



BUILDING SAFETY AND SECURITY

PROTECTING ASSETS, MANAGING INFORMATION

SICK
Sensor Intelligence.



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The application graphics shown are not binding, they are no substitute for the need to seek expert technical advice.

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TASKS IN BUILDING SAFETY AND SECURITY

Automated building safety and security solutions protect public buildings, critical infrastructures, industrial facilities, private homes or material assets from vandalism, theft, terrorism, intrusion, or where necessary, unlawful escape. Yet, the protection offered by mechanical measures and guards is often not sufficient. SICK electronic sensor-based protective devices complement these measures and are suitable for stationary, portable, or mobile applications. In order to extend response times, protection is provided in a concentric manner: from perimeter protection and monitoring of the building exterior and interior, as well as object monitoring.



Detecting

SICK sensors are perfectly suited for the presence detection of objects of all kinds. In the field of building safety and security, the main task is the detection of persons to identify unauthorized access to buildings and grounds. Various alarm systems can be easily connected to SICK sensors.



Protecting

In building safety and security, the protection of buildings, property and access areas, but also of persons and valuables, is very important. SICK sensors therefore protect buildings and property against intrusion and break-out.



Identification

SICK bar code scanners and RFID read devices reliably read transponders for access control. This ensures that only persons or vehicles with access authorization can enter certain buildings or areas.



Measuring

SICK sensors measure gas concentration in the air and thereby determine the oxygen content in rooms. Distance sensors can also measure deformation in buildings and thereby detect damage.

APPLICATIONS IN FOCUS OUTDOOR SAFETY AND SECURITY





Outdoor safety and security

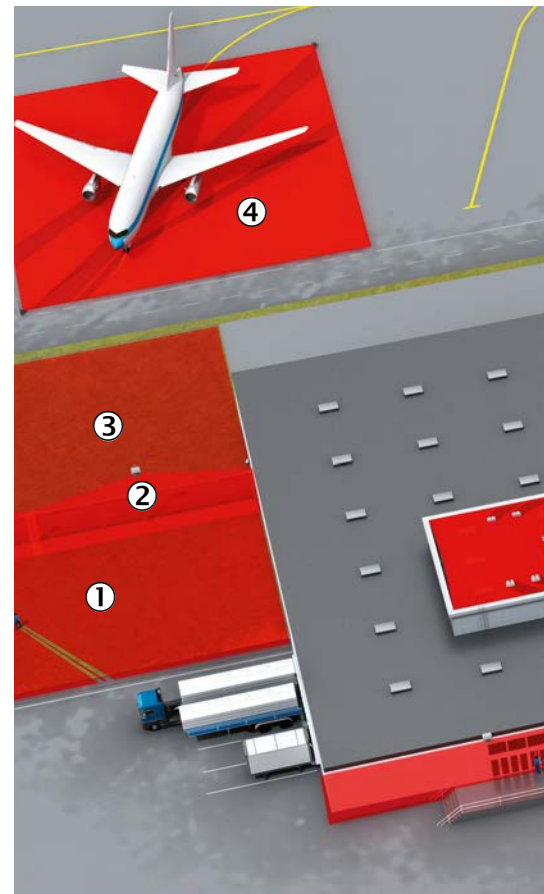
Outdoor monitoring protects public buildings and facilities as well as industrial buildings and facilities and private houses from vandalism, terrorism, theft, intrusion and/or jailbreaks. There are several possibilities available for protecting buildings against intruders, including perimeter protection, object protection, and access control. Electronic detection and video monitoring systems also supplement protective devices such as fences and walls. Monitoring systems such as these ensure automatic detection and reporting in good time – if, for example, someone tries to break in or out.

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Perimeter protection

Perimeter protection via sensors starts at the barrier encircling the premises, such as a fence or wall, and ends at the building envelope. In order to keep these areas secure, software inside the sensor evaluates all monitoring fields. If

someone or something intrudes into a monitoring field, an alarm is triggered. Data measured by the sensors is used to determine the position of a person on the premises, for example.



① Horizontal monitoring of open spaces and object tracking using cameras

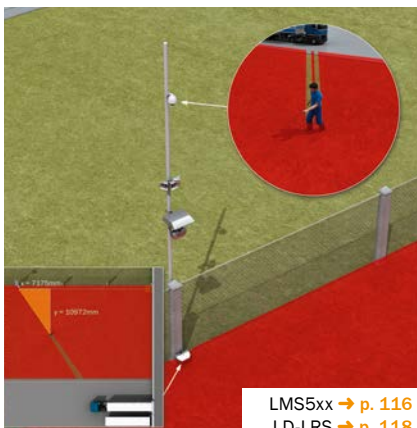
When monitoring airports and other buildings, a 2D laser scanner detects any individuals who step into the pre-defined monitored area. The position data recorded by the laser scanner is further processed by an integrated or external evaluation unit and is used to control the camera.

② Vertical protection of a fence

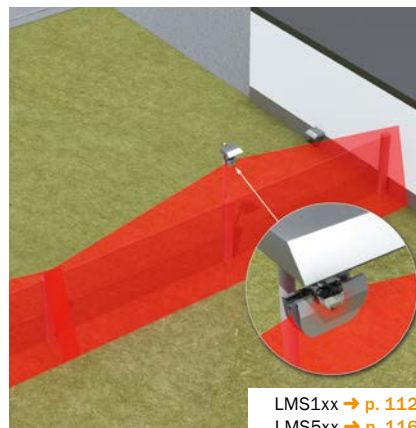
A 2D laser scanner detects individuals crawling beneath or otherwise crossing the perimeter of a fence with high detection speed and unaffected by interference from the weather. The sensor generates a vertical field. If anyone penetrates this field the security scanner triggers an alarm.

③ Horizontal monitoring of open spaces in front of buildings

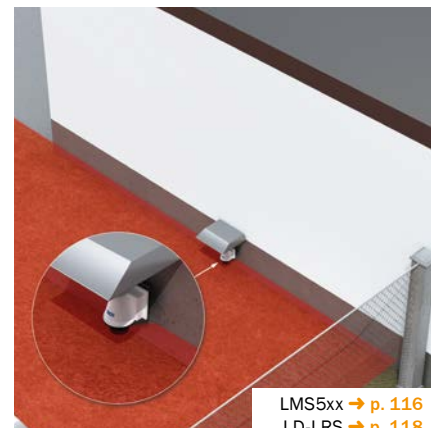
2D laser scanners monitor open spaces connected to a property horizontally. Multiple monitoring fields and selective field evaluation can be freely defined. This makes it possible to block out certain access routes and paths and to monitor anyone entering.



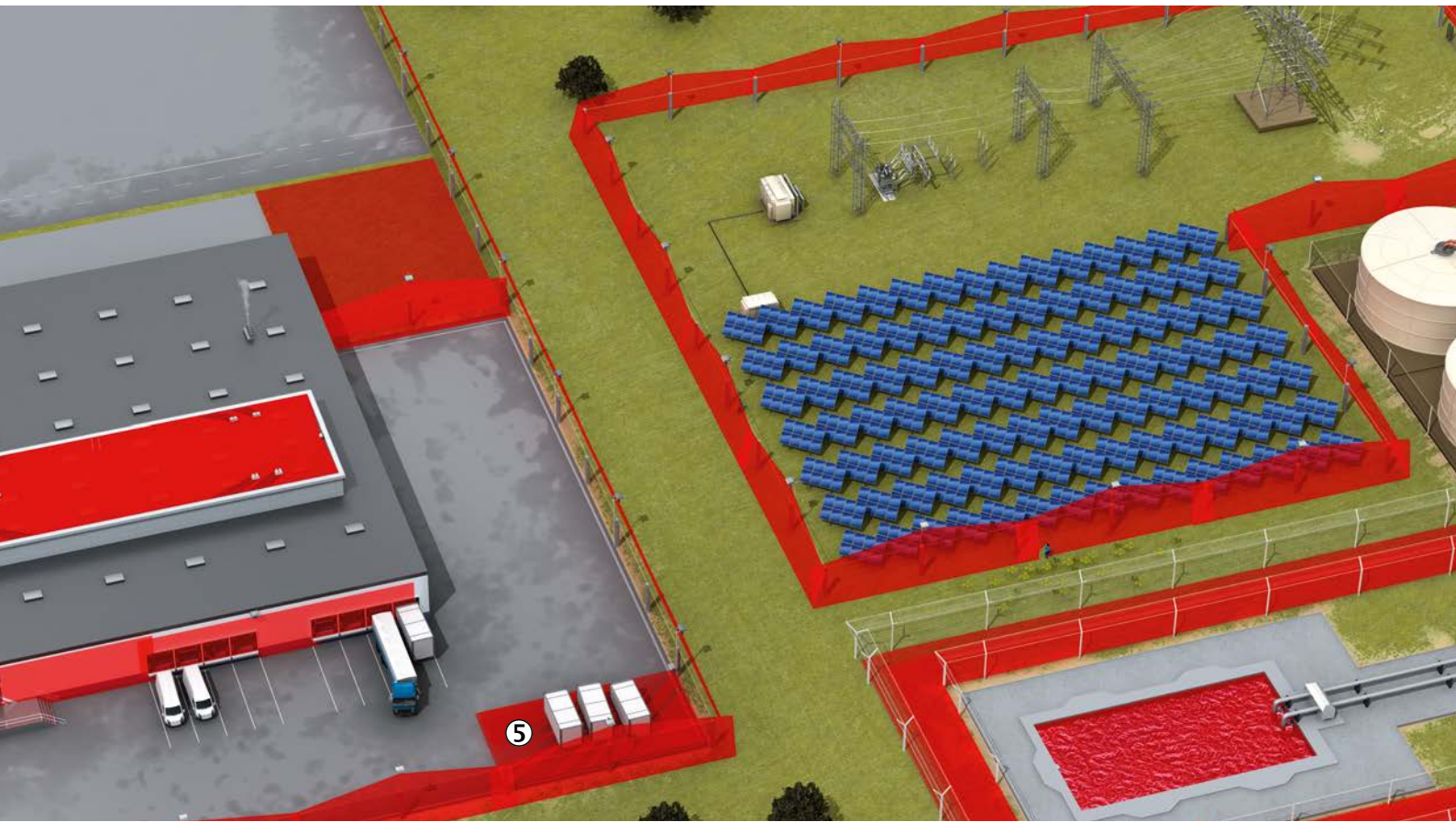
LMS5xx → p. 116
LD-LRS → p. 118



LMS1xx → p. 112
LMS5xx → p. 116



LMS5xx → p. 116
LD-LRS → p. 118



④ Horizontal monitoring of open spaces for portable applications

Parked planes, vehicles, or containers can be monitored using portable detection and ranging solutions. Using intelligent field management functions, these devices constantly adapt to changing conditions as well as to the respective shape and size of the monitoring fields within this area of application.

⑤ Monitoring swap trailers as an anti-theft measure

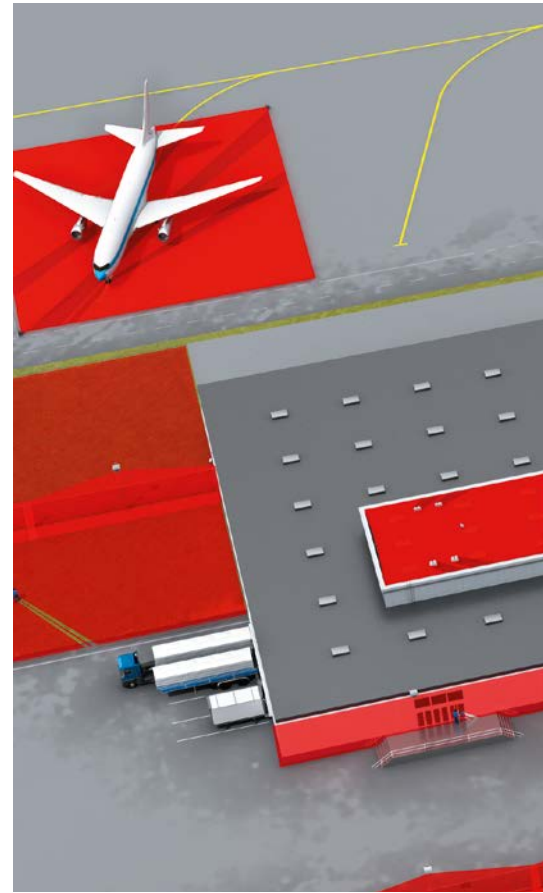
The LMS531 PRO 2D laser scanner help to prevent swap trailers from being targeted by thieves. With the Easy Teach function, monitored areas can be adjusted to the constantly changing conditions at any time.



LMS5xx → p. 116
LD-LRS → p. 118

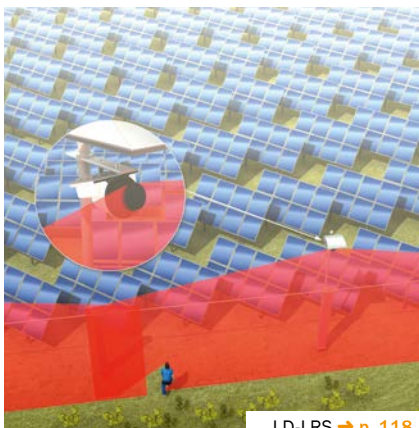


LMS1xx → p. 112
LMS5xx → p. 116



⑥ Vertical protection of solar farms

2D laser scanners fitted around a solar farm detect any people and objects that pass through the vertically protected area. The area can also be protected horizontally.



LD-LRS → p. 118

⑦ Vertical protection of transformer stations and telecommunication facilities

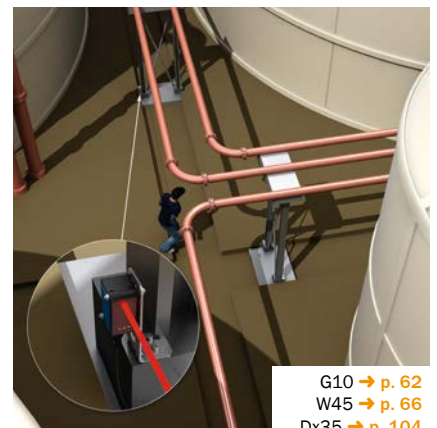
2D laser scanners protect transformer stations, telecommunication facilities, and other highly sensitive facilities from unauthorized intrusion, even in bad weather. At the same time, the sensors ignore small objects such as animals. If the field is breached, an alarm is sounded and security personnel are informed.



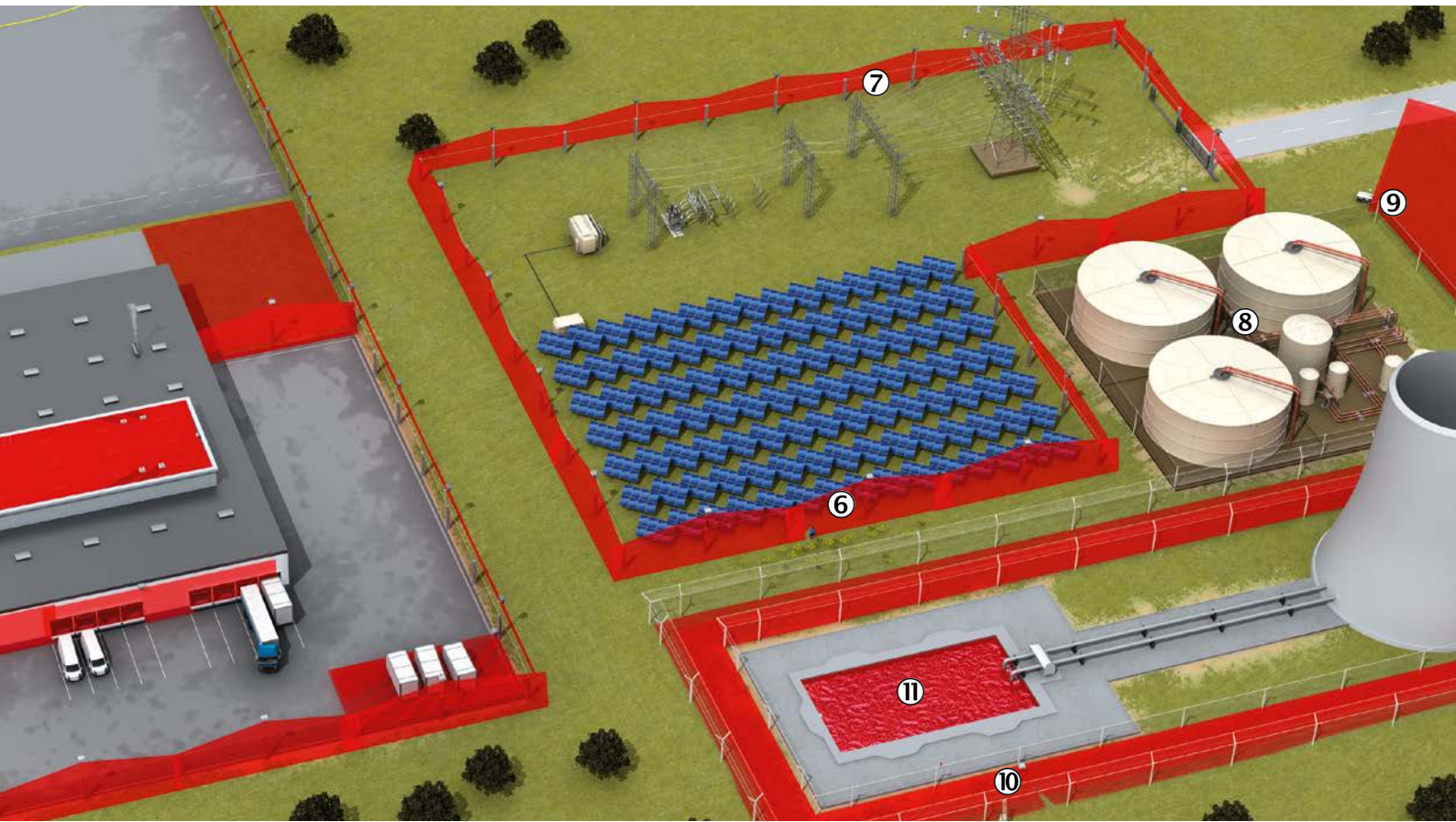
LMS5xx → p. 116

⑧ Trap surveillance system

Several G10 or W45 photoelectric sensors are used to prevent unauthorized individuals from entering certain areas, such as industrial parks with complicated layouts. Furthermore, the Dx35 distance sensor records the distance between the sender and the detected person, thereby allowing security personnel to track the alarm closely.



G10 → p. 62
W45 → p. 66
Dx35 → p. 104



⑨ Vertical monitoring of open spaces for mobile applications

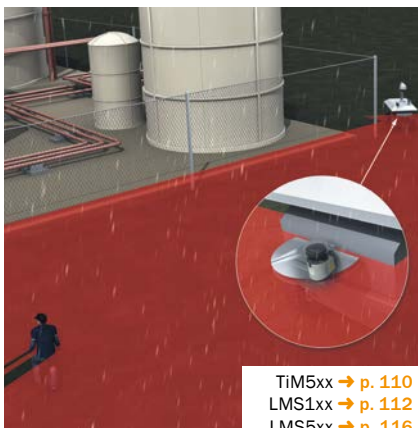
Robots are being used more and more frequently for patrolling fences and monitoring large refineries and industrial sites. They monitor the premises with the help of gas detectors and cameras. 2D laser scanners from SICK provide the raw data required for robot navigation.

⑩ Horizontal protection on double fences

LD-LRS or LMS5xx 2D laser scanners monitor the area between fences reliably and consistently. They rarely trigger false alarms. That means, for example, that the sensors blank small animals and bad weather such as heavy rain.

⑪ Horizontal monitoring of cooling ponds

A 2D laser scanner protects cooling ponds at nuclear facilities from unauthorized entry. The basin side is used as a reference area. The multi-echo technology of the LMS5xx significantly reduces the chances of triggering a false alarm due to rain, snow, fog, or steam.



TiM5xx → p. 110
LMS1xx → p. 112
LMS5xx → p. 116



LMS5xx → p. 116
LD-LRS → p. 118

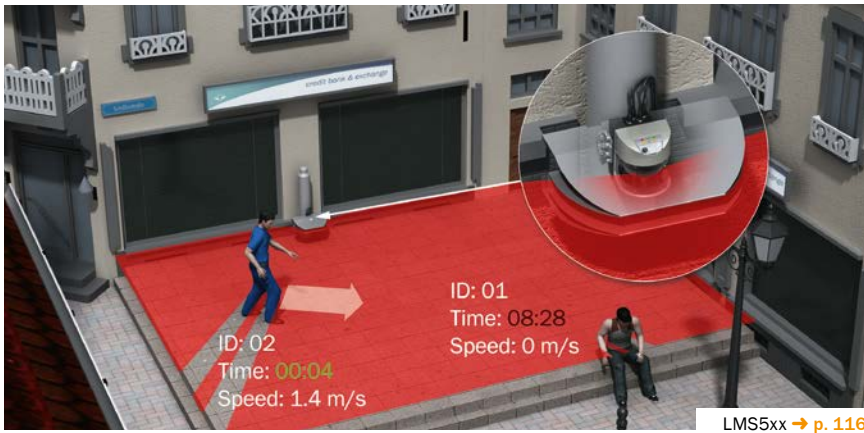


LMS1xx → p. 112
LMS5xx → p. 116

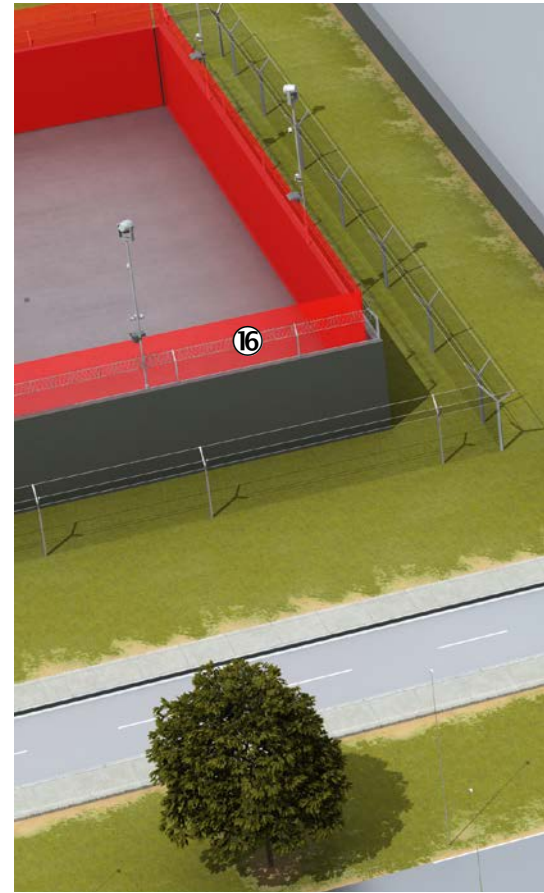
12 Detecting movement patterns

At banks and other establishments that could be targeted by robbers, it is important to distinguish potential thieves from other people. A 2D Laser scanner monitors the area in front of the bank horizontally and detects anyone passing through. The laser data acquired by the sensor can be used to identify the length of stay, direction of movement, and speed of anyone detected by the system.

! This graphic is not presented in the overview.



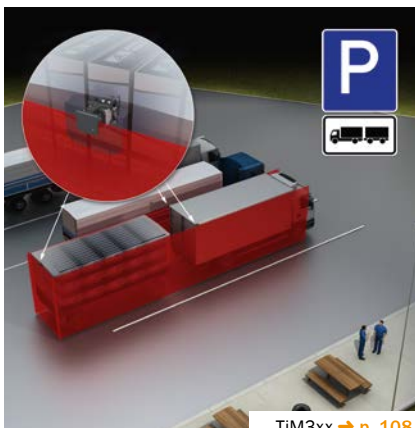
LMS5xx → p. 116



16

13 Vertical monitoring of open spaces for portable applications

To prevent the theft of cargo, every side of the truck is vertically monitored by a separate laser scanner. This means that thieves are reliably detected even in unsecured parking lots and the driver is alerted immediately.



TiM3xx → p. 108

14 Access control for hedges using vertical protection

Putting hedges around private or public parks is often not enough to protect the parks from unauthorized entry. 2D laser scanners help protect parks thanks to their small, well-defined protective fields.



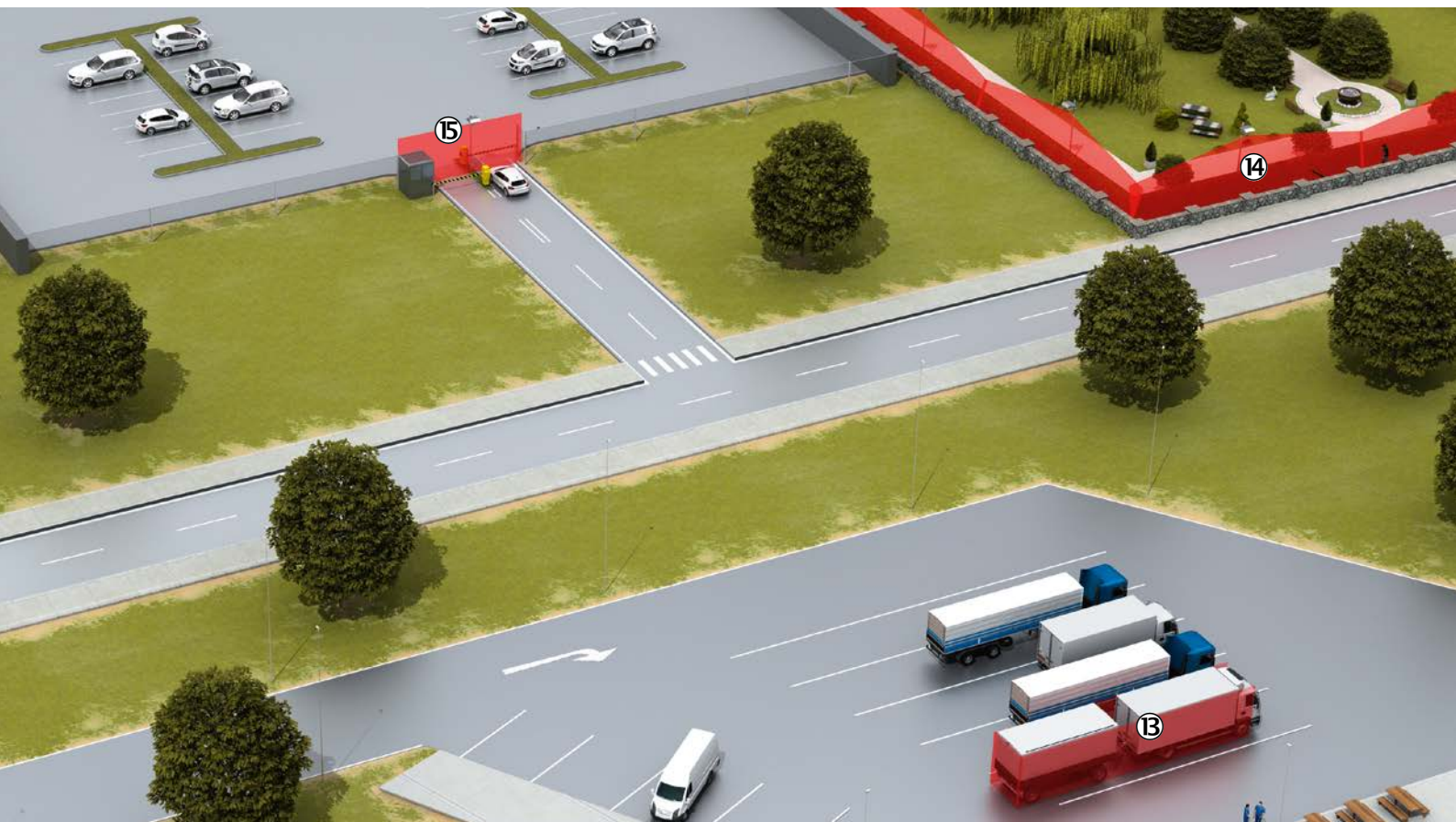
LMS1xx → p. 112
LMS5xx → p. 116

15 Anti-climb protection for barriers

Barriers used as a mechanical protective device are easily crossed due to their low height. This can be prevented by using an LMS1xx or TiM3xx laser scanner to monitor the barrier and detect anyone in close proximity to it.



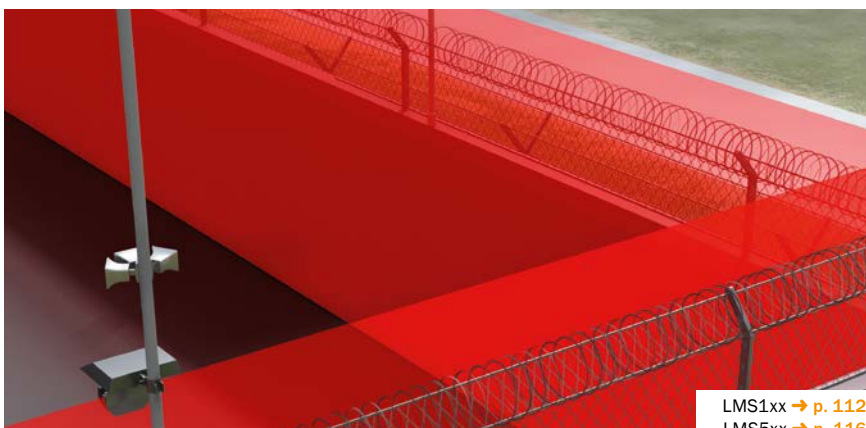
TiM3xx → p. 108
LMS1xx → p. 112



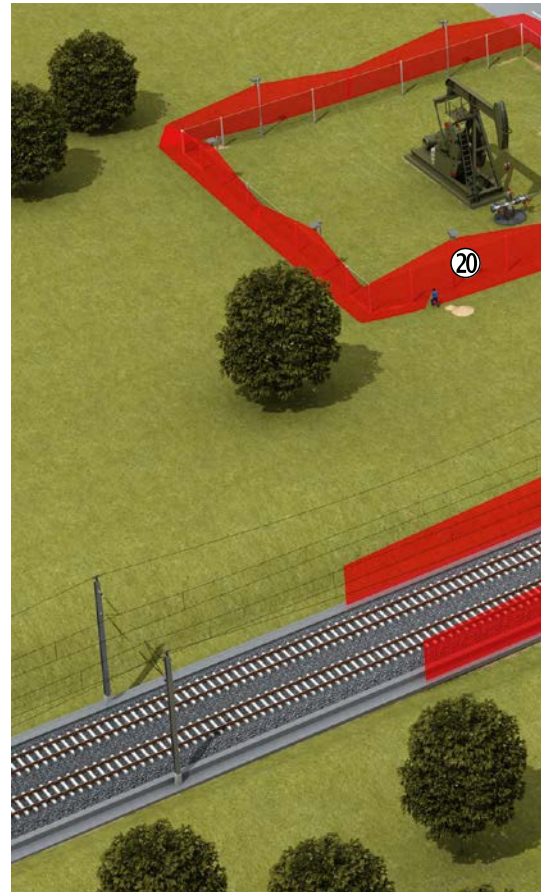
16 Protecting wall copings

In jails and forensic clinics, wall copings and yard areas are generally protected as well as facades in order to detect any escape attempts promptly. Even at night or in bad weather, such as fog, an LMS1xx or LMS5xx laser scanner can detect someone approaching a wall and triggers an alarm.

