



SMART
SENSOR
BUSINESS

Sensor solutions for
INTRALOGISTICS



NO WISHES LEFT UNANSWERED

Sensor solutions for intralogistics

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 intralogistics, 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.



CONTENTS

High-bay warehouse/
high-bay storage device

6



Continuous handling equipment

12



Telpher lines

20



Driverless transportation systems/
side-tracking skates

24



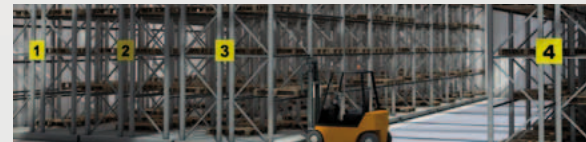
Cranes

28



Side-tracking shelves

32



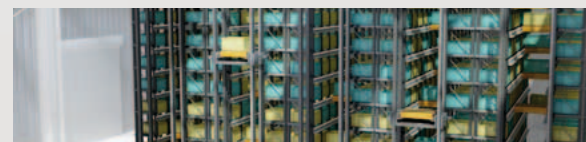
Order picking

34



Shuttle

36

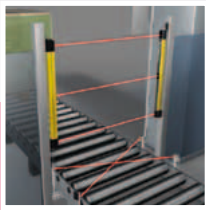


INTELLIGENT SENSOR SOLUTIONS FROM A TO Z

A high application know-how for nearly every application



Hand and finger protection —
MLC safety light curtain



Access guarding —
MLD 500 multiple light beam
safety device



Pallet detection —
Series 46C photoelectric
sensor

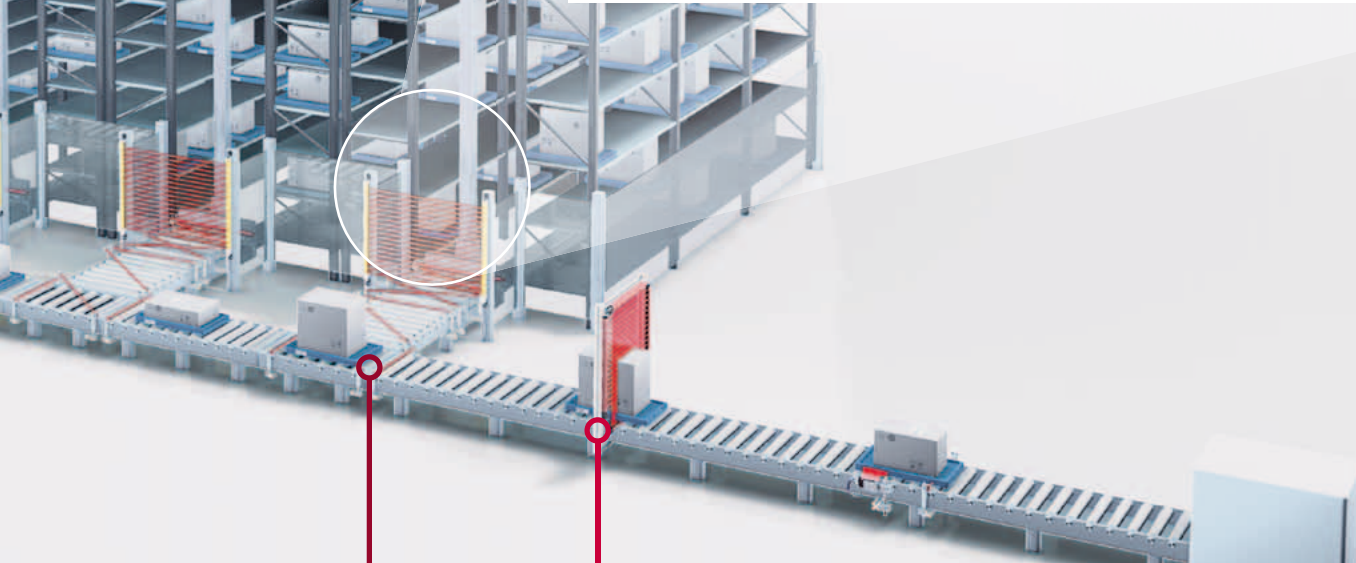
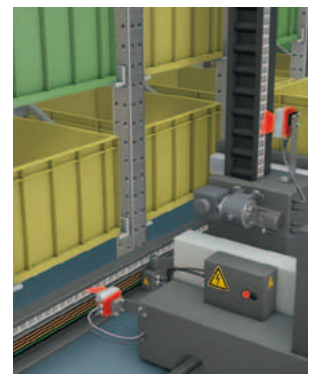
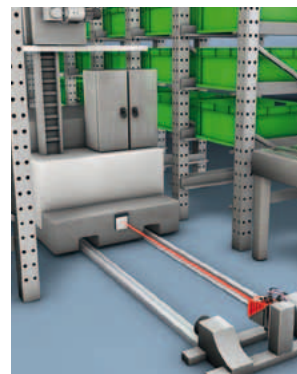
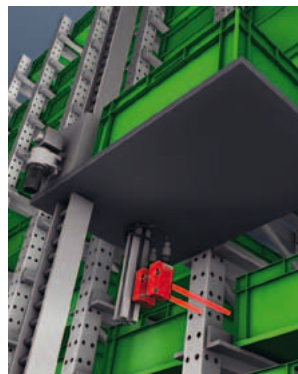


Container identification —
BCL 300i stationary bar code reader



Positioning in high-bay warehouses

- BPS 300*i* bar code positioning system
- AMS 300*i* laser distance measurement device
- DDLS 500 optical data transmission system
- Series 25B photoelectric sensors/scanners
- ODSL 96B optical distance sensor



Stop function and presence —
Series 5 photoelectric
sensor



Contour measurement and
projection monitoring —
CML 700*i* measuring light curtain

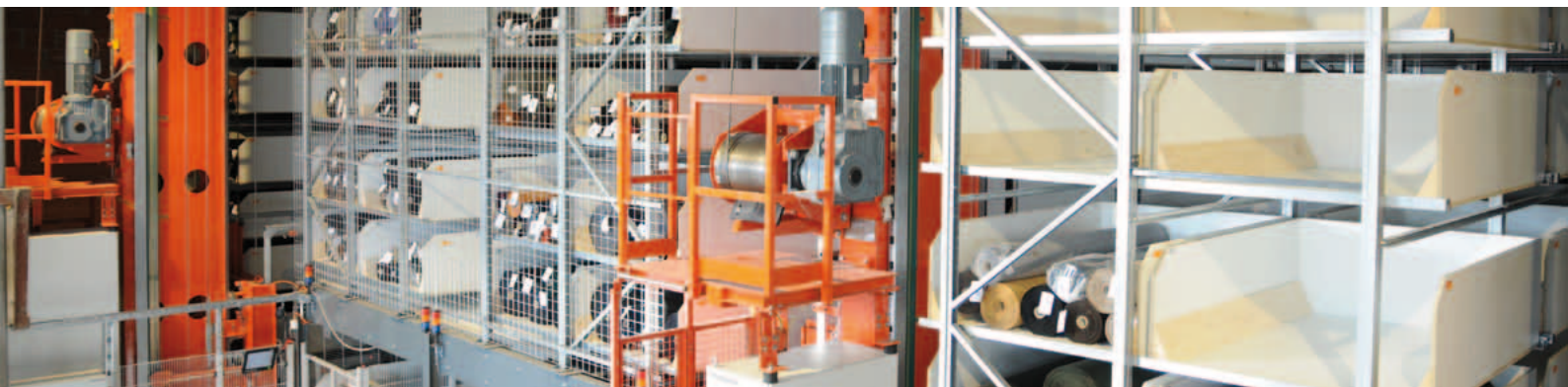
HIGH-BAY WAREHOUSE/ HIGH-BAY STORAGE DEVICE

Fast throughput at high availability

Our sensors ensure a high throughput through dynamic and precise positioning when merchandise is placed into or removed from storage, even with ambient light interference. High reproducibility and simple alignment of the sensors translate into extremely short commissioning and repair times. Optical

compartment occupation checks and push-through protection reliably ensure protection of the stored merchandise in practical use. A complete package of solutions designed for the requirements of low-temperature applications ensures maximum availability even under these conditions.





Positioning

Bar code positioning systems
BPS 300i



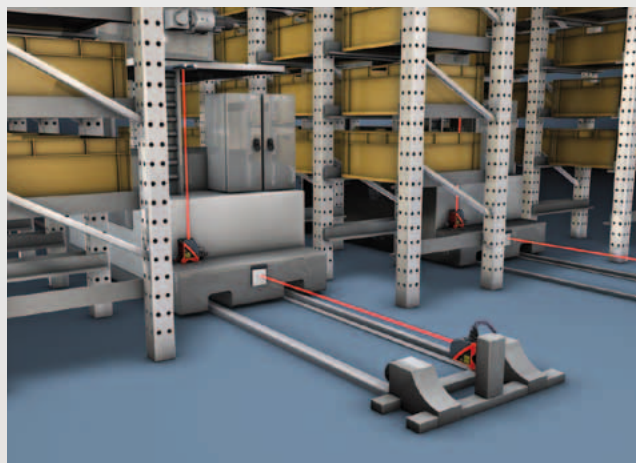
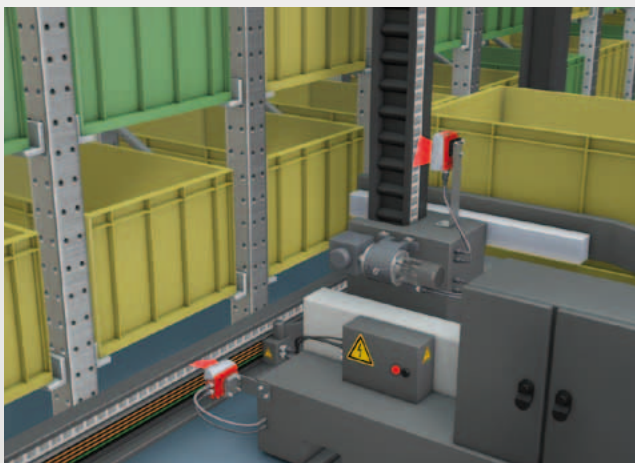
- Modularity: three selectable connection technologies, heating and display
- **availability** control: monitoring of availability, velocity and distance to the tape via the interface, via warning output or online via WebConfig
- **easy** handling: fast, secure mounting and position-neutral replacement through **easy** mount mounting technology
- Absolute positioning up to 10,000m with reproducible accuracy of ± 0.15 mm
- Curve-going, horizontally and vertically

