

# Collision avoidance system



2 year  
manufacturer  
warranty



Made in France

## Work in complete **safety!**

The SaveX system is an innovative device to help detect pedestrians thereby **avoiding collisions between machinery and staff** when located on the same site.

SaveX technology can ensure **very effective detection** on construction and industrial sites:

- ▶ A large detection distance that is adjustable from a few meters **up to 25 meters**
- ▶ Wall-Pass effect: detection even when there are **barriers between pedestrians and machinery** such as metal containers, buildings, etc.
- ▶ **Pedestrian** detection **in any position** (standing, lying, sitting, etc.).
- ▶ **Pedestrian** detection **at both the back and front of the machine**
- ▶ **Unaffected by fog**, steam, and rain and light conditions
- ▶ Works even in case of **large temperature variations**
- ▶ Device **disabling for machine operators**
- ▶ Machine to machine **detection**



[www.savex-safety.com](http://www.savex-safety.com)



Flash code

**Prevention of accidents between moving machinery and pedestrians** is a problem that affects a large number of industries: waste collection, transportation, logistics, handling materials, construction, etc.

### ► **A coherent and thoughtful approach**

Conventional systems for detecting contact between machinery and pedestrians (sensors on bumpers, etc.) are insufficient to ensure the safety of pedestrians precisely because they cannot avoid the collision and merely limit the damage.

Additionally, **traditional systems** that use remote sensing technologies such as video, ultrasound, infrared, etc.. **do not offer sufficient guarantees** of reliability in certain situations.

Given this situation and the absence of solutions, **PST**, a specialist in electronic equipment based in Toulouse (France), **has spent the past three years** developing a new system taking into account the various constraints on the ground.

This device incorporates numerous innovations, some of which have been patented on an international level.

Close industrial cooperation enabled selection of appropriate technologies and to gradually adapt the device in order to provide a tool that meets the needs of the most demanding customers: **the SaveX**



### ► **Operating principle**

The SaveX system **informs the operator** with a warning signal of the presence of one or more people in the monitored area.

When pedestrians are near a machine within a predefined area (adjustable distance up to 25 m), **the operator is alerted by an audible alarm and / or a light** which is located inside the cab.

The operator is also informed of the number of detected pedestrians via a display (HMI) in the cab (possible detection up to 50 pedestrians).

**The SAVEX system is an independent unit which does not directly affect the vehicle's controls, but rather which informs the driver of the presence of pedestrians. As such, the driver maintains full control over the vehicle's movement. This is not a logic block and does not provide safety functions.**



### ► **Suitable for lightweight structures as well as large industrial sites**

The SaveX device can protect up to **50 pedestrians** simultaneously for a full day's work with battery power up to **12 hours** for the portable pedestrian device.

**SaveX is therefore a means of complementary prevention which effectively assists the operator to avoid potentially dangerous situations. However, this device does not exempt users from observing existing safety codes, rules of procedure, codes of conduct, etc.**



### ► **Flexible configuration**

**To meet all operating conditions, different functions of the SaveX system can be adjusted:**

- Adjustable distance of detection: the SaveX device can be programmed to initiate detection at a distance of 25 meters from the machine or only a few meters from it
- Alert zones and early warning settings: adjustable distance, capacity to turn off the early warning alert, etc..
- Programmable audio and light warning: audio and / or light warning, etc..
- Suitable for different types of machines: loaders, forklift, crane, etc.

## Why SAVEX?

With the SaveX system, businesses, whatever their size, have a professional solution tailored to their needs that can significantly reduce accidents between pedestrians and machinery.

### ► A device for use in extreme conditions

Thanks to a close collaboration with end users, SaveX offers a solution that adapts to different situations present on construction sites and industrial sites.

#### **"Wall-Pass" Effect**

With the technology employed (low frequency magnetic field, rotating fields), the SaveX device allows detection even when there are barriers between pedestrians and machinery such as containers or buildings.

The system is very effective **especially in an environment where there is a lot of metal.**

#### **Pedestrian detection in all positions**

The SaveX device identifies pedestrians regardless of their position (standing, lying, sitting, etc.) thus avoiding accidents in case of a problem (illness, etc.).

#### **Operational even in difficult environmental conditions**

SaveX remains functional even in the event of smoke, steam, fog, rain and light conditions (usable day or night).

It can be used outdoors and indoors.



### ► A device that is reliable and efficient

Extensive research and techniques have been implemented to provide equipment to meet many needs

#### **Adjustable detection distance up to 25 meters**

One of the strengths of the SaveX system is its ability to alert the operator in advance so that an accident can be avoided. Therefore, unlike most other products on the market, SaveX offers a high detection range around the machine, taking into account the reaction time of the operator and the braking distance of the machine.

#### **Early warning and alert zone**

The SaveX system allows you to set two separate zones of detection to more accurately inform the operator of a pedestrian nearby:

- Early warning zone (ex: more than 12m distance from the machine)
- Zone of imminent danger (ex: less than 12m)
- A different sound and light signal is generated according to the detection zone

#### **Device disabling for machine operators**

SaveX incorporates the ability to disable the device for each machine operator through a sensor loop placed in the cab of the machine. This feature allows the operator not be detected while in control of the machine. However, as soon as the operator comes out of the cab and is in a potentially dangerous situation with another machine, the portable transmitter is automatically activated to ensure the operator's protection.





## Equipment for pedestrians

### Portable pedestrian device: SA-TX1

**Function:** continuously transmits a radio signal to the receiver to calculate the distance to the vehicle.

**Key Specifications:**

- ▶ Battery power > 12h
- ▶ Sealed from water and dust IP-67
- ▶ Function "device disabling for machine operators"
- ▶ Buzzer and LED light information
- ▶ Continuous self-test
- ▶ Power supply: Li-ion 3.7V / 2.6Ah
- ▶ Small dimensions: 130 x 60 x 30mm
- ▶ Weight: 230g
- ▶ Charging system: individual BC-119NSA or 6 portable charger BC-121NS



## Equipment for machines

### Receiver: SA-RX1

**Function:** receives the radio signal from the pedestrian transmitter and passes it to the Central Unit for analysis.

**Location:** positioned on the machine's roof for optimal reception.

**Key Specifications:**

- ▶ Sealed from water and dust IP-66
- ▶ Degree of protection against shocks: IK08 (Energy shock 5J)
- ▶ Quick release industrial magnet
- ▶ Continuous self-test
- ▶ Powered by the Central Unit
- ▶ Case dimensions: 240 x 170 x 120mm



### Central Unit for signal analysis: SA-UC1

**Function:** analyzes and processes the signals sent by the receiver.

**Location:** located under the machine operator's seat.

**Key Specifications:**

- ▶ Supply after contact: 12V (600 mA typ.) or 24 V (300 mA typ.)
- ▶ Case dimensions: 235 x 105 x 60mm



### Operator display: SA-IHM1

**Function:** displays the number of detected pedestrians and warns the operator with an audible and visual signal.

**Location:** positioned on the windscreen by means of a suction cup.

**Key Specifications:**

- ▶ Emits audible alarms (configurable)
- ▶ Emits visual alarms (configurable)
- ▶ Powered by the Central Unit
- ▶ Case dimensions: 165 x 80 x 60mm (excluding fasteners and suction)



Distributor's stamp