Through field evaluation and camera triggering, the guards can quickly evaluate the danger and intervene accordingly.



LMS1xx → p. 112
LMS5xx → p. 116



17 Monitoring railway systems

Monitoring railway systems vertically using 2D laser scanners prevents overhead cables and other cables from being stolen. If someone enters the scanning range, an alarm is triggered and the nearest security center is informed.

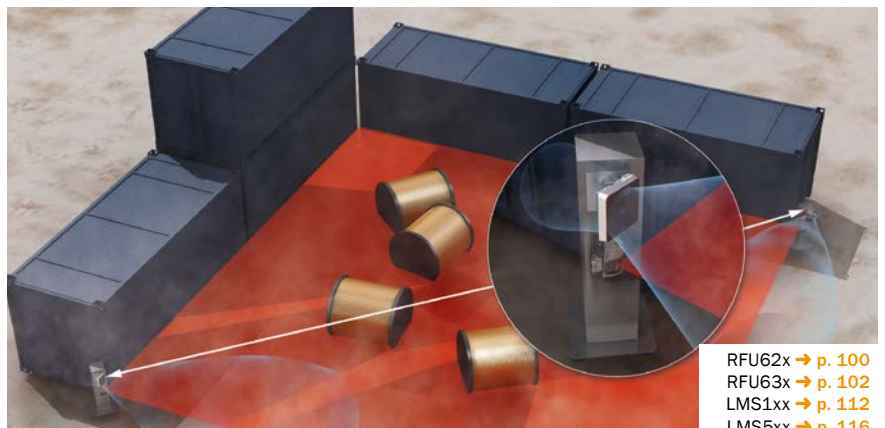
18 Example of horizontal monitoring of open spaces: Building site

In order to stop building materials from being stolen, a 2D laser scanner mounted on a column monitors the storage area and triggers an alarm if the field is breached. When the building work is complete, or if the storage area is expanded, the column-mounted laser scanner can be quickly relocated, or adapted to cover the new storage area effectively. If the laser scanner is combined with an RFID-reading device with a long scanning range, any authorized personnel with identification containing the right transponders can enter the storage area without triggering an alarm.

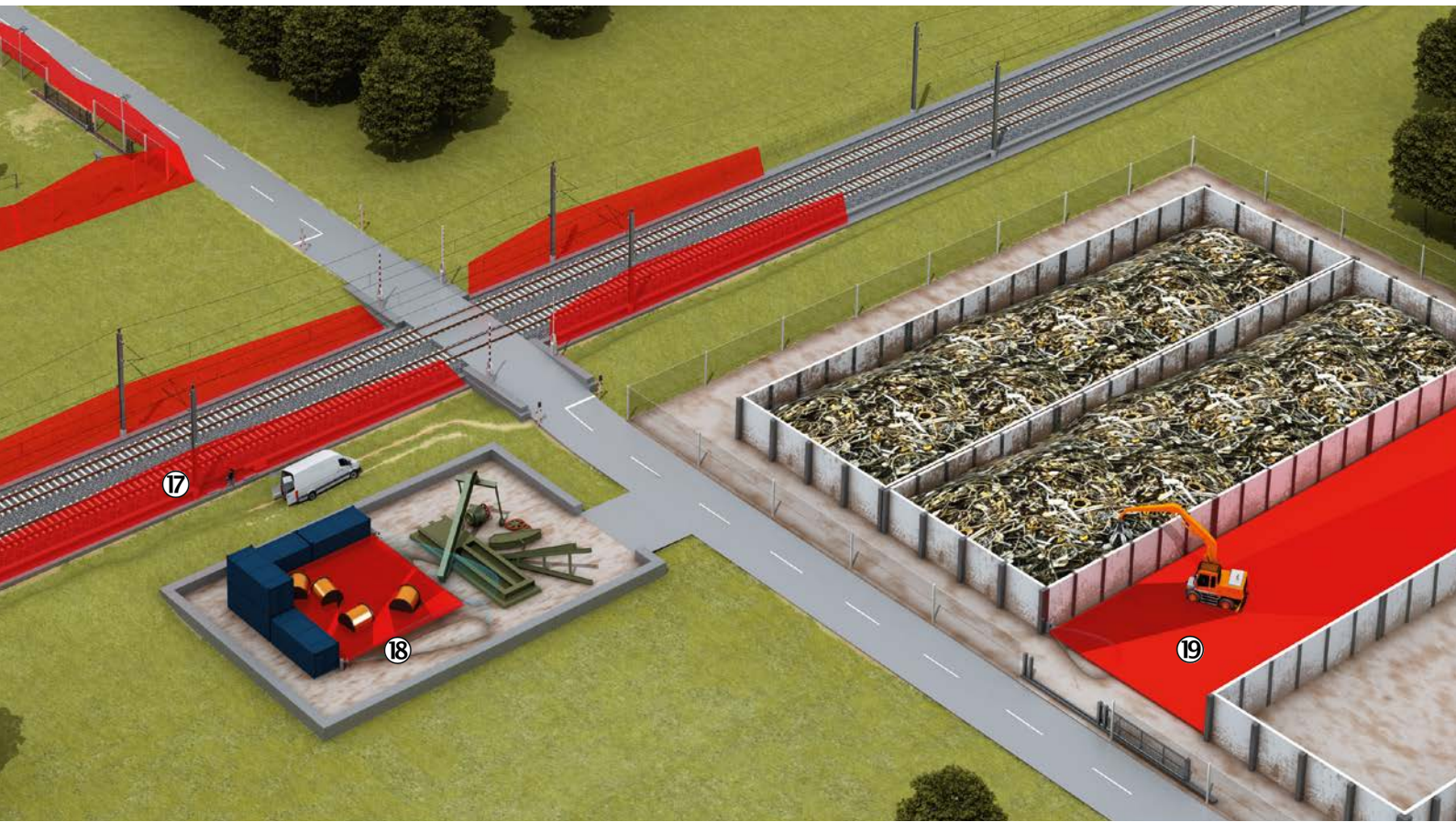
sonnel with identification containing the right transponders can enter the storage area without triggering an alarm.



LMS5xx → p. 116



RFU62x → p. 100
RFU63x → p. 102
LMS1xx → p. 112
LMS5xx → p. 116



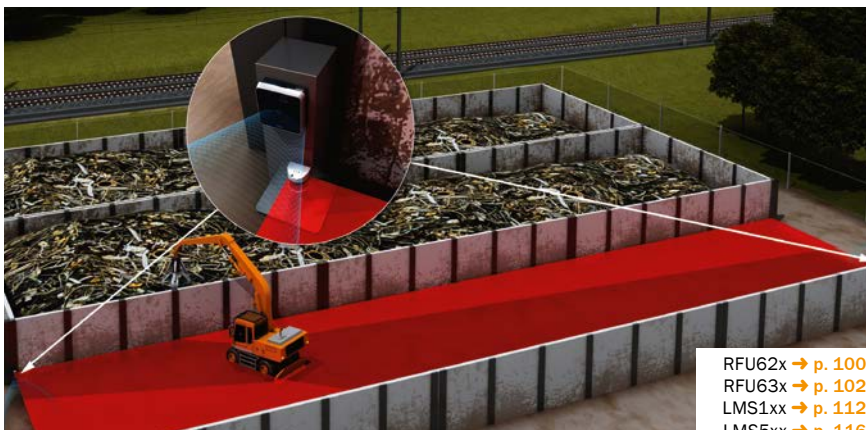
19 Example of horizontal monitoring of open spaces: Junk yard

To prevent valuable reusable raw materials from being stolen from junk yards, a 2D laser scanner mounted on a column, for example, monitors the area to be secured and activates an alarm if the field is breached. Since the sensor can be easily transported and mounted, it can be moved to protect different monitored areas if necessary.

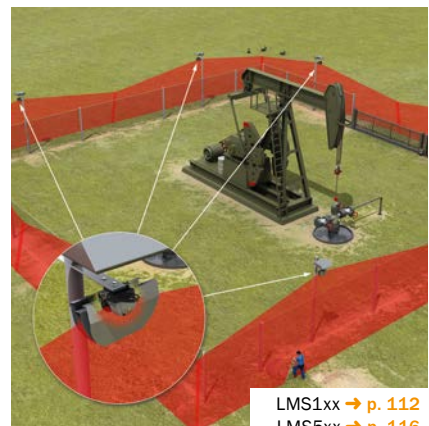
When combined with an RFID-reading device, any authorized personnel with identification containing the right transponders can access the relevant monitored area without triggering the alarm.

20 Example of vertical monitoring of open spaces: Oil well

If oil wells or the devices used for extracting oil are damaged, this can often cause serious economic and ecological damage. Therefore, 2D laser scanners on the fence protect the area surrounding the oil well. If someone climbs over or undermines the fence, the sensors detect them reliably.



- RFU62x → p. 100
- RFU63x → p. 102
- LMS1xx → p. 112
- LMS5xx → p. 116

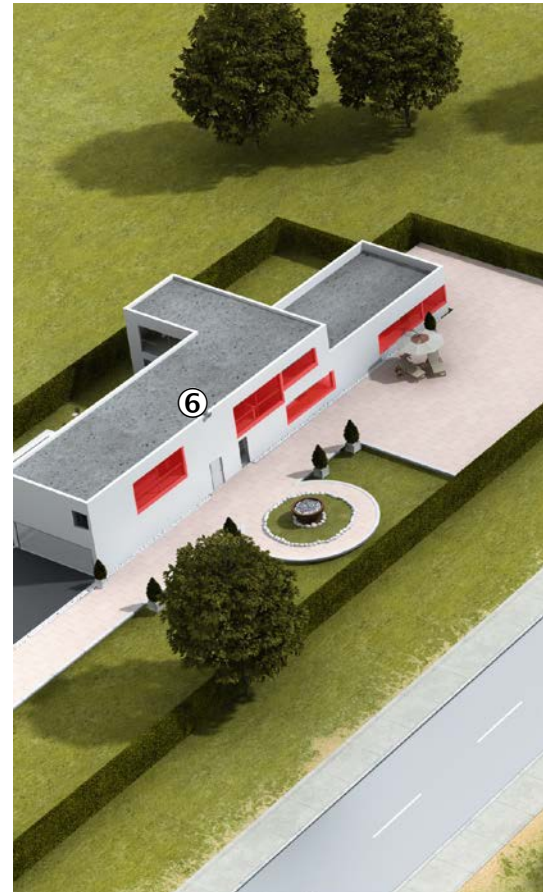


- LMS1xx → p. 112
- LMS5xx → p. 116

Object protection

Object protection in outdoor areas includes protecting roofs, facades, doors, gates, windows, and skylights. 2D laser scanners register every movement within the protective fields. Their large scanning range combined with day

and night modes make it possible to implement a flexible security concept. The chance of a false alarm caused by animals or leaves can be reduced by changing the object size detected by the device.



① Facade protection of distribution centers

2D laser scanners usually monitor facades vertically. Any surrounding contours can act as reference points. The sensor triggers an alarm in the event of deviations from this contour or if anyone enters the protection zone. It is for the most part, not sensitive to ambient influences. The false alarm rate is therefore very low.

② Monitoring of roofs and indoor spaces

2D laser scanners reliably monitor roofs with domes or skylights. The interior protection increases security in the supply chain as it can be used to restrict access to production.

③ Monitoring doors, gates, and windows

ELG or SLG automation light grids reliably monitor people entering through the large doors in airports, logistic centers, and other buildings. G10 photoelectric sensors are more suitable for smaller doors while LMS5xx 2D laser scanners with weatherproof housings are used for large areas.

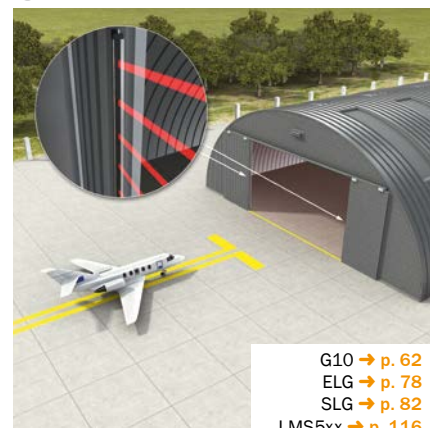
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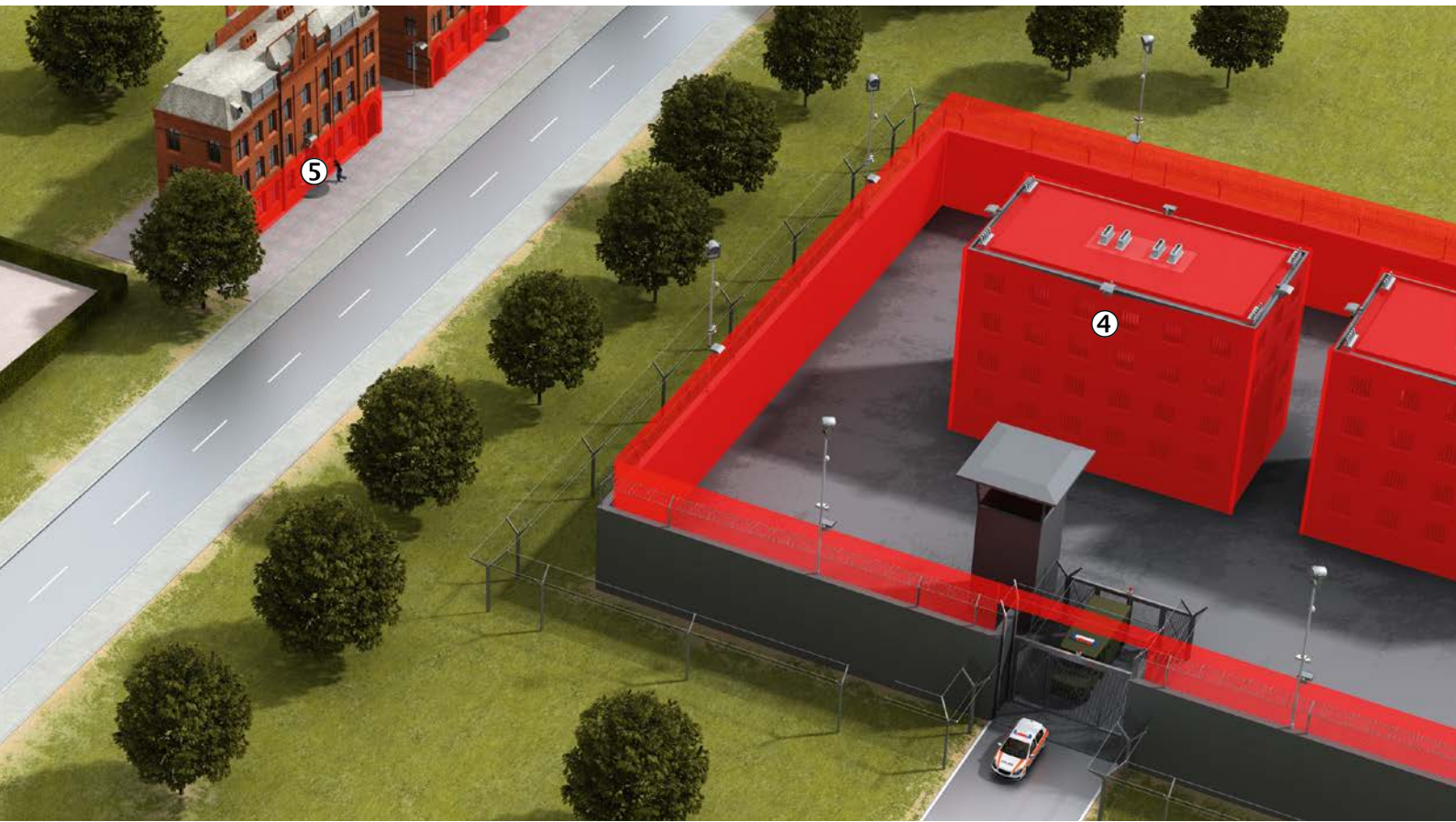


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ⓘ This graphic is not presented in the overview.





④ Protecting the facades of jails

Unlike other buildings, the entire facade of forensic clinics, jails and other correctional facilities must be protected in order to prevent jailbreaks, both day and night. 2D laser scanners from SICK reliably detect people in all weather conditions.

⑤ Protecting the facades of public buildings

Public buildings, such as courts or district attorney's offices, must be reliably protected against vandalism and intrusion. 2D laser scanners attached to the facade reliably detect graffiti sprayers, for example, and will sound an alarm the moment the monitoring field is breached.

⑥ Protecting the facades of private houses

To protect private houses such as villas, 2D laser scanners use several defined fields to monitor windows during the day, while at night they monitor the entire facade. Due to the size of the monitoring fields and the option to choose between different monitoring scenarios, only a few sensors are needed, which saves money.



LMS1xx → p. 112
LMS5xx → p. 116



LMS1xx → p. 112
LMS5xx → p. 116



LMS1xx → p. 112
LMS5xx → p. 116



⑦ Protecting open exhibition spaces

During the day, visitors should have access to the exhibition spaces of car dealerships. At night, access should be controlled for anti-theft reasons. 2D laser scanners create a monitoring field around the vehicles. If someone passes into the monitoring field, an alarm will be triggered.

⑧ Horizontal monitoring of water towers

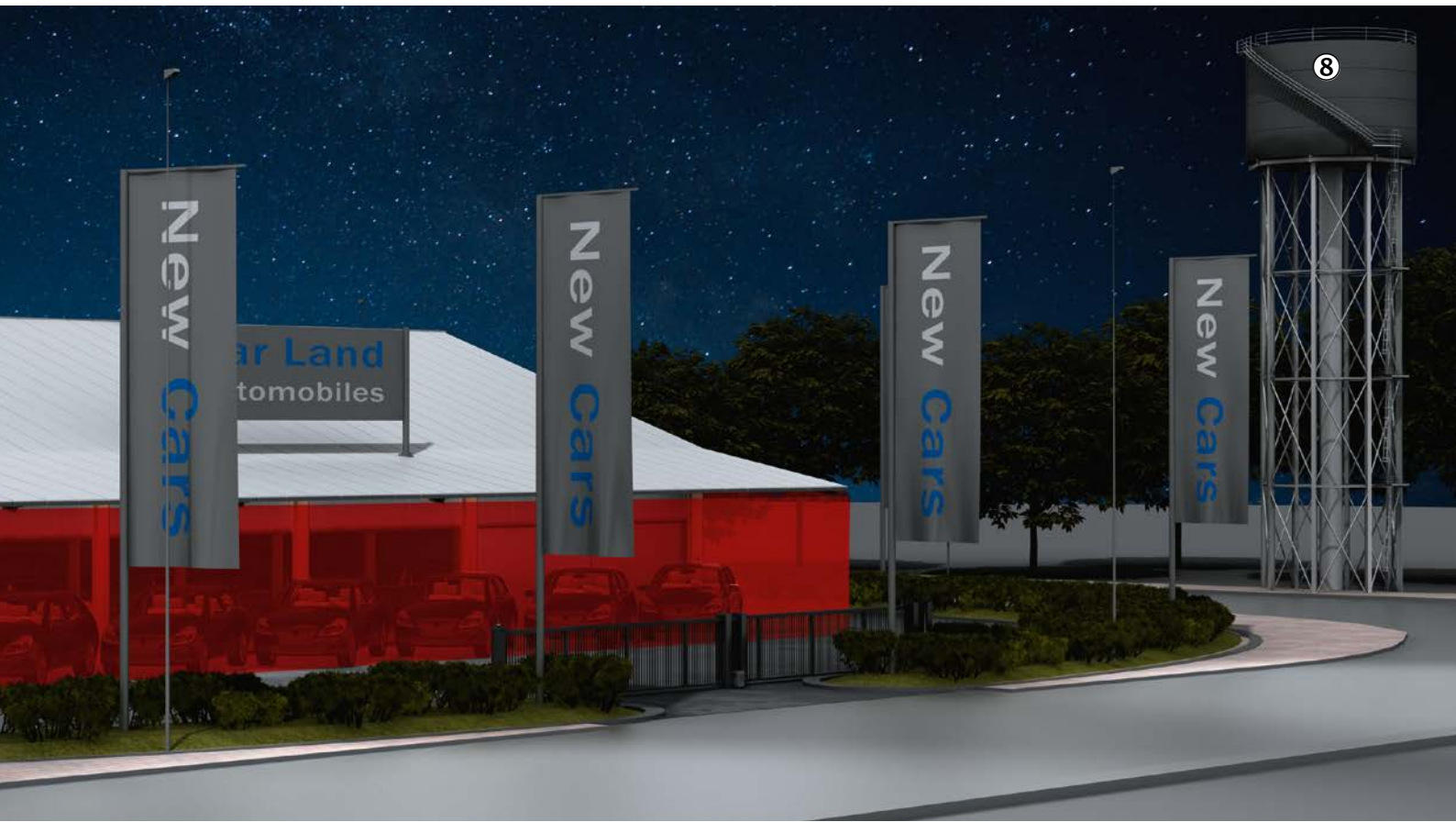
A 2D laser scanner protects the water surface of water towers. The basin side is used as a reference area. If an unauthorized person or object reaches the open water and passes through the monitoring field, an alarm will be triggered.



LMS1xx → p. 112
LMS5xx → p. 116



LMS1xx → p. 112



Protecting buildings for personal safety reasons

In the field of building safety and security, sensors are not just used for providing protection against terrorism, vandalism, intrusion, jailbreaks, and theft. If dangers arise in and around the building

which can cause injury to people, they need to be afforded reliable protection. SICK offers numerous sensors for a diverse range of applications in the field of building safety and security.



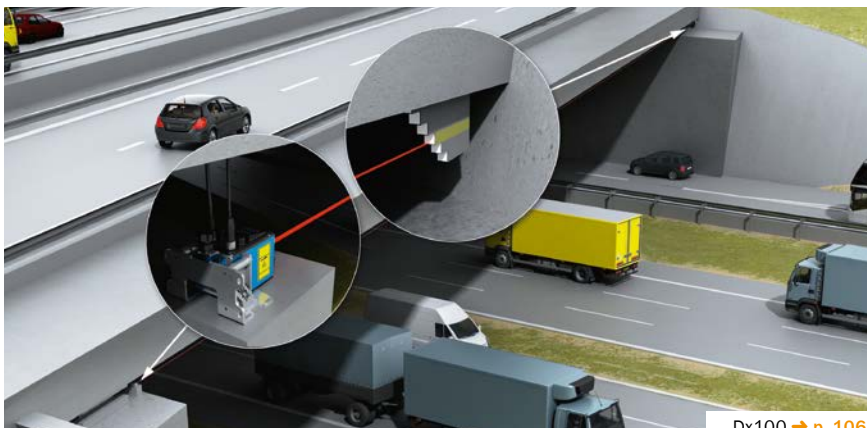
① Outdoor structural health monitoring

Buildings are monitored in order to record their general condition or state of repair, check their load-bearing capacity, and identify any dangerous instances of settlement, movement, and vibrations. Deformation measurement is carried out with the help of a long-range distance sensor on one side of the building and several reflectors mounted at varying distances from the sender within its viewing range on the other side.

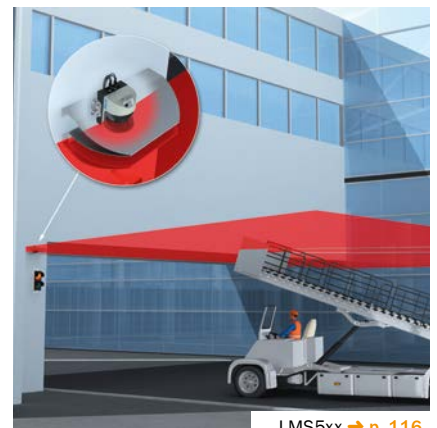
The sensor measures the distance between the sender and a designated reflector. If the building is sinking, the sensor beam will hit a reflector that is higher up. A shorter distance indicates that something about the building has changed. If the building is rising up then the exact opposite happens.

② Preventing collisions between airport ground vehicles and parts of the building or passenger boarding bridges

2D laser scanners help to prevent airport ground vehicles from colliding with parts of the airport building and the passenger boarding bridges. The sensors monitor previously defined areas for objects such as oversized vehicles. Contact with the monitoring field triggers an acoustic and/or visual signal.



Dx100 → p. 106



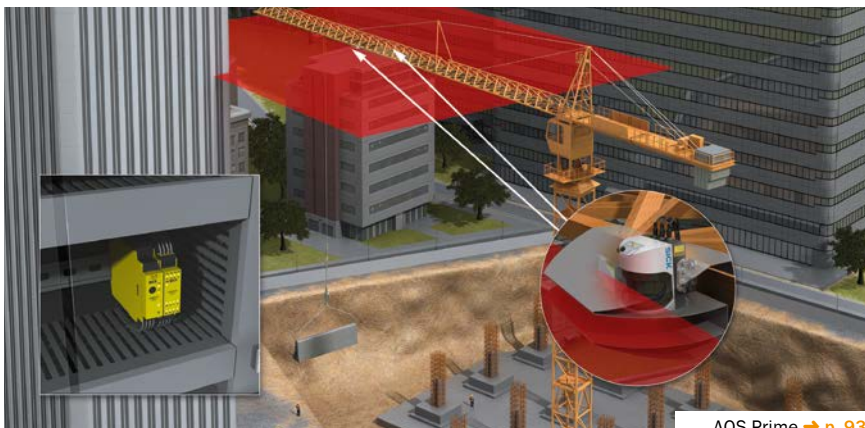
LMS5xx → p. 116



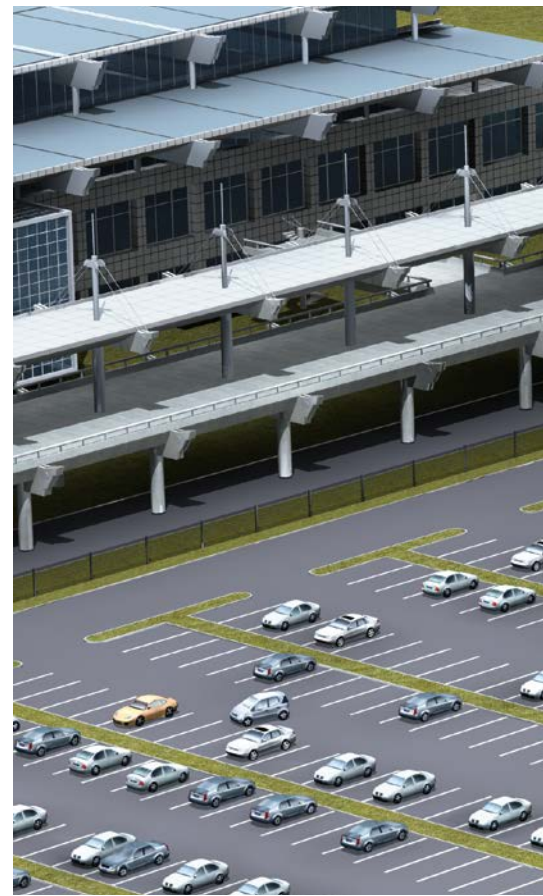
③ Preventing collisions between tower cranes and buildings

The AOS Prime object detection system reduces the risk of a collision between a tower crane and a building wall. The system's 2D laser scanners monitor the area around the crane jib. They detect when the crane jib gets too close to a building based on the previously set safety distance.

The Flexi Soft safety controller then notifies the crane operator and takes control of the crane.

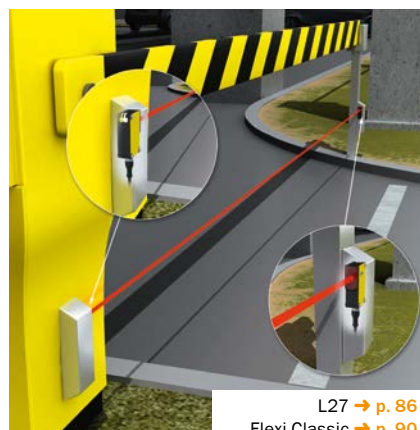


AOS Prime → p. 93



④ Collision protection at barriers

In areas around barriers, people can be endangered by the closing barrier arm. An L27 single-beam photoelectric safety switch monitors the area under the barrier. If a person is detected, the barrier is prevented from closing.



L27 → p. 86
Flexi Classic → p. 90

⑤ Area monitoring on and under draw bridges

Before a draw bridge can open, it is important to ensure that there are no objects still on the bridge. When the draw bridge is closing, there must be no vessels underneath it. The 2D laser scanners in the AOS Prime object detection system reliably detect objects on and underneath the bridge. The monitoring field can be adapted to the exact size of the monitored area.

Breaching the field causes the laser scanners to send a signal to the Flexi Soft safety controller.



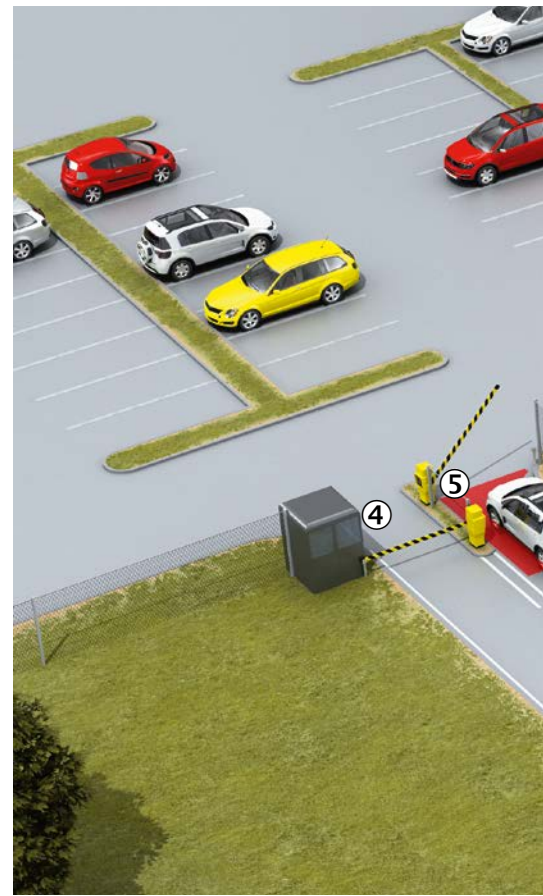
AOS Prime → p. 93



Access control

Access points such as passenger locks, doors, gates, turnstiles, and barriers only allow access to authorized people. Sensors detect if there is actually anyone in the room and, if so, exactly how

many people there are. This could be relevant for safety-related reasons or for controlling the indoor climate according to the use of the room.



① Access control in logistics – outdoors

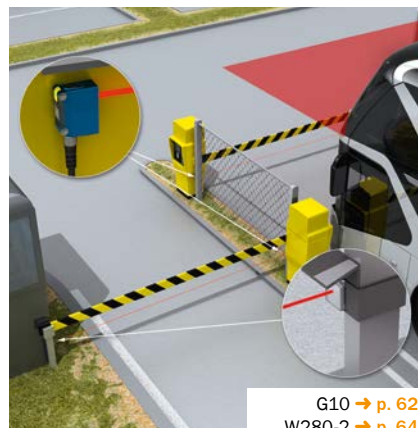
The LAC1xx Prime security system ensures that the supply chain is always secure. This is done by using two 2D laser scanners that monitor the area to be secured from both sides. The RFU63x RFID-reading device has a long scanning range and identifies authorized personnel before granting them access only.



