



SMART
SENSOR
BUSINESS

Sensor solutions for
**PACKAGING
TECHNOLOGY**



THE OTHERS CAN PACK IT IN

Many good reasons for your success

Many pledge themselves to customer orientation—at Leuze electronic, we go a step further. We offer specific and measurable added value in the areas of product usability, application know-how and service—to help make our customers more successful. With regard to our product developments, we systematically place emphasis on the especially good usability of all devices. As a specialist for sensor solutions in packaging technology, we also optimize our solutions for the requirements relevant here and offer an extensive product range from a single source. This offer is

rounded out by service that is closely aligned with our customers' needs with focus on personal closeness and technical competence.

For more than 50 years, Leuze electronic has been developing, producing and marketing optoelectronic sensors and inductive switches, identification systems, image processing systems, data transmission systems and safety sensor systems for industrial automation. The company is known worldwide as one of the leaders in innovation for the entire spectrum of optical sensors in factory automation.



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blisters and liquid filling

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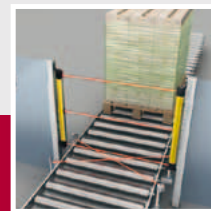
PACKAGING TECHNOLOGY— SIMPLE AND EFFICIENT

A high application know-how for many applications

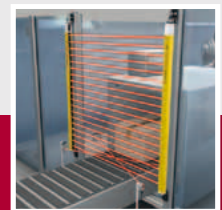
Identification—
BCL 300i stationary bar
code reader



Access guarding—
MLD 500 multiple light
beam safety device



Hand and finger protection—
MLC safety light curtain



Precise detection of labels—
GS 61/63 and GSU 14C
forked sensors



Pharmaceutical — Cosmetic

Reliable mark detection —
KRT 3B contrast scanner



Hygienic area

Hygienic design for aseptic machines —
Series 53 stainless steel photoelectric sensors



Pharmaceutical — blister packaging

Quality assurance — LSIS 400i smart camera



Food processing

Resistant against cleaning agents —
Series 55 stainless steel photoelectric sensors



Beverage filling

Reliable detection of transparent media —
PRK 18B photoelectric sensor

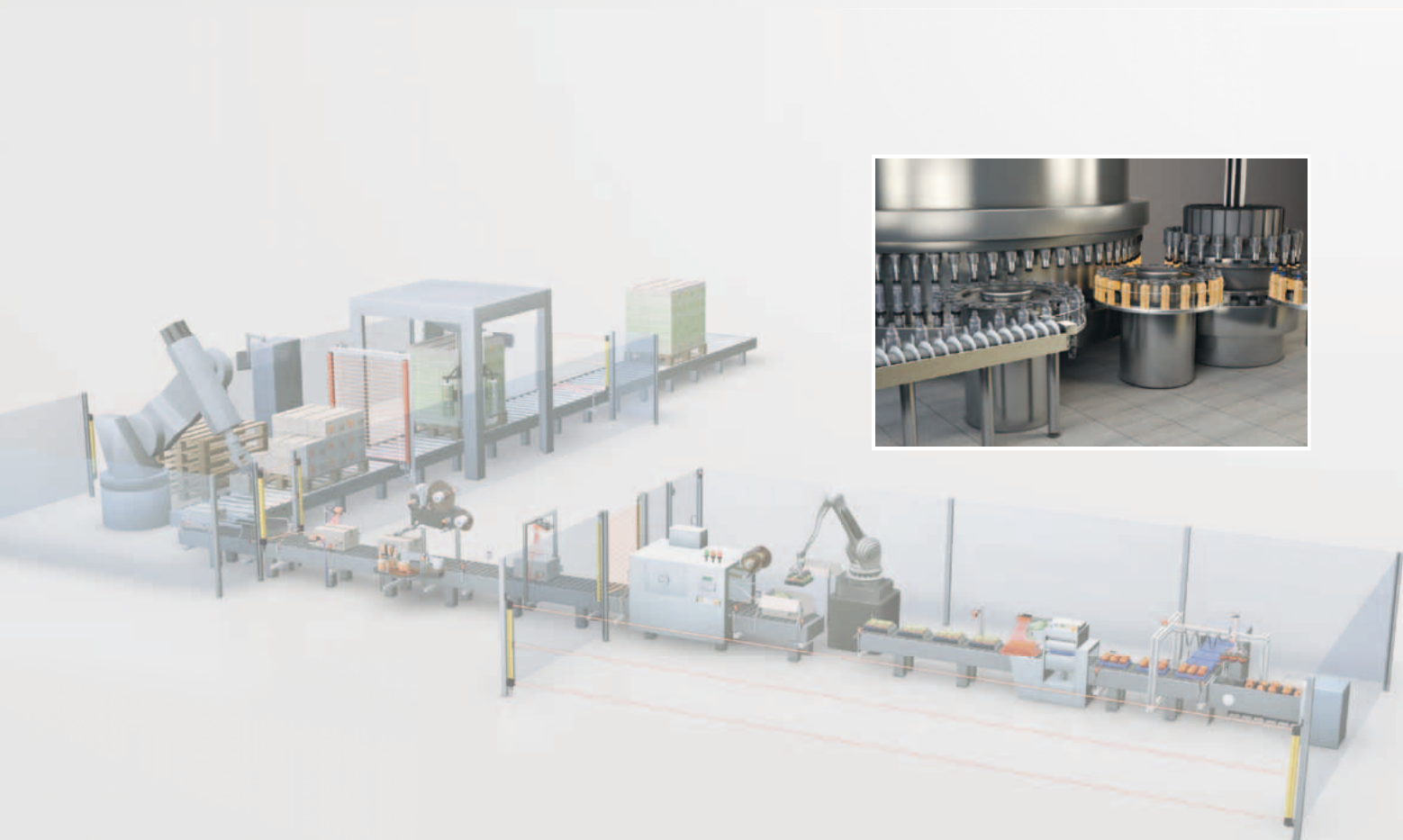


FILLING MACHINES

Detecting transparent media reliably

Around the world, our sensors are used in filling machines to ensure smooth operation and maximum availability of the systems. Through years of experience, the sensors, safety components and relays from Leuze electronic are optimally adapted to the technical requirements and environmental conditions in these

applications. Our sensor solutions are able to very reliably detect, e.g., glass and PET bottles at any time even under the most difficult environmental conditions. In addition, our tracking function can be used to extend the maintenance interval of a sensor by a factor of 50—this saves time and money.





Blowing PET bottles

Retro-reflective sensors
PRK 18B



- High-speed, retro-reflective photo-electric sensors with autocollimation optics for reliable detection of highly transparent bottles
- Sensitivity adjustment via teach button
- Temperature compensation $\pm 20^{\circ}\text{C}$
- High accuracy through calibrated optical system
- Very short response time and minimal signal jitter

Transporting hanging PET bottles

Ultrasound one-way system
LSU 18



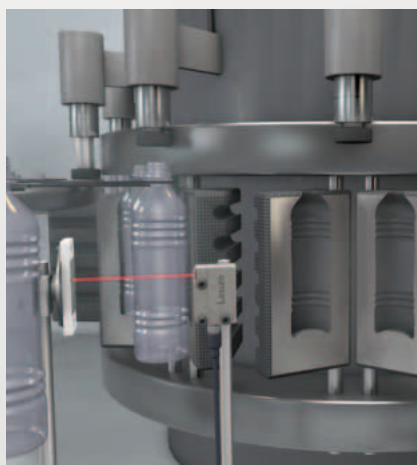
- Operating range up to 600 mm
- High acoustic pressure prevents interference in the air duct
- High switching frequency enables bottle counting
- Optimized sound cone detects critical bottle contours
- Detection of narrow gaps due to short response times

Monitoring of doors, flaps

Magnetically coded safety sensors
MC330, MC336, MC388



- Not sensitive to dust, humidity and the like (dirt level 3 in accordance with EN60947-1)
- Highly tamperproof
- Approach directions lengthwise, high, deep
- Flexible connection per M8 plug, PVC or PUR connection cable, each firmly integrated in the housing
- Compact design
- Large switching hysteresis (tolerant in event of vibrations or warped doors)



Quality control

Contrast scanners **KRT 3B, 55**



- Alignment detection of crown caps
- Scanning range 14.5 mm
- Multicolor transmitter LEDs support reliable detection
- Small construction for optimal integration into the machine
- Configuration via IO-Link accelerates product exchange
- Low signal jitter ensures reproducible switching signals

Seal monitoring

Color sensors **CRT 442, 448**



- Detection and distinction of bottle caps with various colors
- Multiple colors can be taught in
- High switching frequency up to 1,500 Hz
- Adjustable color tolerance





Bottle detection in transfer star

Energetic light scanners
HRTR 55



- Optimized background suppression
- V4A stainless steel housing in small construction
- WASH-DOWN design
- High chemical resistance, tested acc. to ECOLAB and CleanProof+
- Container detection without reflectors

Bottle-cap monitoring and filling-level inspections

Smart cameras
LSIS 412i



- Presence inspection for crown or screw-on caps
- Detection of slanted caps (e.g. "sleeping caps")
- For rated outputs of up to 72,000 bottles/h and more (product dependent)
- Reliable detection of under- or overfilled bottles
- Nominal value and tolerance specification



Bottle transport

Retro-reflective sensors
PRK 3B, 18B, 55



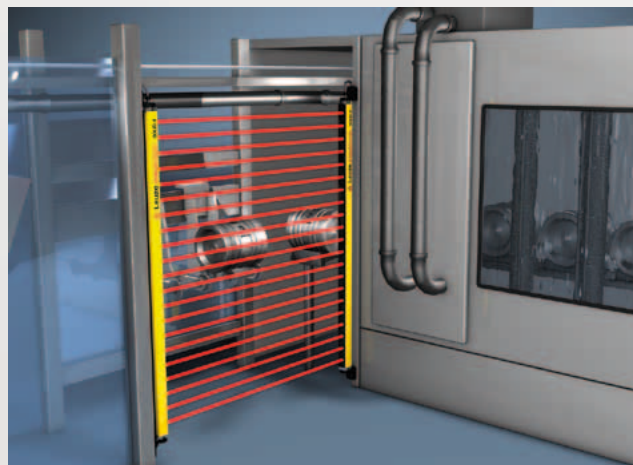
- Reliable detection of highly transparent containers
- Temperature compensation ensures high consistency of the switching points
- Tracking function extends the cleaning interval 50-fold
- Robust housing materials ensure long service life in spite of intensive cleaning cycles

Access and point of operation guarding

Safety light curtains
MLC 500



- Integrated blanking and muting
- Integrated 3-zone alignment aid
- Easy alignment, setup and operation thanks to the integrated LED and 7-segment display
- Flexible and easy mounting — without dead space
- Available quickly all over the world





