CEDES
Predict. Protect. Perform.

VITECTOR
by CEDES

# Solutions for Industrial Doors

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## YOUR PARTNER OF CHOICE - TODAY AND TOMORROW

The CEDES Group offers its innovative solutions for elevators, escalators, industrial doors, and warehouse management systems in more than 60 countries. We develop intelligent and safe sensing, control and communication systems that provide actionable data streams for higher operational and maintenance efficiency. Our product portfolio ranges from simple optical sensors, through highly complex 3D camera systems in cutting-edge ToF (Time-of-Flight) technology, to smart IoT-enabling devices.

With our deep domain expertise and tireless curiosity, we aim to predict the future needs of our customers and strive to find practical solutions that others haven`t considered. This has led to significant innovations in the elevator industry, and the nomination for R+T Innovation Award 2024 demonstrates that we are on the right track in the door industry as well.

CEDES
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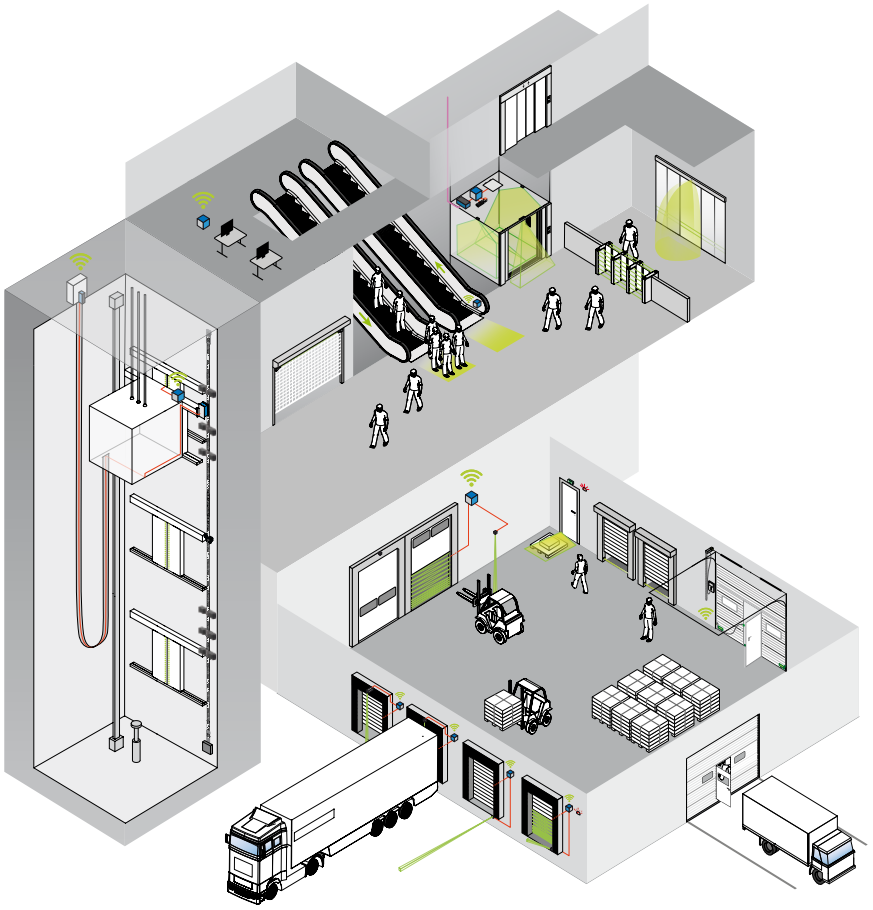


A core pillar of CEDES has always been safety – we protect people and objects by providing safe and reliable solutions. We also protect our customers by nurturing trusting, long-lasting, collaborative relationships and by making meaningful advancements without compromising our standards of high quality and reliability. Our rigorously engineered products are made to perform in the real world.

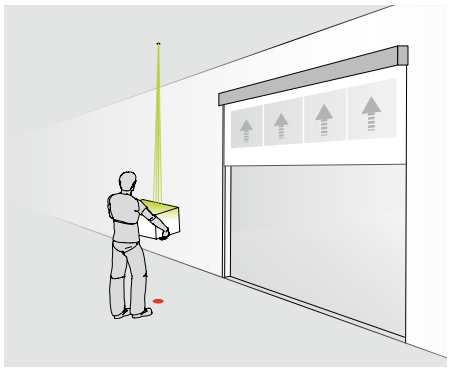
Reliable service belongs to this approach. In order to streamline our production and logistics processes, we have recently opened a new production facility in Romania, offering our customers greater flexibility and proximity. We are your local and global partner. We will help you to find the right solution for your needs and to future-proof your business.

VITECTOR by CEDES

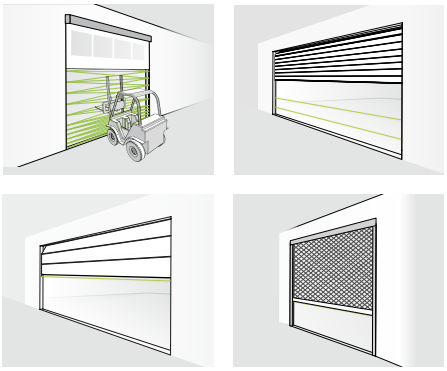
## CREATE SOLUTIONS FOR ALL SAFEGUARDING & MONITORING APPLICATIONS IN THE FIELD OF ENTRANCE AUTOMATION

- Realize the roadmaps of the Business Unit Entrance Automation and create a path for intelligent safety sensors
- Unlock the potential of sensors through IoT
- Partner with leading innovators to enable advancement for the overall door systems and create added value while using our sensor systems for OEMs

