

Reproducible disturbances of CAN (FD) networks

Vector offers the VH6501 hardware for the precise and reproducible disturbance of Classical CAN and CAN FD networks. The device provides additionally a network interface for the CANoe tool.

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The combination of disturbance functionality and interface enables test setups for conformance testing (Photo: Vector)

The VH6501 hardware allows test engineers and developers to produce a variety of digital and analog disturbances in CAN (FD) networks. It is thus suited to automatically test the error handling of ECUs. Such tests are an essential part of indispensable conformity tests in the automotive industry.

On the one hand, the product serves the CANoe test tool as a normal network interface. On the other hand, the fault functionality is controlled via the CAPL (Communication Access Programming Language) programming language integrated in CANoe. A short introduction into the CAPL language can be [downloaded here](#). The CAN Newsletter magazine has also published some more detailed articles ([part 1](#), [part 2](#), and [part 3](#)). Due to this tight CANoe connection, test setups with residual bus simulation can be realized without additional hardware.

The CAPL API allows users to configure short circuits in the CAN signal lines, to interchange cables, and to modify R/C network parameters for analog interference. In the case of digital disturbances, almost any digital interference sequences and extensive triggering conditions can be defined. Thus, the VH6501 covers more than just typical use cases, such as checking the controller behavior during a bus-off or measuring the sampling time.

The visual representation of the disturbances generated by the hardware and that of the reactions in the CAN (FD) network can optionally be done with the CANoe software option. This allows an accurate analysis of the events and helps users to create their own tests.

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