

## ASO Safety Solutions – At the Cutting Edge

ASO Safety Solutions has been established for more than 40 years and is today the world market leader for tactile sensor technology.

Regular exchanges and feedback from customers has enabled the company to align production and sales with real customer requirements. Investment in research and development has allowed ASO to meet growing requirements in industry and society. ASO Safety Solutions pride themselves on innovative thinking and dynamic development processes that make them an industry success.

ASO addresses the major challenges of globalisation by concentrating on core competences, by carefully adapting its operating structures and systematically expanding its international presence. Today, there are 200 employees worldwide, who manufacture safety sensors, controls and customer-specific sensor solutions. In addition to the company headquarters in Germany, the USA and China, sales offices all over Europe and a worldwide dealer network are responsible for worldwide sales.



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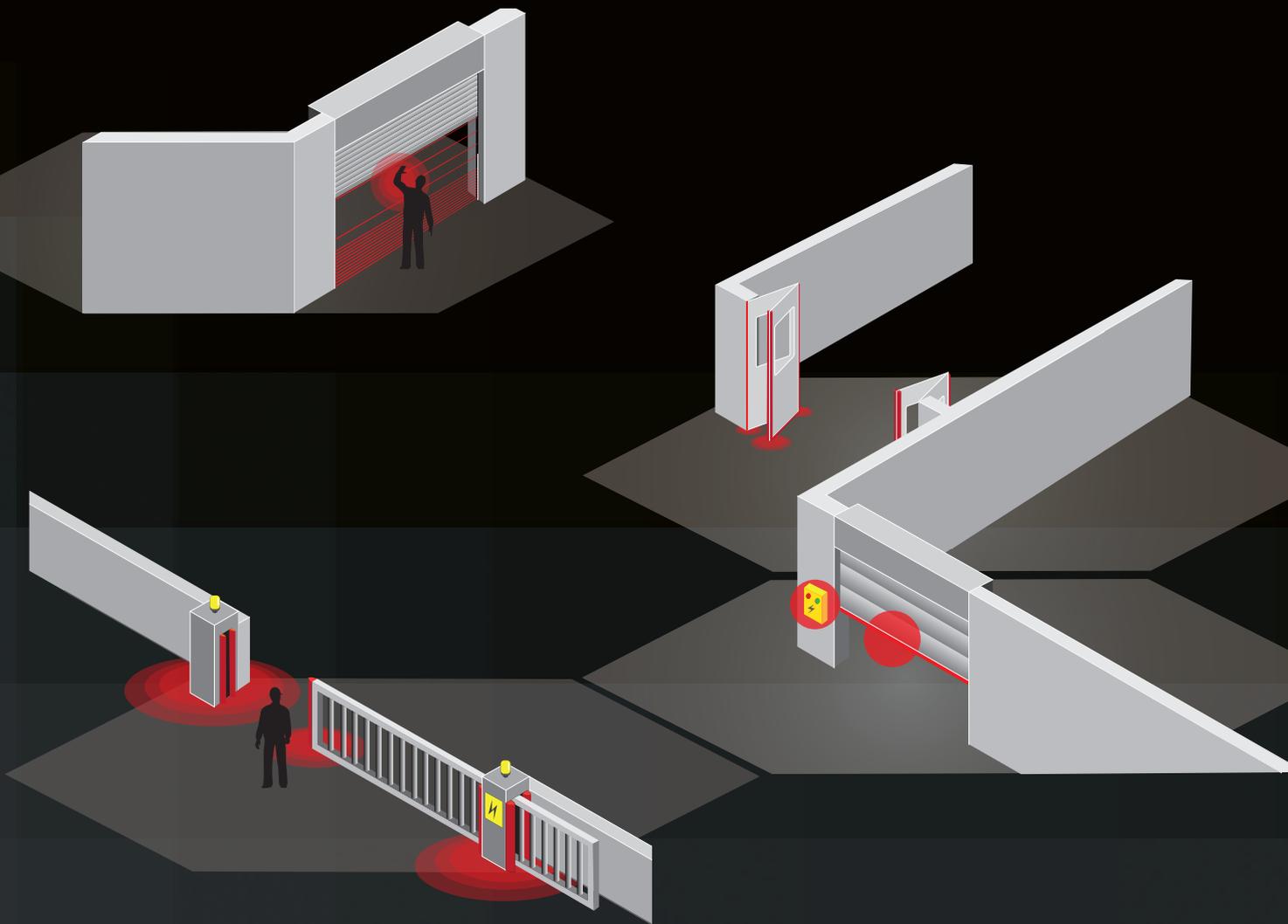
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# Safety For Doors And Gates