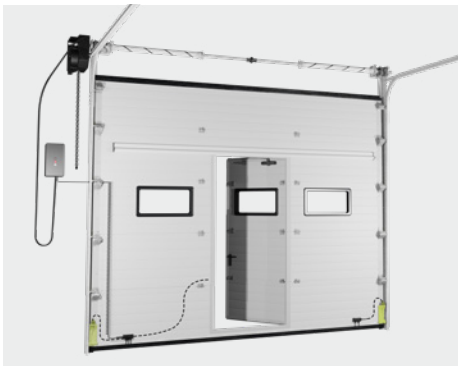
Loading dock presence detection



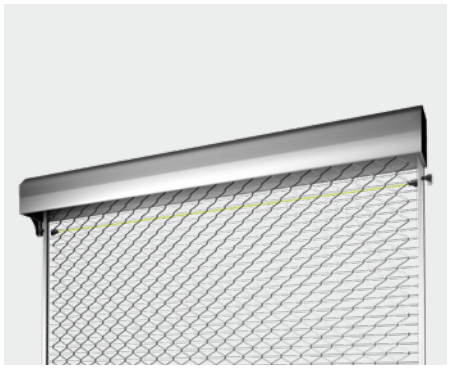
Intelligent door opening



Safeguarding of the main closing edge

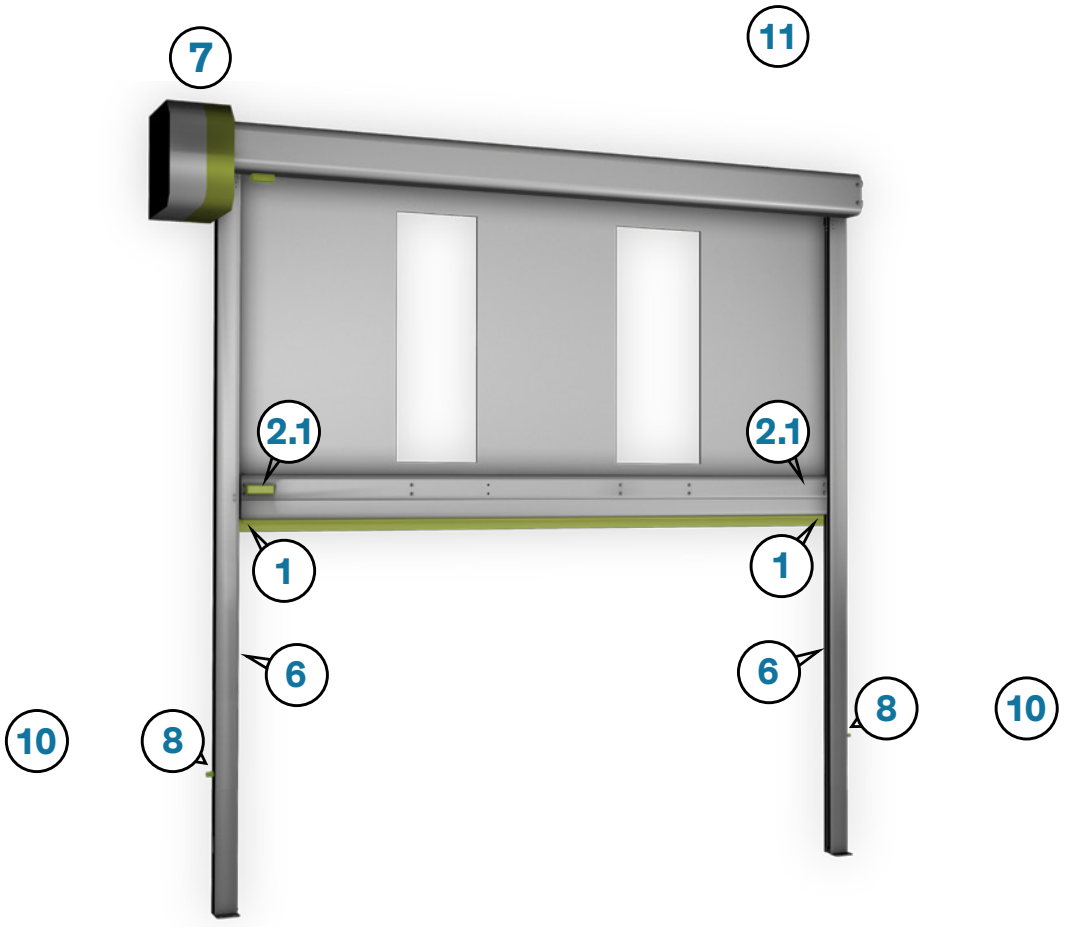


Monitoring of suspension cable and wicket door



Pull-in protection

Position monitoring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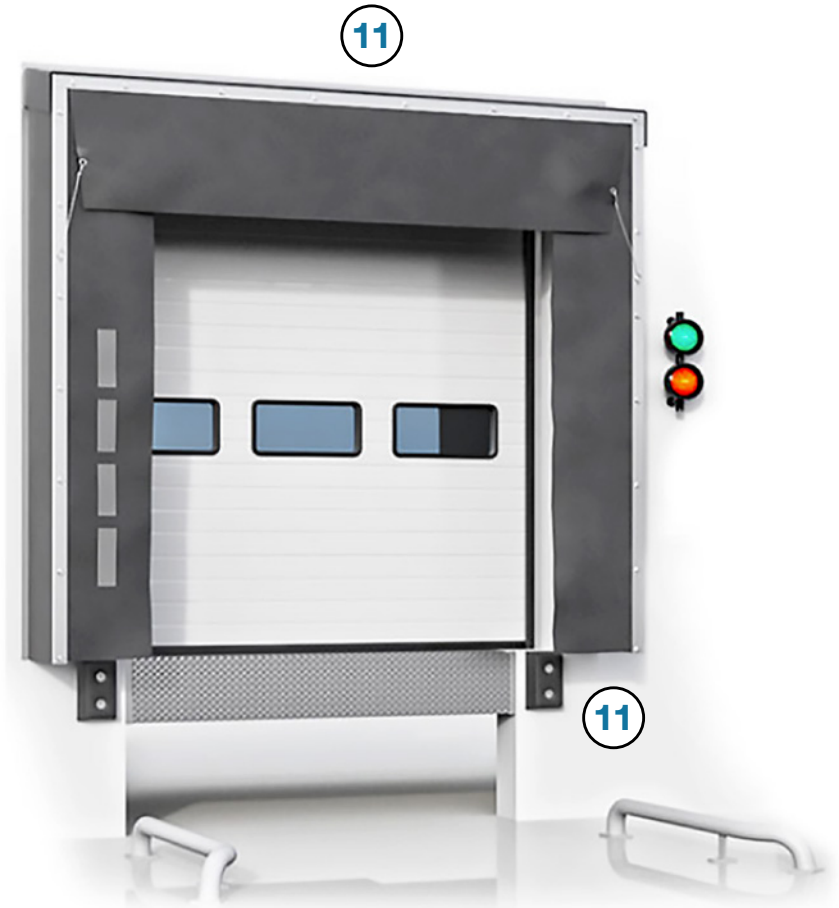
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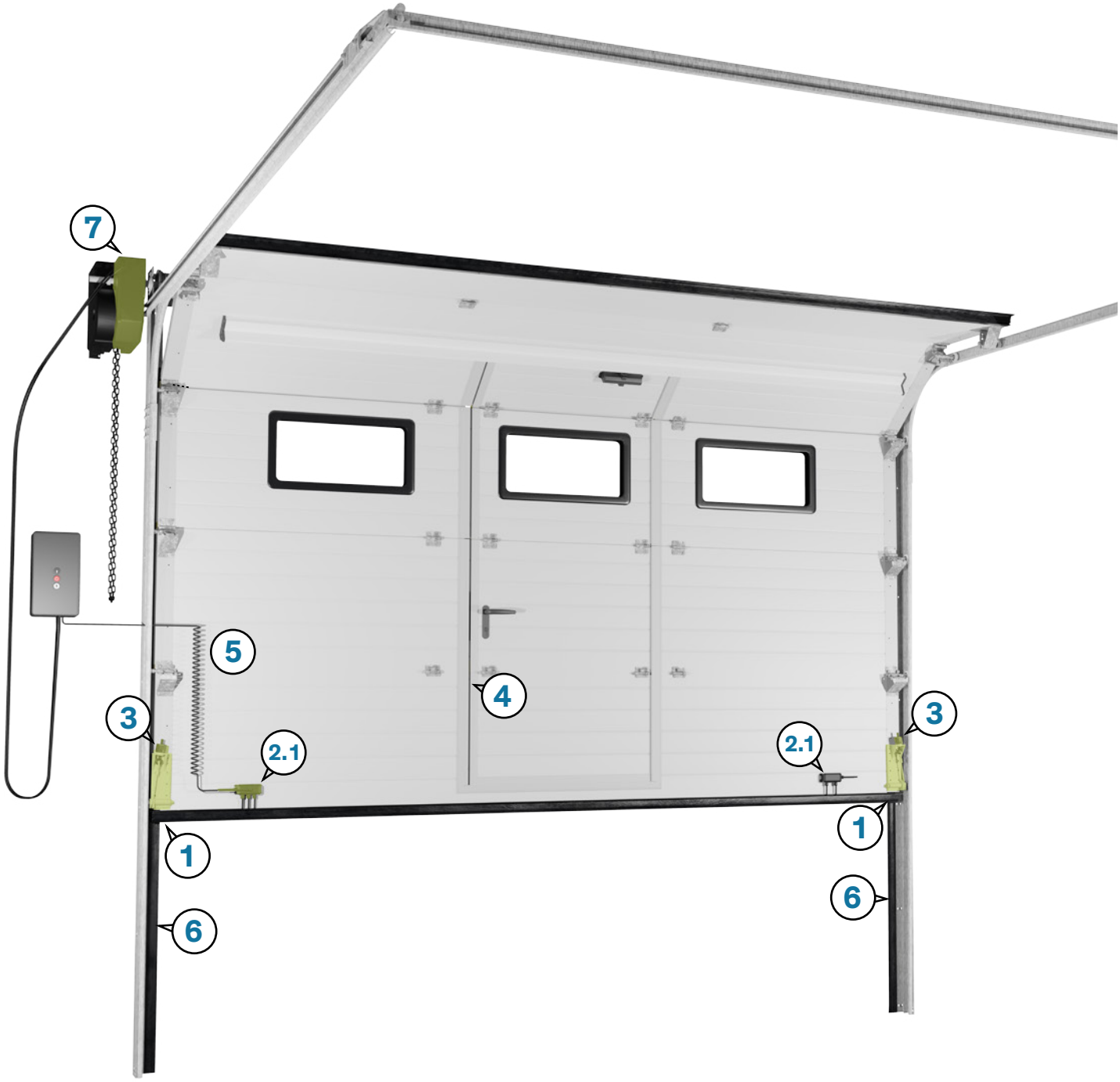


