

the **sensor** people



Sensor solutions for the graphics industry



All our experience, black on white.

The sensor solutions for the graphics industry
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, applications 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 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.

Contents

Web printing

4



Sheet-fed printing

10



Further processing

16



Web printing

Smooth processes and faultless results.

Even during reel preparation and reel changes, sensors from Leuze electronic ensure a smooth process through high positioning accuracy and functional reliability. Bar code readers and image processing sensors also ensure reliable identification and assignment. During machine operation, splice-inspection devices, web-tear sensors and web-edge controls constantly monitor the print media and thereby guarantee faultless results. To ensure machine safety, single beam and multiple light beam safety photoelectric sensors, safety light curtains and safety laser scanners are used.





Reel preparation

Cubic Series
3B, 25B, 46B series



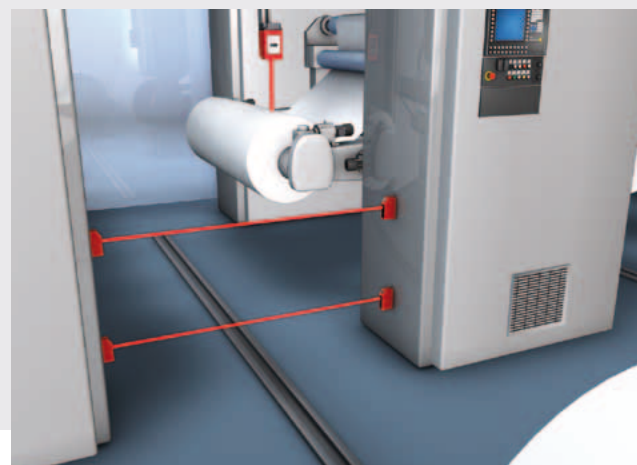
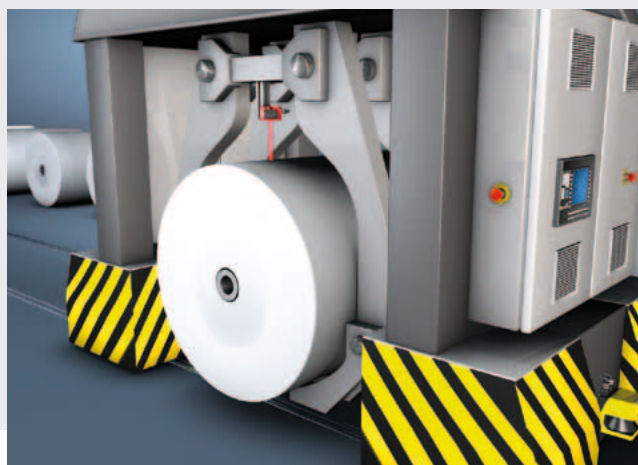
- Highest functional reliability
- Simple alignment via brightVision®
- Various ray geometries
- Reliable function with a wide range of surfaces

Reel changing

Measuring Sensors
ODSL 30



- Distance-measurement sensors for determining the reel diameter and the reel position
- Measurement ranges from 0.2–30 m
- Resolution 0.1 mm
- Accuracy ± 2 mm
- Reflection-independent distance information
- Measurement value display in mm and configuration option via the display
- Analogue output, serial interfaces, switching outputs



Safeguarding with muting

Multiple Light Beam Safety Devices MLD



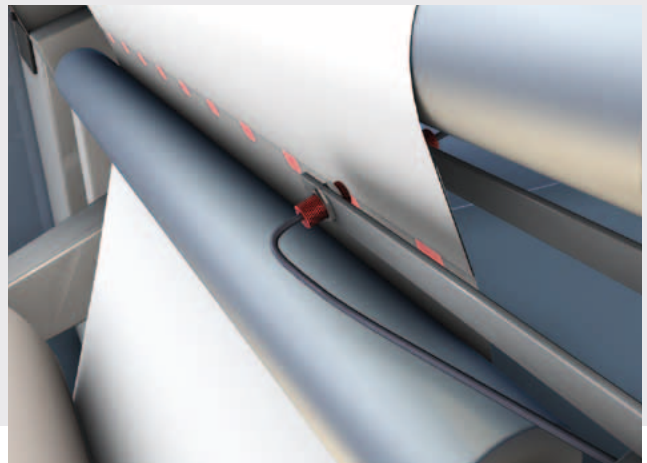
- 3- and 4-beam transmitter/receiver systems with partial muting, e.g. for reel handling
- Integrated Muting functions, no further muting modules required
- Easy configuration of muting modes without any PC
- Integrated, clearly visible muting indicator

