



Elevator and Escalator overview

CEDES develops intelligent and safe sensor solutions. With our pioneering spirit and Swiss quality we strengthen the innovative power of our customers around the globe.



UNDERSTANDING

We understand our customers, their situations and their markets. Our extensive expertise and passion for technology enable us to develop leading-edge solutions for the future.

PIONEERING

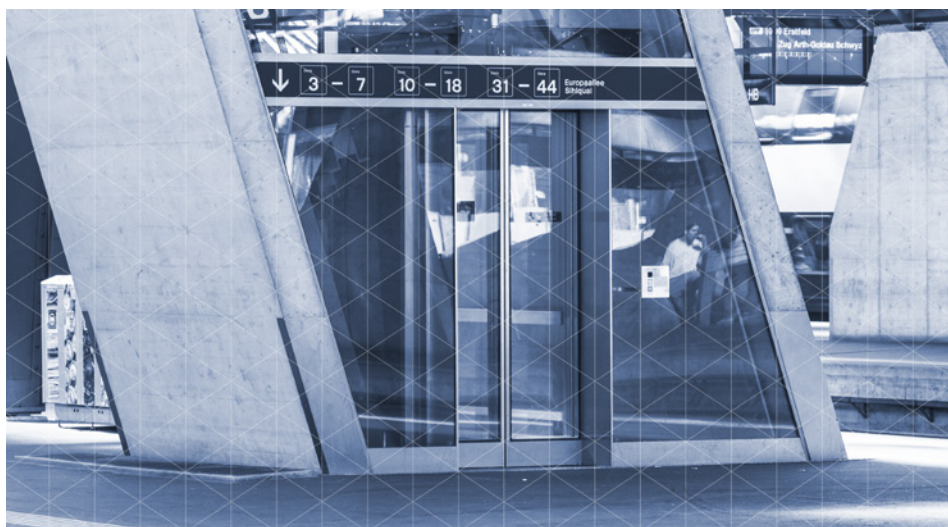
We are driven to constantly seek new possibilities. Using visionary and unconventional ideas, we captivate and inspire our customers, continually extending our leadership role in global sensor solutions.

TRUSTWORTHY

We know what we are doing. Our name stands for consistent Swiss quality - this allows our customers around the globe to place their wholehearted trust in us.

