

Solution: Ixxat USB-to-CAN V2 and USB-to-CAN FD
Country: United Kingdom
Company: Voltsport
Summary: Ixxat provides an efficient interface for data capture from electric vehicles' CAN systems.

The effects

- Ixxat interface prove best for collecting electric drive data
- Constantly logging motor speed settings create a record of the drive's performance
- Downloading of operating data via Ixxat allows analysis of actual performance



"Originally we used a number of different ways to collect data from our drive systems, but once we started using Ixxat we quickly came to see its advantages."

Phil Eagleton
Managing Director
Voltsport

Efficient data collection accelerates electric vehicle development

With interest in the development of electric vehicles at an all-time high, one company has identified the Ixxat USB-to-CAN V2 interface as perhaps the best way to download operational data for analysis.

About Voltsport

In fact Voltsport started out supplying drives to the marine market, mainly to the racing fraternity who preferred electric propulsion to heavier, slower diesel engines. However it has grown its land-based business alongside the growth of electric vehicle developments, and this now represents the majority of its work.

Setting up electric drives for vehicle applications can be very challenging, because of the wide range of performance expected of them, as Phil explains: "Motors driving say industrial plant tend to work in a stable environment and are required to perform only a small number of different duty cycles – which are predictable and therefore easily modelled. However a vehicle drive will have to run equally well on the coldest winter morning and the hottest day of the year; be able to go uphill and down; run under a wide range of loads, operate comfortably at a number of different set speeds and offer a wide range of acceleration and deceleration profiles."





The Ixxat USB-to-CAN V2 adaptors are available in various versions including FD and a variety of connectors.

The Application

Electric vehicles' motor controllers work hard in real time to give the smooth driving required and there is a lot of data to be analysed during commissioning. This data is broadcast at high rates from the controllers and stored for processing on the host PC. After performance analysis, we adjust tuning of settings to improve performance. Visualising data in this way really helps the customer understand their vehicle.

"We started to use Ixxat because it was the preferred solution of one of our motor suppliers, Sevcon," recalls Phil Eagleton, Managing Director of Voltspport in the North East of England. "Originally we used a number of different ways to collect data from our drive systems, but we quickly came to see the advantages of Ixxat's USB-to-CAN interfaces".

Ixxat PC CAN Interfaces

The large Ixxat range of CAN PC interfaces enable applications to access in-vehicle CAN networks easily. They are available for PC connection via PCIe, PCIe Mini, PCIe 104, USB, Ethernet or even Bluetooth. Many interfaces are modularly designed and can be equipped with up to four CAN high-speed channels. They can also be used with CAN low-speed and LIN channels.

The interfaces are available in low-cost passive or active versions with powerful on-board controllers. Active

interfaces can be used in applications with high demands on data pre-processing, such as high-precision time stamping or active filtering of messages on the interface.

They can also connect directly with Ixxat analysis tools, and with configuration software from a wide variety of equipment manufacturers.

More challenges to come

Voltspport works with a wide range of developers, including those making industrial and commercial vehicles such as fork lift trucks, delivery vans and passenger buses. It also supplies to research organisations, hobbyists and motor sport teams.

"We are in the record books with two electric vehicles," says Phil. 73.9 mph for a full electric ice cream van, complete with chimes and ice cream maker. Jason Liversedge also claimed his target, setting a wheelchair record at nearly 67mph! Final throttle adjustments, made at the start line (via Ixxat of course) converted 55 mph practice runs into the record. We have more record plans for 2021, great to keep engineers motivated!

"While projects such as these may seem a bit esoteric, they do generate data sets and performance analyses that can be very useful in wider research and development projects."

Learn more on www.ixxat.com - www.voltspport.co.uk

Ixxat offers multiple solutions for Automotive applications. CAN, CAN FD, FlexRay, LIN and SAE J1939 products are used in the development of new automotive components as well as in test rigs for component and system tests. They can be used in residual bus simulation, gateway solutions, I/O modules, protocol software and as development platforms and PC interfaces. In addition to technology, Ixxat also offers OEM solutions and customised hardware and software development.