Solutions for the packaging industry

Intelligent sensors for your automation
Because the packaging is as important as the contents.

Brands act like lighthouses in the variety of our goods world. Dependable product properties are at the heart of every brand, supplemented by communication that effectively transports quality statements emotionally to the consumer. This is why the packaging is also a brand article – more than merely a protective, transportation and storage medium. The consumer sees the packaging and its contents as a single unit. The quality of the packaging represents the quality of the contents and is a key to purchases at the point of sale.

The demands made on your packaging systems are correspondingly high. They must ensure the quality of the primary, secondary and final packaging. At the same time, they must satisfy demanding industrial workflows.

Your packaging lines therefore require intelligent components that offer the necessary flexibility for product and format changes, while increasing the efficiency of the automation process. Solutions from SICK are ideal for this.
SICK offers you sensor, safety and Auto Ident systems at the cutting edge of technical development and for every packaging step – from the first tube, bottle or syringe, from the first blister, bag or box, to the final point of sale packaging that’s seen in your local supermarket and up to complete packages for despatch.

This brochure provides an overview of the varied and demanding range of packaging solutions that you can efficiently implement with intelligent sensor solutions from SICK. The examples presented here represent classic industry demands in the pharmaceutical, cosmetics, food and beverage, semi-luxuries, household goods and many other industries – the imagination knows no bounds. SICK has the solution for your packaging needs.

Ask the specialists from SICK!

**CONTENTS**

<table>
<thead>
<tr>
<th>Industry overview</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process overview</td>
<td>6</td>
</tr>
<tr>
<td>Line competence</td>
<td>8</td>
</tr>
<tr>
<td>Primary packaging</td>
<td>12</td>
</tr>
<tr>
<td>Secondary packaging</td>
<td>28</td>
</tr>
<tr>
<td>Final packaging</td>
<td>34</td>
</tr>
<tr>
<td>SICK worldwide</td>
<td>38</td>
</tr>
</tbody>
</table>
SICK sensors: sensor solutions for your brand concept.

THE PHARMACEUTICAL INDUSTRY

Filling capsules, pressing tablets, filling blisters, filling syringes, positioning package inserts, precisely labelling and picking tubes and jars – examples of day-to-day packaging in the pharmaceutical industry, where special demands are made regarding filling reliability and documentation capability. SICK also earns your complete trust when it comes to protection against brand piracy.

THE FOOD AND SEMI-LUXURIES INDUSTRY

Stringent hygienic conditions, involved in the packaging process, apply in this production segment. Sensor systems from SICK are used in dry and wet areas in this industry, and their extraordinarily high availability and flexibility are impressive. The user-friendliness of SICK sensors ensures reduced machine downtime during product changes.

THE BEVERAGE INDUSTRY

Water and other liquid products can challenge both machines and production areas. This is particularly true of the drinks industry, whose filling plants are also exposed to extreme mechanical stress. You are on the safe side with sensors from SICK. SICK components are resistant to impact, vibrations and aggressive detergents while offering maximum precision and reliability – even at high throughput rates.
The packaging industry needs sensors and sensor systems that are designed for complex, frequently changing tasks, while meeting increasingly demanding brand protection, safety and documentation requirements. From the robust, IP69K photoelectric switches for detecting glass, through intelligent camera sensors for inspecting the position of packaging components, to complex laser systems for controlling loading robots – SICK systems meet your requirements in every way. With considerable advantages regarding performance, networkability and flexibility.

Cosmetics live from their branding legend, necessitating particularly high-class and complicated packaging. Imaginative perfume bottles with shimmering surfaces make great demands on the positioning of labels, for design reasons codes must be reduced and requirements for protection against brand piracy must be met - challenges that are solved by intelligent SICK sensors in all cases.