ELEVATOR & ESCALATOR

ELEVATOR DOOR SAFEGUARDING & CABIN APPLICATIONS



HOISTWAY INFORMATION



ESCALATORS



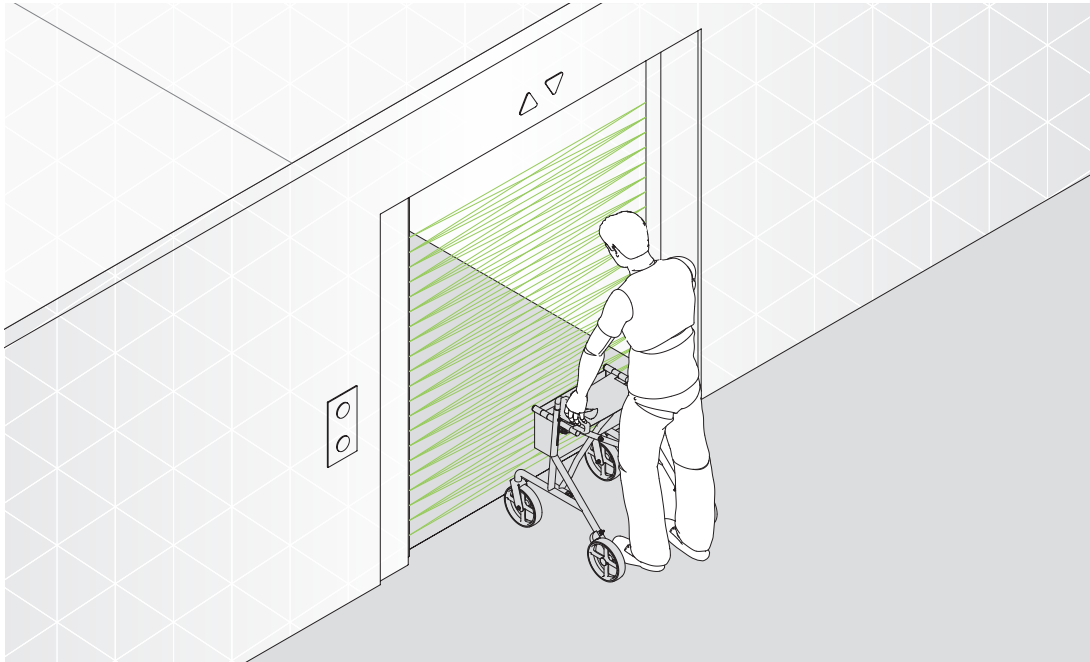


ELEVATOR DOOR SAFEGUARDING

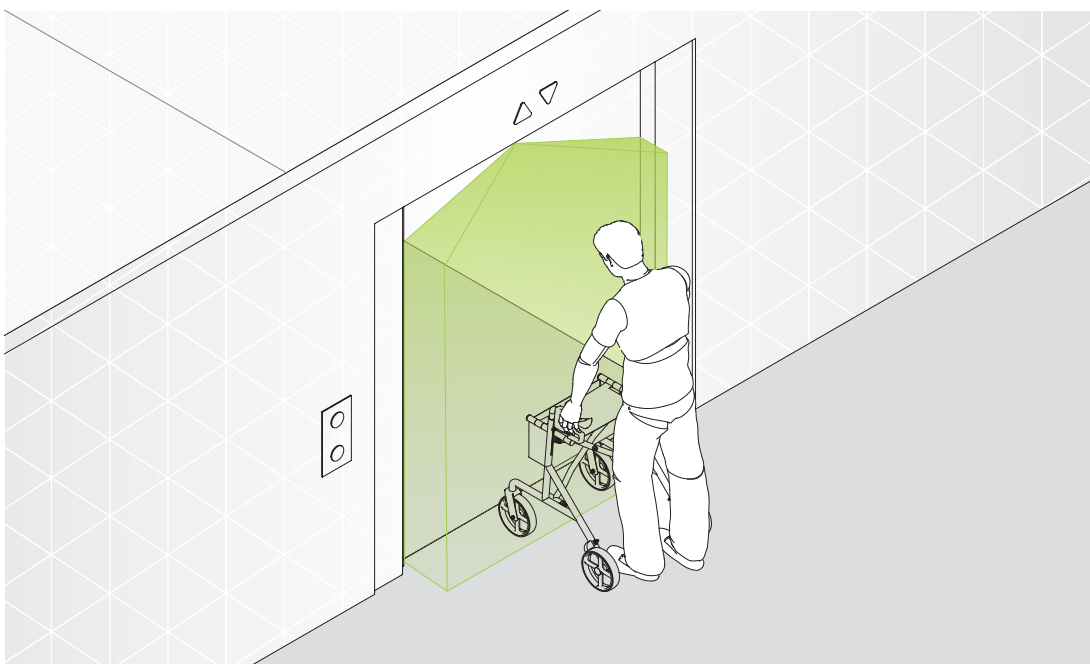
2D AND 3D SENSOR SOLUTIONS

CEDES' extensive range of light curtains sets the standard for elevator door safeguarding. They offer cost-effective and ultra-reliable 2D protection. 3D camera sensor technology featured on the TOFgard platform provides

significantly increased door safeguarding and optional entrance-area monitoring. The extremely compact camera sensor can be very quickly and easily installed.



Conventional light curtain safeguarding



3D camera technology offers increased safeguarding and entrance-area monitoring in one

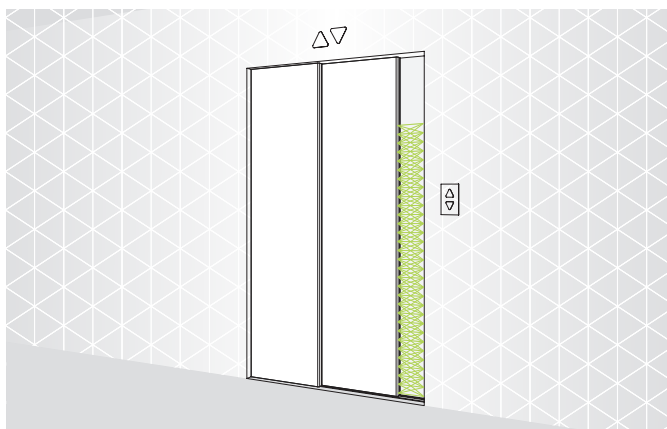
DOOR SAFEGUARDING

cegard/Mini-CC



The cegard/Mini-CC fulfills all EN 81-20 requirements and offers criss-cross beam protection until the automatic doors are fully closed. It features an integrated controller, PNP/NPN output and requires much less power than most other light curtains.

- ▶ Ideal for both static and dynamic applications
- ▶ IP65 (Standard) and IP67 (waterproof) versions available



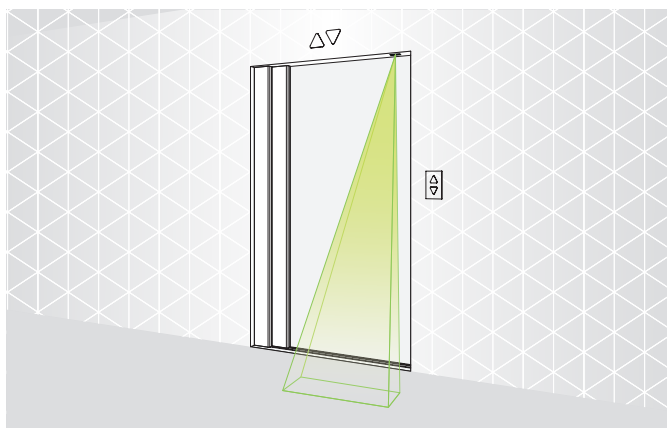
ENTRANCE AREA MONITORING

IMS 100/NT



The IMS 100 NT's reliable entrance-area monitoring offers increased protection for intending passengers and improves overall elevator efficiency. It is designed to complement the safeguarding provided by light curtain-equipped elevators.