Splice inspection

Ultrasonic Systems VSU 12



- Splice detection on paper or plastic webs independent of the surface color
- Web speeds up to 1,000 m/min (with 30 mm adhesive strip width)
- Automatic adaptation to the medium
- Warning output





Web edge control

Optical Position Sensors
OPS 774



- Measurement field length 20 mm
- Resolution <math><0.2\text{ mm}</math>
- Maximum linearity
- Reflection-independent edge detection
- Analogue output
- Soiling monitoring

Paper tear control

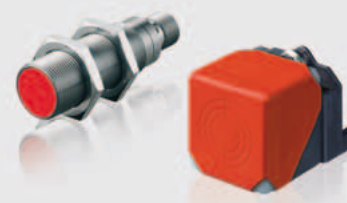
Diffuse Reflection Scanners
IHRT 8



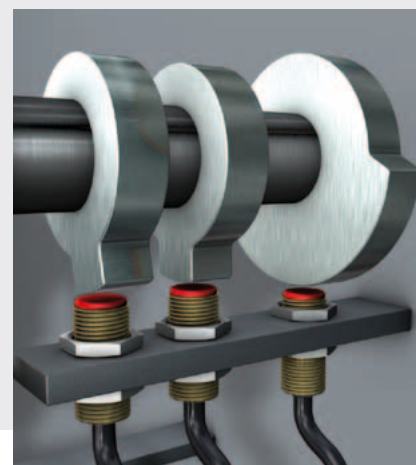
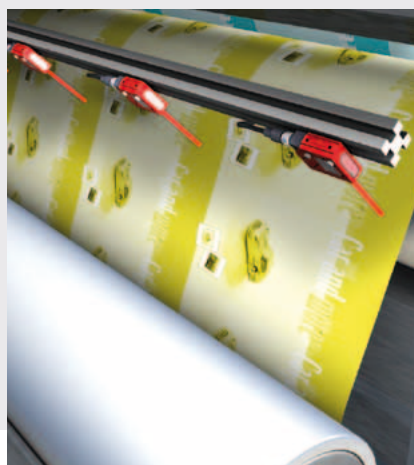
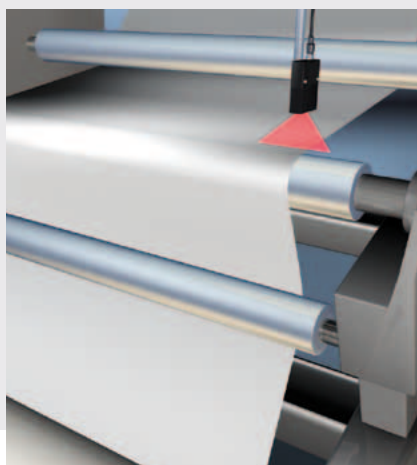
- Background suppression
- Permanently set scanning range
- Warning output in the event of soiling
- Wire break monitoring
- Resistant glass optics

Cam control

Inductive Switches
IS 218, 244



- High dynamics due to very short switching times
- Scanning range from 2.0 to 40 mm
- Robust metal versions
- Compact constructions for simple integration
- Status display visible from all sides



