

SIMULATION AND TEST

Interfaces Ethernet and CAN FD networks

Vector Informatik released the VN5620 network interface for automotive Ethernet and classical CAN as well as CAN FD networks. The two CAN FD interfaces implement the TJA1057 transceivers from NXP.

The interface is used for analysis, simulation, and testing tasks. Ethernet monitoring ensures a transparent connection between two nodes with a precise time stamp. The precise time-stamping is also available for CAN (FD) frames. The two CAN ports can be accessed via the 9-pin D-Sub connectors. LEDs are used to show the activity of the CAN (FD) and the Ethernet network. The hardware configuration options allow to design an existing bus simulation with CANoe. This enables abstraction between the networks and network simulation. It is also possible to emulate various network topologies. The device features media conversion functions and a data link between 100 Base-T1 /1000 Base-T1 and the 100 Base-TX /1000 Base-T physical layer. Via the interface each CAN (FD) port can be accessed individually. This enables the user to test several identical systems on a test bench, to reprogram the ECUs (electronic control unit), and to perform in-vehicle diagnostics. Ethernet (1000 Base-T) or USB 3.0 can be used as an interface to the computer.

The device's configuration options allow to handle high data rates.

Testing engineers can implement diverse test scenarios by connecting different segmentation types together. The interface's saving function enables to restore device configurations. This function can be activated without a PC connection. The device can be used either as a network interface or as an expansion device for the VN8914, which is a modular interface hardware with channel combinations for Classical CAN, CAN FD, [LIN](#), Flexray, J1708, and the K-Line.

The interface dimensions are 143 mm x 153 mm x 37 mm. It can be used at the office and on test benches. The operating temperature (0 °C to +45 °C) and voltage range (10 V_{DC} to 24 V_{DC}) have been designed accordingly for these purposes. Windows 10 is the required operating system.

Founded in 1988, Vector is a manufacturer of software tools and embedded components for development of electronic systems and their networking with different systems from CAN to Automotive Ethernet. Headquartered in Germany, the company employs more than 3 000 people worldwide.



The VN5620 is used for Ethernet monitoring, remaining bus simulation, media conversion, and direct access to individual ports (Source: Vector Informatik)

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