

# ValueCAN 4-1 FD

## Low-Cost High Performance CAN FD - USB Interface with IP65 Aluminum Enclosure

### Superior Engineering

The ValueCAN 4-1 FD is the next-generation, low-cost, high-performance tool for CAN FD, backward compatible with CAN 2.0. The ValueCAN 4-1 FD comes with all the field-tested features of the ValueCAN 3, plus much more, including software-controlled CAN termination, increased buffer size, improved USB latency performance, and standalone operating capability using a USB charger.

The ValueCAN 4-1 FD supports 2x CAN or CAN FD channels, has USB Type A and Type C options available, and certified drivers for Windows 7, 8, 8.1, 10, and 11.

The ValueCAN 4-1 FD is fully isolated from the PC, and its isolation layer is self-powered from USB, which eliminates the need for external power for the CAN transceiver. The ValueCAN 4-1's isolation, a feature not common on low-cost interfaces, eliminates issues with grounding or noise affecting your PC and its communications. The ValueCAN 4-1 FD is also electrically hardened to survive an abusive environment, including reverse battery voltage and electrical transients. To make wiring easy, the device pinout is printed clearly on the housing. The ValueCAN 4-1 FD is also backed by a one-year warranty.

ValueCAN 4-1 FD can be used in a multitude of ways. Common uses include high speed flashing, ECU simulation, dealership CAN FD dongle, standalone mode for automating tests, and many more.

### Superior Engineering

Valuecan 4-1 FD is part of Intrepid's ValueCAN 4 series - a series designed to be a high quality solution for CAN FD and backward compatible with CAN 2.0. Features include software controlled CAN termination, increased buffer size, improved USB latency performance, and standalone operating capability using a 5V USB power supply. USB Type A and Type C options are available. The ValueCAN 4 FD series has certified drivers for Windows 7, 8, 8.1, 10 and 11.

### High Performance

The ValueCAN 4-1 FD has been tested and verified to support one high-bandwidth CAN FD network. This includes 100% utilization at 8 Mb/s data rates on both channels.



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

The ValueCAN 4-1 FD 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.

### High-Level Protocol Support

The ValueCAN 4-1 FD 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

Vehicle Spy is a powerful vehicle bus analyzer for monitoring messages and configuring baud rates. The professional user will want to purchase the full version of Vehicle Spy, which lets you filter traffic, decode message data, build scripts, and simulate other nodes. You can also build GUIs to control, log, view, and build graphical displays of your data.

### Intrepid Security Module (ISM) for Cybersecurity

ISM runs an embedded code with the support of Coremini Standalone mode feature. ISM can be used for encryption and authentication of vehicle network data as part of the cybersecurity. Among other use cases, ISM can support real-time processing of vehicle network data and CCP secure access.



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## CAN Bus Termination Test

The ValueCAN 4-2 can be used 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.

## Software Support: Create Your Application Using the Included Intrepid DLL API, J2534 API, RP1210 API, libicsneo Open Source API or SocketCAN kernel

For those who wish to write their own applications, the ValueCAN 4 includes a DLL and helpful examples for Python, Visual C++ and Visual Basic.

For more information on the DLL, please see the neoVI DLL documentation (the ValueCAN4 uses the neoVI DLL). For more information on libicsneo and SocketCAN kernel visit [www.github.com/intrepidcs](http://www.github.com/intrepidcs)

## General Specifications:

- USB OS support: Windows 7 / 8 / 8.1 / 10 / 11 and Linux
- Fully USB-powered with electrical 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 • J2534 compliant for CAN and ISO15765
- RP1210 compliant for CAN and J1939
- Field-upgradeable flash firmware
- CE compliant
- One-year limited warranty
- Dimensions: 6.4 × 4.1 × 2.1 cm (2.52" × 1.60" × 0.82")
- Weight: 91 g (0.20 lb)

## Network Specifications – CAN

- 1x CAN FD / CAN 2.0 channels (Bosch MCAN core) with MCP MCP2562FD PHY
- Compatible with Device Net and CANopen
- Double-buffered CAN transmission

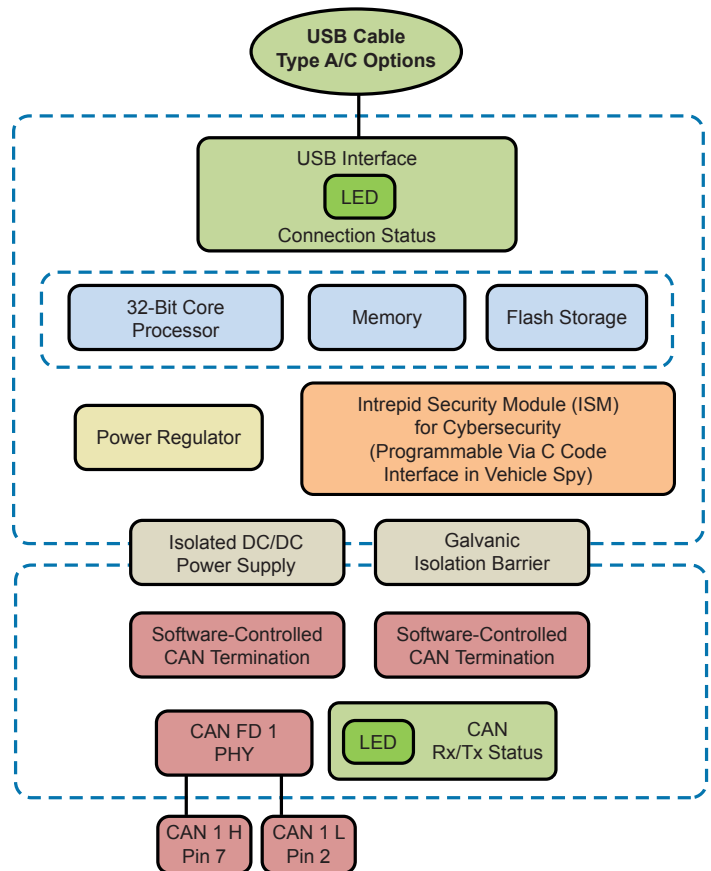
## 9-Pin Connector Pinout

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

- Software selectable CAN termination
- CCP protocol hardware acceleration
- Listen-only mode support
- Termination check feature
- Error frame transmit support

## 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



## Ordering Information

Part Number	Description
VCAN4-1A FD	ValueCAN 4-1 FD (Type-A USB)
VCAN4-1C FD	ValueCAN 4-1 FD (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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