The others can pack it in.
The sensor solutions for packaging technology from Leuze electronic.

Many good reasons for your success.

In all areas, success is the result of optimal interplay of various factors. For Leuze electronic, they are a broad and closely coordinated product program, application experience developed over decades, and innovative, market-driven product developments for all common interfaces and network environments. It is the combination of these factors that makes Leuze electronic one of the leading suppliers of optoelectronic sensors. The close contact with our customers and thus your needs and requirements is one of our particular strengths. This doesn’t just apply to technical questions but also to the service sector.

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

Reliably detect transparent media.

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

Detecting glass and PET bottles reliably at any time is an easy task even under the most difficult environmental conditions. With the stainless steel sensors of Series 53/55, Leuze electronic is also well suited for the future requirements in this industry.
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- Tracking function extends the cleaning interval 50-fold
- Reliable detection of a wide range of pre-forms
- Stable function in spite of high ambient temperatures through built-in temperature compensation

- 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
- Short response time facilitates blockage monitoring

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

Contrast Scanners
KRT 3B, 55, 20B

- Detection of defective 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

Diffuse Reflection Scanners
HRTR 55

- Detection of bottle caps with various structures and colors
- Optimized background suppression
- V4A stainless steel housing in small construction
- WASH-DOWN design
- High chemical resistance, tested acc. to ECOLAB and CleanProof+
Bottle-cap monitoring and filling-level inspections

Smart Cameras
LSIS 412i

- Presence inspection for crown or screw-on caps
- Position inspection relative to bottle collar (PET bottles) or bottle mouth
- 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
- For optically transparent white or colored bottles, even with foaming
- Nominal value and tolerance specification

Sterile filling of pharmaceuticals and cosmetics

Diffuse Reflection Scanners
HRTR 53

- Scanning range 30 – 100 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
Bottle transport

Retro-reflective Photoelectric Sensors
PRK 18

- Extremely short response time
- Temperature compensation ensures high consistency of the switching points
- Tracking function extends the cleaning interval 50-fold
- Optimized housing materials ensure long service life in spite of intensive cleaning cycles

Access guarding for barrel/KEG filling systems

Safety Light Curtains
SOLID-4E

- Self-monitoring safety light curtains (Type 4, SIL and PL e)
- Slim and robust
- Simple function selection through external wiring
- Maintenance-free through safety transistor outputs (OSSDs)
- Can be integrated into the machine safety circuit via the MSI Safety Controller
Package transport in single-track areas

Retro-reflective Photoelectric 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
- Protection class IP 67, IP 69K
- High chemical resistance, tested in accordance with ECOLAB and CleanProof+

Package transport in multi-track areas

Reference Scanner
HRTR 46

- Easy commissioning with teach-in on band
- Detection of PET and can packages from above
- For aisles with a width of 80 mm and up
- Also detects very dark, highly glossy or transparent objects
- Detects gaps > 20 mm between the packages
- Protection class IP 67, IP 69K
- Chemical resistance in accordance with ECOLAB
Blister machines

Exact detection, fast reaction time.

The increasingly fast production speeds of the machines place increasing demands on the sensors that are used. Precise, fast and reliable detection of the blisters and cartons is the top goal in this area. Decreasing setup times require fast and extensive diagnostics of the safety circuit and of the sensors installed in the machine. Validatable integration of the sensors in the machine control is increasingly required by the machine manufacturers.

Fast and error-free reading of Pharmacodes and bar codes on the package inserts and the outer packages must be a matter of course in spite of high speeds.
Position blister container

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 x 5, 8 x 8 mm) for space-saving installation
- Scanning ranges from 1.5 to 40.0 mm offer reliable detection on metal objects

Personnel protection and E-STOP

AS-Interface Safety at Work ASM1E, ASM2E

- AS-i safety monitors for high safety standards
- SILCL 3, PL e, safety category 4
- Freely configurable system components (EMERGENCY STOP, OR, AND, switch-on or switch-off delays)
- Control of decentralized AS-i actuators, shutdown of actuator groups

