



## ENAIKOON can-66

### CAN bus Data Analysis for the Monitoring of the Fuel Consumption and other Data of Machines of Commercial Vehicles

A CAN bus is installed in every modern truck, construction machine, bus or passenger car.

The CAN bus constantly supplies a variety of data of the vehicle.

Evaluation of this data can show the owner of the fleet various ways how to save money by optimizing the use of the vehicles.



- Fuel saving by optimal selection and adjustment of the vehicles
- Fuel saving by dedicated driver training
- Fewer accidents by adapted and supervised driving style
- Less abrasion of the vehicles by monitoring and motivation of the drivers
- Less and cheaper service stops by remote supervision of the condition of the vehicles
- Faster repair of broken vehicles by remote reading of the error codes of the machine
- Real time analysis of the achievements of each machine (e.g. operating hours, power generated by the power generator etc.)



### Typical users of this technology:

Beneficiaries of the CAN data evaluation are all businesses that operate a fleet of commercial vehicles like

- forwarding businesses
- service providers with an own fleet
- public transportation companies
- rental car companies
- operators of car sharing fleets
- users of fork lifts
- leasing companies
- rental companies and companies that operate construction machines, forklifts etc
- manufacturers of construction machines and other commercial vehicles



## ENAIKOOON can-6607: Manufacturer independent analysis for CAN data

The operators or owners of fleets are interested to be informed about the condition of the vehicle, the fuel consumption and the handling of the vehicle by the driver.

The analysis software ENAIKOOON can-6607 provides the analysis for this purpose.

It is proven that employees, who may not identify themselves with their firm or their vehicle may drive very rough in order to bring the vehicle as fast as possible to that point where it must be exchanged and/or they just treat the cars very rude. With ENAIKOOON can-6607 such situations can be promptly recognized.

In addition various parameters of vehicles can be supervised (e.g. flares, mileage, oil temperature etc.). This allows to constantly determining the date for the next service interval, the necessity for extraordinary service stops etc.

With the products of the ENAIKOOON can-66 family you get a CAN bus integration that is independent of a particular manufacturer of commercial vehicles and which amongst others supports the FMS standard in all versions.

This allows you to collect the data of the vehicles of all manufacturers in one web portal and to ensure, that the measured values are real and the comparison of costs and performance of different vehicles leads to results that allow a selection of the most suitable vehicles for each business.

### Raw data mapping

## How does ENAIKOOON can-66 work?

The ENAIKOOON locate devices transmit the data pre-calculated by ENAIKOOON can-6602 thru GPRS or SMS to the ENAIKOOON M2M-commserver.

Into some ENAIKOOON onboard units the ENAIKOOON can-6602 functionality is already integrated so that you do not need a separate CAN adapter. We recommend to use the device ENAIKOOON locate-06 because of the built in CAN interface and the very attractive price of the device.

ENAIKOOON can-6602 on one side filters data which must not be transmitted via GPRS to the backend system.

This reduces the costs for the use of the cellular network and speeds up the calculation of the relevant CAN data reports.

On the other side data is aggregated which means, that for ex. not each single gear change is transmitted to the server. Instead, the software inside the device builds a table with the information how often at which RPM a change happened from which to which gear.

### CAN column configuration

At predefined events (e.g. "ignition off") these tables are transmitted to the backend server.

This allows providing much more rich in content data based on the limited bandwidth of GPRS.

