COLLISION AVOIDANCE SYSTEM

PRODUCT OVERVIEW

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Troax is a global developer and manufacturer of safety solutions for Machine Guarding, Warehouse Partitioning and Property Protection. This brochure presents our warehouse solutions in Active Safety, which employs advanced technologies to proactively detect and address potential hazards in real-time. It promotes safety awareness and prevents accidents when physical barriers are not suitable. Our products offer modularity and adaptability, enabling seamless integration of various applications. This means you can easily mix and match different functions to suit your specific needs.
Read more about our systems at **www.troax.com**

COLLISION AVOIDANCE SYSTEM

FOR MORE THAN 60 YEARS WE HAVE BEEN DEVELOPING INNOVATIVE SOLUTIONS FOR MACHINE GUARDING, WAREHOUSE PARTITIONING, AND PROPERTY PROTECTION. TODAY WE ARE THE MARKET LEADER, AND OUR PRODUCTS CAN BE FOUND ALL OVER THE WORLD – PROTECTING PEOPLE, PROPERTY AND PROCESSES.

THIS IS TROAX

TROAX IS REPRESENTED IN MORE THAN 40 COUNTRIES AND HAS 24 SALES COMPANIES OF ITS OWN. WE AIM TO STRENGTHEN OUR POSITION WORLDWIDE AND EXPAND OUR BUSINESS ON EACH CONTINENT.

At Troax, we have a rich history of protecting people, property and processes. Since 1955, we have been at the forefront of developing safety solutions with a drive to maintain innovative and top quality products. We have consistently built the organization and produced innovative products to lead the global market in delivering solutions to enhance protection and security.
Our culture of protecting what's important has driven our organization forward.

- **MAKING YOUR WORLD SAFE**
- **MARKET LEADING**
- **GLOBAL DISTRIBUTORS**

WHAT IS ACTIVE SAFETY?

In workplace safety, two key strategies emerge:

Active Safety employs advanced technologies to proactively detect and address potential hazards in real-time. It promotes safety awareness and prevents accidents when physical barriers are not suitable.

Passive Safety uses physical barriers and safeguards to separate employees from hazards. These static protections, like guardrails, offer a physical shield where they are applicable.

By combining Active and Passive Safety, companies create tailored safety approaches for a secure work environment.

Our approach is built upon 4 main pillars:

SAVING LIVES
The ultimate goal of our products is to save lives. By investing in these systems, companies can protect their workforce from serious harm and create a workplace where employees can feel secure and confident in their personal safety.

REDUCING ACCIDENTS
By implementing our active safety solutions, companies can significantly reduce the risk of accidents. These systems provide real-time alerts and warnings, helping to prevent collisions and incidents that can lead to injuries or damage.

ENHANCING WORKPLACE SAFETY
Our active safety products are purpose-built to enhance safety in the workplace. They employ cutting-edge technology to identify and mitigate potential hazards, creating a safer environment for all employees.

FOSTERING A SAFETY CULTURE
Our solutions foster a culture of safety awareness and prevention. They encourage employees to be more vigilant and proactive in identifying and avoiding risks, ultimately reducing the likelihood of accidents.

DESCRIPTION

The CAS solution is marketed as an easy-to-install KIT.

In any environment where forklifts circulate at high speeds, dangerous situations with a potential for accidents may arise.

The **CAS system** has been developed to minimise the risk of collisions between forklifts by creating safer and more efficient work environments.

This device warns the forklift as soon as it detects another vehicle equipped with the same system and immediately acts to reduce this risk.

The CAS System could be designed as well to reduce the risk of collisions between unmanned vehicles like AGVs or aerial conveyor systems and and nearby forklifts.

It can easily be complemented by adding other safety systems.

The Blind Spots (BS) system minimizes any risk of collisions between forklifts and/or between forklifts and pedestrians in poor visibility areas.