Information for Manufacturers and Operators  
of Automated Doors and Gates



## Safety for External Gates for Area Protection

*The current standards and directives of the European Union, e.g. EN 13241, must be taken into account and applied when designing any gate system, regardless of whether it is a sliding, swing or folding gate.*

*With smart control systems and safety devices, we offer you and your customers tailor-made components for safe, long-lasting and economical operation of your door and gate systems.*

### **SENTIR edge** safety contact edge

- Reliable, pressure-sensitive safety device
- Tested and certified according to EN 12978 and 13856-2
- Different sizes and variants
- Customisation possible

### **ELMON inductive** signal transmission system

- Ensures fastest signal transmission
- Maintenance-free and permanent

### **DRICO** drive control

- Customised exactly to the respective requirements
- Modular in hard- and software
- Simple combination of modules
- Numerous variations of power boards and extension modules

### **LISENS scan** prefield monitoring

- Insensitive to leaves, snow, rain, hail and fog.
- 60 GHz FMCW radar technology
- Virtual induction loops





## Safety for Industrial Doors

*Industrial doors such as sectional, roller or folding doors are subject to the relevant European specifications and must be designed to be safe. In addition to safe operation, the high reliability of a door system is also decisive for product quality.*

*The failure of a door is often accompanied by a disruption in production or logistics processes. With our safety components we support you in ensuring the longevity and reliability of your door systems.*

### **SENTIR edge** safety contact edge

- Reliable, pressure-sensitive safety device
- Tested and certified according to EN 12978 and 13856-2
- Different sizes and variants
- Customisation possible

### **LISENS grid** safety light curtain

- Ideal for mounting in guide rails due to small dimensions
- Provides the necessary safety directly at the locking level thanks to the blanking function
- Variable in height, grid and beam spacing for optimum and proximity detection of persons and objects





## Safety for High-Speed Doors

*High-speed doors enable companies to ensure a smooth flow of traffic, provide access control, increase efficiency and save energy due to fast opening and closing speeds.*

*Whether as a foil door or as a variant with a fixed door curtain, whether for indoor or outdoor use – our components support the optimum performance of these high-performance doors.*

### **LISENS grid** safety light curtain

- Ideal for mounting in guide rails due to small dimensions
- Provides the necessary safety directly at the locking level thanks to the blanking function
- Variable in height, grid and beam spacing for optimum and proximity detection of persons and objects

### **DRICO** drive control

- Customised exactly to the respective requirements
- Modular in hard- and software
- Simple combination of different modules due to safe CANopen interfaces
- Numerous variations of frequency converters, DC power components, expansion and interface modules for your ideal control concept





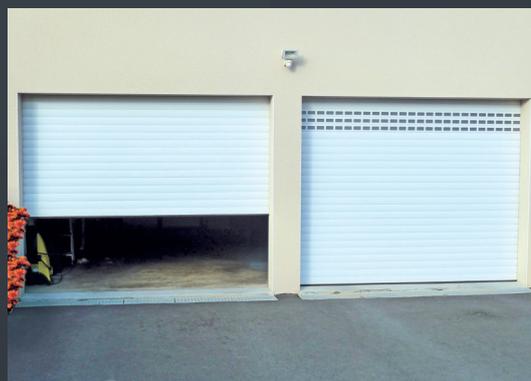
## Safety for Doors and Gates

*Products and system solutions from ASO are designed for a wide variety of applications and environmental conditions. From the idea to the development to the series release they have to pass strict release processes, which are reflected by successful product certifications according to international and national standards by accredited testing institutes. Maximum safety is the basis for successful and sustainable product availability in all fields of application.*

We develop and manufacture **solutions for your specific door system**, including garage doors, cold store doors and swing doors. Whether **pressure-sensitive protective devices, contactless safety sensors, electronic transmission and evaluation units or complete control systems** – we offer you both single components and custom system solutions.

Specific adaptations in the form of software and hardware make it possible to implement special fields of application with reduced time-to-market.