Cotton buds, scented sprays, washing powder, detergents or packages of nappies and diapers – the tasks in the hygiene article industry vary greatly. SICK’s professional solutions for secondary and final packaging are particularly important here. Differing product sizes and packages require machines with maximum flexibility and a wide range of intelligent and network-enabled sensors. You can develop efficient packaging plants throughout all the processes of this sector with laser systems and camera sensors from SICK.

Batteries, screws, pens, games and small household devices require robust, though product-promoting, packaging, sometimes with on-pack folders, giveaways or instructions for use. Secondary packaging must also often fulfil sales functions in the market. During all phases of packaging and distribution, and up to foil-protected pallets ready for despatch: solutions with the SICK brand support your process.
Innovation SICK: for new packaging automation.

Global competition necessitates the use of every resource. Machines must become even more flexible and user-friendly, service activities must be available worldwide. SICK shows just how much potential can be exploited here. Intelligent sensors open up applications, for example brand protection. Communication on the fieldbus level, fully automatic format changes – here, too, technology from SICK spearheads developments. Make the most of your lead – together with the experts from SICK!

**PRODUCT/BRAND PIRACY**

The latest SICK technology for quality assurance constructs a multi-layered protective wall against the attacks from brand pirates. How do you want to protect your brand? Using lumiphores, codes or holograms? Contact us – we have exactly the right solution for your problem.

**FLEXIBLE PRODUCTION THROUGH FORMAT ADJUSTMENT**

A new machine is installed, a production line is adapted for new packaging formats. You minimise your customer’s effort with intelligent sensor and control systems from SICK. The advantages:
- high machine flexibility
- easily handled changes
- short machine downtimes

**PRODUCT TRACING**

There can be no modern goods management without tracing. With SICK technology you can ensure your customers’ traceability and their documentation of products and processes. Regardless of the concept that you select – whether bar code, Data Matrix, data code, etc. – contact us.
Sensors are particularly stressed by cleaning processes for food and beverage plants. Advantages of SICK sensors:
- special resistant materials
- high resistance to liquid penetration
- resistance against all common detergents

**FLEXIBLE COMMUNICATION**

IO-Link is the open interface between the control and fieldbus levels, and opens up new possibilities for your machine or factory management system concept:
- communication between machine controller and sensors
- processing of digital and analogue signals
- reverse compatibility, integration in existing production lines
- reduced cabling effort
- remote diagnostic potential

**SAFETY AND AVAILABILITY**

Machine operator safety and high plant or line availability and high production throughput are not contradictory. Talk to our safety experts about your safety concept.
One face to the customer! SICK offers you a comprehensive range of sensor solutions and services for automating the entire packaging process. With industry and product specialists worldwide, we are a competent contact for your automation questions – with process and line competence in your branch.

Let SICK be your “first choice” partner when it comes to achieving an integrated industrial plant concept with state-of-the-art automation technology.

**Filling and sealing plants for liquid goods**

- PET, glass bottles
- Non-returnable bottles
- Drink cups
- Aerosol cans
- Bags
- Syringes, ampoules, vials
- Tubes, cans, jars

Feeding, positioning, filling, sealing, identifying, inspecting, conveying, transporting.

**Protection, transportation, identification – the final packaging is an important logistical factor. Innovations from SICK are a decisive component of the plant concept.**

- Trading units
- Wrappings
- Shipping cases
- Labels
- Pallets
- Foils
- Pallet stretch wrappers

Inserting, inspecting, identifying, case packing, sealing, palletising, pallet-wrapping, transporting.

**The secondary packaging both protects and shows the value of the brand. Sensors from SICK guarantee quality plant concepts.**

- Labels
- Flow packs
- Inserts
- Trays

Inspecting, labelling, packing, identifying, picking.

**Packaging along the entire line.**

There are thousands of packaging tasks in the “solids” process segment. A sensor partner that covers them all: SICK.

- Bottles
- Cans, tins
- Blister and deep-draw packages
- Sachets
- Foils
- Bags

Positioning, filling, inserting, sealing, identifying, inspecting, conveying, transporting.