Copy inspection

Retro-reflective Photoelectric Sensors
IPRK 25B, HRT 46B



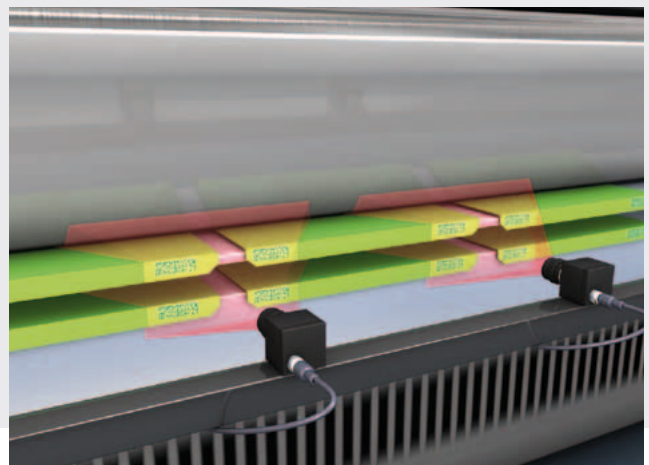
- Maximum performance reserves guarantee functional reliability
- brightVision® for easy handling and fast commissioning
- High availability though active ambient light suppression A²LS
- Reliable function even with glossy objects
- Warning output for contamination message

Automatic printing plate / register mark detection

Smart Cameras
LSIS 400i



- Detection of incorrect mounting through identification of printing plates
- Visualization of register marks in fast processes
- Presence and position inspection of register marks





Access protection at the printing group

Safety Light Curtains
SOLID-2, SOLID-2E



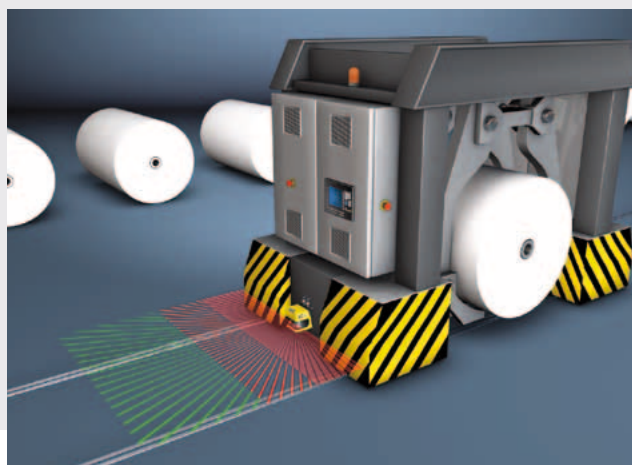
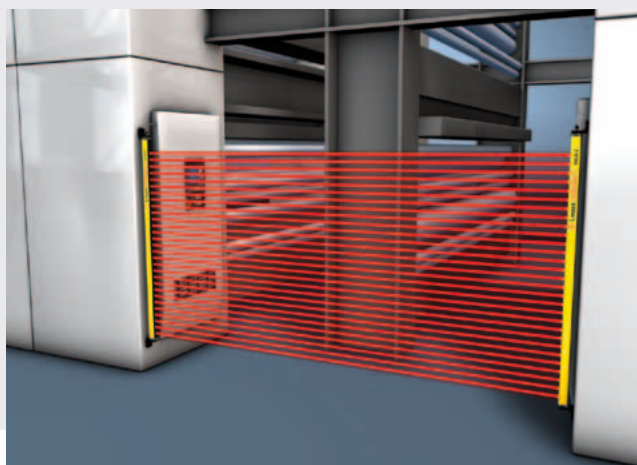
- Type 2 self-monitoring safety light curtain (Type 2, SILCL 2, PL d)
- Slim and robust
- Simple function selection through external wiring
- Maintenance-free through safety transistor outputs (OSSDs)

Transportation path safeguarding during reel transport

Safety Laser Scanners
ROTOSCAN RS4-4M



- Transportation path safeguarding on side-tracking skate for reel transport, protected field up to 6.25 m, warning field 15 m
- Type 3, SILCL 2, PL d
- Arbitrary protection and warning field contours configurable
- 8 different protected field pairs, protected field switching 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

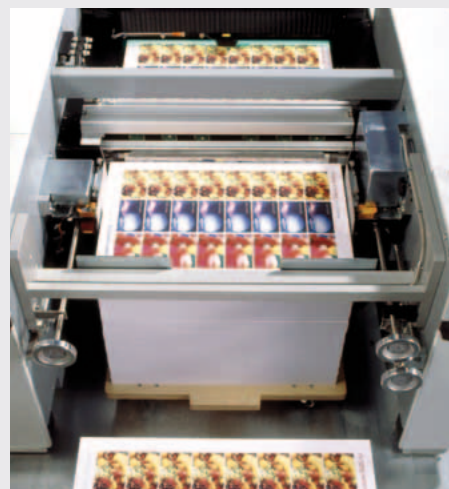


Sheet-fed printing

Reliable detection even with difficult surfaces.