**1** Sensing edge
- **1.1** Optical sensing edge
- **1.2** Airwave switch
- **1.3** Pre-traveling light barrier

**2** Junction box
**3** Slack cable switch
**4** Wicket door monitoring
**5** Coil cord
**6** Light curtain
**7** Encoder
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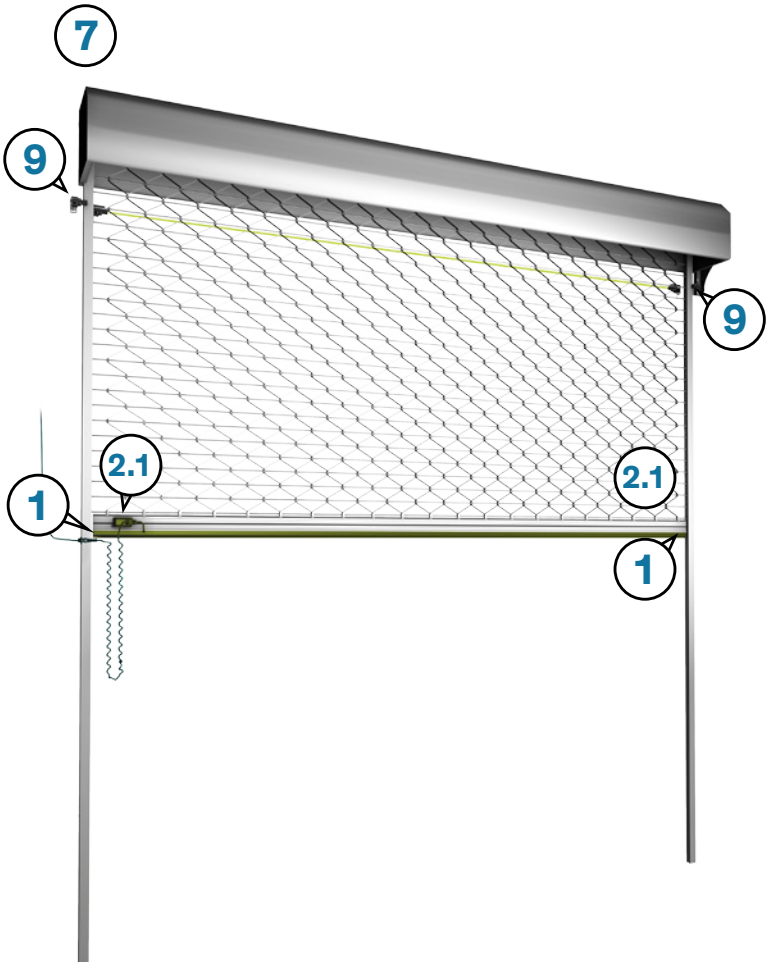
**9** Pull-in protection
**10** Reflective light barriers
**11** Door opening / Presence detection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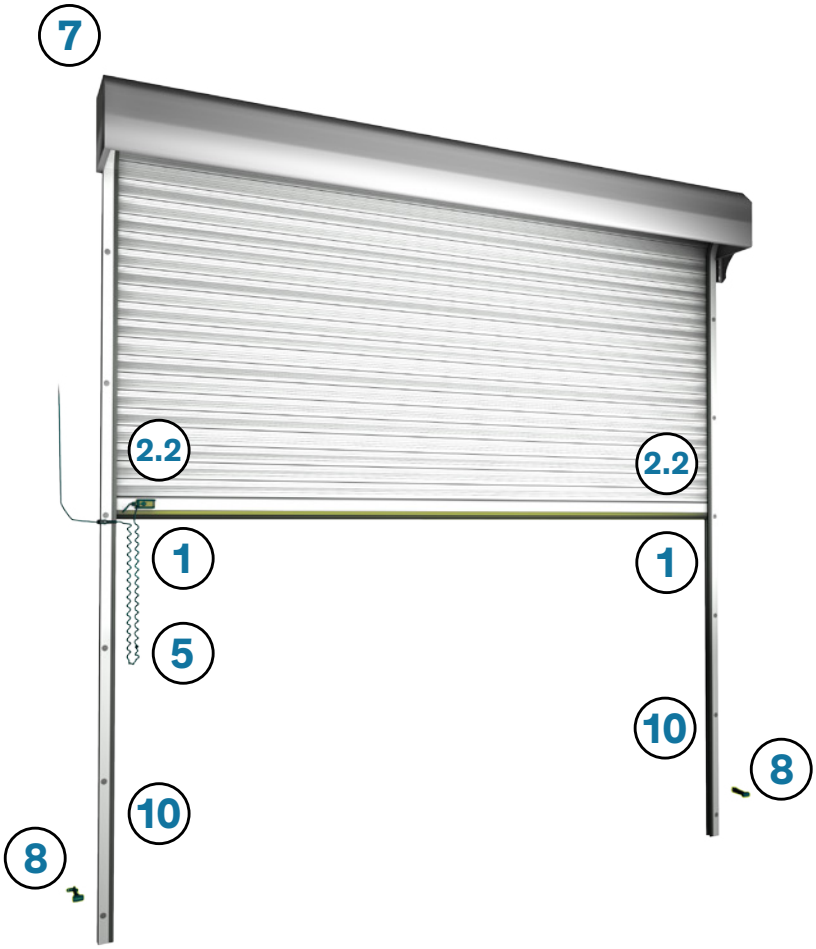
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# INDUSTRIAL DOORS

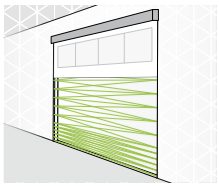
## SAFEGUARDING

### SAFEGUARDING OF THE MAIN CLOSING EDGE

CEDES offers a wide range of door safeguarding methods that help prevent injuries and damage to doors. They include stationary safeguarding with single or reflective light barriers, as well as physical safeguarding of the main closing edge with optical safety edges or airwave switches. Our light curtains from the GridScan product family are based on a contactless principle and offer useful additional functionalities thanks to their advanced technology. For instance, the serial interface of GridScan/Pro SI enables the implementation of a soft stop function to prolong the door lifecycle, as well as standby mode to save energy.

## LICHT CURTAIN

# GridScan/Pro



GridScan/Pro is a highly reliable SIL 2-certified safety light curtain for industrial doors. Equipped with EC type examination certification, it can be used at any door. Thanks to its multi-output design and the changeable operating mode (from blanking to static), the GridScan/Pro can be integrated in all types of door control systems.

FEATURES:

- TÜV – EC Type examination certified
- SIL2-certified
- Direct integration into the door edge due to door blanking
- Combined output with PNP/NPN (push-pull) and FSS (OSE)
- Changeable operation between blanking and static mode
- Easiest alignment
- 2nd output for additional information
- Ideal for modernization projects due to FSS control unit
- Door closing speed up to 1.6 m/s
- Fulfils SIL2 without testing if FSS output selected

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## LICHT CURTAIN

# GridScan/Pro SI

GridScan/Pro SI is a highly reliable SIL 2-certified safety light curtain with a serial interface for industrial doors. Certified with an EC-type examination, it can be used in any door. The serial interface allows for the integration of additional functions such as soft stop, increasing the door`s service life.

FEATURES:

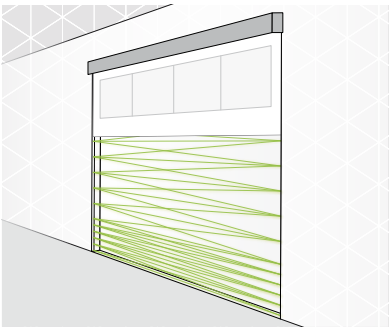
- TÜV-EC Type examination certified
- SIL2-certified
- Direct integration into the door edge possible (door blanking)
- Serial interface RS485
- Single beam information
- Easiest alignment
- Standby mode
- Maintenance information
- Door closing speed up to 1.6 m/s
- Cross-section of only 12 mm × 14.5 mm

ADVANTAGES:

- Higher safety level thanks to plausibility check of the door position
- Reduced mechanical wear due to the soft stop function
- Energy saving thanks to the standby mode and high door closing speed
- Reduced service costs based on the available maintenance information
- Reliable functioning in humid environments and in all weathers

## LIGHT CURTAIN

# GridScan/Mini



The GridScan/Mini is an extremely compact SIL 2-certified safety light curtain. Its door blanking function allows it to be integrated into the door design. The system with an FSS output fulfills EN 13849-1 Cat. 2 without testing.

FEATURES:

- Criss-cross beams
- SIL2-certified
- FSS version fulfills SIL2 without testing
- Direct integration into the door edge (SB and DB types)
- TÜV-approved
- For door speeds up to 1.6 m/s
- Waterproof housing (IP67) and very high light reserve make the GridScan/Mini insensitive to dust, dirt and water
- Electrical synchronization for increased light and strobe immunity
- Short-circuit proof semiconductor output PNP/NPN (push-pull) or FSS output
- Cross-section only 12 mm × 16 mm

## PRE-TRAVELING LIGHT BARRIER

# OPTOGUARD

## OGD-S 2000 / OGD-S 3000

The pre-traveling light barrier OPTOGUARD OGD-S 2000 features two telescopic sledges, each of them carrying a pair of photocell-sensors. When touching the ground, the sledge is pushed into the plastic housing tensioning a spring. The shape of the housing forces the sensor arms to perform a 60° rotation when sliding in, eventually locating them in parallel alignment. The OPTOGUARD is preferentially mounted inside the frame profile of the sectional door.