Positioning

Laser distance measurement devices
AMS 300i



- Accuracy of ± 2 mm at 200 m (± 5 mm at 300 m)
- Speed output and monitoring
- Interfaces: PROFIBUS, PROFINET, INTERBUS, DeviceNet, EtherNet IP, CANopen, EtherCAT, Ethernet, SSI, RS 232, RS 422, RS 485
- Diagnostic and prefailure messages
- Display in 5 languages
- M12 connection technology
- Optionally with heating (down to -30°C)
- Interference-free parallel operation with DDLS 200 optical data transceiver
- Simple alignment through decoupling of fastening and alignment mechanics



Bay positioning

Energetic light scanners
HRTR 25B-XL, HRTR 46B



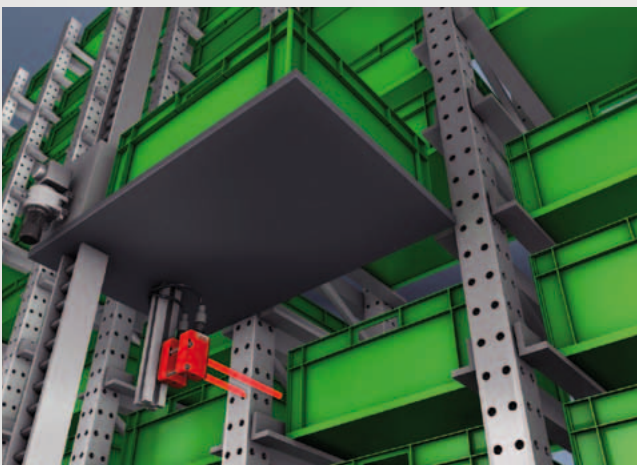
- Reliable detection of a wide range of profile types (e.g. sigma profile, etc.), colored and glossy surfaces
- Visible light spot for time-saving alignment
- Optimized beam path for reliable function on bays with holes

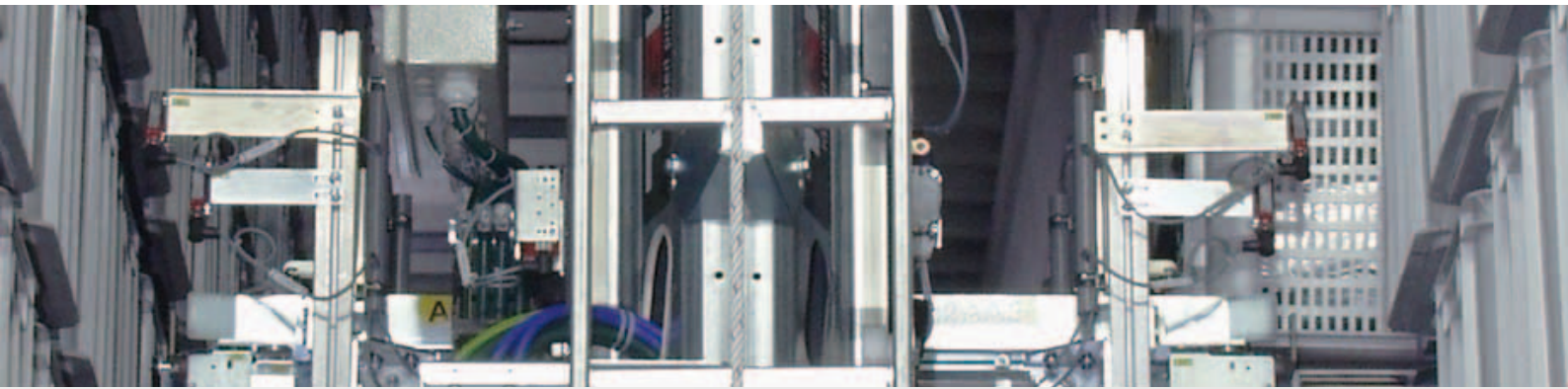
Shelf positioning Single or multi-depth

Energetic light scanners
HRTR 46B, HRTL 46B, HRTL 96B



- Simple alignment through brightly visible light spot
- Precise switching behavior independent of background conditions
- Reliable detection of a wide range of profile types





Compartment occupation check Push-through protection

Energetic light scanners
HRTR 46B-Teach, HRTL 96B



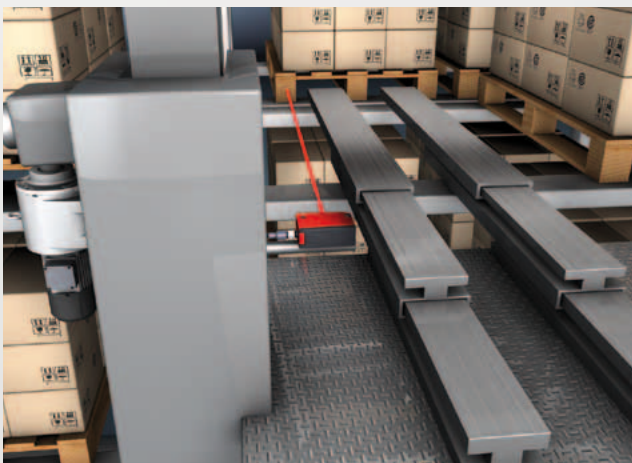
- Reliable detection of a wide range of pallets and containers
- Multiple switching points for multi-depth storage systems
- Reliable push-through detection by means of precise switching point (window function) and fast line teach

Clearance monitoring Load receptacle

Cubic series
3B, 5, 25B, 46B series



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



Safety gate monitoring and interlocking

Safety locking devices
L10, L100, L200 series



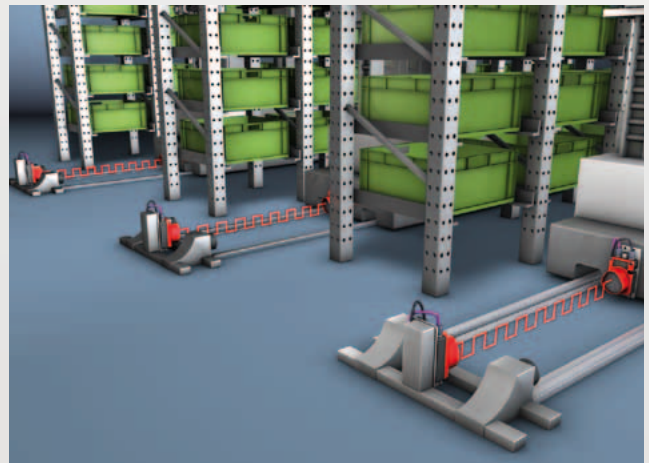
- Very high quality level, compact construction, 5 approach directions
- Wide selection of actuators for various applications
- Manual locking, switching-current reduction
- Magnetic- or spring-force actuation, auxiliary unlocking (L100, L200)

Data Transmission

Data transmission systems
DDLS 200



- Serial infrared data transmission
- All internationally important interfaces available (e.g., PROFIBUS, CANopen, DeviceNet, etc.)
- Multi-functional control panel with bar graph
- Optionally with heating (down to -30°C)
- Not affected by ambient light
- Interference-free parallel operation with AMS 300i laser distance measurement device
- Integrated "one-man" alignment device





Data Transmission

Data transmission systems
DDLS 500



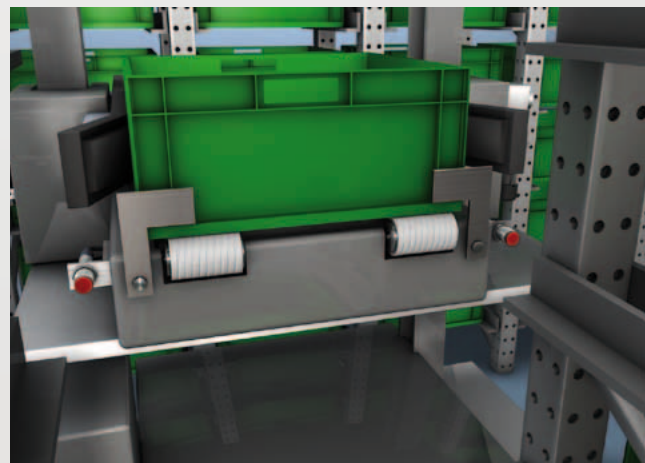
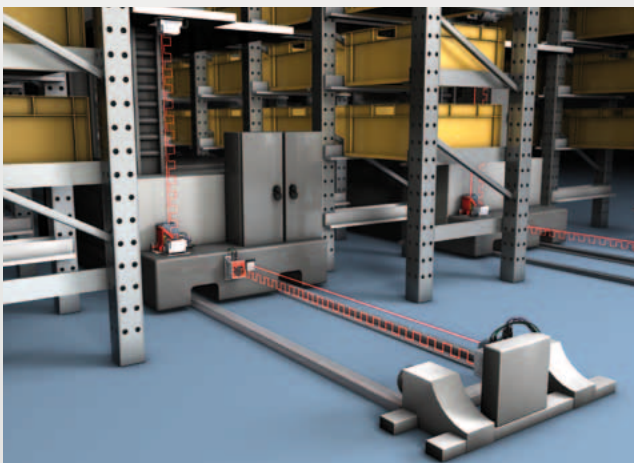
- 100 Mbit transparent data transmission of all Ethernet protocols such as PROFINET, EtherNet IP, EtherCat, etc.
- Laser alignment aid
- **availability** control: monitoring of availability, velocity and distance
- Interference-free parallel operation with DDLS 200 and AMS 300i
- Integrated "one-man" alignment device
- Optionally with heating (down to -30°C)

Transport safeguarding

Inductive switches
IS 212, 218, 230



- Extensive portfolio with designs up to M30
- Scanning ranges up to 40 mm
- Compact housing for space-saving installations
- Pressure-proof full-metal housing for extreme environments, also resistant to cleaning agents
- Short constructions available



CONTINUOUS HANDLING EQUIPMENT

Secure and fast object detection

Due to their high performance reserves, our sensor solutions ensure the efficient and uninterrupted throughput of merchandise. 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 commissioning. Individually deployable reading prin-

ciples, such as bar code, 2D-code, and RFID guarantee maximum flexibility. Our sensors offer reliable detection and thus high availability of the systems in particular in case of partially damaged codes, glossy, dark or stretch-wrapped packages, and rough environmental conditions.