Single-lane container transport

Retro-reflective sensors
PRK 55, 25B, 8



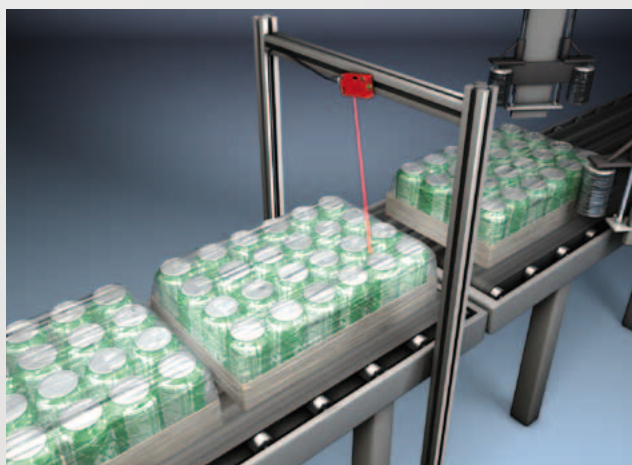
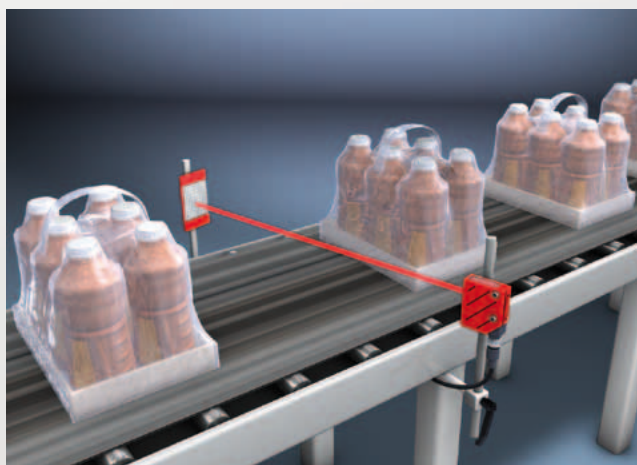
- High performance reserve even with small reflectors
- No switching errors with stretch-wrapped packages
- Reliable detection of e.g. six packs
- Degree of protection IP 67, IP 69K
- High chemical resistance, tested in accordance with ECOLAB and CleanProof+

Multiple-lane container transport

Reference scanner
HRTR 46



- Easy commissioning by means of teach-in on belt
- Detection of PET and can packages from above
- Also detects very dark, highly-glossy or transparent objects
- Detects gaps > 20 mm between the packages
- Degree of protection IP 67, IP 69K
- Chemical resistance in accordance with ECOLAB

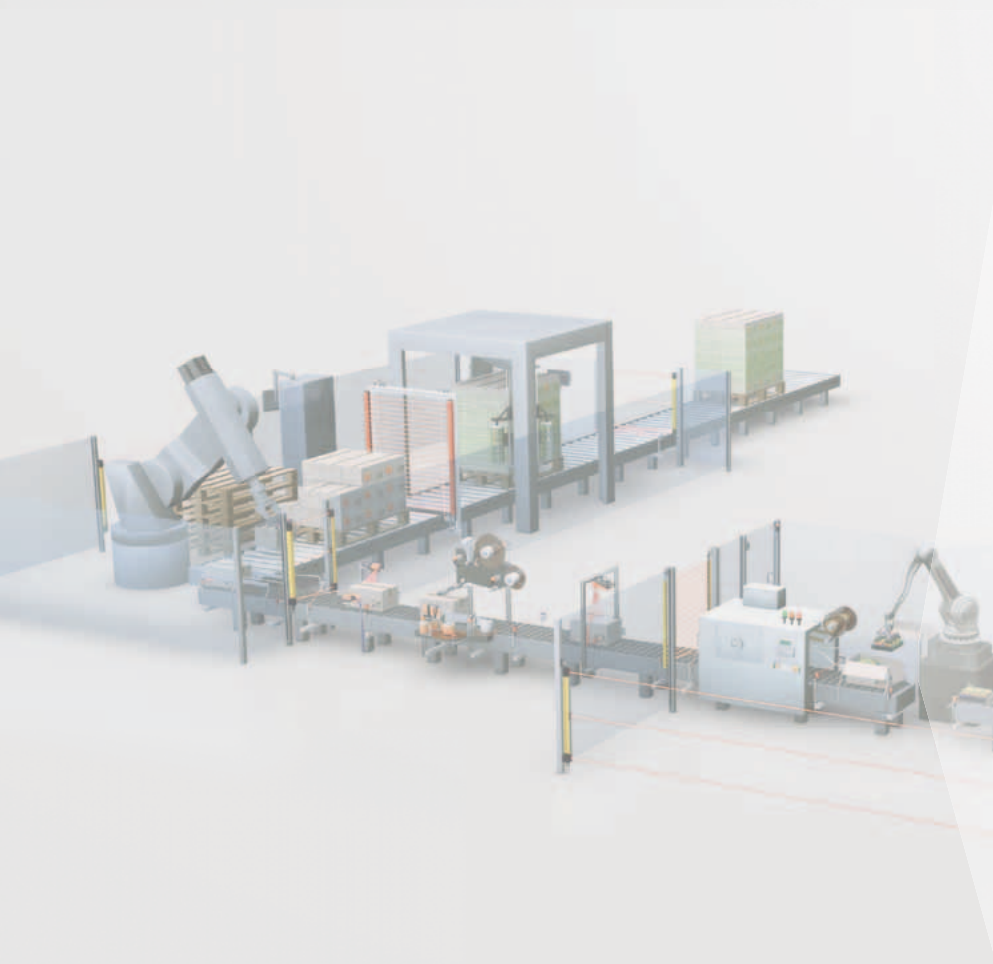


MACHINES FOR PHARMACEUTICS

blisters and liquid filling

The increasingly fast process speeds place increasing demands on the sensors that are used. Precise and reliable detection of blisters and cartons as well as fast and error-free reading of Pharmacodes and bar codes on package inserts and outer packages are mandatory in spite of high speeds. In addition,

decreasing setup times require fast and extensive diagnostics of the safety circuits and of the sensors installed in the machine. For this purpose, machine manufacturers increasingly require a validatable integration of the sensors in the machine control.





Sterile filling of pharmaceuticals and cosmetics

Light scanners with background
suppression

HRTR 53



- Scanning range 5 – 400 mm
- Reliable backlog detection without reflectors
- Gap-free HYGIENE design prevents bacterial carry-overs
- High chemical resistance, tested acc. to ECOLAB and CleanProof+
- EHEDG assessment

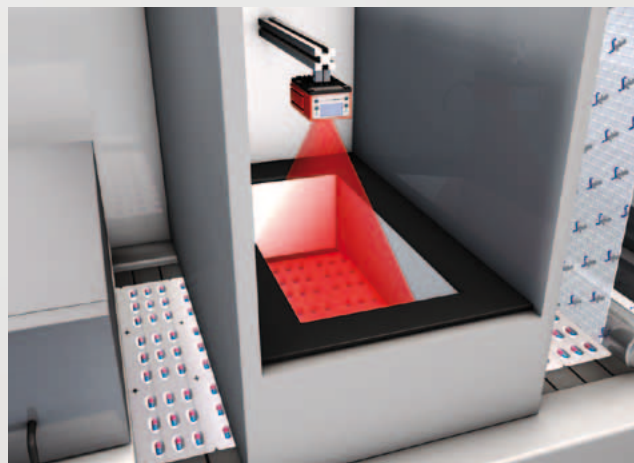
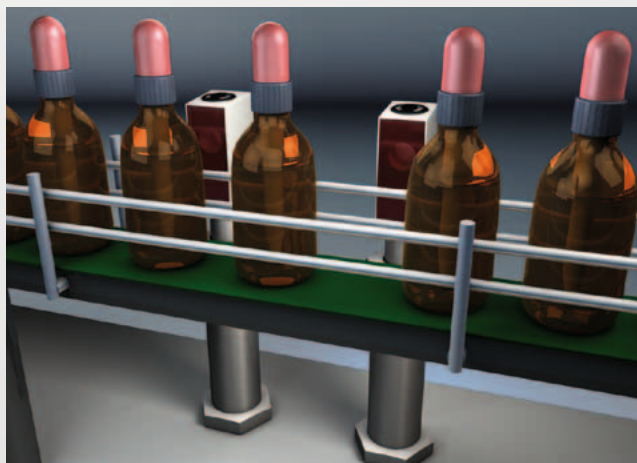
Inspection of blister content and code reading

Smart cameras

LSIS 412i, 422i, 462i



- Inspection for complete filling, position and breakage
- Detection of mixing (even colored, if suitable)
- Reliable reading of 1D and 2D codes, even at high speeds
- Plain text presence monitoring (e.g. batch number and expiration date) on various materials
- Printout inspection (presence, position, completeness)



Web edge control

Measuring forked sensors
GS 754B



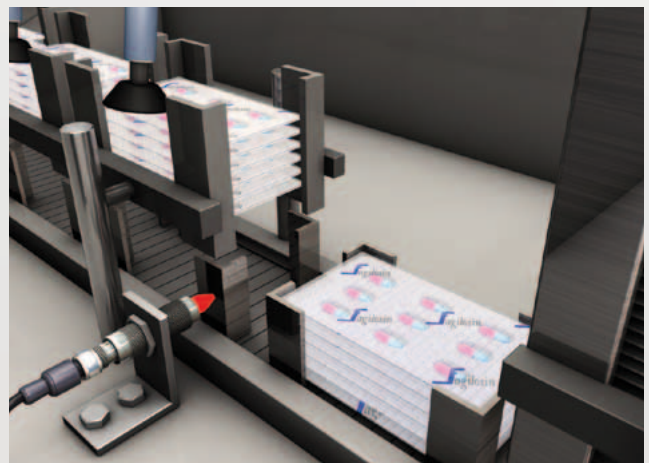
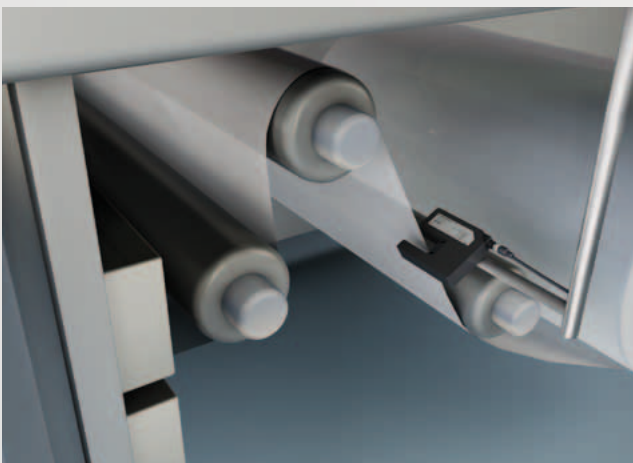
- Analog and digital measurement value output
- Object detection, diameter measurement and edge measurement
- Resolution 0.014 mm, measurement range 25 mm
- Robust metal housing