Roll end

Retro-reflective Photoelectric Sensors PRK 8, 18, 3B

- Even detect transparent deep-draw foils
- Tracking function keeps the maintenance cycles to a minimum
- Remote teach function for automatic sensor adjustment during machine startup and servicing
Splice inspection

Ultrasonic Systems
DB 12B

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

Stack monitoring

Optical Distance Sensors
ODSL 9

- Continuous information on distance to the stack
- Measurement range 50 – 100 / 50 – 450 mm
- Resolution 0.01 / 0.1 mm
- Configuration and measurement value display via LC display and PC
- Analog output (current/voltage), RS485, RS232 interface, IO-Link

Assignment of package inserts to the correct folding box

Bar Code Readers
BCL 8

- Constant 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 at BCL 8 and MA 8.1 connector unit
- Robust industrial version in metal housing – IP 67
- Integrated daisy chain network / RS 485 direct connection optional via MA
- Several optics models
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- 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
- Function adaptation by using the configuration stored in the device
- Compact device with high protection class
- Wide product range of devices and compatible transponders

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

- 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)
- Versions operated via spring or magnetic tension
- Manual unlocking, escape unlocking (L200)
- Reduction of switched current (L100)
- Can be integrated into the machine safety circuit via MSI Safety Controller
Foil packaging machines

Hygienic and safe.

Increasing hygiene requirements in the food and pharmaceutical industries require fundamental adaptations of machines and, naturally, of the sensors installed in those machines. With the current standards for cleaning-agent resistance and the ECOLAB, CleanProof+ and EHEDG hygiene requirements, Leuze electronic has responded to these increasing requirements and developed stainless steel sensors that can withstand even the most adverse environmental conditions.

In addition, the compact single beam safety devices can also be used to ensure the protection of the machine operators in accordance with the current safety standards and directives, e.g. EN ISO 13849. The integration into the machine safety circuit is very flexible when using the MSI Safety Controller and requires less wiring when used with the ASM Safety Monitor for AS-Interface networks.
Product feed

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 feed

Contrast Scanners
KRT 20B, 3B, 55

- Housing-independent contrast scanner technology
- Color-independent detection of glossy print marks
- Short response time ensures reproducible cutting positions
- Intelligent configuration and diagnosis via IO-Link
Retro-reflective Photoelectric Sensors
PRK 18

- Reliable detection of transparent, printed and glossy foils
- Tracking function keeps the maintenance cycles to a minimum
- Remote teach function for automatic sensor adjustment on machine startup and during servicing

Single Light Beam Safety Devices
SLS 25B, 46B

- Single light 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 using the MSI Safety Controller
Identification

Bar Code Readers

BCL 21, 22

- Direct output of reference code comparison possible
- 2 switching inputs and 2 switching outputs (BCL 22)
- Teach-in option
- Automatic detection and configuration of code types
- Parameters are stored in a fail-safe manner
- High scanning speed with a consistent 1000 scans/s (M-optics)

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 storage
- Free choice of connection technology: screw terminal blocks or spring-cage terminal blocks, arbitrarily exchangeable
Surface-independent detection.

Through reliable detection of various materials and surfaces, the sensors from Leuze electronic ensure high system availability. 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 increase the operating times of the machines 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 such as depolarizing foils.

The optical safety sensor systems ensure safe and danger-free operation of the systems. They can be flexibly integrated into the machine safety circuit using our programmable Safety Controller.
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 Sensors
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

Diffuse Reflection 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
SOLID-2

- Safety light curtains (Type 2, SILCL 2, PL d)
- Slim and robust aluminium housing (30 x 34 mm)
- Simple function selection through external wiring
- Maintenance-free through safety transistor outputs (OSSDs)
- Can be integrated into the machine safety circuit via the MSI Safety Controller
Identification of bar codes printed directly on the carton

Bar Code Readers
BCL 300i, 301i, 304i, 308i, 348i

- Modular connection technology via 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 and raster scanner
- Code reconstruction technology (CRT) enables the identification of damaged bar codes
- Read distances 20 – 700 mm
- Optional: display, variants of heating

Position monitoring of flaps and hoods
Hand and finger protection

Safety Hinge Switches
S410

- Repeatable setting (switching angle alignment) with moved or misaligned doors
- Compact, rounded-off construction design in robust metal version, protection class 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

Precise and universal.