Object detection with light-band

Retro-reflective photoelectric sensor
RK 46C.DXL3 VarOS



- 45–60 mm wide light-band with 7/14 mm resolution
- Reliable detection of all kinds of objects, even objects with openings
- Versatile use through two preselectable sensitivity levels and fine tuning with **easytune**
- Simple alignment via **brightvision**®
- One sensor for 50 mm detection – replaces multiple individual sensors or light barriers

Object detection with light beam

Photoelectric sensors
318B, 5, 25B, 28, 46B series



- Highest functional reliability even when soiled
- Simple alignment via **brightvision**®
- Simple fine alignment via **omnimount**
- Robust active ambient light suppression **A²LS**
- Functional reliability for stretch- or shrink-wrapped pallets, bundles and containers with openings

Detection of workpiece holders

Inductive switches
ISS 244, IS 240, IS 288

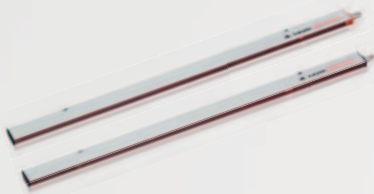


- Compact cubic constructions for space-saving integration
- LED displays with all-round visibility
- Large switching distances up to 40 mm



Projection monitoring of the palette load

Switching light curtains
VARIO B



- Affordable dimension and contour monitoring for the entire area
- Measurement field heights from 35–3100 mm
- Operating ranges up to 5 m
- Beam resolutions 5, 12.5, 25, 50, 100 mm
- Narrow design
- Plug & Play for ultra-simple installation
- Warning function when soiled

Personnel protection and E-Stop

AS-Interface Safety at Work
ASM1E, ASM2E



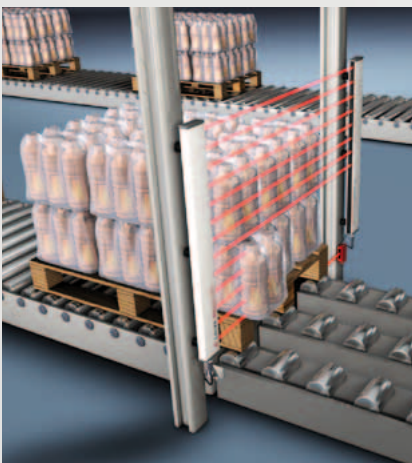
- High safety standard (type 4, SILCL 3, PL e)
- Coupling of AS-Interface networks
- Coupling of safety switches, E-Stop command devices, photoelectric sensors, safety light curtains
- 2-sensor parallel muting, sequence controlled 4-sensor muting
- Control of decentral AS-i actuators, shutdown of actuator groups

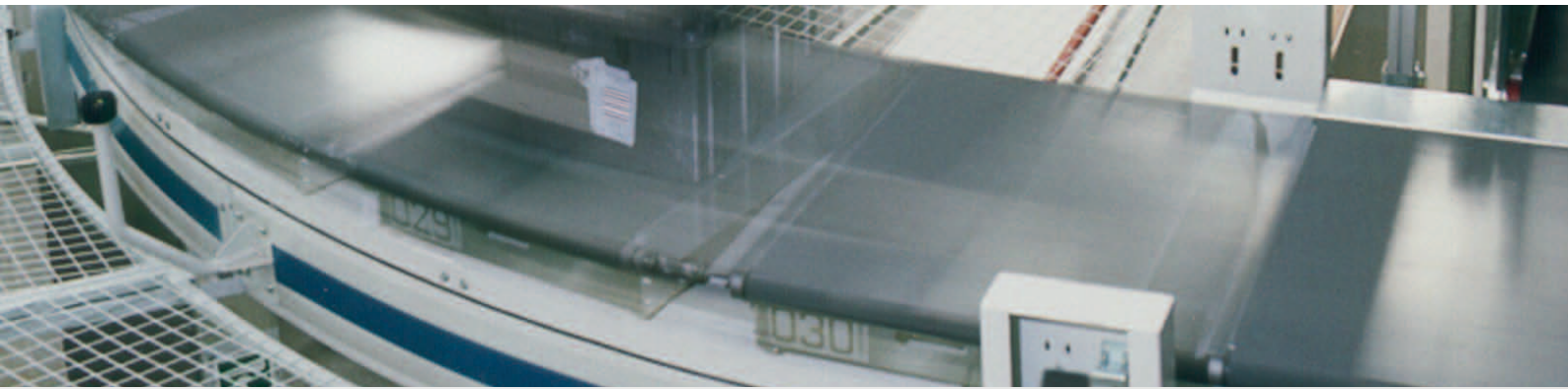
Hand and finger protection

Safety light curtains
MLC



- 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





Access guarding

Multiple light beam safety devices
MLD



- New 3-beam transceiver replaces more complex systems, making considerable reductions in costs possible
- Suitable for low-temperature environments down to -30°C
- Integrated muting functions – easy to configure without PC
- Simple device exchange by means of Plug & Play with no programming
- Integrated AS-i interface (optional)
- MLD 300: type 2, SILCL 2, PL d
- MLD 500: type 4, SILCL 3, PL e

Safeguarding of pallet transfer stations

Muting accessories
Sets



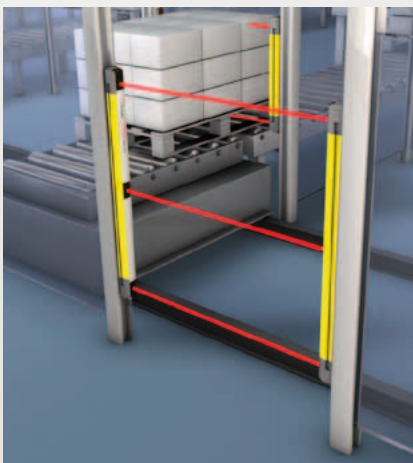
- Customized set variants for fast implementation of typical muting solutions (2-/4-sensor muting, parallel, sequential)
- Pre-mounted ready-to-use muting sensor sets facilitate installation
- Immediately ready for operation through optimal mechanical and electrical calibration
- Innovative design for modern machine and system construction

Manipulator control

Measuring light section sensor
LPS 36, LES 36, LxS 36 HI



- For measuring moving objects and for generating 3D information
- Calibrated system, measurement value display in mm
- Measurement range: 200–800 mm
- Length of laser line: max. 600 mm
- Measurement data transfer via Fast Ethernet, PROFIBUS, analog interface
- Optional incremental transmitter input
- Measurement time: 10 ms



Height measurement

Measuring sensors
ODS 96B,
ultrasonic sensors



ODS 96B

- For the precise measurement of moving objects
- Measurement time up to 1 ms
- Measurement range: 60–25,000 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

Width/ height measurement

Measuring light curtains
CML 700i



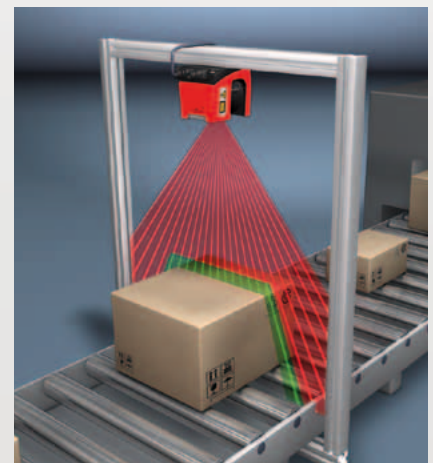
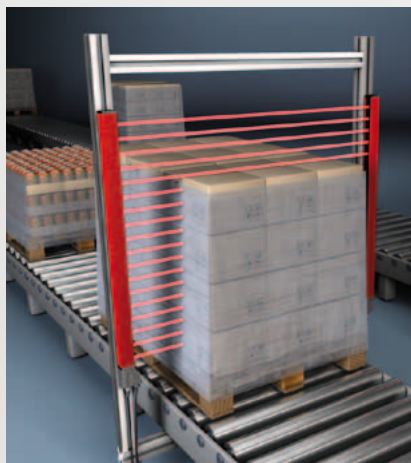
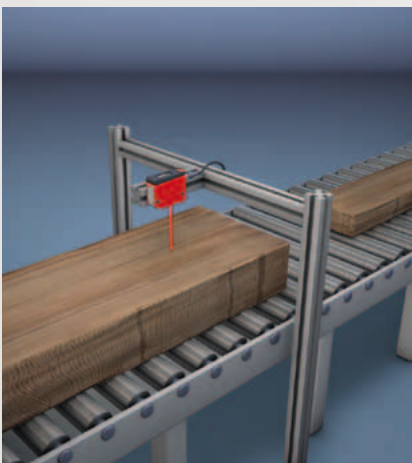
- Integrated PROFIBUS, CANopen, RS 485 and IO-Link interface
- Short response time per beam (10/30 µs)
- Flexible fastening concept with standard profile for uncomplicated mounting
- Easy-to-read display with robust membrane keyboard and bar graph display for easy alignment
- Maximum measurement field length of 3,000 mm
- Sturdy metal housing also for use in rough industrial environments

Height/position checking

Measuring sensors
ROD4-3x



- Detection range 0–65,000 mm
- High availability with short boot time and extended cleaning intervals
- Device parameters are stored in the connector (ConfigPlug), permitting ultra-easy device exchange without reconfiguration
- Convenient configuration software RODsoft permits 8 detection field pairs and 4 detection fields, simultaneously
- Scanning rate: 25 scans/s or 40 ms/scan
- Angular resolution 0.36°





Gap control

Measuring light curtains
CML 700i



- Integrated PROFIBUS, CANopen, RS 485 and IO-Link interface
- Short response time per beam (10/30 µs)
- Flexible fastening concept with standard profile for uncomplicated mounting
- 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

Fill level monitoring

Switching light section sensor
LRS 36



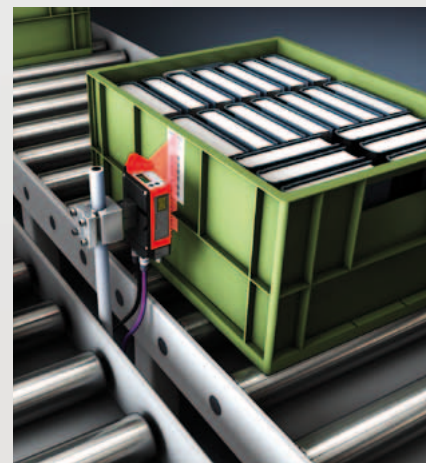
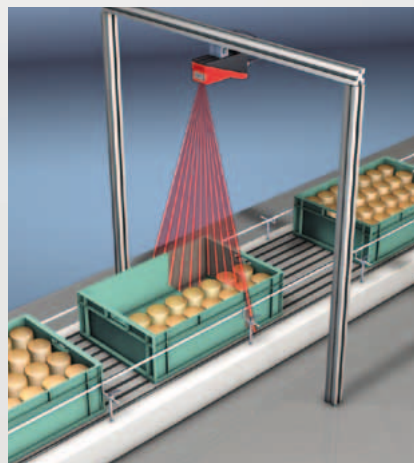
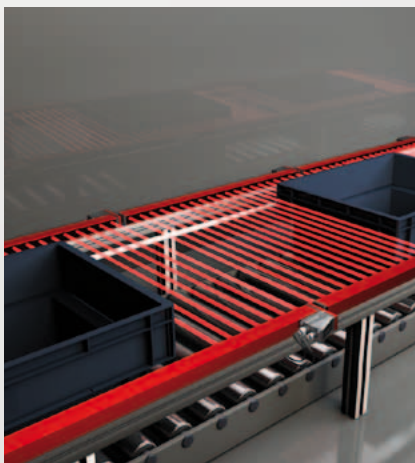
- Light section sensor for object detection
- Detection area: 200–800 mm
- Length of laser line: max. 600 mm
- Response time: 10 ms
- Up to 16 detection fields with logical linking option
- Up to 16 inspection tasks
- System connection via I/O, Ethernet
- Teach-in function