Position blister containers

Inductive switches
IS 208, 288



- Detection of moving machine parts
- Extensive portfolio with designs from Ø 4.0 mm to M30
- Compact cubic housing (5 × 5, 8 × 8 mm) for space-saving installation
- Scanning ranges from 1.5 to 40.0 mm offer reliable detection on metal objects





Stack monitoring

Optical distance sensors
ODSL 9



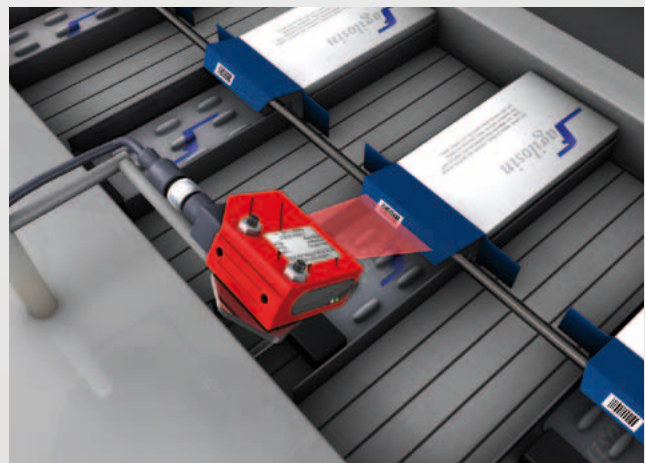
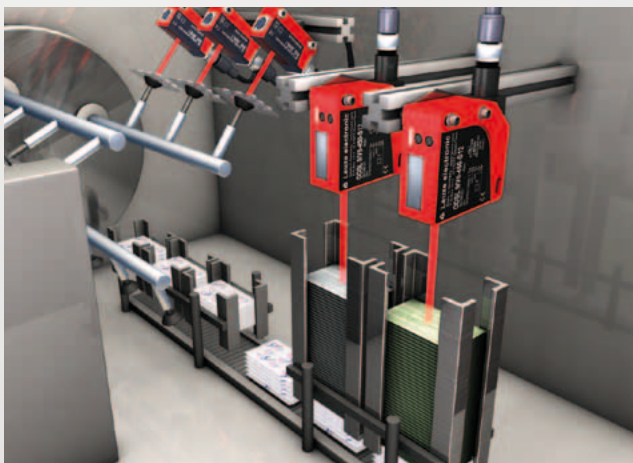
- Continuous distance information on stack
- Measurement range 50 – 100/50 – 650 mm
- Resolution 0.01/0.1 mm
- Configuration and measurement value display via LC display and PC
- Analog output (current/voltage), RS 485, RS 232 interface, IO-Link
- Laser class 1

Assignment of products to folding box

Bar code readers
BCL 8



- Consistently high scanning rate (600 scans/s with standard optics) permits reliable reading in fast applications
- Reads all common 1D-codes incl. Pharmacode
- M12 connection technology to BCL 8 and MA 8.1 connector unit
- Robust industrial design in metal housing — IP 67
- Integrated daisy chain network / RS 485 direct connection optional via MA
- Several optics models



Identification of the outer packaging via transponder

RFID read/write systems
RFM 32



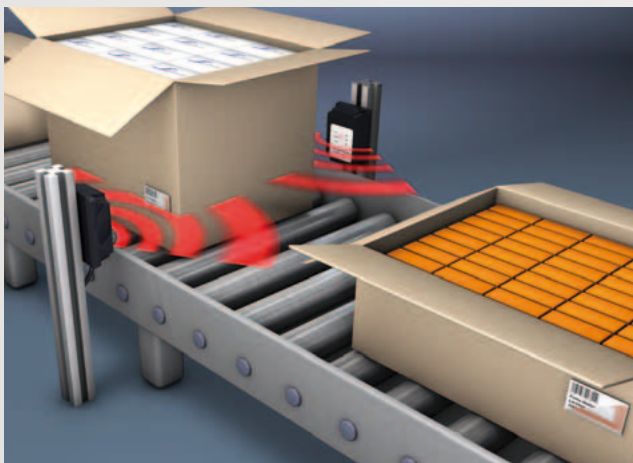
- Traceability and process documentation
- Unobstructed view of data carriers not necessary
- Continuous detection via trigger function and no-read, even in the case of failure
- Compact device with high degree of protection
- Wide product range of devices with compatible transponders

Safeguarding of protective doors and protective covers

Safety locking devices
L10, L100, L200



- Safety locking devices with contact sets for integration up to category 4 in accordance with EN ISO 13849
- Universal application through turnable head (8 actuator approach positions)
- Spring-force or magnetic-force design
- Manual unlocking, escape unlocking (L200)
- Switching-current reduction (L100)
- Can be integrated into the machine safety circuit via MSI safety controller





Safeguarding of protective doors and protective covers

Safety transponders
RD800



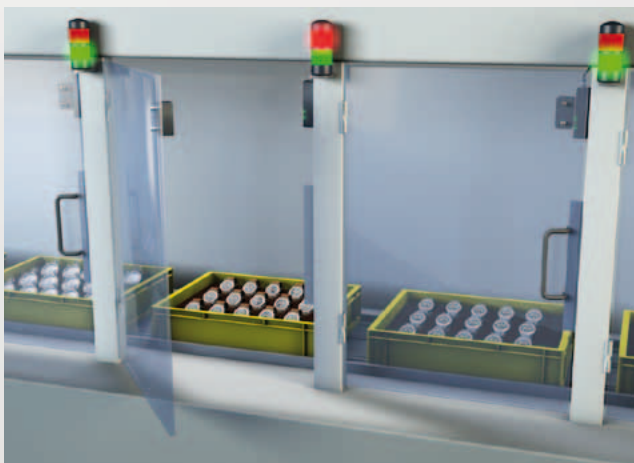
- Standard code, unique code or flexibly programmable code
- M12 connection on the left or right for the most possible freedom during assembly
- Three-sided actuator mounting for quick and easy attachment
- Four multicolored LEDs for detailed diagnostics and effective installation and testing routines
- Degree of protection IP 67 and IP 69K with smooth, stable plastic housing for easy cleaning

Detection of invisible safety marks

Luminescence scanners
LRT 8



- Scanning ranges up to 200 mm
- Very compact metal construction
- Switching frequency 1.5 kHz
- Sensitivity adjustment via potentiometer
- Turnable M12 connector
- Filter variants

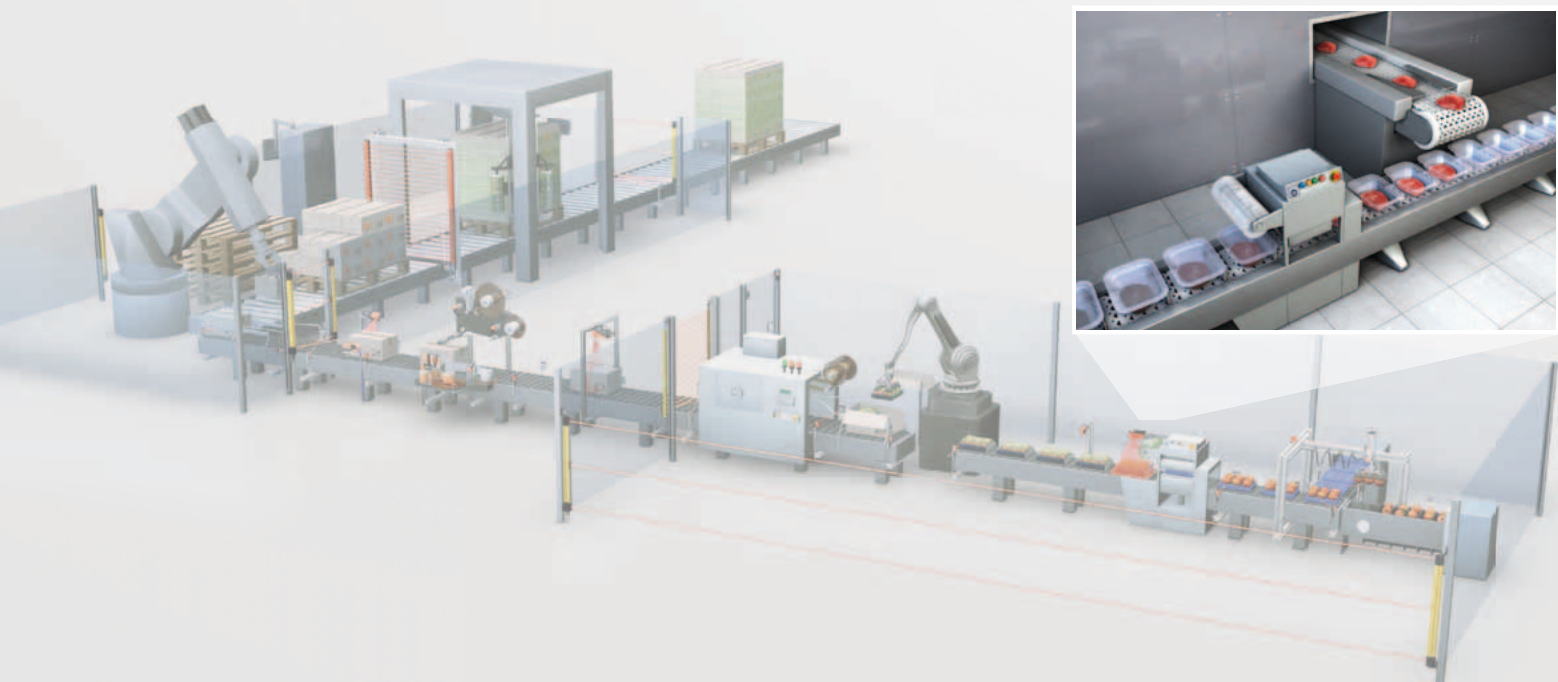


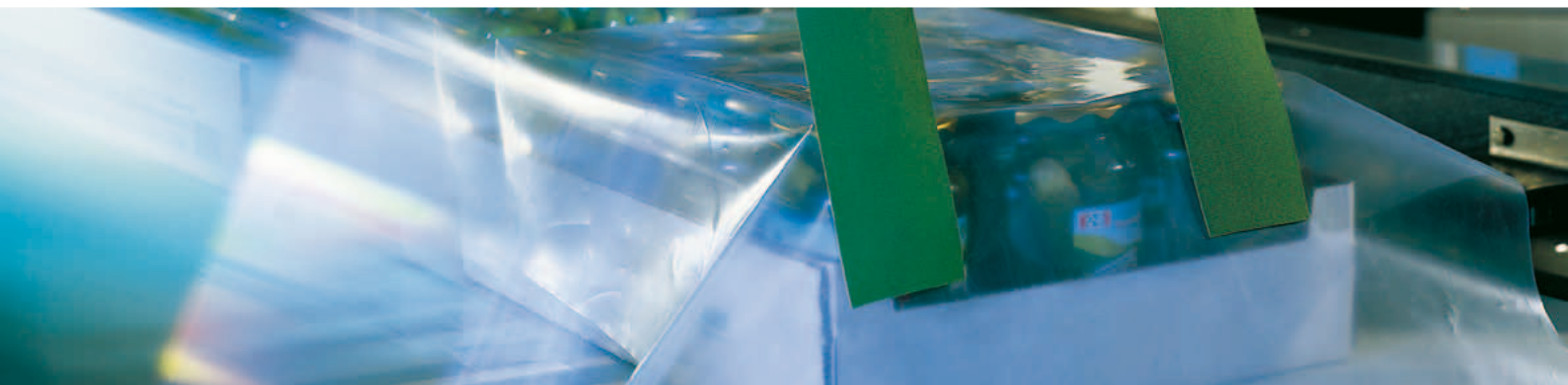
FOIL PACKAGING MACHINES

Primary packaging according to the highest hygiene standards

Foils are commonly used as packaging material for both primary as well as secondary packaging. With sensors designed according to ECOLAB, CleanProof+ and EHEDG standards, we have responded to the increasing requirements and developed stainless steel sensors that can withstand even the most adverse environmental conditions. The compact single beam safety devices can also be used to ensure the protection of the machine opera-