Thanks to the twin sensor design, the OPTOGUARD system is suitable to safeguard wide door profiles as e.g. used on sectional doors with low threshold wicket doors. The system can be connected with a 3-wire cable to any OSE interface.

OGD-S 2000:

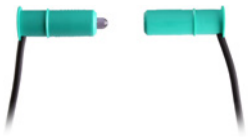
- Pre-traveling light barrier
- Range up to 7 m
- Compatible to all OSE interfaces
- Easy monitoring of wide profiled doors
- Protection class IP65

OGD-S 3000:

- Pre-traveling light barrier
- Range up to 7 m
- Compatible to all OSE interfaces
- Easy monitoring of wide profiled doors
- For integration into custom mechanics
- Protection class IP65

## OPTICAL SENSING EDGE

# OSE (Cat. 3, Cat. 4)



Safety edges are used wherever moving edges pose a hazard to people. The hazardous areas are protected by hollow rubber profiles. As soon as a person or object touches them, the sensing profile is deformed, and the potentially hazardous movement stops.

### FEATURES:

- Various versions available
- OSE interface (frequency output)
- Easy installation
- High safety and flexibility
- Suitable for battery systems
- Infrared sensors

### OSE ADVANTAGES:

The advanced OSE technology offers the following advantages:

- Easy assembly
- High level of safety
- High environmental resistance
- High flexibility

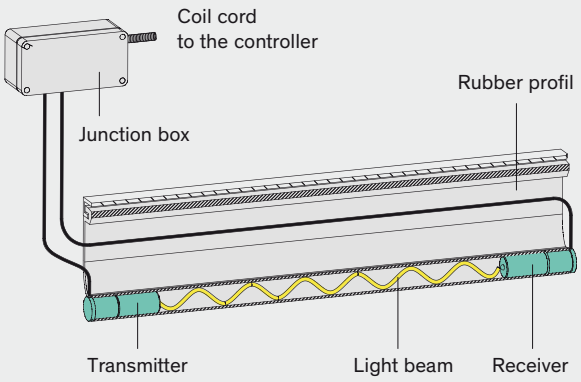
This results in reduced costs, as well as a higher level of safety and availability of the sensing edge.

### THE INTELLIGENCE OF OSE IS IN ITS TRANSMITTER AND RECEIVER:

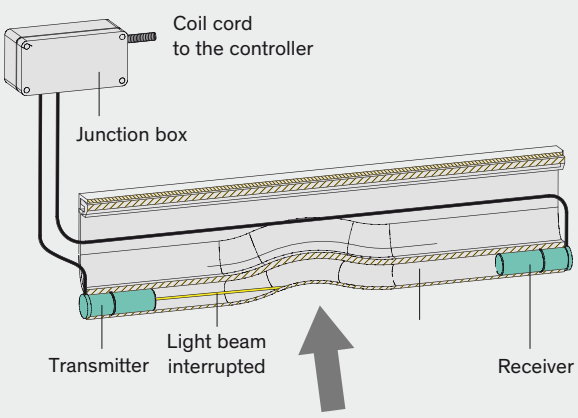
- Simple interface to the control units, easy to integrate into the door controller
- Automatic adjustment of the signal strength to the length of the sensing edge
- Compensation for the possible ageing of rubber profiles
- Partial compensation for humidity and dirt in the edge
- High immunity to ambient light
- No sensitive connections to the controller, which means no EMC problems
- Leads to the sensors with max. length of 200 m possible

## OPERATING PRINCIPLE

### Optical sensing edge not activated

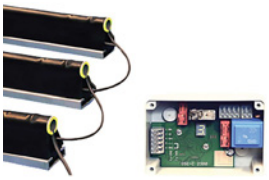



### Optical sensing edge activated



## OPTICAL SENSING EDGE

# OPTOCHAIN (OPC)



The OPTOCHAIN is a modular system of sensing edges for the use on automatic doors and machines. It is made up of one master sensing edge and up to four slave safety edges which are connected in series. The master is a low power version of the well-known OPTOEDGE.

FEATURES:

- Safety category 3 acc. to EN 13849-1
- Only one channel to be analyzed
- Max. operating range of the sensing edge up to 10 m
- Modular system of sensing edges
- Serial connection of up to four safety edges
- Protection class IP68
- Maintenance-free

The OPTOCHAIN is the logical further development of the established optical sensing edge OPTOEDGE for the use on power-operated doors and machines.

A light beam guided in the rubber profile is exchanged between an optical transmitter and a receiver. An interruption in the optical path triggers a signal that stops the dangerous movement of the door or machine. By connecting up to four OPTOCHAIN safety edges, it is possible to safeguard a large number of closing edges.

The OPTOCHAIN was developed according to EN ISO 13849-1:2008 Cat. 3 PL “d” and fulfills the requirements for the use on power-operated doors.

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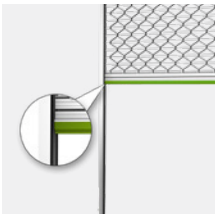
## PNEUMATIC SENSING EDGE

# Airwave Switch + Accessories



Airwave switches are actuated by pressure waves created by any kind of pressure source. A rubber tube inside the weather seal of the door is used to create a pressure wave. When the pneumatic edge hits an obstacle, a pressure wave is created inside of the tube and this wave is recognized by the switch.

Airwave switches are a cost-efficient way to safeguard doors and gates against entrapment. These pneumatic switches can be installed without any special tools directly on site. Installation is as easy as measuring and cutting the weather seal extrusion and connecting the switch to a tube in the weather seal.

FEATURES:

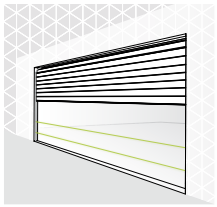
- Works with positive or negative pressure
- Different signal generators possible
- Easy assembly on site without adhesive
- Resistant to environmental influences
- Easy installation
- High flexibility
- Adjustable sensitivity
- Maintenance-free

ACCESSORIES:

- Silicone hoses
- Angled plugs
- Connectors

## LIGHT BARRIER

# ELS 500



The ELS 500 light barrier has a very robust design and due to the M12 housing it is easy to mount. The emitter has an adjustable emitting strength to configure the system for the used application.

FEATURES:

- Easy mounting concept without expensive kits
- Operating range up to 20 m
- PNP or NPN output, light or dark switching available
- Emitting power adjustment

## LIGHT BARRIER

# RAY-M

RAY-M was designed as a light barrier for a small mounting space. It generates the standard OSE signal and can be operated in combination with well-known control units. The RAY-M DUO is a double beam light barrier for safeguarding of two parallel areas via one signal.

Areas at two different heights, e.g. persons and trucks, can be monitored simultaneously with only one product (solution `D` acc. to EN 12453 possible).

FEATURES:

- Compatible with OSE interfaces
- Max. operating range 10 m
- Front-side indication LED
- Protection class IP68
- Easy installation

## REFLECTIVE PHOTO EYE

# RAY-RT

With its adaptable design, RAY-RT can be installed in the most challenging locations of door construction. It is designed for securing various points of the door and due to its compact size, it can even be integrated in the guide rail.