- ▶ Detects people and objects
- ▶ Simple integration and mounting for both new and existing installations
- ▶ Suitable for side and center opening doors
- ▶ Works with static and dynamic light curtain systems



ELEVATOR DOOR SAFEGUARDING

DOOR SAFEGUARDING

TOFgard/Mini



NOT YET
AVAILABLE

The TOFgard/Mini provides extended protection across both the cabin and landing door closing edges and exceeds EN 81-20 requirements. This massively decreases potential injury and damage. It can be mounted in just four minutes.

- ▶ Shipping volume 40 times smaller than a light curtain
- ▶ Increases passenger safety



DOOR SAFEGUARDING & ENTRANCE AREA MONITORING

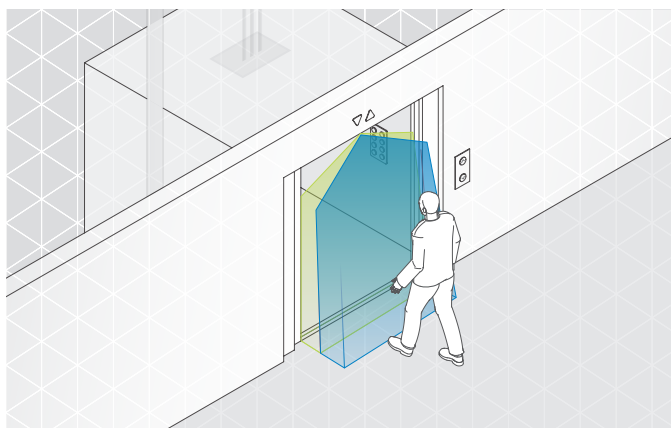
TOFgard/3D



NOT YET
AVAILABLE

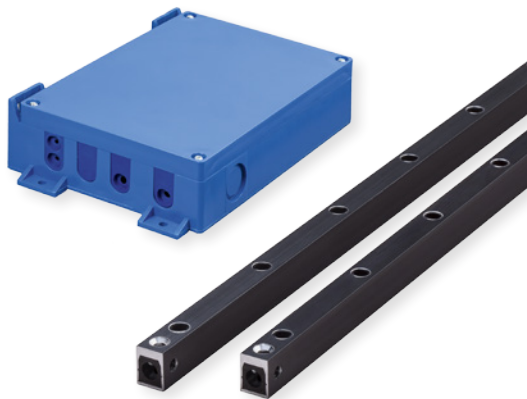
The TOFgard/3D offers powerful entrance-area monitoring, as well as safeguarding cabin and landing door closing edges. It is also an EN 81-20 compliant sensor and can be mounted in four minutes.

- ▶ Increased comfort for intending passengers
- ▶ Increased elevator efficiency
- ▶ Shipping volume 40 times smaller than a light curtain
- ▶ Increases passenger safety
- ▶ Detection of object position allows for smarter door response, increasing flight time



MODERNIZATION

cegard/Mini-MOD



The cegard/Mini-MOD can be installed anywhere thanks to its range up to 5 m and universal voltage. It features a relay output for easy integration into existing systems and is ideal for retrofitting using different optimized door mounting kits.

- ▶ Universal voltage of 20 ... 265 VAC or 20 ... 375 VDC
- ▶ IP67 edges version available



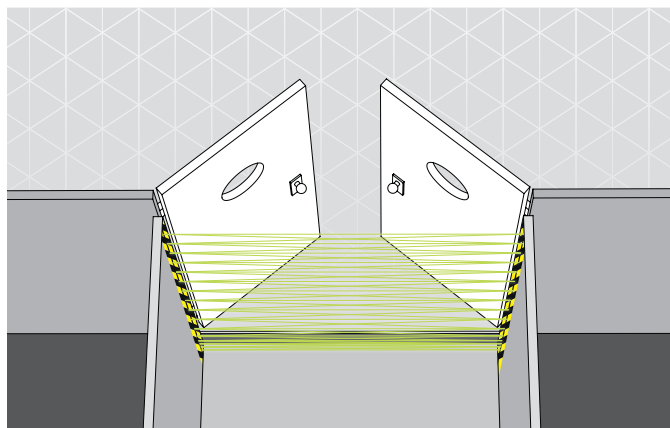
MODERNIZATION

cegard/Lift



The cegard/Lift safety light curtain is designed to be installed in elevators where the elevator car has no doors. It avoids having to fit doors to an existing elevator installation which reduces both volume and performance.

