

# PAS PEDESTRIAN ALERT SYSTEM

PRODUCT OVERVIEW

TROAX®

PROTECTING PEOPLE, PROPERTY, AND PROCESSES.

# CONTENTS

03	PAS SYSTEM
05	WHAT IS ACTIVE SAFETY?
06	DESCRIPTION
07	HOW DOES IT WORK?
08	BENEFITS OF THE PAS
09	SYSTEM COMPONENTS
10	AREAS OF APPLICATION
11	PERSONAL TAGS
12	SPEED ZONING
13	SAFEYU
14	COMPLETE WAREHOUSE SOLUTIONS

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](http://www.troax.com)

# PAS 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

In any environment where people cannot be differentiated from vehicles, there is a risk of accidents.

The **PAS system** is designed to minimize the risk of collisions by creating safer and more efficient work environments.

It is a two-way system which warns the forklift driver as it **detects nearby pedestrians** and alerts of the presence of the vehicle. This forces a reaction, which reduces potential risks.

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

**It can easily be complemented by adding other security systems.**

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



# HOW DOES IT WORK?

Forklifts must have a **PAS system** installed, and pedestrians must carry a Tag (or electronic keychain).

The forklift's **PAS** generates a detection zone around it, adjustable **up to 11m**. As soon as it detects a pedestrian's tag within this area it generates a signal on both the vehicle and the pedestrian's tag.

The forklift's alert may be a light and/or a sound and - if the vehicle allows it - a limitation in the vehicle's speed limit (while the pedestrian is nearby). The pedestrian's tag warning can be set to light and/or sound and/or vibration.

If on occasions the driver of the forklift becomes a pedestrian him/herself, we can equip the vehicle with an inhibitor to prevent it from acting in front of its **own Tag**.



T10R

# BENEFITS OF THE PAS

- 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 11 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.



ACTIVATOR PAS

# SYSTEM COMPONENTS



**DC/DC power supplies**

Adapt different battery voltages in the range of 9V to 160V.



**TT-50 test tag**

Is an active device that guarantees the functionality of the system by performing an automatic check every 5 seconds.



**Simple Buzzer**

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



**Inhibitor T-10**



**Mobile Inhibitor**



**Inhibitor T-10R**



**Active Inhibitor**

Is a tool that prevents the driver's tag from being detected by the forklift where the PAS system has been installed. This allows drivers to drive the forklifts without interrupting the PAS and leaving "a clear path" for the system to work properly.



**AC-50 Activator**

This module establishes a safety zone, detecting tags within, triggering alerts (including lights and buzzers), and it also maintains pedestrian safety by initiating machinery shutdown when needed.

LF antenna	LF Long Range antenna
8,5m	12m



**LF and LF Long Range antennas**

Are installed in the vehicle to differentiate between people and objects, offering a variable detection range depending on the antenna installed.



**Buzzer**

Buzzer to auditory alert about dangers.

# AREAS OF APPLICATION

- Loading and unloading areas. Industrial spaces.
- Low visibility crossings between pedestrians and trucks.
- When exiting warehouse corridors at reduced speed.
- In hazardous areas. Specially where a signaling or an emergency stop would be useful to avoid an accident
- 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.



# PERSONAL TAGS

The tags are responsible for protecting pedestrians from being hit by a forklift or any other industrial vehicle. They make the operator visible on the detector and alert the driver. The following technical specifications and accessories are true to the T-10, T-10R and T-10R badge.



	T-10	T-10R	T-10R Badge
DIMENSIONS	38,5 x 59,5 x 18,1 (mm)	57 x 80 x 19,75 (mm)	89 x 80 x 21,5 (mm)
LIGHTING	1 LED	5 LEDS	5 LEDS
SOUND WARNING	✗	✓	✓
VIBRATION	✗	✓	✓
BATTERY	CR2450 Primary battery (replaceable)	800mAh LI-PO battery (rechargeable)	800mAh LI-PO battery (rechargeable)
AUTONOMY	6 months	30 days (1 charge)	30 days (1 charge)
WIRELESS CHARGING	✗	✓	✓
PANIC BUTTON	✓	✓	✓
WATER RESISTANCE	✓ IP65	✓ IP67	✓ IP67
CARD HOLDER	✗	✗	✓

Safety vest with pocket

Charging station

Unit charger

\*The unit charger and multi-charging station are wireless chargers for the T-10R and T-10R Badge tags.

# SPEED ZONING



MT-50

## AV-30 verification antenna.

This is a device with three key functions:

It allows users to periodically check the battery status of their personal keychain and the operation of the RF communication of the active tags in a given workspace.

Using additional software and a USB device connected to a computer, this tool also allows users to record the date and time of verified tags.

Secondly, it can be used as an Access Control on both **PSG** doors or any type of door. It can both produce an output signal to activate an electromagnet as well as activate other elements with a free relay, such as an automatic door, a pilot light, or a traffic light.

The final function of the **AV-30 verification antenna** is ensuring that none of the workers forget their tag at the end of their task.

The **PAS system** can work as a speed limitation system for forklifts.

As illustrated in Figure 1, a change in the speed of the forklift can be activated when they enter or leave a certain area using two **MT-50 devices** with the **HS (High Speed)** and **LS (Low Speed)** configurations.

The **MT-50** device verifies that the system is working properly, monitoring both RF communications and the safety zone generated by the **AC-50 Activator**.

On the other hand, it delimits a safety area in a physical space without the need for the presence of people with **T-10 keychains**.



Figure 1. **LSA LOW SPEED AREA**



AV-30

# 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!



# 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



→ PEDESTRIAN ALERT SYSTEM



→ COLLISION AVOIDANCE SYSTEM



→ CROSSING GUARD SYSTEM



→ TRUCK DOCKING SYSTEM



→ LOW SPEED AREA



→ TRAFFIC CONTROL SYSTEM



→ VISUAL ALERT SYSTEM



→ NARROW AISLE SAFETY



→ PEDESTRIAN CROSS SAFETY





**A SAFER TOMORROW**  
**■ SINCE 1955 →**

**TROAX®**