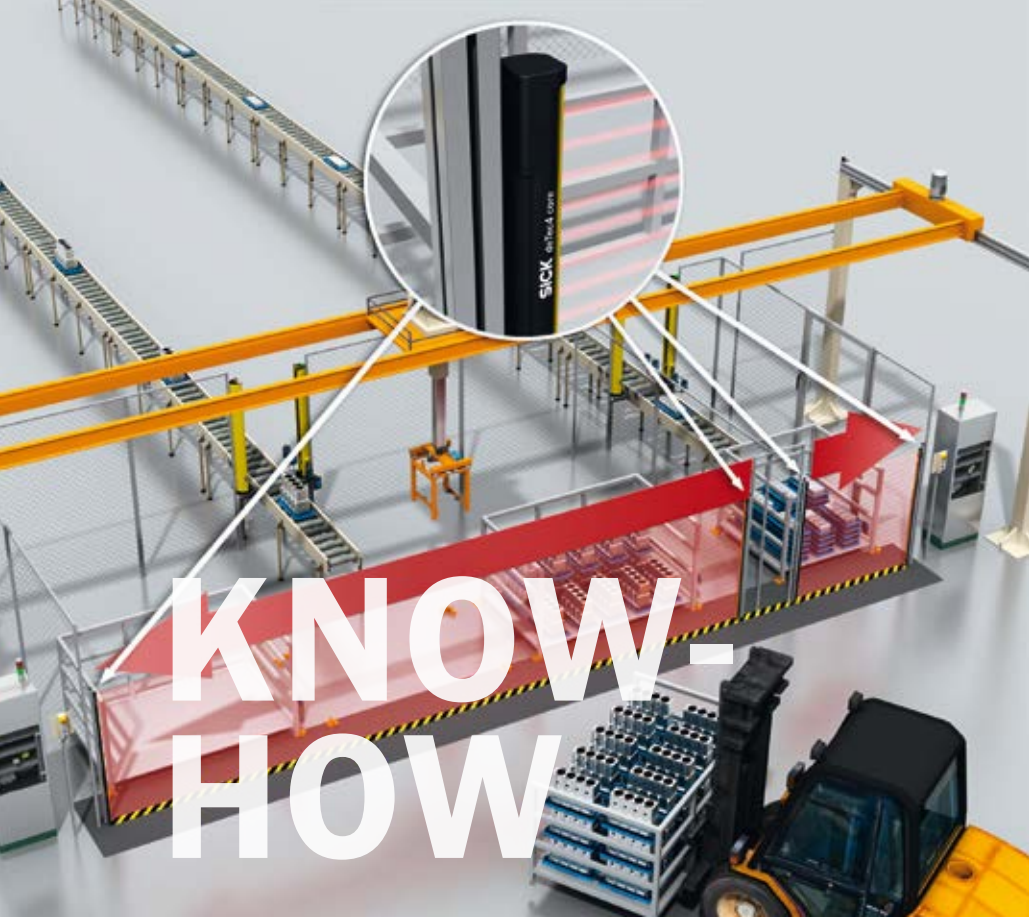
MAKING RFID "VISIBLE"

In using this human-machine interface, SICK makes RFID "visible". What emerges is that users who understand the state in which a machine currently operates gain confidence considerably more often, and they tend less toward fear of a black box, which supposedly – as frequently argued by opponents – is aimed merely at uncontrolled monitoring and collecting of personal data. In combination with the PIA process for public RFID applications and the recently specified RFID logo, it would now be possible not only to mark an RFID reader but also to make the activated radio field visible using the blue LED. In addition to providing status indications, however, this interface can serve to output instructions for the staff member as well. For "put away by light" applications, the reader might specifically instruct the employee how to proceed via color and flashing frequencies that depend on the tag content.

BETTER WORK RESULTS

By means of this interface first employed in the RFU630, users can recognize what currently happens in an RFID reader, even without access to an industrial PC or to a visualization display of the control unit. There is evidence that improved product ergonomics leads to better work results, thus making it an important topic of business management as well. The possible process improvements due to the introduction of RFID can be designed even more efficiently and effectively through enhanced product ergonomics. Therefore, it is essential that RFID be accepted not only by planners and design engineers but also by future users. Ergonomics plays a key role in this context.

Further product information:
www.sick.com/en/rfid
www.sick-idpro.com



SAFETY LIGHT CURTAIN SETS NEW TECHNOLOGICAL AND OPERATING STANDARD

CONCENTRATED ON SAFETY WITH CLEAR DESIGN

Protection without blind zones, integrated automatic distance measurement, commissioning without configuration, clever fastening solutions, and ready-to-interpret diagnostic codes: Plenty of practical expertise went into the deTec4 Core safety light curtain from SICK – to the benefit of users.

>> The new deTec4 Core is an electro-sensitive protective device that complies with performance level e in accordance with EN ISO 13849 as well as SIL3 in accordance with IEC 61508. The safety light curtain consistently brings together customers' core demands: pure safety for the machine and its operator along with extreme simplicity for the integrators and the company running the machine.

CLEAR DESIGN LANGUAGE IMPROVES FUNCTIONALITY

Space-saving design means two things: on the one hand, a sensor construction that is as compact as possible; on the other hand, intelligent connection options without additional installation space required. The deTec4 Core offers both. The sleek housing now only measures 34 mm x 31 mm (housing cross-section), reducing the necessary installation volume considerably. This also applies to the innovative cable outlet that makes superfluous the connector or end caps, respectively, required on the profile housing otherwise. This practical change also provides even more safety, since it enables a protective field entirely free of blind zones.

MAXIMUM INSTALLATION FLEXIBILITY AND PERFECT FASTENING

Quite often, fastening solutions not adapted to the sensor system are uneconomical – in-house constructions, in particular, may impair protective functions and availability targets. An appropriate amount of expertise went into the development of bracket designs for the deTec4 Core. The QuickFix bracket included in the scope of delivery allows for fast and stable mounting of the light curtain to the machine frame. If installation requires a special alignment of the deTec4 Core, the optional FlexFix alignment brackets provide for clever mounting flexibility.

UNMATCHED EASE: COMMISSIONING, DIAGNOSIS, AND SERVICE

Since the safety light curtain works only in protective operation, more extensive configuration measures are not necessary – simply switch it on and the protective field is active immediately. Adjustment of scanning range takes place automatically by the deTec4 Core itself. A red-green LED visualizes the current operational status of the safety light curtain. However, it can do even more: Acting in combination with the four LEDs of the alignment display, it serves to represent four different error codes. In case of a malfunction, this facilitates and accelerates diagnosis and troubleshooting.

The new deTec4 Core safety light curtain combines pure safety with extreme ease of selection, mounting, integration, commissioning, operation, and maintenance. With the expertise used in the process, it sets now technological and operating standards.

The new deTec4 Core safety light curtain from SICK combines safety and clear design

Further product information:
www.mysick.com/products

SENSOR AND MOUNTING TECHNOLOGY IN CONSISTENTLY THOUGHT-OUT DESIGN

SYSTEM SOLUTION FOR HYGIENIC PRODUCTION

What use are hygienic sensors if their mounting components provide a breeding ground for germs? None whatsoever! That's why SICK has designed the mounting system in line with hygienic design.