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- Cans, tins
- Blister and deep-draw packages
- Sachets
- Foils
- Bags

Positioning, filling, inserting, sealing, identifying, inspecting, conveying, transporting.

**PRIMARY PACKAGING, LIQUIDS**

Filling and sealing plants for liquid goods must meet high demands. Robust sensor systems from SICK offer technically leading solutions in this sector.

- PET, glass bottles
- Non-returnable bottles
- Drink cups
- Aerosol cans
- Bags
- Syringes, ampoules, vials
- Tubes, cans, jars

Feeding, positioning, filling, sealing, inspecting, conveying, sensoring, transport.

**SECONDARY PACKAGING**

Protection, transportation, identification – the final packaging is an important logistical factor. Innovations from SICK are a decisive component of the plant concept.

- Trading units
- Wrappings
- Shipping cases
- Labels
- Pallets
- Foils
- Pallet stretch wrappers

Inserting, inspecting, identifying, case packing, sealing, palletising, pallet-wrapping, transporting.

**FINAL PACKAGING**

Protection, transportation, identification – the final packaging is an important logistical factor. Innovations from SICK are a decisive component of the plant concept.

- Tailing units
- Wrappings
- Shipping cases
- Pallets
- Pallet stretch wrappers

Inserting, inspecting, identifying, case packing, sealing, palletising, pallet-wrapping, transporting.

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**COMPETENCE ALONG THE ENTIRE LINE.**

Filling and sealing plants for liquid goods and primary packaging solutions cover all aspects of the packaging process. SICK covers all sectors from raw materials to final product, enabling complete customer solutions and system integration.

- **Raw Materials Handling**
  - Receiving, unloading, distribution
  - Wi-Fi
- **Liquid Goods Packaging**
  - PET, glass bottles
  - Non-returnable bottles
  - Drink cups
  - Aerosol cans
  - Bags
  - Syringes, ampoules, vials
  - Tubes, cans, jars
- **Solid Goods Packaging**
  - Bottles
  - Cans, tins
  - Blister and deep-draw packages
  - Sachets
  - Foils
  - Bags
- **Packaging of Medicaments**
  - Packaging of meat goods
  - Packaging of bulk materials
  - Packaging of single products
- **Protection, Transportation, Identification**
  - Trading units
  - Wrappings
  - Shipping cases
  - Labels
  - Pallets
  - Foils
  - Pallet stretch wrappers
- **Secondary and Final Packaging**
  - Tailing units
  - Wrappings
  - Shipping cases
  - Pallets
  - Pallet stretch wrappers

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**THE PACKAGING INDUSTRY | SICK**

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**SICK  |   THE PACKAGING INDUSTRY**
One face to the customer! SICK offers you a comprehensive range of sensor solutions and services for automating the entire packaging process. With industry and product specialists worldwide, we are a competent contact for your automation questions – with process and line competence in your branch.

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- Bottles
- Cans, tins
- Blister and deep-draw packages
- Sachets
- Foils
- Bags

Positioning, filling, inserting, sealing, identifying, inspecting, conveying, transporting.

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**PRIMARY PACKAGING, LIQUIDS**

Filling and sealing plants for liquid goods must meet high demands. Robust sensor systems from SICK offer technically leading solutions in this sector.

- PET, glass bottles
- Non-returnable bottles
- Drink cups
- Aerosol cans
- Bags
- Syringes, ampoules, vials
- Tubes, cans, jars

Filling, positioning, filling, melting, sealing, inspecting, conveying, transporting.

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**SECONDARY PACKAGING**

Protection, transportation, identification – the final packaging is an important logistical factor. Innovations from SICK are a decisive component of the plant concept.

- Trading units
- Wrappings
- Shipping cases
- Labels
- Pallets
- Foils
- Pallet stretch wrappers

Inserting, inspecting, identifying, case packing, sealing, palletising, pallet-wrapping, transporting.

