Ixxat®
BY HMS NETWORKS

USB-to-CAN V2: professional diagnostics for leisure vehicles

Solution: Customized USB-to-CAN adapter for diagnosing leisure vehicles in repair shops

Country: Canada

Sector: Leisure vehicles

CAN data analysis for repair shops
USB-to-CAN V2 adapters allow a look inside jet skis, snowmobiles and quads

Background

Like any other motor vehicles, leisure vehicles like jet skis, quads and snowmobiles also regularly undergo maintenance and repairs in specialized shops around the world. Since the internal communication in these vehicles is based on the CAN standard, manufacturers need to offer their customers a practical interface between electronic components and PC-based diagnostic software.

The challenge:
Many functions, one system

Reliable diagnostic hardware and software for finding and quickly rectifying faults is an essential fixture in any professional repair shop. In addition to the readout and deletion of error data, software capabilities also need to include additional functionality such as resetting service intervals, real-time engine monitoring, calibration of speed sensors, and resetting throttle valve position sensors. It is important for the software to be compatible with only one hardware adapter type to ensure that the hardware-software combination works reliably. If third-party adapters are used, it is impossible to guarantee full functionality for all applications.

The solution:
One diagnostic kit for all cases

A leading manufacturer of leisure vehicles overcame this challenge by developing a complete diagnostic kit for both its company-owned repair shops and many partner shops worldwide. The kit consists of a USB-to-CAN V2 compact adapter as the hardware interface, compatible cables, and diagnostic software. The USB-to-CAN adapter was specially modified to meet the customer's requirements and was equipped with firmware that is only compatible with the company's diagnostic software.

CUSTOMER BENEFITS

✓ Worldwide access to engine data for maintenance and diagnostics

✓ Easy installation and start-up

✓ Reduced costs thanks to optimized processes
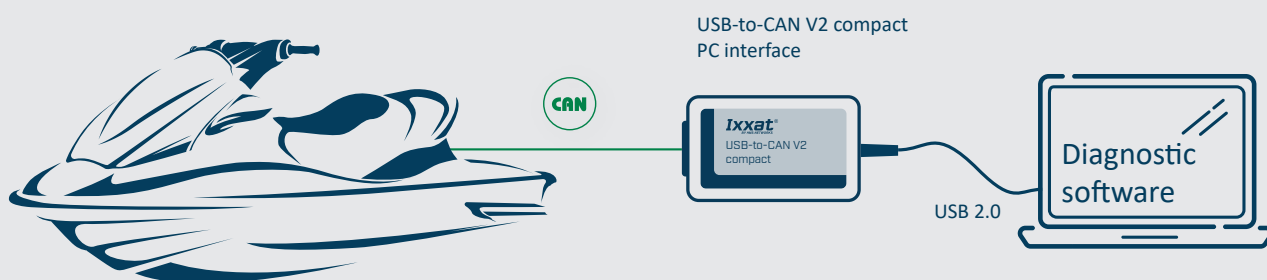
✓ Rugged design ideal for use in the field

It enables seamless communication between the manufacturer's diagnostic software and the CAN bus systems in the vehicles. It establishes a direct connection to key vehicle components through a special interface.

USB-to-CAN V2 compact: the rugged plug-and-play champion

The Ixxat USB-to-CAN V2 adapters are probably the simplest and most reliable way to connect CAN networks with PC systems. As a customized version of the "compact" version, the CAN converter has a 9-pin D-sub connector and a 32-bit microcontroller with sufficient performance for the CAN high-speed channel (CAN 2.0 A/B). The technical features of the adapter's compact desktop version (80 × 50 × 22 mm) include a high transfer rate (CAN baud rates from 10 to 1000 kbit/s)

and a rugged design using durable ABS plastic, making it ideal for use in dusty, dirty workshop environments. The USB 2.0 cable integrated in the housing provides further sturdiness for workshop settings. The customer was not only pleased by the hardware, but the extensive range of software was also convincing. Available APIs for C, C++, .NET and Java make it easy to connect the adapters with existing software environments. Additional support comes from multisystem compatibility with Windows, Linux, or real-time OS thanks to multicompatible VCI, ECI, and SocketCAN driver packages.

USB-to-CAN V2 compact
PC interface

Ixxat®
USB-to-CAN V2
compact

CAN

USB 2.0

Diagnostic software

Connecting jet ski undergoing testing (using USB-to-CAN V2 compact) to workshop notebook with diagnostics application.

For more information, see
https://www.hms-networks.com/usb-to-can

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