

ValueCAN 4-2

Low-Cost, High-Value Vehicle Network Interface for CAN FD

Superior Engineering

The ValueCAN 4 is the next-generation, high-quality tool family for CAN FD and CAN 2.0. It builds on the field-tested ValueCAN 3, adding software-controlled CAN termination, a larger buffer, lower USB latency, cybersecurity support and standalone operation via USB charger. Type-A and Type-C USB options are available, and the device has certified drivers for Windows 7, 8, 10 and Vista.

The ValueCAN 4 is fully isolated from the PC, and the isolation layer is powered via USB, eliminating the need for external power for the CAN transceiver. The isolation feature, which is not common on low cost interfaces, resolves issues with grounding or noise affecting the PC. The ValueCAN 4 is electrically hardened to survive abusive environments, including reverse battery and electrical transients. The device pinout is printed on the housing to make wiring easy, and the device is backed by a one-year warranty.

High Performance

The ValueCAN 4-2 has been tested and verified to support two high-bandwidth CAN FD networks. This includes 100% utilization at 10 Mb/s data rates on both channels.

High-Level Protocol Support

The ValueCAN 4-2 is compatible with J1939, OBD2 on CAN, Keyword Protocol over CAN, UDS diagnostics, CCP/XCP, DeviceNet and CANOpen. Cables are available for J1939 and diagnostics on CAN. Hardware-implemented ISO15765 allows super fast CAN FD ECU flashing.



Turn-Key Software Support

The ValueCAN 4-2 includes Vehicle Spy Trial Edition, a powerful vehicle bus analyzer for monitoring messages and configuring baud rates. Professional users can upgrade to the full version to filter traffic, decode message data, build scripts, simulate nodes, create GUIs to control, log and view data, and build graphical displays of data.

Real Time Acceleration and Standalone Mode Enable High Speed Flashing, Gateway, and ECU simulation

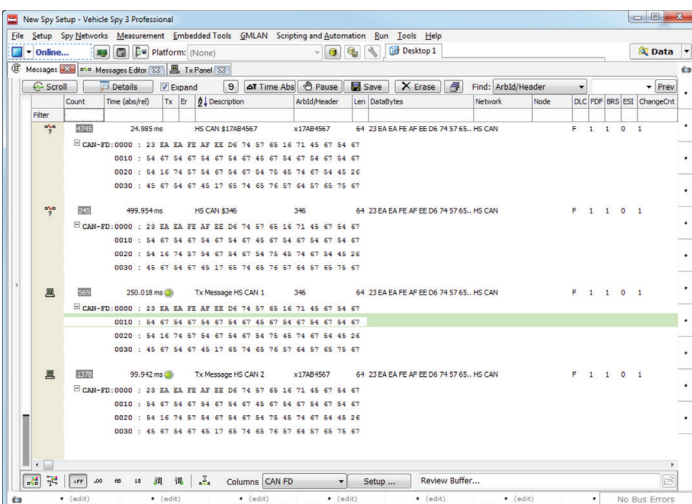
The ValueCAN 4-2 can load real-time Function Block scripts and C code created with Vehicle Spy Professional, which execute in real time at microsecond resolution. Scripts can be controlled and monitored with a PC or operate standalone.

Intrepid Security Module (ISM) for Cybersecurity

ISM allows an Embedded CCIF(C Code Interface), ie. you can have a CCIF project running in Standalone mode with the Coremini Feature. This will give access to the Vehicle Network data and can be processed with the embedded DLL. Among many other use cases, Encryption, Authentication of the Vehicle Network Data can be accomplished using this feature.

CAN Bus Termination Test

You can use the ValueCAN 4-2 with Vehicle Spy to check the termination of an attached CAN network. This is done by generating a CAN error frame and measuring how much time the bus takes to recover from the error, with microsecond-level resolution.



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Software Support: Create Your Application Using the Included Intrepid DLL API, J2534 API, or RP1210 API

For those who wish to write their own applications, the ValueCAN4 includes a DLL and helpful examples for Python, Visual C++, C++ Builder, LabWindows CVI, LabVIEW, Java, MATLAB, Delphi, Excel, and Visual Basic. For more information on the DLL, please see the neoVI DLL documentation (the ValueCAN4 uses the neoVI DLL).