LAC1xx Prime → p. 94

② Monitoring access barriers

A light grid or a G10 or W280-2 photoelectric sensor can be utilized at access barriers to avoid collisions, provided legal specifications do not require safety photoelectric sensors. If there is a vehicle below the barrier arm, the arm will not be lowered.



G10 → p. 62
 W280-2 → p. 64

③ Classifying vehicles when passing through barriers

If buses are allowed to park for free at a parking lot, but cars are not, the barrier needs to be able to differentiate between the two. This can be done by using a 2D laser scanner which measures the length of vehicles wanting to pass through. If the vehicle is over a certain length, the barrier opens automatically. Otherwise, the driver must take a ticket to enter.



TiM3xx → p. 108

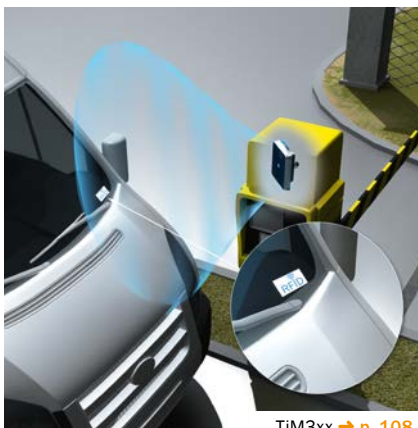


④ Non-contact access to cabinets via RFID

As a result of its large reading range, the RFID reader RFU630 enables non-contact reading of UHF transponders and manages access control for cabinets. There is no longer any need to directly present or acquire a ticket at the machine. The reader device can reliably read transponders without direct contact, even at a greater distance.

⑤ Controlling barriers with 2D laser scanners as an induction loop replacement

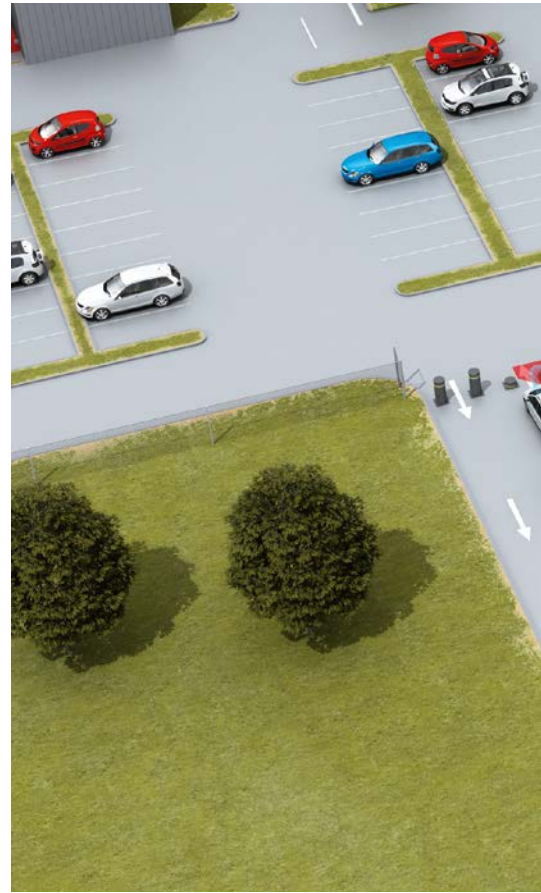
Vehicles such as bicycles or motorcycles generally do not have a sufficient effect on the magnetic field of an induction loop. This is also true for SUVs due to their high ground clearance. 2D laser scanners are therefore a sensible and reliable alternative. A laser scanner monitors any vehicles traveling in and out. The entry barrier only opens, for example, when the person entering has proven their identity or has taken a parking ticket.



TiM3xx → p. 108



TiM3xx → p. 108

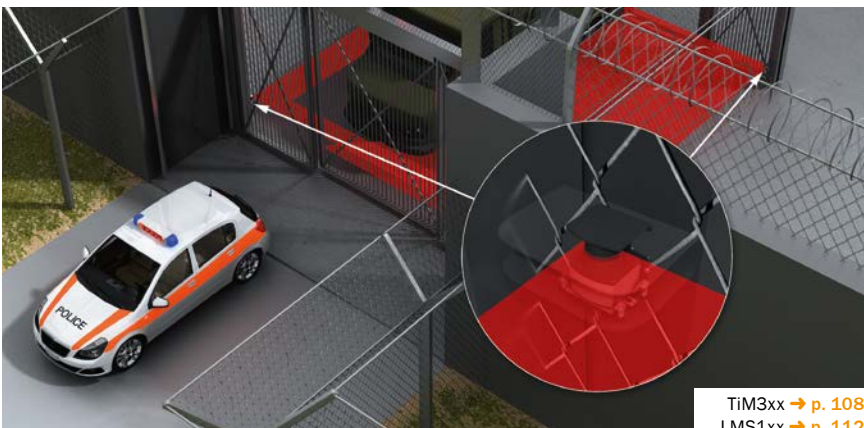


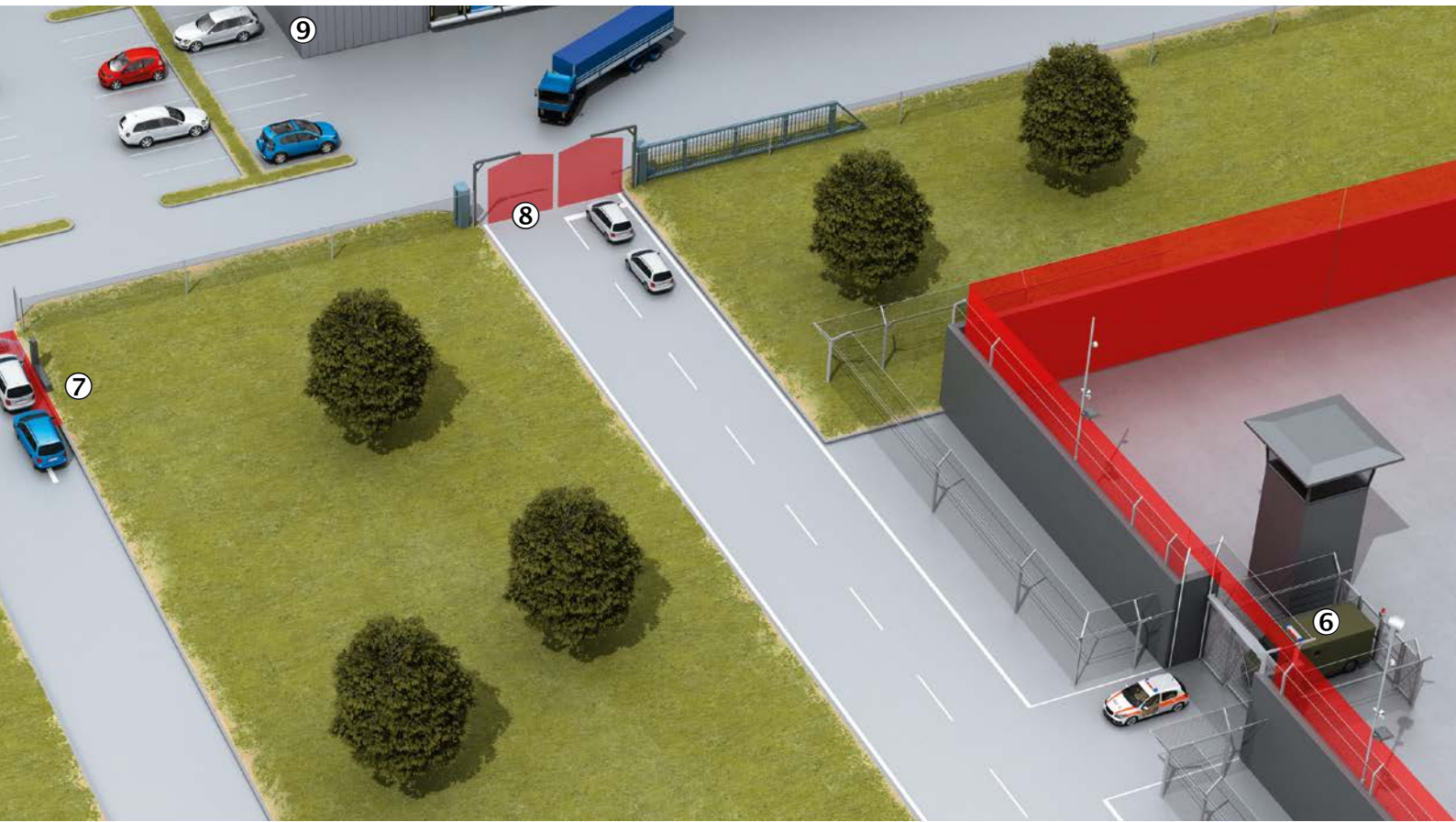
⑥ Release signals on security door systems

Entering and exiting high-security areas is regulated using security door systems. 2D laser scanners recognize if somebody is standing next to a vehicle when exiting through the first door. If this is the case, the release signal for the second door is not issued and the door remains closed. An alarm then sounds to prevent the person from escaping, for example.

⑦ Preventing tailgating at bollards and carrying out identification

Bollards rise and retract slowly, which means it is possible to tailgate. A 2D laser scanner scans the area in front of the bollards and identifies the number of vehicles. At the same time, the RFID-reading device, which has a long scanning range, identifies authorized people or vehicles.



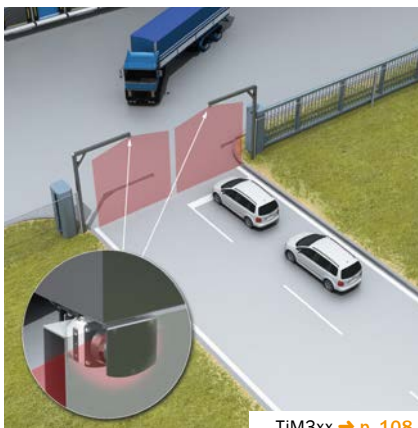


⑧ Preventing tailgating at sliding gates

Using slow-closing sliding gates to regulate entry allows a car to follow directly behind another and travel onto the premises without permission. The 2D laser scanner differentiates between one and two vehicles using extensive, continuous horizontal scanning and by doing so, prevents tailgating.

⑨ Access control in warehouses

An LMS5xx 2D laser scanner can be used to protect the gates of storage buildings such as warehouses or hangars. An RFU63x RFID-reading device provides additional protection by allowing only authorized personnel access to the warehouse. If an unauthorized person is detected, an alarm is triggered.



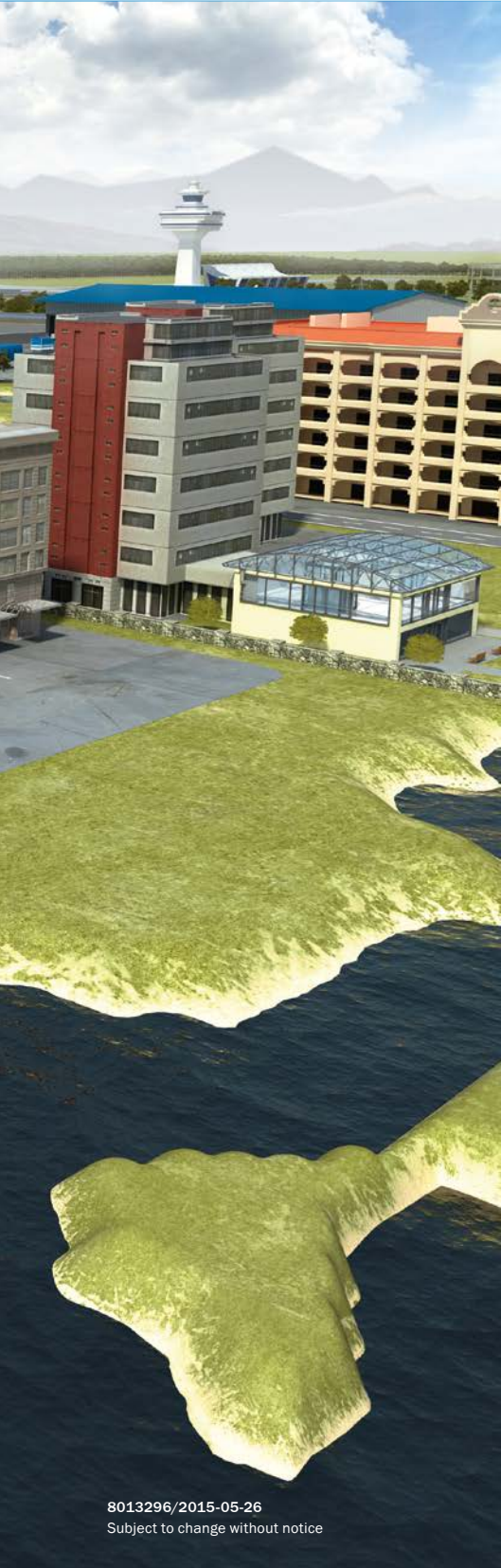
TiM3xx → p. 108



RFU63x → p. 102
LMS5xx → p. 116

APPLICATIONS IN FOCUS INDOOR SAFETY AND SECURITY





Indoor safety and security

In order to effectively protect a building from terrorism, vandalism, theft, intrusions, and/or jailbreaks, monitoring the interior of a building is just as important as monitoring the exterior. Interior ceilings, walls, and windows are monitored along with doors, gates, and security door systems.

Focus 1	30
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Monitoring the interior

Ceilings, windows, and – in some cases – walls are weak points that can be used to access buildings. Fortunately, they can be reliably protected using suitable sensors. This means objects inside buildings are better protected. Interior protection in logistics areas also results

in better safety and security within a supply chain. In banks, museums, and other buildings where valuable objects are stored, sensors will detect any unauthorized attempts to access the building and trigger an alarm.



① Horizontal ceiling monitoring

Ceilings in warehouses, factories, exhibition halls, and many other buildings must be monitored to prevent intrusion. 2D laser scanners provide optimum protection of large areas. Light grids or one-dimensional photoelectric switches monitor individual access points.

② Monitoring windows

MLG-2 Prime or SLG light grids protect smaller areas such as individual windows from intrusion. The beams of the light grid are interrupted if a window pane is broken and someone enters the building. An intrusion detection system connected to the light grid then triggers an alarm.



VLC100 → p. 80
SLG → p. 82
LMS1xx → p. 112



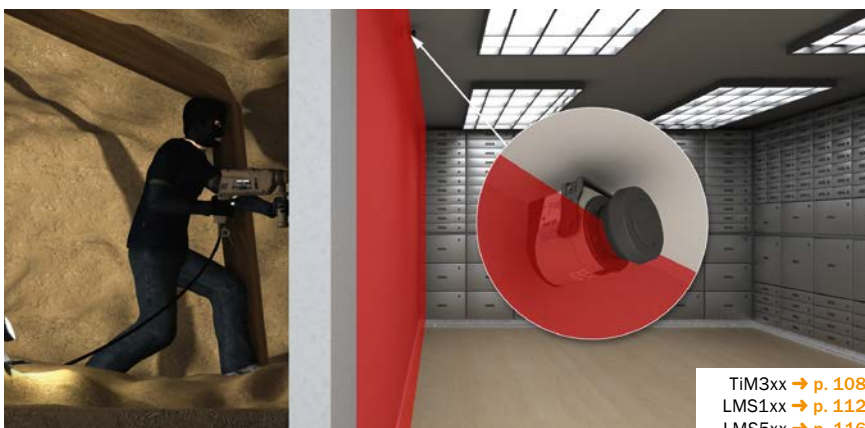
MLG-2 Prime → p. 76
SLG → p. 82



③ Breach protection using vertical wall monitoring

Good security concepts not only incorporate the possibility of a breach through the ceiling but also through the walls, e.g., in a vault. The inner wall is protected using 2D laser scanners. They can be mounted on the inner wall so that they are barely visible. If someone enters the monitored area, an alarm will be triggered.

This monitoring method is also suitable for warehouses with thin, lightweight walls, server rooms, and wind power plants.



TiM3xx → p. 108
 LMS1xx → p. 112
 LMS5xx → p. 116

Object surveillance

Valuable objects need to be protected against vandalism and theft. In museums, protecting these objects from unauthorized contact is a particular challenge for the sensor systems because they must issue the alarm signal

without compromising the other visitors' enjoyment of the exhibits. The more inconspicuous, precise, and reliable the protection is, the better this requirement can be fulfilled without being a detriment to the protection.



① Using light grids to protect smaller objects in the museum

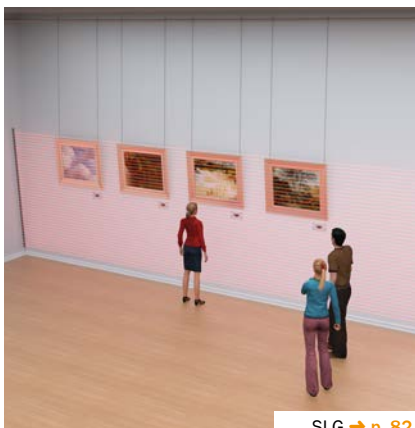
Automation light grids protect smaller surfaces, such as paintings in the museum, and prevent them from being touched or stolen. If someone reaches into the monitoring field, they will be detected and an alarm is triggered. The light grids are placed close to the pictures to avoid compromising visitors' enjoyment of the exhibits.

② Using 2D laser scanners to protect larger objects or multiple objects in the museum

Security-certified (VdS) LMC1xx 2D laser scanners have smaller fields during the day which protect several paintings at the same time. This means that visitors can examine the art work closely, and cleaning personnel can clean the floor without triggering the alarm. At night, the entire wall is protected.

③ Protecting valuable objects in the museum and identification of persons

TiM3xx 2D laser scanners protect objects in the museum by triggering an alarm if the objects are touched. However, if an authorized person gets close to the sensor, the RFU63x RFID-reading device will identify the person based on the transponder in their identification. In this case, an alarm will not be triggered.





④ Monitoring sales outlets (duty free), restaurants, and bars

After business ends for the day, easily accessible sales outlets, restaurants, and bars need to be monitored. 2D laser scanners are a simple but effective opto-electronic anti-theft monitoring device. They detect anyone entering and trigger appropriate measures.

⑤ Using horizontal ceiling protection to keep aircraft secure when in the hanger

To keep aircraft such as helicopters secure while they are in the hanger, the area above the aircraft can be protected. 2D laser scanners monitor this area using pre-defined monitoring fields. If the monitored area is breached, an acoustic or optical warning signal is activated.

⑥ Collision avoidance in hangers using vertical wall protection

2D laser scanners help with maneuvering aircraft in the hanger. This can prevent costly collisions with docking systems, maintenance platforms, and walls. The laser scanners monitor defined monitoring fields and activate an acoustic and/or optical warning signal if the field is breached.

⚠ This graphic is not presented in the overview.



TIM3xx → p. 108
LMS1xx → p. 112

⚠ This graphic is not presented in the overview.



LMS5xx → p. 116

⚠ This graphic is not presented in the overview.



LMS1xx → p. 112
LMS5xx → p. 116

Protecting buildings for personal safety reasons

People inside buildings need to be protected from hazards that can arise from the building or a building element. This ranges from monitoring air quality,

structural health monitoring and protection against moving parts so that people are not harmed.



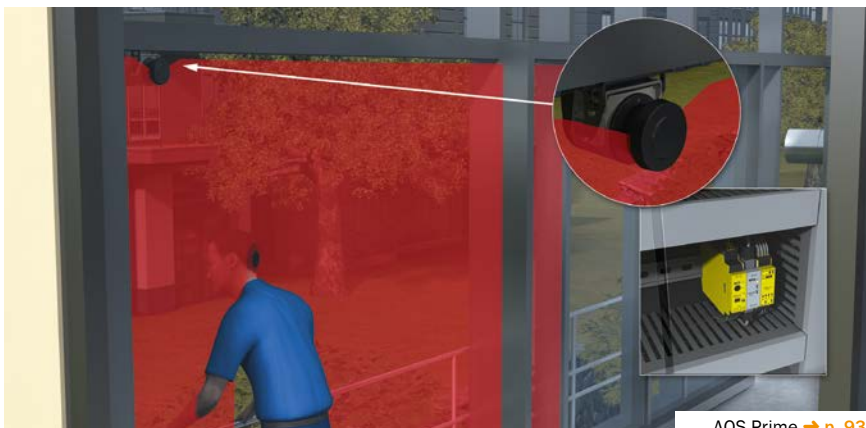
① Protecting adjustable facade windows

Modern penthouses and other highly automated buildings often have large, adjustable facade windows. If they close automatically after the room has been ventilated, it is important to ensure that any people nearby are not harmed. After an accurate situational analysis and a single on-site inspection of the building, the AOS Prime object detection system is best utilized for this purpose. The 2D laser scanner in the system reliably detects objects within the hazardous

area. As soon as an object is detected, this information is sent to the Flexi Soft modular safety controller, which then stops the facade windows from moving.

② Measuring the oxygen levels in rooms

Archives and server rooms need to be protected from fire since they contain valuable materials and data. Because of this, the amount of oxygen in the air is reduced. The laser oxygen transmitter determines the oxygen content of the air in the room. As soon as the oxygen level passes the threshold, an alarm is sounded.



AOS Prime → p. 93



TRANSIC100LP → p. 92



③ Indoor structural health monitoring

The walls and ceilings of buildings are monitored in order to record their general condition or state of repair, and to identify any dangerous instances of settlement and movement. Deformation measurement is carried out with the help of a long-range distance sensor on one side of the building and several reflectors mounted at varying distances from the sender within its viewing range on the other side.

The sensor measures the distance between the sender and a designated reflector. If the building is sinking, the sensor beam will hit a reflector that is higher up. A shorter distance indicates that something about the building has changed. If the building is rising up then the exact opposite happens.



Dx100 → p. 106

④ Monitoring roller doors

Safety light curtains on roller doors prevent people from colliding with closing roller doors. The deTec4 Core with performance level d is used to meet the high safety requirements needed for fire doors or escape doors. If the requirements are not as high, a deTec2 Core will suffice. If no safety light curtain is needed, an ELG can also be installed instead.



⑤ Protecting the gap between the elevator well and the elevator cab

There is often a gap between the elevator well and elevator cab that allows access for maintenance work and cleaning. The safety light curtain monitors this gap. If a person is detected in this gap, the elevator is prevented from moving.



⑥ Patient safety in hospitals

In hospitals or nursing homes, patients may not always have railings to prevent them from falling out of bed. A sensible alternative is a 2D laser scanner attached to the bed. The laser scanner monitors the area around the bed horizontally. If a patient moves out of the bed and into the monitored area, the scanning field is breached and an alarm is triggered. The nursing staff can then quickly react to the incident.





⑦ Safety locking function on the maintenance openings of heating, air conditioning, and ventilation systems

When carrying out maintenance on heating, air conditioning, and ventilation systems, it is important to ensure that service technicians cannot be injured by the dangerous movement of rotating fans or motors. An i10 Lock safety locking device with high locking force is attached to the outer door of the system and connected to the Flexi Classic safety controller.

Due to the rotors overrunning or the heat decreasing, access to the hazardous point is prohibited until the system is in a safe state and there is no longer any danger of injury.

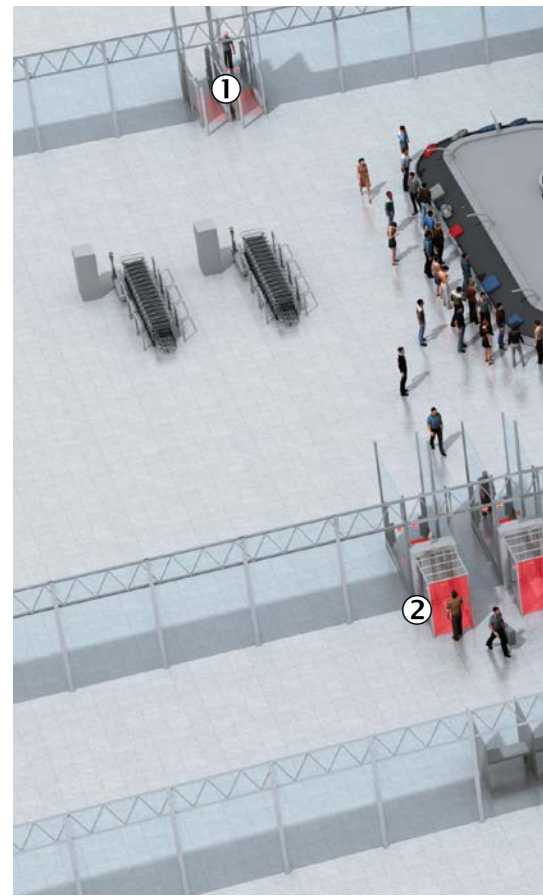


i10 Lock → p. 87
Flexi Classic → p. 90

Access control

Entrances and exits have different requirements when it comes to sensors: the number of people passing through, for example, and different access authorizations. Mechanical devices such

as security door systems or swing doors used in combination with suitable sensors allows authorized people to enter certain areas.



① Singulation in automated border control systems

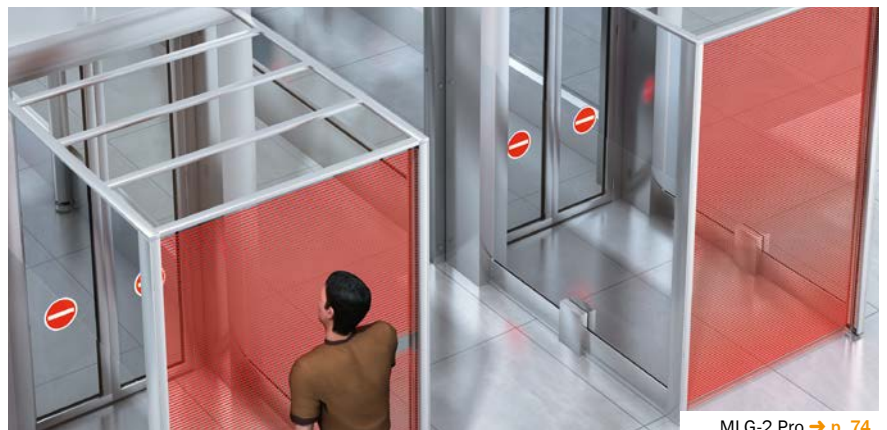
Several miniature photoelectric sensors arranged in a defined pattern ensure that there is only one person in the security door system at a time. If a second person is detected, the system controller will not unlock the exit.

② Direction detection in security door systems

Entry lock systems at airports separate secure and non-secure areas. When individuals pass through the system in the designated direction, i.e., out of the security zone, this is identified as correct by two MLG automation light grids installed behind one another. If the automation light grid detects either individuals going the wrong way or objects being thrown from the landside to the airside, an alarm is triggered.



G6 → p. 60



MLG-2 Pro → p. 74



③ Detecting objects in security door systems

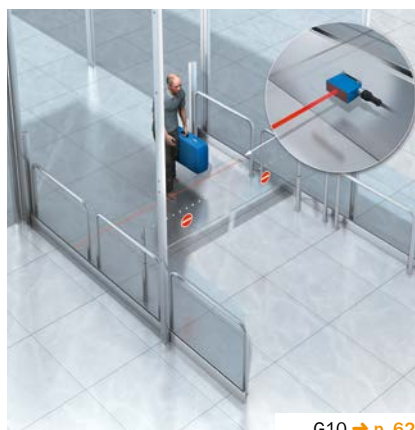
Security door systems act as the transition point from secure to non-secure areas of an airport. They must therefore be monitored to ensure that there are no forbidden items or objects, such as weapons. Compact 2D laser scanners reliably detect such objects.



TIM3xx → p. 108
TIM5xx → p. 110

④ Opening swing doors at the customs exit

After baggage reclaim, arriving passengers leave the customs exit. Helped by swing doors, the stream of passengers is controlled in such a way that no-one can reach the customs area without authorization. Photoelectric sensors open the swing doors reliably.



G10 → p. 62

⑤ Code reading at automated boarding gates

Passengers need to be identified at automated boarding gates by means of a printed or electronic boarding card. The information for boarding is presented as a 2D code. The image-based code reader can reliably read these codes, even if they are badly printed.



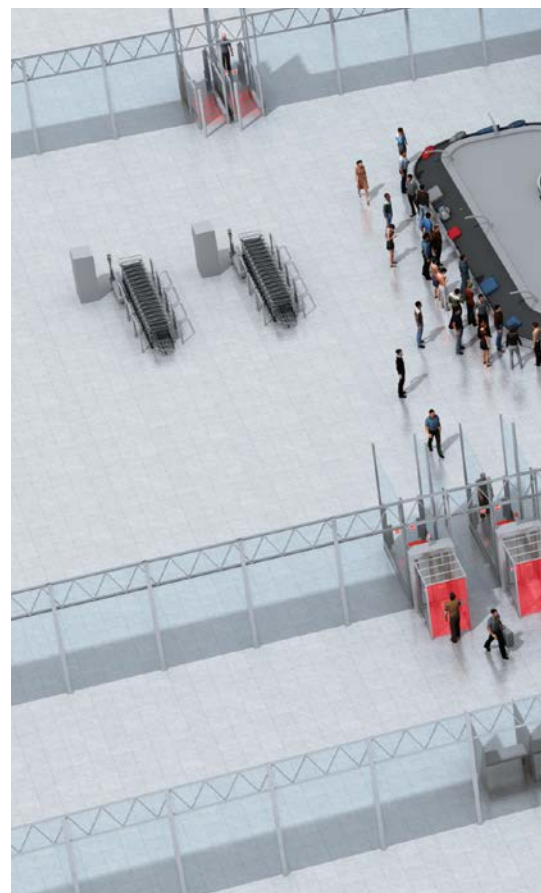
ICR80x → p. 96

⑥ Anti-climb monitoring at automated boarding gates

The area above the swing doors of automated boarding gates can be monitored using 2D laser scanners. The laser scanners are activated when access is not permitted. Any attempt to climb over the doors immediately triggers an alarm signal.



TiM3xx → p. 108



⑦ Controlling the flow of people at automated boarding gates

At automated boarding gates, it is important to ensure that several people do not go through the security door system at the same time. Only those who are authorized to access the plane are allowed through. This is ensured using several automation light grids arranged horizontally and vertically.



MLG-2 Pro → p. 74

⑧ Mobile access control at events

At events with open access points, such as exhibitions, concerts, and football matches, access control is often manual rather than automatic. Personnel manually read the bar codes on the tickets using hand-held scanners.

! This graphic is not presented in the overview.

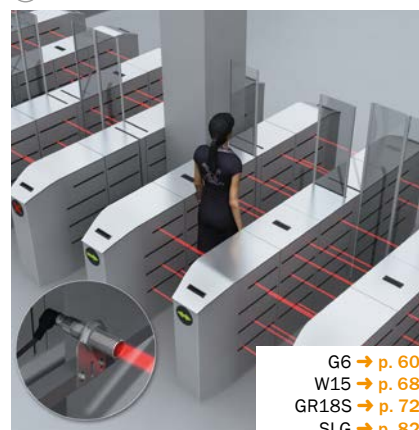


IDM14x → p. 98

⑨ Separating people at passenger locks

In train stations, underground stations or airports, automated entry systems make sure that only those with valid tickets can pass through the passenger locks. Several cylindrical photoelectric sensors detect people at these points. The downstream controller makes sure that only one person can pass through the passenger lock at a time.

! This graphic is not presented in the overview.