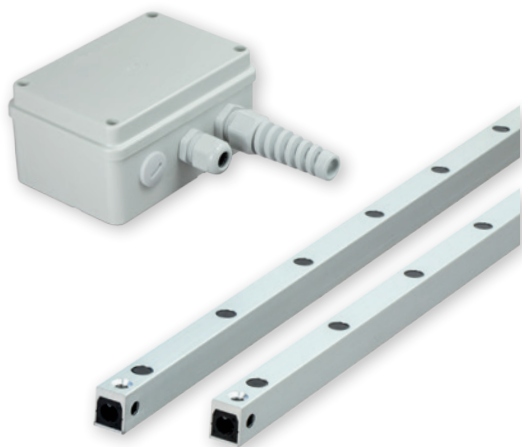
- ▶ Test input enables the testing of the LI system (EN ISO 13849-1)
- ▶ LX /LY systems for elevators without test signal
- ▶ Simple installation and integration with existing elevator controllers



ELEVATOR DOOR SAFEGUARDING

PLATFORM ELEVATOR SAFEGUARDING

GridScan/Mini-SR



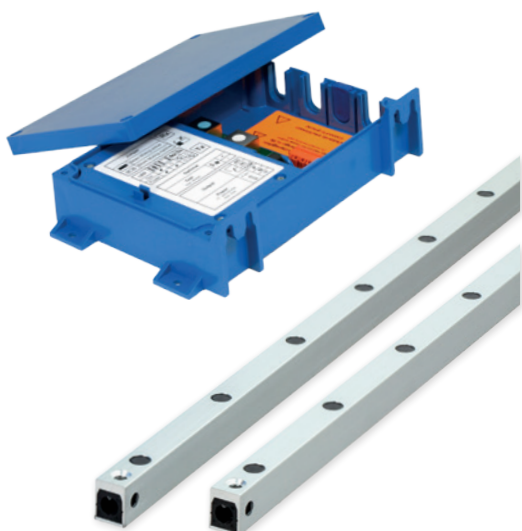
The GridScan/Mini-SR is EN ISO 13849-1 certified and fulfils Safety Category 2 and Performance Level C without the need for a test by the elevator controller.

- ▶ Criss-cross beams
- ▶ Ideal for EN 81-41 certified elevators
- ▶ Optimized to prevent optical bypassing
- ▶ Electrical synchronization for increased light and strobe immunity
- ▶ Relay output (direct wiring into the safety circuit)
- ▶ 24 VDC and 230 VAC versions available
- ▶ Cross-section only 12 mm × 16 mm, side and front mounting possible



CUSTOMIZED LIGHT CURTAIN

cegard/Max custom made



The cegard/Max provides detection and safeguarding for various types of elevators. It can be fully customized in very low quantities to match a customer's needs.

The following features can be customized

- ▶ Edge length
- ▶ Resolution
- ▶ Cascaded systems
- ▶ Enclosure rating (up to IP67)
- ▶ Cable length
- ▶ Fixed/plugable cables
- ▶ Color

Other features

- ▶ Almost no mechanical overhead to fit every application
- ▶ Wide input-voltage range and relay output
- ▶ Intelligent self-calibration

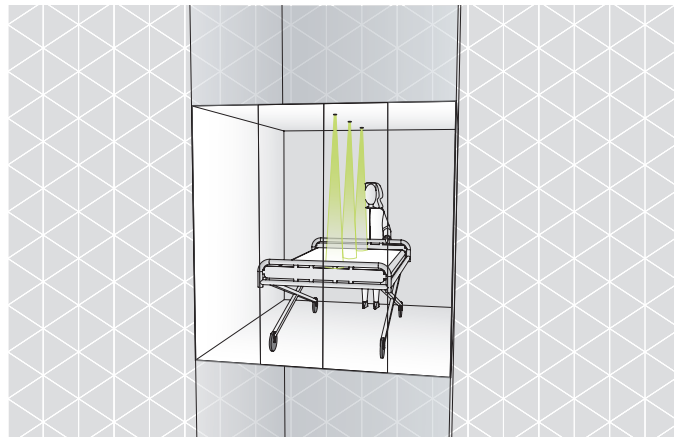
BED DETECTION

TOF/Spot



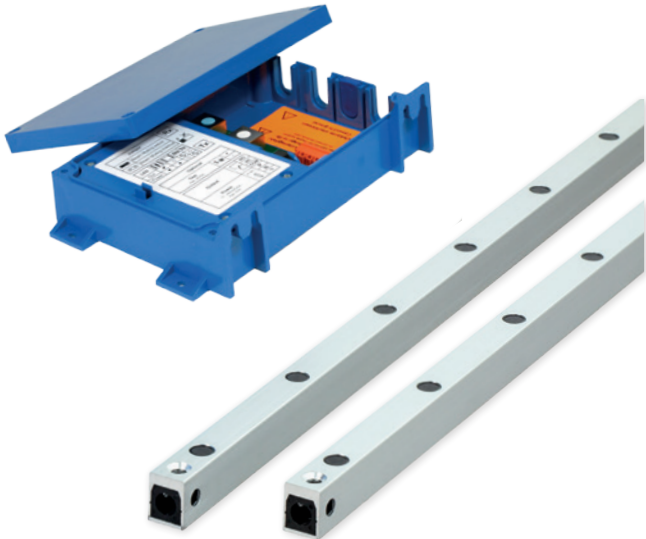
The TOF/Spot detects when a bed or hospital trolley is placed in an elevator. When a bed is detected, the sensors tell the elevator controls to send the elevator directly to the floor selected by the person accompanying the bed. This eliminates unnecessary stops, gives patients more privacy and spares waiting passengers a lot of additional frustration.

