

FOR E-VEHICLES

Charging communication conformance testing with CAN

Vector has expanded its e-mobility testing solution to include the CANoe Test Package EV. This provides users with a toolchain for the automated conformance and interoperability testing of e-vehicles based on CANoe for the first time.



Performing automated conformance testing using CANoe Test Package EV on a real e-vehicle (Source: Vector)

The company is offering the possibility to perform conformance and interoperability testing for e-vehicles based on the DIN 70122, ISO 15118, and GB/T 34658 test specifications. The test cases run automatically and are only possible due to the CANoe Test Package EV. The test process is supported by a toolchain. Due to the included source files, the test cases are transparent and modifiable using vTetsstudio, while CANoe handles operation of the test hardware and automated test execution. This concept enables a continuous testing environment.

GB/T, the Chinese charging standard, is based on CAN and J1939-21. Therefore, test hardware is not costly. [Read here "Charging communication in Chinese"](#). The CAN network topology is robust and simple, explained the company: it has just two participants, the e-vehicle and the charging station which are connected through the charging cable. A CAN interface with just one channel can be used for connection to the system under test.

The test cases of the test package are a component of the company's e-mobility testing solution and can be used in all phases of development: from the software level with vVirtualtarget to the controller level using the VT system to the complete e-vehicle using a test system with an integrated power element. The functionality of these tools provide flexibility, said Vector. Due to the openness of CANoe, the existing test hardware can be reused by third parties, for example. This eliminates the need for additional investment.

For the next step, an introduction of the CANoe Test Package EVSE for charging stations is planned. This provides comparable test cases based on the same toolchain.

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