

VX1000

Scalable Measurement and Calibration Hardware for Maximum Data Transfer Rates

What is VX1000?

The VX1000 System is a scalable solution with top performance for your ECU measurement and calibration tasks. It can be used in the vehicle – both in the cabin and in the engine compartment – on test benches and in the laboratory.

Especially when developing ADAS ECUs, this allows you to control raw data captured by high-resolution radar sensors in combination with XCP data, e.g. object/tracking lists.

The system forms the interface between the ECU and a measurement and calibration tool such as CANape. For high data throughput with minimal impact on ECU run-time, data is accessed over the microcontroller-specific data trace and debug ports.

The VX1000 Base Module is connected to the PC over XCP on Ethernet, an OEM-independent ASAM standard that is widely used in the automotive industry. The VX1000 measurement hardware is connected to the ECU via a POD (Plug-On device). Depending on the available microcontroller interface, either the data trace or a copying method can be used to acquire measurement data.

Overview of Advantages

- > Powerful measurement and calibration access to internal ECU data with maximum transmission rates
- > Very small POD to connect to the ECU debug interface
- > Easy and quick integration into the ECU software
- > No impact on ECU run-time with data trace measurement method
- > Interface to numerous development tools by third-party suppliers via the standardized ASAM protocol XCP on Ethernet
- > Special functions for engine controllers such as Calibration Wake-Up and Calibration RAM Supply



High-performance measurement data processing modules with XCP on Ethernet interface

Functions

- > Very high measurement data throughput of more than 100 MByte/s for XCP data and radar raw data with the data trace measurement method and up to 3 MByte/s with the data copying method
- > Measurement of fast signal cycles (>10 µs for data trace, >40 µs for data copying method)
- > Measurement configurations with up to 100,000 signals can be processed
- > Precise generation of DAQ time stamps in the ECU
- > ECU cold start measurement (First Loop DAQ)
- > Calibration of ECU parameters without address range limitations
- > Calibration memory page switching
- > Automatic overlays when calibrating parameters in flash memory
- > Stimulation or bypassing with short latency times
- > 100/1000 Mbit/s Ethernet connection to the PC
- > Galvanically isolated power supply with wide input voltage range
- > POD power supply via the VX1000 Base Module
- > Optional: Flash programming, even for "brain-dead" ECUs
- > Optional: 1 x FlexRay and up to 5 x CAN (FD) via XL Driver Library interface for CANape/CANalyzer/CANoe and custom applications
- > PC tools for easy configuration and for software updates

Supported Microcontrollers

Infineon

- > XC2000 product line
- > TriCore TC1xxx (ED)
- > TriCore AURIX TC2xx (ED)
- > TriCore AURIX TC3xx (ED)
(DAP, DAP2, HSCT, Aurora)

NXP/ST

- > PowerPC xPC55xx/56xx/57xx/58xx
(JTAG Nexus Class 2+, Zipwire, Nexus AUX, Nexus Aurora)

Renesas

- > RH850
- > V850E2
(JTAG Nexus Class 2+, Nexus Aurora)

Texas Instruments

- > TMSx70
(RTP/DMM)



VX1135D Base Module: Measurement data throughput of more than 100 MByte/s for XCP data and radar raw data

VX1000 Base Module Variants

	Serial POD	HSSL POD	HSSL2 POD	CAN/ FlexRay	BR/ ETH
VX1060	•				
VX1132B		•		• ¹	
VX1132C			•		
VX1132H		•			
VX1132S	•			• ¹	
VX1134B		•			•
VX1134C			•		•
VX1135A	•	•		• ²	•
VX1135C			•	• ²	•
VX1135D		•	•	• ²	•
VX1135E	•			• ²	2x
VX1135F	•		•	• ²	•

¹ = FlexRay monitoring optional

² = FlexRay optional

More information: www.vector.com/VX1000