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**FINAL PACKAGING**

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- Trading units
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Inserting, inspecting, identifying, case packing, sealing, palletising, pallet-wrapping, transporting.
One face to the customer! SICK offers you a comprehensive range of sensor solutions and services for automating the entire packaging process. With industry and product specialists worldwide, we are a competent contact for your automation questions – with process and line competence in your branch.

Let SICK be your “first choice” partner when it comes to achieving an integrated industrial plant concept with state-of-the-art automation technology.
Primary packaging, liquids: so that things keep flowing.

The primary packaging is the carrier of brand concepts for consumers. Manufacturers that ensure complete, stable, hygienic and brand-oriented primary packaging are of decisive importance for the successful implementation of product ideas. They have maximum demands regarding throughput quantities and process speed. Sensors that can cope with such demands come from SICK.

**FILLING OF BEVERAGES**  14
Example: PET bottles

**FILLING OF DAIRY PRODUCTS**  16
Example: carton packs

**FILLING OF PHARMACEUTICALS**  18
Example: syringes

**FILLING OF HYGIENE ARTICLES**  20
Example: glass bottles

**FILLING OF COSMETICS**  21
Example: tubes
Primary packaging, solids: perfection in the service of the brand.

PACKAGING OF MEDICAMENTS 22
Example: blister packaging for tablets

PACKAGING OF MEAT GOODS 24
Example: sealing plants for meat

PACKAGING OF BULK MATERIALS 26
Example: bag packaging for cereals

PACKAGING OF SINGLE PRODUCTS 27
Example: pick & place systems for chocolates
Identifying transparent objects (e.g. PET bottles), coping with contamination, detecting positions in the process, and all of this at high speeds – the robust sensors from SICK have been “at home” in rotative filling systems for decades and offer correspondingly optimised performance.
WL12G photoelectric reflex switches in bottle feed/exit areas, especially for the detection of transparent objects (glass, PET, etc.). This series is characterised by its three-level operating range adjustment depending on the type of object (10%/18%/40% signal weakening) and its continuous switching threshold adaptation in the case of contamination.

The IM08 inductive proximity sensor reliably detects positions on the transport wheel during sealing.

The WT9-2 energetic photoelectric proximity switch for regulating the filling level of caps in the vibratory hopper.

The WL4-3 photoelectric reflex switch to monitor cap feeding.

i200 safety locking devices lock the machine doors until the machine enables their opening.

CM18 capacitive proximity sensors for measuring minimum/maximum filling levels in the feed tank.
Primary packaging, liquids:
filling of dairy products.

Composite cartons have proved ideal (because hygienic), nutrition-retaining, economical and logistically advantageous primary packaging of drinks, dairy products and other liquid foods. The steps from the box to correctly filled packaging are many and varied. Leading in the process – from start to finish: efficient sensor solutions from SICK.
1 The KT5 contrast scanner for detecting print marks, e.g., for cutting out single cartons.

2 The IVC-2D two-dimensional smart camera for monitoring correct cutting of the cartons opening.

3 The IVC-3D three-dimensional smart camera for verifying the correct position of the attached cover flap above the carton spout.

1 The DGS60 incremental encoder for regulating the speed of the conveyor system for the drinks cartons.

2 The WL4-3 photoelectric reflex switch for triggering the IVC-3D smart camera.

3 The IVC-3D smart camera for verifying that the screw cap is mounted on the filled carton.
Primary packaging, liquids: filling of pharmaceuticals.

A sensitive topic – literally: the filling of syringes in the pharmaceutical sector. Maximum hygienic and process reliability demands apply here. The technology of choice, when minimum tolerances matter to the filling process: high-performance sensors from SICK.
1. The WTB4-3 photoelectric proximity switch for detection of the transport tubes, filled with empty syringes, on the transport belt.