In the sheet-fed printing sector, Leuze electronic sensor solutions excel in, among other areas, stack tracking, stack-height monitoring, double sheet testing and feed monitoring. All sensors also reliably detect and measure modern print media with glossy surfaces or transparent materials. Our measuring sensors specially developed for the industry can e.g. very quickly and precisely measure paper stacks and sheet edges. For danger-area safeguarding, point of operation guarding and access protection, safety light curtains, safety laser scanners and safety photoelectric sensors are used.

In “dusty” environments, capacitive sensors ensure trouble-free machine operation. Camera systems and identification systems with bar codes or RFID automate the peripheral equipment and setup operations.





Access protection at the delivery unit

Multiple Light Beam Safety Devices
SOLID-2/SF



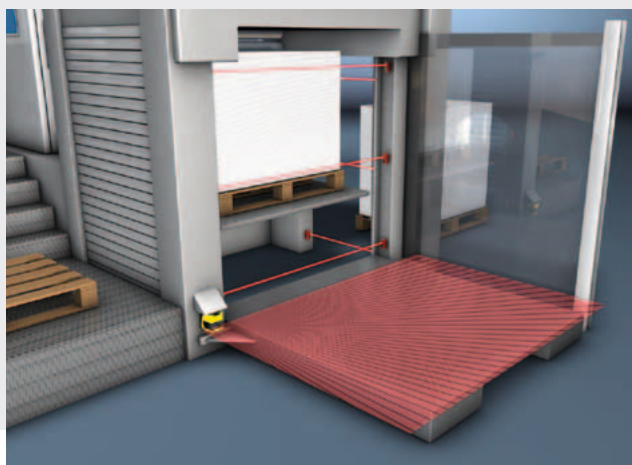
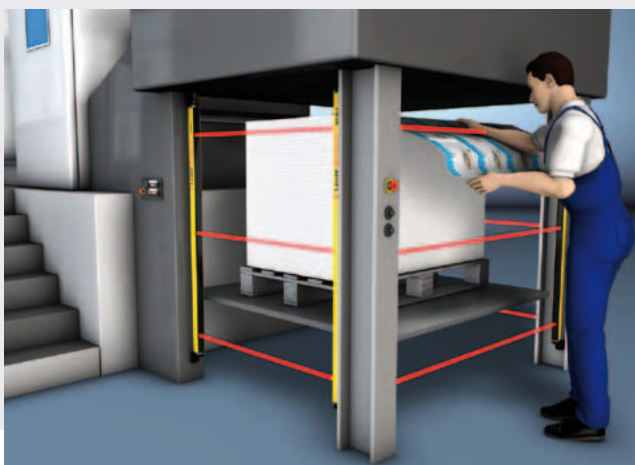
- Special solution for access protection at delivery units of sheet-fed printing machines
- Satisfies the requirements of EN 1010-1/-2
- Fast integration through simple alignment, wiring and mounting
- 2- or 3-beam, optionally also as a 4-beam system
- Muting of individual light axes, suitable for the typical operating procedures on delivery units
- Type 2, SILCL 2, PL d

Area safeguarding at the automatic stack changer

Safety Laser Scanners
ROTOSCAN RS4



- Safeguarding of expansive danger zones in three steps up to 6.25 meters
- Type 3, SILCL 2, PL d
- Arbitrary protection and warning field contours 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