tors in accordance with the current safety standards and directives, e.g. EN ISO 13849. The devices can be very flexibly integrated in the machine safety circuit, e.g., with the MSI safety controller. Identification tasks are performed by the convenient Leuze electronic code readers reliably and with maximum reading performance. With the ASM safety monitor for AS-Interface networks, this is also possible with considerably reduced wiring.





Product infeed

Cubic sensors
55 series



- Reliable detection of transparent media
- V4A stainless steel housing in small construction
- WASH-DOWN design
- Maximum chemical resistance in accordance with ECOLAB and CleanProof+

Foil infeed

Contrast scanners
KRT 20, 3B, 55



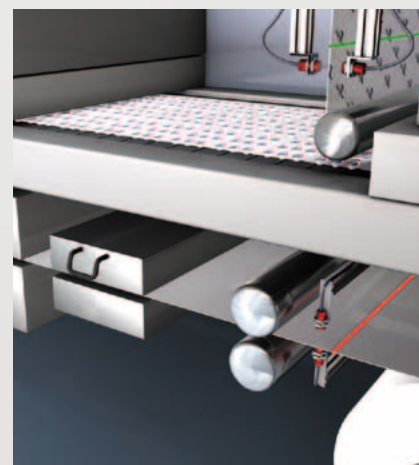
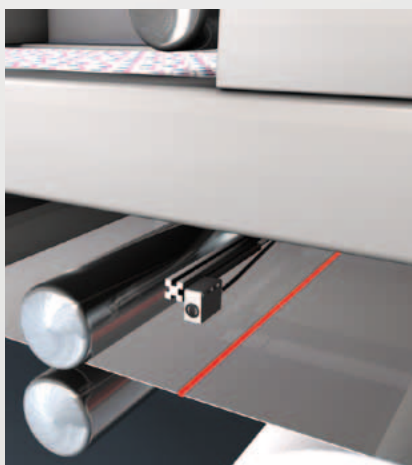
- Simple saving of up to 128 different marks
- Identical technology in plastic and stainless steel housing
- Color-independent detection of glossy print marks
- Short response time ensures reproducible cutting positions
- Intelligent configuration and diagnosis via IO-Link

Splice inspection

Ultrasonic system
DB 12B



- Ultrasonic system for splice inspection in clocked machines
- Material-, color- and printing-independent splice detection
- Foil thickness from 20 – 1200 g/m²



Roll end

Retro-reflective sensors
RK 18B



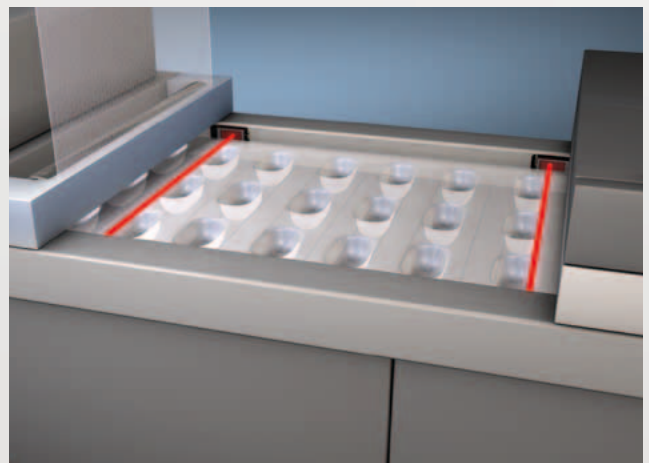
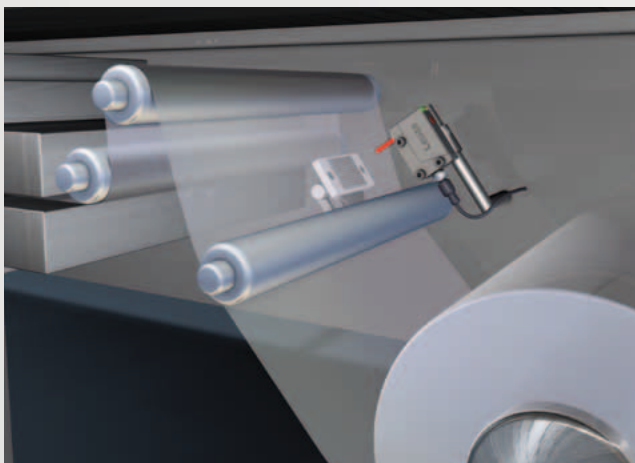
- For the detection of highly transparent foils and glass panes
- Remote teach function for automatic sensor adjustment on machine startup and during servicing
- Operation with glass triple reflectors and any reflective tapes

Safeguarding during closing, welding, separating

Single beam safety devices
SLS 25B, 46B



- Single beam safety devices (type 2 in combination with safety monitoring device)
- Low space requirements
- Easy to integrate
- Robust and reliable
- Economical solution
- Can be integrated into the machine safety circuit via MSI safety controller





Identification

Bar code readers
BCL 300i



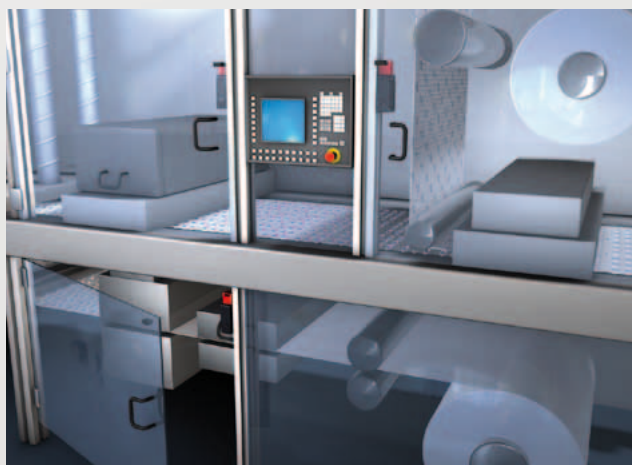
- Integrated fieldbus connectivity (PROFIBUS, PROFINET, Ethernet, TCP/IP, multiNet, RS 232/422/485) with Ethernet switch function (for linear topology)
- Full CRT (code reconstruction technology) also detects heavily damaged or soiled codes
- webConfig is an operating-system independent, browser-based configuration tool
- High-quality optics with great depth of field and large opening angle
- Modular connector hood, terminal hood and terminal box
- Graphical display

Safety sensor monitoring

Programmable safety controller
MSI 100



- Base module for monitoring of sensors and actuators, freely configurable
- 20 inputs, 4 outputs (OSSDs)
- MSIsafesoft software with certified function blocks
- Data stick with configuration memory
- Free choice of connection technology: screw terminals or spring-cage terminals



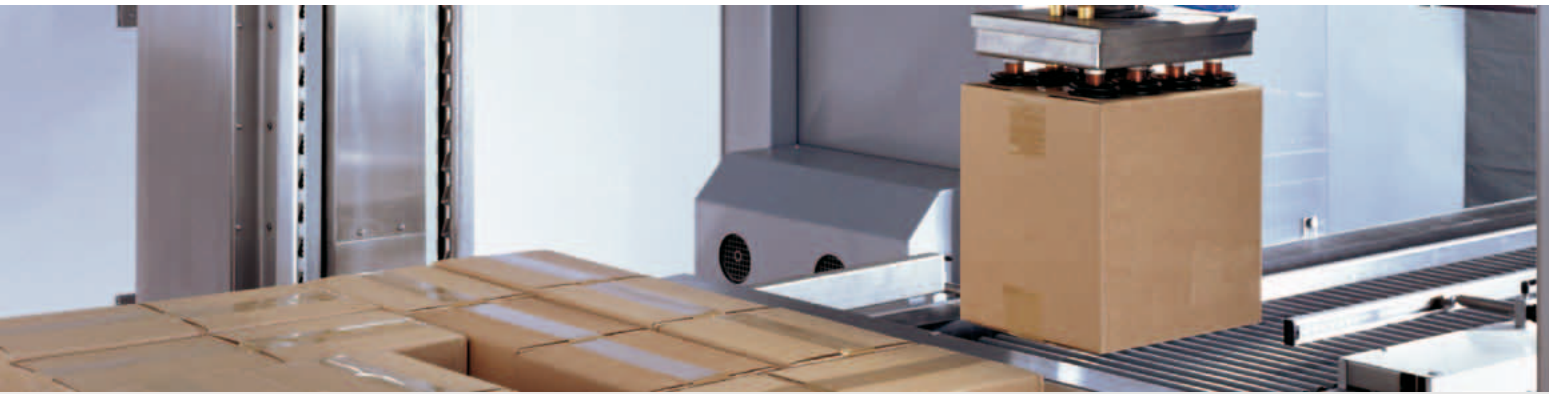
CARTON PACKAGING MACHINES

Reliable presence monitoring

Through reliable detection of various materials and surfaces, our sensors ensure high system availability. In addition, the bright and clearly visible light spots of the new generation of sensors assist during commissioning and format conversion of the machines. The high performance reserves of the sensors reduce machine downtime and extend the cleaning

and maintenance intervals. Sensors that have been adapted to the requirements lead to an increase in the functional reliability of the systems, even with a wide range of materials. Optical safety sensor systems ensure safe operation of the systems. They can be flexibly integrated into the machine safety circuit using our programmable safety controllers.