>> No build-up of germs = no product risk: That really is how simple the equation is when it comes to systems which process food, bottled drinks, or produce pharmaceuticals. With the mounting solutions in hygienic design and meeting the recommendations of the EHEDG (European Hygienic Engineering & Design Group), SICK offers systematic sterility combined with well-conceived functionality.

ADJUSTABLE ROTATION AND HEIGHT VIA TELESCOPIC TUBE

Designed for the W4S-3 Inox Hygiene photoelectric sensor product family from SICK, straight or compact angled telescopic tubes are available for mounting the sensors, subject to requirements – each with integrated bayonet catch – as well as a laser-welded stainless steel flange in hygienic design. The Hygienic Design mounting systems are supplied pre-fabricated and guarantee quick and simple mounting. The sensor is locked to the mounting tube via bayonet catch – completely tool-free. The system can be rotated for alignment in the axis and adjusted by height along a lasered scale with millimeter precision. This offers optimal flexibility in terms of setting and alignment during commissioning and operation. Secure fitting of the sensor in the desired position is ensured by the integrated wedge technology in the telescopic tube. After the first pre-fixing of the sensor position by hand, the union nut clamps the bayonet tube upon tightening with a wrench such that the sensor does not lose its alignment.

FULFILLS HYGIENIC DESIGN IN ACCORDANCE WITH EHEDG

The innovative Hygienic Design mounting system from SICK is fully compliant with the recommendations of the EHEDG. The mounting system is made from selected stainless steel 1.4404 / AISI 316L, which supports the natural mortality rate of bacteria and other microorganisms on the surface. The surface roughness of 0.8 µm RA offers few adhesion options for residual products, thereby avoiding acting as a culture medium for bacteria and other microorganisms. When cleaning and disinfecting, the smooth, rounded edges and easy-to-clean shape of the mounting components guarantee that cleaning agents and disinfectants run off optimally after taking effect and that no pockets of residue can form. The silicone seals, specially developed for use in the telescopic clamping and bayonet catch have a very broad chemical and thermal resistance and are also FDA-compliant.

Further product information:
www.mysick.com/products

The hygienic design mounting kit takes on a pioneering role in the area of optical sensors with stainless steel housing

NUMBER OF SWITCHING OUTPUTS DOUBLED

FOUR POINT LEVELS FOR LEVEL MEASUREMENT

Featuring an analog signal and now four switching outputs, the LFP Cubic level sensor provides extended possibilities for continuous level measurement and point level detection of fluids

>> The LFP Cubic works according to the principle of guided radar and is used, among other things, in containers of water treatment and purification plants or in tanks for hydraulic oil. What makes the level sensor popular is its versatility. It is possible to shorten the measuring probe flexibly and to align the rotatable housing in the best possible way in every installation setting. The sensor is suited for a large number of fluids – even foaming ones – and requires no calibration either prior to commissioning or during ongoing operation, e.g., when changing the medium. Even build-up of deposits does not impair the accurate measurement of the LFP Cubic. In addition, new setting functions allow optimum adjustment of the sensor to the application.

OUTPUT SIGNALS FOR ANALOG AND DIGITAL MEASURING VALUES

The LFP Cubic provides an analog output for continuous level measurement as well as IO-Link for individual parameterization, diagnosis, and visualization option as standard features on board. Using a doubled number of four switching outputs, the level sensor opens up new possibilities of combined detection and output of minimum and maximum point levels as well as relevant intermediate levels.

COAXIAL TUBE EXTENDS RANGE OF USE

With the optional coaxial tube, the LFP Cubic can be used in even more versatile ways, e.g. for level measurement in plastic tanks or close to agitators. Outside of containers, too, possible uses emerge, for example, for level and point level detection in pump sumps.

Further product information:
www.mysick.com/products

SENSOR TECHNOLOGY FOR DECENTRALIZED CONTROL OF ACCUMULATING ROLLER CONVEYORS

STOP AND GO WITHOUT PLC

Under the product name of ZoneControl, SICK supplies intelligent sensor solutions for object detection on accumulating roller conveyors. In this way, one can effectively relieve the automation system of the conveyor system.

>> Accumulating roller conveyors are used in many instances as zero-pressure buffering sections in automated conveyor systems. Depending on the design, they certainly differ in terms of roller diameters, roller pitches, and drive concepts. However, as a section within a material flow segment, they always serve the task of contributing to the highest and most consistent utilization of the conveying system possible by temporarily accumulating cartons, containers, and pallets in and subsequently moving them out of the accumulation zone.

ZoneControl: SICK SENSORS CONTROL ACCUMULATION AND RELEASE PROCESSES

In this environment, the ZoneControl sensors from SICK provide interesting options for detecting conveyed objects arriving, identifying free accumulation spaces, ensuring process-compatible departing of conveyed objects, thus utilizing storage capacity in the best possible way depending on the desired degree of singulation or collection, respectively. Due to their special design, the exclusively detecting and switching roller sensor “R” for stand-alone use as well as the intelligent roller sensor “IR” featuring integrated logic, series connection function, and switching output can be installed even below or between the rollers. This saves space and prevents collisions with the conveyed goods. Both bright and dark goods conveyed are detected alike in a reliable way. The mini-

VISION-SENSOR MAXIMIZES QUALITY CONTROL AND EFFICIENCY IN PRODUCTION

NEW MEASUREMENT TOOL ADDS VALUE

The new Inspector PIM60 vision sensor from SICK offers high-speed parts inspection, position detection and in addition intelligent measuring functions plus a flexible web server.

>> The broad functionality of the new Inspector PIM60 in combination with the accurate calibration function ensures increased quality control and efficiency in most industries. This is the case with, e.g. quality inspection with dimension and position control of commercial goods, part inspection and dimension verification in electronic component assembly and belt picking with inspection and dimensioning in automotive manufacturing.

TOOLBOX ENHANCED WITH MEASUREMENT

The Inspector PIM60 provides machine builders, integrators and users with a multifunctional toolbox containing additional options for measuring diameters, angles, and variable distances. It offers smart camera level performance but still with the sensor ease-of-use. The new flexible measuring tools make it possible to measure dimensions and assess whether or not they are acceptable, pass respectively fail verification, as well as deliver detailed result values via EtherNet/IP or TCP/IP.

VISUALIZE AND CONTROL THE DATA

The Inspector PIM60 web server affords simple and cost-effective options for monitoring production processes. What is more, it can also be used to import customer-specific websites and layouts, thus allowing you to set up individual screens and user interfaces with specific fonts, graphics, logos, and functions.

BENEFIT FROM INTELLIGENT CALIBRATION

The sophisticated calibration concept ensures reliable inspection results on moving or rotating parts – even if the Inspector PIM60 is positioned at an angle or wide-angle lenses are being used. The results calibration function makes it possible to output the vision sensor's measured values as millimeters, so that they can be used directly for robot or gripper control.

