

AVL Firmware & Hardware PREMIUM-FEATURES

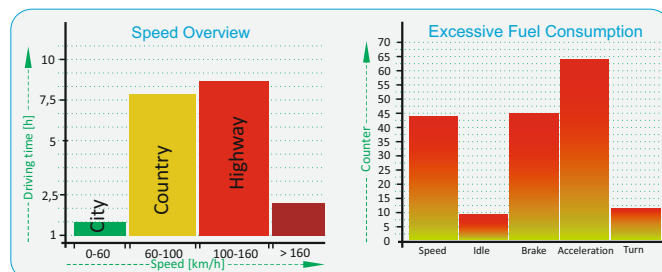
INTRODUCTION

The PREMIUM-FEATURES are extensions (APP) which are implemented in the standard FALCOM AVL firmware version 2.11.x and higher to provide more applications and additional functionalities. These features need to be activated before use by purchasing the corresponding unique activation keys which are different for each premium feature and AVL device. The activation kAKeys are linked to the serial numbers of FALCOM devices and will be generated by FALCOM only. The PREMIUM-FEATURES can be individually activated in the AVL devices during installation as well as in the AVL devices already deployed

ECO DRIVE GPS

This feature uses the incoming GPS data together with user pre-set parameters to measure the vehicle speed, harsh brakes, harsh accelerations and compute fuel consumption and other trip information. It is designed to improve fleet safety and reduce fleet operating costs. It detects and reports a wide set of events showing uneconomical and environment-unfriendly driving in terms of fuel consumption and emission as well as the hazardous or aggressive driving behavior. Using of this feature requires a valid configuration stored into the AVL unit. When a trip stops, the trip data with the detailed driving information can be transmitted to a server using the corresponding event.

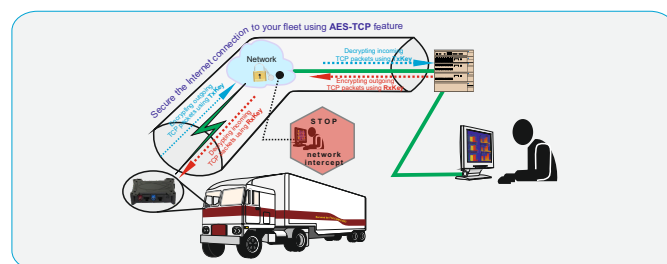
Business modeling and analysis based on the ECO-DRIVE data reported via OTA



AES128

AES (Advanced Encryption Standard) is the process of transferring plain text using a cipher to make it unreadable to anyone except those possessing the key. This feature secures your data by encrypting it when sending and decrypting it when receiving using a 128-bit group encryption with a 128 key length. Outgoing data is encrypted immediately in the device and can be stored in encrypted format until it can be actually sent out via TCP. After the remote server knows what kind of encryption the AVL device is going to start, both (server and AVL device) use the encrypt/decrypt keys to encrypt and decrypt the data, they send to each other.

Security solution for fleet management companies



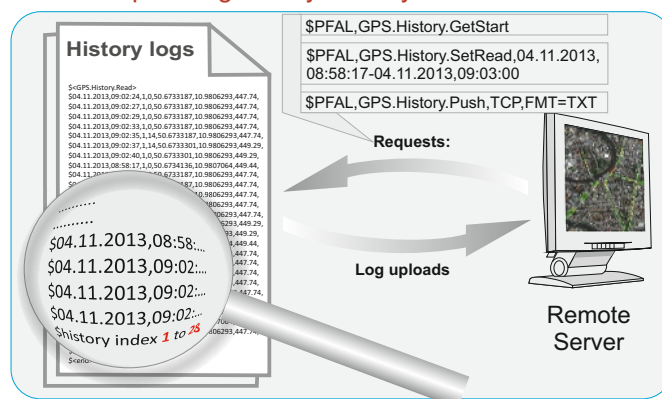
INDEXED HISTORY

Transmitting the stored GPS positions from device to a server can be done in one of the following modes: **simple** or **advanced (PREMIUM-FEATURES)**.

The **simple** mode might not be 100% accurate if the records to be stored do not have a valid GPS fix or if the internal time doesn't correspond to the GPS time.

