KVASER AND PARTNERS

CAN FD webinar and more

This article introduces recent CAN developments of the Swedish company Kvaser and its partner network. On April 7, 2021 a webinar about CAN FD data acquisition and visualization with Matlab and Kvaser hardware is offered.

(Source: Kvaser)

The [one-hour webinar](#) informs about CAN FD technology regarding data throughput and efficiency, message structure, and network configuration. It shows how to connect a PC to the CAN FD network using Kvaser devices and Matlab's Vehicle Network Toolbox. CAN FD signals will be decoded and visualized using the recent CAN FD Explorer app.

Updated software release

Kvaser's latest software release extends support for CAN FD, such as virtual CAN FD and ISO-TP FD channels within J2534. SAE J2534 is an interface standard for vehicle ECU (electronic control unit) reprogramming. The updated file-handling kvDiag API (application programming interface) allows developers to run autobaud programming to sample at high frequencies. The pre-defined bit-rate with the sample point of 80 % (suited to CAN FD) can now be found within the IDE (integrated development environment) that is included in the CANlib SDK. The company also updated the Linux implementation according to the latest SocketCAN release. Supplementary, the company added several developer blogs for CAN users.

Kvaser interfaces for electric vehicle development

Team Solarium is a group of engineering students from Pimpri Chinchwad College of Engineering (PCCOE) in Pune. The team has designed and manufactured the Invictus 3.0 electric solar vehicle to compete in Asia's biggest solar challenge, the Electric Solar Vehicle Championship (ESVC). The group is currently working towards the ESVC 3000+, a 1600-km cross-country race between Delhi and Pune that takes place in September 2021. The Invictus 4.0 is intended to drive 1 600 km on a single charge. Kvaser has supplied the Memorator Pro interface and the Blackbird gateway to help their efforts. The interface is used to filter and log data from different in-vehicle CAN nodes. The gateway wirelessly transmits CAN data to a remote monitoring device. Kvaser's free Canking CAN monitor tool is used to validate the data communication.


Invictus 4.0 (Source: Kvaser)

The electric contender from Unisa Motorsport (Source: Kvaser)

The Formula SAE Team (Unisa Motorsport) of the University of South Australia is also building an electric contender. The team built its first electric Formula SAE vehicle in 2019. Pi Innovo's Openecu tool and the M220 ECU, Mathworks' Simulink design environment, and Kvaser interfaces were used to handle communication and programming. Usbcan Pro and Leaf Pro served to program and monitor the vehicle systems. The Memorator Pro enabled validation of the CAN traffic. For the 2021 car, the team aims to retarget its platform to a CAN FD capable ECU and to make increased use of Kvaser's CAN FD and data-logging capabilities.

CAN-to-LIN gateway (Source: Mach Systems)
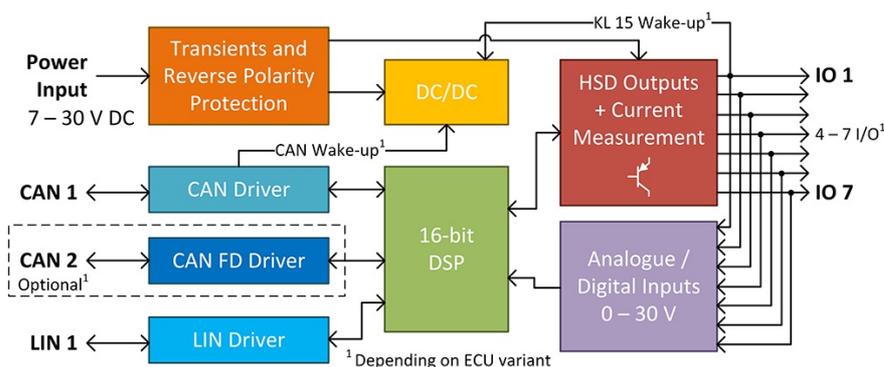
CAN-to-LIN gateway for harsh environments

Kvaser partner Mach Systems introduced the CAN-to-LIN gateway ECU with up to two CAN (FD) channels. The unit can be used as a stand-alone gateway or as a remote I/O module to interface sensors and actuators to CAN and LIN systems. The device is dedicated for use in tractors and other machinery. The Kvaser Hybrid dual-channel interface is suitable to configure the ECU over CAN and to test the ECU behavior. J1939 and customized CAN-based higher-layer protocols are supported.

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