G6 → p. 60
W15 → p. 68
GR18S → p. 72
SLG → p. 82



10 Access control in logistics – indoors

In logistics, secure supply chains and, therefore, access control systems are subject to an ever-increasing number of requirements. SICK offers a solution according to the requirements of the C-TPAT, which means safe goods handling only by authorized persons and protects the investment in goods.

! This graphic is not presented in the overview.



LAC1xx Prime → p. 94

11 Access control using RFID identification

The RFID read/write device reads the transponders in the ID card of authorized individuals and grants them access. Due to the long scanning range of the sensor, the identification does not need to be placed directly onto the reading device. This means that authorized individuals can gain access to authorized areas with no hassle.

! This graphic is not presented in the overview.



RFU62x → p. 100

12 Trap surveillance system including direction detection

Two photoelectric sensors or distance sensors detect the movement direction of people inside rooms. Their direction of movement is determined by the order in which the light beams are interrupted. The sensors also provide information about how many people there are in a room.

! This graphic is not presented in the overview.



G6 → p. 60
GR18S → p. 72
Dx35 → p. 104

REFERENCES



**Felia Brugger (M. Sc.),
Head of Security &
Facility Management at
KHM-Museumsverband,
Austria**

“The security system of the Museum of Art History is state-of-the-art. The 2D laser scanners from SICK are a perfect match for our security concept. They protect not only from theft, but also from the effects of vandalism. The laser scanners from SICK are flexible enough to be used both with individual objects and with large areas of wall. That is why they satisfy our strict requirements on security technology. Another area of application of SICK laser scanners is protection of exterior facades. That is how they are used at the Museum of Art History.”



→ www.sickinsight.com/KHM



**Christian Schneebeli,
Managing Director of
Schneebeli Metallbau
AG, Switzerland**

“We are manufacturers of security systems for pedestrian traffic separation and access control. In addition to our many years of know-how, we are reliant on good material components for the high functioning and quality of our systems. SICK provides us with this quality and reliability, along with a good price-performance ratio and capable consultation. Photoelectric sensors from SICK support our separation technology to ensure that no unauthorized persons can gain access to sensitive areas through our passenger locks.”



→ www.sickinsight.com/Schneebeli



Harald Heidemann,
Managing Director of
Heidemann Sicherheit-
selektronik, Germany

“As a developer and installer of security systems for the high-security sector, we place great importance on quality and reliability. The SICK components we have used in our NOMADE portable outdoor space monitoring system live up fully to our expectations. For us to be able to implement our ideas, it was essential that we worked effectively in partnership with a company that could provide us with technical advice and expertise. The result is a unique product that ticks all the boxes – a perfect monitoring system that offers flexibility, simplicity and total security. Our customers are even able to marvel at the reliability of the SICK components when it comes to the monitoring of roofs and facades.”



→ www.sickinsight.com/Heidemann



Mark Pikkarainen,
General Manager for
Security Products at
Comptrol, USA

“The 2D laser scanner from SICK is a very powerful, accurate, and affordable sensor that is well suited to be used as a standalone device for both indoor and outdoor applications, or as a complimentary sensor to provide added layers of protection for our Nation’s Critical Infrastructure. We use the laser scanners from Sick for protecting nuclear power plants as one example of an outdoor application, or for protecting restaurants within airports as an example of an indoor application. Both we and our end customers are very satisfied with the functionality of the laser scanners from SICK.”



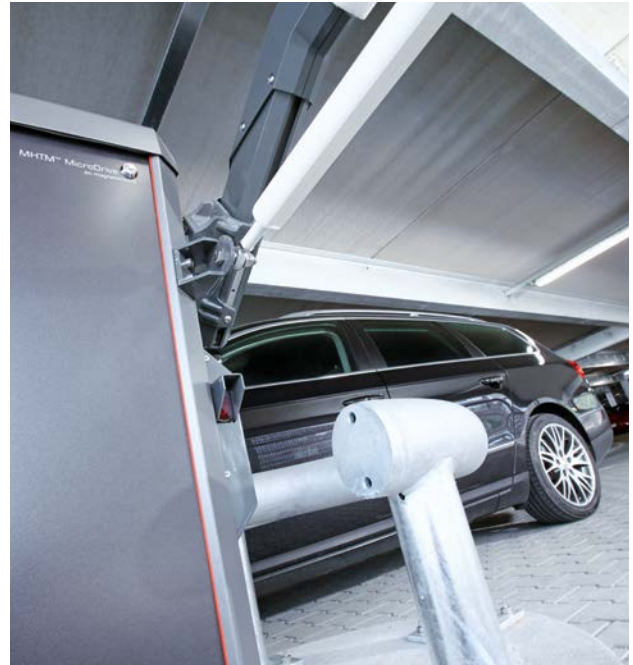
→ www.sickinsight.com/Comptrol

REFERENCES



Heiko Lais,
Product Manager at
Magnetic Autocontrol,
Germany

“Reliable photoelectric sensors for a reliable barrier - that was our credo during the search for an expansion for our range of accessories of the MHTM™ MicroDrive vehicle barrier generation. The L27 safety photoelectric sensors from SICK were a perfect fit for our range due to their compact dimensions, excellent quality features and a good price-performance ratio. Our customers expect the highest level of quality and reliability from our products - as an additional safety device, the L27 makes its contribution to this.”



→ www.sickinsight.com/Magnetic_Autocontrol/Siemens



Walter Hager,
Manager for Solution
Safety & Security at
Siemens, Germany

“We rely on high-quality components which we integrate into our protective concepts to satisfy our customer-specific requirements in security technology. By integrating the LMS531 PRO laser scanner into our video management system as well as our intrusion alarm system, we have been able to exactly fulfill the very strict customer requirements on protecting the logistics buildings or business premises. A good choice, I think, for our future projects as well”.



→ www.sickinsight.com/Siemens

→ www.sickinsight.com/Magnetic_Autocontrol/Siemens



Anne Putz,
Head of Company Communication at General Logistics Systems (GLS), Germany

“Prevention of loss is a common subject for our German and European-wide locations. That is why we will soon be equipping two depots with 2D laser scanners from SICK. We are also planning to use 2D laser scanners for the flexible approval of access paths to certain gates for incoming and outgoing trucks.”



→ www.sickinsight.com/GLS



Andreas Singer,
Head of Consulting and Set-up of Security Technology at AKOS GmbH, Germany

“In order to prevent theft in distribution centers without hindering operational processes, we monitor access to the shelving systems using a 'virtual fence'. The solution with LMS1xx 2D laser scanners from SICK provides enormous advantages in this case: installed eight meters high, four aisles are simultaneously monitored with one laser scanner. The laser scanners are coupled with an intrusion alarm center and can be activated individually if needed. The optimal price-performance ratio of SICK products and the reliable detection of theft means the investment will quickly pay for itself. Our already overwhelmingly positive experience with SICK products was reinforced once again in this application case.”



→ www.sickinsight.com/Akos

REFERENCES



David Lemaitre,
Manager at EOS Innovation, France

“The LMS100 2D laser scanner from SICK is the perfect addition to the security concept that we have developed for our e-vigilante surveillance robot. The laser scanner is capable of detecting people reliably – even over larger distances – and outputs a signal to the e-vigilante. At the same time, this triggers an alarm to the security control center, which is then able to see and hear the unauthorized person in real time thanks to the audio/video system installed in the robot. This allows you to reduce not only the number of surveillance staff, but also the length of time spent staring at the screen in the security control center.”



→ www.sickinsight.com/EOS



Walter Riva,
Sales Director at Tecnosens Spa, Italy

„Flexible and reliable sensors for tough application: this is the key of success of the LMSxx sensors from SICK in the different applications we face in the today demanding market. We used the sensors in many different conditions, including residential building and industrial estates, where the high detection reliability is a must requirement. The flexible settings permit tailor configurations for each specific condition, allowing to keep under control possible false alarms in the outdoor environment, without compromising the detection reliability. The ease of installation, with the unique benefit of the intrinsic vandal proof positioning that the laser scanner technology can benefit, allow to offer robust solutions for any security needs, including the outdoor perimeter protection of night unmanned logistic areas, with many doorways and large buildings.“

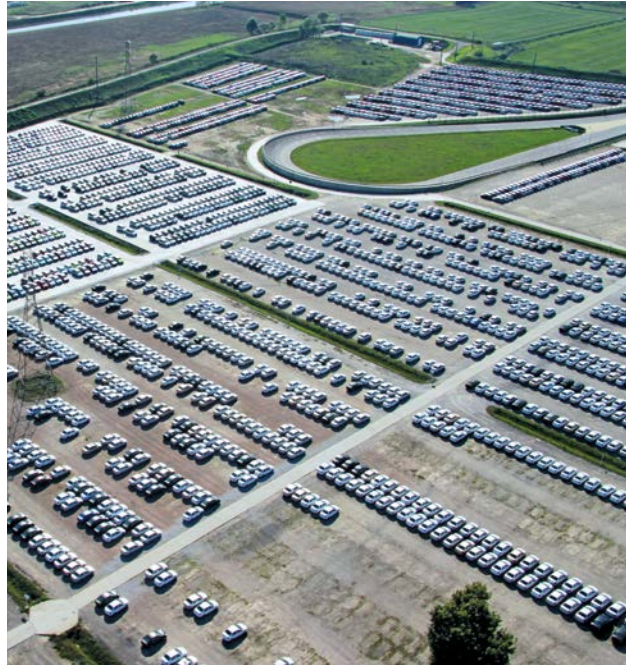


→ www.sickinsight.com/Tecnosens



Volker Frisse,
Sales Manager in the
Perimeter Protection
Division at **LASE PeCo**
Systemtechnik GmbH,
Germany

“In the parking lots of a large automobile/commercial-vehicle manufacturer, frequent cases of vandalism and theft of new vehicles have incurred considerable costs. By reliably monitoring the premises, this damage was able to be reduced considerably. Thanks to the absolutely precise measuring performance of the SICK laser scanners that were used, a video monitoring system with the event-driven detection solution from Lase PeCo has reduced undesired triggering of the alarm to a minimum. The easily managed connection options of the scanners have turned the video technology, the SICK laser scanners and LASE software into an unbeatable security system that complies with data protection laws.”



→ www.sickinsight.com/LASE



Visit us
→ www.sickinsight.com

The online magazine providing recent reports and videos on solutions for factory, logistics and process automation.

INTELLIGENT SURVEILLANCE SYSTEM FOR PRIVATE USE



Laser detectors from SICK already protect many residences, schools, public institutions, penitentiaries, and other important buildings. For these systems trigger alarm signals before break-ins can occur in the first place. Now SICK ensures that this reliable protection can be used in the outdoor areas of private buildings as well.

LOGISTICS ACCESS CONTROL (LAC): ACCESS CONTROL SYSTEM FOR THE SECURE MOVEMENT OF GOODS



According to the U.S. Customs Authority, the best way to protect against terrorism when importing goods into the United States is a secure, end-to-end supply chain. The Customs-Trade Partnership Against Terrorism (C-TPAT) calls for the implementation of a number of organizational and technical measures. SICK's Logistics Access Control (LAC) is an access control system that ensures that goods are handled securely and only by those who are authorized to do so.

NO ESCAPING FOR ANYONE HERE: CAMERA CONTROL IN A FORENSIC CLINIC USING LASER-TRACKING SYSTEM



LASE PeCo Systemtechnik GmbH, a system integrator headquartered in Wessl, Germany, supplies high-quality laser sensors and laser-based system solutions for individual tasks. For a forensic clinic in Northwestern Germany, the company was commissioned to develop and produce a solution for a fully automatic camera control as part of a surveillance system used to monitor prisoners and objects.

BUILDING SAFETY AND SECURITY: EFFECTIVE SOLUTIONS FOR PROTECTING BUILDINGS, PROPERTY, AND MATERIAL ASSETS

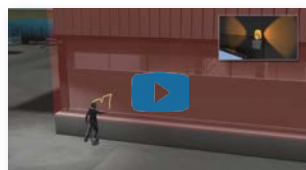
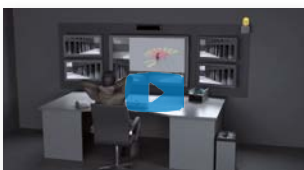


When public and industrial buildings or private houses need to be secured against intrusions, theft, vandalism or terrorism, structural measures or protection by security guards often has its limits. Making additional use of electric or electronic protective devices is, therefore, a sensible idea. SICK provides a diverse range of effective solutions for protecting buildings, property, and material assets.



Visit us
→ www.youtube.com/SICKSensors

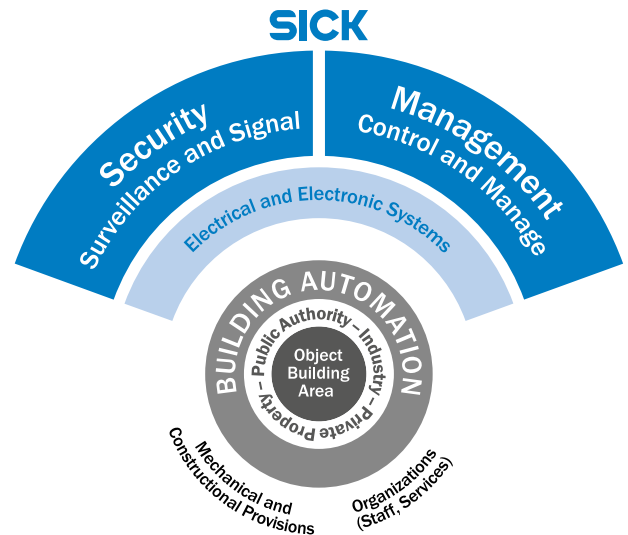
The SICK YouTube channel with films about our products, technologies and solutions for different industries.



FROM PLANNING TO IMPLEMENTATION: SICK IS ALWAYS THERE TO ASSIST YOU

Building safety and security and building management

In building safety and security, buildings or properties are always seen as a whole: no matter if they are industrial buildings, private or public buildings and property. When protecting interior and exterior areas, electrical and electronic systems are used in addition to mechanical (e.g. fences) and organizational (e.g. security staff) measures. SICK sensors monitor previously defined areas. If a monitored area is accessed, e.g. if an authorized person enters, the sensors forward this information to an alarm center. The building management also plays an important role here. SICK sensors control and regulate automatic doors, gates, windows, roofs, facades, barriers, elevators, escalators, moving sidewalks and parking garages. SICK will assist you in all areas of building safety and security and building management.



Planning, consultation and implementation

SICK recommends introducing the topics of building safety and security and building management as early as in the construction planning phase. This will save you making cost-intensive retrospective improvements later on. SICK can offer you assistance – with no obligations – ranging from a tender

procedure to project planning and an after-sales service based on our SICK product portfolio. Construction projects can only be realized when all involved parties work together. Together with all involved companies, SICK assists you until your building is complete.



SICK is your reliable contact person, right from the outset

The sooner you involve us in your planning, the more effectively our consultation will aid your planning and implementation. Our training can bridge any knowledge gaps. Our experienced team players will guide your project to success using certified, efficient solutions.



Competent consultation for public authorities, industry and retail as well as private households e.g. for:

- Architects
- Banks, financial and insurance consultants
- State and municipal authorities
- Building operators and end consumers
- City marketing and urban development
- Decision-makers of building authorities
- Installation contractors and system integrators
- General contractors
- Wholesale and retail centers
- Manufactures of security technology
- Industrial companies
- Logistics companies and forwarding agents
- Museums and exhibition buildings
- Planning and engineering offices
- Transport companies
- Specialists for security, specialists for housing technology, heads of site security
- Operators of structures for large events
- Public utilities
(power and gas companies, water providers, etc.)

Certification



Our products are partly VdS certified (VdS Schadenverhütung GmbH), guaranteeing a high level of reliability. The LMC1xx 2D laser scanner (Laser Measurement Certified) is VdS certified and also partially in accordance with EN 50131.

The certificate from the VdS is considered a seal of quality for security products used in building interiors. Class C is the highest possible classification that a product can achieve. A VdS certificate is recognized by other national certification organizations in Europe. For security products for the exterior, certification according to environmental class IV, for instance, is a criterion for reliable sensors.



TYPICAL SECURITY CONCEPT

Dangers and protective measures derived from these

DIN EN 50131-1 regulates the provisions for security technology for alarm systems as well as intrusion and hold-up alarm systems. The basis for the planning and installation of sensors for monitoring buildings and property is a project-specific security analysis and security concept derived from this analysis tailored to these specific dangers. The following activities must be observed for hazard analysis:

- Slow walking, fast running
- Climbing
- Cutting
- Use of ladders and other climbing aids
- Undercutting
- Passing through

A good hazard analysis is important, both when planning and building individual security equipment and complex security systems. In doing so, we as a sensor manufacturer work closely with planners, architects and future users of the protective device or the security system. The following factors should be observed in the planning phase:



For monitoring with a 2D laser scanner, it should be set so that only the hazards relevant for the user should be detected. The goal is to trigger as few false alarms as possible and no faulty alarms, for example caused by small animals or bad weather.

Alarm type	Description
Faulty alarm	Alarm is not triggered. The alarm does not report a threat even though one exists.
False alarm	Alarm triggered without cause. Alarm is triggered even though no threat exists. The cause of an alarm is not identifiable.

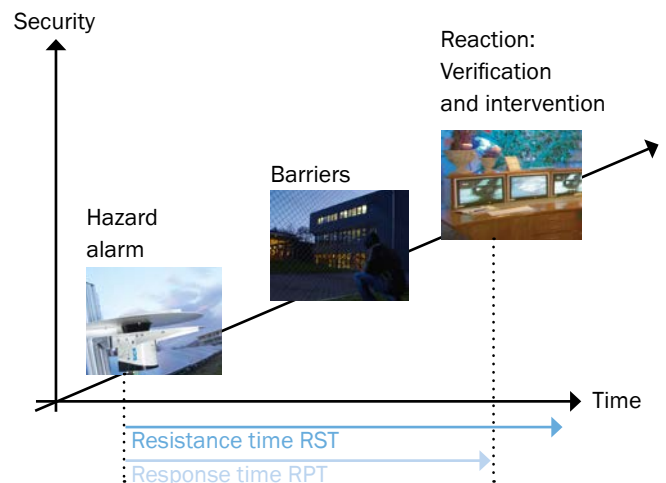
Time management in building safety and security

In order to protect a property effectively, the resistance time

RST resistance time
RPT response time
SF security factor
 $SF = RST/RPT$

should be as large or larger than the time it takes from the time of the alarm for the security staff to arrive at the location. The resistance time depends on which tools (ladder, pliers, etc.) a perpetrator uses to get past

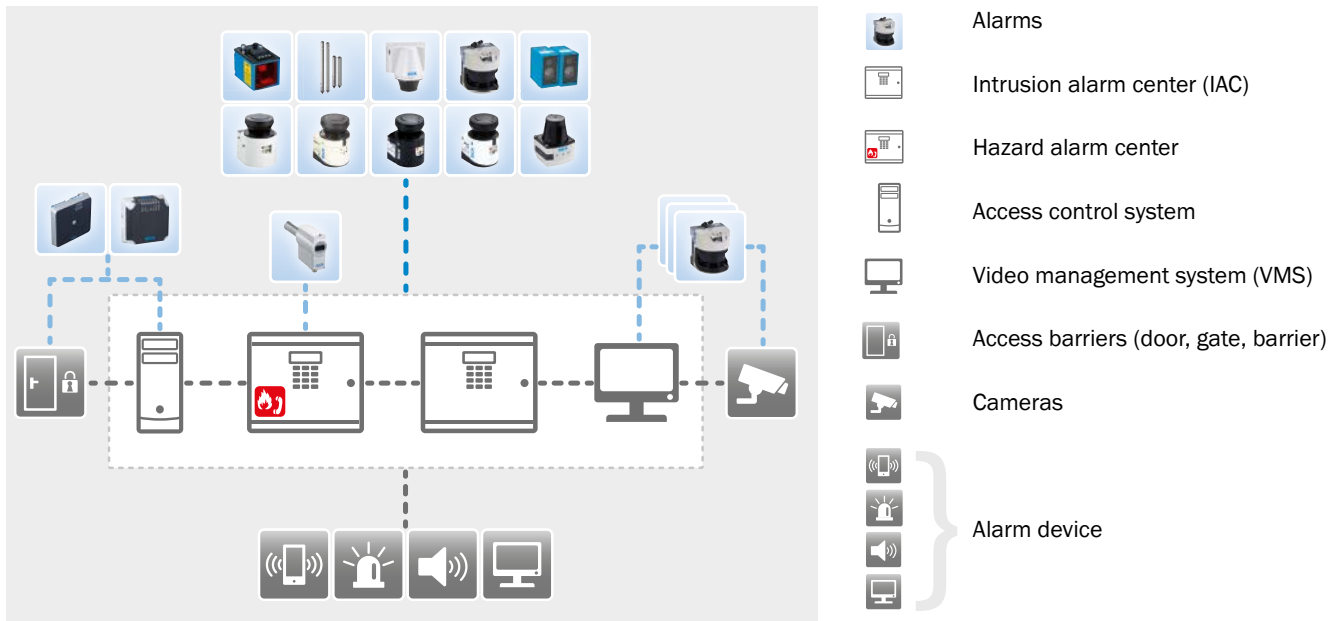
the barrier. If the ratio of resistance time and response time results in a security factor greater than 1, a building or property is considered effectively protected. SICK sensors for perimeter monitoring can increase the response time of the security staff.



SICK sensors in alarm systems

2D laser scanners, light grids, photoelectric sensors, RFID read/write devices and laser oxygen transmitters are used as standalone devices or in access control systems, video management systems, intrusion alarm centers and danger alarm centers. In danger alarm systems and verification systems in particular, SICK sensors make a large contribution. SICK works

together very closely with system integrators who integrate the SICK sensors in the alarm systems. In addition, SICK has many partnerships with manufacturers of cameras and alarm systems. This enables efficient and targeted solutions for your application.



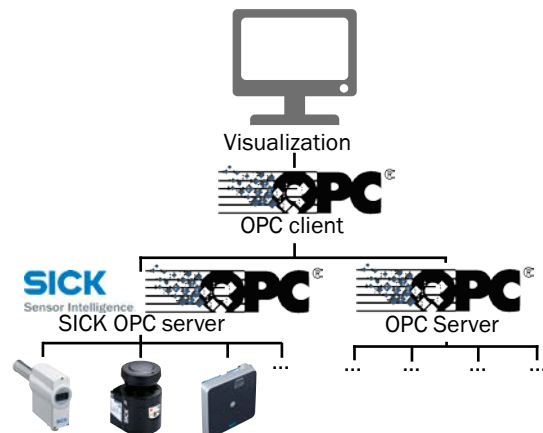
SICK sensors in the overall context of alarm systems

Scalable solutions with OPC

OPC technology plays an important role in large alarm systems with a large number of components. OPC interfaces are widely used in the industry. They allow communication between devices, controllers, and applications without the usual driver-related connection problems.

Advantages of OPC compared to other interfaces:

- Standardized data format
- Considerably fewer drivers and protocols
- Easy implementation and low costs of commissioning
- User-friendly data handling (device data)
- No special knowledge about interfaces and data protocols required



Viewing information based on OPC

SICK SENSORS GIVE YOU A COMPETITIVE EDGE

The formula for mutual success



SICK - your qualified partner

SICK AG

- More than 70 years of experience in process, factory and logistics automation
- SICK has more than 50 subsidiaries and holdings, as well as representative offices around the world

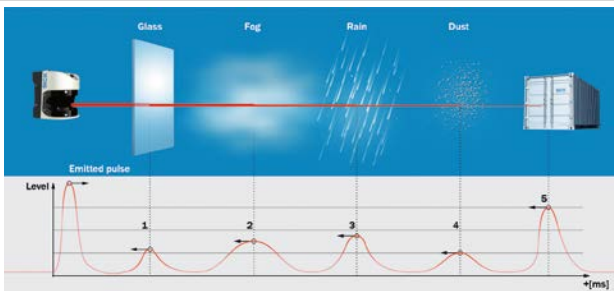


SICK in building automation

- More than 20 years of experience in building automation with focus on building safety and security
- Countless worldwide cooperations and partnerships with system integrators for video management systems, intrusion alarm systems, access control systems and hazard alarm systems

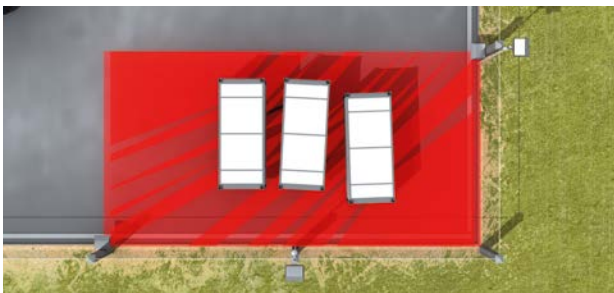
Advantages of SICK products

- ✓ Advanced technologies
- ✓ High level of flexibility
- ✓ Low false alarm rate
- ✓ Reliability in any weather



Multi-echo technology

- New, ultra high-speed scanning technologies
- High-precision laser measurement
- Reliability in nearly any weather



Simple teach-in of monitored areas

- Simple adaptation of monitored areas to the local conditions
- Teach-in of multiple monitored areas possible



Long range identification

- Hands-free applications
- Reliable identification
- Intuitive user and software management

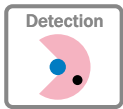
PRINCIPLES OF OPERATION

2D laser scanners

Measuring methods of 2D laser scanners

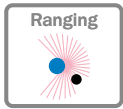
A laser scanner consists of one or more senders whose laser beams are deflected by a rotating mirror. Several laser beams create a scan line, which is scanned point-by-point. A distance and reflectance value is generated at each measuring point. Individual measuring points are optimally illuminated, making laser measurement sensors ideal for ranges from a few meters to over 100 meters. A rotating mirror deflects the pulsed or modulated light of a laser diode into a horizontal plane. Due to the rotation of the rotary mirror, a multitude of single measurements are merged to form an entire scan of an area.

Detection



Detection is determining if an object is in the monitored area. The result is either “Object in the monitored area” or “No object in the monitored area” from the sensor’s switching outputs.

Ranging



Measurement, or ranging describes the relative distance data between object and sensor. If objects are located within the measuring zone, the distance data is output via an interface. The result is positions or coordinates.

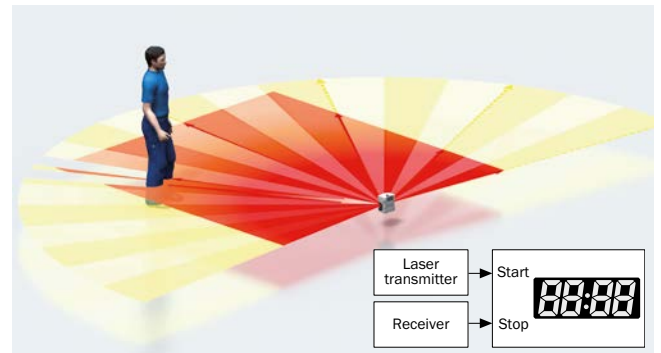
Multi-echo technology



Multi-echo is a groundbreaking technology that enables reliable measured values even in adverse weather conditions such as rain, fog or snow. To obtain reliable measurement values and refine objection detection, multiple echoes are first received and evaluated from each laser pulse emitted.

Method

With the time-of-flight method, the distance between the sensor and the object is calculated by measuring the time interval between the emission of the laser pulse and the pulse being received again. The signal received also provides information about the remission of the detected object.



Terms

Laser scanners = Laser measurement sensors = Laser detectors
SICK uses the term laser scanners in building automation.
Laser measurement sensors and laser detectors are synonyms.

User interface and remission

Remission is the reflected laser pulse. Depending on the surface composition (structure, color), each material has its own specific remission. If a laser pulse strikes the surface of a material, it absorbs energy of the laser pulse and only reflects part of it.

Scanning range

The range of the sensor depends on the reflectivity of the object to be detected, among other things. The better a surface reflects the beams it is hit by, the greater the range of the sensor is.

Field sets



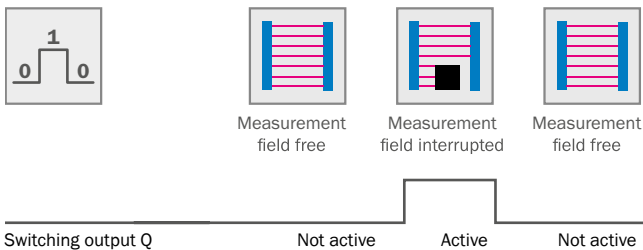
Depending on the laser scanner, up to 16 different monitored areas (field sets) can be defined. This is beneficial if several small areas are to be monitored along a large area. This is desirable, for instance, for the protection of several pictures on a museum wall or the protection of several individual windows in a building facade.



Light grids

Typical tasks for light grids include detecting objects in two dimensions, measuring, checking or counting. In a light grid, a sender unit and a receiver unit are attached on opposing sides of a monitored area. Infrared light is typically used.

Unlike a measuring light grid, a switching light grid can signal the presence of an object but not indicate its position. One or several light grids secure passage areas in which even the smallest objects can be detected. Light grids form a close-meshed network of individual infrared light beams so that even one finger is detected in the monitored area. By combining two light grids behind each other, the direction can even be detected. Safety light curtains are used to protect hazardous points and access areas.



Switching light grids detect an object at a random point in the measured field. They then transmit the “measured field free” or “measured field interrupted” information via a switching output on the superior electronic unit.



PRINCIPLES OF OPERATION

Photoelectric sensors, photoelectric proximity sensors and distance sensors



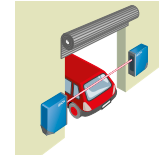
Photoelectric retro-reflective sensors



Photoelectric proximity sensors



Through-beam photoelectric sensors



With photoelectric retro-reflective sensors, the emitted light is returned by a reflector and is received and evaluated by the device. Polarizing filters prevent errors when detecting reflective objects.

The transmitter and receiver are located in the same housing in photoelectric proximity sensors. Photoelectric proximity sensors detect an object as soon as the reflected sensor light is received from its surface. When an object is detected, the sensor generates a defined, electrical output signal.

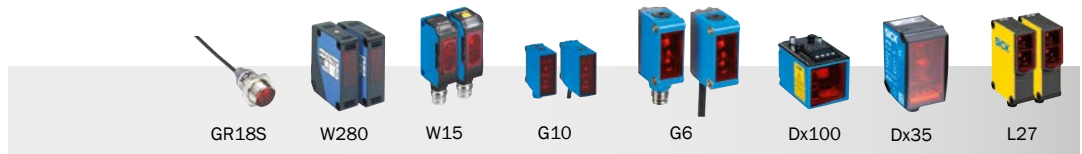
Through-beam photoelectric sensors are composed of two devices: a sender and a receiver. They are physically separate from one another and are each contained in their own housing. The sender contains a light emitting diode (LED) or laser diode, and the receiver detects the incident light with a photodiode.



Mid-range distance sensors use HDDM technology (HDDM = High Definition Distance Measurement). The static time-of-flight method is the technical foundation for the highest level of measurement data reliability.



Long-range distance sensors use the time-of-flight method (phase correlation and time-of-flight measurement). The sensor emits light which a reflector or the object which is to be measured reflects. The time required by the light to travel between the sensor and the object or reflector and back again is proportional to the distance between the sensor and object. The longer the time required, the greater the distance.



