Rugged Linux edge platform

Kvaser (Sweden) introduced the Kvaser Edge, an open, secure Linux-based edge computing platform for collecting, processing, and acting on data. Designed for harsh environments and real-time performance, it runs analytics directly where data is generated: on the vehicle, test bench, or machine.

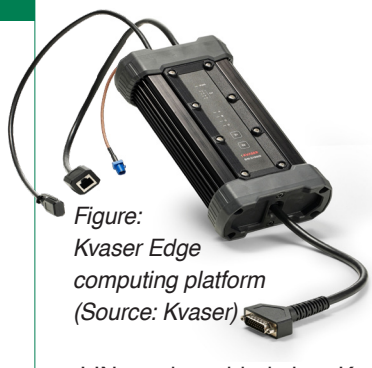

Figure: Kvaser Edge computing platform (Source: Kvaser)

The device is suitable for industrial and automotive settings. Engineers can run their own software directly on the device to capture, process, and act on CAN CC and CAN FD data. The Kvaser Edge WL400S is the first model in the introduced hardware line with four CAN (FD) channels. LIN can be added via a Kvaser LIN capable interface, and Automotive Ethernet by adding a 100BaseT1/1000BaseT1 media converter.

Traditional machine-test workflows depend on PC connections and large data logs. The new system processes data in real-time, with optional cloud or desktop analysis layers for deeper processing and collaboration. Test engineers or fleet managers capture only the data that matters, accelerating development and reducing unnecessary logging across automotive, off-highway, and industrial use cases, including:

- Real-time and remote diagnostics;
- Predictive maintenance;
- Smart filtering and event-based logging;
- Fleet monitoring;
- Off-highway telematics.

Modern vehicles and machines generate huge data volumes, but most teams need smarter data, not more of it. Kvaser Edge supports real-time filtering, data aggregation, and anomaly detection at the source, enabling faster insights and iteration during testing.

At its core is an ARM-based Linux computer with an NXP SE051C2 Secure Element, designed to support CRA (Cyber Resilience Act) and RED (Radio Equipment Directive) cybersecurity requirements. Hardware based security protects collected data and intellectual property, making the unit suitable for prototyping and large-scale deployments. Teams can use the device to monitor and troubleshoot units remotely. Integrated GPS (global positioning system) support adds optional location awareness for improved fleet visibility and security.

The platform runs the Kvaser Edge OS (KEOS), a Linux operating system designed for data acquisition and edge analytics. KEOS allows developers and test engineers to build secure, isolated Linux-based environments using containers that run on top of the OS. Each container offers a clean, reproducible workspace where teams can install their preferred distribution and tools, run multiple versions in parallel, and update them independently of the base system. This containerized approach enables consistent deployments across vehicles or test rigs, with processed data easily routed to cloud or local servers. KEOS is designed for automotive-grade power conditions and resilience against sudden shutdowns, supporting rapid prototyping while keeping sensitive work protected.

Early adopters, including software partners such as Alkit, are already demonstrating how Kvaser Edge accelerates development and unlocks new test workflows. Kvaser is building a growing developer ecosystem with documentation, SDKs (software development kit), and example projects that make it straightforward to build and package applications for Edge users. This enables software partners to bring specialized tools directly to automotive and industrial teams. ◀

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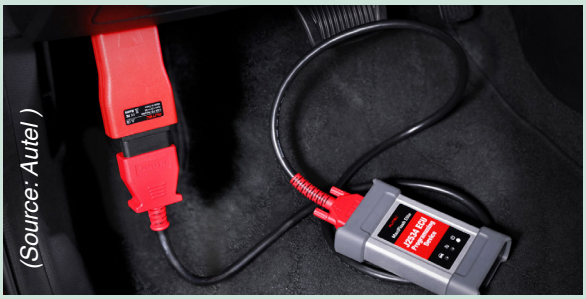
CAN FD adapter for US cars



(Source: Autel)

Already five years ago, Autel (China) has released a CAN FD supporting diagnostic adapter. It enables tablets to communicate via the CAN FD communications protocol and diagnose the vehicle. First cars supported were vehicles from Ford and General Motors. In the meantime, the CAN FD adapter is also suitable for other vehicle brands and models implementing CAN FD based diagnostic interfaces. The interface module can be connected to tablets with a wireless Vehicle Communication Interface (VCI) or to the OBDII connector. The CAN FD adapter can be purchased through any of Autel's authorized distributors or retailers.

Some tablet releases (Maxisys Ultra, Maxisys 919, and Maxisys 909) do not need a separate CAN FD adapter to communicate with CAN FD-equipped vehicles. These diagnostic tablets come with enhanced VCIs that can interpret several protocols including CAN FD. *hz*