Inspector PIM60: Offering added value thanks to integrated measuring functions!

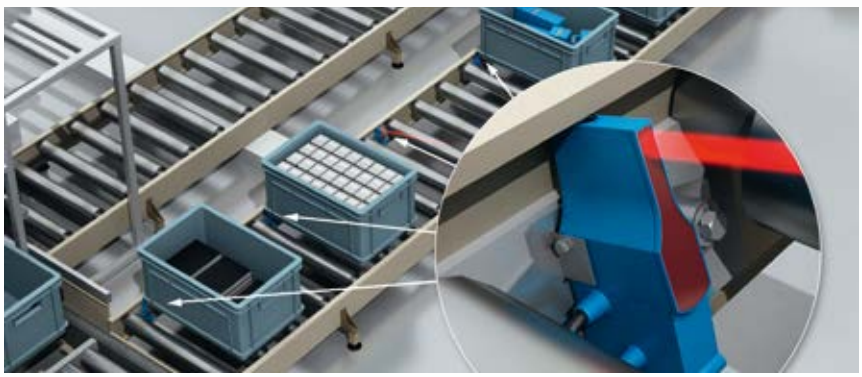
Further product information:
www.mysick.com/products

mized blind zone allows detecting objects at close range. The high-performance background suppression protects the sensors from reflections and the light of HF lamps, for instance. Thanks to the IP 67 enclosure rating, the ZoneControl sensors are suitable for use even in places where conditions are harsh or where facilities undergo regular external cleaning.

DECENTRALIZED LOGIC RELIEVES AUTOMATION SYSTEM

Especially when a large number of sensor queries are required, the ZoneControl IR sensors are the ideal solution. The series connection minimizes wiring effort on the accumulating roller conveyor. The integrated logic processes the signals of the adjacent sensors as well, organizing the stop and go on the accumulating conveyor largely autonomously – which reduces the amount of data and the communication load as well as relieves the automation system. The demand-oriented switching on and off by the IR sensor, implemented by means of the sleep-awake function, increases the service life of the motorized rollers. Another advantage: In contrast to direct star-shaped wiring with a PLC programmable logic controller, adding a new accumulating conveyor as a module involves hardly any effort for integration.

Further product information:
www.mysick.com/products



FLEXIBLE DISTANCE MEASUREMENT FOR APPLICATIONS UP TO 35 METERS

RELIABLE OVER THE FULL DISTANCE

Compact construction size, great accuracy, perfect background suppression, reliable measurement on nearly any object surface, safety against ambient light, and no mutual influencing – in the portfolio of mid range distance sensors from SICK, also the Dx35 product family delivers top performance and reliability.

>> The new product family is designed for distance measurement up to 12 meters on natural objects and up to 35 meters on reflective foil. In terms of measurement technology, the sensors use the high-resolution HDDM™ time-of-flight measurement method (High Definition Distance Measurement), which serves to achieve unique detection reliability and precision. Since the pulse sequence emitted by the distance sensors for measuring is coded, the Dx35 do not mutually influence each other. This constitutes an essential advantage, especially for use in the automobile industry and in warehousing and conveying systems. In these fields, the issues that matter above all are preventing collisions of shuttles or automated guided vehicles, checking occupancy of storage bays, or detecting small components from a greater distance.

DISTANCE MEASUREMENT WITHOUT DETECTION LIMITS

No matter whether infrared or red light in laser classes 1 and 2 – the Dx35 product family offers the suitable emitted light for each application. In this connection, the sensor variants for measuring on natural objects provide top-level detection reliability and measuring precision, even in case of extremely acute angles as well as diverse surface properties and degrees of reflectance. Even on shiny objects, the Dx35 distance sensors deliver precise results, e.g. for continuous determination of diameter when rolling and unrolling aluminum or steel coils. Moreover, the Dx35 product family also supplies sensors that are optimized for measuring on reflector foil and thus predestined for simpler positioning tasks. In applications where one can expect interferences through ambient light or reflections, the HDDM™ time-of-flight technology in all of the sensor types proves its high level of reliability.

SIMPLE INTEGRATION

Thanks to the compact housing and the optional diverse fastening technology, the Dx35 distance sensors can be mounted and aligned without any problems. Teach-in takes place using a choice of control keys on the device, a multifunctional input, or IO-Link. Another highlight is the fact that the measuring and output range can be fixed within a range of 1 ms to 64 ms, resulting in the measuring behavior always being adjusted to the application in the optimum way. Depending on the desired automation, the whole range of possibilities are available for individual output of measured values in devices with analog and digital output including IO-Link or with two switching outputs and IO-Link for monitoring, diagnostic, and visualization options.

Dx35 – the compact and reliable distance sensor for distances of 12 and 35 meters, respectively.

Further product information:
www.mysick.com/products

DESIGNED FOR ABOUT ONE MIO. PRESSURE CYCLES AT 500 BAR

HIGH PRESSURE-RESISTANT INITIATORS “FOR ETERNITY”

Extreme durability and longevity distinguish the high pressure-resistant inductive proximity sensors of SICK’s IMP High Pressure product family. High-performance materials, the special design structure, as well as state-of-the-art ASIC technology from SICK make them 50 times as stable as comparable proximity sensors.

>> With these features, they achieve an expected service life of about one million pressure cycles. This is ideal for very long maintenance-free and replacement-free use in hydraulic cylinders and components, as employed, among others, in machine tools, water jet cutting facilities, commercial vehicles, or construction equipment.

IDEALLY SUITED FOR “SITUATIONS UNDER PRESSURE”

The IMP High Pressure inductive sensors are designed for process pressures up to 500 bar and due to a variety of measures, they are very well suited for “situations under pressure”. The rugged stainless steel housing, the active surface made of high-performance ceramics, as well as SICK’s ASIC technology for increased sensing distances permit extended space between the active surfaces and the core set, thus allowing placement of the power electronics outside of the pressure area. All of this combined endows the IMP High Pressure sensors with unequaled extreme durability. End customers benefit from this extended service life: IMP High Pressure sensors can reliably avoid the major time and expense accompanying every replacement of less durable sensors, including draining the hydraulic fluid and lost operating time of the machine.

COMPLETE PRODUCT FAMILY WITH DESIGNS RANGING FROM M5 TO M14

No matter whether used for end position control on hydraulic cylinders or for monitoring space-critical valve positions, the portfolio of IMP High Pressure devices from SICK provides the suitable sensor for any task. Designs from M5 to M8, M12 and all the way to M14 – all of them featuring an IP 68 enclosure rating on the active surface and pressure resistance of 500 bar – leave hardly anything to be desired. Sensing distances of up to 3 mm in flush installation as well as three- and four-wire output stages complete the product range. In addition, the majority of IMP High Pressure sensors are already specified as standard for a temperature range of –25 °C to +100 °C.

“Performance under pressure” – no problem for the high pressure-resistant IMP High Pressure proximity sensors from SICK.

