



VEHICLE DOOR STATUS MONITORING WITH EYE SENSORS

INTRO

Preventing the theft of valuable goods in transit requires the utmost attention and appropriate safety measures from fleet managers. Bluetooth® technology appears to be a low-cost and easy-to-implement solution to improve cargo security. Used in conjunction with wireless devices, Teltonika vehicle GPS trackers can help monitor deliveries and open up new business opportunities.

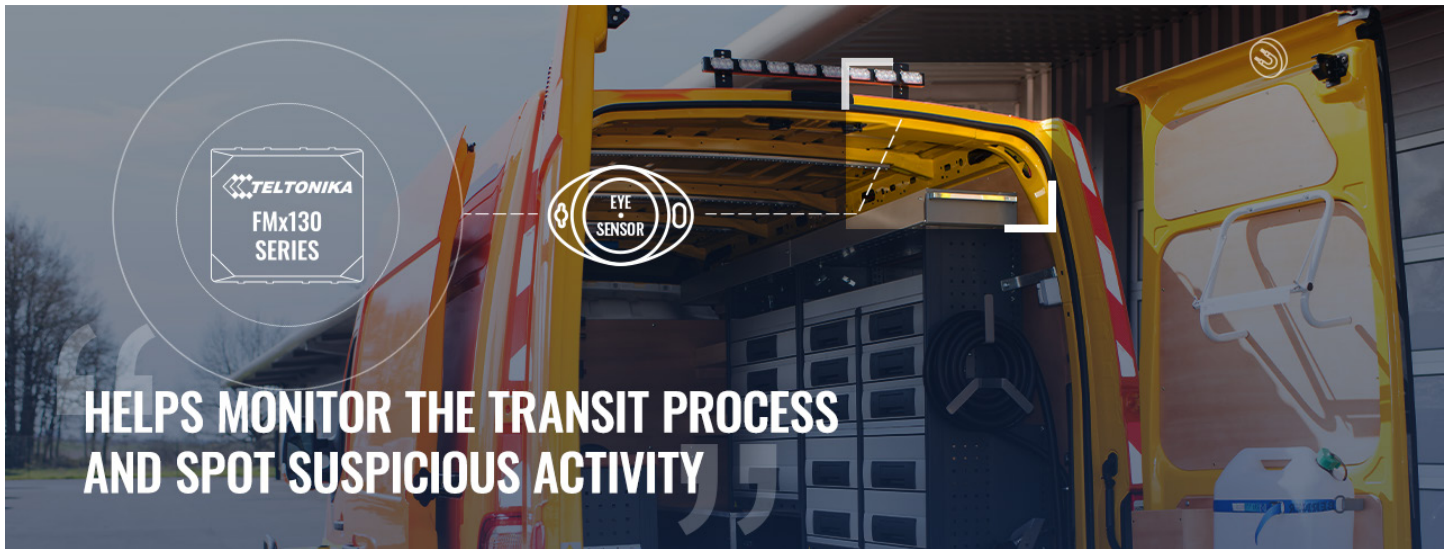
CHALLENGE

Needless to say, it is important to ensure the safe transport of customers' goods. However, theft of goods in transit continues to account for the [largest share](#) of all thefts - 71%. Although tools are one of the [most popular theft targets](#), only 1% of stolen tools are recovered in the UK. Even more, this challenge is particularly acute when expensive items are involved. This requires fleet managers and business owners to look at a range of security options, including multi-level cargo security.

It is particularly difficult to ensure the safety of the load if a vehicle cannot monitor the status of the door via its [CAN bus](#) or onboard data. Wired solutions are neither convenient nor practical in this case. The market needs an affordable, easy-to-install and reliable solution to monitor the door status of vehicles.

Efficient fleet management also requires precise information about cargo loading and unloading. Operators and fleet managers need to know exactly when the door of the vehicle is opened and closed, so it is possible to understand when cargo is loaded and unloaded, how long it takes and where it happens. It also helps to prevent unauthorized door opening, so they can be sure that the cargo is safe.