Filling level inspection

Measuring sensors

ODS 96B, ultrasonic sensors



ODS 96B

- For measurement on solid media
- Measurement range 60 – 10,000 mm
- Resolution up to 0.1 mm

Ultrasonic sensors

- For the secure measurement on transparent and liquid media
- Measurement range up to 6,000 mm
- Resolution 1 mm

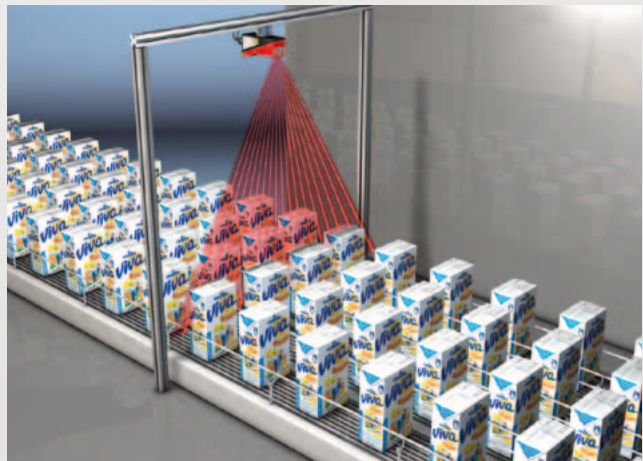
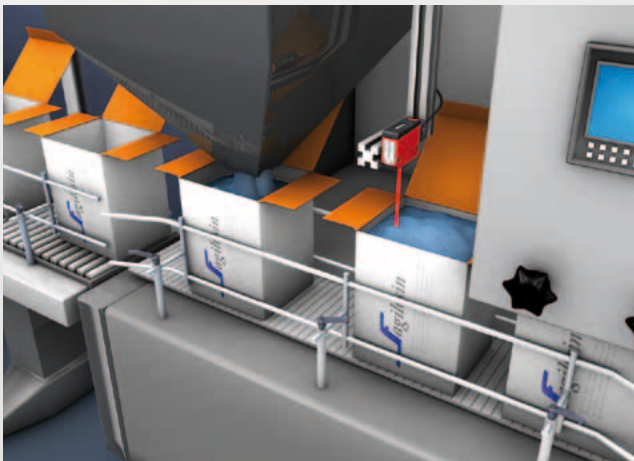
Object detection

Light section sensor

LRS 36



- Light section sensor for object detection
- Detection area: 200 – 800 mm
Length of the laser line: max. 600 mm
- Response time: 10 ms
- Up to 16 detection fields with logical linking option
- Up to 16 additional inspection tasks — data processing directly within the sensor
- System connection via I/O, EtherNet, PROFIBUS



Carton erection

Energetic light scanners
HRTR 46B, HRT 25B



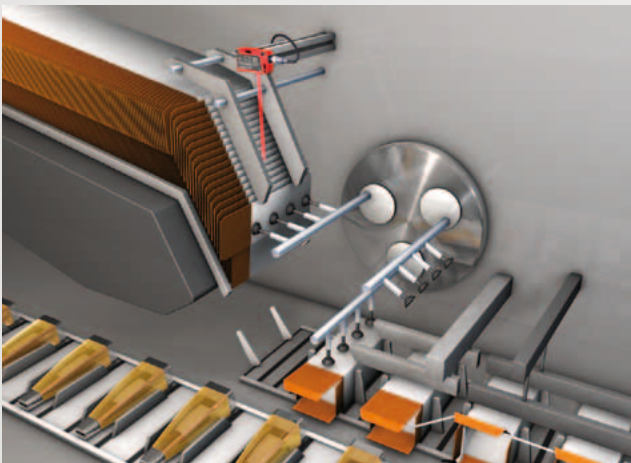
- Scanning range up to 1,800 mm
- Color-independent detection of laminated and structured surfaces
- Very exact background suppression
- High repeatability
- **brightvision®** for simple handling and fast commissioning
- Format switching via IO-Link

Hand and finger protection

Safety light curtains
MLC 500



- Integrated blanking and muting
- Integrated 3-zone alignment aid
- Easy alignment, setup and operation thanks to the integrated LED and 7-segment display
- Flexible and easy mounting — and without dead space
- Available quickly all over the world





Identification of bar codes printed directly on the carton

Bar code readers

BCL 300i, 301i, 304i, 308i, 348i



- Modular connection technology by means of pluggable connection hoods with M12 connector, clamp connection or fixed connection cable
- Integrated fieldbus connectivity: PROFIBUS/PROFINET/Ethernet/multiNet, RS232/422/485
- Models: line scanner, deflection and oscillating mirror
- Available as line/raster scanner
- Code reconstruction technology (CRT) for reliable identification of damaged codes
- Read distances 20 - 700 mm
- Optional display, heating models

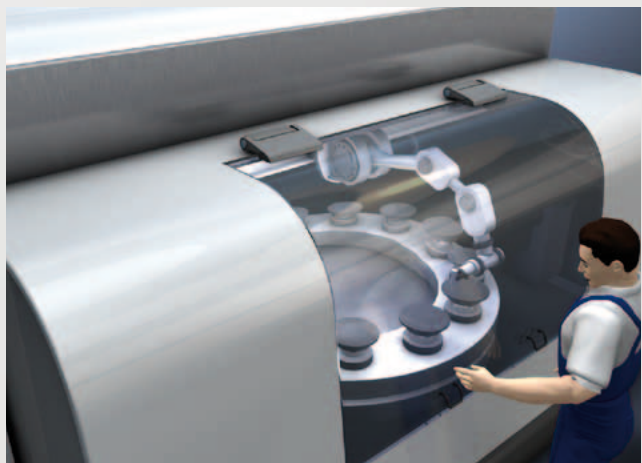
Position monitoring of flaps and hoods, hand and finger protection

Safety hinge Switch

S410



- Repeatable setting (switching angle alignment) with skewed or misaligned doors
- Compact, rounded-off construction design in robust metal version, degree of protection IP 67
- Encapsulated, internal actuator guarantees proper functioning, even under difficult conditions
- Highly tamperproof due to covered screws
- Cable or M12 connection
- Can be integrated into the machine safety circuit via MSI safety controller

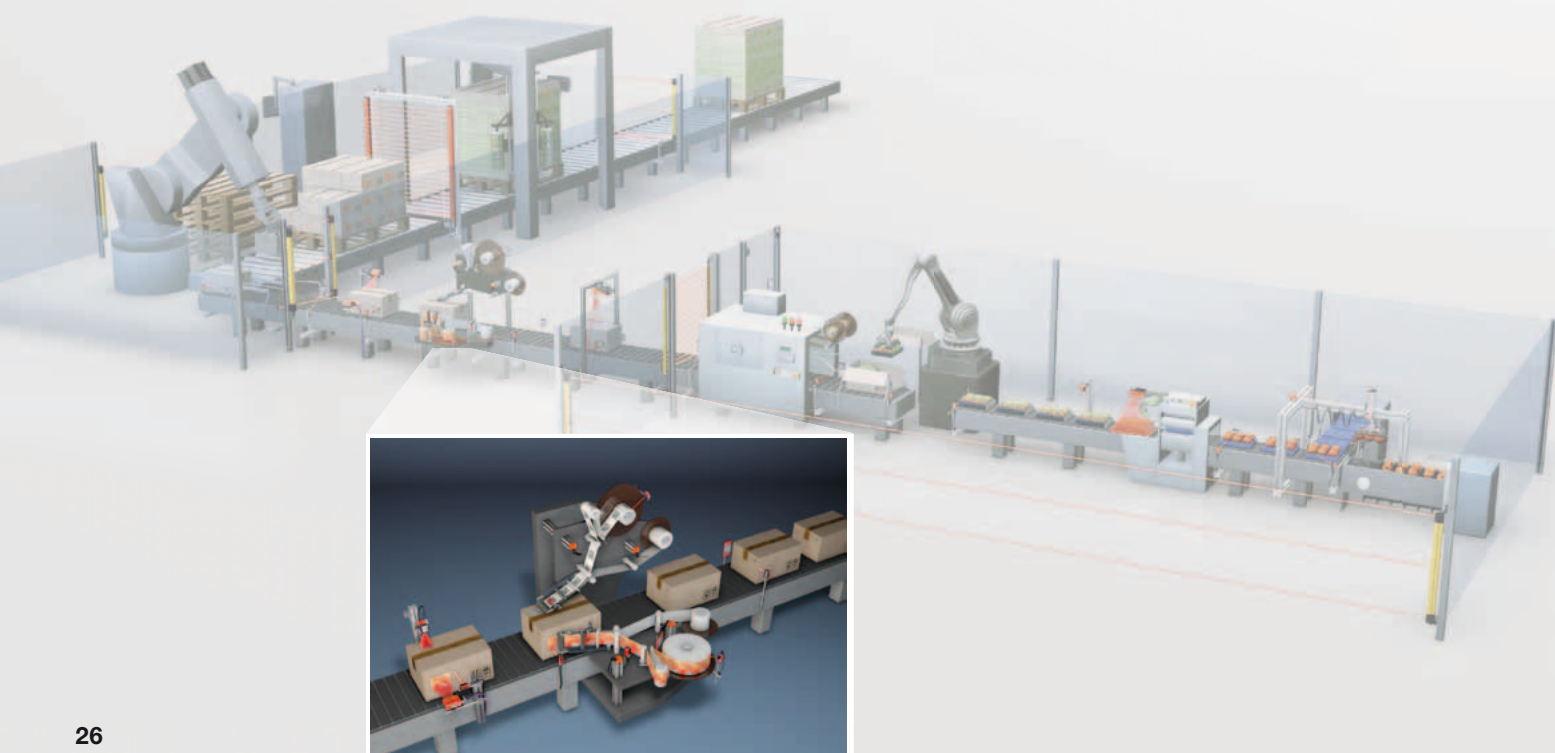


LABELING MACHINES

Process labels precisely, quickly and universally

Sensors are used in various parts of labeling machines. Standard sensors are used for detecting tape tears or the end of the tape. With the aid of contrast sensors, precise marks and cut marks are positioned in wrap-around labelers. Forked sensors control the position of self-adhesive labels directly at the dispensing edge and special sensors inspect the affixed labels on the labeled containers. Leuze electronic offers the broadest and most

complete line of products on the market for all of these requirements. With the sensors' extremely short reaction times, highly precise switching and positioning accuracies are achieved even at conveyor speeds of 120 m/min, e.g. in high-performance labelers. In doing so, the sensors from Leuze electronic safely and reliably detect all labeling variations currently on the market.