- ▶ No key switch, transponder card or destination-selection control is necessary
- ▶ Reliably detects beds
- ▶ Improves elevator efficiency by eliminating unnecessary stops



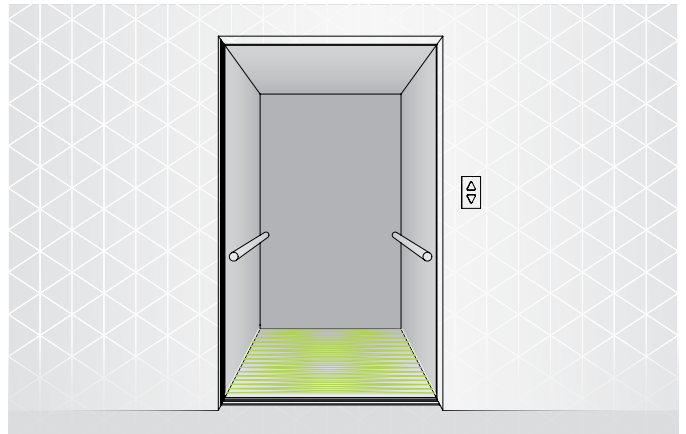
EMPTY-CABIN DETECTION

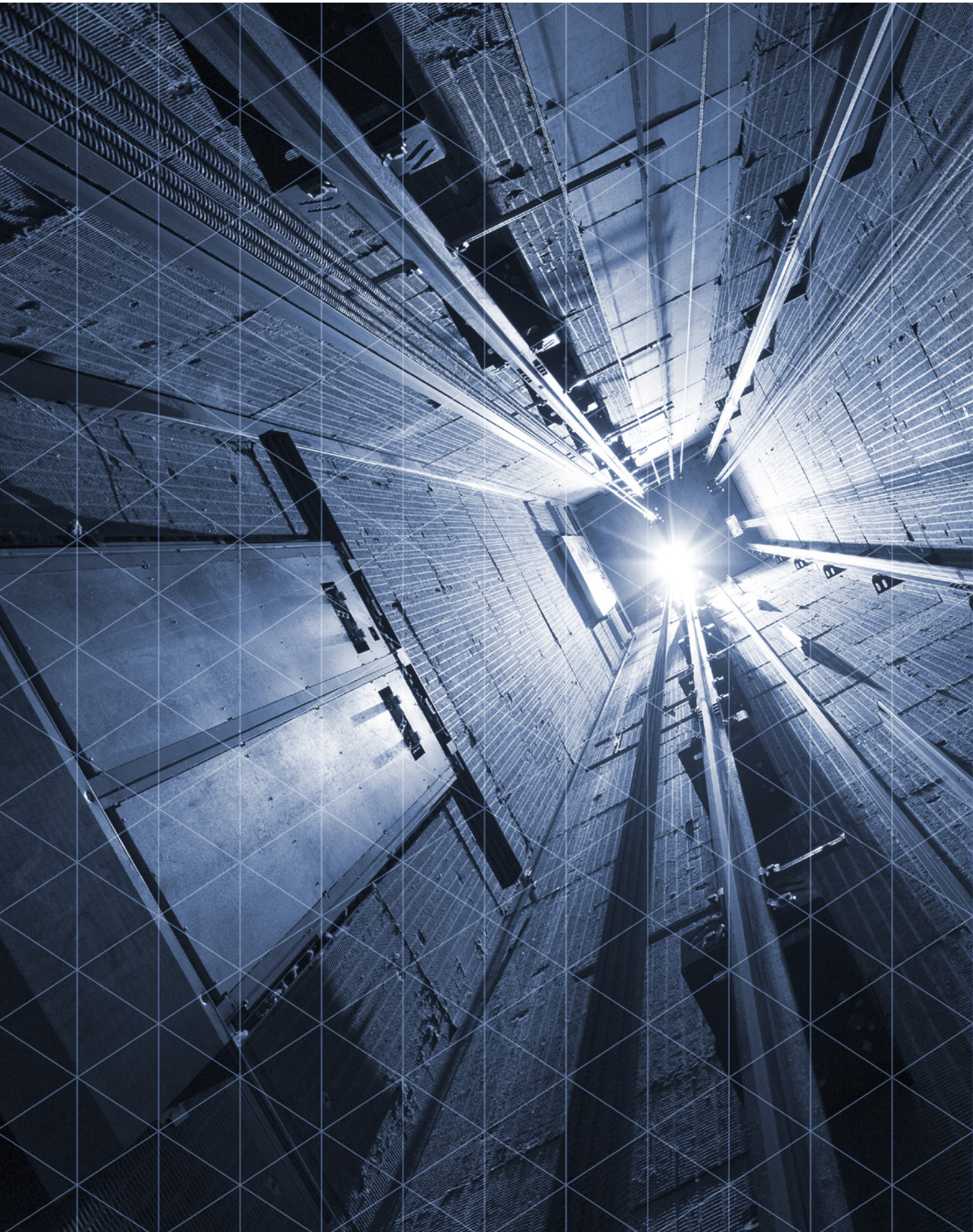
cegard/Max
custom made



The cegard/Max custom made, mounted just above floor level inside an elevator car, can be used to ensure an elevator is empty before allowing it access to restricted floors.

