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 a network. 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 will always be 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, POD or streaming interface cards.

Overview of Advantages

- Maximum data transfer rates for high-performance measurement and calibration access to the internal data of multiple ECUs simultaneously
- Significant space and cost savings with simplified installation and wiring for measuring multiple ECUs with full VX1000 functionality
- Enough bandwidth for continually growing demands, for example in ADAS development, with 2 x 10 Gbit/s Ethernet uplinks to the measurement PC.
- Time synchronization of all cards over IEEE 1588 PTP and Vector Hardware Sync over a SYNcable
- 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
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
- **VX1161.22B 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 with integrated transceivers for 6 x CAN FD
- **VX1161.41B 6xCAN 1xFR**: Network Interface Card with integrated transceivers for 6 x CAN FD and 1 x FlexRay
- **VX1161.51A 2xTAP TI954/TI953**: Streaming Interface Card for transparent tapping or receiving of two FPD-Link III data streams
- **VX1161.51B 4xRX TI954**: Video Interface Card for receiving 4 FPD-Link III data streams

Additional cards are 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. The VX1161.51 streaming Interface Cards handle up to 6.4 Gbit/s video, radar or other streams per channel or up to 7.5 Gbit/s per card.
> Galvanic isolation of all interfaces from the PODs and the vehicle networks
> Galvanically isolated supply of cameras with 5 V to 12 V and up to 2 W via Power over Coax
> 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

The VX1161.51 streaming interface cards support the following technologies:

- Texas Instruments FPD-LINK III transceiver
- Texas Instruments AWR24x/18x/16x/14x Radar SoCs via streaming PODs (VX1521)

Technical Data

<table>
<thead>
<tr>
<th>VX1161</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Temperature Range</td>
<td>-40 ... +60 °C</td>
</tr>
<tr>
<td>Dimensions (WxDxH)</td>
<td>342 x 256 x 95 mm</td>
</tr>
<tr>
<td>Input Voltage Range/Power Consumption</td>
<td>8 to 34V, 125W max, Standby &lt;10mA @ 12V</td>
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More information on the VX1000 Measurement and Calibration Hardware: www.vector.com/VX1000