With the sensors’ very short reaction times, highly precise switching and positioning accuracies are achieved even at conveyor speeds of 120 m/min in high-performance labelers. This places the labeling sensors from Leuze electronic in the position of being able to reliably and safely detect all labeling variations currently on the market. Leuze electronic offers the broadest and most complete line of sensors for this market for all relevant requirements.

Sensors are used in various parts of labeling machines. Standard sensors for detecting tape tears and the end of the tape. With the aid of contrast sensors, precise marks and cut marks are positioned in circumferential labeling machines. Forked sensors control the position of self-adhesive labels at the dispensing edge. Special sensors inspect the mounted labels on the labeled containers.
Label inspection

Smart Cameras
LSIS 412i, 422i, 462i

- Inspection for presence and position of labels (askew labels) as well as the identification of labels
- Reliable reading of 1D, stacked codes and 2D codes
- Presence monitoring of characters (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 10 m/s
- Various mouth-width sizes – also suitable for booklets or accordion folds
- Simple adjustment by means of teach-in or potentiometer
End of tape 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 (skewed labels)
- Small constructions for improved 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 of 1.5 to 40.0 mm provide safe detection on metallic objects
- Cylindrical construction from Ø 4.0 mm to M 30, ultra-simple mounting
- Compact cubic housings (5 × 5, 8 × 8 mm) for space-saving installation
High availability, safe operation.

During the palletizing and depalletizing of goods, sensors from Leuze electronic ensure smooth function of the systems through precise positioning and consistent switching distances.

Optical safety-at-work sensors and programmable safety controllers adapted to the requirements ensure safe operation of systems. The muting functions of the Multiple Light Beam Safety Devices, which can be easily implemented in practical use, increase the availability of the system and ensure smooth pallet transport. The structure of the systems considerably simplifies machine operation and diagnostics in the case of failure.
Package detection and positioning

Retro-reflective Photoelectric Sensors
PRK (L) 25B, 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 extensions 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

Access guarding with muting on foil wrapping and strapping machines

Multiple Light Beam Safety Devices
MLDSET

- The new 3-beam transceiver can replace more complex systems
- Suitable for low-temperature environments down to –30°C
- Simple commissioning, e.g., the muting modes are configured without PC, the device can be exchanged via 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

- 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, quick start-up
Identification

Bar Code Readers
BCL 500i, 501i, 504i, 508i, 548i

- CRT (code reconstruction technology), i.e. scanner can read even partially destroyed, rotated, soiled or covered labels which ensures high reliability and high system availability.
- Integrated fieldbus connectivity
- WEB Config: graphical user interface based on web technology integrated in the scanner for the configuration of the BCL 500i bar code reader
- High scanning rate 800 – 1200 scans/sec
- Excellent network capability for all common interfaces (e.g. PROFINET, PROFIBUS, EtherNet etc.)

Profile measurement

Light Section Sensors
LPS 36, LES 36

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

LPS 36:
- Position, contour and volume measurement
- Creation of 3D data with encoder connection

LES 36:
- Diameter of width, height and position
- System connection: analog output, EtherNet, PROFIBUS
Continuous handling equipment

Secure and fast object detection.

Due to maximal performance reserves, sensors made by Leuze electronic ensure the efficient and uninterrupted throughput of merchandise. The intelligent mounting technology of the sensors, the fast adjustment via a very bright light spot, and the easy integration via built-in field bus connectivity are the key for speedy commissioning.

