

VX1161 Multi Base Module

Compact Measurement and Calibration Hardware for Multiple ECUs

A scalable solution with top performance, the VX1000 System is predestined for your ECU measurement and calibration tasks. It forms the interface between the ECU and a measurement and calibration tool such as CANape. The VX1000 System can be used in the vehicle – both in the cabin and in the engine compartment – on test benches and in the laboratory. The VX1000 Base Module is connected to the PC via the standardized ASAM protocol XCP on Ethernet.

What is the VX1161 Multi Base Module?

Its modular and individually configurable setup makes the VX1161 Multi Base Module the ideal solution for measurement and calibration of many ECUs in parallel. Especially when developing ADAS applications, the VX1161 Multi Base Module allows you to capture raw data and XCP data from multiple high-resolution radar sensors and XCP data from ADAS fusion ECUs in a very compact setup.

The VX1161 Multi Base Module consists of the base chassis which can be populated with a combination of Interface Cards tailored to a particular measurement use case. The Base is equipped with a Power Supply Card and a Host Uplink Card providing the connection to the measurement PC. In addition, six more slots are available, which can be

populated with any mix of Network Interface Cards, Interface Cards for VX14xx/VX15xx PODs or Interface Cards for video sources.

Overview of Advantages

- > Maximum data transfer rates for high-performance measurement and calibration access to the internal data of multiple ECUs in parallel
- > Significant space and cost savings with simplified installation and wiring for measuring multiple ECUs with full VX1000 functionality
- > Enough measurement bandwidth for continually growing demands, for example in ADAS development, with 2x 10 Gbit/s Ethernet uplinks to the measurement PC.
- > Time synchronization of all cards over IEEE1588 PTP and Vector Hardware Sync over a SYNCcable
- > Delivery of customer-specific, preconfigured VX1161 Multi Base Modules with the possibility to swap out Interface Cards by the user
- > High flexibility and scalability in combining the Interface Cards
- > Sufficient performance reserves for later upgrades and extensions



VX1161 Multi Base Module – the compact measurement and calibration hardware for multiple ECUs with high measurement data throughput

Components

- > **VX1161.01A Base:** Chassis with 8 slots and active cooling
 - > **VX1161.11 Power Supply:** Automotive Power Supply Card with wide input voltage range, providing sufficient power for all slots
 - > **VX1161.22A Host Uplink:** Central distribution node with 10 Gbit/s Ethernet (RJ45) uplink to the tool PC and additional Ethernet ports for cascading or connecting other network hardware
 - > **VX1161.31A Serial:** POD Interface Card for connecting a VX154x Serial POD – corresponds to the VX1060 Serial Base Module
 - > **VX1161.32B HSSL:** POD Interface Card for connecting a VX145x HSSL POD – corresponds to the VX1134B Base Module
 - > **VX1161.32C HSSL2:** POD Interface Card for connecting a VX145x HSSL2 POD – corresponds to the VX1134C Base Module
 - > **VX1161.41A 6xCAN:** Network Interface Card providing 6x CAN FD with integrated transceivers
 - > **VX1161.41B 6xCAN 1xFR:** Network Interface Card providing 6x CAN FD and 1x FlexRay with integrated transceivers
- Additional cards are already in development.

Functions

- > The individual cards offer the same properties as their counterparts with a housing, like the VX1134 Base Module
- > 10 Gbit/s Ethernet connection to the measurement PC
- > Additional Ethernet port at 10 Gbit/s for cascading VX1161 Multi Base Modules or other hardware. May be alternatively used as a second host uplink port.

- > The hardware is designed to allow full utilization of the bandwidth of the 10 Gbit/s Ethernet ports.
- > Very high measurement data throughput of the VX1161.3x POD Interface Cards of more than 100 MByte/s each for XCP and radar raw data
- > Galvanic isolation of all interfaces from the PODs and the vehicle networks
- > PC tools for easy management of complex multi-device configurations and for software updates
- > FPGA technology allows feature upgrades which Vector provides free-of-charge over the product life cycle

Supported Microcontrollers

The VX1161.3x POD Interface Cards support the following microcontrollers:

- > Infineon TriCore TC1xxx, TC2xx, TC3xx
- > NXP/STM PowerPC xPC55xx/56xx/57xx/58xx
- > Renesas RH850, V850E2
- > Texas Instruments TMSx70

Technical Data

	VX1161
Temperature Range	-40 ... +60 °C
Dimensions (WxDxH)	342 x 256 x 95 mm
Input Voltage Range/ Power Consumption	8 to 34V, 125W max, Standby <10mA @ 12V

More information on the VX1000 Measurement and Calibration Hardware: www.vector.com/VX1000