



Prevention Waterfront accidents

Prevention of vehicles such as forklifts running of the quay into the water.

PreAcc Solution:

Establish a virtual fence alongside the quay that makes it possible to warn truckdrivers as well as pedestrians as soon as they enter the danger zone.



Advantages:

- Works under almost all-weather conditions such as snow, ice, fog, smog, rain, steam, mud etc
- PreAcc EM5-tec is a self-contained technology and operates with BLE (Bluetooth low energy) combined with LEM (Sub-Gz) wireless detection technology and does not depend on satellite communications or other network infrastructure so is not affected by internet or satellite interruptions. However, in case required, could by means of a PreAcc communication module an IoT connectivity be implemented.
- False alarms are prevented
- A watchdog (automatic self-check) on the functions of the system gives an alert when a there is a problem (e.g. an antenna disconnection)



APPLICATIONS – GATES AND VIRTUAL FENCES



Zones :

A warning/danger zone of up to approx. 50 meter length and 10 to 30 meters wide programmable

By means of a software installed on a tablet or mobile phone by the user. The dimensions of the danger zone is dependent on the type of the antenna used.

A Diaz module with directional antenna is installed for example on a transportable tripod for easy change of location allowing for selection of the area to cover the warning/danger zones. The system can be switched off when vessels occupy the quay and trucks are needed for loading/unloading

Warning options:

The PreAcc system proposes two (2) zones,

- Work zone: First barrier warning zone being a “low speed” zone that alerts the driver or can trigger machine controls to lower speed or light up a signal in the cabin in front of the eyes of the driver, so that they can still do their job without annoying false alerts
- Danger zone: Second zone closer to the waterfront and when entering that zone, the speed can be further reduced but still able to drive and work or an additional strong alert in the cabin to alert the driver.

- Warnings are wirelessly given to the drivers of trucks as well as to pedestrians wearing a vibrating bracelet or other alert device on their vest, helmet etc.

Equipment required

1. Diaz box fixed on a pole or tripod with one antenna to cover a zone of max 50 meters
2. Diaz box fixed on a pole or tripod with two antennas to cover two zones of max. 50 meters (e.g. back to back or around a corner) Which means a total zone of max. 100 meters
3. Beacon Relay Module. Each truck must be equipped with a PreAcc Beacon module. The beacon module is placed on the truck and detected by the Diaz box when it enters the zone. This module will be equipped with an internal battery (or connected to the truck battery) and a device for easy installation on truck. It has an output to trigger the alert module in the cabin or other alerting device
4. An alert module inside the cabin to alert the driver
5. Module can interface with the machine if required to slow or stop

We use Radio frequencies & Electromagnetic fields for detection as well as communications because detection must be immune to work site conditions

Immune to stuff;

- Mud
- Dust
- Sand
- Steam



Immune to the environment;

- Fog
- Rain
- Snow
- Ice



Specifications:

- **Diaz box with antenna:**
12 – 48 VDC
About 30 x 20 x 10 cm
- **Beacon relay Module**
Battery included or 12 – 48 VDC when connected to the battery of the truck
Device for easy installation on a truck
Dimensions about 20 x 20 x 10 cm
- **Installation of the Diaz**
Minimum height to install the Diaz box : From ground level at least 1 meter
Should have a battery to provide power to the Diaz box or an internal battery

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