Identification

Bar code readers
BCL 300i, 301i, 304i, 308i, 348i, 358i



- Modular connection technology by means of pluggable connection hoods with M12 connector, clamp connection or fixed connection cable
- Integrated fieldbus connectivity: PROFINET/PROFIBUS/Ethernet/multiNet (RS 232/485/422)/Ethernet IP
- Models: line scanner, deflecting and oscillating mirror
- Available as line and 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 90, BCL 90 CAX



BCL 90

- High-end scanner
- Code reconstruction technology (CRT)
- Integrated autofocus function
- Smallest construction volume in its 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

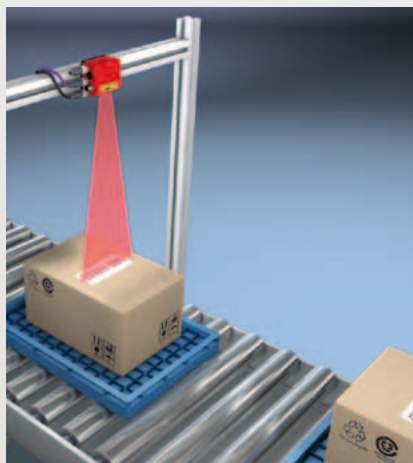


Identification

Bar code readers
**BCL 500i, 501i, 504i,
508i, 548i, 558i**



- Code reconstruction technology (CRT) permits the identification of partially destroyed and distorted codes, ensuring a high system availability
- Integrated fieldbus connectivity: PROFINET/PROFIBUS/Ethernet/multiNet (RS 232/485/422)/Ethernet IP
- 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 deflecting mirror
- Simple operation through clear, multi-lingual display
- Optionally with heating (down to –35°C)

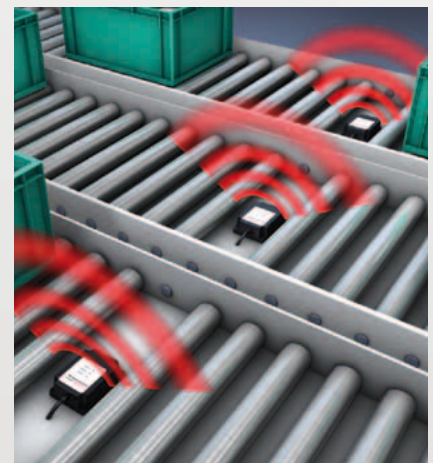


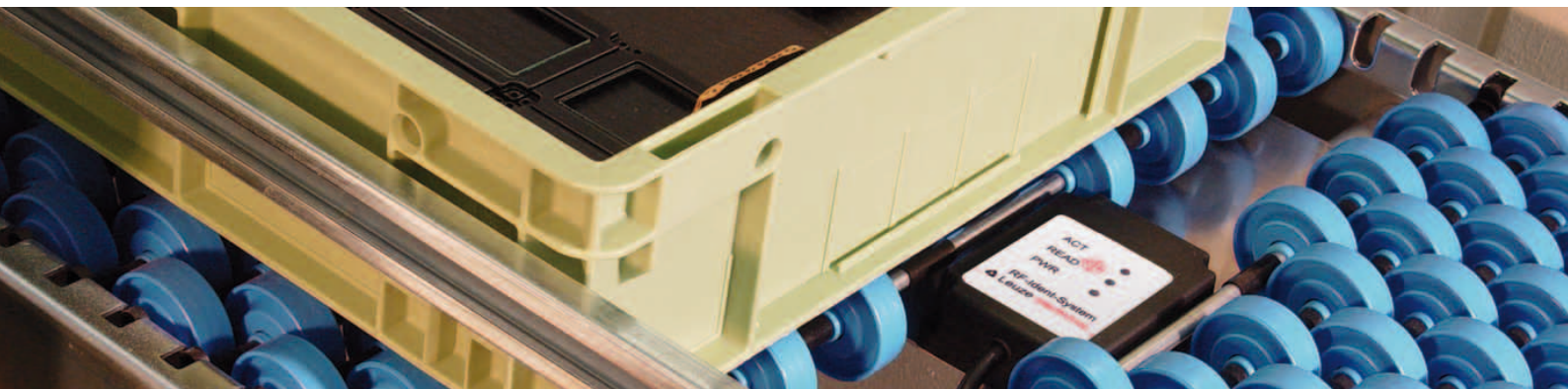
Identification

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

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

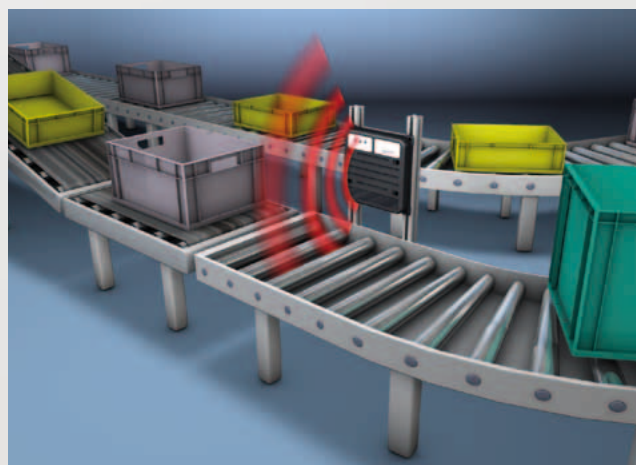
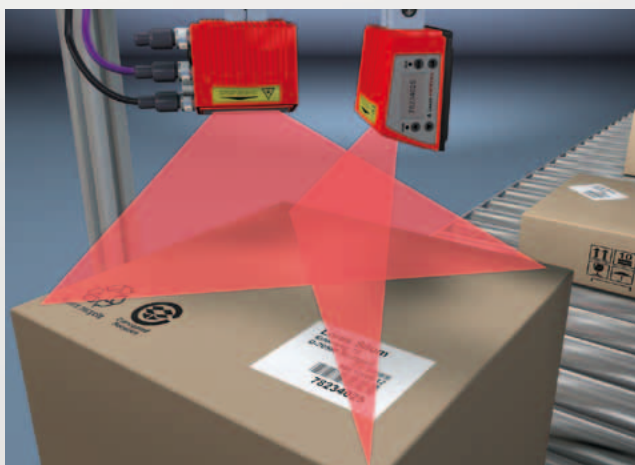
Identification

RFID read/write systems

HFM 3500D, RFM 12/32/62



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

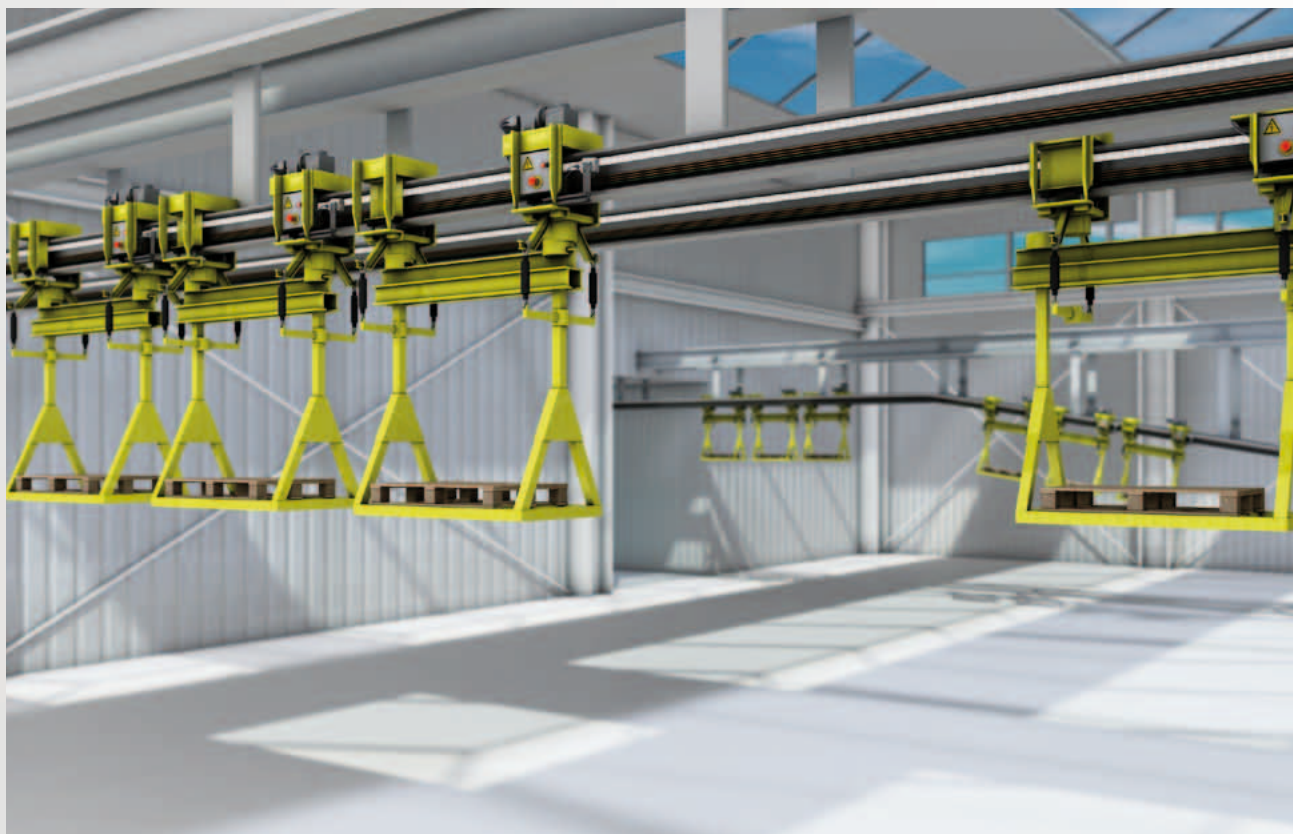


TELPHER LINES

Intelligent positioning and protection

The flexibility and efficiency of a rail-guided transport system depends significantly on the selection of the correct sensors. The bar code positioning system BPS ensures the precise positioning (down to the millimeter) in bends, on gradients and on track switches. Monitor-

ing sensors ensure reliable collision protection and safety laser scanners ensure the reliable protection of danger zones. Powerful identification technologies (bar code/2D-code/RFID) also increase productivity of the system.