The cargo security of international logistics and delivery service companies must be maximised wirelessly and efficiently. Today's businesses need a low-cost and easy-to-implement solution, and Teltonika can offer a practical and affordable one.



SOLUTION

To address the challenges mentioned above and present a solution, we use Teltonika ADVANCED category vehicle GPS tracker [FMC130](#), CAN adapter [LV-CAN200](#) to acquire the foremost vehicle CAN bus data and wireless [EYE Sensor](#) model accessory with an integrated magnetometer - the dedicated sensor used to detect door opening events and a magnet accessory. The Teltonika GPS tracker and sensor are connected via [Bluetooth® LE](#).

How it works - the magnet accessory is mounted on top of the back door of a vehicle, and the EYE Sensor is mounted in the vehicle, close to a position where the door closes. When the vehicle door is opened, the sensor detects that the magnet has 'disappeared', and when the door is closed, the sensor detects the magnet again and sends a status notification in both cases to the FMB130 tracker. The latter transmits all the collected data to a dedicated server via a GSM network where it is monitored and analysed. It is a simple way to detect door events completely wirelessly and effortlessly.

With this solution, international logistics and delivery service companies can easily ensure their cargo safety by monitoring door events in vehicles that do not have and do not support this feature by default. The EYE Sensors are affordable and easy to install, helping to cost-effectively improve fleet productivity and safety.

Going further, vehicle door monitoring provides an extra level of security. If a door opens in an unauthorised way or is in an unauthorised area, the driver and fleet manager are immediately alerted and can take appropriate action. Delivery service companies can be assured that they will receive reliable data on door incidents affecting their vans or other fleet vehicles.

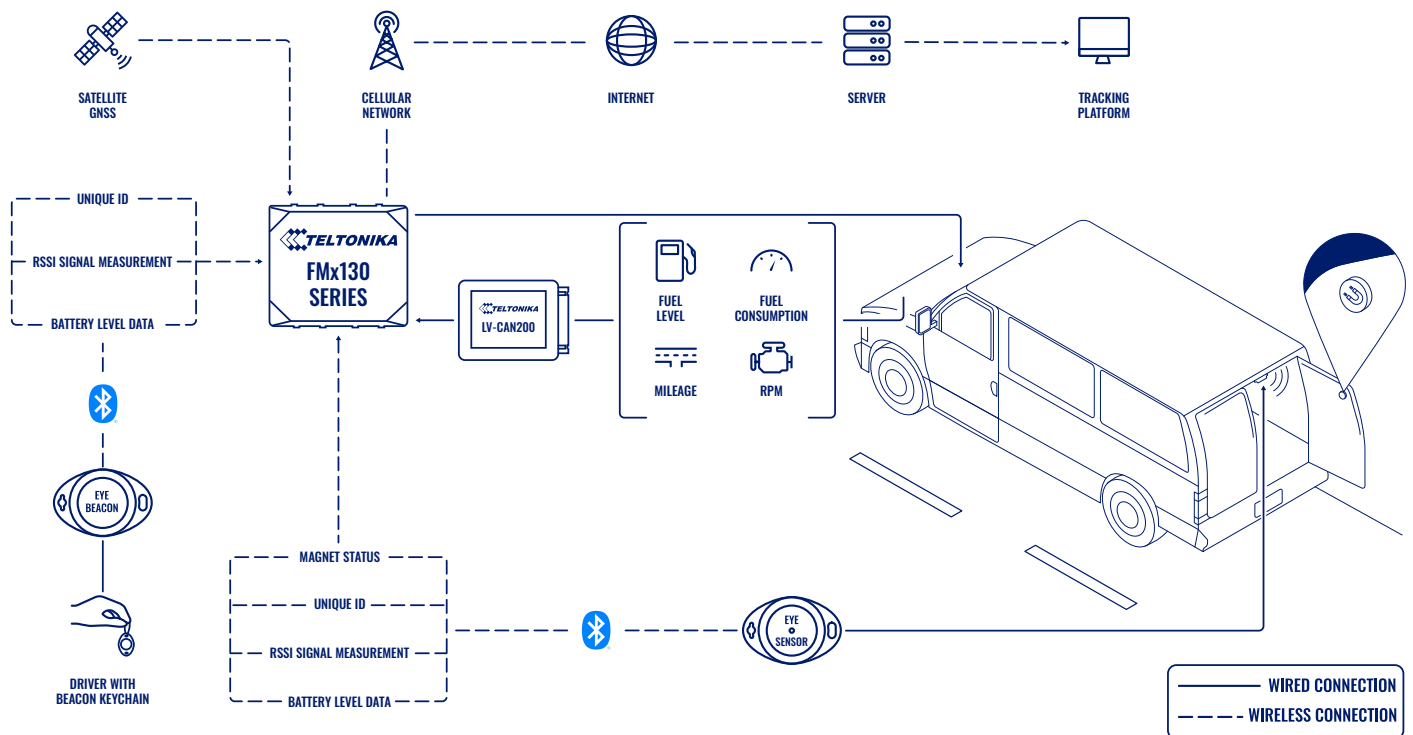
The door monitoring solution also helps to effectively manage the fleet itself. The operators can see the exact date and time of door opening, thus the time when the cargo is loaded and unloaded, how long it takes and similar parameters that help to make quality business decisions and ensure its efficiency. To cope with the increasing fuel prices, the solution allows to track of fuel consumption and level, engine RPM and mileage via CAN bus data.