Hand-held scanners and image-based code readers



Bar code identification using laser technology

Readers which illuminate codes with red light (laser) read the bar codes. The read devices then convert the light reflected from the bars (typically absorbing elements) and gaps (typically reflecting elements) into a binary signal. A processor inside the reader digitalizes the analog signal it receives, decodes it and sends the information to the host in a suitable format.



Bar code identification using camera technology

Image-based code readers identify 2D codes as well as 1D codes. The data is assessed on the image.



The line scan camera reads the 2D code's information line by line. This information is then converted by software algorithms back into a two-dimensional image. The identification of the matrix camera functions like a classic digital camera: a two-dimensional image is taken.



RFID

RFID describes a broad range of technologies that use radio-based identification. The decisive components of an RFID system are the read/write device and the mobile data card (transponder). They communicate with each other via a so-called radio interface.



In passive UHF systems such as the RFU62x and RFU63x, the electrical supply of the transponder comes exclusively from the radio interface. The UHF systems (860 MHz to 960 MHz) are suited for ranges up to 6 m. Sender power, transponder and other influences such as air humidity and metal in the environment influence the ranges.



Safety controllers and safety switches

SICK's safety controllers provide straightforward, flexible, and scalable solutions for intelligent machine design. The Flexi Classic and Flexi Soft safety controllers create a modular hardware platform without the use of complex software. They are user-friendly and provide the ideal basis for easy integration of all safety control components. Their compact design makes these safety controllers optimally suited for a variety of applications.

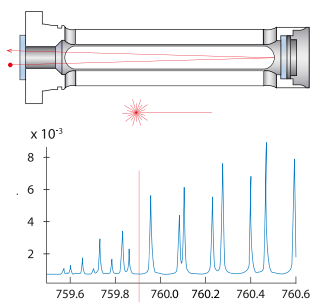
Safety locking devices keep protective devices safely locked until a hazardous area can be entered. They are intended for applications in which there is an immediate danger to people due to follow-on movements of a machine, for example when

a door is opened, or if uncontrolled intervention in the process would have serious consequences. There are two options for the interlock: with the spring force lock, spring force keeps the protective device closed. With the solenoid lock, the activation of a magnet coil holds the protective device closed.



Gas analyzers

The TRANSIC100LP is a laser oxygen transmitter which measures in situ, i.e. directly in the process. It is based on the measurement principle of Tunable Diode Laser Spectroscopy (TDLS). It directly measures a natural characteristic of the oxygen, independent of location and time.



Turnable Diode Laser Spectroscopy is primarily used in high-end gas analyzers and is characterized by its highly selective measurement capability. The oxygen properties are used for O_2 measurement. That means specific

wavelengths in the near infrared range stimulate O_2 molecules. A laser diode modulates the radiation precisely over an absorption peak. The high-energy radiation transfers energy to the O_2 molecules and the signals become weaker. In the measuring probe, the laser beam hits the O_2 molecules and is weakened according to the concentrations of oxygen present there. A receiver measures the intensity of the radiation and accurately determines the absorption.



PRODUCT OVERVIEW



Product overview

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TiM5xx.110

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LMC1xx114

LMS5xx116

LD-LRS.118



At a glance

- PinPoint LED for a bright, precise light spot
- Durable metal threaded inserts
- SICK ASIC technology - the result of decades of experience in photoelectric sensors
- Large, user-friendly potentiometer
- Large, bright indicator LEDs
- IP 67 enclosure rating

Your benefits

- Easy alignment and precise object detection due to a highly visible PinPoint LED
- Quick and easy mounting and high durability due to threaded metal inserts
- SICK ASIC technology provides high performance and excellent reliability
- Easy to adjust due to large, user-friendly potentiometers
- Easy to monitor due to large, bright indicator LEDs
- Easy installation with SICK accessories

→ www.mysick.com/en/G6

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models → www.mysick.com/en/G6

GL6

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** Standard optics

Sensing range max.	Type of light	Output type	Connection	Model name	Part no.
≤ 6 m ¹⁾	Visible red light	PNP	Cable, 3-wire, 2 m, PVC	GL6-P1112	1051779
			Connector M8, 4-pin	GL6-P4112	1051777

¹⁾ PL80A.

GSE6

- **Sensor principle:** Through-beam photoelectric sensor

Sensing range max.	Type of light	Output type	Connection	Model name	Part no.
0 m ... 14.5 m	Infrared light	NPN	Cable, 3-wire, 2 m, PVC	GSE6-N1121	1064653
		PNP	Cable with connector M12, 4-pin, 500 mm, PVC	GSE6-P0121S48	1070054
			Cable, 3-wire, 2 m, PVC	GSE6-P1121S14	1059111
0 m ... 15 m	Visible red light	PNP	Cable, 3-wire, 2 m, PVC	GSE6-P1112	1052452
			Connector M8, 4-pin	GSE6-P4112	1052450

GTE6

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** energetic

Sensing range max.	Type of light	Output type	Connection	Model name	Part no.
≤ 300 mm ¹⁾	Visible red light	PNP	Cable, 3-wire, 2 m, PVC	GTE6-P1212	1051783
			Connector M8, 4-pin	GTE6-P4212	1051781
≤ 900 mm	Visible red light	NPN	Connector M8, 4-pin	GTE6-N4232	1070544
			Cable, 3-wire, 2 m, PVC	GTE6-P1232	1069726
		PNP	Cable, 3-wire, 2 m, PVC	GTE6-P1232	1069726
			Connector M8, 4-pin	GTE6-P4231	1065730

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033)

GTB6

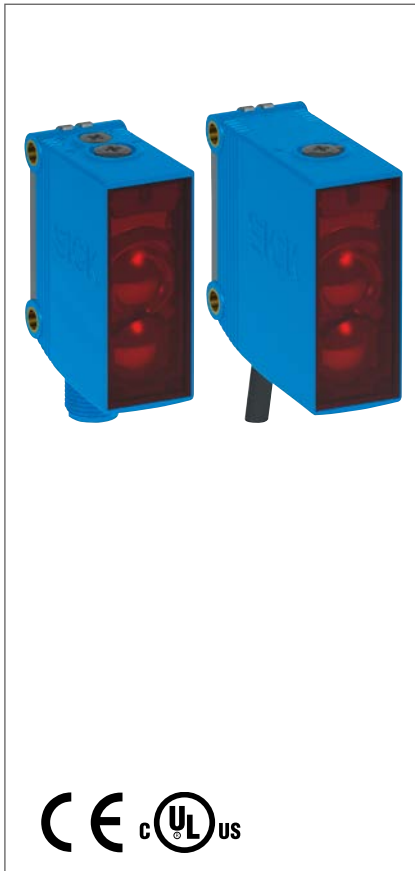
- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background suppression

Sensing range max.	Type of light	Output type	Connection	Model name	Part no.
5 mm ... 250 mm ¹⁾	Visible red light	PNP	Cable, 3-wire, 2 m, PVC	GTB6-P1212	1052444
			Connector M8, 4-pin	GTB6-P4212	1052442

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033)

Accessories

	Brief description	Model name	Part no.
Device protection (mechanical)			
	Stainless steel 1.4301 (SVS 304), 3 mm thick protection cover for G6, stainless steel 1.4301, mounting hardware included	BEF-SG-G6	2069044
Masks			
	Slit mask, vertical slots, slot width: 1.0 mm, 2 pieces, black, Aluminum, Slit mask (2 pieces)	BEF-SLIT MASK-G6	2075254
Optical filters			
	Snap-on front lenses, 2 x horizontal polarisation filters, for G6 through-beam sensors, 2 pieces	BEF-POLARIZER MASK HORIZONTAL-G6	2078525
	Snap-on front lenses, 2 x vertical polarisation filters, for G6 through-beam sensors, 2 pieces	BEF-POLARIZER MASK VERTICAL-G6	2078524



At a glance

- Maximum optical window surface combined with a small sensor housing
- Sensing range up to 1,200 mm with background suppression performance
- PinPoint LED with bright and precise light spot
- Sensor variants in all major detection principles and with DC or AC/DC power supply
- Transistor output or relay output
- Latest SICK ASIC chip technology
- Rugged sensor housing with metal sleeved mounting holes

Your benefits

- G10 focuses on the essentials the user really needs – without compromising quality, reliability or performance
- One sensor family serves all standard industrial and domestic applications
- Reliable object detection and long scanning ranges thanks to large optics and SICK ASIC technology
- Easy and fast sensor alignment due to small and highly visible PinPoint light spot
- Insensitive to dust and dirt on front lens or reflector
- Clever accessories reduce installation effort and safe time

→ www.mysick.com/en/G10

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models → www.mysick.com/en/G10

GTB10

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background suppression

Voltage type	Sensing range max.	Type of light	Output type	Adjustment	Connection	Model name	Part no.
DC	20 mm ... 950 mm ¹⁾	Visible red light	PNP	Potentiometer, 5 turns	Connector M12, 4-pin	GTB10-P4212	1065857
AC/DC	20 mm ... 950 mm ¹⁾	Visible red light	Relay	Potentiometer, 5 turns	Cable, 5-wire, 2 m, PVC	GTB10-R3812	1065862
	20 mm ... 1,200 mm ¹⁾	Infrared light	Relay	Potentiometer, 5 turns	Cable, 5-wire, 2 m, PVC	GTB10-R3822	1065864

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033)

GL10

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** Standard optics

Voltage type	Sensing range max.	Type of light	Output type	Adjustment	Connection	Model name	Part no.
DC	0.08 m ... 15 m ¹⁾	Visible red light	PNP	–	Connector M12, 4-pin	GL10-P4112	1065879
	0.08 m ... 12 m ²⁾			Potentiometer, 270 °	Connector M12, 4-pin	GL10-P4212	1065887
AC/DC	0.08 m ... 15 m ¹⁾ 0.08 m ... 12 m ²⁾	Visible red light	Relay	Potentiometer, 270 °	Cable, 5-wire, 2 m, PVC	GL10-R3812	1065898

¹⁾ PL80A.









²⁾ P250.

GSE10

- **Sensor principle:** Through-beam photoelectric sensor

Voltage type	Sensing range max.	Type of light	Output type	Adjustment	Connection	Model name	Part no.
DC	0 m ... 40 m	Visible red light	PNP	–	Connector M12, 4-pin	GSE10-P4112	1065900
				Potentiometer, 270 °	Connector M12, 4-pin	GSE10-P4212	1065903
		Infrared light	PNP	Potentiometer, 270 °	Connector M12, 4-pin	GSE10-P4222	1065907
AC/DC	0 m ... 40 m	Visible red light	Relay	–	Cable, 5-wire, 2 m, PVC	GSE10-R3712	1065911
		Infrared light	Relay	–	Cable, 5-wire, 2 m, PVC	GSE10-R3722	1065914

Accessories

	Brief description	Model name	Part no.
Device protection (mechanical)			
	Weather protection hood for G10, steel, zinc coated, mounting hardware included	BEF-G10WSG	2071960
	Weather protection hood for reflectors PL80A, P250, PL40A, steel, zinc coated, mounting hardware included	BEF-PL80AWSG	2071961
Mounting brackets and mounting plates			
	Mounting bracket for wall and floor mounting for G10 DC, steel, zinc coated, mounting hardware included	BEF-G10DC01	2071258
	Mounting bracket for wall and floor mounting for G10 AC/DC, steel, zinc coated, mounting hardware included	BEF-G10UC01	2071259
Plug connectors and cables			
 Illustration may differ	Head A: female connector, M12, 4-pin, angled Head B: cable Cable: drag chain use, PVC, unshielded, 2 m	DOL-1204-W02M	6009383
	Head A: female connector, M12, 4-pin, angled Head B: cable Cable: drag chain use, PVC, unshielded, 5 m	DOL-1204-W05M	6009867
Reflectors			
	Rectangular, screw connection, 47 mm x 47 mm, PMMA/ABS, Screw-on, 2 hole mounting	P250	5304812
	Rectangular, screw connection, 38 mm x 15 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL20A	1012719
	Rectangular, screw connection, 80 mm x 80 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL80A	1003865



At a glance

- Highly visible red light spot thanks to the BrightLight LED
- Potentiometer for adjusting sensing range
- Light/dark switching (DC devices only)
- Rotatable connector, cable connection or terminal chamber
- Versions for 10 – 30 V DC or 24 – 240 V DC/AC voltage supply
- AC/DC (-2Hxxxx) devices are compliant with EN61000-6-3 (electromagnetic interference for “residential, commercial and light-industrial environments”)
- Stainless steel mounting bracket and P250 reflector (for WL280 only) are included in delivery

Your benefits

- Simple and fast commissioning with the highly visible light spot of the BrightLight LED
- Simple operation via potentiometer
- Light/dark switching provides application flexibility
- All necessary mounting and operating accessories are included in delivery, enabling quick and easy setup: since mounting bracket (stainless steel 1.4301) is included in delivery scope
- DC devices and AC/DC devices available in the same housing, allowing electrical flexibility
- Less contamination due to high operating reserves, reducing downtime

→ www.mysick.com/en/W280-2

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models → www.mysick.com/en/W280-2

WTE280-2

- **Sensor principle:** Photoelectric proximity sensor

Voltage type	Sensing range max.	Output type	Connection	Overvoltage category	Model name	Part no.
DC	10 mm ... 2,000 mm ¹⁾	PNP	Connector M12, 4-pin	–	WTE280-2P2431	6044728
			Cable, 3-wire, 2 m	–	WTE280-2P1131	6044726
			Cable gland	–	WTE280-2P4331	6044724
		NPN	Connector M12, 4-pin	–	WTE280-2N2431	6044729
			Cable, 3-wire, 2 m	–	WTE280-2N1131	6044727
			Cable gland	–	WTE280-2N4331	6044725

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033)

WL280-2

- **Sensor principle:** Photoelectric retro-reflective sensor

Voltage type	Sensing range max.	Output type	Connection	Overvoltage category	Model name	Part no.
AC/DC	0.01 m ... 15 m ¹⁾	Relay	Cable, 5-wire, 2 m	3	WL280-2R1531	6044761
				2	WL280-2H1531	6044739
			Cable, 5-wire, 5 m	2	WL280-2H1631	6044740
				3	WL280-2R4331	6044760
				2	WL280-2H4331	6044738

¹⁾ PL80A. ²⁾ P250.

Voltage type	Sensing range max.	Output type	Connection	Overvoltage category	Model name	Part no.
DC	0.01 m ... 15 m ¹⁾ 0.01 m ... 12 m ²⁾	PNP	Connector M12, 4-pin	-	WL280-2P2431	6044736
			Cable, 3-wire, 2 m	-	WL280-2P1131	6044734
			Cable gland	-	WL280-2P4331	6044732
		NPN	Connector M12, 4-pin	-	WL280-2N2431	6044737
			Cable, 3-wire, 2 m	-	WL280-2N1131	6044735
			Cable gland	-	WL280-2N4331	6044733







¹⁾ PL80A, ²⁾ P250.

WSE280-2

- **Sensor principle:** Through-beam photoelectric sensor

Voltage type	Sensing range max.	Output type	Connection	Overvoltage category	Model name	Part no.
AC/DC	0 m ... 60 m	Relay	Cable, 5-wire, 2 m	3	WSE280-2R1531	6044763
				2	WSE280-2H1531	6044748
			Cable, 5-wire, 5 m	2	WSE280-2H1631	6044749
				3	WSE280-2R4331	6044762
			Cable gland	2	WSE280-2H4331	6044747
DC	0 m ... 60 m	PNP	Connector M12, 4-pin	-	WSE280-2P2431	6044745
			Cable, 3-wire, 2 m	-	WSE280-2P1131	6044743
			Cable gland	-	WSE280-2P4331	6044741
		NPN	Connector M12, 4-pin	-	WSE280-2N2431	6044746
			Cable, 3-wire, 2 m	-	WSE280-2N1131	6044744
			Cable gland	-	WSE280-2N4331	6044742

Accessories

	Brief description	Model name	Part no.
Universal bar clamp systems			
	Plate N04 for universal clamp bracket, steel, Zinc plated steel (sheet), Diecast zinc (clamp), Universal clamp, mounting hardware	BEF-KHS-N04	2051610
Plug connectors and cables			
 Illustration may differ	Head A: female connector, M12, 4-pin, straight Head B: cable Cable: drag chain use, PVC, unshielded, 2 m	DOL-1204-G02M	6009382
	Head A: female connector, M12, 4-pin, straight Head B: cable Cable: drag chain use, PVC, unshielded, 5 m	DOL-1204-G05M	6009866
	Head A: female connector, M12, 4-pin, straight Head B: - Cable: unshielded	DOS-1204-G	6007302
Reflectors			
	Round, screw connection, PMMA/ABS, Center hole mounting, screw-on	C110A	5304549
	Rectangular, screw connection, 47 mm x 47 mm, PMMA/ABS, Screw-on, 2 hole mounting	P250	5304812
	Rectangular, screw connection, 80 mm x 80 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL80A	1003865



At a glance

- Long sensing range with a high operating reserve
- Rugged metal housing
- Optional: Powerful front lens heating
- Optional test input, time delays and alarm output

- Variants for 10 - 60 V DC or 24 - 240 V DC / 24 - 240 V AC voltage supply

Your benefits

- Reliable continuous operation due to high operating reserves
- Very large sensing distance
- Rugged metal housing ensures a long service life in harsh industrial environments
- Front lens heating prevents condensation and frost for reliable operation in outdoor applications

- Multiple functions for simpler integration of individual systems
- Variants DC voltage and universal AC/DC voltage provides installation flexibility due to same housing

→ www.mysick.com/en/W45

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models → www.mysick.com/en/W45

WT45

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background suppression

Sensing range max.	Type of light	Output type	Front screen heating	Model name	Part no.
200 mm ... 2,000 mm ¹⁾	Infrared light	PNP	✓	WT45-P250	1009117
			-	WT45-P260	1009108
		NPN	✓	WT45-N250	1009116
			-	WT45-N260	1009109
		Relay	✓	WT45-R250	1009118
			-	WT45-R260	1009107

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033)

WS/WE45

- **Sensor principle:** Through-beam photoelectric sensor

Sensing range max.	Type of light	Output type	Front screen heating	Model name	Part no.
0 m ... 350 m	Infrared light	PNP	✓	WS/WE45-P250	1010983
			-	WS/WE45-P260	1010985
		NPN	✓	WS/WE45-N250	1010982
			-	WS/WE45-N260	1010984
		Relay	✓	WS/WE45-R250	1010994
			-	WS/WE45-R260	1010995









WL45

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** Standard optics

Sensing range max.	Type of light	Output type	Front screen heating	Model name	Part no.
1 m ... 55 m ¹⁾	Visible red light	PNP	✓	WL45-P250	1008840
			-	WL45-P260	1008668
		NPN	✓	WL45-N250	1008839
			-	WL45-N260	1008669
		Relay	✓	WL45-R250	1008841
			-	WL45-R260	1008562

¹⁾ OP60-00.

Accessories

	Brief description	Model name	Part no.
Device protection (mechanical)			
	Water cooling plate, Aluminum	BEF-KP-W45	2011435
	Dust protection tube, Aluminum, painted, mounting hardware included	OBS-W45	2011432
	Weather hood, Aluminum, painted, mounting hardware included	OBW-W45	2011431
Mounting brackets and mounting plates			
	Mounting bracket, steel, zinc coated, mounting hardware included	BEF-WN-W45	2011480
Terminal and alignment brackets			
	Ball clamp bracket, steel, zinc coated, mounting hardware included	BEF-KK-W45	2011436
Alignment aids			
	Adapter for alignment aid AR60	Adapter AR60 for W45	2017377
Reflectors			
	Round, screw connection, PMMA/ABS, Center hole mounting, screw-on	C110A	5304549
	Rectangular, screw connection, wrench size 48 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL50A	1000132
	Rectangular, screw connection, 80 mm x 80 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL80A	1003865



At a glance

- M18 front mount using plastic nut or snap ring, side assembly with 24.1 mm through holes
- Flush mounting possible using the snap ring
- Transparent back cover
- Best-in-class background suppression and red PinPoint LED
- High immunity to ambient light
- Highly visible LED indicators

Your benefits

- Completely compatible with many competitor models, making it easy install and commission
- Flush mounting reduces setup time and prevents obstructions to material flow on conveyor systems
- Clearly visible LED indicators reduce setup time and simplify troubleshooting
- Reliable detection due to best-in-class background suppression that ignores stray background reflections, detects multi-colored/shiny objects and provides high immunity to ambient light
- Customer-specific options reduce material and labor costs

→ www.mysick.com/en/W15

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models → www.mysick.com/en/W15

WTB15

Sensor principle	Detection principle	Sensing range max.	Output type	Connection	Model name	Part no.
Photoelectric proximity sensor	Background suppression	4 mm ... 200 mm ¹⁾	PNP	Connector M12, 4-pin	WTB15-P2431	1044305
				Cable, 4-wire 2 m PUR	WTB15-P1131	1046284
			NPN	Connector M12, 4-pin	WTB15-N2431	1044306
				Cable, 4-wire 2 m PUR	WTB15-N1131	1046283
			PNP, NPN	Connector M12, 4-pin	WTB15-B2431	1043326
				Cable, 4-wire 2 m PUR	WTB15-B1131	1046282

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033)

WTE15

Sensor principle	Detection principle	Sensing range max.	Output type	Connection	Model name	Part no.
Photoelectric proximity sensor	Energetic	10 mm ... 350 mm ¹⁾	PNP	Connector M12, 4-pin	WTE15-P2411	1043314
				Cable, 4-wire 2 m PUR	WTE15-P1111	1046148
			NPN	Connector M12, 4-pin	WTE15-N2411	1043313
				Cable, 4-wire 2 m PUR	WTE15-N1111	1046147
			PNP, NPN	Connector M12, 4-pin	WTE15-B2411	1043317
				Cable, 4-wire 2 m PUR	WTE15-B1111	1046278

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033)

WL15, Detecting objects wrapped in film

Sensor principle	Detection principle	Sensing range max.	Output type	Connection	Model name	Part no.
Photoelectric retro-reflective sensor	Standard optics	0.035 m ... 5 m ¹⁾	PNP	Connector M12, 4-pin	WL15-P2430S01	1054623

¹⁾ PL80A.

WSE15

Sensor principle	Sensing range max.	Output type	Connection	Model name	Part no.
Through-beam photoelectric sensor	0 m ... 5 m	PNP, NPN	Connector M12, 4-pin	WSE15-B2430	1043328
				WSE15-A2430	1043327
			Cable, 4-wire 2 m PUR	WSE15-B1130	1046286
				WSE15-A1130	1046285

Accessories

	Brief description	Model name	Part no.
Mounting brackets and mounting plates			
	Mounting plate for M18 sensors, steel, zinc coated, without mounting hardware	BEF-WG-M18	5321870
	Mounting bracket, M18 thread, steel, zinc coated, without mounting hardware	BEF-WN-M18	5308446
Universal bar clamp systems			
	Plate N06 for universal clamp bracket, Zinc plated steel (sheet), Diecast zinc (clamp), Universal clamp, mounting hardware	BEF-KHS-N06	2051612
Plug connectors and cables			
	Head A: female connector, M12, 4-pin, straight Head B: cable Cable: drag chain use, PVC, unshielded, 2 m	DOL-1204-G02M	6009382
	Head A: female connector, M12, 4-pin, straight Head B: cable Cable: drag chain use, PVC, unshielded, 5 m	DOL-1204-G05M	6009866
	Head A: female connector, M12, 4-pin, angled Head B: cable Cable: drag chain use, PVC, unshielded, 2 m	DOL-1204-W02M	6009383
Reflectors			
	Rectangular, screw connection, 47 mm x 47 mm, PMMA/ABS, Screw-on, 2 hole mounting	P250	5304812
	Rectangular, screw connection, 37 mm x 56 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL40A	1012720
	Rectangular, screw connection, 80 mm x 80 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL80A	1003865
	Self-adhesive	REF-IRF-56	5314244



At a glance

- Economical M18 cylindrical sensors with standard housing design
- Two different housing types made of plastic and metal with straight optical output
- Very bright and highly visible PinPoint LEDs
- Highly visible status indicator
- IP 67 enclosure rating

Your benefits

- A whole range of mounting options thanks to the different housing types
- Simple alignment and precise detection using PinPoint LEDs
- Easy to mount with simple M18 hole mounting. No special mounting brackets required.
- Rugged and reliable operation due to proven SICK sensing technology
- Clearly visible status display reduces setup time and maintenance time

→ www.mysick.com/en/GR18

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Ordering information

Other models → www.mysick.com/en/GR18

GRTE18

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** energetic

Housing material	Housing design	Sensing range max.	Light source	Connection	Model name	Part no.
Metal	Axial	5 mm ... 550 mm ¹⁾	PinPoint LED	Connector M12, 4-pin	GRTE18-P2442	1066549
					GRTE18-N2442	1064243
Plastic	Axial	5 mm ... 550 mm ¹⁾	PinPoint LED	Connector M12, 4-pin	GRTE18-N2447	1067973
					GRTE18-P2447	1066546

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033)

GRL18

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** Standard optics

Housing material	Housing design	Sensing range max.	Light source	Connection	Model name	Part no.
Metal	Axial	0.03 m ... 7.2 m ¹⁾	PinPoint LED	Connector M12, 4-pin	GRL18-N2432	1067981
					GRL18-P2432	1066557
Plastic	Axial	0.03 m ... 7.2 m ¹⁾	PinPoint LED	Connector M12, 4-pin	GRL18-N2437	1067979
					GRL18-P2437	1066555



¹⁾ PL80A.

GRSE18

- **Sensor principle:** Through-beam photoelectric sensor

Housing material	Housing design	Sensing range max.	Light source	Connection	Model name	Part no.
Metal	Axial	0 m ... 15 m	LED	Connector M12, 4-pin	GRSE18-N2422	1068335
					GRSE18-P2422	1068336
Plastic	Axial	0 m ... 15 m	LED	Connector M12, 4-pin	GRSE18-N2427	1068332
					GRSE18-P2427	1064922

Accessories

	Brief description	Model name	Part no.
Mounting brackets and mounting plates			
	Mounting plate for M18 sensors, steel, zinc coated, without mounting hardware	BEF-WG-M18	5321870
	Mounting bracket, M18 thread, steel, zinc coated, without mounting hardware	BEF-WN-M18	5308446
Universal bar clamp systems			
	Plate N06 for universal clamp bracket, Zinc plated steel (sheet), Diecast zinc (clamp), Universal clamp, mounting hardware	BEF-KHS-N06	2051612
Plug connectors and cables			
	Head A: female connector, M12, 4-pin, straight Head B: cable Cable: drag chain use, PVC, unshielded, 2 m	DOL-1204-G02M	6009382
	Head A: female connector, M12, 4-pin, angled Head B: cable Cable: drag chain use, PVC, unshielded, 2 m	DOL-1204-W02M	6009383
Masks			
	Front window protection designed for M18 cylindrical photoelectric sensors, nickel-plated brass, glass	BEF-M18-GW	2075708
Reflectors			
	Rectangular, screw connection, 47 mm x 47 mm, PMMA/ABS, Screw-on, 2 hole mounting	P250	5304812
	Rectangular, screw connection, 38 mm x 15 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL20A	1012719
	Round, self-adhesive, PMMA/ABS, self-adhesive	PL22-2	1003621
	REF-Plus reflective tape, 100 pieces per pack, suitable for photoelectric retro-reflective sensors with polarisation filter, 34 mm x 36 mm, self-adhesive	REF-Plus-3436	5321337



At a glance

- Low-cost cylindrical M18 sensor with extra short housing
- Five different housing styles
- Variety of plastic and metal housing styles, with straight or right angle optics
- Bright and highly visible PinPoint-LED
- Potentiometer for adjustment of switching threshold (depending on type)
- Special flush type, one-piece metal housing
- Highly visible signal indicator LED
- IP 67 rating

Your benefits

- Space-saving solution due to short housing
- Flexible mounting options due to versatile housing styles
- Easy installation and precise detection due to PinPoint LED
- Reduced maintenance costs due to high tightening torque of single piece flush metal housing
- Rugged and reliable with proven SICK technology
- Highly visible signal indicator LED saves maintenance and commissioning time

→ www.mysick.com/en/GR18S

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Ordering information

Other models → www.mysick.com/en/GR18S

GRTE18S

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** energetic

Housing material	Housing design	Sensing range max.	Light source	Connection	Model name	Part no.
Metal	Axial	3 mm ... 115 mm ¹⁾	PinPoint LED	Connector M12, 4-pin	GRTE18S-P2412	1069583
		5 mm ... 550 mm ¹⁾	PinPoint LED	Connector M12, 4-pin	GRTE18S-P2442	1069579
	Axial, fully flush	5 mm ... 550 mm ¹⁾	PinPoint LED	Connector M12, 3-pin	GRTE18S-P234Z	1059487
		5 mm ... 1,000 mm ¹⁾	LED	Connector M12, 4-pin	GRTE18S-P246Z	1069123
Plastic	Axial	3 mm ... 115 mm ¹⁾	PinPoint LED	Connector M12, 4-pin	GRTE18S-P2417	1069582
		5 mm ... 550 mm ¹⁾	PinPoint LED	Connector M12, 4-pin	GRTE18S-P2447	1069073
		5 mm ... 1,000 mm ¹⁾	LED	Connector M12, 4-pin	GRTE18S-P2467	1069122

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033)

GRL18S

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** Standard optics

Housing material	Housing design	Sensing range max.	Light source	Connection	Model name	Part no.
Metal	Axial	0.03 m ... 7.2 m ¹⁾	PinPoint LED	Connector M12, 3-pin	GRL18S-F2331	1058198
				Connector M12, 4-pin	GRL18S-P2431	1069586
	Axial, fully flush	0.03 m ... 7.2 m ¹⁾	PinPoint LED	Connector M12, 3-pin	GRL18S-F235Y	1064159
	Radial, fully flush	0.03 m ... 7.2 m ¹⁾	PinPoint LED	Connector M12, 3-pin	GRL18S-F235W	1064161

¹⁾ PL80A.

Housing material	Housing design	Sensing range max.	Light source	Connection	Model name	Part no.
Plastic	Axial	0.03 m ... 7.2 m ¹⁾	PinPoint LED	Connector M12, 3-pin	GRL18S-F2336	1059533
				Connector M12, 4-pin	GRL18S-P2436	1069072











¹⁾ PL80A.

