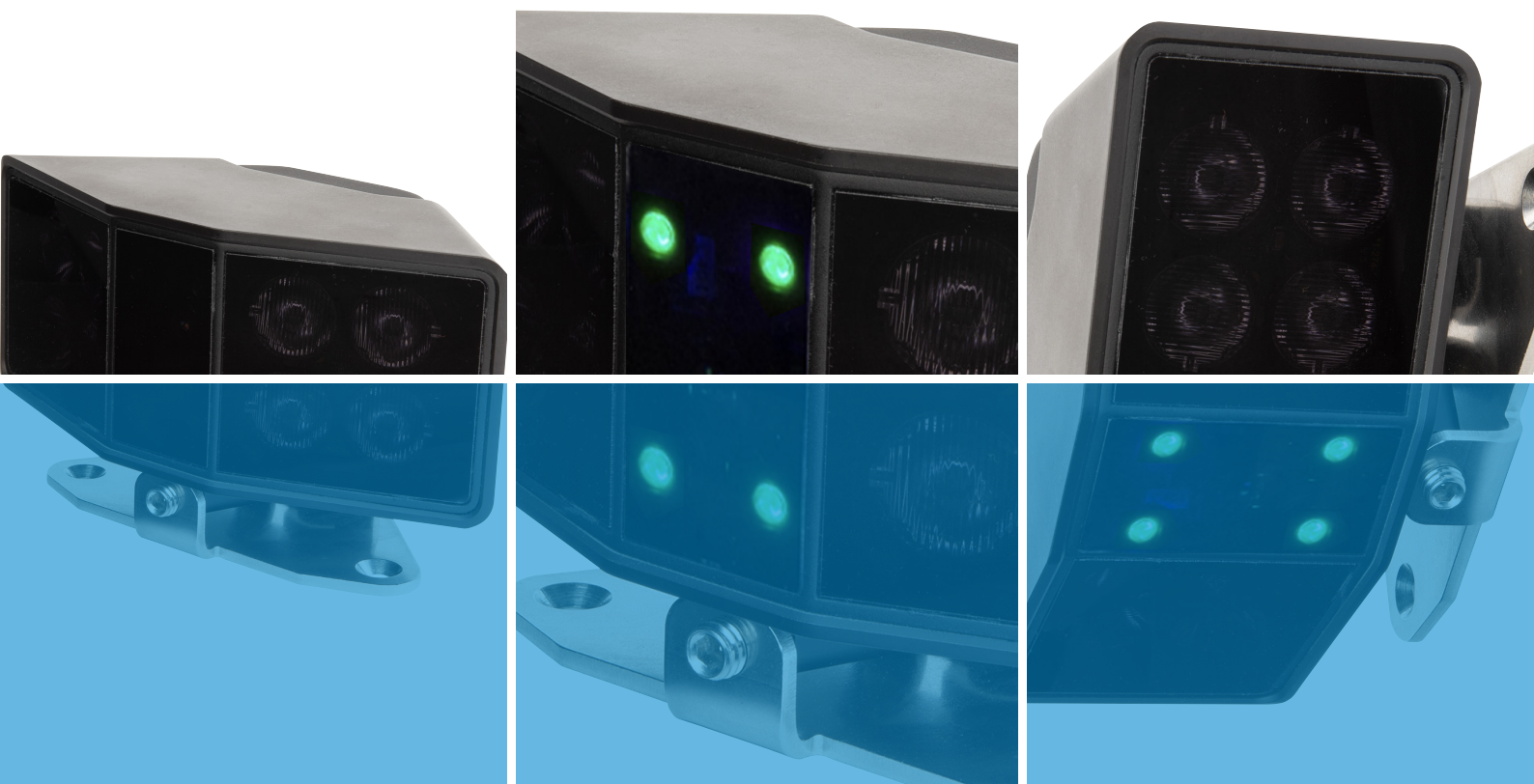




LEYON-Safe-E - Safety sensor for industrial doors

Sensors

LEYON-Safe-E

Safety sensor for industrial doors

LEYON-Safe-E is a high-definition 3D door sensor whose main function is to prevent personal injury and damage to vehicles, by detecting movement near an industrial door or gate area while the door is moving. Powered by cutting-edge LiDAR technology, it delivers superior contactless protection throughout every opening and closing cycle.

Using real-time 3D imaging, infrared laser illumination, and continuous-wave time-of-flight measurements, it creates a precise and dynamic view of its surroundings. This enables comprehensive protection even in the most demanding industrial environments, giving manufacturers of automatic doors and door automation systems a simple yet highly effective path to maximum safety.



Safest protection in access controls made easy

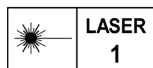
By scanning the narrow field of view of the doorway and its immediate vicinity, LEYON-Safe-E continuously monitors the presence and movement of people and vehicles no matter the conditions. It brings a unique simplicity of installation and setup thanks to a symmetrical design and Automatic Teach function.