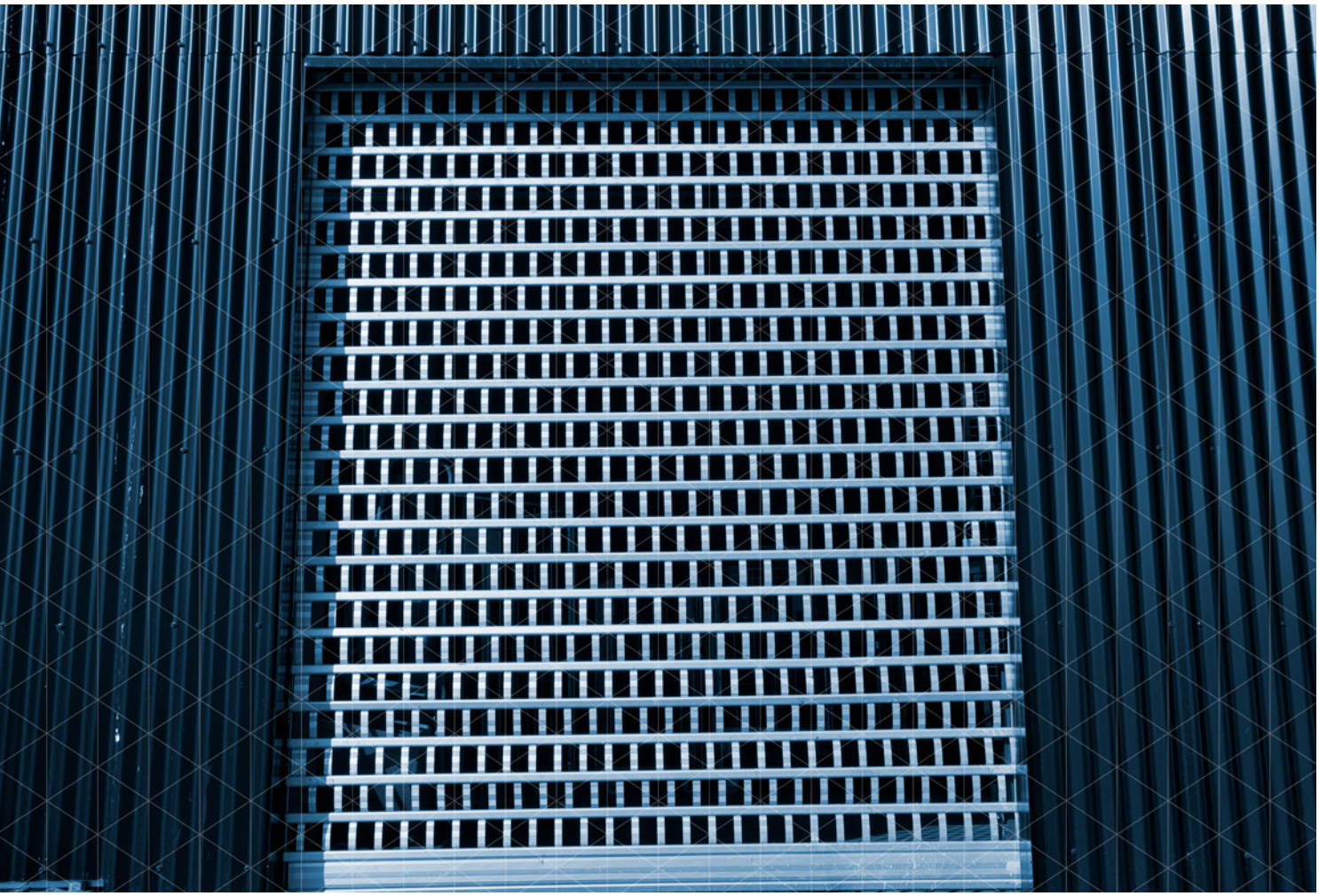
Thanks to the 360° rotatable fixing clamps and the compact design, RAY-RT can be installed in the door frame. An integrated function display and adjustment aid enable easy installation. Various interfaces facilitate integration into the door control system and retrofitting to existing doors. RAY-RT is available in three different housing versions (standard, industrial and heavy duty) for optimum application.

FEATURES:

- Available with either a standard or long-range reflector
- Resistant to ambient light through red light technology
- Close range detection
- Available output versions: relay, pulsed 2-wire
- IP65
- LED indicator

# INDUSTRIAL DOORS

## SAFEGUARDING

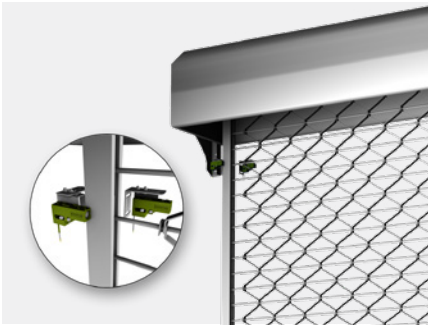


### PULL-IN PROTECTION

Rolling grills can be dangerous, especially for children playing around them. Pull-in protection prevents children from going up with the door and getting caught in the rolling mechanism. Two sensors are easily mounted on each side of the grill. An interruption of the light beam initiates a signal between the emitter and the receiver which stops the movement of the rolling door, avoiding bad accidents. The solution can also be used for other door applications where dangerous pinch and crush points are involved, for example tilt-up doors at the entrance of an underground garage.

## PULL-IN PROTECTION

# RAYTECTOR



The safety photo eye is used for entrapment protection on industrial doors, mainly for rolling grills. An interruption of the light beam initiates a signal between emitter and receiver which interrupts the movement of the power-operated door.

FEATURES:

- Compatible with OSE interface
- Front-side indicator LED
- Mounting angle for easy adjustment
- Operating range 1.5 m – 10 m
- 10.5 m connection cable
- Class 2 photo eye acc. IEC 61496-2

APPLICATIONS:

- Rolling doors – pull-in protection

The RAYTECTOR light barrier is a single-beam protective device for use on power-operated doors. It consists of a RAY-T 1000 transmitter and a RAY-R 1000 receiver. An interruption of the light beam between the transmitter and receiver triggers a signal that interrupts the dangerous movement of the power-operated door.
RAYTECTOR is a type 2 photoelectric sensor in accordance with IEC 61496-2. In conjunction with the OSE-C 2323 or OSE-C 2324 evaluation unit, RAYTECTOR becomes a system in accordance with EN 13849-1, safety category 3. RAYTECTOR pull-in protection is suitable for widths between 1.5 m and 10 m. The RAYTECTOR transmitter and receiver are encapsulated in plastic housings. Each 10.5 m connection cable allows direct connection to the control unit.

# INDUSTRIAL DOORS

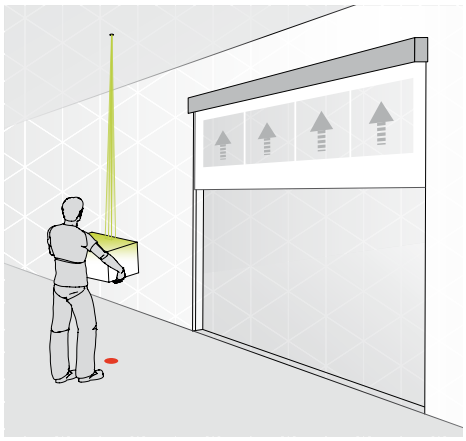
## OPENING

### OPENING

Practical and hygienic: CEDES sensors serve as door openers, offering a contactless pull-string alternative. The 3D camera sensor TOF/Spot contributes to the smooth flow of people and vehicles and prevents unnecessary door opening thanks to its small detection area.

## PULL-STRING REPLACEMENT

# TOF/Spot



The TOF/Spot is a compact yet powerful measuring system with the widest range of application possibilities. It offers ultra-reliable detection and exact detection range setting.

FEATURES:

- Time-of-Flight (TOF) Sensor
- Exact distance setting, independent from background
- Excellent detection capability
- Small and sleek design
- Operating range from 0.2 m up to 6 m
- Easy mounting
- Insensitive to ambient light up to 100,000 lux

# INDUSTRIAL DOORS

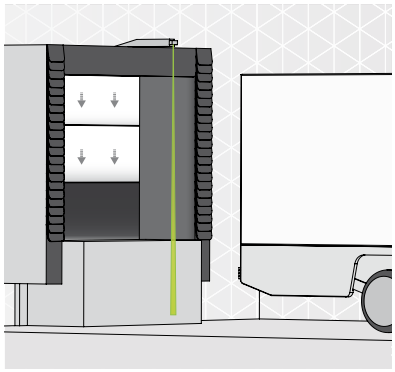
## MONITORING


### MONITORING

Our door monitoring solutions are designed to provide more safety and higher operational efficiency. The truck presence detection functionality is a good example of these advantages. This application is also based on our 3D ToF sensors – TOF/Spot TOF/Spot can determine if a truck is parked at the loading dock and control door opening and closing accordingly. It prevents unnecessary door opening, which results in increased energy efficiency of the building. For this reason, the solution is particularly useful for cooling storage facilities. CEDES also offers solutions for the monitoring of suspension cables and wicket doors.

## TRUCK PRESENCE DETECTION

# TOF/Spot



TOF/Spot can be applied to determine the presence of a truck at a loading dock, preventing unnecessary opening of the automatic door. This solution increases the overall energy efficiency of the building.

FEATURES:

- Prevents door opening when there is no truck at the loading dock
- Exact distance setting, independent from background
- Compact and sleek design
- Operating range from 0.2 m up to 6 m

ADVANTAGES:

- Saves energy
- Flexible mounting in or outside of the dock thanks to outdoor housing
- Prevents door closing when a truck is at the dock

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## POSITION MONITORING

# Encoder (DMC)

DMC is a universal limit switch for all door types fulfilling the requirements of the EN 12453:2017. A setup of two magnetic encoders determines the exact door position without batteries. The redundant non-contact sensor principle is unaffected by humidity or harsh environment. Selectable protocols allow communication with all major RS485 door control interfaces and can be chosen on site by a hidden switch.