**Contact us and together we will find the perfect solution!**



## Our Safety Solutions

### SENTIR<sup>®</sup> edge



**SENTIR edge** safety contact edges are pressure-sensitive sensors for closing edge protection, with optimum over-travel distances and extremely fast switching behaviour. The Plug'n'Sense self-assembly system makes it possible to assemble a safety edge without tools or glue within a very short time and independent of ambient conditions, e.g. when servicing is required directly at the door. **Simple. Safe. Unique.**



Your benefits:

- Fastest and safest assembly: Tool-free and glue-free
- Patented double chamber system for a long life cycle
- Accelerated response behaviour
- Protection class up to IP 68
- Largest portfolio of active safety contact edges
- Extensive customisation possibilities through in-house development and production
- Optionally also available in fire-retardant or oil-resistant versions

### LISENS<sup>®</sup> grid



**LISENS grid** safety light curtain for automated doors detects persons, vehicles and objects without contact. Due to its high variability, it is suitable for almost all common door types and can be installed both on the locking level and externally. Different signal outputs allow a high compatibility with almost all existing control systems. ASO's innovative optoelectronic sensor solution is developed and produced in Germany.

Your benefits:

- Universal signal outputs: FSS, PNP, NPN
- Integrated signal evaluation
- Electronic alignment aid
- Activatable blanking function
- Low overall height of 2,630 mm with protective field height of 2,500 mm
- Adjustable grid of light beams
- Adjustable protective field height
- Easy to ship and install
- Reverse polarity protected through colour-coded snap connections

### DRICO<sup>®</sup>



**DRICO** drive controls are characterised by compact design and high flexibility. In addition to a standard portfolio, tailor-made solutions are also possible. As a customer, you are actively involved in defining the design and system configuration. Adapted to the customer-specific drive version and with different power components, such as a frequency converter, we offer a maximum of functionality and durability. DRICO door controls are proven and reliable even under extreme conditions, e.g. in the deep-freeze sector.

Your benefits:

- Simplest installation and set-up
- Different power units and classes as standard
- Temperature-dependent speed profiles or boost operation
- Suitable for all position encoders and limit switches
- Analysis and communication tools for predictive maintenance
- Expansion modules can be connected via CANopen interface
- Simplest linking of gate systems and e.g. also barriers
- Intuitive menu navigation

## ELMON<sup>®</sup> *inductive*



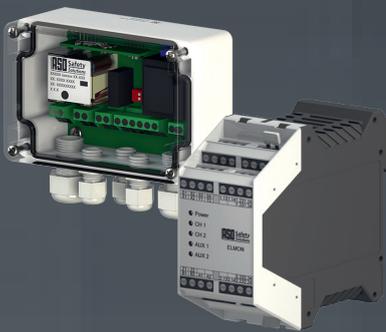
Our **ELMON inductive** signal transmission systems transmit the signals of the travelling contact edge of automatic sliding doors, sectional doors or high-speed doors for evaluation without maintenance or wear. The evaluation is structured redundantly so that a maximum of safety is guaranteed.

**NEW:** Steel cable with two additional cores for easy and quick connection of the travelling contact edges.

Your benefits:

- Reliable and trouble-free transmission
- Multiple variations for all applications
- Various mounting options
- Durable and wear-free
- No battery change required - always available
- Up to safety category 3/PL „e“
- Suitable for all environmental conditions

## ELMON<sup>®</sup> *relay*



The **ELMON relay** safety relays by ASO are the link between the tactile signal transmitters and the gate control. They ensure permanent monitoring of the sensors. All devices are tested according to EN 13849-1 and the Machinery Directive 2006/42/EC. Potential-free safety outputs or semiconductor outputs are available for various applications.

Your benefits:

- Various housing variants for control cabinet installation or surface mounting
- Variable supply voltages
- Single or multi-channel evaluation
- Different safety categories available, up to Cat.3 / PL e

## LISENS<sup>®</sup> *scan*



The **LISENS scan** product series is a safety device that is used for the contactless securing of barriers and gates. The product uses the latest FMCW radar technology, which makes it possible to detect, categorise and safeguard both people and vehicles. Depending on the application, the system can map a safety zone and various warning zones.

Your benefits:

- Horizontal opening angle 120 °
- Vertical opening angle 40 °
- Detection range 13 m
- Object classification and monitoring, distinction between static and dynamic objects
- Virtual induction loops
- WIFI configuration