# ValueCAN 4-2EL

## The DoIP Standard - CAN FD Single Cable Interface with IP65 Aluminum Enclosure

**Superior Engineering**

The ValueCAN 4-2EL is part of the ValueCAN 4 series, a family of high-quality tools for CAN FD and CAN 2.0.

ValueCAN 4-2EL builds on the success of field-tested ValueCAN 3, with additional advancements like software-controlled CAN termination, lower USB latency, cybersecurity support, standalone operation via 5V USB power supply. The ValueCAN 4-2EL is fully isolated from the PC. The isolation feature, which is not common on low cost interfaces, resolves issues with grounding or noise affecting the PC. The ValueCAN 4-2EL is electrically hardened to survive abusive environments, including reverse battery and electrical transients.

ValueCAN 4-2EL has a strong aluminum case with rubber boot and surround LEDs indicating status of the device and its networks. The LED configuration can also be customized. ValueCAN 4-2EL's integrated cable design makes it an easy to carry tool with no parts to misplace. The device pinout is printed on the housing to make wiring easy. ValueCAN 4-2EL is backed by a one-year warranty.

**High Performance**

The ValueCAN 4-2EL has been tested and verified to support two high-bandwidth CAN FD networks, 1 LIN and 1 Ethernet. This includes 100% utilization at 8 Mb/s data rates on both CAN FD channels.

**DoIP Standard**

The ValueCAN 4-2EL is the ultimate DoIP standard. The activation line is included on the connector. When combined with Vehicle Spy 3 Exe version, the ValueCAN 4-2EL is a great deal for DoIP. Further more, the ValueCAN 4-2EL supports the Intrepid DLL API, J2534 API, or RP1210 API enabling users to create their own applications.

**High-Level Protocol Support**

The ValueCAN 4-2EL 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 4-2EL can be used with Vehicle Spy software, a powerful vehicle bus analyzer for monitoring



DB26          Multi          OBD2

messages and configuring baud rates. Vehicle Spy's other features include filtering traffic, decoding message data, building scripts, simulating nodes, creating GUIs to control, log and view data, and building graphical displays of data. Real Time Acceleration and Standalone Mode enable High Speed Flashing, Gateway, and ECU simulation.

**Standalone Capability**

The ValueCAN 4-2EL 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 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.

# ValueCAN 4-2EL

**CAN Bus Termination Test**

The ValueCAN 4-2EL 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, or RP1210 API**

For those who wish to write their own applications, 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 (ValueCAN 4 uses the neoVI DLL).

**Network Interfaces and Features**

- 2 CAN FD channel backward compatible with CAN 2.0
- ISO11898 dual wire CAN Physical Layer (MCP2562FD) compatible with DeviceNet and CANOpen
- Both Dual Wire CAN channels have NON-ISO CAN FD and ISO CAN FD support.
- CAN FD baud rates supported up to 8Mbps
- 1 LIN channel also configurable for K-Line.
- 1 DoIP / XCP / Automotive Ethernet port 10/100 Ethernet PHY with low power mode
- Compatible with 100BASE-T1/BroadR-Reach® with RAD-Moon Ethernet converter accessory
- Software controlled DoIP activation line
- Vehicle Spy Trial Setup Tool for baud rates
- Software-programmable CAN termination resistance.
- Real-time clock for 64 bit time stamping to an accuracy of 25 nanoseconds.

**Power and Performance**

- Fully USB powered
- Field-upgradeable firmware
- Improved USB latency
- Complete USB powered device

**PC Interface**

- USB operating system support: Windows 7, 8, 8.1,10 and Linux (Linux coming soon). High-speed isolated
- Electrically isolated USB connection protects PC from potential damage

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

**Construction, Controls and Cabling**

- Compact design: 102 x 45 x 31 mm (4" x 1.75" x 1.2")
- Light weight: less than 320g (0.7lb)
- Solid anodized aluminum case
- Thick rubber boot for shock protection
- Integrated 1 meter USB cable with USB type A and C options
- Integrated cable-end ruggedized metal connector choice between DB26(1m), OBD2(1.5m), Multi(1m)
- Customization of pinouts available
- CAN/CAN FD, 1 LIN/K-Line, 1 Ethernet/DoIP Channel status LEDs
- USB status LEDs indicating status of device
- Ability to control CAN/CAN FD termination resistance
- Operating temperature range: -40°C to +85°C

**Advanced Features**

- Device control by external software using three open APIs: neoVI DLL, SAE J2534, and TMC RP1210 A/B.
- J2534 compliant for CAN and ISO15765
- RP1210 compliant for CAN and J1939
- CCP protocol hardware acceleration
- Supports listen-only operations
- Double buffered CAN transmission
- Standalone operating capability

**Certifications:**

- CE compliant

**Warranty**

- One year limited warranty

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## Ordering Information

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| VCAN4-2ELA-MULTI | ValueCAN 4 with USB Type A, RJ45, and DB9 Interfaces | VCAN4-2ELC-MULTI | ValueCAN 4 with USB Type C, OBDII, DB9 and DB25 interface |
| VCAN4-2ELA-DB26 | ValueCAN 4 with USB Type A, RJ45, and DB26HD Interfaces | VCAN4-2ELC-DB26 | ValueCAN 4 with USB Type C, RJ45, and DB26HD Interfaces |
| VCAN4-2ELA-OBD | ValueCAN 4 with USB Type A, RJ45, and OBD Interfaces | VCAN4-2ELC-OBD | ValueCAN 4 with USB Type C, RJ45, and OBD Interfaces |