Positioning

Bar code positioning systems **BPS 8**



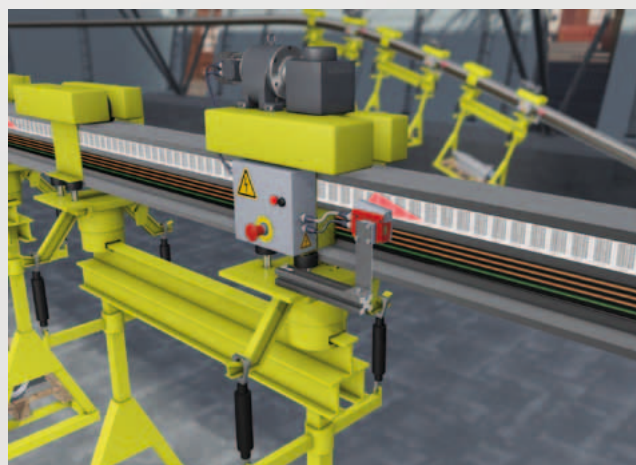
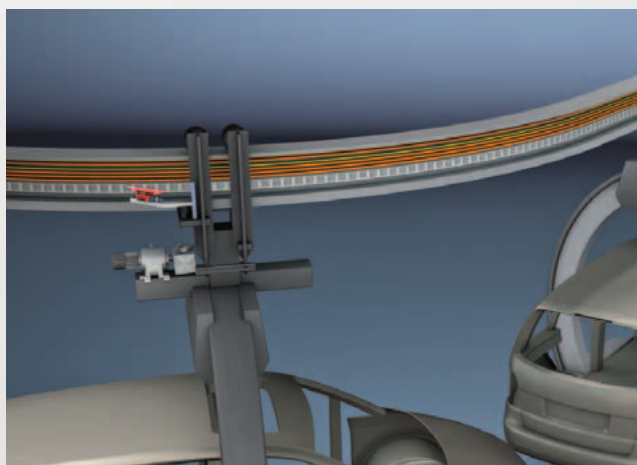
- Absolute positioning up to 10,000 m
- Curve-going, horizontally and vertically
- Degree of protection IP 67
- Simple attachment using special mounting device
- Various protocols on RS 232 or RS 485 via MA 8-xx
- Max. speeds up to 4 m/s
- M12 connection technology
- Special labels permit the precise and problem-free positioning on/at switches
- Accuracy relative to bar code tape 8 ± 1 mm

Positioning

Bar code positioning systems **BPS 300i**



- Modularity: three selectable connection technologies, heating and display
- **availability** control: monitoring of availability, velocity and distance to the tape via the interface, via warning output or online via WebConfig
- **easy** handling: fast, secure mounting and position-neutral replacement through **easy**mount mounting technology
- Absolute positioning up to 10,000 m with reproducible accuracy of ± 0.15 mm
- Curve-going, horizontally and vertically



Collision protection

Laser light scanner
HRTL 96B



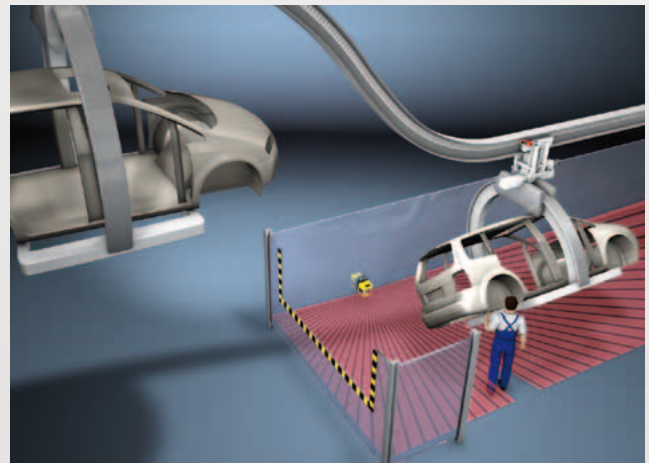
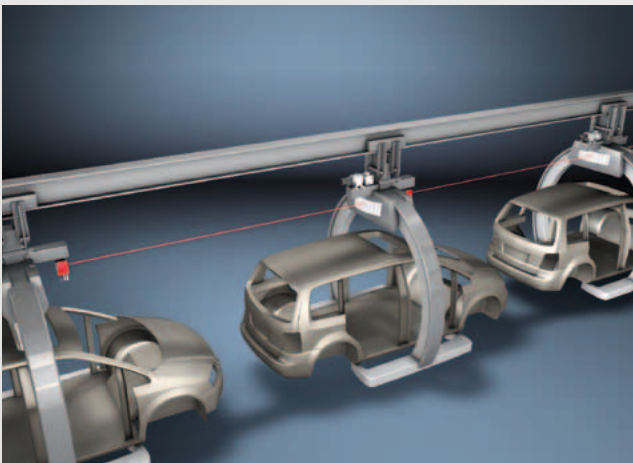
- Flexible selection of creeping movement and stop via two independently adjustable/teachable switching points
- Detection of reflective tape only, therefore not influenced by objects in the background or in the track area
- Scanning range limit: 0.1 – 30 m

Protection of the load pick-up and load drop-off areas

Safety laser scanner
ROTOSCAN RS4



- Guarding large danger zones in three gradations up to 6.25 m
- Type 3, SILCL 2, PL d
- Any protective/warning field contours are configurable
- Eight field pairs reversible during operation
- Automatic configuration at device exchange via intelligent ConfigPlug device plug
- Models with AS-i Safety at Work and PROFIsafe interface available
- Three function packages: Basic, Extended, MotionMonitoring





Identification

Bar code readers

BCL 500i, 501i, 504i, 508i, 548i, 558i



- Code reconstruction technology (CRT) facilitates the identification of partially destroyed and distorted codes, thereby ensuring high system availability
- Integrated fieldbus connectivity: PROFINET/PROFIBUS/Ethernet/multiNet (RS 232/485/422)/Ethernet IP
- 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 deflecting mirror
- Simple operation through clear, multi-lingual display
- Optionally with heating (down to -35°C)
- Read distances 200 – 2,400 mm

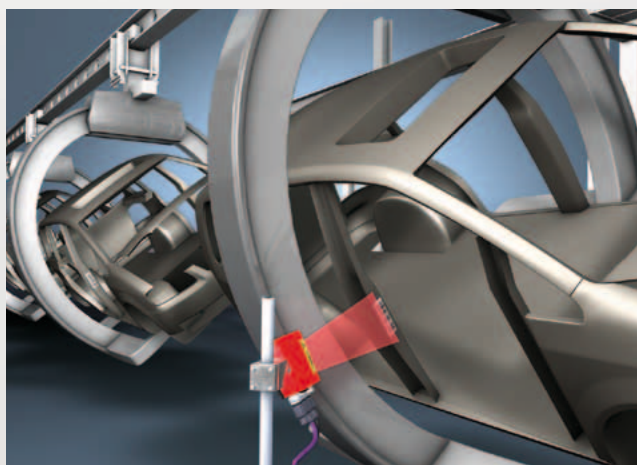
Identification

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
- Reliable identification without line-of-sight
- Flexible process control via data updates (write)
- Highly flexible connection options to fieldbus interfaces
- Wide range of devices and compatible transponders
- RFM 32 Ex-n with EX rating Zone 2



DRIVER-LESS TRANSPORTATION SYSTEMS / SIDE-TRACKING SKATES

Reaching the goal safely with sensors

The constantly increasing demands on the dynamics of floor-bound driverless transportation systems (DTS) in production plants require top performance from sensors. Particularly when many FTS are used simultaneously, they need to be “intelligent” in order to

avoid collisions and ensure smooth operation. Solutions from Leuze electronic protect danger zones, measure and transfer optical data from the vehicle and ensure real-time monitoring of the systems.





Data Transmission

Data transmission systems
DDLS 500



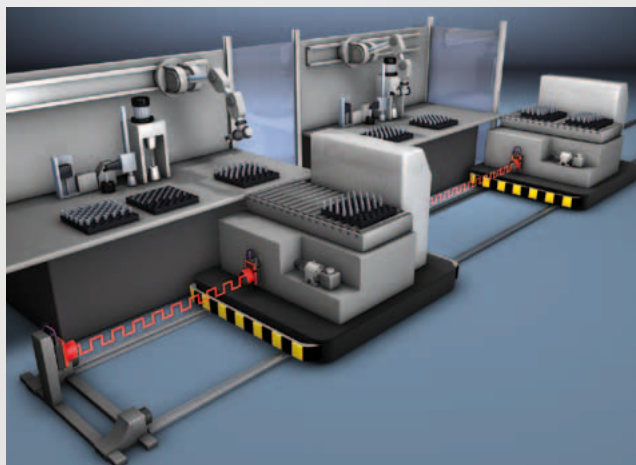
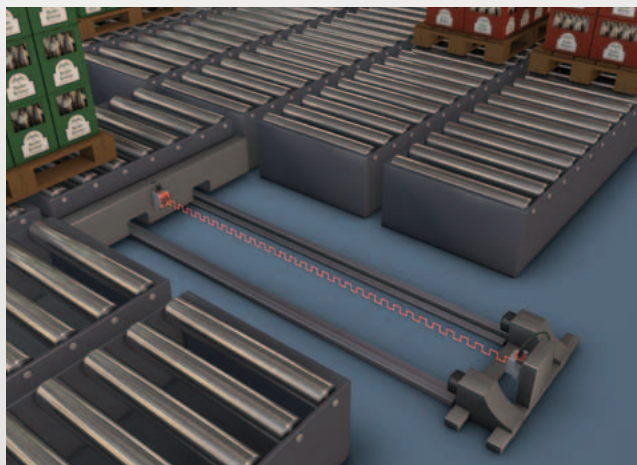
- 100 Mbit transparent data transmission of all Ethernet protocols such as PROFINET, EtherNet IP, EtherNet TCP/IP EtherCat, UDP, etc.
- Laser alignment aid
- **availability** control: monitoring of availability, velocity and distance
- Interference-free parallel operation with DDLS 200 and AMS 300i
- Integrated "one-man" alignment device
- Optionally with heating (down to -30°C)

Data Transmission

Data transmission systems
DDLS 200



- Serial infrared data transmission
- All internationally important interfaces available (e.g., PROFIBUS, CANopen, DeviceNet, etc.)
- Integrated "one-man" alignment device
- Multi-functional control panel with bar graph
- Optionally with heating (down to -30°C)
- Not affected by ambient light
- Interference-free parallel operation with AMS 300i