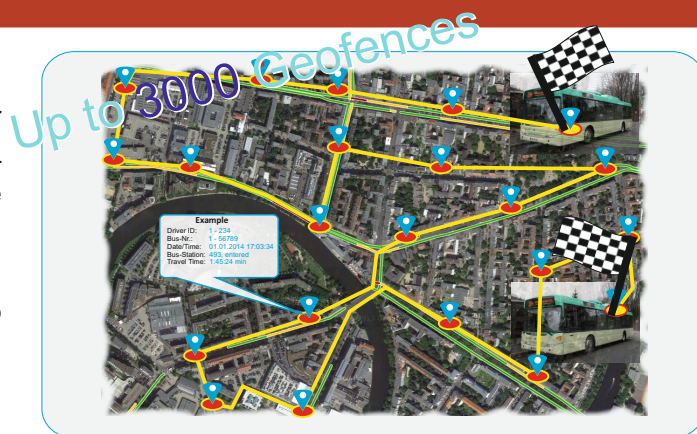
The **advanced (PREMIUM)** mode adds an extra line to each TCP packet being sent showing the number of history records transmitted to the server. Remote server will process the transmitted data based on the indices and find out which records are still not uploaded.

Uploading history data by indices



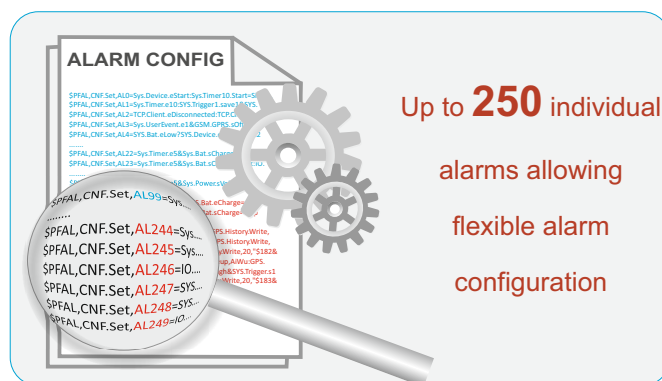
● EXTENDED-GEOFENCES

This feature allows you to create up to 3000 Geofences i.e. for bus tracking and logistic projects. With this feature the AVL device sends an alert to the server whenever the vehicle enters/leaves the pre-defined Geofence-Spots (for instance, bus stops). The alert text may contain different information such as the "bus number", "driver's name or ID", „bus stop number“, the "driven distance", "date", "time", "positions", etc.



● EXTENDED-ALARMS

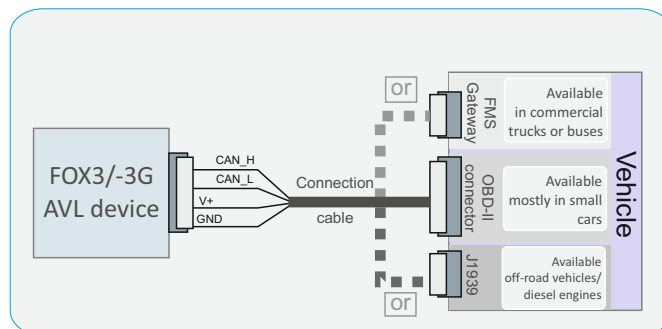
This feature extends the number of alarms that can be configured in the AVL device up to 250. The number of alarms in the standard AVL firmware versions is 100. The increased number of alarms allows you to use more alerts and thus more flexibility and functionality of the firmware in order to meet the user requirements.



● CAN-INTERFACE (FOX3, FOX3-3G only)

This hardware feature allows connecting the FOX3/-3G vehicle tracking device to the vehicle CAN-Bus. CAN-Bus is the name given to the communication network in a vehicle that is used for transferring information between the various electronic control units. Several CAN/CAN-FMS/CAN-OBDDII messages can be received, processed and managed by FOX3, and forwarded in real time to third-party's application databases. The list of the supported CANBus messages can be found in the „AppNote_CAN_FMS_CAN_OBDII_Howto.pdf“ document available at the FALCOM's website.

Interfacing FOX3/-3G device to you vehicle CAN-Bus



● RS485-INTERFACE (FOX3, FOX3-3G only)

This feature disables the driver of the second RS-232 interface (SERIAL1 in the FOX3/-3G standard) and pins of this port can be used by the RS-485 interface to communicate with external devices through the RS-485 protocol. This interface can then be used to measure and collect several information from different sensors such as card readers, LED displays, fuel level meters, temperature etc., and if necessary, this information can be directly transmitted to a TCP server for further analyses.

Interfacing FOX3/-3G device to sensors requiring a RS-485 interface