Further product information:
www.mysick.com/products

CONVENIENT CONFIGURATION OF EtherNet/IP ENCODERS

INTELLIGENT FUNCTION BLOCKS FACILITATE PARAMETERIZATION

Simplified commissioning and significantly reduced programming effort – with these advantages, the function blocks for the EtherNet/IP encoders from SICK get high scores.

>> Using the function blocks specifically developed for integration of the AFS60 and AFM60 EtherNet/IP encoders into Rockwell controllers allows retrieving, reading, and partly writing (“set and get”) pre-installed parameters such as resolution, counting direction, or velocity format directly from the controller. Moreover, one can configure numerous additional functions, e.g., temperature monitoring, threshold values, or the operating hours counter with a few clicks. This provides the user with maximum convenience when installing the EtherNet/IP encoders.

WEB SERVER AND FTP UPDATE EXTENSIONS FOR EVEN MORE USER-FRIENDLINESS

The function blocks for integration of the EtherNet/IP encoders, supplied by SICK as the only producer so far, will in the future benefit from two interesting extensions of the AFS60 EtherNet/IP and AFM60 EtherNet/IP encoders, respectively. In case of format adjustments or batch changes, for example, the web server functionality enables the user to modify encoder parameters directly via the operator interface of the machine – without any intervention in the often complex program structure of a control unit. Extension of the EtherNet/IP encoders from SICK by an integrated FTP bootloader makes it possible to update the encoders at any time with the latest firmware right in the plant, without having to replace the sensor for this purpose.

User-friendly convenience without extra costs: Customers may download the function blocks, including operating instructions, directly at www.mysick.com.

Further product information:
www.mysick.com/products

FOR AUTOMOBILE PLANTS AS WELL AS STORAGE AND CONVEYING SYSTEMS

OPTICAL LINEAR POSITION DETECTION COMBINED WITH PROFINET

One of the first optical linear measurement sensors of its kind to do so, the OLM200 PROFINET from SICK combines maximum functionality and availability with the advantages of control-related integration into PROFINET fieldbus technology. This combination fits very well into the strategy of the automobile industry and of intralogistics.

>> According to the findings of studies as well as the statements by experts, PROFINET is currently the number one industrial Ethernet protocol in machine and plant building. German car manufacturers, having pushed ahead decisively with PROFINET for years in connection with the Automation Initiative of German Domestic Automobile Manufacturers (AIDA), rely on this communication standard in particular. In recent years, they have probably equipped the robotic and drive systems at every location with thousands of automation systems, sensors, and actuators based on PROFINET. Therefore, equipping the OLM200 linear measurement sensor with an integrated dual port switch for PROFINET represents merely a logical consequence: It makes the sensor a positioning solution with high future sustainability.

FAST, PRECISE, AND RELIABLE: POSITION DETECTION FOR STRAIGHTS AND CURVES

Optical linear sensors of the OLM product family from SICK are used for positioning mobile units. Within the measuring range of up to 10 km, e.g. the length of an electrical overhead conveyor system, the image-processing sensor utilizes a bar code strip for position detection. This process takes place very accurately in case of the OLM200 PROFINET – with a configurable resolution of 0.1 mm and reproducibility of 0.15 mm. In this connection, travel speeds of up to 10 m/s are possible. The camera-based linear measurement sensor featuring a rugged IP 65 metal housing manages without any moving components on the inside. This makes the OLM200 PROFINET from SICK highly resistant against shocks and vibrations, and thus fail-safe. For commissioning, it is beneficial that the sensor is capable of independently detecting and processing sensor marks for parameterization and for special func-

MAGNETIC SAFETY SWITCHES FOR NON-CONTACT DOOR MONITORING

RUGGED, DURABLE, MAINTENANCE-FREE – AND SAFE UP TO PL E

Now in the leader's yellow jersey: Presenting the new RE1 and RE2 safety switches, SICK complements its portfolio with two product families that open up a great variety of possibilities in conjunction with safe sensor and control solutions.

>> For instance, the new magnetic safety switches from SICK can be connected directly to any safe control solution. In conjunction with the safety relays of the UE43 and UE48 product families as well as the Flexi Classic and Flexi Soft modular safety controllers, they reach the highest possible safety level up to PL e in accordance with EN ISO 13849. As a result, they are the preferred choice for use in monitoring safety doors, protective hoods, and other removable guards.

SUITABLE FOR VERSATILE USES

The Reed sensors of the RE1 and RE2 product family are convincing due to their extended operating distance, which makes them very "tolerant against tolerances" caused by vibrations or mechanical door misalignment. Two housing sizes are available: The RE1 offers compact design for particularly space-saving integration; the RE2 in the standard housing provides the user with extended response range. Featuring a broad selection of contact and connection options, respectively, both safety switches are suited for a large number of possible areas of use, e.g. in the packaging industry or in electronics and solar component production. Due to their high IP 67 enclosure rating, the easy-to-clean safety switches also qualify for applications in which special hygiene standards are required or heavy contamination is to be expected.

tions. Moreover, through corresponding positioning of the camera line on the electronic card, the housing design has taken into account the alignment angles necessary for installation to such an extent that the OLM200 PROFINET requires alignment only in terms of height and distance – without any additional mounting bracket.

OLM200 PROFINET FEATURING BROAD RANGE OF USE

The tasks for the OLM200 PROFINET in plants of the automobile industry and in storage and conveyor technology are extremely diverse: They range from positioning and distancing of overhead conveyors and shuttles to path measurement when moving rotary tables and turntables, and all the way to position detection of storage and retrieval devices that negotiate curves, as well as their lifting axis and load handling attachments.

The OLM200 PROFINET stands for precise position detection in the number one communication standard.

Further product information:
www.mysick.com/products

MANY ADVANTAGES IN COMBINATION

The RE1 and RE2 magnetic safety switches are supplemented by the wide-ranging portfolio of safety locking devices and emergency stop pushbuttons. Together with safe control solutions, it is possible in this way to realize complete protective concepts from a single source. For applications requiring extended functions or greater protection against tampering, the portfolio containing the product family of TR4 Direct transponder switches provides a high-performance alternative.

Great combination in the yellow housing – the new magnetic safety switches from SICK.

Further product information:
www.mysick.com/products

OD Mini SHORT RANGE DISTANCE SENSOR: FEATURING STAINLESS STEEL HOUSING, DISPLAY, AND ANALOG OUTPUT

PRECISE MEASURING WITH EASE

Solving measurement tasks easily, precisely, and economically – this is what the new OD Mini short range distance sensor from SICK stands for. The display with control elements makes the sensor suitable for a variety of uses and facilitates parameterization for the user.

>> The OD Mini is the ideal sensor solution when the issues that matter apart from precise measuring of small distances or detecting position changes in the µm range include compact construction size, minimal weight, special user-friendliness, and a high level of ruggedness. In three measurement ranges between 10 and 150 mm, the sensor allows extremely accurate and yet fast measurement of distances or detection of workpiece or manufacturing tolerances. The housing, measuring 18 x 31 x 41 mm and featuring an IP 67 enclosure rating, is extremely space-saving and has a lightweight design. In this way, the OD Mini that weights only 70 g in the stainless steel version and merely 40 g in the aluminum model is very well suited even for highly dynamic applications, e.g., on robots or gripper systems. Another benefit: The evaluation electronics are integrated in the sensor. This saves an additional evaluation unit and the associated wiring effort when using the OD Mini.