This helps to encourage desired drivers' behaviour and prevent fuel theft, which results in improved business efficiency.

Moreover, the solution might be combined with [wireless driver identification](#) so that fleet managers could identify which driver was responsible in case of unauthorised unloading of cargo. It is also useful to simply track and compare regular loading and unloading time according to which driver was working and make conclusions.

Finally, door monitoring is also easy to implement for businesses that already use Teltonika GPS devices. The EYE Sensors can be used with any Bluetooth®-enabled Teltonika vehicle tracker, so companies do not need to buy new trackers if they already have them. Simply adding EYE Sensors will upgrade the functionality.

TOPOLOGY



BENEFITS

- **Prevent cargo thefts** – fleet operators, managers, and drivers will be informed immediately when the doors are opened, which helps monitor the transit process and spot suspicious activity if cargo is not being unloaded or loaded where it should be.
- **Recognise unauthorised access to cargo at once** – if a door is opened in an unauthorised way, fleet operators and managers will know about it and can take appropriate action to prevent thefts.
- **Tracking cargo loading events** – monitor the exact time it took to load and unload a load and how long it took based on door opening and closing events.
- **Wireless and easy to install** – EYE Sensors are affordable and do not require any wiring, time-consuming mechanical installation or additional costly maintenance.
- **Customisable for every project** – the signal strength and data transfer intervals of the Teltonika Bluetooth® LE Sensor can be configured according to the exact application needs of the IoT project.

WHY TELTONIKA?

To successfully resolve logistics vehicle and cargo safety challenges, Teltonika Telematics offers an indispensable combo – Bluetooth®-based EYE Sensors, sophisticated Android/iOS mobile apps for prompt configuration, data scanning, debugging anytime anywhere, and advanced vehicle GPS trackers to help logistics businesses succeed.

Teltonika provides everything you need to succeed – an impressive variety of fleet management solutions for almost any use case imaginable in the field of vehicle telematics. With more than 25 years of expertise, an in-house R&D team, cutting-edge production facilities and an innovative approach, we have been successfully providing our customers with competitive solutions that help businesses around the world to thrive.

FEATURED PRODUCT

FMC130

RELATED PRODUCTS

FMB130, FMM130, FMC13A, FMM13A

RELATED ACCESSORIES

LV-CAN200, EYE BEACON, EYE SENSOR