GRSE18S

- **Sensor principle:** Through-beam photoelectric sensor

Housing material	Housing design	Sensing range max.	Light source	Connection	Model name	Part no.
Metal	Axial	0 m ... 15 m	PinPoint LED	Connector M12, 4-pin	GRSE18S-P2442	1069125
				Cable, 4-wire, 2 m, PVC	GRSE18S-P2422	1069636
					GRSE18S-N1122	1069638
Plastic	Axial	0 m ... 15 m	PinPoint LED	Connector M12, 4-pin	GRSE18S-P2447	1069627
				Cable, 4-wire, 2 m, PVC	GRSE18S-P2427	1069633
					GRSE18S-P1127	1069632

Accessories

	Brief description	Model name	Part no.
Mounting brackets and mounting plates			
	Mounting plate for M18 sensors, steel, zinc coated, without mounting hardware	BEF-WG-M18	5321870
	Mounting bracket, M18 thread, steel, zinc coated, without mounting hardware	BEF-WN-M18	5308446
Universal bar clamp systems			
	Plate N06 for universal clamp bracket, Zinc plated steel (sheet), Diecast zinc (clamp), Universal clamp, mounting hardware	BEF-KHS-N06	2051612
Plug connectors and cables			
	Head A: female connector, M12, 4-pin, straight Head B: cable Cable: drag chain use, PVC, unshielded, 2 m	DOL-1204-G02M	6009382
	Head A: female connector, M12, 4-pin, angled Head B: cable Cable: drag chain use, PVC, unshielded, 2 m	DOL-1204-W02M	6009383
Masks			
	Front window protection designed for M18 cylindrical photoelectric sensors, nickel-plated brass, glass	BEF-M18-GW	2075708
Reflectors			
	Rectangular, screw connection, 47 mm x 47 mm, PMMA/ABS, Screw-on, 2 hole mounting	P250	5304812
	Rectangular, screw connection, 38 mm x 15 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL20A	1012719
	Round, self-adhesive, PMMA/ABS, self-adhesive	PL22-2	1003621
	REF-Plus reflective tape, 100 pieces per pack, suitable for photoelectric retro-reflective sensors with polarisation filter, 34 mm x 36 mm, self-adhesive	REF-Plus-3436	5321337



At a glance

- High-resolution light grid: Available with beam separation of 2.5 mm (coming soon), 5 mm, 10 mm, 25 mm, and 50 mm
- “High-speed scan” function with triple scanning speed
- “Transparent mode” function for detecting transparent materials
- Switchable to high-resolution evaluation
- Data compression: Run length coding
- Ethernet-based interfaces, including PROFINET, PROFIBUS, and CANopen (coming soon)
- Cloning function via IO-Link or clone plug
- SOPAS configuration software

Your benefits

- “High-speed scan” function offers short response times for safely detecting objects traveling at high speeds
- Modular concept offers the perfect solution every time from a single source
- “High measurement accuracy” function for detecting small objects reliably
- “Transparent mode” function for reliably detecting and measuring transparent objects
- Integrated bus interfaces and accompanying functional modules reduce the time and effort involved in the commissioning process
- SOPAS configuration software with menu-driven wizard saves time during the configuration process
- Simple maintenance without the need for specialist staff thanks to the cloning function with IO-Link
- High reliability due to ambient light immunity

→ www.mysick.com/en/MLG-2_Pro

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models → www.mysick.com/en/MLG-2_Pro

MLGxxA-xxxxBx

- **Data interface:** 2 x Analog + 2 x I/O (IO-Link)

Beam separation	Working range	Detection height	Model name	Part no.
5 mm	5 m	145 mm	MLG05A-0145B10501	1213492
		445 mm	MLG05A-0445B10501	1213899
		895 mm	MLG05A-0895B10501	1214044
	8.5 m	1,045 mm	MLG05A-1045B10801	1214072
10 mm	5 m	3,140 mm	MLG10A-3140B10501	1214352
25 mm	5 m	1,925 mm	MLG25A-1925B10501	1214328
50 mm	5 m	850 mm	MLG50A-0850B10501	1213974

MLGxxA-xxxxlx

- **Data interface:** RS-485 + 2 x I/O (IO-Link)

Beam separation	Working range	Detection height	Model name	Part no.
5 mm	5 m	145 mm	MLG05A-0145l10501	1213791
		595 mm	MLG05A-0595l10501	1213799
	8.5 m	445 mm	MLG05A-0445l10801	1213908
10 mm	5 m	1,340 mm	MLG10A-1340l10501	1213819
25 mm	5 m	1,925 mm	MLG25A-1925l10501	1213827

MLGxxA-xxxxRx







- **Data interface:** 4 x Q (IO-Link)

Beam separation	Working range	Detection height	Model name	Part no.
5 mm	5 m	145 mm	MLG05A-0145R10501	1213792
		1,945 mm	MLG05A-1945R10501	1214239
		2,545 mm	MLG05A-2545R10501	1214026
10 mm	5 m	140 mm	MLG10A-0140R10501	1213809
		1,040 mm	MLG10A-1040R10501	1213818
		2,540 mm	MLG10A-2540R10501	1213920
25 mm	8.5 m	290 mm	MLG10A-0290R10801	1214016
	5 m	1,925 mm	MLG25A-1925R10501	1213828
50 mm	8.5 m	1,175 mm	MLG25A-1175R10801	1213538
	5 m	250 mm	MLG50A-0250R10501	1213512
	8.5 m	1,450 mm	MLG50A-1450R10801	1213970
		2,350 mm	MLG50A-2350R10801	1214020

Accessories

A complete connection for the MLG-2 Pro include: 1 T-junction, 1 connecting cable, 2 connection cable, 1 connection cable Ethernet.

Please take note of the number of pins on the connector when choosing connection cables.

	Brief description	Model name	Part no.
Terminal and alignment brackets			
	4 pieces, FlexFix bracket, plastic	BEF-1SHABPKU4	2066614
Adapters and distributors			
	Male connector M12, 8-pin, to 1 x female connector M12, 8-pin, to 1 x female connector M12, 5-pin, for connecting of a PLC	SBO-02F12-SM1	6053172
Plug connectors and cables			
 Illustration may differ	Head A: female connector, M12, 8-pin, straight Head B: cable Cable: special color code, PVC, shielded, 5 m	DOL-1208-G05MF	6020664
	Head A: female connector, M12, 5-pin, straight Head B: male connector, M12, 5-pin, straight Cable: drag chain use, PUR, halogen-free, unshielded, 2 m	DSL-1205-G02MC	6025931
	Head A: female connector, M12, 8-pin, straight Head B: male connector, M12, 8-pin, straight Cable: drag chain use, PUR, halogen-free, shielded, 2 m	DSL-1208-G02MAC	6030121
	Head A: male connector, M12, 4-pin, straight, D-coded Head B: male connector, RJ45, 8-pin, straight Cable: Ethernet, PUR, shielded, 2 m	SSL-2J04-G02ME	6034414



At a glance

- High-resolution light grid: Available with beam separation of 5 mm, 10 mm, 25 mm, and 50 mm
- Available with three push-pull switching outputs or two analog outputs
- Display configuration with selected, pre-programmed measuring functions
- Monitoring height up to 3.2 m
- Operating range up to 8.5 m
- Optical synchronization of sender and receiver
- Cloning function via IO-Link
- Temperature range from -30 °C to +55 °C

Your benefits

- Easy concept: Time and cost savings due to simple configuration and quick commissioning
- Modular concept offers the perfect solution every time from a single source
- Two optical synchronization beams increase operational safety
- Simple maintenance without the need for specialist staff thanks to the cloning function with IO-Link
- Direct configuration on the device display for quick commissioning
- IO-Link as an interface for configuration, measured data transfer and diagnostics
- Minimal specialist knowledge required by the user thanks to the intuitive arrangement of the most essential functions
- Extremely high operational safety due to rugged aluminum housing

→ www.mysick.com/en/MLG-2_Prime

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models → www.mysick.com/en/MLG-2_Prime

MLGxxS-xxxxDx

- **Data interface:** 3 x Q (IO-Link)

Beam separation	Working range	Detection height	Model name	Part no.
5 mm	5 m	145 mm	MLG05S-0145D10501	1213494
		745 mm	MLG05S-0745D10513	1214005
10 mm	5 m	1,490 mm	MLG10S-1490D10501	1214340
25 mm	5 m	2,225 mm	MLG25S-2225D10501	1214368
		3,125 mm	MLG25S-3125D10501	1213979

MLGxxS-xxxxAx



- **Data interface:** 2 x Analog + 1 x Q (IO-Link)

Beam separation	Working range	Detection height	Model name	Part no.
5 mm	5 m	145 mm	MLG05S-0145A10501	1213504
		295 mm	MLG05S-0295A10501	1213707
		445 mm	MLG05S-0445A10501	1214141
		745 mm	MLG05S-0745A10501	1213709
10 mm	5 m	740 mm	MLG10S-0740A10501	1213710
		290 mm	MLG10S-0290A10501	1213541

Accessories

A complete connection for the MLG-2 Prime include: 2 female connection cable.

Please take note of the number of pins on the connector when choosing connection cables.

	Brief description	Model name	Part no.
Terminal and alignment brackets			
	4 pieces, FlexFix bracket, plastic	BEF-1SHABPKU4	2066614
Plug connectors and cables			
 Illustration may differ	Head A: female connector, M12, 5-pin, straight Head B: cable Cable: drag chain use, PVC, unshielded, 5 m	DOL-1205-G05M	6009868



At a glance

- Up to 128 beams
- Different beam resolutions 10 mm / 30 mm and 60 mm
- High functional reserve (gain) for ranges up to 12 m
- Potentiometer for sensitivity setting
- Ambient light up to 200,000 lx
- Tough, aluminum housing
- PNP/NPN, relay output and a test input
- Optical synchronization

Your benefits

- Insensitive to ambient light when exposed to direct sunlight, strobe lights, and highly reflective objects, eliminating false trips
- High functional reserve (excess gain) ensures operation even if it gets dirty, dusty, or misaligned, reducing maintenance costs
- Efficient and effective way to combine multiple sensors in one housing with one connector
- Simple commissioning thanks to a larger optical aperture angle and manual fine adjustment option
- Optical synchronization enables quick installation and cost-effective connection
- The sensitivity adjustment can be used to detect or ignore translucent materials to reduce production problems

→ www.mysick.com/en/ELG

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models → www.mysick.com/en/ELG

ELG3 Long Range

- **Beam separation:** 30 mm

Working range	Evaluation beams	Detection height	Switching output	Model name	Part no.
12 m	Parallel beam	570 mm	2 x PNP (Q and /Q)	ELG3-0570P521	1025885
		810 mm	2 x PNP (Q and /Q)	ELG3-0810P521	1025577
		1,050 mm	2 x PNP (Q and /Q)	ELG3-1050P521	1025570
		1,410 mm	2 x PNP (Q and /Q)	ELG3-1410P521	1025502
		2,070 mm	2 x PNP (Q and /Q)	ELG3-2070P521	1025505
		2,370 mm	2 x PNP (Q and /Q)	ELG3-2370P521	1025573
	Multiple scan	1,890 mm	2 x PNP (Q and /Q)	ELG3-1890P523	1026826

ELG6 Long Range

- **Beam separation:** 60 mm

Working range	Evaluation beams	Detection height	Switching output	Model name	Part no.
12 m	Parallel beam	1,380 mm	1 x PNP (Q and /Q)	ELG6-1380P521	1025587
		1,860 mm	2 x PNP (Q and /Q)	ELG6-1860P521	1025589
		2,340 mm	0 x PNP (Q and /Q)	ELG6-2340P521	1025596
	Multiple scan	2,460 mm	2 x PNP (Q and /Q)	ELG6-2460P523	1024293

ELG3 LR-Relais

- **Beam separation:** 30 mm

Working range	Evaluation beams	Detection height	Switching output	Model name	Part no.
12 m	Parallel beam	930 mm	Relais (DC 60 V, AC 25 V)	ELG3-0930R521	1025449

ELG6 LR-Relais

- **Beam separation:** 60 mm

Working range	Evaluation beams	Detection height	Switching output	Model name	Part no.
12 m	Parallel beam	1,860 mm	Relais (DC 60 V, AC 25 V)	ELG6-1860R521	1026182
	Multiple scan	1,860 mm		ELG6-1860R523	1026458

Accessories

	Brief description	Model name	Part no.
Terminal and alignment brackets			
	4 pieces, Mounting kit 1, rotatable, swivel mount, plastic	BEF-2SMKEAKU4	2019649
Plug connectors and cables			
 Illustration may differ	Head A: female connector, M12, 4-pin, straight Head B: cable Cable: drag chain use, PVC, unshielded, 5 m	DOL-1204-G05M	6009866
	Head A: female connector, M12, 4-pin, straight Head B: cable Cable: drag chain use, PVC, unshielded, 10 m	DOL-1204-G10M	6010543



At a glance

- Sensing range up to 2.8 m
- Resolution 6 mm up to 18 mm
- One device only: integrated sender and receiver
- Intuitive one-button operation
- Automatic alignment
- Synchronization of 2 systems
- Easy teach-in function

Your benefits

- Flexible and individual design of detection area
- Quick commissioning without additional software
- Intuitive, time-saving operation
- No variants: one device concept for all detection areas
- Reduced storage, shipping and commissioning costs
- No expert knowledge required
- High reliability and simple maintenance

→ www.mysick.com/en/VLC100

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information



Other models → www.mysick.com/en/VLC100


- **Task:** Switching camera system

Working range	Response time	Output type	Model name	Part no.
2 m x 2 m	≥ 20 ms ¹⁾	2 x PNP	VLC100-0201000	1054540

¹⁾ With resistive load.

Accessories

	Brief description	Model name	Part no.
Terminal and alignment brackets			
	Mounting kit for mounting the sensor on the profile frame	Mounting kit	2045375
Plug connectors and cables			
	Head A: female connector, M12, 8-pin, straight Head B: cable Cable: PVC, shielded, 2 m	DOL-1208-G02MA	6020633
	Head A: female connector, M12, 8-pin, straight Head B: cable Cable: PVC, shielded, 5 m	DOL-1208-G05MA	6020993
	Head A: female connector, M12, 8-pin, straight Head B: cable Cable: Power, digital I/Os, PUR, halogen-free, shielded, 5 m	DOL-1208-G05MACR	6037517

	Brief description	Model name	Part no.
Reflectors			
	Reflective tape, 1,000 mm x 37 mm x 0.8 mm, protective field size max. 1.0 m x 1.0 m, self-adhesive, abrasion-resistant, 2 pieces, 37 mm x 0.8 mm x 1,000 mm, self-adhesive, 2 pieces	Reflective tape 2 x 1.0 m	2046005
	Reflective tape, 1,500 mm x 48 mm x 0.8 mm, protective field size max. 1.5 m x 1.5 m, self-adhesive, abrasion-resistant, 2 pieces, 48 mm x 0.8 mm x 1,500 mm, self-adhesive, 2 pieces	Reflective tape 2 x 1.5 m	2051582
	Reflective tape, 1,500 mm x 48 mm x 0.8 mm, protective field size max. 2.0 m x 2.0 m, self-adhesive, abrasion-resistant, 3 pieces, 48 mm x 0.8 mm x 1,500 mm, self-adhesive, 3 pieces	Reflective tape 3 x 1.5 m	2061272



At a glance

- Variable monitoring lengths from 120 mm up to 1,400 mm (in 160 mm increments)
- Maximum range 10 m
- Response time 18 ms
- 25 mm or 45 mm detection resolution with 40 mm or 80 mm beam spacing possible
- Order-picking with extra-bright job LEDs on the sender and receiver sides
- IP 65 protection for various environmental conditions
- Highly immune to sunlight at 150,000 lx

Your benefits

- Small, slim and sleek design enables easy integration into applications
- Capacitive teach-in button and LEDs make commissioning easier for complex solutions
- Slim and flat models offer flexible mounting options
- User-defined factory preset configuration or flexible configuration with teach-in button
- Optical synchronization eliminates the need to lay cables, saving time
- Stealth detection in public places – at only 8 mm x 25 mm, it fits just about anywhere and can be imbedded inside walls, doors, conveyors, and machines, reducing damage
- Auto-teach and auto-muting enable Plug & Play. And, an alignment aid and “Click & Go” provide faster installation.

→ www.mysick.com/en/SLG

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Ordering information

Other models → www.mysick.com/en/SLG

SAS

Beam separation	Working range	Optical light exit	Aluminum stabilizer	Detection height	Switching output	Model name	Part no.
40 mm	3 m	Flat	Without stabilizer	120 mm	1 x PNP	SAS4-F012P3PS1T01	1209637
				440 mm	1 x PNP	SAS4-F044P3PS1T00	1045020
				600 mm	1 x PNP	SAS4-F060P3TS1T01	1213486
		Slim	Without stabilizer	280 mm	1 x PNP	SAS4-S028P3PS1T00	1047063
				600 mm	1 x NPN	SAS4-S060N3PS1T00	1207709
					1 x PNP	SAS4-S060P3PS1T01	1210508

SGS

Beam separation	Working range	Optical light exit	Aluminum stabilizer	Detection height	Switching output	Model name	Part no.
40 mm	7 m	Flat	Without stabilizer	1,080 mm	1 x PNP	SGS4-F108P7PS1T00	1047501
				760 mm	2 x PNP	SGS4-F076F7PS2TA0	1212270
			With stabilizer	1,400 mm	1 x PNP	SGS4-F140P7PS2T01	1210585
				2,500 mm	1 x PNP	SGS4-S218P7P02WS21	1066626
		Slim	Without stabilizer	920 mm	1 x PNP	SGS4-S092P7PS1W00	1208596
				1,080 mm	1 x PNP	SGS4-S108P7PS1T00	1209457
80 mm	7 m	Slim	Without stabilizer	1,040 mm	1 x PNP	SGS8-S104P7PS1W04	1211299
	3 m	Slim	With stabilizer	1,360 mm	1 x PNP	SGS8-S136P3PS2T00	1209554

Accessories

	Brief description	Model name	Part no.
Mounting brackets and mounting plates			
	Mounting bracket for light grids up to a monitoring height of 600 mm, mounting on the face sides, 2x BEF-SLG1, 2x BEF-SLG2	BEF-SLG-SET1	2055427
Universal bar clamp systems			
	Bracket for SLG, Stainless steel	VZA-SLG	2048519
Plug connectors and cables			
	Head A: female connector, M8, 4-pin, straight Head B: cable Cable: drag chain use, PVC, unshielded, 2 m	DOL-0804-G02M	6009870
	Head A: female connector, M8, 4-pin, straight Head B: cable Cable: drag chain use, PVC, unshielded, 10 m	DOL-0804-G10M	6010754
	Head A: female connector, M12, 4-pin, straight Head B: cable Cable: drag chain use, PVC, unshielded, 2 m	DOL-1204-G02M	6009382
Illustration may differ	Head A: female connector, M12, 4-pin, straight Head B: cable Cable: drag chain use, PVC, unshielded, 5 m	DOL-1204-G05M	6009866
	Head A: female connector, M12, 4-pin, straight Head B: cable Cable: drag chain use, PUR, halogen-free, unshielded, 5 m	DOL-1204-G05MC	6025901



At a glance

- Type 4 (IEC 61496), SIL3 (IEC 61508), PL e (EN ISO 13849)
- Absence of blind zones
- Resolution of 14 mm or 30 mm
- Protective field height of 300 mm to 2.100 mm
- Automatic calibration on the protective field width up to 10 m range
- Ambient operating temperature of -30 °C to +55 °C
- Enclosure rating IP 65 and IP 67
- Flexi Loop-compatible M12 male connector

Your benefits

- Simple assembly with innovative mounting and no blind zones
- Quick commissioning thanks to integrated LED display and automatic calibration on the protective field width up to 10 m range
- Simply safe: rugged and reliable thanks to enclosure rating IP 67 and an ambient operating temperature down to -30 °C, enabling use in harsh ambient conditions
- Intelligently standardized: M12, 5-pin provide cost reductions and enables a safe series connection with Flexi Loop
- Basic function without configuration effort enables quick replacement when servicing is required

→ www.mysick.com/en/deTec4_Core

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.






Ordering information

Other models → www.mysick.com/en/deTec4_Core

- **Resolution:** 30 mm
- **Scanning range:** 0 m ... 10 m

Protective field height	Sender		Receiver	
	Model name	Part no.	Model name	Part no.
1,950 mm	C4C-SA19530A10000	1211511	C4C-EA19530A10000	1211512
2,100 mm	C4C-SA21030A10000	1211513	C4C-EA21030A10000	1211514

Accessories

	Brief description	Model name	Part no.
Terminal and alignment brackets			
	4 pieces, FlexFix bracket, plastic	BEF-1SHABPKU4	2066614
Plug connectors and cables			
	Head A: female connector, M12, 5-pin, straight Head B: cable Cable: drag chain use, PUR, halogen-free, unshielded, 10 m	DOL-1205-G10MC	6025908
	Head A: female connector, M12, 5-pin, straight Head B: cable Cable: PUR, halogen-free, unshielded, 20 m	DOL-1205-G20MC	6050247
	Head A: female connector, M12, 5-pin, straight Head B: cable Cable: PUR, halogen-free, unshielded, 30 m	DOL-1205-G30MC	6050248
Power supply units and power cord connectors			
	Input voltage: 100 V AC ... 240 V AC Output voltage: 24 V DC Output current: ≤ 2,1 A	Power supply	7028789
	Input voltage: 100 V AC ... 240 V AC Output voltage: 24 V DC Output current: ≤ 3,9 A	Power supply	7028790



At a glance

- Type 2 (IEC 61496), SIL1 (IEC 61508), PL c (EN ISO 13849)
- Absence of blind zones
- Resolution of 14 mm or 30 mm
- Protective field height of 300 mm to 2,100 mm
- Automatic calibration on the protective field width up to 10 m range
- Ambient operating temperature of -30 °C to +55 °C
- Enclosure rating IP 65 and IP 67
- Flexi Loop-compatible M12 male connector

Your benefits

- Simple assembly with innovative mounting and no blind zones
- Quick commissioning thanks to integrated LED display and automatic calibration on the protective field width up to 10 m range
- Simply safe: rugged and reliable thanks to enclosure rating IP 67 and an ambient operating temperature down to -30 °C, enabling use in harsh ambient conditions
- Intelligently standardized: M12, 5-pin provide cost reductions and enables a safe series connection with Flexi Loop
- Basic function without configuration effort enables quick replacement when servicing is required

→ www.mysick.com/en/deTec2_Core

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.






Ordering information

Other models → www.mysick.com/en/deTec2_Core

- **Resolution:** 30 mm
- **Scanning range:** 0 m ... 10 m

Protective field height	Sender		Receiver	
	Model name	Part no.	Model name	Part no.
1,950 mm	C2C-SA19530A10000	1213222	C2C-EA19530A10000	1213223
2,100 mm	C2C-SA21030A10000	1213201	C2C-EA21030A10000	1213164

Accessories

	Brief description	Model name	Part no.
Terminal and alignment brackets			
	4 pieces, FlexFix bracket, plastic	BEF-1SHABPKU4	2066614
Plug connectors and cables			
	Head A: female connector, M12, 5-pin, straight Head B: cable Cable: drag chain use, PUR, halogen-free, unshielded, 10 m	DOL-1205-G10MC	6025908
	Head A: female connector, M12, 5-pin, straight Head B: cable Cable: PUR, halogen-free, unshielded, 20 m	DOL-1205-G20MC	6050247
	Head A: female connector, M12, 5-pin, straight Head B: cable Cable: PUR, halogen-free, unshielded, 30 m	DOL-1205-G30MC	6050248
Power supply units and power cord connectors			
	Input voltage: 100 V AC ... 240 V AC Output voltage: 24 V DC Output current: ≤ 2,1 A	Power supply	7028789
	Input voltage: 100 V AC ... 240 V AC Output voltage: 24 V DC Output current: ≤ 3,9 A	Power supply	7028790



At a glance

- Type 2 (IEC 61496), SIL1 (IEC 61508), PL c (EN ISO 13849), only in conjunction with suitable testing device, e.g., Flexi Classic or Flexi Soft
- Compact size with ranges up to 35 m
- Integrated heating
- Enclosure rating IP 67
- Temperature range from -40 °C to +60 °C

Your benefits

- Easy integration due to small, compact versions with maximum range
- Directly connect to a safety controller – reducing costs
- Flexible device integration makes it possible to set up individual protective fields
- Well suited to withstand extreme ambient conditions such as heat, cold or moisture

→ www.mysick.com/en/L27

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models → www.mysick.com/en/L27

Scanning range	Housing material	Front screen heating	Sender		Receiver	
			Model name	Part no.	Model name	Part no.
0 m ... 25 m	ABS (plastic)	✓	L27S-3D2450	2043877	L27E-3P2450	2043876

Accessories

	Brief description	Model name	Part no.
Mounting brackets and mounting plates			
	Mounting bracket with hinged arm, steel, zinc coated, mounting hardware included	BEF-WN-W27	2009122
Plug connectors and cables			
 Illustration may differ	Head A: female connector, M12, 4-pin, straight Head B: cable Cable: drag chain use, PVC, unshielded, 5 m	DOL-1204-G05M	6009866
	Head A: female connector, M12, 4-pin, straight Head B: cable Cable: drag chain use, PUR, halogen-free, unshielded, 5 m	DOL-1204-G05MC	6025901
 Illustration may differ	Head A: female connector, M12, 4-pin, straight Head B: cable Cable: drag chain use, PVC, unshielded, 15 m	DOL-1204-G15M	6010753



At a glance

- Narrow plastic housing
- Rigid or mobile actuators
- Available with M20 X 1.5 cable entry glands or Flexi Loop-compatible M12 plug connector (depending on variant)
- Locked by spring force and magnetic force
- Lock and door monitoring
- IP 67 enclosure rating

Your benefits

- Small design simplifies installation and makes it easy to mount directly on the guard door frame
- Flexible electrical connectivity due to three cable entry glands
- Improved diagnostics due to additional signaling contacts
- Practical, simple adjustment due to various actuators that are suitable for any door
- Different switching elements offer the appropriate solution for electrical installation
- Flexi Loop now enables a safe series connection with enhanced diagnostics capabilities and minimal wiring effort.

→ www.mysick.com/en/i10_Lock

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models → www.mysick.com/en/i10_Lock

Locking type	Number of positive action N/C solenoid monitoring contacts	Number of N/O solenoid monitoring contacts	Number of positive action N/C door monitoring contacts	Number of N/O door monitoring contacts	Number of N/C door monitoring contacts	Connection type	Model name	Part no.
Electrical	2	1	0	0	1	Cable gland, 3 x M20	i10-E0233 Lock	6022585
Mechanical	2	1	0	0	1	Cable gland, 3 x M20	i10-M0233 Lock	6022580

Accessories

	Brief description	Model name	Part no.
Actuators			
	Angled, rigid	iE10-A1	5306535
	Rigid, semiflexible, door hinged on left/right	iE10-R2	5306529
	Straight, rubber-mounted	iE10-S2	5306530



At a glance

- Expansion modules, Motion Control modules, and gateways for all common fieldbuses
- Configuration data stored in the system plug
- Safe networking of up to 32 Flexi Soft stations

Your benefits

- Scalable for an efficient and cost-optimized safety application solution
- Cost savings: Flexi Soft offers a modular structure that is in line with your requirements, and thus offers an ideal level of granularity
- Intuitive configuration software featuring comprehensive functions enables continuous monitoring of the configuration
- Rapid verification of the safety application: The configuration software provides documentation and a wiring diagram

- Integration of sensor cascade
- Multi-language, license-free configuration software: exceptionally simple operation, plausibility check, simulation mode, wiring diagram, parts list, documentation, and data recorder

- Safety logic is easy to create thanks to ready-made, TÜV-certified function blocks
- The main module's diagnostics interfaces and the configuration storage facility in the system plug enable rapid commissioning, component replacement, and troubleshooting, resulting in minimum downtimes

→ www.mysick.com/en/Flexi_Soft

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models → www.mysick.com/en/Flexi_Soft

Main modules

Number of EFI interfaces	Flexi Link	Automatic Configuration Recovery (ACR)	Flexi Line	Model name	Part no.
0	-	-	-	FX3-CPU000000	1043783
2	✓	-	-	FX3-CPU130002	1043784
		✓	-	FX3-CPU230002	1058999
		✓	✓	FX3-CPU320002	1059305

Gateways

Fieldbus, industrial network	Model name	Part no.
EtherNet/IP	FX0-GENTO0000	1044072
Modbus TCP	FX0-GMOD00000	1044073
PROFINET	FX0-GPNT00000	1044074
EtherCAT	FX0-GETC00000	1051432
PROFIBUS DP	FX0-GPRO00000	1044075
CANopen	FX0-GCAN00000	1044076
DeviceNet	FX0-GDEV00000	1044077

Motion Control modules

Description	Model name	Part no.
Flexi Soft Drive Monitor	FX3-MOC000000	1062344









I/O modules

Flexi Loop-compatible	Number of safety inputs	Number of non-safe inputs	Number of test signal outputs	Number of safe outputs	Number of non-safe outputs	Model name	Part no.
✓	8	0	2	4	0	FX3-XTI084002	1044125
			8	0	0	FX3-XTDI80002	1044124
			2	0	4-6	FX3-XTDS84002	1061777
-	0	6-8	0	0	6-8	FX0-STI068002	1061778

Relay modules

Number of enable current contacts	Number of signalling current contacts	Number of contactor monitoring contacts	Model name	Part no.
2	1	1	UE410-2R04	6032677
4	2	2	UE410-4R04	6032676
2	0	1	UE10-2FG3D0	1043916
			UE12-2FG3D0	1043918

Accessories

	Brief description	Model name	Part no.
Plug connectors and cables			
	Head A: male connector, USB-A, straight Head B: male connector, Mini-USB, straight Cable: USB, shielded, 3 m For connecting the configuration connection of a FX3-CPU3 to the USB interface of a PC	Connection cable (male connector-male connector)	6042517
	Head A: female connector, D-Sub, 9-pin, straight Head B: male connector, M8, 4-pin, straight Cable: PVC, unshielded, 2 m For connecting the configuration connection to the serial interface of a PC	DSL-8D04G02M-025KM1	6021195
	Head A: male connector, M8, 4-pin, straight Head B: male connector, USB-A, straight Cable: PVC, unshielded, 2 m For connecting the configuration connection to the USB interface on the PC	DSL-8U04G02M-025KM1	6034574
	For FX3-CPU0 and FX3-CPU1, Storing the system configuration, without EFI-compatible devices	FX3-MPL000001	1043700
	For FX3-CPU2 and FX3-CPU3, Storing the system configuration, including EFI-compatible devices via Automatic Configuration Recovery (ACR)	FX3-MPL100001	1047162
	Head A: terminal connector, 4-pin Single entry	Screw terminal connector	2045891
	Head A: terminal connector, 4-pin Double entry	Spring terminal connector	2045890
Power supply units and power cord connectors			
	Input voltage: 100 V AC ... 240 V AC Output voltage: 24 V DC Output current: ≤ 2,1 A	Power supply	7028789
	Input voltage: 100 V AC ... 240 V AC Output voltage: 24 V DC Output current: ≤ 3,9 A	Power supply	7028790



At a glance

- Rotary DIP switch for easy adjustment
- Modularly expandable
- Direct wiring for all types of sensors
- Logic functions: AND, OR, Muting, Bypass, Reset, EDM
- Integration into all common field-buses
- Integration of the safe sensor cascade Flexi Loop
- Special muting modules are able to meet all the requirements of a demanding muting application

Your benefits

- Optimal scalability prevents extra inputs and outputs, reducing hardware
- Configuration via rotary DIP switch simplifies logic configuration
- The Flexi Classic Configurator tool offers easy logic configuration and wiring help
- Complete diagnostics of the system reduces downtime
- Its compact design makes it possible to save space in the control cabinet
- Significantly reduced wiring compared with conventional safety solutions. Wiring with Flexi Loop is even easier.