Label inspection

Smart cameras

LSIS 412i, 422i, 462i



- Inspection for presence and position of labels (askew labels) as well as identification of labels
- Reliable reading of 1D, 2D and stacked codes
- Plain text presence monitoring (e.g. batch number and expiration date)
- Printout inspection (presence, position and completeness)
- Reliable inspection, even at high speeds or rated outputs

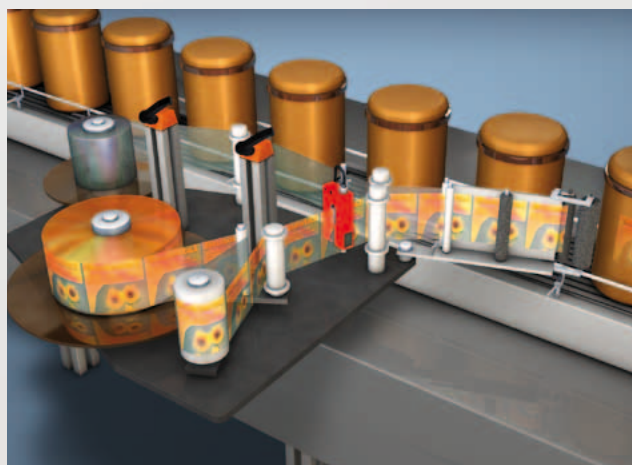
Detecting adhesive labels

Forked sensors

GS 61/63, (I)GSU 14C



- Broad product portfolio for detecting a wide range of label materials — from paper to transparent foil, whether printed or metallic
- Maximum dispenser accuracy
- Conveyor speeds faster than 10m/s
- Various mouth-width sizes — also suitable for booklets or accordion folds
- Simple adjustment by means of teach-in or potentiometer



Tape end inspection

Cubic sensors
3B Series



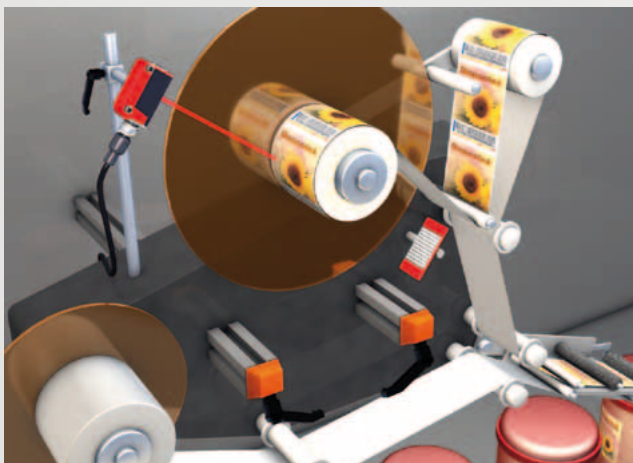
- Maximum performance reserves
- **brightvision®** for simple handling and fast commissioning
- High availability through active ambient light suppression **A²LS**
- Various models for reliable detection of transparent foils or glossy surfaces with colored structure

Mark detection

Contrast, color, luminescence scanners
KRT, CRT, LRT



- Reliable detection of glossy print marks
- Highly precise positioning of the cutting edge
- Counting of colored marks such as Pharmacode
- Device configuration and diagnosis, e.g. via IO-Link
- Special setups support the machine validation





Paper/sleeve label detection on bottles

Special sensors, smart cameras
RK 72, LRT, KRT, LSIS 412i, 462i



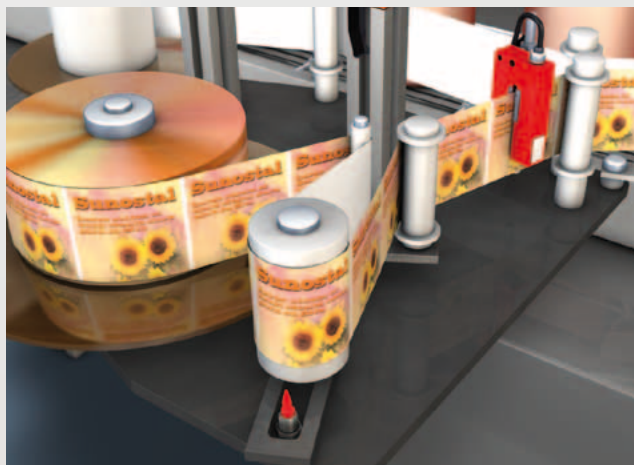
- Reliable detection of paper and sleeve labels on glass or PET containers with various contents
- Identification of labels using smart camera
- Alignment body label / neck label
- Inspection of label position (askew labels)
- Small constructions for simple integration into assembly

Dancer bar end positions

Inductive switches
IS 208, 212, 218, 288



- Detection of the dancer bar end position in case of tape rupture or blocked unwinding
- Scanning ranges from 1.5 to 40.0 mm offer reliable detection on metal objects
- Cylindrical construction from Ø 4.0 mm to M 30, ultra-simple mounting
- Compact cubic housing (5 × 5, 8 × 8 mm) for space-saving installation



PALLETIZING AND DEPALLETIZING MACHINES

High availability and safe operation in pallet handling

During the palletizing and depalletizing of goods, our sensors ensure smooth function of the systems through precise positioning and consistent switching distances. The multiple light beam safety devices with very easily configurable muting functions increase the availability of the system and ensure smooth

pallet transport. Optical safety-at-work sensors and programmable safety controllers optimally adapted to these requirements ensure safe operation of systems. All systems are designed so that machine operation and diagnostics in the case of failure is considerably simplified.





Package detection and positioning

Retro-reflective sensors
PRK(L) 25B, 28, 46B, 318B



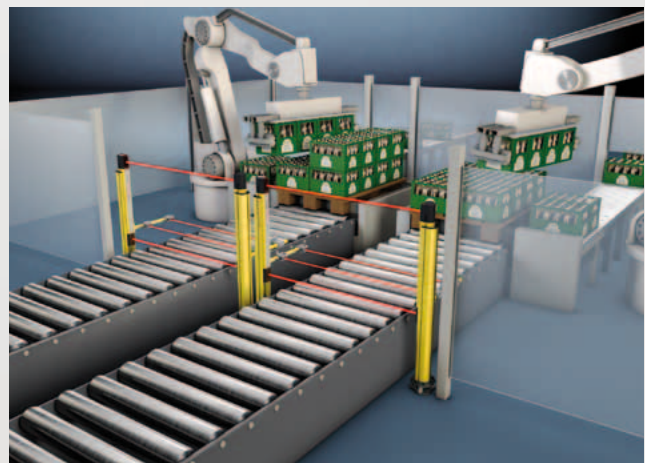
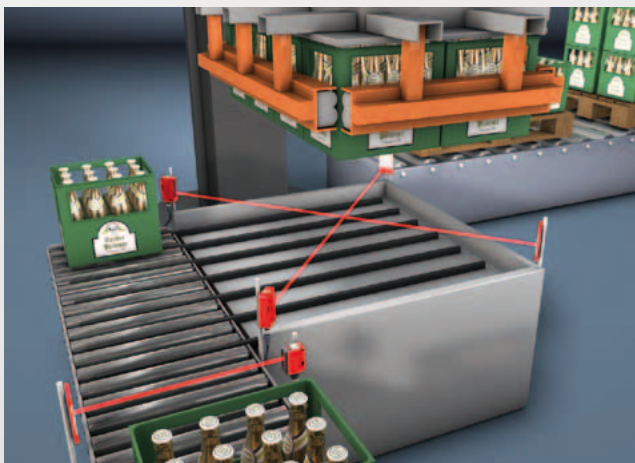
- Operating range up to 18 m
- High repeatability through optimized light-spot profile
- Laser devices available
- Short response time
- High performance reserves ensure reliable function even in the event of soiling
- **brightvision®** for simple handling and fast commissioning

Safety sensor monitoring

Programmable safety controller
MSI 200



- Base module with the option to connect extension modules (function range as for MSI 100)
- Up to 10 safe MSI-EM I/O extension modules can be connected, i.e., up to a maximum of 140 inputs or 100 inputs and 44 outputs are feasible
- Convenient and fast extension or modular exchange of the components via the TBUS connection system



Personnel protection at palletizing machines

Multiple light beam safety devices
MLD 500



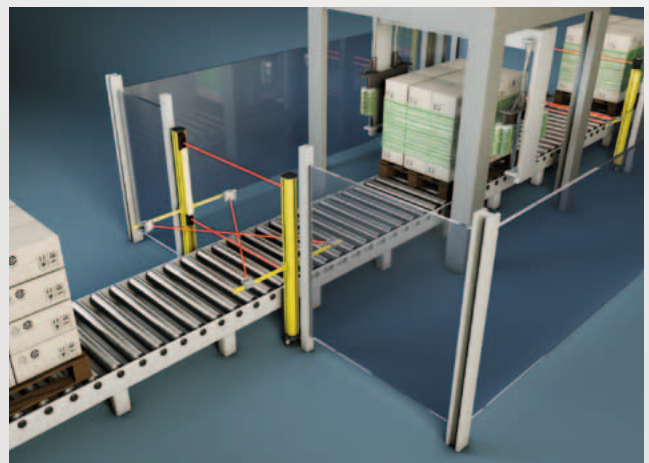
- 3-beam transceiver for simple installation
- Suitable for low-temperature environments down to -30°C
- Simple commissioning, e.g., configuration is performed without a PC, a device can be exchanged by means of Plug & Play without programming
- Integrated muting functions configurable via pin assignment, receiver optionally contains muting indicator
- Can be integrated into the machine safety circuit via MSI safety controller
- Type 4, SILCL 3, PL e

Access guarding with muting on foil wrapping and strapping machines

Multiple light beam safety devices
MLDSET



- 2- or 3-beam transceiver with integrated muting functions
- Complete muting set, including device columns and accessories
- Plug & Play complete solutions with pluggable connections: efficient setup and fast start-up





Identification

Bar code readers

BCL 500i, 501i, 504i, 508i, 548i



- CRT (code reconstruction technology): the scanner can read even partially destroyed, rotated, soiled or covered labels which ensures high reliability and high system availability.
- Integrated fieldbus connectivity
- webConfig: graphical user interface based on web technology, integrated in the scanner and independent of the operating system
- High scanning rate 800 – 1200 scans/sec
- Excellent network capability for all common interfaces (e.g. PROFINET, PROFIBUS, EtherNet etc.)