RELIABLE IN DETECTING AND USER-FRIENDLY

Whether changes in color, fluctuations in brightness, reflective surfaces, or reflections – thanks to its CMOS receiver technology, the OD Mini reaches excellent detection results and thus high machine availability even in case of difficult general conditions and surface properties. The operating design of SICK's short-range distance sensor is intelligent and intuitive: The display and four status LEDs make configuration particularly easy. Alternatively, by means of its external teach input, one can also use remote teach-in to set up the OD Mini, e.g. via an automation system.

PERFECT NETWORKER

The OD Mini features analog interfaces by which the sensor can output continuous measured values but also switching signals. In addition, diverse options are available for integrating the displacement sensor into industrial networks. Elements already emerging on the development horizon of the OD Mini are RS485 and RS422 serial interfaces for data transmission.

Further product information:
www.mysick.com/products

FLOWSIC500

MEASUREMENT CERTAINTY IN THE NATURAL GAS DISTRIBUTION

Because of their cutting-edge technology for highly accurate measurements, ultrasonic gas meters are already common when it comes to custody transfer measurements. The new ultrasonic gas meter from SICK, the FLOWSIC500, is designed for custody transfer measurements specifically for natural gas distribution. The FLOWSIC500 measures very accurately, which results in exact accounting. It is perfect for municipal utilities and industrial consumers.

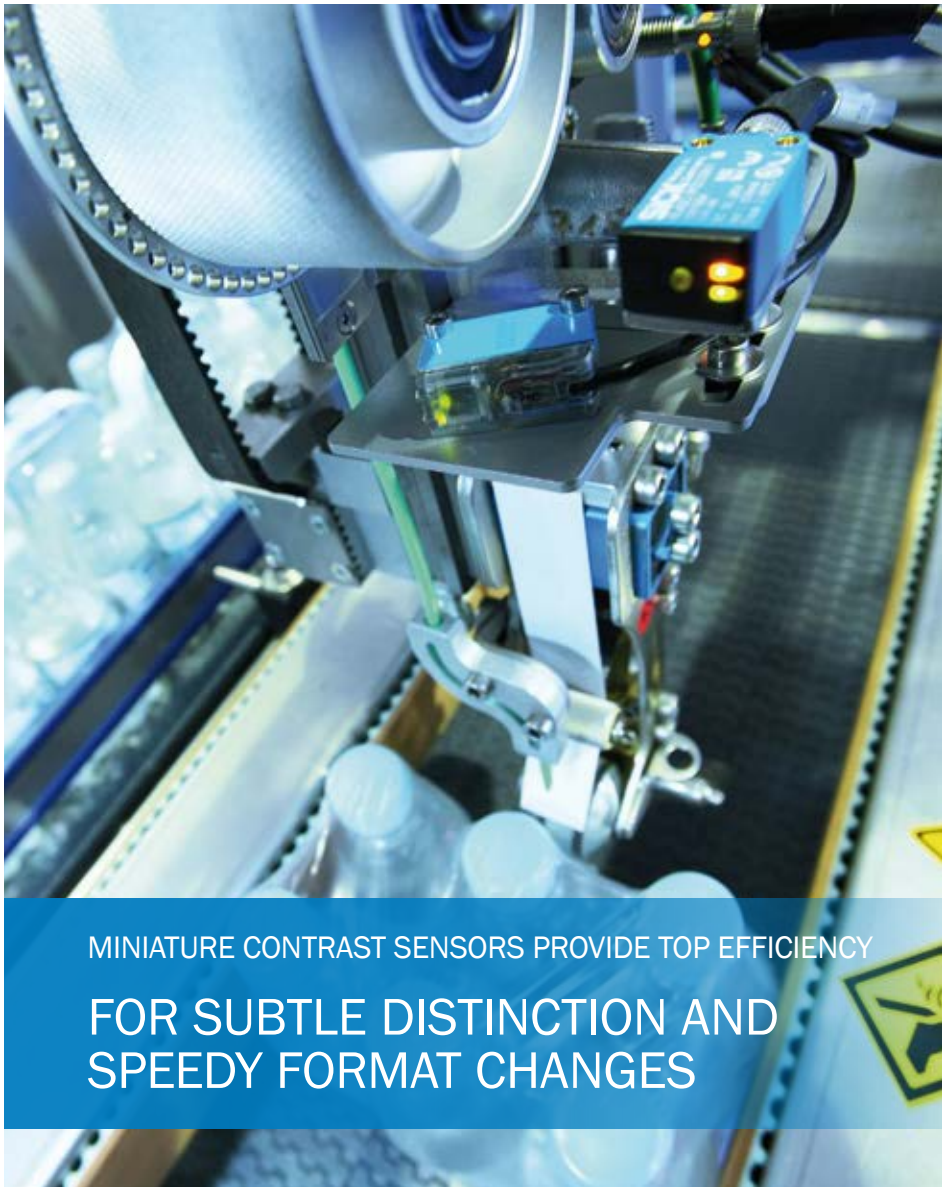
>> Natural gas is a valuable commodity and it requires a highly precise measurement. No one wants to pay too much or receive too little. Even small measuring inaccuracies can mean massive losses. The FLOWSIC500 has impressed measurement professionals on field test installations and now it is here for you. Various features give the FLOWSIC500 a good lead over conventional gas meters. The compact design does not take up much space. The meter does not require a straight inlet or outlet piping. The measuring components are installed in a cartridge, which can be replaced in only a few simple steps. The FLOWSIC500 measures fail-safe with battery backup in an intrinsically safe network operation. Alternatively, the meter operates by battery in an energy self-sufficient configuration for a period of up to ten years. Due to its exceptional design, the on-site recalibration procedure of the FLOWSIC 500 is straightforward and quick: replace the cartridge and you are finished. It is child's play.

FLOWSIC500. The first ultrasonic gas meter for natural gas distribution

- Ultimate measurement certainty and safety of continuous gas supply
- Reduction of installation costs due to integrated volume correction
- Simple installation, compatible with conventional technologies
- Minimal operating costs: nearly maintenance-free
- Simplified recalibration due to straightforward cartridge replacement
- Reliable under dynamic load changes
- Self-sufficient operation

The FLOWSIC500 operates with no mechanical moving parts and is therefore not liable to wear. These facts ensure stable measurement certainty in the long-term. SICK has developed ultrasonic transducers especially for the FLOWSIC500, which are not sensitive to interferences. The meter will not be harmed by overloading and it processes dynamic load changes without any loss in accuracy. The intelligent self-diagnostics immediately detect changes in measurement conditions, which might prevent the gas meter from achieving the specified accuracy. FLOWSIC500 incorporates a self-diagnostic system that provides an unprecedented level of measurement accuracy and certainty for natural gas distribution. In addition, there is no risk that the gas flow will be blocked by the meter. Therefore, the FLOWSIC500 can be used in applications where a continuous gas supply is vital, for example in hospitals. Of course there is much more to say about the FLOWSIC500, but to summarize the advantages and benefits of this new ultrasonic gas meter by SICK we can say: it is highly accurate and easy to operate. It reduces installation and operating costs. It is designed for natural gas distribution market and it also fits precisely into the opening of your conventional gas meter. The FLOWSIC500 is available in four meter sizes in common flange-to-flange dimensions and it complies with all relevant standards and regulations for natural gas distribution.