→ www.mysick.com/en/Flexi_Classic

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models → www.mysick.com/en/Flexi_Classic

Main modules

- **Number of inputs:** 2 dual-channel or 4 single-channel
- **Number of muting sensors:** 0 ... 2
- **Number of outputs:** 2 dual-channel or 4 single-channel

Delay time (outputs Q3/Q4)	Connection type	Model name	Part no.
0 s ... 5 s	Plug-in screw-type terminals	UE410-MU3T5	6026136
	Plug-in spring terminals	UE410-MU4T5	6032669
0 s ... 50 s	Plug-in screw-type terminals	UE410-MU3T50	6026137
	Plug-in spring terminals	UE410-MU4T50	6032670
0 s ... 300 s	Plug-in screw-type terminals	UE410-MU3T300	6026138
	Plug-in spring terminals	UE410-MU4T300	6032671

I/O modules

Number of inputs	Number of muting sensors	Number of outputs	Delay time (outputs Q3/Q4)	Connection type	Model name	Part no.
2 dual-channel or 4 single-channel	0 ... 2	2 dual-channel or 4 single-channel	0 s ... 5 s	Plug-in screw-type terminals	UE410-XU3T5	6032470
				Plug-in spring terminals	UE410-XU4T5	6032672
			0 s ... 50 s	Plug-in screw-type terminals	UE410-XU3T50	6032471
				Plug-in spring terminals	UE410-XU4T50	6032673
			0 s ... 300 s	Plug-in screw-type terminals	UE410-XU3T300	6032472
				Plug-in spring terminals	UE410-XU4T300	6032674
4 dual-channel or 8 single-channel	-	-	-	Plug-in screw-type terminals	UE410-8DI3	6026139
				Plug-in spring terminals	UE410-8DI4	6032675


Gateways

Fieldbus, industrial network	Number of application diagnostic outputs	Connection type diagnostic outputs	Model name	Part no.
EtherNet/IP	4	Plug-in screw-type terminals	UE410-EN1	1042964
Modbus TCP	4	Plug-in screw-type terminals	UE410-EN3	1042193
PROFINET	4	Plug-in screw-type terminals	UE410-EN4	1044078
PROFIBUS DP	4	Plug-in screw-type terminals	UE410-PRO3	6028407
		Plug-in spring terminals	UE410-PRO4	6032678
CANopen	4	Plug-in screw-type terminals	UE410-CAN3	6033111
		Plug-in spring terminals	UE410-CAN4	6033112
DeviceNet	4	Plug-in screw-type terminals	UE410-DEV3	6032469
		Plug-in spring terminals	UE410-DEV4	6032679

Relay modules

Number of enable current contacts	Number of signalling current contacts	Number of contactor monitoring contacts	Model name	Part no.
2	1	1	UE410-2R03	6026144
			UE410-2R04	6032677
4	2	2	UE410-4R04	6032676
			UE410-4R03	6026143

Accessories

	Brief description	Model name	Part no.
Power supply units and power cord connectors			
	Input voltage: 100 V AC ... 240 V AC Output voltage: 24 V DC Output current: ≤ 2,1 A	Power supply	7028789
	Input voltage: 100 V AC ... 240 V AC Output voltage: 24 V DC Output current: ≤ 3,9 A	Power supply	7028790



At a glance

- O₂ transmitter based on high-performance laser spectroscopy (TDLS)
- For use in potentially explosive atmospheres (FM, ATEX and IECEx approvals)
- Measurement directly in-situ or extractive using a sample gas cell (option)
- Designed for heavy-duty industrial applications
- Compact design and easy to operate
- Long-term stability
- No moving parts

Your benefits

- Measures in real-time directly in the process
- Easy installation and operation
- Self-diagnostics with maintenance display
- Low requirements for gas conditioning
- Low operating costs: no consumables and no purging gas consumption
- Rugged: reliable measurement even in contaminated gases

→ www.mysick.com/en/TRANSIC100LP

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models → www.mysick.com/en/TRANSIC100LP

Note

Our regional sales organization will help you to select the optimum device configuration.



At a glance

- Enhanced system diagnostics
- Automatic self-test cycles for the entire system
- Safe monitoring of the correct switching behavior and connection cable of the laser scanner
- Easy implementation of additional logic functions
- Easily expandable due to modular concept

Your benefits

- The independent self-testing system ensures secure operation due to excellent diagnostic capabilities
- Reliable, industry-proven laser scanner with enhanced diagnostics for outdoor applications
- Variable monitoring fields make the AOS ideal for a wide range of applications
- Modular concept makes expanding the system simple
- Optional gateways ensure connection to bus systems or remote diagnostics
- Built-in control functions for peripheral devices, even for safety-related signals like emergency stop
- Supports and simplifies individual operating licenses for machinery

→ www.mysick.com/en/AOS_Prime

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models → www.mysick.com/en/AOS_Prime

- **Field of application:** basic systems for different applications

Items supplied ¹⁾	Model name	Part no.
LMS111-10100S01 Flexi Soft main module FX3-CPU000000 Flexi Soft system plug FX3-MPL000001 Flexi Soft I/O module FX3-XTI084002 USB configuration cable DSL-8U04G02M025KM1 USB stick with configuration files I/O connecting cable Power supply connecting cable (1 x) RS-232 input connecting cable Mounting kit 1b Mounting kit 2 Ethernet connection cable SSL-2J04-G10ME	AOS101	1064408
LMS511-10100S02 Flexi Soft main module FX3-CPU000000 Flexi Soft system plug FX3-MPL000001 Flexi Soft I/O module FX3-XTI084002 USB configuration cable DSL-8U04G02M025KM1 USB stick with configuration files Ethernet connection cable SSL-2J04-G10ME LMS511 accessory set 1	AOS501	1064409
LMS511-10100S02 (2 x) Flexi Soft main module FX3-CPU000000 Flexi Soft system plug FX3-MPL000001 Flexi Soft I/O module FX3-XTI084002 USB configuration cable DSL-8U04G02M025KM1 USB stick with configuration files Ethernet connection cable SSL-2J04-G10ME LMS511 accessory set 1 (2 x)	AOS502	1066130

¹⁾ We recommend to use weather hoods for the laser detectors LMSxxx.



At a glance

- Complete solution comprising of laser measurement technology, RFID and integrated software
- Prevents piggy-backing (tailgating) and avoids blockages in the transit areas
- Active laser detection and reliable long-range passive / semi-passive identification (UHF)
- Stand-alone system or network-compatible
- Tamper-proof
- Rugged IP67 enclosure rating

Your benefits

- The flow of goods is not interrupted as it passes the LAC - processes don't have to stop and people don't have to identify themselves.
- Avoids blockages in the transit areas
- Meets the objectives and requirements of the Customs-Trade Partnership Against Terrorism (C-TPAT) and the European "Authorized Economic Operator" (AEO) certificate
- Laser detectors VdS-certified (German security certificate), providing evidence of a reliable technology.
- Safe investment because of the worldwide usage also in tough industrial and logistics environments
- Can be retrofitted and reduce installation costs by quickly integrating sensor components into all common alarm and intrusion systems
- Can be easily adapted to the customer application requirements without using an additional external PC controller or software.

→ www.mysick.com/en/LAC1xx_Prime

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information






Other models → www.mysick.com/en/LAC1xx_Prime

Description	Radio approval	Model name	Part no.
System consisting of: 1 x LMS102-10000 (with integrated application software), 1 x RFU630-13100, 1 x CDB650-204, 1 x ISO card UHF transponder	Europe (EN 302 208-2 V1.4.1) ¹⁾	LAC110-10000	1061586

¹⁾ From Firmware version V1.1.

Accessories

	Brief description	Model name	Part no.
Mounting brackets and mounting plates			
	Pivot mounting bracket, incl. assembly material	Mounting bracket	2061737
	1 piece, mounting bracket for rear mounting on wall or machine	Mounting kit 1a	2034324
	1 piece, mounting bracket for rear mounting on wall or machine with protection of optics hood	Mounting kit 1b	2034325
	1 piece, mounting bracket, adjustable longitudinal and lateral axes, only in conjunction with mounting kit 1a (2034324) or 1b (2034325)	Mounting kit 2	2039302

	Brief description	Model name	Part no.
Plug connectors and cables			
	Head A: female connector, M12, 17-pin, straight, A-coded Head B: male connector, M12, 17-pin, straight, A-coded Cable: Power, serial, CAN, digital I/Os, suitable for 2 A, drag chain use, unshielded, 3 m	Connection cable (male connector- female connector)	6051194
	Head A: male connector, M12, 17-pin, straight, A-coded Head B: female connector, M12, 17-pin, straight, A-coded Cable: Power, serial, CAN, digital I/Os, suitable for 2 A, drag chain use, unshielded, 5 m	Connection cable (male connector- female connector)	6051195
	Head A: male connector, M12, 4-pin, straight, D-coded Head B: male connector, RJ45, 8-pin, straight Cable: Ethernet, shielded, 5 m	SSL-2J04-G05ME	6034415
RFID transponder			
	UHF transponder, PVC, 85.6 mm x 54 mm x 0.76 mm, Alien Higgs	ISO card	6051820
	UHF transponder, global, thermoplastic, 51.5 mm x 47.5 mm x 10 mm, Impinj Monza 4 QT	On-metal Tran- sponder (52 mm x 48 mm x 10 mm)	6052346
Signal and display elements			
	Tower light red, yellow, green, 24 V, incl. mounting and 10 m connection cable, for Building Automation	Tower light for Building Automation	2072744



At a glance

- Omni-directional code reading
- Optical alignment
- Extremely compact
- Lightweight
- USB and RS-232 versions
- RoHS and WEEE compliant
- Triggering via button, presentation mode, serial commands or hardware trigger via SICK connection technology

Your benefits

- Fast and reliable 1D and 2D code identification
- Read multiple code types with one device, accommodating future code changes
- Easy and fast installation and configuration
- No moving parts and a large reading field reduce adjustments
- Small size makes it easy to integrate in limited spaces

→ www.mysick.com/en/ICR80x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models → www.mysick.com/en/ICR80x

Code resolution	Reading distance	Version
≥ 0.19 mm ¹⁾ ≥ 0.25 mm ²⁾	60 mm ... 160 mm ^{1) 3)}	ICR803-A Smart Focus
≥ 0.21 mm ¹⁾ ≥ 0.38 mm ²⁾	50 mm ... 330 mm ^{1) 3)}	ICR803-B Mid Range

¹⁾ 1D.



²⁾ 2D.

³⁾ For details see reading field diagram.

• **Reading field:** front

Version	Connection type	Model name	Part no.
ICR803-A Smart Focus	Serial	ICR803-A0201	6034210
	USB	ICR803-A0271	6034212
ICR803-B Mid Range	Serial	ICR803-B0201	6034211
	USB	ICR803-B0271	6034213

Accessories

	Brief description	Model name	Part no.
Mounting brackets and mounting plates			
	Bracket with adapter board	Mounting bracket	2050023
Plug connectors and cables			
	Head A: female connector, D-Sub, 9-pin, straight Head B: male connector, RJ45 Cable: RS-422 TTL, unshielded, 2.4 m Voltage on pin 9 (42203758-03S)	RS232 cable	6028186
	Head A: male connector, USB-A Head B: male connector, RJ45 Cable: USB, unshielded, 2.3 m	USB cable	6028232



At a glance

- Reading distance up to 850 mm
- Identifies all popular linear bar codes
- Scan rate up to 500 scans/second
- Withstands 24 drops from 1.8 m height
- Highly visible scan line
- IP 41 enclosure rating

Your benefits

- Increased productivity thanks to high scan rate
- Reliable identification reduces the need to manually input data
- Lightweight, ergonomic design ensures user comfort
- Highly dependable thanks to rugged housing and non-moving parts
- Easy targeting with highly visible scan line for correct aiming

→ www.mysick.com/en/IDM14x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models → www.mysick.com/en/IDM14x

Code resolution	Reading distance	Supported code type	Sub product family
≥ 0.076 mm	20 mm ... 850 mm ¹⁾	1D, Stacked (depending on type)	IDM140 Corded
			IDM141 Bluetooth
			IDM142 WIFI





¹⁾ For details see reading field diagram.

- **Field of application:** General Purpose
- **Version:** Standard Range

Sub product family	Items supplied	Supported code type	Included in delivery	Model name	Part no.
IDM140 Corded	Single scanner	1D	-	IDM140-300S	6054538
		1D, Stacked	-	IDM140-310S	6054541
	Kit	1D	6041540 Connection cable 6054538 IDM140-300S	IDM140-300S RS-232 Kit	6054540
			6041540 Connection cable 6054538 IDM140-300S 6036722 Power supply unit	IDM140-300S RS-232 Power Kit	1070948
			6036728 Connection cable 6054538 IDM140-300S	IDM140-300S USB Kit	6054539

Sub product family	Items supplied	Supported code type	Included in delivery	Model name	Part no.
IDM141 Blue-tooth	Single scanner	1D	-	IDM141-300S	6054550
		1D, Stacked	-	IDM141-310S	6054553
	Kit	1D	6041540 Connection cable 6053628 Base station 6054550 IDM141-300S 6036722 Power supply unit	IDM141-300S RS-232 Kit	6054552
			6036728 Connection cable 6053628 Base station 6054550 IDM141-300S 6036722 Power supply unit	IDM141-300S USB Kit	6054551
		1D, Stacked	6053628 Base station 6054553 IDM141-310S 6036722 Power supply unit	IDM141-310S Basic Kit	6054792
IDM142 WIFI	Single scanner	1D	-	IDM142-300S	6054562
		1D, Stacked	-	IDM142-310S	6054564
	Kit	1D	6036728 Connection cable 6054562 IDM142-300S 6041266 Charging station 6036722 Power supply unit	IDM142-300S USB Kit	6054563
			6036728 Connection cable 6054564 IDM142-310S 6041266 Charging station 6036722 Power supply unit	IDM142-310S USB Kit	6054565
		1D, Stacked			

Accessories

	Brief description	Model name	Part no.
Other mounting accessories			
	Desk holder	Table mount	6036723
	Tripod mount	Tripod mount	6036724
Plug connectors and cables			
	Head A: male connector, USB-A Head B: male connector, RJ45 Cable: USB, unshielded, 1.8 m For keyboard wedge or USB Com Port Emulation	Connection cable	6036728
Power supply units and power cord connectors			
	Power supply, input AC 100 ... 240 V, output DC 5 V/2 A (necessary when using RS-232 TTL cable, does not fulfill medical standard EN 60601/ IEC 60601))	Power supply unit	6036722



At a glance

- Compact UHF RFID read/write device with integrated antenna for scanning ranges of less than 1 m
- Standard-compatible transponder interface (ISO/IEC 18000-6C / EPC C1G2)
- Supports industry-standard data interfaces and fieldbuses, as well as PoE

- MicroSD memory card for parameter cloning
- Extensive diagnostic and service functions

Your benefits

- Correct assignment and no overshoot thanks to the well-defined read/write range and intelligent filter functions
- Integrated process logic for remote solutions saves additional control and programming effort
- Can be easily integrated into industrial networks thanks to 4Dpro compatibility

- Firmware upgrades and industry-standard compliance ensure long-term reliability
- Minimum changeover times in case of failure thanks to cloning
- RFU62x can be mounted to metal directly – no loss of range
- Easy operation and installation with SOPAS user interface

→ www.mysick.com/en/RFU62x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.











Ordering information

Other models → www.mysick.com/en/RFU62x

- **Version:** Mid Range
- **Product category:** write/read device with integrated antenna
- **Frequency band:** UHF (860 ... 960 MHz)
- **RFID standard:** EPCglobal UHF Class 1 Generation 2, ISO/IEC 18000-6 C
- **Scanning range:** max. 1 m (Depending on transponder used and ambient conditions.)

Connection type	Radio approval	Model name	Part no.
PoE	Brazilian (ANATEL Res. No. 506)	RFU620-10504	1070407
	Europe (EN 302 208-2 V1.4.1)	RFU620-10500	1062601
	USA, Canada (FCC Part 15)	RFU620-10501	1062604
Ethernet	Japan (ARIB STD-T107)	RFU620-10107	1068727
	China (SRRC)	RFU620-10105	1068728
	USA, Canada (FCC Part 15)	RFU620-10101	1062602
	Europe (EN 302 208-2 V1.4.1)	RFU620-10100	1062599
Cable	USA, Canada (FCC Part 15)	RFU620-10401	1062603
	Europe (EN 302 208-2 V1.4.1)	RFU620-10400	1062600

Accessories

	Brief description	Model name	Part no.
Mounting brackets and mounting plates			
	Frame bracket	Frame bracket	2071773
	Simple mounting bracket	Mounting bracket	2071067
Modules			
	Small connection module for one sensor, 4 cable glands, base for CMC600	CDB620-001	1042256
Plug connectors and cables			
	Head A: female connector, M12, 17-pin, straight Head B: male connector, D-Sub-HD, 15-pin, straight Cable: Power, serial, CAN, digital I/Os, unshielded, 2 m	Connection cable (male connector- female connector)	2055419
	Head A: male connector, M12, 8-pin, straight, X-coded Head B: male connector, RJ45, 8-pin, straight Cable: Gigabit Ethernet/PoE, shielded, 2 m	Connection cable (male connector- male connector)	6049728
	Head A: male connector, M12, 4-pin, straight, D-coded Head B: male connector, RJ45, 8-pin, straight Cable: Ethernet, PUR, shielded, 2 m	SSL-2J04-G02ME	6034414
Power supply units and power cord connectors			
	Power supply unit with pre-assembled M12 female connector, 17-pin	Power supply	2062249
RFID transponder			
	UHF transponder, PVC, 85.6 mm x 54 mm x 0.76 mm, Alien Higgs	ISO card	6051820



At a glance

- UHF RFID read/write unit for industrial applications
- With or without integrated antenna, depending on the type (up to four external antennas can be connected)
- Standard-compliant transponder interface (ISO/IEC 18000-6C/EPC G2C1)
- Supports common industrial data interfaces and fieldbuses
- MicroSD memory card for device parameter cloning
- Several diagnostic and service options available

Your benefits

- Intelligent technology allows stand-alone usage
- Highest reading/writing performance
- Flexible integration in common industrial fieldbuses via 4Dpro compatibility
- Less maintenance time due to an integrated cloning back-up system using microSD memory card
- Easily adapts to application requirements via SOPAS parameter setting tool
- Free usable feedback LED quickly provides read results and diagnostic information directly to the user

→ www.mysick.com/en/RFU63x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information



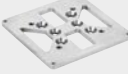





Other models → www.mysick.com/en/RFU63x

- **Version:** Long Range
- **Frequency band:** UHF (860 ... 960 MHz)
- **RFID standard:** EPCglobal UHF Class 1 Generation 2, ISO/IEC 18000-6 C

Product category	Scanning range ¹⁾	Radio approval	Model name	Part no.
Write/read device with integrated antenna	Typ. 2 m	Japan (ARIB STD-T107)	RFU630-13107	1061498
		Russia (EN 302 208-2 V1.4.1)	RFU630-13108	1070903
	Typ. 5 m	Europe, South Africa, Saudi Arabia (EN 302 208-2 V1.4.1)	RFU630-13100	1054396
		USA, Canada, México (FCC Part 15)	RFU630-13101	1054397
		Australia (AS/NZ4268)	RFU630-13102	1058775
		India (EN 302 208-2 V1.4.1)	RFU630-13103	1067473
		Brazilian (ANATEL Res. No. 506)	RFU630-13104	1068726
		China (SRRC)	RFU630-13105	1057943
Write/read device without integrated antenna	Typ. 5 m	Japan (ARIB STD-T106)	RFU630-13106	1067133
		Europe (EN 302 208-2 V1.4.1)	RFU630-04100	1058117
		USA, Canada (FCC Part 15)	RFU630-04101	1059999
		Japan (ARIB STD-T106)	RFU630-04106	1068569
		Russia (EN 302 208-2 V1.4.1)	RFU630-04108	1070904

¹⁾ Depending on transponder used and ambient conditions.

Accessories

	Brief description	Model name	Part no.
Mounting brackets and mounting plates			
	Mounting bracket for wall mounting, incl. assembly material	Mounting bracket	2060912
	Pivot mounting bracket, incl. assembly material	Mounting bracket	2061737
	VESA adapter plate, incl. assembly material	Mounting plate	2061688
Modules			
	Connection device basic for connecting one sensor with 2 A fuse, 5 cable glands and RS-232 interface to sensor via M12, 17-pin female connector, all outputs available on screw/spring-loaded terminals, including trigger unit functionality for external illumination of LECTOR®65x	CDB650-204	1064114
Plug connectors and cables			
	Head A: female connector, M12, 17-pin, straight Head B: male connector, D-Sub-HD, 15-pin, straight Cable: Power, serial, CAN, digital I/Os, unshielded, 2 m	Connection cable (male connector-female connector)	2055419
	Head A: male connector, M12, 4-pin, straight, D-coded Head B: male connector, RJ45, 8-pin, straight Cable: Ethernet, PUR, shielded, 2 m	SSL-2J04-G02ME	6034414
Power supply units and power cord connectors			
	Power supply unit with pre-assembled M12 female connector, 17-pin	Power supply	2062249
RFID transponder			
	UHF transponder, PVC, 85.6 mm x 54 mm x 0.76 mm, Alien Higgs	ISO card	6051820



At a glance

- Maximum reliability, immunity to ambient light, and best price/performance ratio thanks to HDDM™ technology
- Measuring range of 0.05 m to 12 m for natural objects or 0.2 m to 35 m on reflective tape
- Devices with analog and switching output, or just switching
- Infrared or red laser in class 1 or class 2
- Repeatability: 0.5 mm to 5 mm
- Small housing size
- IO-Link

Your benefits

- Precise and reliable measurement regardless of object color extends run time and process quality
- A small size and blind zone make flexible mounting possible when space is limited
- Optimum solution thanks to flexible settings for speed, range and repeatability
- Flexible interface use: 4 mA to 20 mA, 0 V to 10 V, PNP output, NPN output, or IO-Link – making machine integration simple
- Offering easy alignment, optimal performance or inconspicuous measurement, versatile light senders make it an ideal solution for all scenarios
- Low investment costs and high performance levels guarantee a quick return on investment
- IO-Link offers full process control, from commissioning to service
- A wide variety of control options ensures rapid commissioning and fast batch changes

→ www.mysick.com/en/Dx35

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models → www.mysick.com/en/Dx35

- **Data interface:** IO-Link

Measuring range	Analog output ⁶⁾	Switching output ^{1) 2)}	Response time ^{4) 5)}	Variant	Model name	Part no.
200 mm ... 35,000 mm, on reflective tape "Diamond Grade"	1 x 4 mA ... 20 mA (≤ 450 Ω) / 1 x 0 V ... 10 V (≥ 50 kΩ) / -	2 x push-pull: PNP/NPN (100 mA), IO-Link	2.5 ms / 6.5 ms / 12.5 ms / 24.5 ms / 96.5 ms	Infrared laser, class 1	DR35-B15822	1057660
				Red laser, class 1	DR35-B15522	1057659
		1 x / 2 x push-pull: PNP/ NPN (100 mA), IO-Link	Infrared laser, class 1	DL35-B15852	1057658	
			Red laser, class 1	DL35-B15552	1057657	
50 mm ... 12,000 mm, 90 % remission ⁷⁾ 50 mm ... 5,300 mm, 18 % remission 50 mm ... 3,100 mm, 6 % remission	1 x 4 mA ... 20 mA (≤ 450 Ω) / 1 x 0 V ... 10 V (≥ 50 kΩ) / -	2 x push-pull: PNP/NPN (100 mA), IO-Link ^{3) 4)}	2.5 ms / 6.5 ms / 12.5 ms / 24.5 ms / 96.5 ms	Infrared laser, class 1	DS35-B15821	1057656
				Red laser, class 1	DS35-B15521	1057654
				Red laser, class 2	DS35-B15221	1057655
		1 x / 2 x push-pull: PNP/ NPN (100 mA), IO-Link ⁶⁾	4.5 ms / 12.5 ms / 24.5 ms / 48.5 ms / 192.5 ms	Infrared laser, class 1	DT35-B15851	1057653
				Red laser, class 1	DT35-B15551	1057651
				Red laser, class 2	DT35-B15251	1057652

¹⁾ Output Q short-circuit protected.

²⁾ Voltage drop < 3 V.

³⁾ Output Q₂, selectable: 4 mA ... 20 mA / 0 V ... 10 V / switching output / Q₁ not/ deactivated.







⁴⁾ Dependent on the set speed: Super Fast ... Super Slow.

⁵⁾ Lateral entry of object into measuring range.

⁶⁾ Output Q₂, selectable: 4 mA ... 20 mA / 0 V ... 10 V / switching output.

⁷⁾ For speed setting Slow.

Accessories

	Brief description	Model name	Part no.
Mounting brackets and mounting plates			
	Mounting bracket: horizontal sending axis for ceiling or floor installation or vertical sending axis for wall installation, steel, zinc coated, incl. mounting material, steel, zinc coated, mounting hardware for the sensor included	BEF-WN-DX35	2069592
Universal bar clamp systems			
	Plate N02 for universal clamp bracket, Zinc plated steel (sheet), Diecast zinc (clamp), Universal clamp, mounting hardware	BEF-KHS-N02	2051608
Modules and gateways			
	IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A	SiLink2 Master	1061790
Plug connectors and cables			
 Illustration may differ	Head A: female connector, M12, 5-pin, straight Head B: cable Cable: drag chain use, PVC, unshielded, 2 m	DOL-1205-G02M	6008899
 Illustration may differ	Head A: female connector, M12, 5-pin, angled Head B: cable Cable: drag chain use, PVC, unshielded, 2 m	DOL-1205-W02M	6008900
	Head A: female connector, M12, 5-pin, straight Head B: male connector, M12, 5-pin, straight Cable: drag chain use, PUR, halogen-free, unshielded, 2 m	DSL-1205-G02MC	6025931
Reflectors			
	Reflective tape "Diamond Grade", self-adhesive, customizable size by sheet, 74.9 cm x 91.4 cm ¹⁾ , self-adhesive	REF-DG-K	4019634

¹⁾ Customizable length by sheet. Width max. 74.9 cm, length max. 91.4 cm.



At a glance

- 3-axis alignment bracket with quick lock system
- SpeedCon™ and standard M12 electrical connections
- Small and rugged metal housing
- Display with intuitive menu and easy-to-see status LEDs
- Pre-failure and diagnostic data available
- Numerous fieldbus and Ethernet interfaces
- Elongated holes for precise adjustment of sensor offset (or “home position”)
- Versatile accessories

Your benefits

- 3-axis alignment bracket ensures fast alignment and easy exchange, reducing maintenance and setup costs
- Enhanced closed-loop behavior offers highest performance and productivity
- Fast setup with an intuitive and easy-to-use display guarantees the perfect sensor settings
- Pre-failure and extensive diagnostic data allow for preventive maintenance, ensuring the highest machine uptime
- Numerous fieldbus and Ethernet-based interfaces offer the highest flexibility and fast communication for maximum efficiency
- Small, rugged metal housing and SpeedCon™ compatible connectors ensure hassle-free installation – even in confined spaces
- Numerous accessories allow flexible use and guarantee high operation functionality

→ www.mysick.com/en/Dx100

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models → www.mysick.com/en/Dx100

- **Measuring range:** 0.15 m ... 300 m, On reflective tape “Diamond Grade”
- **Accuracy:** ± 3 mm (From 150 mm ... 180 mm measuring range the accuracy can reach ± 4 mm.)
- **Repeatability:** 2 mm (Statistical error 1 σ, environmental conditions constant, min. warm-up time 10 min.)








Ambient temperature	Power consumption	Interface	Model name	Part no.
Operation -20 °C ... +55 °C ¹⁾ Operation with cooling case -20 °C ... +75 °C Storage -40 °C ... +75 °C	At 24 V DC < 250 mA	SSI	DL100-23AA2101	1052696
Operation with heating -40 °C ... +55 °C Operation with cooling case -40 °C ... +75 °C Storage -40 °C ... +75 °C	At 24 V DC < 1,000 mA	SSI	DL100-23HA2101	1052697
Operation -20 °C ... +55 °C ¹⁾ Operation with cooling case -20 °C ... +75 °C Storage -40 °C ... +75 °C	At 24 V DC < 250 mA	SSI	DL100-23AB2101	1060948
		RS-422	DL100-23AA2103	1052700
Operation with heating -40 °C ... +55 °C Operation with cooling case -40 °C ... +75 °C Storage -40 °C ... +75 °C	At 24 V DC < 1,000 mA	RS-422	DL100-23HA2103	1052701
Operation -20 °C ... +55 °C ¹⁾ Operation with cooling case -20 °C ... +75 °C Storage -40 °C ... +75 °C	At 24 V DC < 250 mA	RS-422	DL100-23AB2103	1060950
		PROFINET	DL100-23AA2112	1058168
Operation with heating -40 °C ... +55 °C Operation with cooling case -40 °C ... +75 °C Storage -40 °C ... +75 °C	At 24 V DC < 1,000 mA	PROFINET	DL100-23HA2112	1058169
Operation -20 °C ... +55 °C ¹⁾ Operation with cooling case -20 °C ... +75 °C Storage -40 °C ... +75 °C	At 24 V DC < 250 mA	PROFINET	DL100-23AB2112	1060952
		PROFIBUS DP	DL100-23AA2102	1052698
Operation with heating -40 °C ... +55 °C Operation with cooling case -40 °C ... +75 °C Storage -40 °C ... +75 °C	At 24 V DC < 1,000 mA	PROFIBUS DP	DL100-23HA2102	1052699

¹⁾ Temperatures < -10 °C require warm-up time of typ. 7 minutes.

Ambient temperature	Power consumption	Interface	Model name	Part no.
Operation -20 °C ... +55 °C ¹⁾ Operation with cooling case -20 °C ... +75 °C Storage -40 °C ... +75 °C	At 24 V DC < 250 mA	PROFIBUS DP	DL100-23AB2102	1060949
		CANopen	DL100-23AA2109	1060390
Operation with heating -40 °C ... +55 °C Operation with cooling case -40 °C ... +75 °C Storage -40 °C ... +75 °C	At 24 V DC < 1,000 mA	CANopen	DL100-23HA2109	1060391
Operation -20 °C ... +55 °C ¹⁾ Operation with cooling case -20 °C ... +75 °C Storage -40 °C ... +75 °C	At 24 V DC < 250 mA	CANopen	DL100-23AB2109	1060951
		EtherNet/IP	DL100-23AA2110	1066429
Operation with heating -40 °C ... +55 °C Operation with cooling case -40 °C ... +75 °C Storage -40 °C ... +75 °C	At 24 V DC < 1,000 mA	EtherNet/IP	DL100-23HA2110	1066426
			DL100-23HB2110	1066438

¹⁾ Temperatures < -10 °C require warm-up time of typ. 7 minutes.