Transport-path safeguarding for driver-less transportation systems and side-tracking skates

Safety laser scanner
ROTOSCAN RS4



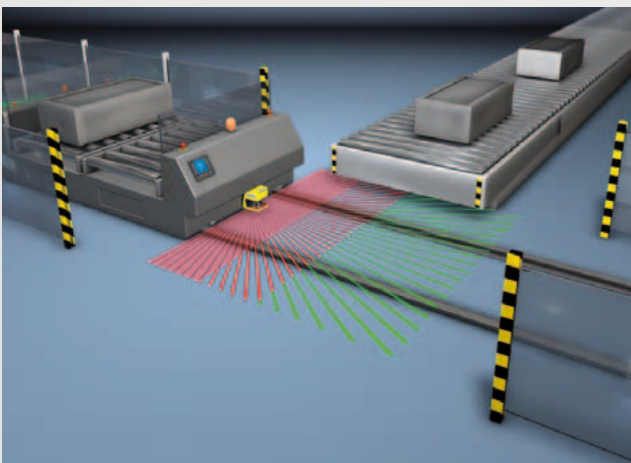
- MotionMonitoring function package for transport-path safeguarding, protective field up to 6.25 m, warning field 15 m
- Type 3, SILCL 2, PL d
- Any protective and warning field contours are configurable
- 8 different protective field pairs, protective field switchover during operation possible (state-/speed-dependent)
- Distance measurement for positioning
- Compact design and low power consumption
- Automatic configuration at device exchange via intelligent ConfigPlug device plug

Collision prevention/object measurement

Laser distance sensors
ROD4plus



- For collision avoidance in applications without danger-zone safeguarding
- Measurement range 0–65,000 mm
- Fast: measurement data transfer through Fast Ethernet 100Mbit, scanning rate 50 Hz
- Almost object-independent measurement
- Measurement data transfer via Fast Ethernet
- Integrated measurement data preprocessing (x-,z-coordinates, extreme values)





Positioning

Laser distance measurement devices
AMS 300i



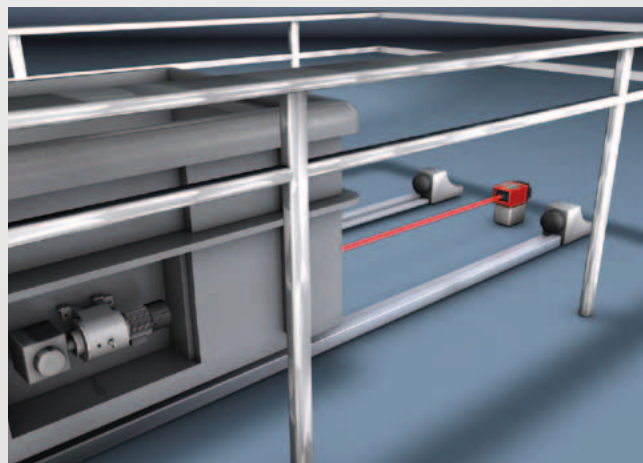
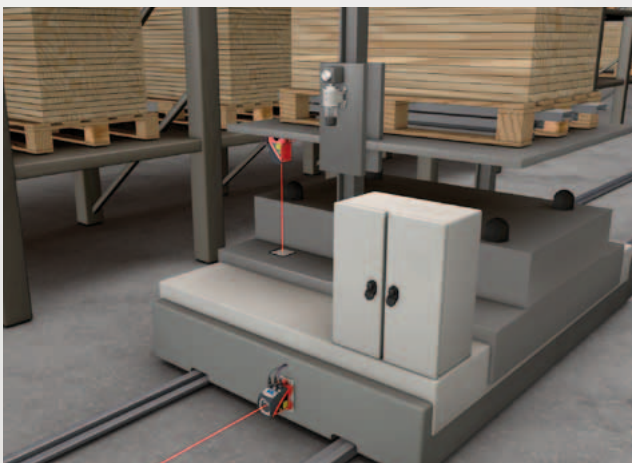
- Accuracy of ± 5 mm at 300 m
- Speed output and monitoring
- Interfaces: PROFIBUS, PROFINET, INTERBUS, DeviceNet, EtherNet IP, CANopen, EtherCAT, Ethernet, SSI, RS232, RS 422, RS 485
- Diagnostic and prefailure messages
- Display in 5 languages
- M12 connection technology
- Optionally with heating (down to -30°C)
- Interference-free parallel operation with DDLS 200 optical data transceiver
- Simple alignment through decoupling of fastening and alignment mechanics

Positioning

Measuring sensors
ODSL 30, ODKL 96B



- Measurement range 200–30,000 mm
- Measurement time up to 1.2 ms
- Resolution up to 1 mm
- Absolute measurement accuracy up to ± 2 mm
- Simple and fast operation via display on the device
- Can be used universally with or without reflector



CRANES

Smart solutions for automating crane systems

Optical sensors by Leuze electronic are available for a wide range of industrial crane systems. With the individual requirements of a wide range of applications in mind, Leuze electronic offers sensors for exact crane

positioning and manipulator control, and for reliable collision protection. The use of these sensors increases process safety, productivity and availability of the system, and contributes to the protection of people and materials.





Data Transmission

Data transmission systems
DDL5 500



- 100 Mbit transparent data transmission of all Ethernet protocols such as PROFINET, EtherNet IP, EtherNet TCP/IP, EtherCat, UDP, etc.
- Laser alignment aid
- **availability** control: monitoring of availability, velocity and distance
- Interference-free parallel operation with DDL5 200 and AMS 300i
- Integrated "one-man" alignment device
- Optionally with heating (down to -30°C)

Data Transmission

Data transmission systems
DDL5 200



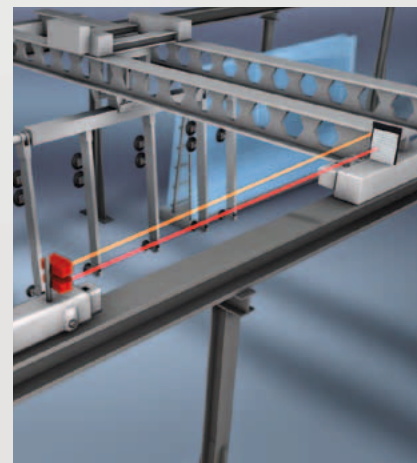
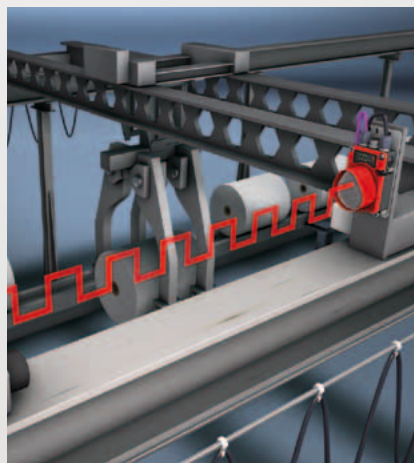
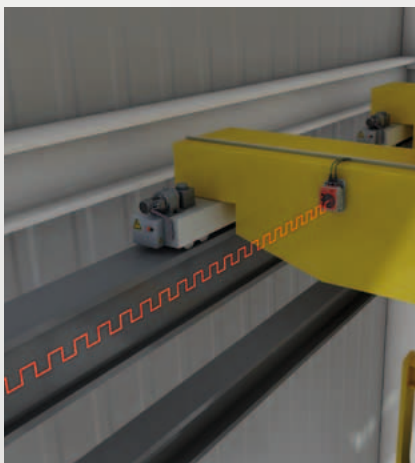
- Serial infrared data transmission
- All internationally important interfaces available (e.g., PROFIBUS, CANopen, DeviceNet, etc.)
- Integrated "one-man" alignment device
- Multi-functional control panel with bar graph
- Optionally with heating (down to -30°C)
- Not affected by ambient light
- Interference-free parallel operation with AMS 300i

Collision protection

Energetic light scanners
Retro-reflective photo-electric sensors
HRTL 96B, PRK 96



- Long range up to 25 m
- Robust housing made from metal or plastic
- High performance reserve guarantees high availability under extreme environmental conditions
- Very good ambient light suppression for uninterrupted operation
- Area monitoring via window function
- Function test via activation input



Final position monitoring

Cubic inductive sensors
IS 244



- Switching distances up to 40 mm for reliable detection at a distance
- Sensor field can be oriented in 5 directions
- Comfortable terminal compartment up to 2.5 mm²

Positioning

Bar code positioning systems
BPS 8



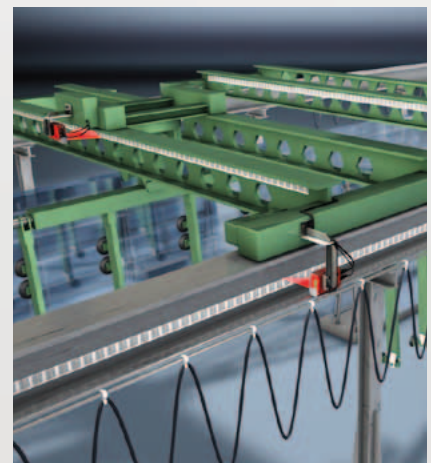
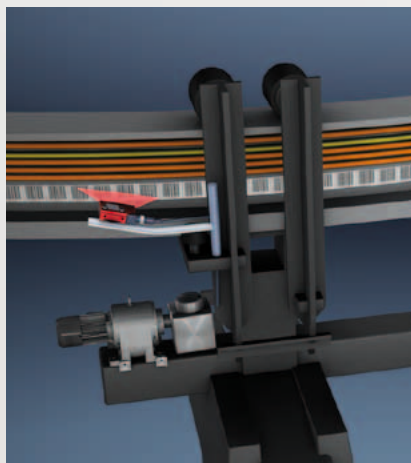
- Absolute positioning up to 10,000 m
- Curve-going, horizontally and vertically
- Degree of protection IP 67
- Simple attachment using special mounting device
- Various protocols on RS 232 or RS 485 via MA 8-xx
- Very compact construction
- M12 connection technology
- Customer-specific configuration
- Up to a max. speed of 4 m/s
- Accuracy relative to bar code tape ± 1 mm

Positioning

Bar code positioning systems
BPS 300i



- Modularity: three selectable connection technologies, heating and display
- **availability** control: monitoring of availability, velocity and distance to the tape via the interface, via warning output or online via WebConfig
- **easy** handling: fast, secure mounting and position-neutral replacement through **easy**mount mounting technology
- Absolute positioning up to 10,000 m with reproducible accuracy of ± 0.15 mm
- Curve-going, horizontally and vertically