FEATURES:

- Magnetic encoder technology
- Up to 4 revolutions
- Interface and mechanical compatibility with current design
- Internal memory to store door information
- Digital limit switch in accordance with EN 12453:2017+A1:2021
- Cat. 2 / PL “c” acc. to EN ISO 13849-1

## SUSPENSION CABLE MONITORING

# Slack Cable Switch (SCS)

Slack cable switches are used to detect the suspension tension on vertically moving doors. These stop the motorized drive as soon as the door movement is obstructed, e.g. if the suspension cable slackens. The minimum protection level for slack cable switches required by EN 12453:2017+A1:2021, Cat. 2 PL "c", is guaranteed by the design. The SCS slack cable switch combines a compact, cylindrical design with a diameter of only Ø 40 mm with a double, safely guided compression spring of high mechanical strength and a protected positive break contact. The unavoidable elongation of the cables after reassembly can be easily detected from the outside and adjusted without opening the switch.

FEATURES:

- Slack cable switch acc. to EN 12453-201+A1:2021
- Cat. 2 / PL “c” acc. to EN ISO 13849-1
- Positive break contact
- Cross-circuit monitoring with a resistor
- Switch function testable in assembled state
- Freely accessible cable adjustment screw
- Cable tension discernable in closed state
- Suitable for doors up to 700 kg

## WICKET DOOR MONITORING

# ENTRYSENSE (ENS)

## ENS-S 6800 / ENS-S 6804 / ENS-S 8200

Wicket doors in panels of power operated sectional doors must be locked safely in their closing position prior to any operation of the sectional door. This is applicable to fully automated doors as well as to doors in hold-to-run mode. A safe contact must prevent the entire door from moving while the wicket door is not fully closed.

ENTRYSENSE is available in three versions to work with different door control units.

FEATURES:

- Safe door contact acc. to EN 12453
- Safety category 2 acc. to EN 13849-1
- Contactless sensor – wear-free
- Easy installation

ENS-S 6800:

- Internal resistor 2k, suitable for cross-fault monitoring
- Adjustable switching point
- Cable length 5 m

ENS-S 6804:

- Internal resistor 2k, suitable for cross-fault monitoring
- Adjustable switching point
- Cable length 20 m

ENS-S 8200:

- Established 8k2 interface
- Adjustable switching point
- Cable length 5 m

# INDUSTRIAL DOORS

## ACCESSORIES

### ACCESSORIES

You don`t need to look for another supplier for cables, junction boxes and mounting brackets. CEDES offers complete solutions, incl. appropriate accessories. The one-stop-shop principle saves you time and simplifies the ordering and logistics process in a significant way.

# ACCESSORIES

## OSE CABLE SETS

### Cable sets (CS)

OSE cable sets contain a junction box, a spiral cable and cable gland accessories, and hence everything required to connect OSE sensors to a control device. Cable sets are provided with junction boxes and spiral cables in three sizes, each designed for different door types.

Cable sets CS 200X and CS 300X are available in standard and advanced versions which contain a diagnostic PCB instead of a luster terminal and an additional mounting bracket for better handling of the spiral cable.

FEATURES:

Required accessories for the connection of safety edge:

- Junction boxes in 3 sizes for all applications
- Including cable glands and coil cords
- Optional: PCB with diagnostic function
- Optional: Mounting bracket

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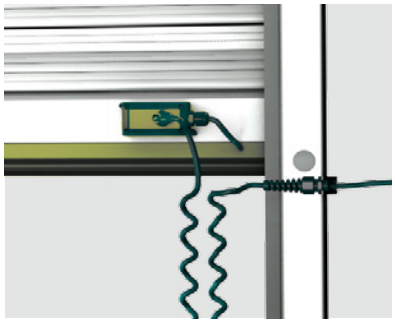
## JUNCTION BOXES

### Junction boxes (JB)



The junction boxes are available in different sizes (small, medium, large), depending on the desired application. The housing can be opaque or transparent – e.g. the status LED of the safety edge is visible through the translucent lid.

The pre-embossed cable glands in the housing ensure easy handling without tools. PCBs with diagnostic function and mounting brackets can be ordered optionally.

FEATURES:

- Junction boxes in 3 sizes for all applications
- Including cable glands
- PCB with diagnostic function optionally available

# ACCESSORIES

## BUMPERS

### OSE-B

Bumpers are used for long-term protection of horizontally mounted safety contact edges. In a closed state the door leaf sits on the bumpers. These protect the rubber profile and/or the inner optical closing edge device from damage.

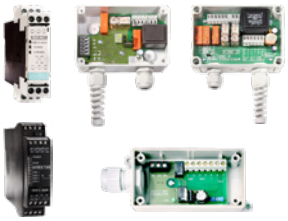
The installation height is selected to ensure that the hollow chamber containing the closing edge sensor is not deformed, but that the sealing flanges or the sealing chamber make tight contact with the floor.

FEATURES:

- Simple to attach
- Available for rolling doors or sectional doors
- Modular bumper for custom thickness / height

## CONTROL UNITS

### OSE-C



For retrofitting older door systems, or for door controls without an integrated "OSE" interface, control units are required for evaluating the signal. All safety light barriers with an OSE signal can be connected to the evaluation units.

The signal is evaluated and provides a switching function in the form of potential-free contacts.

Various control units are available for retrofitting (safety categories, with/without housing).

FEATURES:

- Wide variety of control units
- Safety categories 1 to 4, EN 13849-1, UL 325
- Different mounting options

## RUBBER PROFILES

### OSE-P

The hollow rubber profiles enclose the OSE safety light barrier. When the hollow rubber profile is deformed, the optical channel is interrupted, causing a dynamic safety signal to fail. This is detected by the control unit which interrupts the enable circuit. The potentially hazardous movement is halted.

FEATURES:

- Wide range of different rubber profiles
- Profile heights 30 mm to 90 mm
- Profile widths 14 mm to 45 mm
- Available with and without sealing lip in EPDM and NBR
- Customized profiles available
- End caps for optical termination (TPE)

## RETAINER

### Retainer

Most commercial doors are equipped with the proper retainer in order to install a rubber profile. For retrofitting or door sections without the right retainer, VITECTOR by CEDES offers special retainers for the installation of sensing edges.

FEATURES:

- Aluminum C-profiles
- For fixing the rubber profiles
- Different sizes available
- Suitable for retrofitting
- Widths 20 mm to 30 mm

## MOUNTING BRACKET

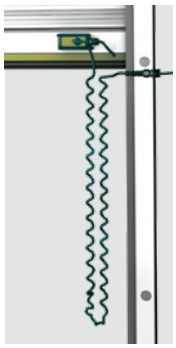
### Offset bracket (AC)

The mounting bracket is installed at half of the total height of the door, then wired up to the operator. This allows the coil cord to stretch only half the length.

FEATURES:

- Fixes the coil cord to the guide rail
- Helps prevent coil cord damage
- Material: Galvanized steel
- M16 flexing bend protection

## COIL CORDS



Coil cords are commonly used to wire the sensing edge from the moving door panel to the stationary door control unit. This solution is cost efficient and proven to work reliably. The wiring connection from the sensing edge to the coil cord is usually done within the protected environment of a junction box.

FEATURES:

- 3 - 5 leads
- Max. extension 3 m
- Spiral length 750 mm

# SPECIAL APPLICATIONS

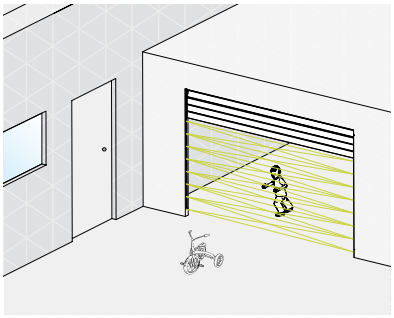
## GARAGE DOORS

### SAFEGUARDING

The CEDES portfolio is not limited to products for industrial doors – we also offer solutions suitable for residential garage doors that help protect your loved ones from injuries and your car from damage.

## MICRO MF

# Micro MF



The Micro MF is a universal light curtain for safeguarding automatic doors. Its robustness and flexible optical element arrangement allows it to be adapted to customer-specific applications.

### FEATURES:

- Integrated controller
- Integrated LED indicator
- Telemonitoring status output (TMS)
- Test input for increased safety
- Criss-cross beams
- IP65 (Standard) and IP67 (waterproof) versions available
- High EMC immunity

### APPLICATIONS:

- Sliding doors
- Garage and industrial doors

# SPECIAL APPLICATIONS

## PEDESTRIAN DOORS

### SAFEGUARDING AND OPENING

CEDES sensors are much more that practical, contactless door openers. For instance, TOFniva monitors a surface of 2 square meters and can be applied at emergency exits – it triggers an alarm, if an object is blocking the exit. TOF/ Start-EA detects and ignores cross-traffic in order to prevent unnecessary door opening and save energy.

## SAFEGUARDING

# ELS 263

The ELS 263 light barrier has a very compact design and is easily built into door frames or indeed anywhere where space is limited. Fully potted, it is also ideal for outdoor safeguarding applications.