2. The IM06 inductive proximity sensor for checking the final position of the pivoting arm for extraction of the syringes from, or replacement in, the transport tubes.

3. The WLL190T fibre-optic cable through-beam system to check the correct movement of the filling needles back into their starting position.

4. The UC12 ultrasonic scanner during the checking of filling level in the plunger funnel: plungers are requested when the minimum signal is generated, the funnel is then refilled until the maximum signal is received.

5. The WT2S miniature photoelectric proximity switch to monitor the presence of plungers in the individual feeds.

6. The WLL190T fibre-optic cable through-beam system to detect the syringe charge before the closing step.

7. The i17 safety switch with separate actuator to protect the door.

8. The UE43 safety relay for integrating the safety switch in the machine control system.

9. The OD Hi optical displacement sensor with separate evaluation unit detects the correct fitting of the plug in the syringe within the tolerance range. Differing scanning distance variants are available, up to a maximum of 250 mm. A variety of evaluation possibilities are pre-programmed and can be adapted by customers.
Sensors for linear bottle filling must be versatile. Robust, powerful and meeting all demands: sensors, safety switches and photoelectric switches from SICK.

1. WLG4-3 photoelectric reflex switches for checking bottle feed or exit, particularly for the detection of transparent objects (glass, PET, etc.).

2. The WL4T-3 photoelectric reflex switch in a Teflon housing (IP69K) for counting bottles or vials before the filling process.

3. WLL170-2 fibre-optic cable systems with Teflon-coated cables for checking the elevation of the dosing nozzles during filling.

4. CM18 PTFE Teflon-coated capacitive proximity sensors for minimum/maximum filling level measurements in the feed tank, in aggressive surroundings.

5. The i16 safety switch with separate actuator to protect the door.

6. The UE43 safety relay for integration of the safety switch in the machine controller.

SICK offers special explosion proof products for use in explosion proof environments, e.g. photoelectric switches, inductive and magnetic proximity sensors, as well as magnetic cylinder sensors and C4000 safety light curtains.
Primary packaging, liquids: filling of cosmetics.

Tubes are practical and particularly robust containers for semi-liquid goods. Tubes carry a wide variety of brand messages to consumers. The industrial filling and sealing processes involve a variety of tasks for sensors, e.g. turning tubes to the correct position. Sensors from SICK keep everything in view and under control.

1. The compact KT3 contrast scanner detects the contrast marks on the tube so that it can be correctly closed, i.e. the welding seam and product printing are aligned with one another. Thus consumers see the product on the sales shelves with its logo and printing, and with an attractive appearance.

2. The alignment of the welded seam and the product printing also takes place with the ICR850 2D code scanner before closure, though on the basis of the 2D code. Supplementary effect: the 2D code is also used to check whether the tube is being filled on the correct production line, and with the correct product.
Tablets in blister packs, correctly printed with brand labels and use-by date, ready for comfortable individual removal – what seems so convincingly simple as an end-product makes complex demands on the packaging process in the pharmaceutical industry. Accurate filling, precise sealing, detection of breaks, and freedom from dust are merely examples of the extensive performance profile. Your partner for the complete solution: sensor systems from SICK.
1. The WT160 photoelectric proximity switch for detecting the minimum roll diameter of blister foil.

2. The UM30 ultrasonic scanner with two switching points for minimum/maximum filling level regulation of tablets on the vibrating conveyor system.

3. The WLL190T fibre-optic cable amplifier with LL3 fibre-optic cable to monitor the minimum filling quantity of tablets in the upper area of the single feed lines.

4. The IVC-2D smart camera for inspecting the tablets in the pocket (completeness, breakages, etc.) Alternatively: the IVC-3D for high-end inspections of tablets in the pocket.

5. The IM12 inductive proximity switch (standard or triplex, with a triple sensing distance) monitor the continuous transport of the aluminium foil (checking for breakage).