Further product information:
www.mysick.com/products



MINIATURE CONTRAST SENSORS PROVIDE TOP EFFICIENCY

FOR SUBTLE DISTINCTION AND SPEEDY FORMAT CHANGES

Space-saving housings, refined gray-scale resolution, improved stability against surface shine, easy-to-use operating design, and IO-Link are the highlights of the new KTM contrast sensors from SICK.

>> Cutting, punching, and aligning – the KTM product family in the Prime and Core models offers tailor-made solutions for print mark detection and controlling of packaging processes, such as, e.g., positioning of boxes, cans, tubes, labels, or blank forms.

KTM Prime: TOP OF THE CLASS AMONG CONTRAST SENSORS

Featuring a response time of merely 35 µs, the KTM Prime ranks among the fastest contrast sensors, not only in the miniature segment. The combination of its performance specifications makes the sensor in the miniature housing the top of the class in this category. The RGB tricolor LED of the KTM Prime provides utmost detection reliability even for poor contrasts. Moreover, using the contrast differentiation significantly refined to 20 gray scales, permits even more reliable detection of different print marks. Thanks to enlarged dynamic area, the detection results are “brilliant” as well with respect to shiny or highly reflective surfaces. The simple and intuitive teach-in procedure is easy to use. Both the option of static teach-in to the mark and to the background as well as dynamic teach-in are integrated into the KTM Prime. In both methods, the teach function close to the mark allows setting the switching threshold close to the reflectance of a print mark. When changing packaging color but retaining the same print mark, one can thus continue to use the switching threshold set without any change.

FLEXIBILITY FOR CHANGING FORMAT DUE TO IO-Link

The IO-Link technology of the KTM Prime opens up diverse possibilities of communication between the sensor and the controller. For example, when changing formats, it is possible to load the taught-in batch parameter automatically from a plant control system to the sensor. In this way, the KTM Prime receives the set of parameters saved for the job within a few milliseconds.

CORE FUNCTION OF CONTRAST DETECTION: KTM Core

With the Core version, the KTM is also available as a contrast sensor with white-light LED. Though also delivering good performance in terms of gray-scale variation and the dynamics of surface shine, it concentrates (cost-) consciously on the essential features. Setting the switching threshold occurs statically and, depending on the design of the control element, either manually or by using a screwdriver.

Further product information:
www.mysick.com/products

THE WAY TO SERVICE PLANTS TODAY

EFFICIENT EXPERT SUPPORT THROUGH WEB-BASED REMOTE MAINTENANCE

Safe and fast Internet connections, tamper-proof authentication methods, as well as intelligent sensors and controllers are the foundation of SICK Remote Services* – the new service range offered for individual online servicing of sensors and plants.

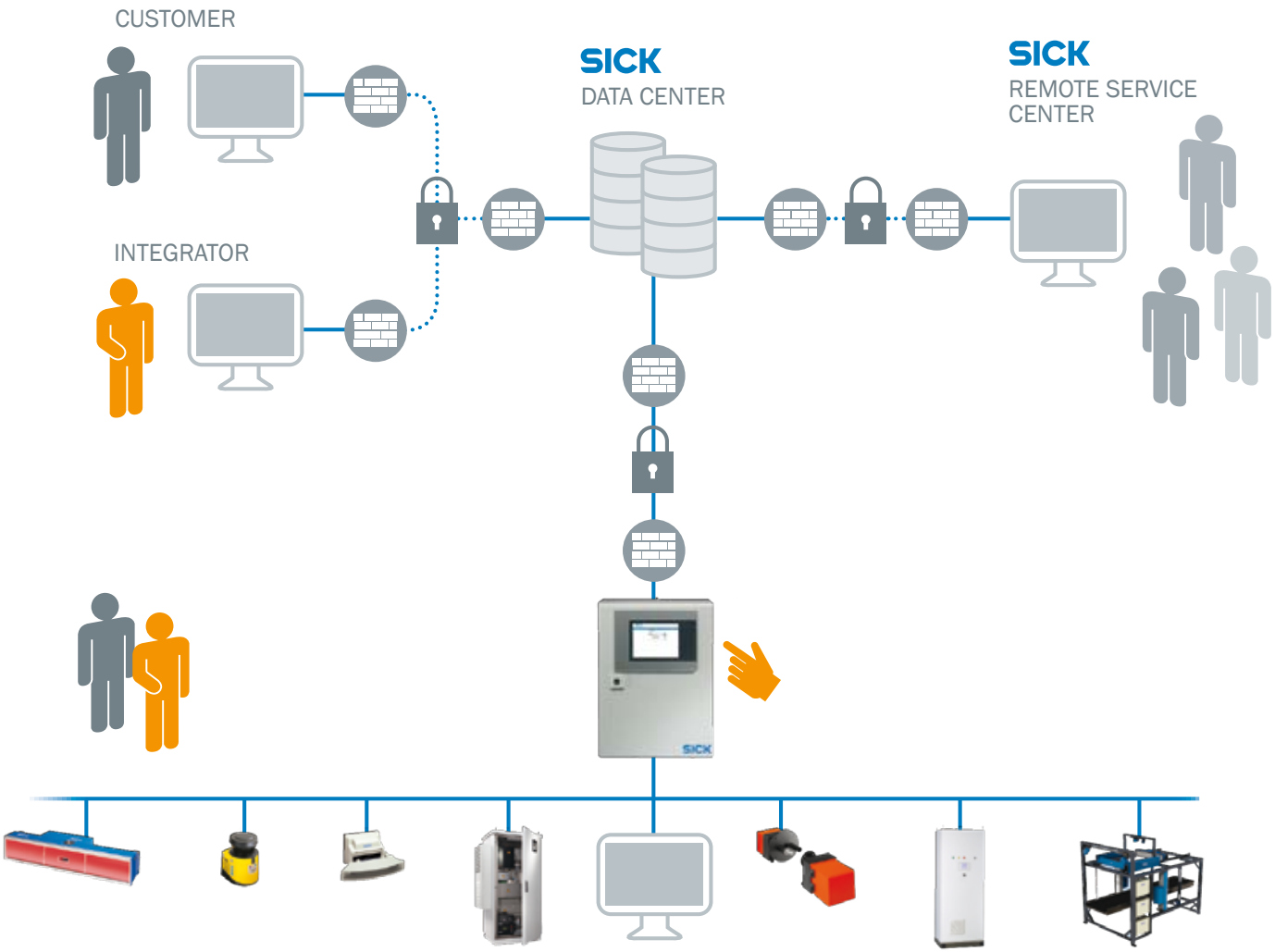
>> Fast, qualified, and comprehensive expert support instead of travel costs, set-up effort, and delays – starting out with this basic idea for minimizing commissioning and maintenance costs, SICK Remote Services took shape. They are available equally for customers of factory, logistics, and process automation, integrating aspects of plant maintenance into the environment of up-to-date and future-proof communication technologies.