- ▶ Almost no mechanical overhead to fit every cabin
- ▶ Wide input-voltage range and relay output
- ▶ Intelligent self-calibration

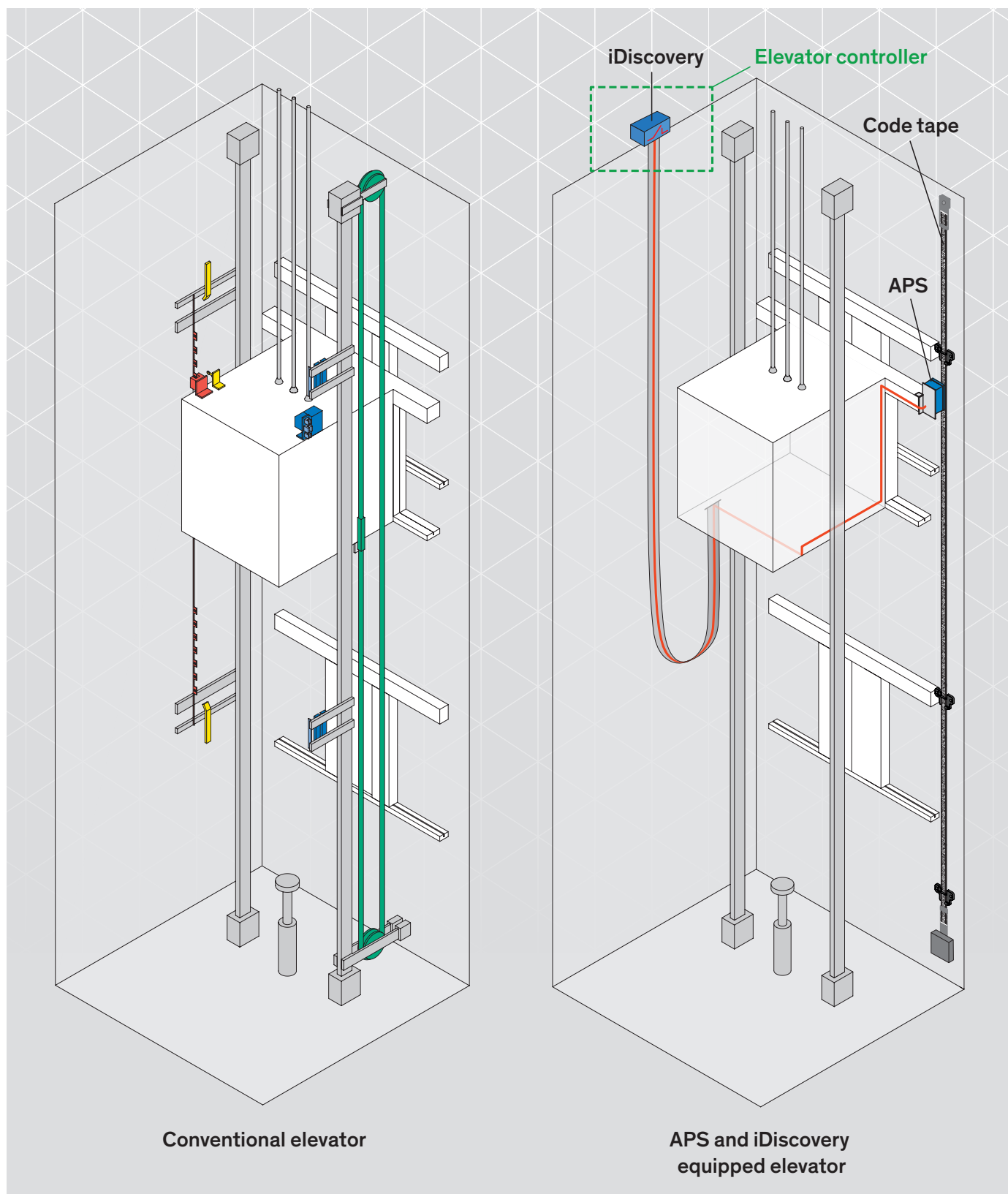




HOISTWAY INFORMATION

CEDES' range of hoistway information products offer leading-edge technology, backed by 30 years of valuable experience in the elevator shaft environment. They range from slot-type sensors for elevator positioning to a new generation of products that provide absolute

positioning and position supervision. These offer a highly integrated system that eliminates the need for many individual systems and components currently required by a conventional elevator. All this for new facilities, modernization and retro-fitting projects.