General Specifications:

- 32-bit on-board processor
- USB OS support: Windows 7 / 8 / 10 / Vista and Linux
- Fully USB-powered with 3 kV USB isolation
- Industry-standard 9-pin D-sub connector pinout
- Integrated 1 meter USB cable with Type-A and Type-C options
- LEDs indicate transmission or reception of CAN traffic as well as error states for each channel
- LED-illuminated strain relief on USB cable for USB status
- J2534 compliant for CAN and ISO15765
- RP1210 compliant for CAN and J1939
- Field-upgradeable flash firmware
- Vehicle Spy Trial setup tool for baud rates
- CE compliant
- One-year limited warranty
- Dimensions: 2.52" x 1.60" x 0.82" (6.4 x 4.1 x 2.1 cm)
- Weight: 0.20 lb (91 g)

Network Specifications – CAN

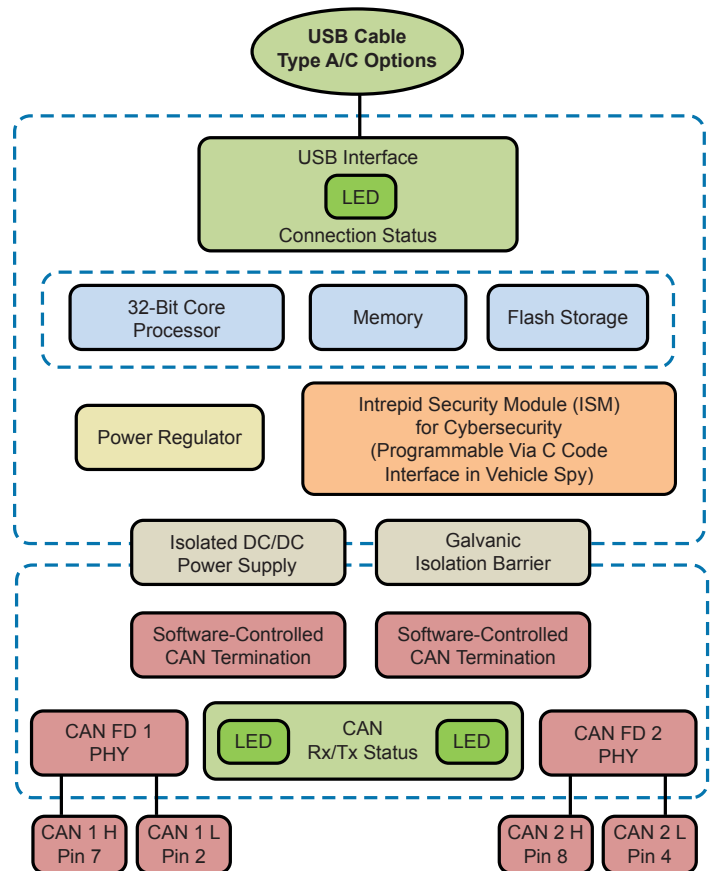
- 2x CAN FD / CAN 2.0 channels (Bosch MCAN core) with MCP2562FD PHY
- Compatible with Device Net and CANopen
- Double-buffered CAN transmission
- Selectable CAN termination
- CCP protocol hardware acceleration
- Listen-only mode support
- Single Wire High Speed Mode, Test Tool Resistor, and High Voltage Wakeup support
- Termination check feature
- Super BitSmash feature allows FPGA-controlled CAN error and waveform generation

Timing Specifications

- 64-bit timestamping to accuracy of 25 ns with no overflow
- Simultaneous operation on both CAN networks
- Transmit message double-buffering on all networks, allowing back-to-back message transmission

Intrepid Security Module (ISM) for Cybersecurity

- Open real-time hardware cryptoprocessor, hardware real time AES, SHA, HMAC & true RNG, software RSA, 96-bit serial number, RTC, NVRAM, SSL Library
- Authentication processor: ECC, Elliptic Curve Digital Signature Algorithm, serial number, true RNG, Die Shield, Key-store



9-Pin Connector Pinout

Pin	Description	Pin	Description
1	Trigger Pin	6	GND
2	CAN 1 Low	7	CAN 1 High
3	GND	8	CAN 2 High
4	CAN 2 Low	9	-
5	GND (Shield)		

Ordering Information

Part Number	Description
VCAN4-2A	ValueCAN 4-2 (Type-A USB)
VCAN4-2C	ValueCAN 4-2 (Type-C USB)

Specifications subject to change; please contact Intrepid for the latest information. All trademarks are the property of their respective owners.

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