FEATURES:

- Compact dimensions
- Simplest assembly (snap-in)
- Reliable for outside applications
- Integrated controller
- PNP or NPN output, light or dark switching available
- Multiple ELS 263 units connectable in a network with Y-switch

APPLICATIONS:

- Automatic sliding doors
- Elevator doors
- Vertically closing gates
- Escalators and travelators
- Personnel sluices

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## SAFEGUARDING

# ELS 300

The ELS 300 light barrier is certified under EN-13849, Category 2, Performance Level C. Its compact design allows it to be easily integrated into the safeguarding application.

FEATURES:

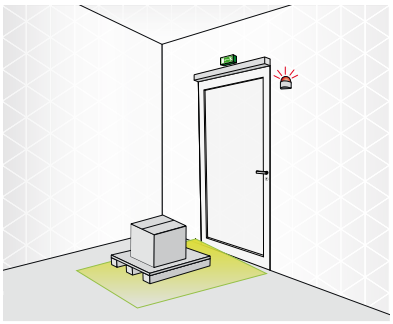
- Type 2 light barrier suitable for Cat. 2 applications
- Compact dimensions
- Excellent detection capability even in harsh environmental conditions
- Very resistant to ambient light
- Integrated controller
- PNP or NPN output, light or dark switching available
- Various operating ranges available
- Multiple ELS 300 units connectable in a network with Y-switch

APPLICATIONS:

- Automatic sliding doors
- Elevator doors
- Vertically closing gates
- Escalators and travelators
- Personnel sluices

## MONITORING

# TOFniva



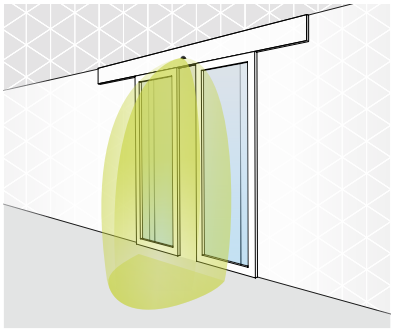
The TOFniva monitors a area of up to 2 m x 2 m, detecting when people or objects enter it. The detection area can be set to meet specific application needs and works with all backgrounds.

FEATURES:

- Excellent detection capability, independent of reflectance
- Individual setting of the detection area
- Detection area operates with all types of background
- Insensitive to ambient light

## DOOR OPENING

# RDS 100



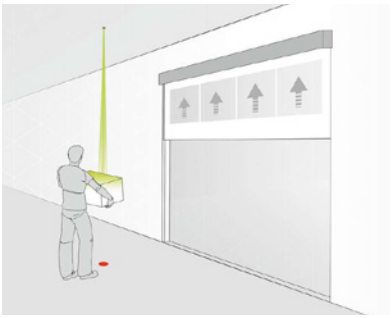
The RDS 100 radar sensor provides very reliable door activation. The sensor can be used for all automatic doors, thanks to his large detection area of 4 x 2 m at a mounting height of 2.2 m.

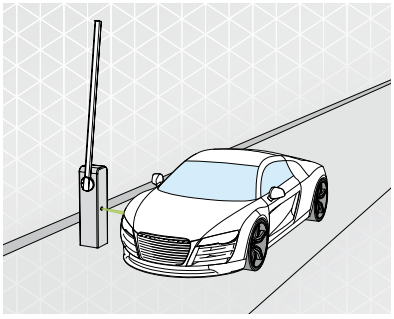
FEATURES:

- Easy mounting concept without expensive kits
- Adjustable detection angle
- Wide detection area
- Very compact sensor

DOOR OPENING

## TOF/Spot





The TOF/Spot is a compact yet powerful measuring system with the widest range of application possibilities. It offers ultra-reliable detection and exact detection range setting.

FEATURES:

- Time-of-Flight (TOF) sensor
- Exact distance setting, independent from background
- Excellent detection capability
- Small and sleek design
- Operating range from 0.2 m up to 6 m
- Easy mounting
- Insensitive to ambient light up to 100,000 lux

APPLICATIONS:

- Presence detection of trucks
- Presence and movement detection, e.g. at car park barriers
- Opening pulse generator of industrial doors
- Replaces pull-string door opening

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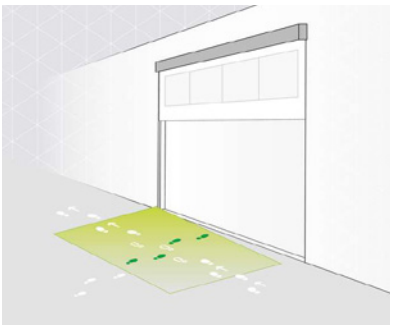
DOOR OPENING

## TOF/Start-EA



The TOF/Start-EA is the ideal door-opening sensor for pedestrian and industrial doors. Cross-traffic is ignored, ensuring energy-efficient usage and reducing mechanical wear.

FEATURES:

- Ignores cross-traffic via intelligent direction recognition
- Excellent detection capability, independent of reflectance
- Individual setting of the detection area
- Detection area operates with all types of background
- Insensitive to ambient light

DASMA

DASMA is the largest and most important association of the door industry in the USA.

IDA

IDA is a leading trade association representing the door and access system industry by providing advocacy, education, and collaboration

BVT - VERBAND TORE

The BVT is a German association of door manufacturers and door component suppliers.

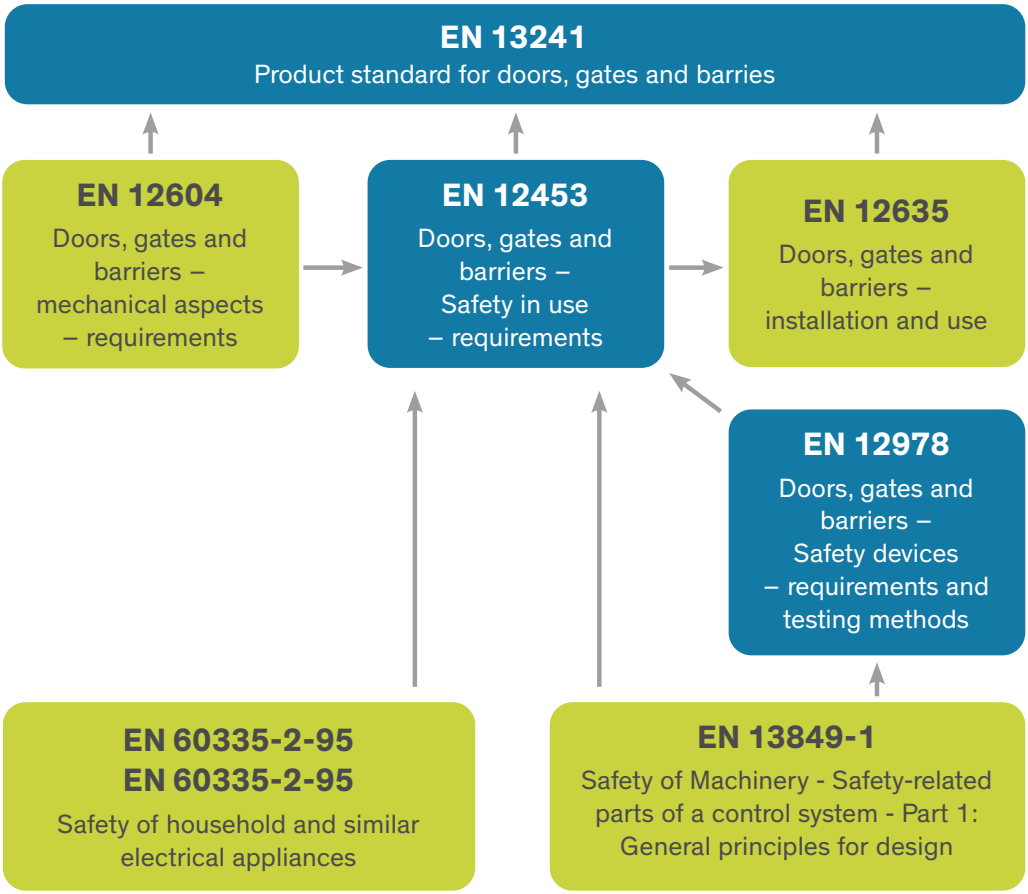
BAS.T

BAS.T associates leading manufacturers of door drives, wireless systems, safety devices and controllers.

## THE MOST IMPORTANT DOOR STANDARDS

Door systems must be designed in accordance with EN 13241. Not only manufacturers, but also maintenance companies are obliged to comply with the normative regulations.

Our products that are applied as safety devices on door systems, e.g. devices for closing edge safeguarding or pull-in protection, light curtains and pre-travelling light barriers, must comply with EN 12978.