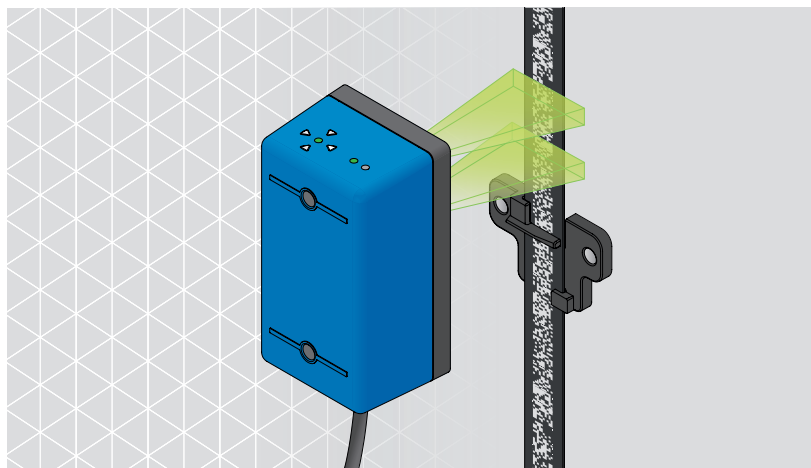
ABSOLUTE POSITIONING SYSTEM

APS



The APS is a contactless absolute positioning system for elevators. It supports speeds of up to 20 m/s and distances of up to 1,500 m. As SIL 3 rated, it can be used for safety-relevant functions.

- ▶ Floor level detection using mounting clips
- ▶ CAN, CANopen, RS485 or customer-specific interfaces available
- ▶ Easiest installation via improved mounting tolerances
- ▶ Robust against smoke and dust



POSITION SUPERVISOR SYSTEM

iDiscovery



**NOT YET
AVAILABLE**

The iDiscovery is a powerful SIL 3 and EN 81-20/50 compliant position supervisor unit. In conjunction with CEDES' APS (Absolute Positioning System) it takes over safety-relevant functions of an elevator.

- ▶ Leveling, re-leveling and preliminary operation with open doors
- ▶ Detection of unintended car movement
- ▶ Overspeed detection
- ▶ Retardation control
- ▶ Final and inspection limit switches



HOISTWAY POSITIONING

GLS 126 NT



The GLS 126 NT is a slot-type sensor which provides millimeter-exact positioning of elevators. Fully sealed with an enclosure rating of IP65, its high light reserve guarantees protection against dirt, dust and smoke.

- ▶ High repetitive accuracy of 0.5 mm
- ▶ Immunity to smoke, dust and steam thanks to high light reserve
- ▶ Easy mounting
- ▶ Ready to install cable and plug available

GLS 326



The GLS 326 slot-type sensor features three infrared beams, each with its own output. Its integrated twin microprocessors make it possible to cost-effectively provide a variety of applications in combination with the elevator control system.

- ▶ High repetitive accuracy of 0.5 mm
- ▶ Immunity to smoke, dust and steam thanks to high light reserve
- ▶ Robust design with twin microprocessors
- ▶ Short-circuit-proof PNP semiconductor-output
- ▶ LED status indicator for each channel

GLS 526



The GLS 526 slot-type sensor features five infrared beams, each with its own output. This enables the sensor to provide a variety of hoistway signals which allows for very cost-efficient solutions.

- ▶ High repetitive accuracy of 0.5 mm
- ▶ Immunity to smoke, dust and steam thanks to high light reserve
- ▶ LED displays switching status for each channel
- ▶ LED and status output to check light reserve
- ▶ Separate output for error-display