Positioning

Measuring sensors
AMS 300i, ODSL 30

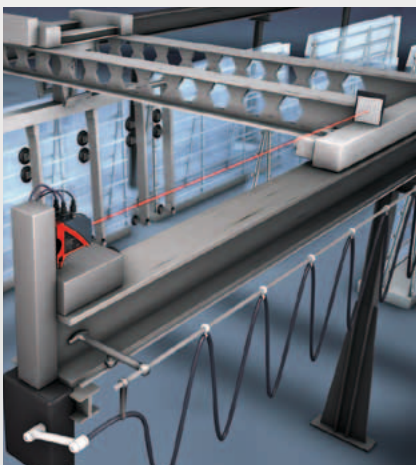


AMS 300i

- Absolute measurement accuracy of ± 5 mm at 300 m
- Speed measurement
- Interfaces: PROFIBUS, PROFINET, INTERBUS, DeviceNet, EtherNet IP, CANopen, EtherCAT, Ethernet, SSI, RS 232, RS 422, RS 485
- Diagnostic and prefailure messages
- Display in 5 languages

ODSL 30

- Measurement range 200–30,000 mm
- Measurement time: 30–100 ms
- Absolute measurement accuracy ± 2 mm

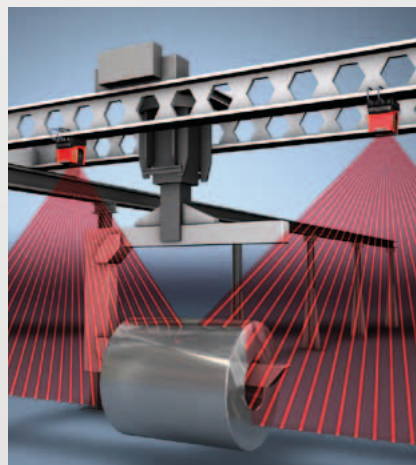


Manipulator control

Laser distance sensors
ROD4plus



- Measurement range 0–65,000 mm
- Large angular range: 190°
- Fast: measurement data transfer through Fast Ethernet 100 Mbit, scanning rate 50 Hz
- Robust, surface-independent measurement

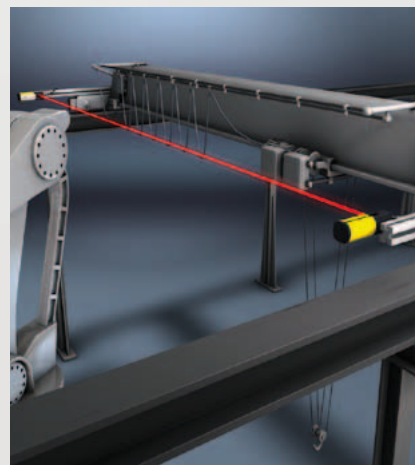


Collision protection

Single beam safety devices
MLD 500



- Configuration is performed simply by means of wiring, i.e. no software, PC or DIP switch are necessary
- Also, use at ambient temperatures as low as -30 °C is possible
- Options: integrated laser alignment aid, AS-i interface, 7-segment display
- Simple device exchange by means of Plug & Play with no programming
- Range: 100 m



SIDE-TRACKING SHELVES

The merchandise you want at the time you want it

Short access times and a high system availability are critical for the economic use of side-tracking shelves. This requires the precise positioning and synchronization of shelves and

drives. For safeguarding aisle and foot space and monitoring aisles, Leuze electronic offers tailor-made sensor solutions, too.





Foot space protection

Single beam safety devices
SLS 96, SLSR 46B



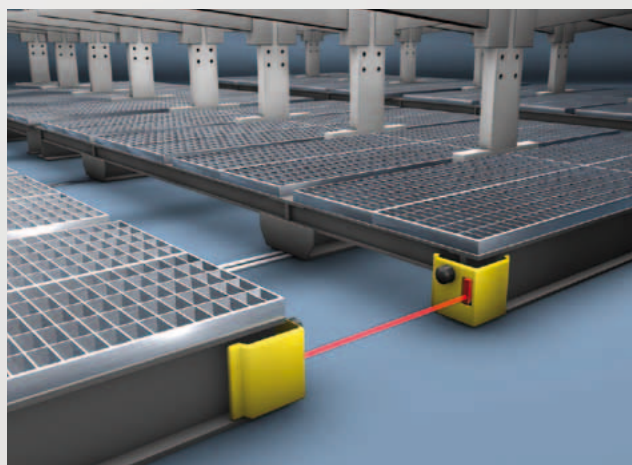
- Type 2 acc. to IEC/EN 61496 (in combination with an MSI-T safety monitoring device)
- Operating ranges up to 44 m (SLSR 46B) and up to 50 m (SLS 96)
- High performance reserve
- Wide voltage range 10–30 V
- Metal housing (SLS 96) or durable plastic housing with degree of protection 67
- Use of the SLSR 46B at temperatures as low as -30°C or SLS 96 with optics heating at temperatures as low as -20°C
- STOP1 delayed switch-off with MSI-TS safety relay

Positioning/synchronization

Energetic light scanners
HRTR 25B, HRTR 46B-Teach



- Precise positioning even for glossy objects
- High repeatability
- Versions with 2 individual switching points in one sensor

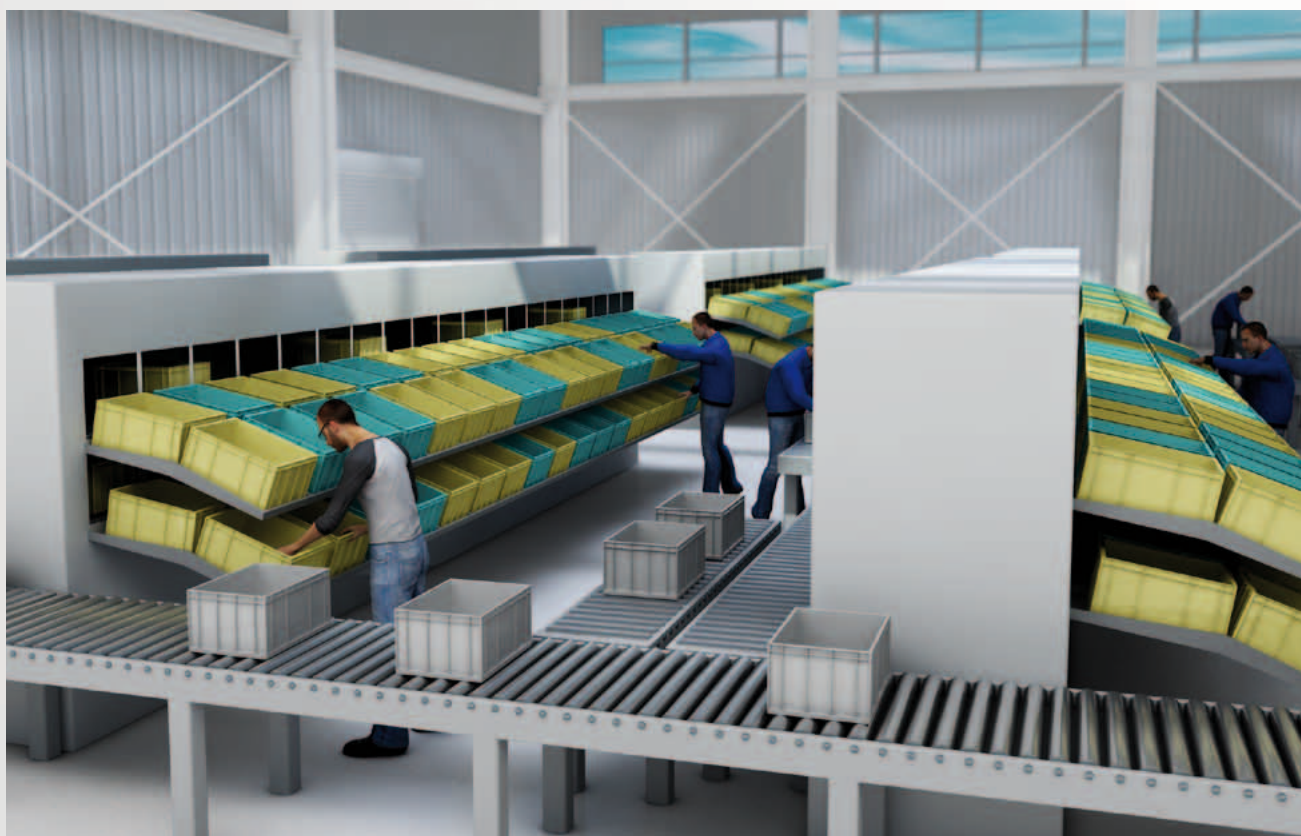


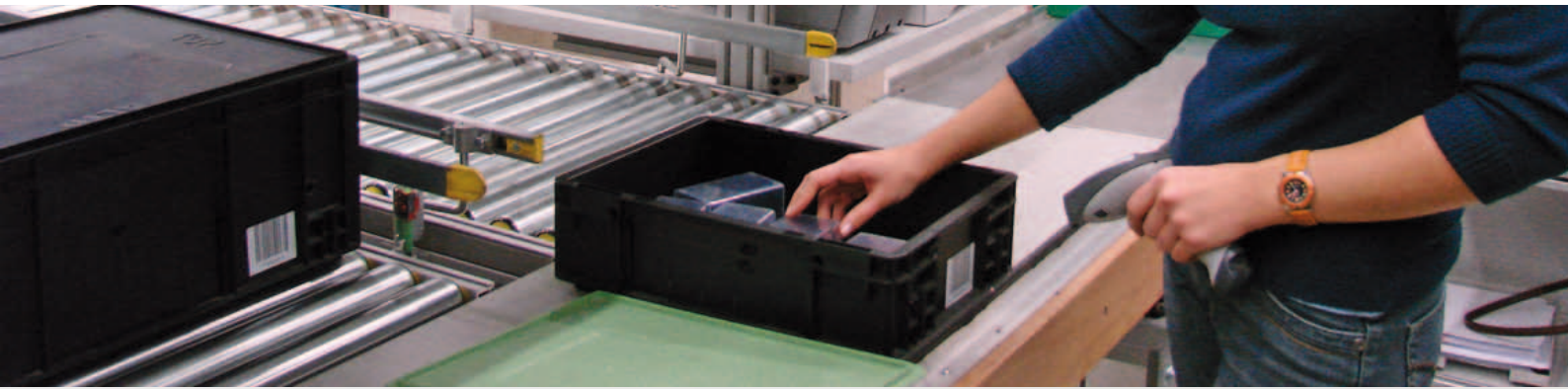
ORDER PICKING

The right product to the right addressee

Order picking requires the precise and reliable identification of merchandise for order-specific assignment. Hand-held readers of bar codes or highly modern Ident technologies in 2D-code and RFID technology offer ideal

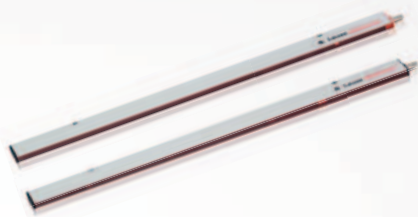
results for both manual and automatic identification. Our wide and powerful identification product portfolio increases performance and ultimately the cost-effectiveness of the system.