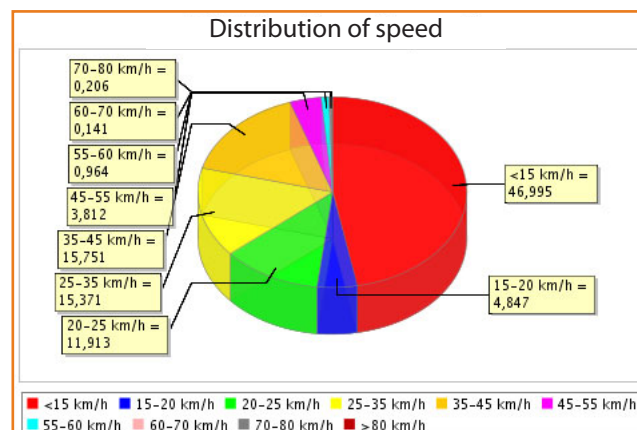
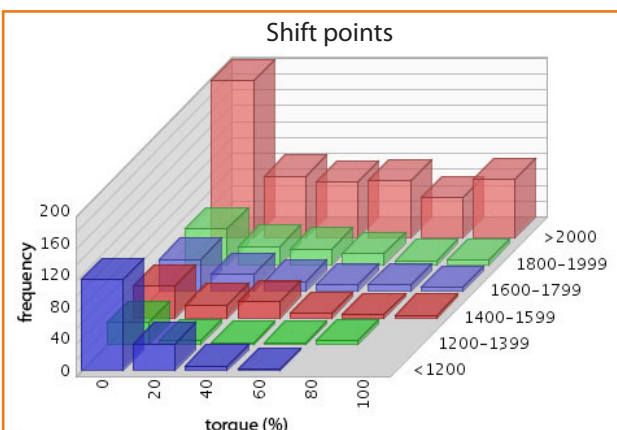
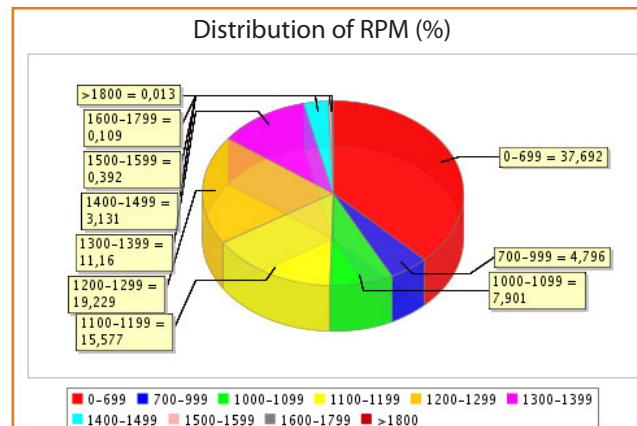
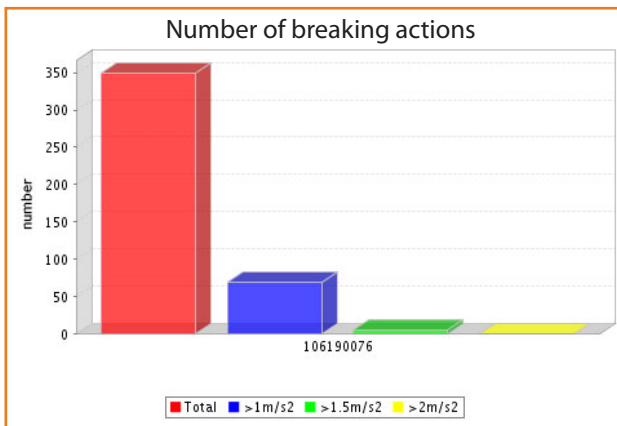
Once this data has arrived on the server, first of all the data is normalized which means that the dimension units of the data of the different vehicles and machines are normalized and that data with the same meaning (e.g. "RPM") but with different CAN-IDs due to the different engines are stored in the same table of the so called "can data table".

The user can configure this normalization process by adding and changing the according tables in the data base thru an easy to use user interface.

## CAN bus data analysis

The user has two options for analyzing the CAN data:

- ▣ ENAIKOOON can-6607:  
 This web based application was developed by ENAIKOOON and the Fraunhofer-Gesellschaft (Germany), the largest organization for applied research in Europe.  
 It reads the normalized data from the CAN data table and provides multiple different reports and charts:
- ▣ You use your own software and read the CAN data from the ENAIKOOON M2M-commserver.  
 We are happy to provide you with the required information about the relevant database.



## Products and Prices

Product	Part No.	Product Description	Price
ENAIKOON M2M-commserver web service	MMC-03-14	Use of the ENAIKOON M2M-commserver, operated by ENAIKOON for the data exchange with ENAIKOON locate modules. This service is a pre-condition for transmitting CAN data from the vehicle to the analysis software	24.90 € per vehicle per month
ENAIKOON can-66 web service	MMC-05-66	Extension of the ENAIKOON M2M-commserver (MMC-03-14) to receive and process CAN bus data	9.90 € per vehicle per month
ENAIKOON can-6607 web service	CAN-05-07	Analysis software for CAN bus data; reports and charts of machine data	19.90 € per vehicle per month
ENAIKOON can-6602	CAN-05-02	CAN interface used to connect an ENAIKOON locate-06 module to the CAN bus of a CAN capable commercial vehicle containing <ul style="list-style-type: none"> <li>▶ Serial cable to connect this device with ENAIKOON locate</li> <li>▶ CAN interface cable to connect the interface box to the vehicle socket</li> </ul> Pls. check with ENAIKOON if you need this device.	290 €
ENAIKOON can-6610	CAN-05-10	Investigation of the CAN data format provided by a particular type of vehicle. Flat fee per vehicle type.	1,980 € plus travelling expenses
ENAIKOON locate-06	LOC-07-06	Basic module GPS/GPRS <ul style="list-style-type: none"> <li>▶ configurable</li> <li>▶ 1 Wire connector</li> <li>▶ camera connector</li> <li>▶ solar panel support</li> <li>▶ GSM/GPS antenna</li> <li>▶ cable for power/ignition</li> </ul>	249 €

**Note:**

For safety reasons ENAIKOON offers read-only access to the CAN bus only.