



## RFID Proximity Truck Detection Aisle System

### Typical Site Issue

People and Trucks are working in the same aisles in tight working conditions at the same time.  
The level of Health & Safety in these areas through truck warning & other devices will increase awareness of all staff that trucks are present and working in their aisle.  
Following many field propagation trials RFID Proximity Detection is the preferred solution.

### Proximity Technology

A proximity unit can be programmed to detect an object that moves into a defined space.  
The defined space can be increased and decreased as necessary.





## RFID Solution / Working In Areas or Zones

### Detection

The vehicles/trucks will carry an active RFID TAG (Radio Frequency Identification) with a unique code. Strategically placed RFID readers will monitor the tags fitted to the vehicles/trucks, which is aisle specific. The RFID readers in each aisle will be linked so that if any reader detects the presence of a tag all the station alarms in the respective aisle will activate, warning the aisle operatives that a vehicle is present in the aisle.

### Detection Installation

The tags will be mounted to the vehicles in a position where they will not encumber the operator and where they will not be prone to damage from normal operation of the vehicle. The RFID readers will be mounted at strategic points in the respective aisle. Each reader will carry an antenna. The antenna type will depend on the required propagation of the radio wave area to be covered. Each RFID unit located in the specific aisle will be linked together via a network cable. The network cable will then terminate at the most convenient operator station Work Station Warning unit (WSWU).

### Work Station Warning Unit (WSWU)

A work Station Warning Unit will be installed at each operator station in an aisle. Each aisle will be treated as independent. Each WSWU will consist of a visual flashing indicator, an audible warning device and a push button to mute the audible warning device. The mute button will only silence the individual respective WSWU. All stations WSWU's are to be individually fused and utilise close circuit current protection. All cabling is to be installed by the client or end user. Final connections, commissioning and testing will be carried out by Transmon Engineering Ltd.

### Work Station Operatives.

Any vehicle entering the aisle will be detected by the systems and trigger all WSWU's in that aisle. As long as there is a tagged vehicle in the aisle irrespective of the number of vehicles, the WSWU's will operate and remain active until all tagged vehicles have exited the aisle. Should the operator at his/her station wish to silence the audible device at his/her station, a local push button (mute) will be provided. Pressing the button only mutes the Audible Warning Device and does not affect the visual warning device.



## System & Required Components

Trucks to be fitted (RFID Tag / Active)  
Installation by Transmon

Entrance / Exit RFID Readers = Patch Antenna's  
Supply & Control wiring to be supplied & installed by Client or End User  
Detail to be advised and supplied by Transmon.

Mid Aisle RFID Readers = Stub Antenna's  
Supply & Control wiring to be supplied & installed by Client or End User  
Detail to be advised and supplied by Transmon.

Power Supply Systems feeding 63 x WSWU's  
Supply & Control wiring to be supplied & installed by Client or End User  
Detail to be advised and supplied by Transmon.

Work Stations Warning Boxes (Beacon / Buzzer / LED / Mute Button)  
Supply & Control wiring to be supplied & installed by Client or End User  
Detail to be advised and supplied by Transmon.

Transmon will provide a wiring Schematic to allow them to complete the cabling installation to all positions of the equipment for Transmon to terminate the respective equipment within the overall system.

## Additional Other Points

As with all radio wave systems, radio waves can deflect / reflect from structures in the detection area, therefore no guarantee can be given, that aisle cross over detection will not occur.  
Careful antenna positioning will keep this anomaly to a minimum.