

VN7640

Flexible Interface for CAN FD, LIN, FlexRay and Ethernet Connection via USB or Ethernet

What is the VN7640 Network Interface?

The VN7640 interface is a flexible solution for FlexRay, CAN FD, LIN, K-Line and J1708 applications. Additionally, different use cases are supported for Ethernet.

Due to the various channel combinations the VN7640 is an ideal interface for laboratory or developer workstation. Because of its compact and robust design, it is also suitable for mobile applications.

The typical application areas are

- > Remaining bus simulation, gateway application, analysis and testing of networks and ECUs in combination with the bus systems CAN FD, LIN (K-Line), and FlexRay
- > Diagnostics (including Diagnostics over IP) and flashing of ECUs
- > Measurement and calibration of ECUs via XCP (XCP on FlexRay, XCP on CAN, XCP on Ethernet)

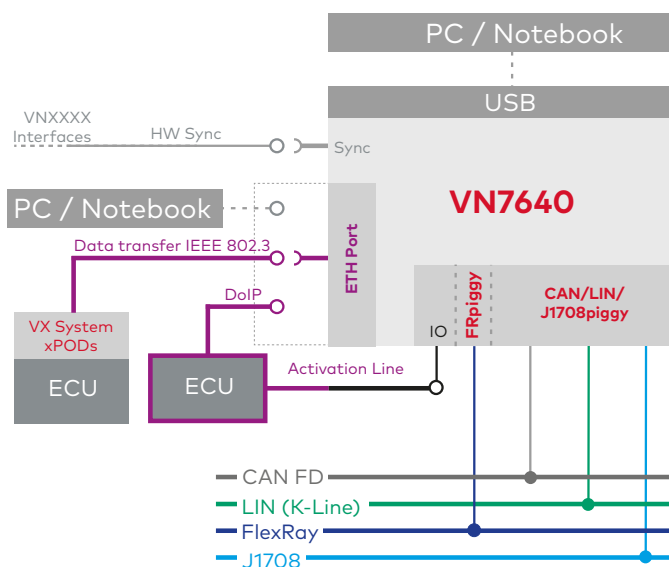
In addition, the included libraries allow the user to create own applications quickly and easily.

Overview of Advantages

- > Variety of channel combinations possible by simply interchangeable transceivers for different bus physics
- > Updating of functional range by FPGA update possible
- > Optimum performance for CANoe/CANape/CANalyzer applications with CAN, CAN FD, FlexRay, LIN, J1708, and K-Line bus access
- > Support of Ethernet applications, e.g. DoIP or measurement / calibration via XCP on Ethernet
- > Analog/digital IO functionality
- > Connection for external time synchronization
- > Accurate time analysis of the communication data
- > Robust housing



VN7640



VN7640: Wiring possibilities and range of Ethernet applications

Functions

CAN/LIN

- > Support of CAN FD up to 8 MBit/s
- > Fast CAN flashing through hardware-based flash sequence support
- > Extended LIN stress functions, e.g. for LIN 2.1 conformance tests

FlexRay

- > Detection of invalid frames
- > Cycle multiplexing
- > In-cycle response
- > Support of PDUs
- > FlexRay gateway (channel A)
- > Startup + asynchronous monitoring allows detection of FlexRay frames and symbols, even before the communication controller has synchronized itself to the bus

Ethernet

- > Diagnostic communication via Internet protocol (DoIP, ISO 13400-3) incl. DoIP ActivationLine and WakeUpLine.
- > Direct connection of Vector measurement and calibration hardware (xPODs or VX device)
- > Ethernet port as host interface to PC

General

- > Synchronization with several devices and other bus systems (e.g. CAN FD, FlexRay, LIN, J1708)
- > CAPL-on-Board for CAN FD, FlexRay, LIN, IO

Technical Data

		VN7640		
		FlexRay	CAN FD	LIN / K-Line
FlexRay/CAN FD/LIN channels/channel combinations configurable via piggybacks ⁽¹⁾		1	3	-
		1	2	1 / 1
		-	4	-
		-	3	1 / 1
		-	2	2 / 1
		-	1	3 / 1
		-	-	4 / 1
Transceiver ⁽¹⁾		FR-, CAN FD-, LINpiggies,		
FlexRay comm. controller	analysis	Bosch E-Ray (FPGA)		
	startup	Bosch E-Ray (FPGA)		
FlexRay send memory		2MB		
FlexRay cluster (A+B)		1		
FlexRay trigger		1 (with FRpiggyC 1082cap)		
Ethernet ⁽²⁾	channels / transceiver supported physical layer	1 x BCM54811S		
		IEEE 802.3 (100BASE-TX/1000BASE-T) and BroadR-Reach (100 MBit)		
DoIP		1 x 100Base-TX with DoIP Activation Line		
PC interface		USB 2.0 or Ethernet (100BASE-TX, 1000BASE-T)		
Analog/digital IO functionality		on board digital outputs: 1, digital inputs: 2, digital in-/outputs: 2, analog inputs: 1		
Connectors		4 x D-SUB9 (FlexRay/CAN FD/LIN); 1 x RJ45 (Ethernet); 1 x D-SUB9 (I/O + DoIP Activation Line)		
External power supply		5 V ...36 V with startup from 6 V		
Power consumption		6 W ...7 W		
Operating systems		Windows 10 64 bit, Windows 7/8.1 (32 and 64 bit)		
Driver libraries		XL Driver Library		
Temperature range	operating:	-40...+65°C		
	storage:	-40...+85°C		
Dimensions (WxHxD)		124 x 111 x 45 mm		

⁽¹⁾: Detailed listing of all transceiver piggybacks see factsheet bus transceiver overview: www.vector.com/ds_cancabs_en

⁽²⁾: A list of use cases for the Vector Ethernet interfaces can be found on the Internet at: www.vector.com/eth_usecase