Stack positioning during non-stop stack changes

Optical Distance Sensors
ODSL 96B



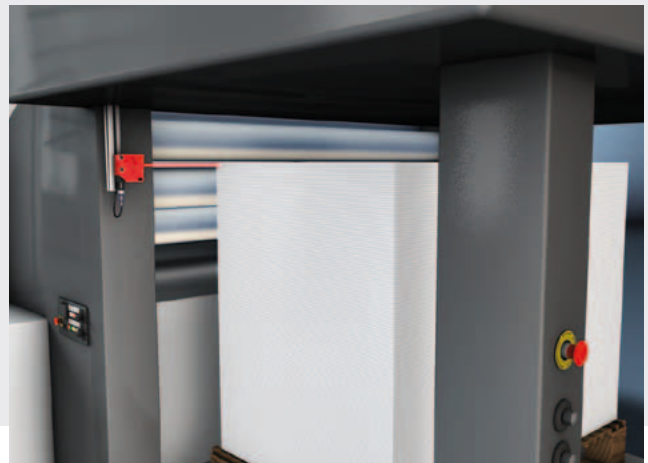
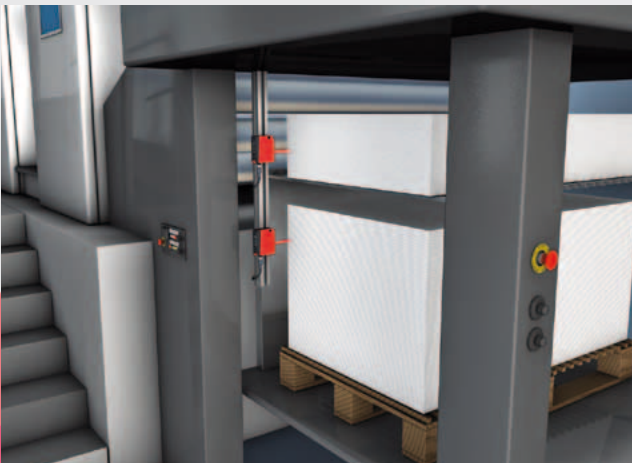
- Wide, rectangular-shaped light spot for measurements on objects with openings, e.g. corrugated cardboard
- Reflection-independent distance information
- Measurement range 150–1,200 mm
- Resolution 0.1 mm
- Measurement display in mm via OLED display directly at the sensor

Stack tracking

Optical Distance Sensors
ODSL 9



- Red-light laser
- Measurement range 50–650 mm
- Resolution 0.01–0.1 mm
- Analogue output 1–10 V and 4–20 mA
- 2 mutually independent, adjustable switching points
- Measurement value display in mm via LC display directly on the sensor





Stack-height detection

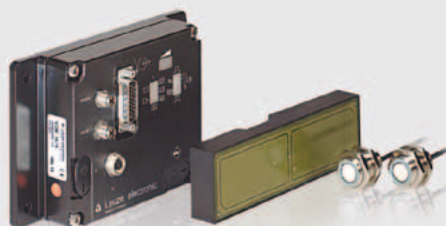
Stack-height Sensors
KA 958



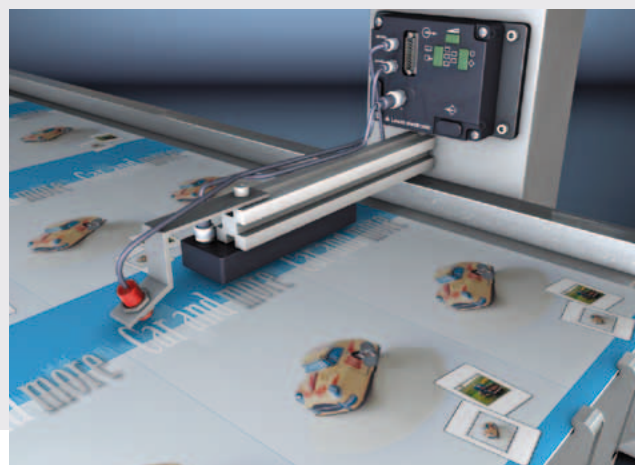
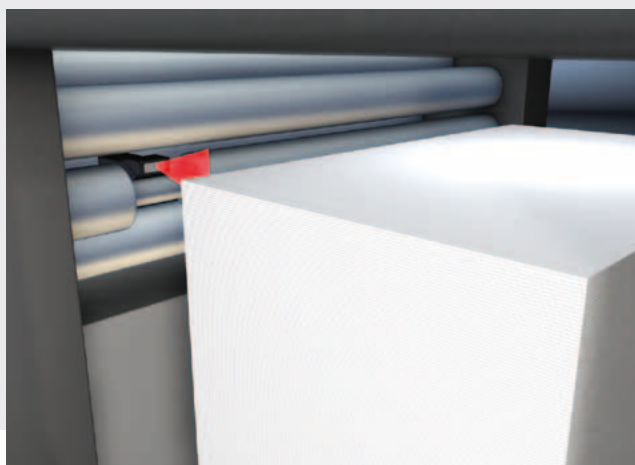
- Exact detection of top edge of stack
- Reflection-independent height detection
- Application-specific construction
- Application-specific light beam
- Measurement range 20 mm
- Resolution 0.2 mm
- Analogue output