Pick & place

Switching light curtains
VARIO B



- Area-covering, effective access control
- Specified operating range of 5 m
- Beam resolutions 5, 12.5, 25, 50, 100 mm
- Plug & Play for ultra-simple installation
- Warning function (soiling, defect)

Identification (bar code)

Mobile code readers



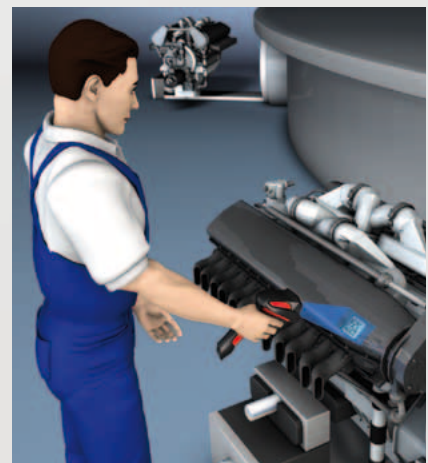
- Bar code reading by touch
- Rough industrial use, up to IP 54
- Also available as wireless radio model (Bluetooth)
- Wide range of hand-held readers for bar codes for a wide range of applications
- Extensive selection of accessories

Identification (2D-code / RFID)

Ident systems



- Wide range of readers for 2D-codes
- FIS 6170, HS 65x8 optimized for directly marked parts
- Mobile combi-devices for mixed operation (RFID+1D-/2D-code)
- Extensive selection of accessories
- Also available as wireless radio model (Bluetooth)

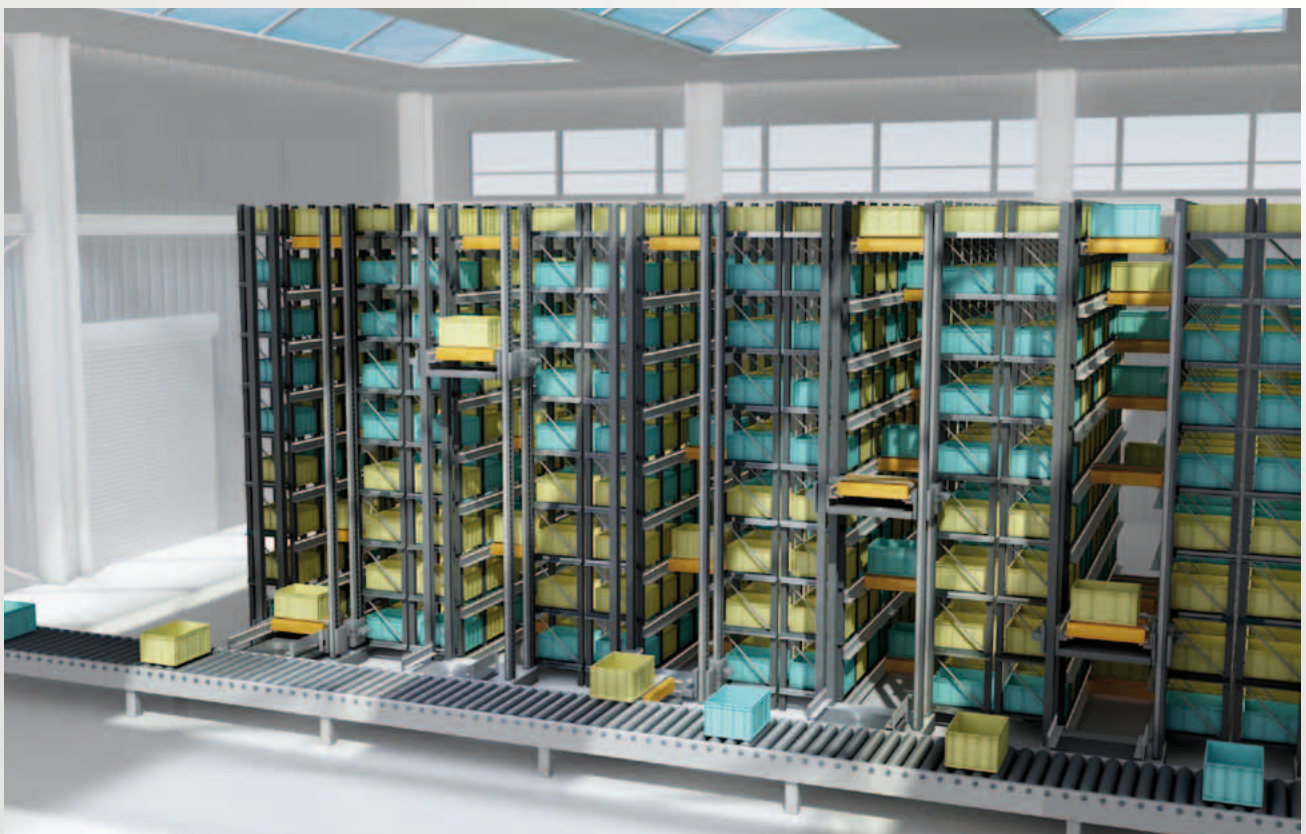


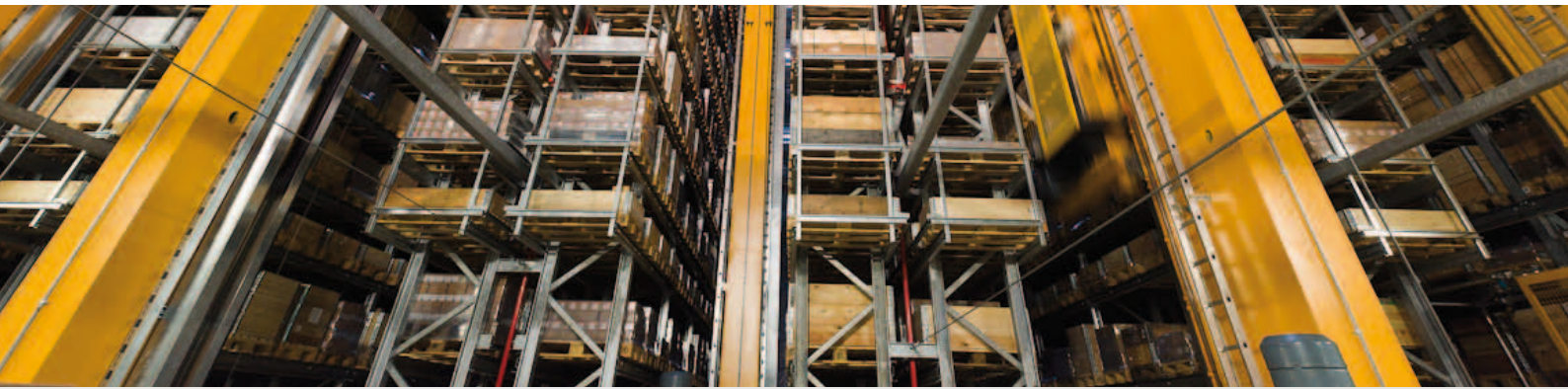
SHUTTLE

Quickly move goods in and out of storage

For fast and highly flexible shuttles, very reliable, space-saving and safe sensors are needed for fine positioning, the detection of free spaces, presence monitoring and for collision prevention. To move the individual shuttles to the optimum start position in the total system, sensors are used that maintain contact with

the stationary main computer and can thereby ascertain the current position in cycles on the order of milliseconds. For all of these tasks, we offer suitable sensors that, on the one hand, ensure availability and, on the other, can be easily and quickly mounted and commissioned.





Compartment fine positioning

Energetic light scanners
Retro-reflective photo-electric sensors
PRK 3B, HRTL 3B, PRK 5



- Reliable detection of a wide range of profile types
- Simple alignment through visible light spot
- Reliable detection for profiles with holes

Lifting system/lift

Sensors for positioning and data transmission
DDL5 500, BPS 300i, AMS 300i



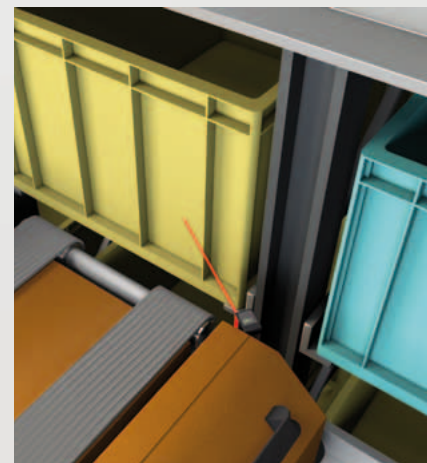
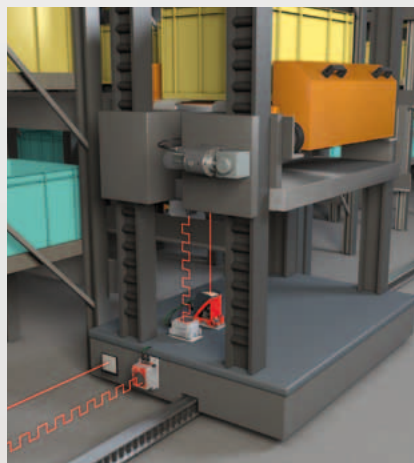
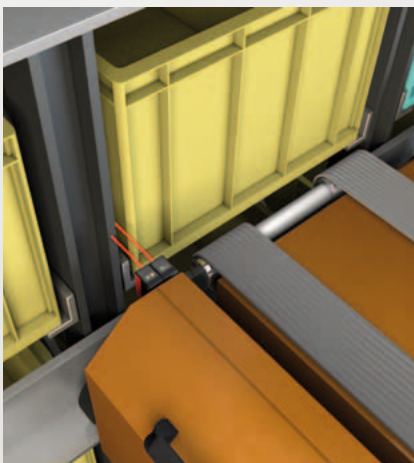
- Positioning with ± 1 mm accuracy
- Optical data transmission up to 100 Mbit
- Functional reliability for stretch-wrapped packages and containers with openings

Compartment occupation check

Energetic light scanners
HRT 3B, ET 5/FT 5



- Reliable detection of a wide range of containers
- Simple alignment via **brightvision**[®]
- High functional reliability even when soiled



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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