6. The WTB4-3 photoelectric proximity switch for checking removal from the cutting nest during blister separation.

7. The i10 safety switch for protecting the service hatch.

8. The WL140 photoelectric reflex switch for monitoring accumulation on the conveyor belt.
The hygienic demands of food legislation force the meat-processing industry to make special efforts during the construction and operation of their machines and plant. Temperature, humidity and the stipulated plant cleaning cycles with caustic solutions can drastically affect machine technology, and particularly the electronics. Many decades’ proven performance and reliability under the harshest of conditions: inductive sensors, photoelectric switches and hand-held scanners from SICK.
1. The IT4800i mobile hand-held scanner (as cable or radio variant) for detection of the PDF417 codes of the unprocessed goods delivered.

2. The C2000 safety light curtain in an IP67 Housing to protect the hazardous point-of-operation on the mincer’s meat feed funnel.

3. DRS60 incremental encoders for regulating conveyor belt speed.

4. The M12 INOX inductive proximity sensor in stainless steel housing for detecting the final position of the lateral feed from the stack of packaging trays.

5. The WL12-2 photoelectric reflex switch with Teflon coating for detecting the meat portion on the portioning belt and for synchronising the feed belt (packaging trays).


7. The CS8 color sensor for detecting the meat portion in the packaging tray. The underpacking sheet (in this case white) is taught-in to the sensor; anything else is detected as the expected meat portion. This filling inspection function is triggered via two WL12-2 photoelectric reflex switches with Teflon coating, i.e. the CS8 is activated when both WL12-2 units generate a switching signal.

8. The WL12G photoelectric reflex switch detects transparent objects. Here, in particular, the presence of the covering foil is checked.

9. The CLV430 bar code scanner for inspecting the EAN code on the packaging that is ready for despatch.

10. The i16 safety switch for protecting the door of the sealing, cutting and labelling unit.
Primary packaging, solids: packaging of bulk materials.

The WT9-2 photoelectric proximity switch for detecting the minimum roll diameter of the packaging foil.

The KT5 contrast scanner for detecting the print marks and controlling the cutting action.

WF5 photoelectric fork switches for foil edge regulation; the edge of the foil must be located between the two beams to generate precise welds.

The DKS40 incremental encoder with rotating wheel for fine positioning of the packaging foil.

The IM08 inductive proximity sensor for monitoring the rotating wheel of the sealing and cutting tool.

The CVS4 Color Vision Sensor with OCR function for monitoring the sell-by date on the packed bag. Alternative: the CLV420 bar code scanner for reading the EAN codes.

The WL9-2 photoelectric reflex switch for regulating accumulation on the conveyor belt.

The sensors in bag packaging machines control the cutting of the bags, regulate their filling, and check the sell-by date. The solution for the entire process chain is illustrated here using the example of cereal packaging.
Inserting a variety of chocolates correctly and rapidly in the right mix – a task whose solution requires a highly complex robot system. Ideal “feelers” for all pick & place robots: motor feedback systems from SICK.

1. The DGS60 incremental encoder for regulating the speed of the conveyor belt.

2. The Ruler E 3D camera detects the position of the chocolates on the feed belt and differentiates between them on the basis of their varied shapes. This information is passed on to the machine controller for co-ordination of the individual pick & place robots for the subsequent sorting of the chocolates in the correct position.

3. The WL12-2 photoelectric reflex switch for detecting the box for the chocolates on the packaging belt.

4. SRM36 multiturn motor feedback systems integrated in servomotors ensure precise regulatory parameterisation and position determination of the multi-axle drives of the pick & place robots.

5. The IVC-3D smart camera for inspecting the full boxes of chocolates on the packaging belt.
Packaging is the key to sales in this age of brand products. This is true of both the primary packaging and the subsequent confecting and picking of the articles into boxes, packs and displays. The trade and consumers are demanding, and expect nothing less than perfection. As if created for all packaging plants in this complex area of work: systems from SICK.
The WL4-3 photoelectric reflex switch for the detection of cosmetic jars on the feed belt.