SERVICE ELEMENTS AND SERVICE PACKAGES FOR ALL AREAS OF USE

With Remote Services, SICK provides online expert support for commissioning and subsequent operation of sensors and plants. The areas of use include commissioning and operational support, preventive maintenance, troubleshooting, as well as consistent plant documentation. Corresponding to the varying requirements of customers, SICK Remote Services are available in three graduated and individually extendable scopes of service. The “Core” package provides comprehensive basic service for support required occasionally. This includes, among other things, a flat rate for remote diagnosis by experts at the Remote Service Center during daily core hours. The “Prime” scope of additional services includes, for example, plant-specific online document management as well as the “heartbeat” function, which guarantees remote accessibility of the plant at any time. Maximum remote service is supplied by the “Pro” scope of services, including, among others, supported commissioning, expert access to plants and devices, a large variety of options for backups and file sharing, as well as added services that can be integrated individually. No matter which package the customer favors: In close coordination with the customer’s IT department, SICK takes on the entire set-up service from installing, for example, the SICK Meeting Point Router (MPR) in the plant to establishing safe data connections and all the way to instructing the operating and maintenance personnel.

PLANT ACCESS BY INTERNET SECURED IN MULTIPLE WAYS

The service package of SICK Remote Services is based on the web platform of the same name. The fast and highly available communication by Internet is designed for a maximum amount of safety while at the same time making only minimal demands on the customers’ firewall. As a general rule, the customer is the party required to request remote services by way of the Meeting Point Router (MPR) in his or her plant. The MPR is the connection node between all sensors and plants included in the remote service. By clicking on the touch screen of the MPR, the user requests the remote maintenance. After completed service, the MPR ensures secure disconnection of the networks without any feedback. The Internet-based remote maintenance connection to SICK‘s Remote Service Center is established exclusively by the customer, and it takes place exclusively by means of strongly en-



crypted data channels utilizing HTTPS and SSH authentication standards. Server certificates in conjunction with customer-specific browser certificates as well as digital certificates in accordance with the X.509 standard provide for secure encryption of HTTPS connections. SSH connections use for authentication dynamic one-time keys (one-time pads) valid for a limited period. In both cases, the maximum amount of data security is guaranteed for the duration of the remote maintenance connection.

SICK REMOTE SERVICES GUARANTEE HIGHEST LEVEL OF AVAILABILITY ALONG WITH MINIMUM EXPENSE

Prompt and qualified help by experts available in short order for the highest possible plant availability along with minimized maintenance and downtime costs – SICK Remote Services deliver all of this simultaneously. The scope is based on potential local restrictions to the rights of use and availability. Depending on the package selected, reactive and proactive support measures assist with anticipatory, preventive servicing. This improves the reaction and resolution period in case of malfunctions – doing so without risk, since the web-based communication platform from SICK is safe and highly available. Moreover, it is easy to integrate into the customer's IT or LAN infrastructure, respectively. A mobile option, which meets the 3G mobile standard, even provides for remote access independent of location.

SICK Remote Services are the up-to-date, future-proof, and economical strategy for continuous servicing of machinery and plants.

* No guarantee of worldwide distribution of SICK Remote Services due to local restrictions to the right of use and limits to service availability.

Further service information:
www.sick.com/services

TRAINEES FROM SICK QUALIFY FOR THE VOCATIONAL WORLD CUP (“WORLDSKILLS”)

COMPETING FOR GERMANY

Germany’s best team of mechatronics technicians was trained at SICK: In late February, Timo Späth and Lukas Adler won the WorldSkills Germany vocational competition. In doing so, the two qualified for the vocational World Cup (WorldSkills International Competition) that will take place in July in Leipzig.

National champions: Lukas Adler (left) and Timo Späth.

>> To be sure, however, it had been a long and strenuous path toward victory. One of ten teams competing in the final, including a guest team from Russia, Timo Späth and Lukas Adler had to prove their skills for three days in the course of Europe’s largest educational exhibition, the didacta in Cologne. The duo had 13 hours of competition time at their disposal to demonstrate what constitutes the professional profile and the versatility of the mechatronics technician. The assignment called for assembling from components a so-called MPS® Station, the type of production system used in manufacturing and logistics divisions at many companies. The task required installing and wiring gripper arms and other devices, connecting a second system with the assembled one, and programming all procedures in such a way that different work pieces, for example, were picked up, transported, and sorted to the correct place. Timo Späth and Lukas Adler mastered the job with flying colors – despite nervousness, time pressure, and the noise level in the exhibition hall. At the end, they stood right on top of the winners’ podium because they had been best able to apply their specialist knowledge and because cooperation as a team worked outstandingly as well. The WorldSkills 2013 competition takes place under the auspices of the German Federal Chancellor, Angela Merkel, from 2 to 7 July at the Leipzig Trade Fair and Exhibition Center. At that time, over 1,000 trainees and young qualified employees aged up to 22 years from all over the world will determine their world champions in 46 disciplines. This year, SICK will send three contestants to Leipzig at the same time: In addition to the mechatronics technician Timo Späth and the prospective IT specialist Lukas Adler, the electronics technician Silas Gschwender qualified as well.

SICK TAKES OVER DISTRIBUTOR IN BRAZIL

ADDITION TO THE SICK GROUP

SICK Brazil is delighted about 30 new employees

>> The SICK Group has a new subsidiary: Mid-February saw the acquisition of the Brazilian distributor Ação Solução. Locally, the enterprise is a renowned supplier of safety technology, having a great deal of consultation and service competence. Plans are underway to establish a competence center for safety technology at the existing site, based in Porto Alegre in the South of Brazil. For this purpose, the more than 30 employees will all have their contracts of employment continued. Markus Vatter, Member of the Executive Board, and Sidnei Ivanof, General Manager of SICK Brazil, were on location to sign the takeover agreement and welcome the new employees to the SICK Group.

40TH COMPANY ANNIVERSARY IN THE UNITED KINGDOM

CHARACTERIZED BY GROWTH

This year, SICK UK celebrates its 40th company anniversary. To honor this occasion, activities are planned that will reflect both the development of the subsidiary and that of the products and services offered by SICK.

>> It all began in 1973 with a staff of three. They created the foundation for rapid growth. Today the team is comprised of 68 employees who make a great contribution to the company's success. The colleagues from the UK will celebrate in ways that befit the occasion: with a private tour of the British Crown Jewels followed by a formal dinner. Charitable causes will not be neglected either. Employees wish to donate to charitable institutions, something effected by actively using social

media channels as well: For every new follower on Twitter or fan on Facebook, £1 will be credited to the donation pot. Utilizing these social media channels, the enterprise will also present the campaign entitled "top 40 process improvements using SICK sensors".

