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Bus FMS 00.02

FMS

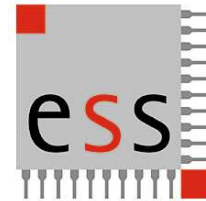
In May 2002 the big European truck maker agreed upon the FMS Standard which was edited by the American SAE (Society of Automotive Engineers). This FMS Standard merges all telematics relevant operating parameters like e.g. speed, engine speed, odometer, fuel consumption, tachograph data and a great many of others. In October 2005 FMS was followed by Bus FMS a standard for busses which had a few more parameters as door states, pressure of air suspension and others. In the meantime Bus FMS was upgraded to version 00.02 which includes the data of the driver's cards, the instantaneous fuel consumption in km/L and L/h as well as the tell-tale states of the dashboard.

With these data all telematics equipment is able to accurately evaluate the driving behaviour concerning fuel consumption and ecologically manner of driving. Additionally an exact recording of driving times and rest times is possible. All these data are available at every terminal in the carrier's computer network if the telematic unit is equipped with mobile broadband modem.

CANgine FMS

ESS is a manufacturer of communication components for industrial automation. ESS placed a focus on CAN bus applications and recognized the missing link already in 2003: a component that receives all FMS data and provides it to the application in plain ASCII using a regular serial interface. With CANgine FMS the telematic manufacturer needs absolutely no know-how with CAN or even SAE J1939. On a serial link all the required data is coming in readable format. The extensive configuration options of CANgine FMS allow selecting the data provided on the serial interface and the cycle time with which the data is transmitted to the serial interface.

CANgine FMS is integrated into a double-sided plug between two D-Sub 9 connectors. Since 2003 thousands of CANgine FMS were installed in trucks of all European makers by ESS' customers.



CANgine Bluetooth FMS

The Bluetooth variant CANgine BT FMS uses a Bluetooth module instead of the serial link to connect to the host. With CANgineBT FMS the FMS data set can be read into any Bluetooth equipped device. Of course CANgineBT FMS also supports Bus FMS standard version 00.02.

CANgine FMSIA Chip

In response to customer inquiries ESS developed a chip that allows efficient integration of FMS access in telematics hardware. Now the protocol handler can be directly integrated into the fleet management hardware. The required area for the chip and the glue logic on a printed circuit board is as small as 25 x 22 mm². Starting with version 2.0 the FMSIA chip supports Bus FMS standard 00.02.

Customized Solutions

ESS developed the hardware and firmware of the CANgine on a modular base and new developments are added continuously. Customer specific versions can thus be made at reasonable costs.

The microcontroller used has more resources available than currently used, so additional tasks can be added. If QFP44 is still too large the BGA housing of the chip can be used, reducing the chip size to 8 x 8 mm².

The firmware can be customized towards specific requirements. As an example one customer required that changes of the tachograph data are transferred immediately and not based on a fixed cycle time.

Further information is available at www.CANgine.com, which is regularly updated with the latest information.

Pictures and Drawings:

CANgineFMS_300dpi.jpg: Standard CANgine FMS
CANgineBT-FMS_hr.jpg: Bluetooth CANgine FMS
CANgine FMSIA-CC_hr.jpg: FMS Protocol Chip
CANgineLogo.jpg

Embedded Systems Solutions

ESS Embedded Systems Solutions is a privately owned GmbH. ESS specializes in the development of microcontroller based applications for industrial communication, industrial automation and automotive applications.

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