Unparalleled safety protection

- Compliance to EN 12453, safety device type E, EN12978 and UL 325
- Sensing range: 4 x 4 m industrial doors, 2.5 x 5 m access gates
- Early detection in the area in front of the door for enhanced safety
- Three-dimensional safety zone for accurate, contactless detection of people and vehicles via precise time-of-flight measurements

Advanced sensing made easy

- Extremely simple installation and setup with Web App and Automatic Teach
- No additional tools or mechanical adjustments required
- Safe point-to-point connection from a mobile device to the sensor's web server by using a Web App for diagnostics and setup
- Designed to perform in harsh environments from -30°C to + 55°C thanks to robust IP65 design



Main benefits



One sensor, full door protection

All-in-one solution. As a Type E sensor approved under EN 12453 and EN 12978, LEYON-Safe-E replaces multiple protective sensing elements and eliminates the need for additional safety devices on the door, simplifying installation while reducing cost and time, and delivering a leaner, smarter safety solution.



Hassle-free installation

LEYON-Safe-E requires no mechanical adjustments. Simply align the drilling template on the left or right side of the door, mount the bracket with the spacer, secure the sensor, and it is ready to operate. Everything clicks into place. No tilting or rotating required, and no visual aids needed to verify positioning or adjust the safety field. Any additional fine-tuning can be easily handled remotely through the Web App.



Smooth operations, every day

Installed overhead at a minimum height of 2.5 m, LEYON-Safe-E remains clear of dust, moisture, ice, snow, and chemicals. Positioned safely out of reach of trucks and forklifts, it operates from a protected location and continues to function even if a vehicle damages the door or door posts, ensuring maximum uptime and uninterrupted operations.



Long-life construction

LEYON-Safe-E ensures continuous operation even in the most demanding environments, whether installed indoors or outdoors. It is a robust and reliable sensor built on solid-state components and designed with full outdoor protection. UL-required testing validates resistance to moisture, water, and snow, as well as impacts and UV exposure, which further demonstrates its exceptional durability and long-term reliability.



Automatic Teach

LEYON-Safe-E transforms this process. Once installed, it enables effortless automatic configuration through an integrated, highly intuitive Web App accessible from any mobile device. Its wide field of view eliminates the need for mechanical adjustments, and the Auto-Teach smart function requires only a single door cycle to learn the environment and set up the safety area, no extra tools required.



Every detail, safely visible

LEYON-Safe-E changes the standard. Using a LiDAR 3D time-of-flight camera combined with infrared laser illumination, it is an advanced safety sensor that scans the doorway with exceptional precision. It delivers a dynamic, highly detailed view of its surroundings, enabling accurate, contactless detection even in total darkness or bright sunlight. LEYON-Safe-E doesn't just observe, it sees every detail.



Early detection, maximum comfort

LEYON-Safe-E monitors the area in front of the door protecting distracted workers from being injured by the closing door while closing. Thanks to early detection of people and vehicles it ensures safer door reversal and maximum comfort. Providing peace of mind even in the busiest workplaces.



Designed for simplicity

Anyone can operate it with confidence. Just scan the QR code with your mobile device, and you're ready to go. The Web App is made in a way that no complicated steps are needed. The flexible design of both Web App and sensor easily adapts the installation to each user's unique needs. The intelligent design does more than detect: The sensor monitors its own health (temperature, total operating hours, warnings and errors) to prevent downtime and maintain peak performance. The standout power of LEYON-Safe-E? Pure simplicity.