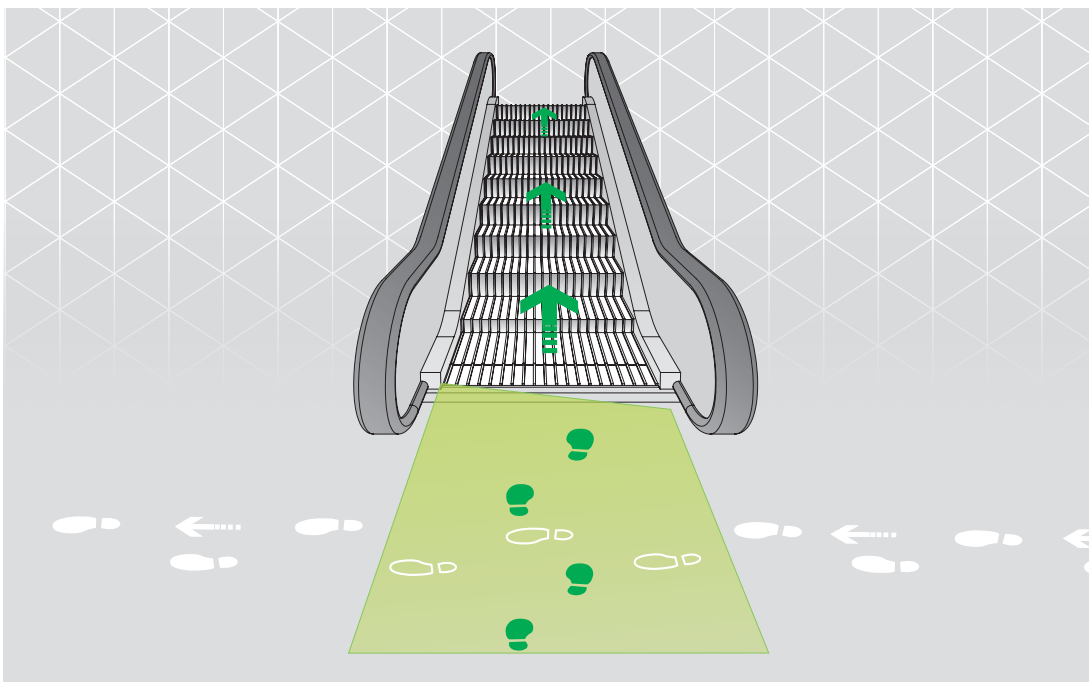
ESCALATORS

CEDES offers a range of sensors designed to provide new levels of comfort and safeguarding for escalator passengers. Conventional sensors activate an escalator whenever there is any movement within the escalator's

entrance area. CEDES' sensors can precisely define a detection area and blank out cross-traffic. This increases energy efficiency by ensuring the escalators only run when there are intending passengers.



Conventional presence detection



Cross-traffic detection for increased energy efficiency

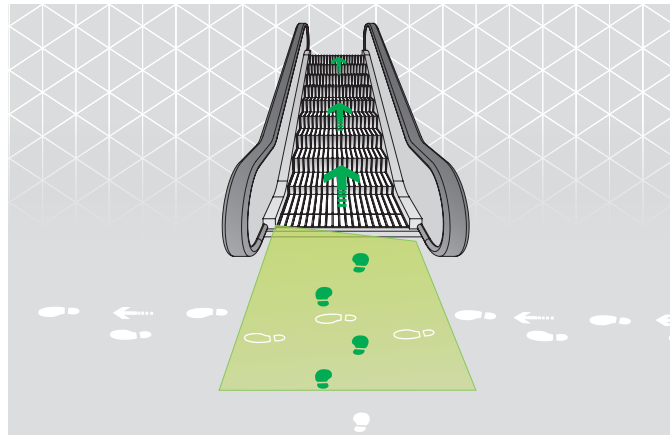
ENTRANCE MONITORING

TOF/Start



The TOF/Start is a compact yet powerful sensor which detects people or objects approaching an escalator and speeds it up in time for them to step comfortably and safely aboard.

- ▶ Individual setting of the detection area
- ▶ Detection area operates with all types of background
- ▶ Fade out of cross-traffic



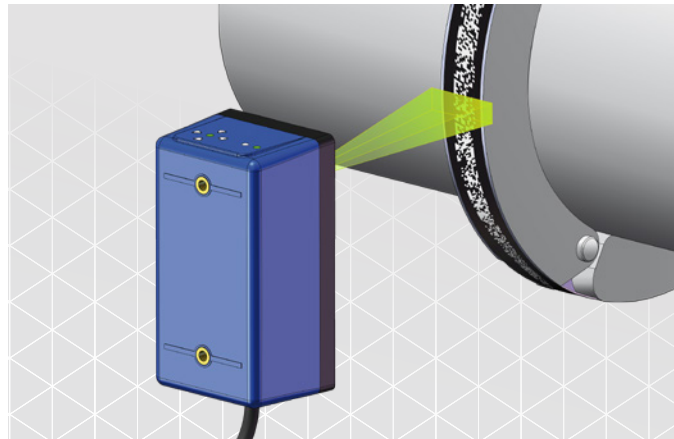
SPEED AND DIRECTION MONITORING

EsSMS



The EsSMS or Escalator Speed Monitoring System monitors the speed and direction of travel of an escalator. It can instantly detect any unintended change in either and thus help avoid accidents and injuries.

- ▶ Instant speed detection
- ▶ Instant direction recognition
- ▶ Velocity up to 6 m/s with a resolution of 1 mm/s
- ▶ CAN or customer-specific interfaces available



CEDES APPLICATION MARKETS

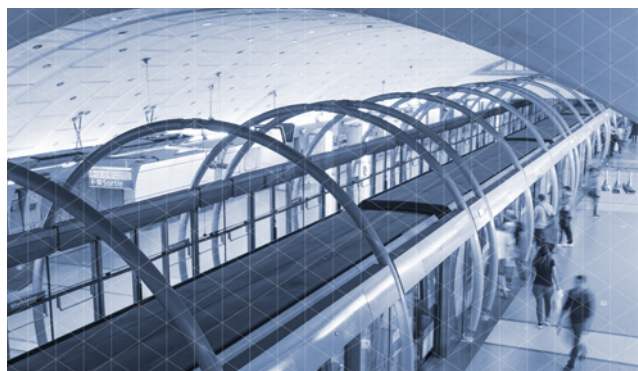
ELEVATORS



ESCALATORS



TRANSPORTATION & PEOPLE-FLOW



PEDESTRIAN DOORS



INDUSTRIAL DOORS



RESIDENTIAL DOORS



AUTOMATIC WINDOWS



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