On their home page, the British subsidiary presents its chronicle, providing information on various anniversary events. For instance, customers in Britain who have older products from SICK can enter a competition, with those owning the oldest functional sensor from SICK still in use eligible to win a prize. In this contest, the winner is not settled yet by any means: SICK UK knows of contrast sensors that have been a dependable job for more than 30 years. Because SICK stands for quality and reliability.

For further information, please visit:
www.sick.co.uk

COMPETENCE FOR MACHINE SAFETY

safetyPLUS® GOES ASIA

Customers in Europe are familiar with safetyPLUS®, the competence label for machine safety by SICK. They know that safetyPLUS® covers the entire spectrum associated with machine safety.

>> The range extends from consultation to training courses and seminars, a comprehensive portfolio of safety products, and all the way to commissioning and inspection of machines and plants. Meanwhile, the "Guidelines Safe Machinery" by SICK has become standard fare on nearly every machine designer's desk in Europe.

Exporting this safetyPLUS® success story to Asia is now underway. The importance of machine safety is increasing immensely in the Asian countries, and SICK is adapting in time to this growing significance. In order to take care of our customers in this region, too, in the best way possible, the sales organization receives systematic training on location as well as competent support, for instance, by our Regional Competence Center (RCC) Asia in Singapore. Management of the safetyPLUS® campaign for Asia also takes place from there.

One initial example is the successful "SICK safetyPLUS® Week" in Singapore on the occasion of the Occupational Safety and Health Exhibition (OS+H) and the Workplace Safety and Health Conference Asia (WSH) in September of 2012. To visitors of the exhibition, the 300 participants in the associated forums, seminars, and workshops, and representatives from the Singapore Ministry of Labor, SICK presented itself as a competent partner for machine safety.

Subsidiaries celebrate!

20 years of SICK Taiwan
founded 28 January 1993

20 years of SICK Sweden
founded 17 March 1993

20 years of SICK Norway
founded 14 May 1993

SICKinsight[PLUS]

120 YEARS OF AUTOMOBILE HISTORY IN THE IDYLLIC VILLAGE OF AMERANG

WHERE VINTAGE CARS FANS DRIVE THEMSELVES

The EFA-Museum for German Automobile History in Amerang has got the stuff to light up, above all, men's eyes: 220 vintage cars that visitors may drive themselves and the narrow-gauge model railway line make many a childhood dream come true.

>> Numbering about 3,600 inhabitants, Amerang in the idyllic Chiemgau district is the only village in Bavaria that has no less than three museums: a farmhouse museum covering 40,000 square meters (nearly 10 acres), Amerang Castle with its castle chapel in gothic style, and the EFA-Museum for German Automobile History. Endowed by the local entrepreneur Ernst Freiberger, it has been open for 20 years now. Every year, thousands of car aficionados make the "pilgrimage" to the museum to marvel at the roughly 220 vintage cars.

COMPREHENSIVE CHRONOLOGY OF GERMAN CAR LEGENDS

Covering 6,000 square meters (approx. 7180 sq. yds.) of exhibition space, the museum presents German car legends of all makes – from the first Benz motor car and to the grandiose creations of the 1920s and 1930s, the cute small cars of the 1950s, and all the way to the lightning-fast racing cars of our day. This comprehensive chronology was made possible by Ernst Freiberger's passion for collecting and restoring, as well as items on loan from the German automotive industry, the German Museum in Munich, the German Museum for the History of Transportation in Berlin, and private collectors.

DOUBLE-DECLUTCHING, NO POWER STEERING: DRIVING THE CLASSICS YOURSELF

"Cars are meant for driving", says Jakob Maier from the EFA-Museum. As a logical consequence, the museum offers a service that is as unusual as it is popular: Many of the irreplaceable vintage cars can be rented by groups for outings, wedding trips, or similar activities. Beautiful routes lead, e.g., around the "Bavarian Ocean", as (Lake) Chiemsee is called as well, to Salzburg, Tyrol, or to (Lake) Tegernsee. "Generally, a chauffeur does the driving", explains Jakob Maier, "but customers may drive themselves, provided the driver can handle double-declutching and needs neither power brakes nor power steering in order to steer the vehicles often weighing tons".

RAILWAY LINE INVITES VISITORS TO EMBARK ON A VOYAGE OF DISCOVERY

Another feature attracting many visitors is the huge model railway. Covering an area of 500 square meters (approx. 5380 sq. ft.) and comprising about 650 meters (approx. 710 yds.) of tracks passing 50 switches and roughly 80 different signals, it is the world's largest series-produced 2 gauge model railway system. The eye catcher of the installation is the big locomotive turntable measuring 1.10 meters (approx. 3.7 ft.) in diameter and featuring 15 locomotive stands.

Small wonder: Many EFA visitors are for Amerang like a boomerang – they keep coming back ...

Further information:
www.efa-automuseum.de

VISIT SICK AT THE TRADE FAIR!

Trade fair dates Germany

Trade fair	Location	Date 2013
drinktec	Munich	09/16–09/20/2013
FachPack	Nuremberg	09/24–09/26/2013
gat	Nuremberg	10/01–10/02/2013
Motek	Stuttgart	10/07–10/10/2013
inter airport	Munich	10/08–10/11/2013
Euro ID	Frankfurt am Main	11/05–11/07/2013
SPS IPC Drives	Nuremberg	11/26–11/28/2013

Trade fair dates Europe

Trade fair	Location	Date 2013
SPS IPC Drives Italia	Parma, IT	05/21–05/23/2013
Vision, Robotics & Mechatronics	Veldhoven, NL	05/22–05/23/2013
Intertraffic	Instanbul, TR	05/29–05/31/2013
Logistics & Transport	Gothenburg, SE	05/29–05/30/2013
Total Processing & Packaging	Birmingham, UK	06/04–06/06/2013
EXPOGAZ	Paris, FR	09/10–09/12/2013

Trade fair dates worldwide

Trade fair	Location	Date 2013
Airport Infra Expo	São Paulo, BR	05/22–05/24/2013
IMAGE SENSING SHOW	Yokohama, JP	06/12–06/14/2013
EXPO PACK México	Mexico City, MX	06/18–06/21/2013
SEMICON West	San Francisco, US	07/09–07/11/2013
PROPAK China 2013	Shanghai, CN	07/17–07/19/2013
PACK EXPO	Las Vegas, US	09/23–09/25/2013

Further trade fair dates with SICK worldwide at **www.sick.com/fairs**

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Sensor Intelligence.

When movement becomes order, it is thanks to sensors and sensor solutions from SICK all over the world. Planes arrive at precisely the right gate. Air freight containers in the right hall. Passenger luggage in the right hands. In baking heat, freezing cold, hail, snow, and even the legendary fog in London. It is no mere coincidence when logistics work perfectly. It is intelligent logistics automation from SICK. Around the globe, our solutions reliably control even the most disordered chaos. From sorting letters to ensuring personal safety at work and from securing buildings to facilitating ship container handling. When it comes to perfect systems, the whole world lands at the door of SICK engineers. We think that's intelligent. www.sick.com

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