Two WL4-3 photoelectric reflex switches for feed limiting, i.e. the distance between two photoelectric switches is a little larger than the diameter of the jars and only one switching signal may be active at any time.

The WL190L laser photoelectric reflex switch for precise detection of the minimum diameter of the label roll. The laser variant because the roll of labels can be changed most effectively with this device.

WF photoelectric fork switches to check the overprint on the labels whilst on the backing paper, and for checking for non-removed (non-applied) labels.

The CVS4 OCR vision sensor for checking the printed batch number on the label.

The WL9L laser photoelectric reflex switch for checking the height of the closed jars (lids correctly attached).

The LUT3-8 luminescence scanner for detecting the transparent labels attached to the jars. The fluorescent luminophores are attached to the adhesive label. Alternative: the CLV410 bar code reader checks jars labelled with bar codes.

Attaching small, thin labels and reliably checking them, even if they are strongly reflective: photoelectric switches and photoelectric proximity switches provide the necessary sensitivity to allow them to shine in labelling machines – reliably at maximum work speeds.
The cartoning of articles is a complex process, in which SICK sensors take on the most varied of tasks. IO Link, the innovative interface from SICK, ensures maximum process efficiency and rapid, comfortable conversion during format changes.
1 The WL4-3 photoelectric reflex switch for detecting the jars at the gripper’s collection position.

2 WTB4-3 photoelectric proximity switches for regulating filling level in the carton magazine, and in the supply channel for the accompanying product information.

3 The WL4-3 photoelectric reflex switch for detecting the carton on the packaging transport belt.

4 The WT2S miniature photoelectric proximity switch for inspecting the gripper state (jar picked up in the gripper, gripper free for picking).

5 The WT12-2 VGA photoelectric proximity switch with foreground suppression for detecting the jar in the carton.

6 The LUT3-8 luminescence scanner for detecting the inserted product information. The luminophores contained in the paper are activated by the UV light source so that differentiation can take place between the accompanying information and the lid of the jar.

7 The WL9L laser photoelectric reflex switch for checking for projections from the carton (detection of any flaps jutting out).

8 Format Adjustment Drives for automatic adjustment of all adjustable format units, e.g. rails on the conveyor belt, flap closure unit, etc.

9 IO Link: serial communication of binary and analogue process and service data on the sensor level – currently photoelectric switches, in future color sensors, light grids, cylinder sensors, distance sensors, etc.
The pharmaceutical industry cannot afford any mistakes – neither in primary nor in secondary packaging of medications. SICK sensors recognise all poorly printed codes and reliably inform the machine controller.

1. The WL9-2 photoelectric reflex switch provides a trigger signal for the subsequent code reading.

2. The ICR840 Data Matrix code reader reads the printed Data Matrix code on the carton packaging. An incorrectly printed 2D code is detected as such, an error message is sent to the machine controller.

3. The CVS4 Color Vision Sensor with OCR function for monitoring the sell-by date on the packaging.
Secondary packaging with shrink foil has become firmly established in the beverage industry. A proven ensemble of SICK sensors handles the fine work and final inspection.

1. LUT2 luminescence scanners detect the fluorescent print marks on the labels of the PET bottles for their alignment. If all the bottles are correctly aligned, i.e., with the main label facing outwards so that they are easily visible for consumers, the bottles are transported into the shrink tunnel for wrapping in foil.

2. CM30 capacitive proximity switches detect whether the cap is on the bottle or not – through the shrink foil. Thus the pack can be diverted out of the line if a cap is missing.
Final packaging: so that the goods arrive in prime condition.

Differing package shapes and sizes, the handling of packaging materials including protection of hazardous points-of-operation, ensuring material flow, differing reading distances for ID carriers: those who develop plants for industrial final packaging face a wide variety of tasks. Then there are the quality demands: the goods must arrive to customers in perfect condition. It is good to know that there is a partner that offers the sensors, safety and bar code reading systems from a single source: SICK, the solution for final packaging plants of all types.
Final packaging: despatch box packaging.