Double sheet testing unit

Double Sheet Testing Systems
DB 14B, 12B



- Detection of paper, plastic, corrugated cardboard, foils, and transparent and printed media
- Working range from 20 g/m² to 2 mm thick cardboard or microcorrugated cardboard
- 1/2 or 2/3 sheet detection, respectively
- Automatic readjustment during the printing process
- Extensive diagnostic options
- Additional special functions



Feed monitoring

Diffuse Reflection Scanners
RT 707



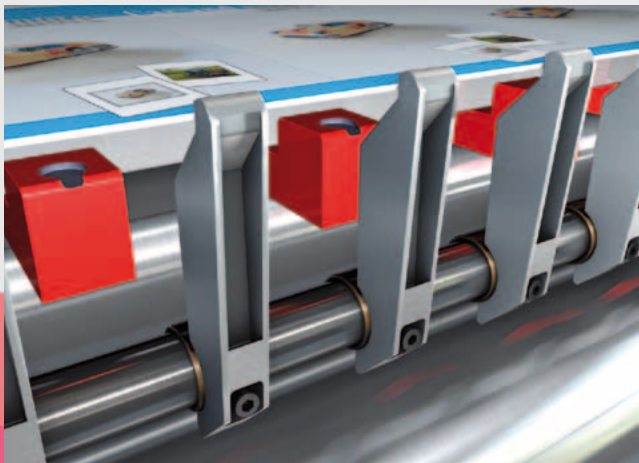
- Reliable detection of all print media
- Background suppression for covered feed
- System-specific construction
- High resistance to soiling
- Small construction volume
- Metal housing

Page-edge monitoring

Measuring Forked Sensors
GS 754B



- Measurement field 25 mm
- Resolution 14 μm
- Current, voltage or serial interface analog output
- Teach-in function, switching or warning output
- Detection even of transparent media





Missing sheet inspection

Retro-reflective Photoelectric Sensors
IPRK 18



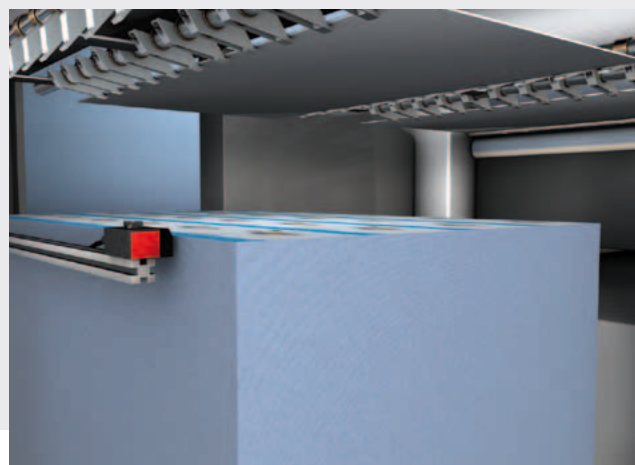
- Reliable detection of transparent, printed or glossy foils
- Intelligent sensor with storage of signal states
- Visible red light
- Warning output
- Trigger input
- Robust metal housing