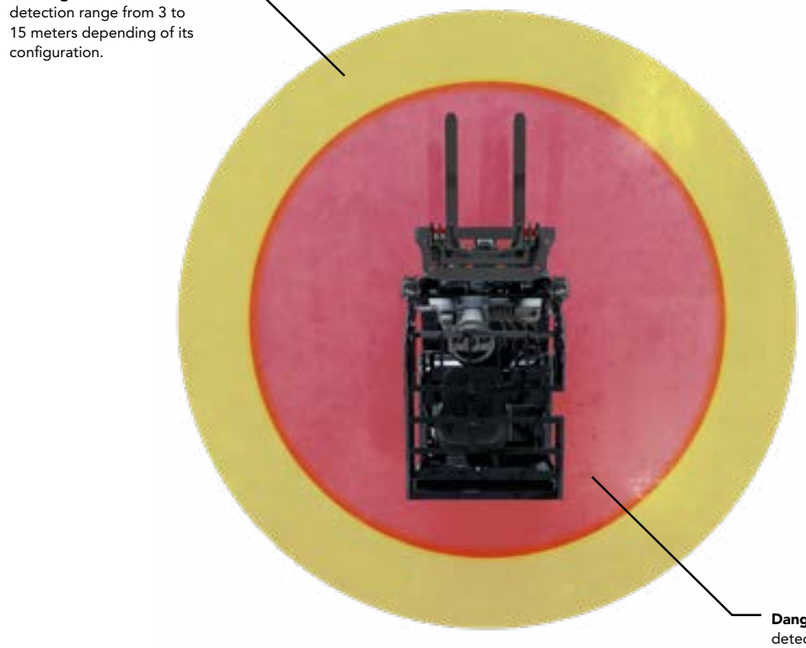
HOW DOES IT WORK?

In any high forklift traffic environment, there is a potential for accidents.

The **CAS system** generates a detection range that is divided into two zones: an alert zone and a danger zone both are adjustable from 3 to 15 meters.

When the alert zone detects another CAS within the area, it generates a signal on the vehicle so that the driver can take the necessary action. If, in addition, the danger zone also detects it, it will emit a second signal to warn the driver.
While the CAS system has been developed to detect other vehicles, it is important to notice that all forklifts/ unmanned vehicles wanted to be detected and/or signaled must have the CAS system installed.

The alert signal on the forklift may be luminous and/or audible, and if the vehicle allows it, it may limit its speed (while the vehicle is nearby).



SYSTEM COMPONENTS

CAS Device

Once the CAS system is installed in the vehicle it can differentiate between forklifts and objects, offering two detection ranges: the alert zone and the danger zone.

CAS Bracket

The CAS bracket allows the CAS equipment to be attached to the forklift.

Simple Buzzer

Regulates the duration of the alert issued by the PAS system, which can vary from 0.1 to 4 seconds.

Warning light

A warning light is provided to add visual indicators of potential dangers and hazards.

Buzzer

A buzzer is provided to add auditory indicators to prevent the potential dangers.

BENEFITS OF THE CAS

- It reduces accidents by detection without the need for direct vision.
- It can differentiate between people and obstacles.
- Greater control of outsiders.
- Adjustable distance up to 30 meters.
- Easily complements other safety systems.
- Reliable detection of pedestrians in the danger zone of industrial vehicles.
- Adaptable to any brand of vehicle.
- Durable and robust components.

A state-of-the-art tool designed to warn forklift drivers when it detects other cargo vehicles in nearby areas and considers them at risk.

It is durable and built with robust components.

CAS Equipment

AREAS OF APPLICATION

- **High forklift traffic areas.**
- **Industrial spaces.**
- **Intersections between pedestrians and forklifts.**
- **Low visibility areas.**
- **At the exit of warehouse corridors where reduced speed is required.**
- **And in general, in any area where forklifts/other unmanned vehicles and pedestrians co-exist, and where the lack of visibility or configuration creates risky environments with the potential for accidents.**

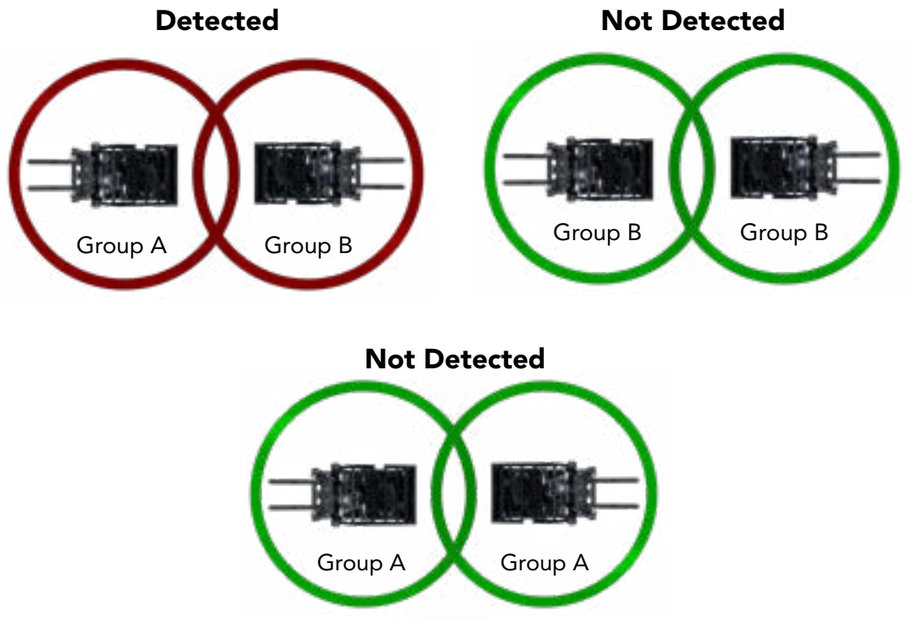
GROUP FUNCTIONALITY

The anti-collision system allows users to differentiate between machines from different groups that are performing different tasks in the same space, thus gaining efficiency in the task, and preventing work accidents or occupational safety problems.