Profile measurement

Light section sensor

LPS 36, LES 36



- Measurement range: 200 – 800 mm
- Length of laser line: max. 600 mm
- Balanced system, resolution: 1 – 3 mm
- Measurement time: 10 ms

LPS 36:

- For position, contour and volume measurement
- Creation of 3D data via encoder connection

LES 36:

- For width, height and position determination
- System connection: analog output, EtherNet, PROFIBUS

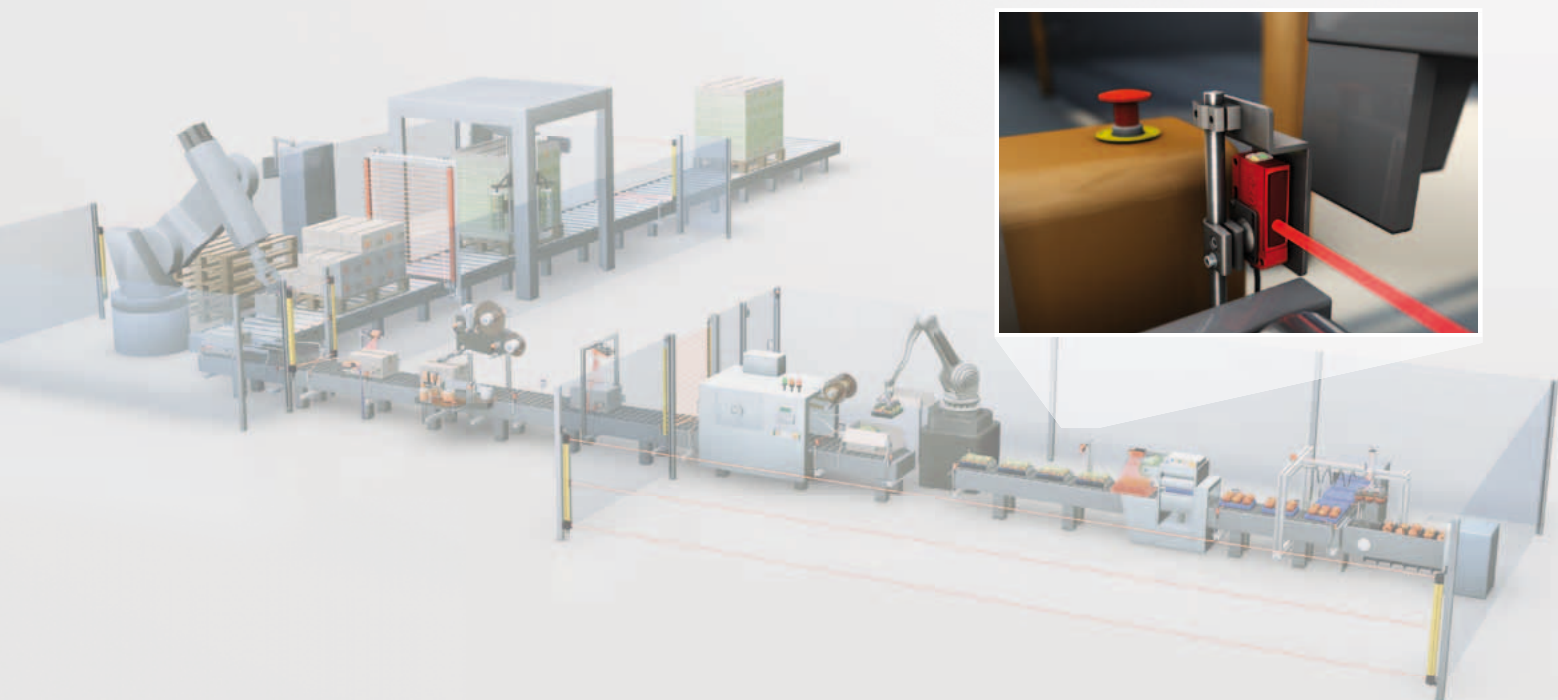


CONTINUOUS HANDLING EQUIPMENT

Secure and fast object detection

Due to their high performance reserves, sensor solutions made by Leuze electronic ensure the efficient and uninterrupted throughput of merchandise. In doing so, we also reliably detect critical materials, such as depolarizing foils. The intelligent mounting technology, the fast adjustment with a very bright light spot, and the easy integration via built-in fieldbus interfaces are the key for speedy commission-

ing. Individually deployable reading principles, such as bar code, 2D-code, and RFID guarantee maximum flexibility. Our sensors offer reliable detection and thus high availability of the systems, particularly during the identification of partially damaged codes, glossy, dark or stretch-wrapped packages and in rough environmental conditions.





Object detection

Cubic sensors
Series 5, 25B, 46B



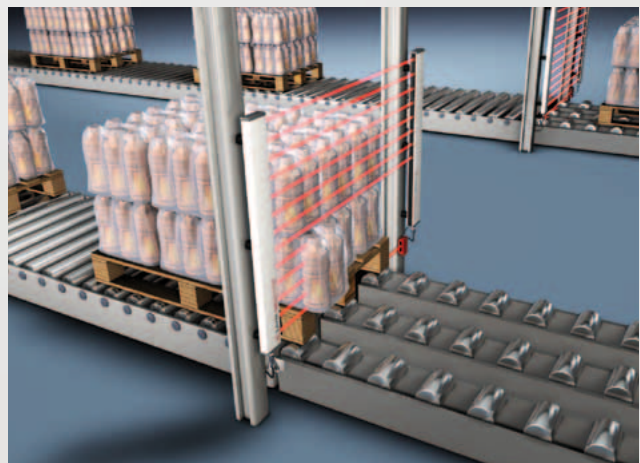
- Highest functional reliability even when soiled
- Simple alignment via **brightvision®**
- Functional reliability for tape- or shrink-wrapped pallets, bundles and containers

Projection monitoring of the pallet load

Switching light curtains
VARIO B



- Plane dimension monitoring
- Application-specific measurement field lengths, widths, and resolutions
- Large operating ranges
- Very narrow design
- Configurable switching ranges, warning output



Access guarding with muting

Multiple light beam safety devices with muting sensor sets

MLD



- Pre-mounted and aligned muting sensors with complete wiring
- Configuration without PC via wiring in the switch cabinet
- 6 possible muting modes (parallel, sequential, partial)
- Also for low-temperature applications down to -30°C
- Type 4, SILCL 3, PL e
- Simple wiring for muting (one safety circuit for inward and outward material movements), low installation effort, and price advantage with MSI-SR5 safety relay

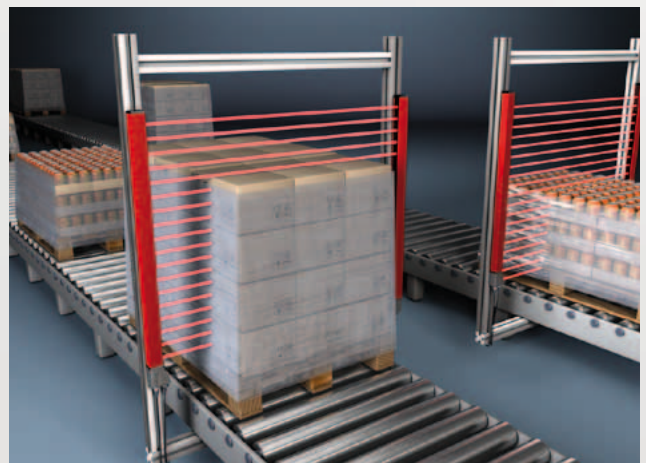
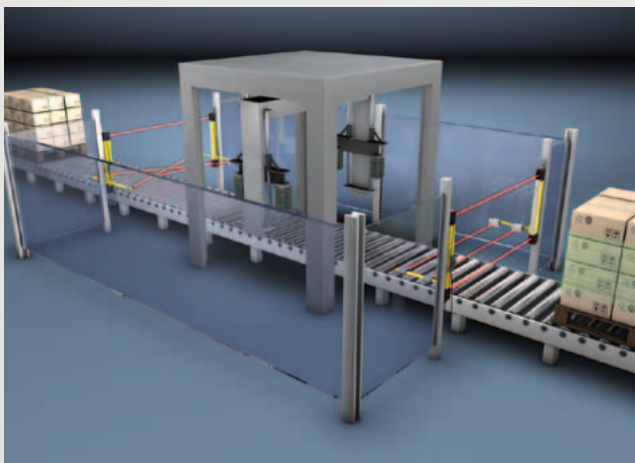
Width/height measurement

Measuring light curtains

CML 700i



- Integrated PROFIBUS, CANopen, RS 485 and IO-Link interfaces for direct configuration via the control
- Extremely short response time per beam for the reliable detection of fast processes
- Flexible fastening concept, e.g. with standard profile for simple mounting and optional rear plug outlets
- Large, easy-to-read display with robust membrane keyboard and bar graph display for easy alignment
- Maximum measurement field length of 3,000 mm
- Sturdy metal housing also for use in rough industrial environments





Contour measurement

Measuring sensors
ROD4plus



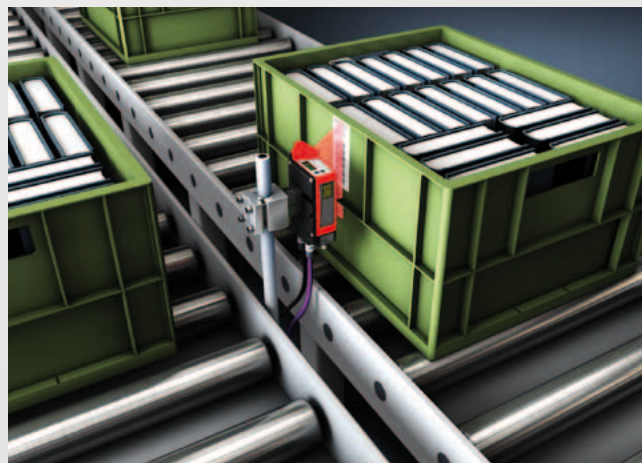
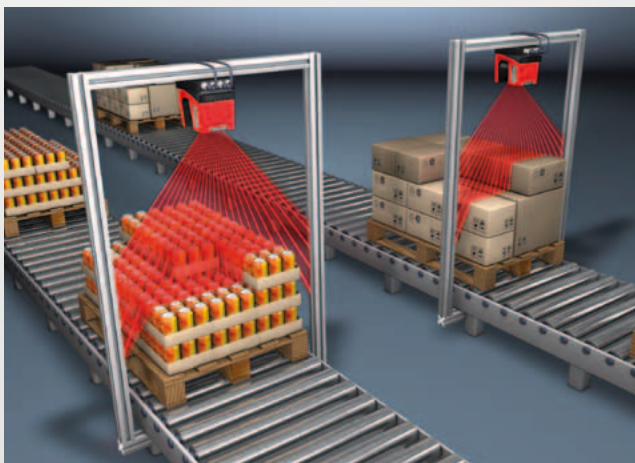
- Measurement range 0 – 65,000 mm
- Scanning rate 50 Hz
- Almost object-independent measurement
- Measurement data transfer via Fast Ethernet
- Integrated measurement data preprocessing (x-,z-coordinates, extreme values)

Identification

Bar code readers
BCL 300i, 301i, 304i, 308i, 348i



- Modular connection technology by means of pluggable connection hoods with M12 connector, clamp connection or fixed connection cable
- Integrated fieldbus connectivity: PROFIBUS/PROFINET/Ethernet/multiNet, RS232/422/485
- Models: line scanner, deflection and oscillating mirror
- Available as line/raster scanner
- Code reconstruction technology (CRT) for reliable identification of damaged codes
- Read distances 20 - 700 mm
- Optional: display, heating models