LEYON-Safe-E

Safety sensor for industrial doors

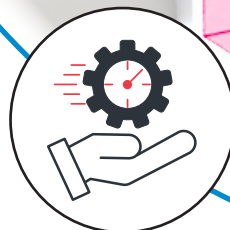


**Designed
for simplicity**

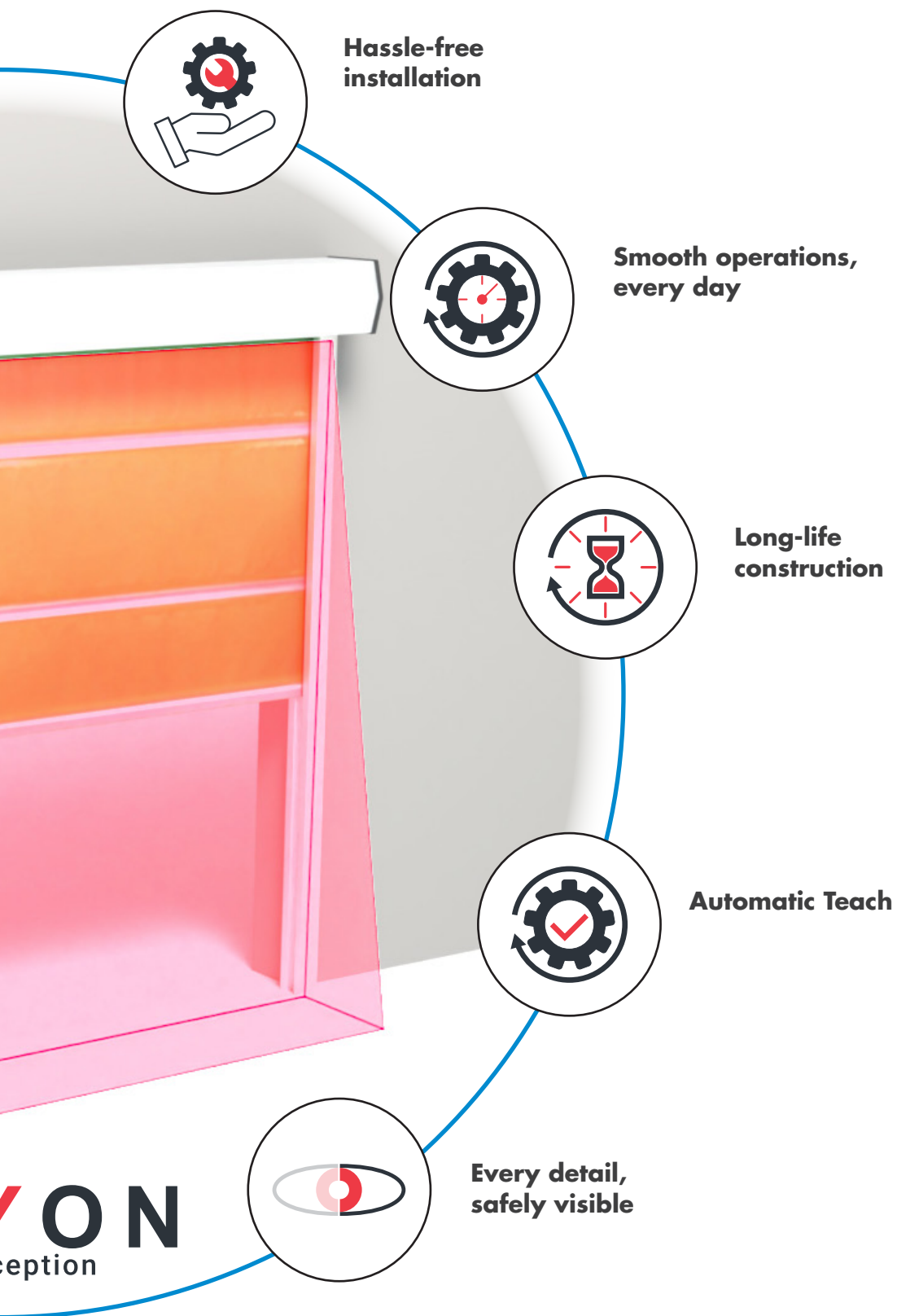
**One sensor,
full door protection**



**Early detection.
maximum comfort**



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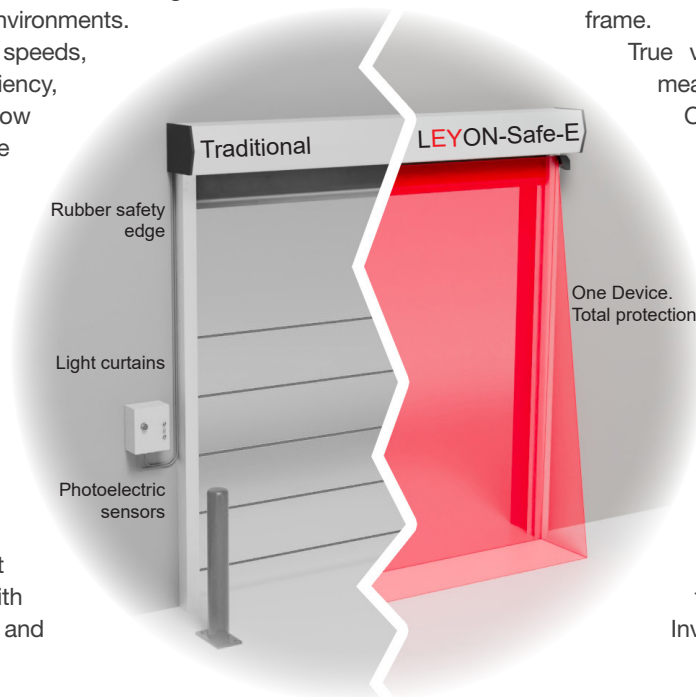


The future of doors safety... leaner and smarter

High-speed flexible industrial doors set the benchmark for performance in modern and demanding high-traffic industrial environments.