Individually deployable reading principles, such as bar code, 2D code, and RFID guarantee a high performance. Our sensors offer secure detection and thus high availability of the systems in particular in case of partially damaged codes, glossy, dark or tape-wrapped packages, and rough environmental conditions.
Object detection

Cubic Sensors
5, 25B, 46B series

- 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
- Easy wiring for muting (one safety circuit for entry and exit), low installation effort, and price advantage with MSI-SR5 Safety Relay

Width/height measurement

Measuring Light Curtains

KONTURflex

- Measurement time < 25 ms (configuration-dependent)
- Beam resolutions 5, 10, 20, 40 mm
- System connection to PROFIBUS, CANopen, MODBUS, and RS232
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 pre-processing (x-, z-coordinates, extreme values)

Identification

Bar Code Readers

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

- Modular connection technology via pluggable connection hoods with M12 connector, clamp connection or fixed connection cable
- Models: line scanner, deflection and oscillating mirror
- Available as line and raster scanner
- Code reconstruction technology (CRT) enables the identification of damaged bar codes
- Read distances 20 – 700 mm
- Optional: display, variants of heating
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
- WEB Config: graphical user interface based on web technology integrated into 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 fragment 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 400mm
- Code fragment technology (CRT)
- Integrated autofocus function
- Read distances 500 – 1,750 mm
- “Tracking”-capable
Identification

Bar Code Readers
**MSPi systems, MSP systems**

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

**MSPi 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

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
- Protection class: IP 67
Identification

RFID Read/Write Systems
HFM 3500D, RFM 12/32/62

- Frequency: 13.56 MHz (HF) / 868 MHz (UHF)
- Max. read distance: 400 mm (HF) / 5000 mm (UHF)
- Continuous detection via trigger function and no-read, even in the case of failure
- Function adaptation by using the configuration stored in the device
- Time-optimized drive-by writing through pre-transmission of data to the writing 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, 4-sensor sequential muting
- Coupling of AS-interface networks
- Freely configurable system components (EMERGENCY STOP, OR, AND, switch-on or switch-off delays)
Recycling and return systems

Efficient and low maintenance.

Efficient and low-maintenance sensors are essential particularly for smaller systems that must achieve nearly 100% availability in daily operation. Reliable detection of multi- or single-use containers and the ability to guarantee exact counting – as expected by the operator of the devices – place high demands on the optical sensors.

Specially adapted sensors from Leuze electronic reliably support the manufacturers of return systems in this difficult task.
Product feed

Cubic Sensors
3B series

Fill level of container

Retro-reflective
Photoelectric Sensors
PRK 25B

Position monitoring of safety (sliding) doors

Safety Switches
S20, S200

- Safe detection of empty and full PET bottles
- Automatic contamination compensation extends the maintenance intervals and reports soiling.
- High availability through active ambient light suppression A²LS
- brightVision® for simple handling and fast commissioning

- Reliable detection of the container filling level
- Maximum performance reserves guarantee extended cleaning intervals
- High availability through active ambient light suppression A²LS
- brightVision for simple handling and fast commissioning

- Protective switch for universal application through turnable head (8 actuator approach positions)
- Protection class IP 67, small design
- Universal application through various actuators
- Self-centering through funnel-shaped insertion opening
- Contact sets for integration up to category 4 in accordance with EN ISO 13849
Optoelectronic Sensors
Cubic Series
Cylindrical Sensors, Mini Sensors, Fiber Optic Sensors
Measuring Sensors
Special Sensors
Light curtains
Forked Sensors
Double Sheet Monitoring, Splice Detection
Inductive switches
Accessories
Identification Systems
Data Transmission Systems
Distance Measurement
Bar Code Readers
RF-IDent-Systems
Modular Interfacing Units
Industrial Image Processing Systems
Optical Data Transmission Systems
Optical Distance Measurement/Positioning
Mobile Code Readers
Safety Sensors
Safety Systems
Safety Services
Safety Laser Scanners
Safety Light Curtains
Transceivers and Multiple Light Beam Safety Devices
Single Light Beam Safety Devices
AS-i-Safety Product Range
Safety Sensor Technology for PROFIBUS DP
Safety Switches, Safety Locking Devices, Safety Command Devices
Safety Relays
Sensor Accessories and Signal Devices
Safety Engineering Software
Machine Safety Services