Stack lowering

Capacitive Sensors
KK 05



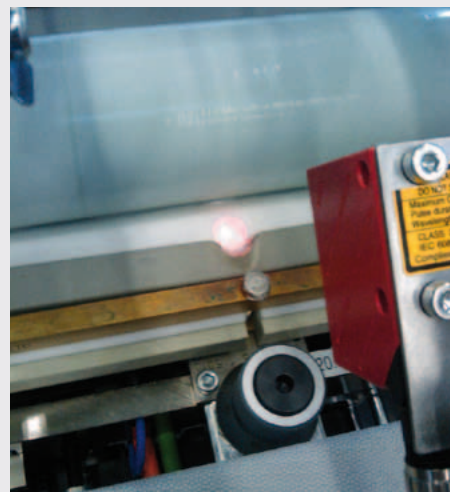
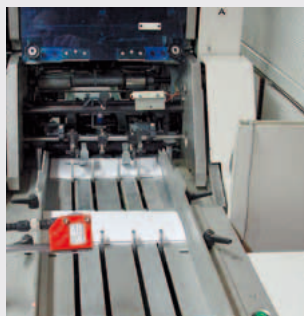
- Capacitive sensor for mass detection
- Resistant to soiling
- Switching state display
- Plug connection



Further processing

Reliable all the way from printing to the final product.

After the material has been printed, sensor systems from Leuze electronic are also used during further processing, such as the capacitive and ultrasonic double sheet testing units used in flat-bed presses. Sheets are checked for presence in cutting machines, folding machines and book-binding machines by sensors which can faultlessly detect a wide range of surfaces. To safeguard dangerous machine processes, safety light curtains and single beam safety devices are also used.





Double sheet testing unit

Double Sheet Testing
Systems

DB 112B



- Detection of paper, plastic and metal foils
- Transparent and printed media
- Working range 20–800 g/m²
- Integrated alignment aid
- Extensive diagnostic options
- Small ultrasonic sensor heads in M12 construction

Double sheet testing unit

Ultrasonic Forked Sensors

GSU 710



- Detection of paper, plastic and metal foils
- Transparent and printed media
- Working range 20–800 g/m²
- Ready-aligned system
- Very easy mounting
- Best cost/performance ratio

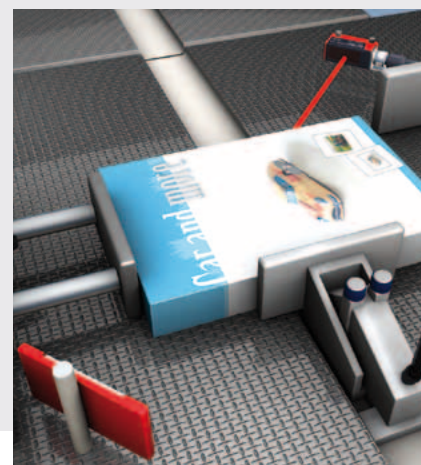
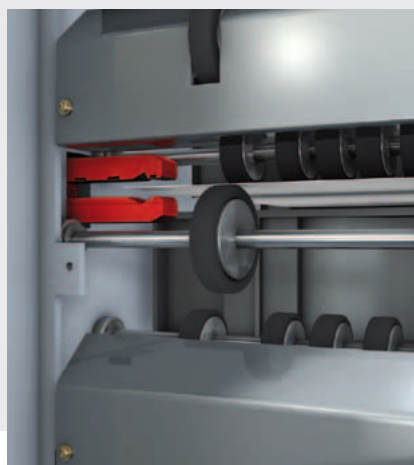
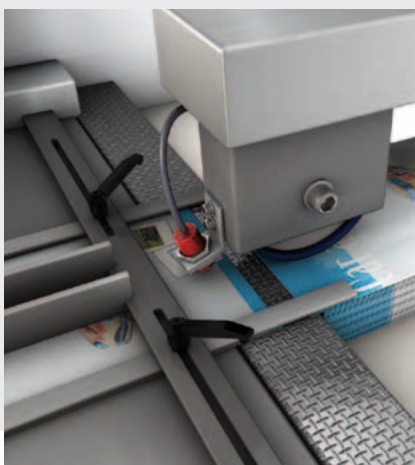
Presence monitoring