1. The WL18-3 photoelectric reflex switch for detecting the pack during the feed process.

2. The RE300 non-contact safety sensor reliably monitors the product feed tunnel.

3. The L400 single-beam safety photo-electric switch for door protection with the help of two deflector mirrors (monitoring several doors).

4. WT12-2 photoelectric proximity switches for checking the stocking of the despatch box blanks in the magazine.

5. The MZT6 magnetic cylinder sensor in a pneumatic unit for end-limit detection of the downward movement of the pack.

6. The IM08 inductive proximity sensor for checking the position of the intermittent rotating wheel during the preparation of the individual box blanks.

7. The C2000 safety light curtain at the pack exit for protecting the hazardous point-of-operation.

8. The UE410 Flexi modular safety controller: for the integration of differing safety components such as the emergency stop switch, safety light curtains, safety switches and for optimising the linkage of up to 10 safety operations on the basis of safety relay technology. The flexible system is designed for modular expansion and simple parameterisation without software – by means of a program switch.

9. The CLV430 bar code scanner for reading the code on the despatch box during operation.

10. The WTR photoelectric proximity switch for accumulating conveyor systems monitors and controls the material flow of the despatch boxes.
Final packaging:

palletiser robots.

1. WTR photoelectric proximity switches for accumulating conveyor systems monitor and control the material flow – single feed or block feed is possible; flexible operation thanks to supplementary functions (valve + logic).

2. S300 safety laser scanners in vertical installation with muting sensors, e.g. WL9-2 photoelectric reflex switches, in the feed gate.

3. WL100 photoelectric proximity switch for monitoring the points for the distribution of the despatch boxes.

4. The VL18 cylindrical photoelectric reflex switch stops the belt if a despatch box is not removed by the robot and would fall of the belt.

5. ATM60 multiturn encoders transfer the absolute positions of the robot’s individual turning axes to the controller.

6. The WT18-3 photoelectric proximity switch for signalling the last pallet in the stack.

7. The WS/WE18-3 single-beam photoelectric safety switch to protect access to the stack of pallets.

8. The i14 Lock safety locking device with separate, multiple coded actuator and magnetic retention prevents access to the hazardous area.

9. The E100 enabling switch for the safe passage of maintenance staff to the hazardous area.

10. An RFID tag on each pallet for their identification along the logistical chain.
Final packaging: stretch-wrapping machines.

1. MLG Modular Light Grids for regulating projections/loading of the finished pallets. Pair 1 for contour examinations from the side, pair 2 for examining the front and rear edge of the loaded pallets.

2. M4000 multiple light beam safety device with modular safety controller UE403 with muting sensors for protecting access.

3. The WL27-3 photoelectric reflex switch for positioning the loaded pallet for foil wrapping.

4. The UC12 ultrasonic scanner for detecting the transparent foil and detection of the foil end.

Alternative: WL12G photoelectric proximity switch for detection of, among other things, transparent foils.

5. The i16 safety switch with separate actuator for protecting the door to the wrapping area.

6. The UE410 Flexi modular safety controller: for the integration of differing safety components, such as the emergency stop button, safety light curtains, safety switches and for optimising the linkage of up to 10 safety operations based on safety relay technology. The flexible system is designed for modular expansion and easy parameterisation without software by means of the programming switch.

7. Automatic identification system based on RFID (Radio Frequency Identification) for reading the transponder on the pallet. The transponder is read with the help of laterally mounted RFA341 reception antennae and the result passed on to the controller via the RFi341 Interrogator (evaluation unit).

8. The C4000 Palletizer safety light curtain for protecting access during automated material transport.

9. The S3000 safety laser scanner for protecting the hazardous area in front of the driverless transport systems.
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