With ultra-fast opening speeds, superior energy efficiency, and seamless workflow integration, they eliminate bottlenecks and reduce heat loss.

Every door must be equipped with appropriate safety measures to safeguard people and equipment while preserving operational efficiency. **Traditional protection** relies on a combination of multiple sensor solutions, including light curtains, safety edges with remote control modules, and



photoelectric sensors. Each of these components is installed within or in proximity to the door frame.

True value in industrial doors is measured by Total Cost of Ownership (TCO), which factors in maintenance, repairs, installation, user training and lost productivity in case of downtime on top of the purchase price.

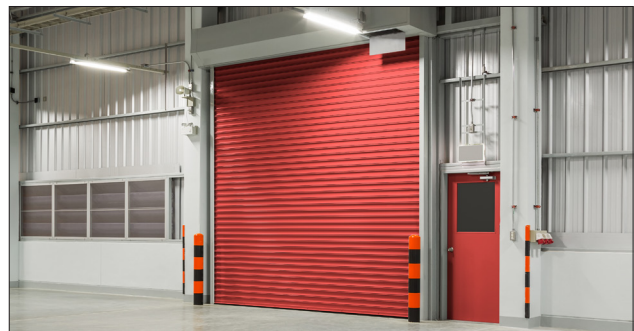
LEYON-Safe-E is designed to minimize these lifetime expenses, transforming a standard purchase into a strategic investment that maximizes uptime and outperforms the competition on Return on Investment.

Applications

High-speed doors



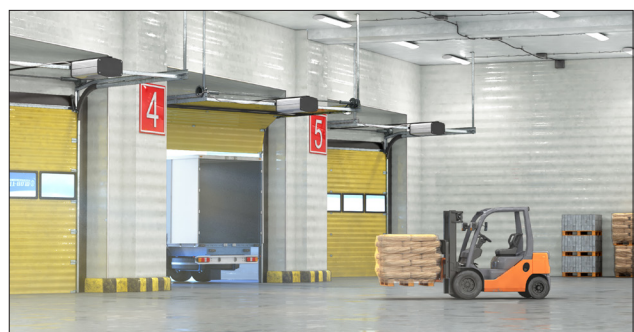
Roller shutter doors



High performance doors



Sectional overhead doors



Features

Sensing principle	Real-time 3D imaging sensor with infrared laser illumination and continuous wave time-of-flight measurement
Detection mode	Presence, EN 12453 Type E
Maximum detection range	Door size: 4 m x 4 m or 2.5 m x 5 m; Minimum installation height of 2.5 m
Light source	Wavelength 940 nm infrared VCSELs
Laser class	Class 1 (EN IEC 60825-1)
Response time t_{ON}	≤ 150 ms (Run state), ≤ 310 ms (Idle state) (Object enters detection area => Relay deenergizes)
Response time t_{OFF}	≤ 310 ms (Run state), ≤ 790 ms (Idle state) (Object leaves detection area => Relay energizes)
LED-signal	4 multi-color RGBs
Operating voltage range (U_B)	24 VDC ± 15 % (Ripple included)
Ripple (U_{rpp})	$\leq 10\%$
Power-ON delay	30 s, with ambient temperature $\geq 5^\circ\text{C}$
Input function	Test input, Teach input
Input voltage	≤ 24 VAC/DC $+15$ %
Output function	1 electromechanical relay and 2 solid state relays
Output switching function	N.O. or N.C. by configuration
Ambient temperatures	Operating: $-30^\circ\text{C} \dots +55^\circ\text{C}$ ($-22^\circ\text{F} \dots +131^\circ\text{F}$) if powered Storage: $-40^\circ\text{C} \dots +85^\circ\text{C}$ ($-40^\circ\text{F} \dots +185^\circ\text{F}$)
Ambient humidity range	Operating: 0%...95% (With no icing or condensation) Storage: 35%...95%
Ambient light immunity	≤ 100.000 Lux
Vibration	According to EN 12978
Pollution degree	3 (EN IEC 60664-1)
Degrees of protection	IP65 (EN 60529)
UL 325 location	Indoor and outdoor
Protections	Short circuits, reverse polarity and transients
Rated insulation voltage (U_i)	50 VDC
Dielectric insulation voltage	500 VAC rms, 50/60 Hz for 1 min
EMC emission standard	EN IEC 61000-6-4
EMC immunity standard	EN IEC 61000-6-2
Dimension (H x W x D)	155 mm x 85 mm x 89.5 mm
Material	Diecast aluminium, black powder coating
Connection cable	10 m (32.8 ft) 10-wire ($\varnothing 6.2$ mm)
Weight	1250 g
Additional Information	www.gavazziautomation.com

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