VT System Overview

Module Overview and Accessories

Name	Description	Channels	Key Performance Characteristics
Load and Measurement Modules (+/- 40 V): **VT1004A** **VT1004A FPGA**	Measurement of ECU outputs and connection of actuators	4	• Differential inputs • Electronic load • Current carrying capacity up to 16 A (continuous) • Also available with user-programmable FPGA
Load and Measurement Modules (+/- 60 V): **VT1104**	Measurement of ECU outputs and connection of actuators	4	• Differential inputs • Electronic load • Current carrying capacity up to 16 A (continuous)
Stimulation Module: **VT2004A** **VT2004A FPGA**	Stimulation of ECU inputs and connection of sensors	4	• Differential outputs • Decade resistor • Arbitrary curve generator • Also available with user-programmable FPGA
Digital Module: VT2516A VT2516A FPGA	Connection of ECU inputs and outputs that are used in digital form	16	• Voltage and PWM measurement • Output of digital and PWM signals • Also available with user-programmable FPGA
Serial Interface Module: **VT2710**	Simulation of intelligent sensors and ECUs with serial interface	10	• Up to 4 freely configurable PSI5 and SENT channels • 2 SPI channels with 5 chip select lines each • 2 UART / RS232 / RS422 / RS485 channels • 2 I2C channels • Additional 2 LVDS channels for active probes
Piggyboard Module: **PSI5SENTpiggy**	Piggyboard module for the realisation of one PSI5 or SENT channel on the serial interface module VT2710	1	• Sensor supply with up to 25 V / 200 mA • Generation of PSI5 synchronisation pulses with freely adjustable voltage, slope und hold time • Generation of current modulated signals with free setting of low and high current levels and data rates up to 200 kBit/s • Creation of shortcuts on PSI5 or SENT channels • Simulation of various resistive or capacitive loads for the complete bus channel or single components
General-Purpose Analog I/O Modules: **VT2816** **VT2816 FPGA**	Analog inputs and outputs with signal conditioning	16	• 4 analog outputs • 12 analog measuring channels up to 60 V • 8 current measurement channels upt to 5 A • Also available with user-programmable FPGA
General-Purpose Relay Module: **VT2820**	Relays for individual wiring and use	20	• Current-carrying capacity up to 6 A per relay
Switch Matrix Module **VT2832**	Matrix module for individual switching of currents	8 columns x 4 rows	• Up to 16A / 60V per column • Current and voltage measurement per column • PWM switching up to 10 kHz and bitstream switching • 4 additional pure switch channels
General-Purpose Digital I/O Modules: **VT2848** **VT2848 FPGA**	Digital inputs and outputs with signal conditioning	48	• Processes signals up to 60 V • Generating and measuring of PWM signals • Also available with user-programmable FPGA
Real-time Module: **VT6011**	PC module for executing the real-time part of CANoe with the VT System	2 PCI Express	• Intel® Celeron® 2.0 GHz processor • PCI Express connections for VT System network modules • Passive cooling, no fan
Real-time Module: **VT6051A**	High-performance PC module for executing the real-time part of CANoe with the VT System	4 PCI Express	• Intel® Core™ i7, 2.50 GHz processor • PCI Express connections for VT System network modules • Regulated fan, requires 2 slots • Support of Extended Realtime (ERT) from the Vector Tool Platform (VTP)
Network Module: **VT6104A**	Network interface for the real-time modules VT6011 and VT6051A in the VT System	4	• Supports CAN, LIN, J1708, CAN FD, K-Line • Switchable termination resistors • Relays for line breaks and short circuits

Name	Description	Channels	Key Performance Characteristics
Network Module: **VT6204**	Identically to VT6104A	4	• Identically to VT6104A, supports additionally FlexRay
Ethernet Network Module: **VT6306**	Automotive Ethernet network interface for the real-time modules VT6011 and VT6051A in the VT System	6	• 6 Automotive Ethernet channels on specific piggy • Two 100BASE-TX/1000BASE-T channels • High precision time stamps for Ethernet frames • HW sync (1µs) with multiple bus interfaces • Media conversion between Ethernet networks • Flexible hardware-based frame filter • Multiple, configurable TAP units • Configurable layer-2 switch mode
Piggyboard Module: **100BASE-T1piggy 1101** **1000BASE-T1piggy 88Q2112**	Piggyboard module for the realization of six 100BASE-T1 rsp. 1000BASE-T1 channels on the Ethernet network module VT6306	6	• Electrical error injection and signal switching • Transceiver NXP TJA1101 rsp. Marvell 88Q21112 on all channels Only with 100BASE-T1piggy: • Adjustable signal attenuation on 3 channels • Resistive damping values of 5 Ω ... 2,555 Ω
Power Supply Module (+/- 40 V): **VT7001A**	Power connection to an ECU's power supply terminals (e.g. Terminal 15 and Terminal 30 of an ECU)	2	• Controls 2 external power supplies by RS-232 and analog voltage • Internal power supply (max. 2 A) • Current carrying capacity up to 70 A (continuous) • Current measurement (auto-ranging 100 µA ... 100 A)
Power Supply Module (+/- 60 V): **VT7101**	Power connection to an ECU's power supply terminals (e.g. terminal 15 and terminal 30 of an ECU)	2	• Controls 2 external power supplies by RS-232 and analog voltage • Internal power supply (max. 2 A) • Current carrying capacity up to 70 A (continuous) • Current measurement (auto-ranging 100 µA ... 100 A)
Rotation Sensor Module: **VT7820**	Application board for the extension module VT7900 FPGA to simulate rotational sensors	4	• Simulation of wheel speed sensors (S-, I- and V-type) • Simulation of cam- and crankshaft sensors • Number of encoder wheel teeth and gaps freely configurable • Voltage or current modulated signal • Digital levels and slew rate freely adjustable
Extension Module: **VT7900A** **VT7900A FPGA**	Extension of VT System by easy integration of application-specific electronics	—	• Platform for application-specific application board • Full integration in CANoe • Also available with user-programmable FPGA
Smart Charging Communication Module: **VT7970**	Qualcomm-based module for the test of the smart charging communication between electric vehicles and electric vehicle supply equipment	1	• Simulation of an electric vehicle (EV) or an electric vehicle supply equipment (EVSE) • PWM and PLC communication • Qualcomm PLC chip
Backplane: **VT8006A**	Backplane for communication with the VT System modules in half-width 19" housings	6 Slots	• Unused slots automatically deactivated • Multiple backplanes may be cascaded
Backplane: **VT8012A**	Backplane for communication with the VT System modules in 19" frames/housings	12 Slots	• Automatic deactivation of unused slots • Multiple backplanes may be cascaded
Power Supply Module: **VTC8920B** (available in Europe)	12 V power supply as slide-in module for supplying the VT System	2 Connections	• 200 W output power
Desktop Housing 42 HP	Desktop housing in half 19" width	6 Slots	• For installing the VT8006A backplane • Additional space for circulation of cooling air
Desktop Housing 84 HP	Desktop housing in full 19" width	12 Slots	• For installing the VT8012A backplane • Additional space for circulation of cooling air
Subrack 84 HP	Subrack in full 19" width for mounting in 19" racks	12 Slots	• For installing the VT8012A backplane
Desktop Power Supply	12 V desktop power supply for supplying the VT System	1 Connection	• 150 W output power