Accessories

	Brief description	Model name	Part no.
Terminal and alignment brackets			
	Alignment unit for Dx100, incl. mounting material, steel, zinc coated	BEF-AH-DX100	2058653
Plug connectors and cables			
	Head A: female connector, M12, 5-pin Head B: cable Cable: CAN, unshielded, 5 m	DOL-1205-G05M_Can	6021166
	Head A: female connector, M12, 8-pin, straight Head B: cable Cable: PUR, halogen-free, shielded, 5 m	DOL-1208-G05MAH1	6032449
	Head A: male connector, M12, 4-pin, angled, D-coded Head B: male connector, M12, 4-pin, straight Cable: PROFINET, PVC, shielded, 5 m	SSL-1204-F05MZ90	6048251
	Head A: male connector, M12, 4-pin, straight, D-coded Head B: male connector, M12, 4-pin, straight, D-coded Cable: EtherNet/IP, PUR, halogen-free, shielded, 5 m	SSL-1204-G05ME90	6045277
	Head A: male connector, M12, 5-pin, straight, B-coded Head B: cable Cable: PROFIBUS DP, drag chain use, PUR, halogen-free, shielded, 5 m Wire shield Al-Pt film, overall shield C-screen tin-plated	STL-1205-G05MQ	6026005
Reflectors			
	Reflector plate, reflective tape "Diamond Grade", 330 mm x 330 mm, material base plate: aluminum, screw connection, Screw-on, 4 hole mounting	PL240DG	1017910



At a glance

- Configure without a PC using “touch and teach”
- Small, lightweight and economical measurement sensor
- Field evaluation using intelligent algorithms
- Set parameter interface is accessible while device is mounted
- One of the smallest laser scanners on the market
- Proven industrial design
- Low power consumption (typ. 3 W)

Your benefits

- Low cost of ownership
- Easily hidden from view due to small dimensions
- Low installation costs and exchange time due to M12 x 12 or D-Sub connector
- Long operation for battery-driven vehicles
- Preconfigured fields ensure short installation time
- Reduced hardware costs since only one sensor can be used for large anti-collision fields (up to 235 qm)
- No wiring necessary between sender and receiver

→ www.mysick.com/en/TiM3xx

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.










Ordering information

Other models → www.mysick.com/en/TiM3xx

- **Switching outputs:** 3 (PNP, plus 1 x “device ready”)
- **Object remission:** 4 % ... > 1,000 %, reflectors

Sub product family	Angular resolution	Electrical connection	Housing color	Model name	Part no.	
TiM31x	1°	1 x 15-pin D-sub HD male connector (0.9 m)	Light blue (RAL 5012)	TiM310-1030000	1052627	
		1 x M12 12-pin male connector (0.8 m)	Light blue (RAL 5012)	TiM310-1130000	1056550	
TiM32x		1 x 15-pin D-sub HD male connector (0.9 m)	Light blue (RAL 5012)	TiM320-1031000	1063467	
		1 x M12 12-pin male connector (0.8 m)	Light blue (RAL 5012)	TiM320-1131000	1062219	
TiM35x		0,33°	1 x “Ethernet” connection, 4-pin M12 female connector 1 x connection “Power”, 12-pin, M12 male connector 1 x Micro USB female connector, type B	Gray (RAL 7032)	TiM351-2134001	1067299
TiM36x			1 x “Ethernet” connection, 4-pin M12 female connector 1 x connection “Power”, 12-pin, M12 male connector 1 x Micro USB female connector, type B	Gray (RAL 7032)	TiM361-2134101	1071399

Accessories

	Brief description	Model name	Part no.
Mounting brackets and mounting plates			
	Mounting kit with sun shade/weather protection	Mounting kit	2068398
	1 piece, mounting set 2, fender and alignment aid	Mounting kit 2	2061776
Modules			
 Illustration may differ	Small connection module for one sensor, 4 cable glands (only for TiM3xx-10xxxxx)	CDB730-001	1055981
Plug connectors and cables			
	Head A: female connector, M12, 12-pin, straight, A-coded Head B: cable Cable: RS-232, RS-422, shielded, 10 m	Connecting cable (female connector-open)	6042736
	Head A: female connector, M12, 12-pin, straight, A-coded Head B: cable Cable: RS-232, RS-422, shielded, 20 m	Connecting cable (female connector-open)	6042737
	Head A: female connector, M12, 12-pin, straight, A-coded Head B: cable Cable: shielded, 5 m	Connecting cable (female connector-open)	6054974
	Head A: female connector, M12, 12-pin, straight, A-coded Head B: cable Cable: shielded, 10 m	Connecting cable (female connector-open)	6054973
	Head A: female connector, M12, 12-pin, straight, A-coded Head B: cable Cable: shielded, 20 m	Connecting cable (female connector-open)	6054972
	Head A: female connector, M12, 12-pin, straight, A-coded Head B: cable Cable: shielded, 5 m	Connecting cable (female connector-open)	6042735
	Head A: female connector, D-Sub-HD, 15-pin, straight Head B: cable Cable: Power, serial, CAN, digital I/Os, shielded, 2 m	Extension cable 2 m (female connector-open)	2043413
	Head A: male connector, M12, 4-pin, straight, D-coded Head B: male connector, RJ45, 8-pin, straight Cable: Ethernet, shielded, 5 m	SSL-2J04-G05ME	6034415
	Head A: male connector, USB-A Head B: male connector, Micro-B Cable: USB 2.0, unshielded, 2 m	USB cable	6036106
Test and monitoring tools			
	Scan finder, receiver to localize infra red scans	LS80b	6020756



At a glance

- Monitoring area of up to 235 m² with just one sensor
- High ambient light tolerance due to HDDM technology
- Rugged housing with up to an IP 67 enclosure rating
- Low power consumption of just 3 W
- Compact design with a housing height of just 86 mm maximum
- Integrated Ethernet interface
- Long sensing range of up to max. 10 m
- Industry-standard design and M12 male connector

Your benefits

- Reliable object detection independent of the surface and ambient light
- Rugged IP 67 housing withstands both indoor and outdoor conditions
- Easy integration into compact automated guided vehicles (AGV) due to small size
- Ethernet interface makes easy implementation and remote maintenance possible
- Can determine additional information such as object size, shape, etc. due to measured data output
- Low implementation costs due to scalability: Sensor telegram is identical to sensor telegrams for laser measurement sensors in the SICK portfolio

→ www.mysick.com/en/TiM5xx

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information




Other models → www.mysick.com/en/TiM5xx

Field of view	Angular resolution	Max. range with 10 % reflectivity	Switching inputs	Sub product family
270°	1°	2 m	0 (PNP)	TiM51x
		8 m	0 (PNP)	TiM55x

- **Switching outputs:** 1 (PNP, “SYNC”/“device ready”)
- **Object remission:** 4 % ... > 1,000 %, reflectors

Sub product family	Electrical connection	Housing color	Model name	Part no.
TiM51x	1 x cable with 12-pin M12 male connector (0,3 m) 1 x Micro USB female connector, type B	Light blue (RAL 5012)	TiM510-995000S01	1062210
TiM55x	1 x “Ethernet” connection, 4-pin M12 female connector 1 x connection “Power/Synchronization output” 5-pin, M12 male connector	Gray (RAL 7032)	TiM551-2050001	1060445
TiM56x	1 x Micro USB female connector, type B		TiM651-2050101	1071419

Accessories

	Brief description	Model name	Part no.
Mounting brackets and mounting plates			
	Mounting kit with sun shade/weather protection	Mounting kit	2068398
Plug connectors and cables			
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: cable Cable: shielded, 5 m	Connecting cable (female connector-open)	6036159
	Head A: male connector, M12, 4-pin, straight, D-coded Head B: male connector, RJ45, 8-pin, straight Cable: Ethernet, shielded, 5 m	SSL-2J04-G05ME	6034415
Test and monitoring tools			
	Scan finder, receiver to localize infra red scans	LS80b	6020756



At a glance

- Efficient and cost-effective 2D laser scanner for measuring ranges of up to 50 m
- Outstanding performance whatever the weather, thanks to multi-echo technology and intelligent algorithms
- Rugged, compact housing with enclosure rating up to IP 67, integrated heating and a temperature range from -40°C and +60°C
- Variants for security applications with relay outputs and VdS certification available
- Measurement data output via Ethernet interface in real time
- Number of switching outputs can be expanded via external CAN modules

Your benefits

- Straightforward integration and mounting due to compact design
- Low purchase and operating costs: One device can monitor areas of over 5,500 m2 in size
- Product family with many variants, which also provide solutions for demanding and specialized applications
- Extended filter options significantly reduce measurement errors caused by conditions such as fog, rain or snow
- Optional CAN I/O module increases number of switching outputs for greater application flexibility
- Ethernet interface enables straightforward implementation and remote maintenance

→ www.mysick.com/en/LMS1xx

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information












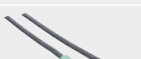





Other models → www.mysick.com/en/LMS1xx

Field of view	Max. range with 10 % reflectivity	Switching inputs	Sub product family
270°	18 m	4	LMS12x
		2	LMS11x
	30 m	4	LMS13x
		2	LMS10x
		4	LMS14x

- **Object remission:** 2 % ... > 1,000 %, reflectors

Sub product family	Field of application	Electrical connection	Switching outputs	Housing color	Model name	Part no.
LMS10x	Indoor	1 x system plug with screw terminal block	3	Black (RAL 9005)	LMS102-10000	1048235
				Gray (RAL 7032)	LMS101-10000	1048236
				Light blue (RAL 5012)	LMS100-10000	1041113
LMS12x	Security, Indoor	1 x system plug with screw terminal block	3 (2 relay, 1 digital)	Black (RAL 9005)	LMS122-10000 Security	1044322
				Gray (RAL 7032)	LMS121-10000 Security	1051384
				Signal white (RAL 9003)	LMS123-10000 Security	1044321
LMS11x	Outdoor	1 x M12 circular plug-in connector	3	Gray (RAL 7032)	LMS111-10100	1041114
LMS13x	Security, Outdoor	1 x M12 circular plug-in connector	3 (2 relay, 1 digital)	Black (RAL 9005)	LMS132-10100 Security	1051402
				Gray (RAL 7032)	LMS131-10100 Security	1051379
				Signal white (RAL 9003)	LMS133-10100 Security	1051403
LMS14x	Security, Outdoor	1 x M12 circular plug-in connector	3 (2 relay, 1 digital)	Gray (RAL 7032)	LMS141-05100 Security Core	1070209
					LMS141-15100 Security Prime	1070409
				Black (RAL 9005)	LMS142-05100 Security Prime	1070410
					Signal white (RAL 9003)	LMS143-05100 Security Prime

Accessories

	Brief description	Model name	Part no.
Device protection (mechanical)			
	Weather hood, 190°	Weather hood	2046459
	Weather hood, 270°	Weather hood	2046458
Mounting brackets and mounting plates			
	1 piece, mounting bracket for rear mounting on wall or machine	Mounting kit 1a	2034324
	1 piece, mounting bracket for rear mounting on wall or machine with protection of optics hood	Mounting kit 1b	2034325
	1 piece, mounting bracket, adjustable longitudinal and lateral axes, only in conjunction with mounting kit 1a (2034324) or 1b (2034325)	Mounting kit 2	2039302
Other mounting accessories			
	Strap for mast bracket (sold by meter)	Clamping strap	5306222
	Strap lock	Clamping strap lock	5306221
Terminal and alignment brackets			
	Quick-action lock system for weather hood 190°/270°	Quick clamp	2046989
Modules and gateways			
	Electrical connection box for power, I/Os and RS-232/-422 data (no Ethernet), with three pre-wired M12 cables	Electrical connection box	2062346
Plug connectors and cables			
	Head A: female connector, M12, 8-pin, straight, A-coded Head B: cable Cable: RS-232, RS-422, shielded, 10 m	Connecting cable (female connector-open)	6028420
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: cable Cable: shielded, 10 m	Connecting cable (female connector-open)	6036160
	Head A: male connector, M12, 8-pin, straight, A-coded Head B: cable Cable: shielded, 10 m	Connecting cable (male connector-open)	6036156
	Head A: male connector, M12, 4-pin, straight, D-coded Head B: male connector, RJ45, 8-pin, straight Cable: Ethernet, PUR, shielded, 10 m	SSL-2J04-G10ME	6030928
Power supply units and power cord connectors			
	Power supply DC 24 V / 10 A	Power supply	6020875
	Power supply DC 24 V / 4 A	Power supply	6010362
	Power supply DC 24 V / 2,5 A	Power supply unit	6022427
Test and monitoring tools			
	Scan finder, receiver to localize infra red scans	LS80b	6020756



At a glance

- The only VdS-certified laser scanner on the market (German certificate standard)
- Highest class “C” with environmental class II or IVa
- Flexible connection to DC 9 V to 30 V
- Two isolated relays (alarms) and one obstruction output
- Long detection range of 20 m, horizontal and vertical
- Up to 10 freely definable monitoring fields with intelligent evaluation algorithms
- Certified QuickStart menu
- 200 RAL colors available

Your benefits

- VdS certification for proven and reliable system acceptance by insurance companies (German certificate standard)
- High angular resolution provides a secure solution that improves reliability
- Secure, reliable detection with few false alarms due to precise field configuration of the detection area
- Small size provides unobtrusive solution
- Intelligent evaluation provides maximum application flexibility
- Easy integration into existing alarm management systems
- Low maintenance due to high immunity against environmental influences
- Cost-effective retrofitting due to low installation and wiring costs

→ www.mysick.com/en/LMC1xx

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models → www.mysick.com/en/LMC1xx










Field of view	Max. range with 10 % reflectivity	Switching inputs	Sub product family
270°	18 m	4	LMC12x
			LMC13x

- **Electrical connection:** 1 x system plug with screw terminal block
- **Switching outputs:** 3 (2 relay, 1 digital)
- **Object remission:** 2 % ... > 1,000 %, reflectors

Sub product family	Field of application	Housing color	Items supplied	Model name	Part no.
LMC12x	Security, Indoor	Gray (RAL 7032)	LMS12x VdS (Indoor), Mounting protection bracket VdS 1 (long)	LMC121-11000 VdS	1051287
			LMS12x VdS (Indoor), Mounting protection bracket VdS 2 (short)	LMC121-11001 VdS	1051314
		Black (RAL 9005)	LMS12x VdS (Indoor), Mounting protection bracket VdS 1 (long)	LMC122-11000 VdS	1051300
			LMS12x VdS (Indoor), Mounting protection bracket VdS 2 (short)	LMC122-11001 VdS	1051315
		Signal white (RAL 9003)	LMS12x VdS (Indoor), Mounting protection bracket VdS 1 (long)	LMC123-11000 VdS	1051301
			LMS12x VdS (Indoor), Mounting protection bracket VdS 2 (short)	LMC123-11001 VdS	1051316
		Black (RAL 9005)	LMS12x VdS (Indoor), Mounting protection bracket VdS 1 (long, uncoated aluminum)	LMC124-11000 VdS	1051303

Sub product family	Field of application	Housing color	Items supplied	Model name	Part no.
LMC13x	Security, Semi-Outdoor	Gray (RAL 7032)	LMS13x VdS (Outdoor), Mounting protection bracket VdS 2 (short)	LMC131-11101 VdS	1051487
		Black (RAL 9005)		LMC132-11101 VdS	1051488
		Signal white (RAL 9003)		LMC133-11101 VdS	1051489

Accessories

	Brief description	Model name	Part no.
Device protection (mechanical)			
	Weather hood, 190°	Weather hood	2046459
	Weather hood, 270°	Weather hood	2046458
Plug connectors and cables			
	Head A: female connector, M12, 8-pin, straight, A-coded Head B: cable Cable: RS-232, RS-422, shielded, 10 m	Connecting cable (female connector-open)	6028420
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: cable Cable: shielded, 10 m	Connecting cable (female connector-open)	6036160
	Head A: male connector, M12, 8-pin, straight, A-coded Head B: cable Cable: shielded, 10 m	Connecting cable (male connector-open)	6036156
	Head A: male connector, M12, 4-pin, straight, D-coded Head B: male connector, RJ45, 8-pin, straight Cable: Ethernet, PUR, shielded, 10 m	SSL-2J04-G10ME	6030928
Power supply units and power cord connectors			
	Power supply DC 24 V / 10 A	Power supply	6020875
	Power supply DC 24 V / 4 A	Power supply	6010362
	Power supply DC 24 V / 2,5 A	Power supply unit	6022427



At a glance

- Powerful and efficient laser measurement sensor for ranges of up to 80 m
- Outstanding performance in adverse environmental conditions due to multi-echo technology
- Up to IP 67 enclosure rating, built-in heater for outdoor versions, highly compact design
- Low power consumption
- Fast signal processing
- Multiple I/Os
- Synchronization of multiple sensors possible

Your benefits

- Superior performance in a vast range of applications
- Smallest sensor with highest accuracy in its class
- Comprehensive range of lines and models to suit all performance and price requirements
- Fast, reliable object detection in nearly any weather conditions
- Low power consumption reduces total cost of ownership
- Best price/performance ratio in this sensor class on the market
- Fast, easy commissioning due to SOPAS software
- Self-monitoring functions increase system availability

→ www.mysick.com/en/LMS5xx

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Ordering information

Other models → www.mysick.com/en/LMS5xx











Field of view	Max. range with 10 % reflectivity	Switching inputs	Sub product family
190°	26 m	2 4 (Encoders) (depending on type)	LMS500
	40 m / 26 m (depending on type)	2 4 (Encoders) (depending on type)	LMS511
	40 m	2	LMS531

- **Object remission:** 2 % ... > 1,000 %, reflectors

Sub product family	Field of application	Variant	Resolution power	Spot size	Electrical connection	Switching outputs	Housing color	Model name	Part no.
LMS500	Indoor	Lite	High Resolution	4.7 mrad	1 x system plug with screw terminal block	3	Light blue (RAL 5012)	LMS500-21000 Lite	1054153
		PRO	High Resolution	4.7 mrad	1 x system plug with screw terminal block	6	Light blue (RAL 5012)	LMS500-20000 PRO	1047468

Sub product family	Field of application	Variant	Resolution power	Spot size	Electrical connection	Switching outputs	Housing color	Model name	Part no.
LMS511	Outdoor	Lite	Standard Resolution	11.9 mrad	4 x M12 circular plug-in connector	3	Gray (RAL 7032)	LMS511-11100 Lite	1054155
			High Resolution	4.7 mrad	4 x M12 circular plug-in connector	3	Gray (RAL 7032)	LMS511-21100 Lite	1054154
		PRO	Standard Resolution	11.9 mrad	4 x M12 circular plug-in connector	6	Gray (RAL 7032)	LMS511-10100 PRO	1046135
			High Resolution	4.7 mrad	4 x M12 circular plug-in connector	6	Gray (RAL 7032)	LMS511-20100 PRO	1047782
			Standard Resolution	11.9 mrad	4 x M12 4-pin plug-in connector (rear)	6	Gray (RAL 7032)	LMS511-10100S01	1055659
LMS531	Outdoor, Security	Lite	Standard Resolution	11.9 mrad	4 x M12 circular plug-in connector	3 (2 relay, 1 digital)	Gray (RAL 7032)	LMS531-11100	1055376
		PRO	Standard Resolution	11.9 mrad	4 x M12 circular plug-in connector	3 (2 relay, 1 digital)	Gray (RAL 7032)	LMS531-10100	1067356

Accessories

	Brief description	Model name	Part no.
Device protection (mechanical)			
	Weather hood (180°), vertical mounting	Weather hood	2063050
Mounting brackets and mounting plates			
	1 piece, mounting bracket for direct mounting, from the rear, on wall or machine, not adjustable	Mounting kit 1	2015623
Other mounting accessories			
	Strap for mast bracket (sold by meter)	Clamping strap	5306222
Modules and gateways			
	Electrical connection box for power, I/Os and RS-232/-422 data (no Ethernet), with three pre-wired M12 cables	Electrical connection box	2062346
		Electrical connection box	2063034
Plug connectors and cables			
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: cable Cable: shielded, 10 m	Connecting cable (female connector-open)	6042565
	Head A: male connector, M12, 8-pin, straight, A-coded Head B: cable Cable: shielded, 10 m	Connecting cable (male connector-open)	6036156
	Head A: male connector, M12, 12-pin, straight, A-coded Head B: cable Cable: shielded, 10 m	Connecting cable (male connector-open)	6042733
	Head A: male connector, M12, 4-pin, straight, D-coded Head B: male connector, RJ45, 8-pin, straight Cable: Ethernet, PUR, shielded, 10 m	SSL-2J04-G10ME	6030928
Power supply units and power cord connectors			
	Power supply DC 24 V / 10 A	Power supply	6020875
Test and monitoring tools			
	Scan finder, receiver to localize infra red scans	LS80b	6020756



At a glance

- Long scanning range, even when detecting dark surfaces
- High angular resolution of up to 0.0625 degrees
- High immunity to solar radiation
- Synchronous monitoring of up to four different fields
- Small laser spot diameter even at long distances

Your benefits

- Reliable operation even in harsh ambient conditions
- Low installation costs due to large monitoring areas
- Reliable detection of small objects at long distances
- Easy installation options for excavators and crane systems

→ www.mysick.com/en/LD-LRS

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information




Other models → www.mysick.com/en/LD-LRS

- **Field of application:** Outdoor
- **Electrical connection:** 1 x 20-pin Harting plug
- **Switching outputs:** 4 (digital)
- **Housing color:** gray (RAL 7032)

Version	Model name	Part no.
Long Range	LD-LRS3600	1060831
Extended Range	LD-LRS3611	1067186
Long Range	LD-LRS3601	1060832

Accessories

	Brief description	Model name	Part no.
Mounting brackets and mounting plates			
	Mounting kit for wall-mounting (adjustment bracket)	Mounting kit	2018303
Terminal and alignment brackets			
	Pole bracket requires additionally adapter bracket (2059271) or mounting set (2018303)	Alignment bracket	2018304

	Brief description	Model name	Part no.
Plug connectors and cables			
	Head A: female connector, D-Sub-HD, 15-pin, straight Head B: male connector, RJ45, straight Cable: Ethernet, shielded, 10 m	Connection cable (male connector- female connector)	6036683
	Head A: female connector, D-Sub-HD, 15-pin, straight Head B: male connector, RJ45, 9-pin, straight Cable: Ethernet, shielded, 3 m	Connection cable (male connector- female connector)	6032509
	Head A: male connector, Harting plug, 20-pin, angled Head B: male connector, D-Sub, 15-pin, straight Cable: RS-232, shielded, 3 m For keyboard wedge	Connection cable (male connector- male connector)	6032770
Test and monitoring tools			
	Scan finder, receiver to localize infra red scans	LS80b	6020756

WE DELIVER “SENSOR INTELLIGENCE.”

SICK sensor solutions for industrial automation are the result of exceptional dedication and experience. From development all the way to service: The people at SICK are committed to investing all their expertise in providing with the very best sensors and system solutions possible.

A company with a culture of success

Almost 7,000 people are on staff, with products and services available to help SICK sensor technology users increase their productivity and reduce their costs. Founded in 1946 and headquartered in Waldkirch, Germany, SICK is a global sensor specialist with more than 50 subsidiaries and representations worldwide. The people work with pleasure at SICK.

This is demonstrated by the accolades that the company is regularly awarded in the “Great Place to Work” competition. This lively corporate culture holds strong appeal for qualified and skilled persons. In SICK, they are part of a company that ensures an excellent balance between career progression and quality of life.



Innovation for the leading edge

SICK sensor systems simplify and optimize processes and allow for sustainable production. SICK operates at many research and development centers all over the world. Co-designed with customers and universities, our innovative sensor products and solutions are made to give a decisive edge. With an impressive track record of innovation, we take the key parameters of modern production to new levels: reliable process control, safety of people and environmental protection.

A corporate culture for sustainable excellence

SICK is backed by a holistic, homogeneous corporate culture. We are an independent company. And our sensor technology is open to all system environments. The power of innovation has made SICK one of the technology and market leaders – sensor technology that is successful in the long term.



“SENSOR INTELLIGENCE.” FOR ALL REQUIREMENTS

SICK is a renowned expert in many industries, and is entirely familiar with the critical challenges they face. While speed, accuracy and availability take center stage in all industries, technical implementations vary greatly. SICK puts its vast experience to use to provide with precisely the solution you need.

For applications worldwide

Hundreds of thousands of installations and applications go to prove that SICK knows the different industries and their processes inside out. This tradition of uncompromising expertise is ongoing: As we move into the future, we will continue

to design, implement and optimize customized solutions in our application centers in Europe, Asia and North America. You can count on SICK as a reliable supplier and development partner.



For your specific industry

With a track record of proven expertise in a great variety of industries, SICK has taken quality and productivity to new heights. The automotive, pharmaceutical, electronics and solar industries are just a few examples of sectors that benefit from our know-how. In addition to increasing speed and improving traceability in warehouses and distribution centers, SICK solutions provide accident protection for automated guided vehicles. SICK system solutions for analysis and flow measurement of gases and liquids enable environmental protection and sustainability in, for example, energy production, cement production or waste incineration plants.

For performance across the board

SICK provides the right technology to respond to the tasks involved in industrial automation: measuring, detecting, monitoring and controlling, protecting, networking and integrating, identifying, positioning. Our development and industry experts continually create groundbreaking innovations to solve these tasks.

→ www.sick.com/industries



SERVICES FOR MACHINES AND SYSTEMS: SICK LifeTime Services

SICK LifeTime Services is a comprehensive set of high-quality services provided to support the entire life cycle of products and applications from plant walk-through to upgrades. These services increase the safety of people, boost the productivity of machines and serve as the basis for our customers' sustainable business success. LifeTime Services range from product-independent consulting to traditional product services and are characterized by extensive industry expertise and more than 60 years of experience.





→ www.sick.com/service



Consulting and design

- Plant walk-through
- Risk assessment
- Safety concept
- Safety software and hardware design
- Validation of functional safety
- CE-conformance check



Product and system support

- Installation
- Commissioning
- Start-up support
- Calibrations
- Telephone support
- 24-hour helpline
- SICK Remote Service
- Troubleshooting on site
- Repairs
- Exchange units
- Extended warranty



Verification and optimization

- Inspection
- Stop time measurement
- Machine safety inspection
- Electrical equipment check
- Accident investigation
- Initial verification
- Performance check
- Maintenance



Upgrade and retrofits

- Upgrade services



Training and education

- Training
- Seminars
- Web training



VERSATILE PRODUCT RANGE FOR INDUSTRIAL AUTOMATION

From the simple acquisition task to the key sensor technology in a complex production process: With every product from its broad portfolio, SICK offers a sensor solution that best combines cost effectiveness and safety.

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Photoelectric sensors

- Miniature photoelectric sensors
- Small photoelectric sensors
- Compact photoelectric sensors
- Cylindrical photoelectric sensors
- Fiber-optic sensors and fibers
- MultiTask photoelectric sensors



Proximity sensors

- Inductive proximity sensors
- Capacitive proximity sensors
- Magnetic proximity sensors



Magnetic cylinder sensors

- Analog positioning sensors
- Sensors for T-slot cylinders
- Sensors for C-slot cylinders
- Sensor adapters for other cylinder types



Registration sensors

- Contrast sensors
- Markless sensors
- Color sensors
- Luminescence sensors
- Fork sensors
- Array sensors
- Register sensors
- Glare sensors



Automation light grids

- Measuring automation light grids
- Switching automation light grids



Opto-electronic protective devices

- Safety laser scanners
- Safety light curtains
- Safety camera systems
- Multiple light beam safety devices
- Single-beam photoelectric safety switches
- Mirror columns and device columns



Safety switches

- Electro-mechanical safety switches
- Non-contact safety switches
- Safety command devices



sens:Control – safe control solutions

- Safe sensor cascade
- Safety relays
- Safety controllers



Gas analyzers

- Gas transmitters
- In-situ gas analyzers
- Extractive gas analyzers



Dust measuring devices

- Scattered light dust measuring devices
- Transmittance dust measuring devices
- Gravimetric dust measuring devices



Analyzer solutions

- CEMS solutions
- Process solutions



Traffic sensors

- Tunnel sensors
- Overheight detectors
- Visual range measuring devices



Ultrasonic gas flow measuring devices

- Volume flow measuring devices
- Mass flow measuring devices
- Flow velocity measuring devices
- Gas flow meters



Identification solutions

- Image-based code readers
- Bar code scanners
- RFID
- Hand-held scanners
- Connectivity



Vision

- 2D vision
- 3D vision



Distance sensors

- Short range distance sensors (Displacement)
- Mid range distance sensors
- Long range distance sensors
- Linear measurement sensors
- Ultrasonic sensors
- Optical data transmission
- Position finders



Detection and ranging solutions

- 2D laser scanners
- 3D laser scanners
- Radar sensors



Motor feedback systems

- Motor feedback system rotary HIPERFACE®
- Motor feedback system rotary HIPERFACE DSL®
- Motor feedback system rotary incremental
- Motor feedback system rotativ incremental with commutation
- Motor feedback system linear HIPERFACE®



Encoders

- Absolute encoders
- Incremental encoders
- Linear encoders
- Wire draw encoders
- Safety encoders



Fluid sensors

- Level sensors
- Pressure sensors
- Flow sensors
- Temperature sensors



System solutions

- Customized analyzer systems
- Collision awareness systems
- Robot guidance systems
- Object detection systems
- Profiling systems
- Quality control systems
- Security systems
- Track and trace systems
- Functional safety systems



EASY INTEGRATION INTO YOUR AUTOMATION WORLD

Sensor integration with SICK is easy and fast for you: Our intelligent sensor solutions and safety controllers provide different integration technologies which allow easy access – from HMI, PLC, and engineering tools – to data from our sensors. In this way, we support you towards solving your application rapidly and easily and increase machine reliability with a continuous diagnostic concept.

PLC and engineering tool integration

Function Blocks	
IO-Link devices Level sensors Pressure sensors Presence detection sensors Distance sensors	Bar code scanners, Image-based code readers 1D und 2D
Vision sensors Inspector	RFID RFH6xx RFU62x, RFU63x
Absolute encoders AFS60/AFM60	Laser volume flowmeter Bulkscan® LMS511

Function blocks

The SICK function blocks quickly allow you to establish acyclic communication to our sensors within your PLC program. Additionally, complex and variable process data can be parsed into their individual information contents without programmer effort.

DTM (Device Type Manager)

FDT/DTM is a cross-manufacturer concept, with which configuration and diagnosis of devices from different manufacturers can be done with just one engineering tool.

TCI (Tool Calling Interface)

The Tool Calling Interface (TCI) makes it possible to call up a tool used to carry out parameterization and diagnosis of a field device via the existing communication infrastructure.

HMI integration

OPC server

OPC technology is used to exchange data between field devices and Windows-based applications. The SOPAS OPC server from SICK follows the OPC DA specification and thus can be used on Windows operating systems.



Web server

The SOPAS web server from SICK can be used everywhere, where a web browser is available. The web server is distinguished by its ability to both carry out pure data exchange and also to provide visualizations for the devices, which is a big advantage, particularly for vision sensors.

Fieldbus Communication Interface



Modbus®TCP

Our fieldbus and network solutions allow SICK sensors and safety controllers to be connected to all conventional automation systems. This guarantees an easy and fast access to the available data.

→ www.sick.com/industrial-communication

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SERVICES FOR MACHINES AND SYSTEMS: SICK LifeTime Services

Our comprehensive and versatile LifeTime Services are the perfect addition to the comprehensive range of products from SICK. The services range from product-independent consulting to traditional product services.



- 
Consulting and design
 Safe and professional
- 
Product and system support
 Reliable, fast and on-site
- 
Verification and optimization
 Safe and regularly inspected
- 
Upgrade and retrofits
 Easy, safe and economical
- 
Training and education
 Practical, focused and professional

SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With almost 7,000 employees and over 50 subsidiaries and equity investments as well as numerous representative offices worldwide, we are always close to our customers. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in various industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services round out our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

Worldwide presence:

Australia, Austria, Belgium, Brazil, Canada, Chile, China, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, India, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Norway, Poland, Romania, Russia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, USA, Vietnam.

Detailed addresses and additional representatives → www.sick.com