Identification

Bar code readers

BCL 500i, 501i, 504i, 508i, 548i



- Code reconstruction technology (CRT) permits the identification of partially destroyed and distorted codes, ensuring a high system availability
- Integrated fieldbus connectivity
- webConfig: graphical user interface based on web technology integrated in the scanner
- High scanning rate: 800 – 1,200 scans/s
- Models: line scanner, oscillating and deflection mirror
- Simple operation through clear, multi-lingual display
- M12 “Ultra-Lock™” connection technology and Leuze electronic mounting concept
- Optionally with heating (down to –30°C)
- Read distances 200 – 1,600 mm

Identification

Bar code readers

BCL 90, BCL 90 CAX

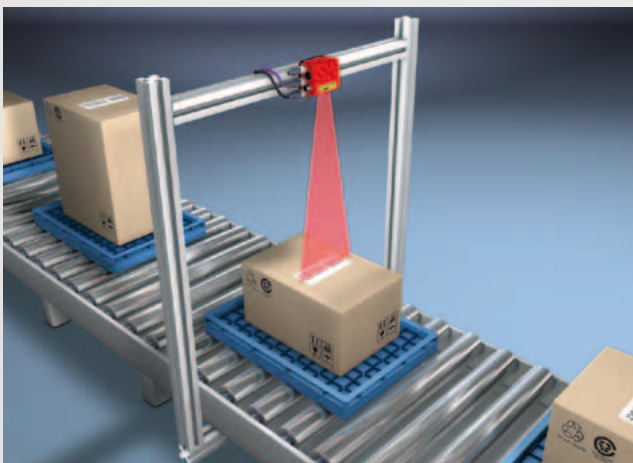


BCL 90

- High-end scanner
- Code reconstruction technology (CRT)
- Integrated autofocus function
- Smallest construction volume in its performance class
- Read distances 400 – 2,100 mm

BCL 90 CAX

- Compact omni-scanner for tape widths up to 400 mm
- Code reconstruction technology (CRT)
- Integrated autofocus function
- Read distances 500 – 1,750 mm
- “Tracking”-capable





Identification

Bar code readers

MSP systems, MSPi systems



MSPi systems

- Pre-mounted, can be used for a variety of standard applications
- Code reconstruction technology (CRT)
- Based on BCL 500i

MSP systems

- "Modular scanner portal" — permits individual adaptation to demanding applications
- Integrated autofocus function
- Extremely deep depth of field for small modules
- "Tracking"-capable
- Based on BCL 90

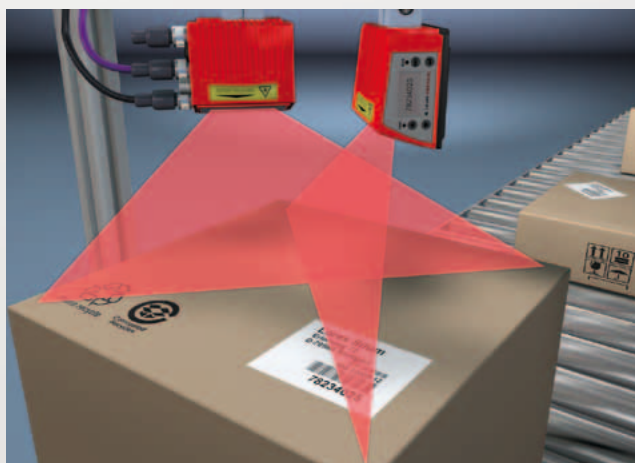
Identification

Mobile bar code reader

IT 3800, IT 3820



- Hand-held scanner for all common bar codes
- Sturdy housing with IP 54 protection suitable for industrial use
- Models with wireless and cable connection
- RS 232, PS2 or USB interface
- Reading distance up to 2000 mm
- Operating temperature -30 to 50°C



Identification

RFID read systems **RFI 32**



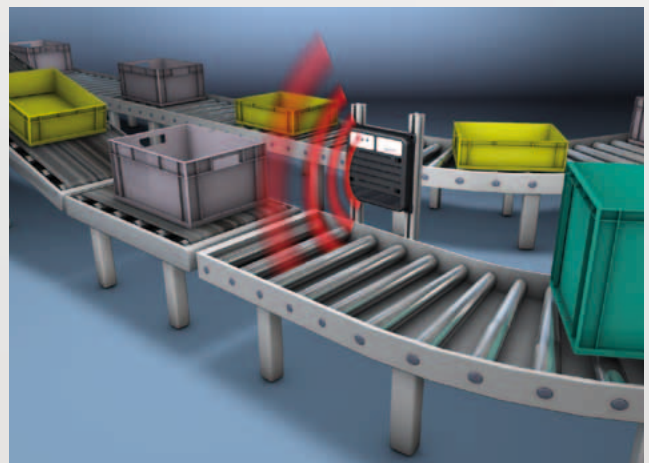
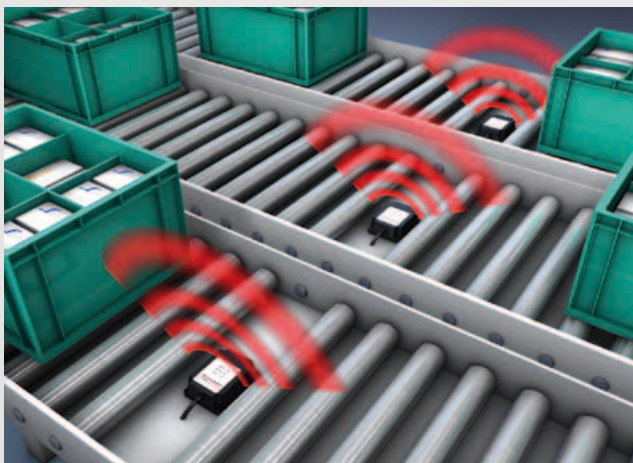
- Frequency: 125 kHz
- RFID device for identification purposes only (read only)
- Permanent encoding
- Max. reading distance 90 mm
- Compatible transponders available
- Degree of protection IP 67

Identification

RFID read/write systems **HFM 3500D, RFM 12/32/62**



- Frequency: 13.56 MHz (HF) / 868 MHz (UHF)
- Max. reading distance: 400 mm (HF) / 5000 mm (UHF)
- Continuous detection via trigger function and no-read, even in the case of failure
- Time-optimized writing while driving by via pre-transmission of data to the write unit
- Highly flexible connection options to fieldbus interfaces
- Wide product range of devices and compatible transponders
- RFM 32 Ex-n with EX rating Zone 2





Safety sensor monitoring

Safety relay family

MSI 100, MSI 200, MSI-EM, MSI-FB



- Freely configurable MSI 100 safety relay: base module for the coordination of sensors and actuators
- MSI 200 base module extensible via modules with the option of connecting up to 10 MSI-EM extension modules conveniently and quickly via the TBUS connection system
- MSI-EM extension module augments the MSI 200 by 8 safe inputs and 4 freely configurable channels — either safe inputs or outputs (OSSDs)
- MSI-FB fieldbus modules for simple connection to fieldbus networks

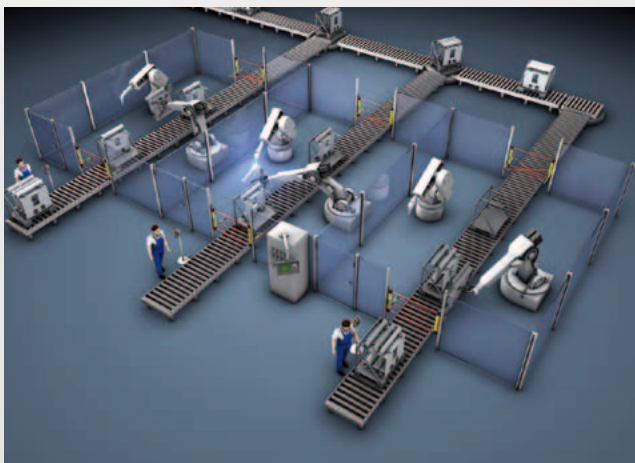
Personnel protection and E-Stop

AS-Interface Safety at Work

ASM1E-m, ASM2E-m



- AS-i safety monitors for high safety standards
- Integrated functions for 2-sensor parallel muting, sequence controlled 4-sensor muting
- Coupling of AS-Interface networks
- Freely configurable system components (EMERGENCY STOP, OR, AND, switch-on or switch-off delays)



OUR **PROMISE** TO YOU

YOUR SENSOR BUSINESS—SIMPLER AND MORE EFFICIENT

Many pledge themselves to customer orientation—
at Leuze electronic, we go a step further.

We offer specific and measurable added value in the areas
of USABILITY, APPLICATION KNOW-HOW and SERVICE—
to help make our customers more successful. These areas
are our yardstick for new product developments, innovative
service offerings and extensive market expertise.



SMARTER **PRODUCT** USABILITY

With regard to our product developments, we systematically place emphasis on the especially good usability of all devices. To this end, simple mounting and alignment are taken into account — just as the uncomplicated integrability of the sensors in existing fieldbus systems and easy configuration, e.g. via a web browser, are.

SMARTER **APPLICATION** KNOW-HOW

Whoever can do it all, can do nothing right. Which is why we concentrate on selected target sectors and applications. There, we are specialists and know all aspects inside out. For this purpose, we optimize our solutions and offer a comprehensive product range that makes it possible for our customers to obtain the absolute best solutions from a single source.

SMARTER **CUSTOMER** SERVICE

The technical and personal closeness to our customers, and a skilled, straightforward handling of queries and problems, are among our strengths — and will remain so. Consequently, we will continue to expand our service offerings and, indeed, also forge ahead in new directions to persistently redefine the utmost in customer service. Whether on the phone, in the Internet or on-site with our customers — regardless of when and where the expertise of the sensor people is needed at any time.

Info at: **www.leuze.com**

Katrin Rieker,
Employee in the
Customer Care Center



Switching Sensors

Optical Sensors
Ultrasonic Sensors
Fiber Optic Sensors
Inductive switches
Forked sensors
Light Curtains
Special Sensors

Measuring sensors

Distance Sensors
Sensors for Positioning
3D Sensors
Light Curtains
Forked sensors

Products for Safety at Work

Optoelectronic Safety Sensors
Safe Locking Devices, Switches and Proximity Sensors
Safe Control Components
Machine Safety Services

Identification

Bar Code Identification
2D-Code Identification
RF Identification

Data Transmission/ Control Components

MA Modular Interfacing Units
Data Transmission
Safe Control Components

Industrial Image Processing

Light-Section Sensors
Smart Camera

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