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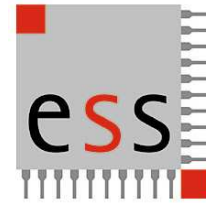
Remote Download from Digital Tachograph at the price of a Download Key

ESS a German company specialized in commercial vehicle electronics offers a small adapter which connects telematics equipment to the digital tachograph. Using this connection the telematics equipment is able to read the data of the tachograph's memory and the driver's cards. The telematics host computer communicates via serial link or USB to the adapter which translates the communication into ISO 15765 used by the tachographs interface. The price of the adapter in small volumes corresponds approximately to the price of a conventional download key. Using this adapter called CANginell the mandatory archival storage of the tachographs data can take place without manual intervention of the driver or other service personal. The only telematics host requirement is a radio link like WiFi or GPRS. With the help of the radio link the company card which is connected to a company server is able to communicate with the tachograph device. This is needed for the authentication process in which the right for download of the data is granted.

On the one hand the name CANginell comes from the history of the CANgine device family; on the other hand this name points to the data source used for the download process: The communication between CANginell and the tachograph is handled via a CAN bus. CANginell is the new one and high performant brother of the older CANgine FMS which runs in thousands of trucks on European roads and gives access to the trucks real time operation data for telematics equipment. Since 2003 CANgine FMS devices are running on the roads.

Besides the remote download functions the CANginell devices offer of course access to the real time data of the truck or bus and additionally to the D8 info link of the digital tachograph. Hence CANginell supports three different links to the commercial vehicle:

- CAN / FMS bus for reading the operational data in real time
With newer trucks and busses this CAN bus also provides the remote download functions
- One additional CAN bus to connect the digital tachograph with older vehicles
The D8 info link of the digital tachograph



High performance

The internal Arm RISC Controller of the CANginell is clocked with 72 MHz. This results in a high performance, which allows handling the remote download process in parallel to processing the real time vehicle data. Thus a completely full automated download of the tachographs memory and the driver cards can be done.

CANginell supports like the older CANgine FMS the FMS protocol in versions 02.00 (trucks) and 00.02 (busses). In the output format of the CANginell some slight modifications were done to simplify the work of application programmers. The possibility to connect to the D8 info link extends the available real time data with some vehicle specific parameter and the identity numbers of the two driver cards in the tachograph. This can be useful when CANginell is used in vehicles without or with older versions of the FMS gateway. Due to the high performance of the micro controller considerable resources are available for custom or project specific add-ons.

Always complete information

Independent of the version of the FMS Standard which is implemented in the vehicle, CANginell always offers the complete information to the telematics host. With the possible parameterisation of CANginell the user can decide from which data source the real time data are taken and in which cycle the data is transmitted to the telematics host.

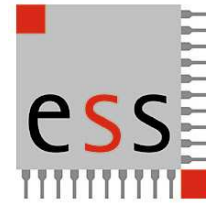
CANginell replaces Download Keys

Using the old-fashioned Download Key you have to manually access the tachograph to extract memory data for archive storage; insert the company card into one of the card slots, insert the download key into the front connector or select download etc. etc. Using a CANginell adapter together with an intelligent telematics host all these activities are a thing of the past. The server program and the telematics vehicle unit make sure the required data for archive storage is extracted fully automatic. To use the remote download functions with a telematics host via CANginell only a small effort in driver and software development is necessary. The telematics host must be connected to the CANginell device and to a smart card reader via GPRS or another radio link. The smart card reader is needed for the authentication process. ESS deals with an exact definition of the communication link or even more by offering the source code of demonstration software running on a standard PC. Also hands on training at customer's site are offered to speed up the implementation work.

Background information

CANgine FMS was launched in 2003 by ESS. The small device is equipped with a powerful micro controller and reads real time data on the CAN / FMS bus of a truck or bus. The data is filtered and pre-processed and then sent via serial link to a telematics host computer. Thus a simple access to the real time operational data of the vehicle was offered to the telematics suppliers. CANgine FMS is now used in more than 30 countries of the world.

Press Release



The FMS standard was published in 2002 by the six most important European truck manufactures. In 2005 the Bus FMS standard was published which contains some more data concerning door status and other.

In the meantime new versions for both standards are published which are supported by all ESS products. Additionally to processing the FMS data CANginell offers a connection to the D8 info interface of the tachograph and supports the remote download function for fully automatic archival storage of mass data without any manual intervention.

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

Pictures and Drawings:

CANgineLogo.jpg

CANginell.jpg

Embedded Systems Solutions

ESS Embedded Systems Solutions GmbH was established in 2001 and is by now a privately owned GmbH. ESS specializes in the development of micro controller based applications for industrial communication, industrial automation, for measurement and control technology and automotive applications. Communication adapters for commercial vehicles represent a significant part of the portfolio.

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