With the Groups feature the user will not detect a device from the same group while only detecting a device from a different group.

For instance: If AGV machinery and forklifts circulate in a warehouse with the CAS installed, the forklifts can be detected by the AGV to prevent collisions. However, there will be no detection among the AGVs.

Up to 8 groups of machines can be created: A, B, C, D, E, F, G and H.



SPEED ZONING

The CAS system can also function as a speed limitation system for industrial vehicles.
Change in the speed of the forklift can be activated as it enters or leaves a certain area using two CAS devices with the SPEED ZONING configuration.
CAS (Low speed) devices must be properly secured within the low-speed zone - for instance, to a wall.

CAS (High speed) devices are to be placed near the fast zone, next to the gate. Similarly, CAS (Low Speed) device will be placed at a distance of 2 meters, aligning it with the natural path of the forklift and the CAS (High Speed).

According to the instructions given by the CAS devices, the forklift will slow down or speed up.

CAS Low speed
CAS High speed

LSA LOW SPEED AREA

SAFEYU

MAKING LOGISTICS SAFER AND SMOOTHER

SafeYu is a modern, practical, and powerful cloud-solution designed for logistics companies to enhance worker safety and minimize risks. Our range of products records all activities, which can be conveniently monitored through the SafeYu platform helping you make smart decisions.

INSIGHTS MADE CLEAR

The platform's shows helpful graphs that break down things like accidents, potential problems, and device status. It gives you overview and statistics to be able to identify risk areas in your locations as well as much other information you can register on doors. Creating your own safety scoreboard, for example!

Safeyu

COMPLETE WAREHOUSE SOLUTIONS

ACTIVE SAFETY IN YOUR WAREHOUSE
Our active safety products are purpose-built to enhance safety in the workplace. They employ cutting-edge technology to identify and mitigate potential hazards, creating a safer environment for all employees. keeping a warehouse safe is a multifaceted effort that requires continuous attention to training, equipment maintenance, proper organization, and comprehensive safety measures. Equipment maintenance is another crucial aspect. Regular inspections and upkeep of machinery, forklifts, and storage racks prevent accidents caused by malfunctioning equipment.

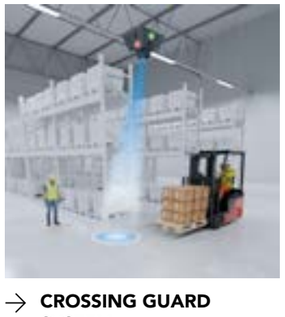
→ **BLIND SPOT**

→ **VISUAL ALERT SYSTEM**

→ **PEDESTRIAN ALERT SYSTEM**

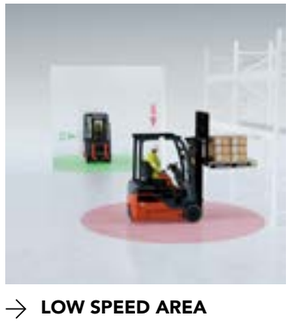
→ **NARROW AISLE SAFETY**

→ **COLLISON AVOIDANCE SYSTEM**

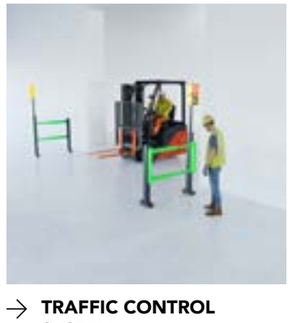


→ **CROSSING GUARD SYSTEM**

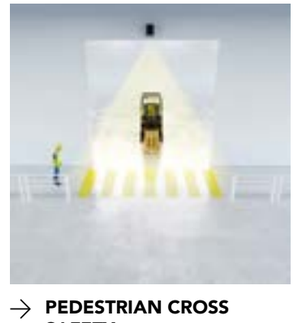
→ **TRUCK DOCKING SYSTEM**



→ **LOW SPEED AREA**



→ **TRAFFIC CONTROL SYSTEM**



→ **PEDESTRIAN CROSS SAFETY**

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