### EN 13241

This European Standard specifies the safety and performance requirements for doors, gates and barriers, intended for installation in areas in the reach of persons, and for which the main intended uses are giving safe access for goods and vehicles accompanied or driven by persons in industrial, commercial or residential premises.

### EN 12453

This European Standard specifies the requirements and test methods for the safety in use of power-operated doors, gates and barriers, intended for installation in areas in the reach of persons, and for which the main intended uses are giving safe access for goods and vehicles accompanied or driven by persons in industrial, commercial or residential premises.

### EN 12978

This standard applies to protective devices used on power-operated doors in accordance with the specifications and requirements of EN 12453. It contains requirements for the design, manufacturing and testing of protective devices for the detection/sensing of persons potentially exposed to injury from the door and which generate an output signal intended for the protection of persons exposed to this risk.

Sustainability is at the root of everything that we do. The technologies our partners invest in today - which are the technologies CEDES is at the forefront of developing - will have a lasting impact on the future of our planet and the communities we serve.

## $CO_2$ NEUTRAL BY THE END OF 2024

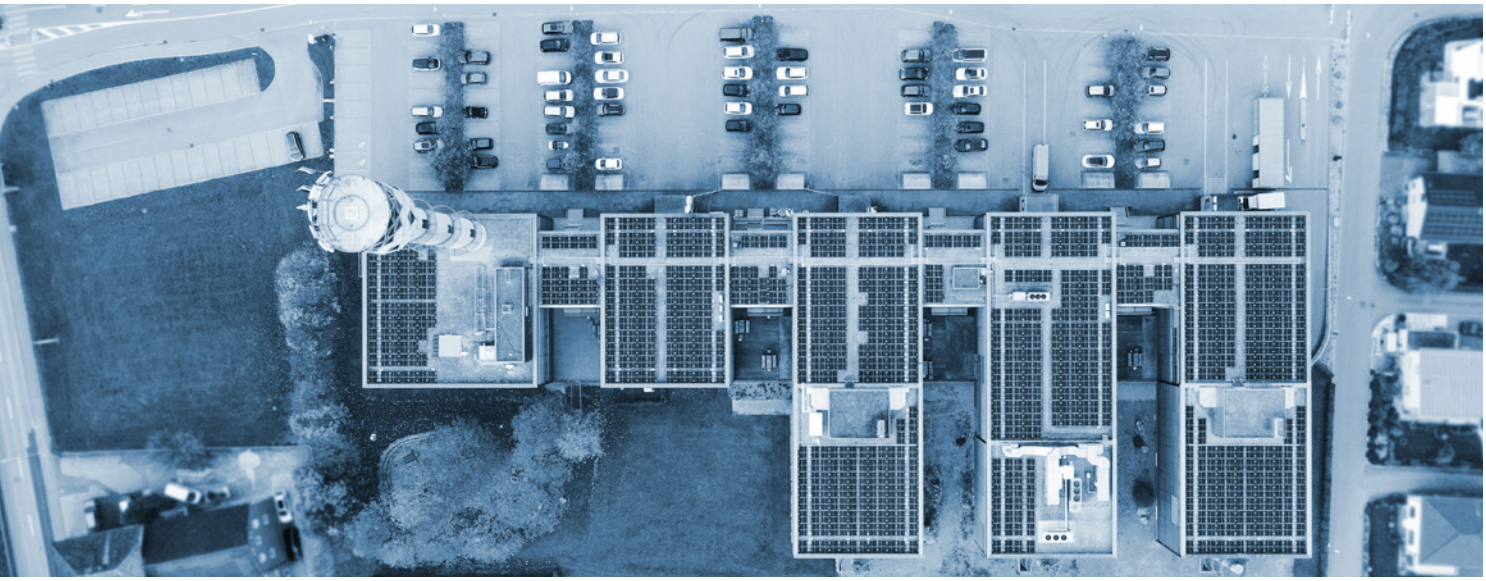
We cover 20% of our energy consumption with the photovoltaic system installed on the roof, and 80% with CO2-neutral power purchased from REPOWER AG. We are also planning to connect to district heating from the GEVAG waste incineration plant.

## SOLAR ENERGY

1,750 square meters – that‘s the total surface of solar panels installed on the roof of our Science Park building in Landquart. The photovoltaic system will provide around 360‘000 kWh electricity per year and reduce our CO2 emissions by 65 tons per year!

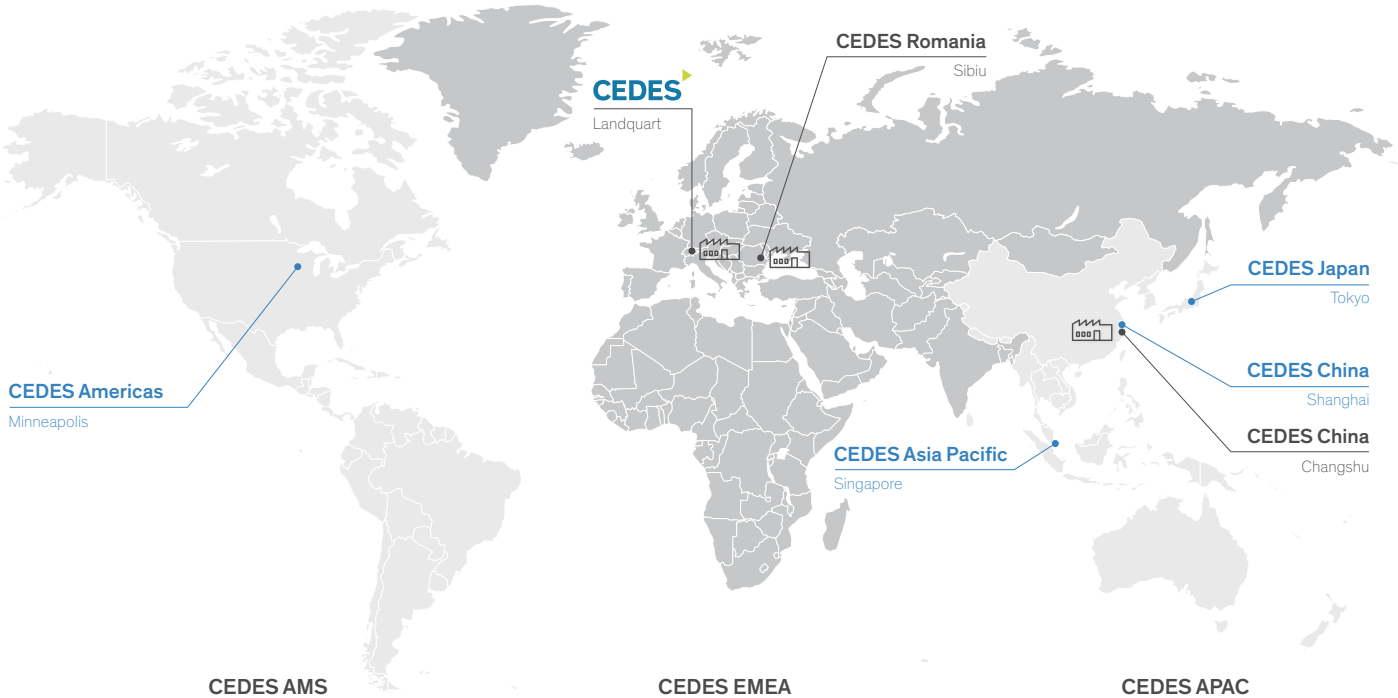
## E-MOBILITY

E-cars, e-bikes, e-scooters: more and more CEDES employees use electrically powered vehicles to commute to work. Specially designated parking spaces and PLUG‘N‘ROLL charging stations are at their disposal in the Science Park. On top of that, we are planning to replace our current company cars with e-cars.



# LOCATIONS

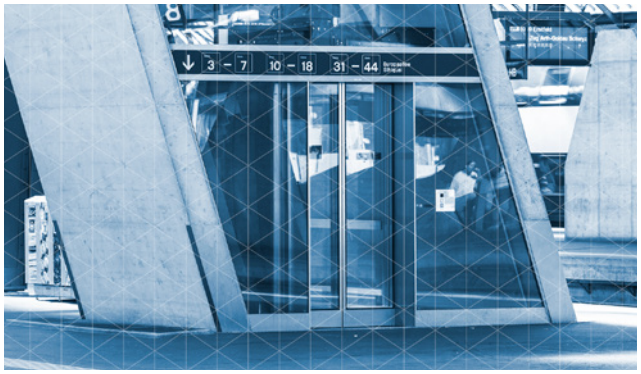
## We are your local and global partner.




## NOTES

# Learn more about our application markets

## ELEVATOR & ESCALATOR




## ENTRANCE AUTOMATION

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