Retro-reflective Photo-
electric Sensors

PRK 3B



- Maximum performance reserves guarantee reliable object detection even with small or misadjusted reflectors
- brightVision® for easy handling and fast commissioning
- Reliable detection of various materials, even transparent or printed foils
- Detection of stretch- or shrink-wrapped objects
- Laser device with autocollimation principle and switching frequency of 2,000 Hz available



Product counting

Diffuse Reflection Scanners
HRTR 3B



- Excellent black/white behaviour
- Exact edge detection even with printed products
- High switching frequency of 1,000 Hz for precise positioning
- Exact scanning range adjustment via 8-turn potentiometer
- Large adjustment range from 5–200 mm
- Version available with small light spot (4 mm at distance of 100 mm)
- brightVision® for easy handling and fast commissioning



Hand/finger protection on paper cutting machines

Safety Light Curtains
SOLID-4cutter



- Custom safeguarding acc. to EN 10103
- Type 4, SILCL 3, PL e
- Uncomplicated connection, simple mounting
- Can be adjusted to all types of housing forms as an installation model

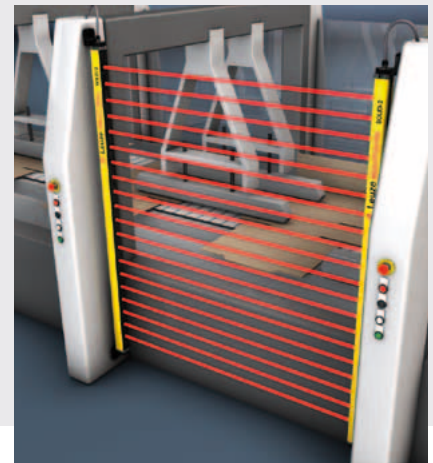


Access protection at folding/gluing machines

Safety Light Curtains
SOLID-4E



- Type 4 self-monitoring safety light curtain (Type 4, SILCL 3, PL e)
- Slim and robust
- Simple function selection through external wiring
- Maintenance-free through safety transistor outputs (OSSDs)





Identification

Bar Code Readers
BCL 8



- Constantly high scanning rate (600 scans/s) facilitates reliable reading with fast applications
- Reads all common 1D codes and Pharmacodes
- M12 connection technology to BCL 8 and MA 8.1 connector unit
- Robust industrial design in metal housing – IP 67
- Integrated functions for very simple commissioning
- Various optics models and comprehensive accessories

Identification

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



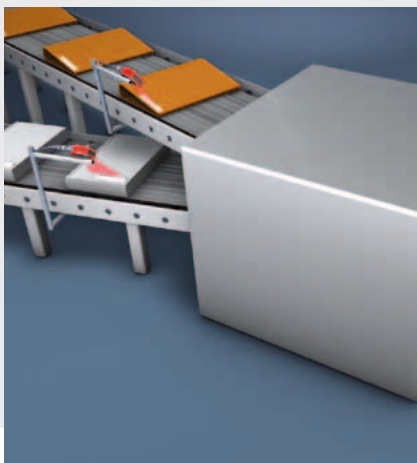
- Modular connection technology via pluggable connection hoods with M12 connector, clamp connection or fixed connection cable
- Integrated fieldbus connectivity: PROFIBUS/PROFINET/Ethernet/multiNet, RS232/422/485
- Models: line scanner, deflection and oscillating mirror
- Available as line and raster scanner
- Code reconstruction technology (CRT) enables the identification of damaged bar codes
- Read distances 20–700 mm

Inspection tasks during further processing

Smart Cameras
LSIS 400i



- Reliable detection of incorrect sheets through the use of patterns or codes (1D or 2D codes)
- Presence and identification of labels as well as label seating inspection
- Presence and position inspections of registration or print marks
- Print presence monitoring



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 and Switches
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

Leuze electronic Ltd.
Sensor House
Phoenix Business Park
St. Neots PE19 8EP
Phone 01480 408 500
Fax 01480 403 808
info@leuze.co.uk
www.leuze.co.uk

Follow us on  @LeuzeUK