

Customer story

Parker Hannifin

Unique built-in control system for large work machines

The release of Parker Hannifin’s electronic control system IQAN came close to creating a revolution in the market for large work machines.

Parker’s IQAN combines extremely robust hardware with intelligent, user-friendly and flexible computer controls. The electronic control system’s simplicity creates new possibilities for enhancing the competitiveness of machines by improving functionality without increasing costs. To accomplish this, the time-consuming programming that is used to require expensive consultancy assistance was simply built directly into the system, allowing the manufacturer to build functions, fine-tune values and develop prototypes with the help of the software. What once took months can now be completed in just a few days, at a fraction of the cost, with better results.

A Unique Concept

Parker Hannifin’s IQAN is especially unique due its user-friendly and flexible software control functionality, making it possible to develop better machines at a significantly lower cost, and faster than ever before.

One aspect of IQAN’s usability lies in the possibility to simply add or modify functions in both the development phase and after the machine has been sold. A laptop computer and the master module in the machine is all that is required, without the need for any programming skills.

“Two identically equipped machines can be made to perform very differently by making subtle adjustments to the software,” explained Knut Leiufrud, Senior Engineer at Parker Hannifin-MCD in Mólnlycke, Sweden. MCD supplies Hannifin’s customers worldwide with security-critical control systems for hydraulic work machines.

Customers can choose how to configure the IQAN system. This customization offers great advantages to Hannifin’s customers. With the IQAN system in place it is easy to adapt a machine for changing work tasks or market requirements.

“Two identically equipped machines can be made to perform very differently by making subtle adjustments to the software. It all depends on the way you choose to configure the IQAN system.”

Knut Leiufrud, Parker Hannifin-MCD

Safer Machines

Any breakdown of these “monster” machines can cause major consequences. Imagine a 40-ton container full of china. If a loader drops it, everything inside will be smashed, not to mention anything or anyone standing in its



way. Safety is one of the reasons why an electronic control system based on real-time information is preferred. IQAN makes it economically viable to build in more safety, precision and customized controls.

Powerful Tools

One of the unique advantages of IQAN is its' powerful tools for diagnostics and simulation, that provide effective support during both the development process and after the machine has been delivered. Computer simulation also makes it easier to obtain characteristics that suit the machine's purpose. Automatic error logging completes the picture, making it simple to clear the system before it is released to the end customer.

In addition, a built-in warning system alerts the operator in plain text on the master module's display if any values start to become abnormal. This means that "errors" can be dealt with before they occur and cause an expensive breakdown.

The Differences Are Crucial

IQAN is an electronic control system unlike any another. It differs from any that have existed previously in that all control functions in one machine can

be collected in one software-based system. This enables new possibilities where various parameters can be freely combined. The functions are developed with the help of a Windows-compatible PC, via a self-instructional user interface that gives complete control and flexibility without the need for higher-level programming skills.

Fruitful Partnership

Since Parker Hannifin started to develop the IQAN system at the end of the 90s they have used OSE™ Epsilon as a platform. "OSE is as good as it gets: easy, fast and above all, safe." said Leiulfstrud. "Another feature of the partnership is the excellent support we get from Enea's engineers. They know what they're doing. This is critical to our customers, who benefit from fast and safe support from us."

Continued Development

Hannifin has recently released a new version of IQAN, based on TriCore processors. The new version is tailor-made for large applications for the mobile sector. Hannifin has used OSE Epsilon for the TriCore platform, and Enea has helped to adapt Hannifin's applications.

About Parker Hannifin

With a turnover of almost 8 billion USD, Parker Hannifin is a world-leading manufacturer of products and systems for process technology and related control technology, supplying precision-made solutions to many different commercial, mobile, industrial and space-related markets. The company has over 55,000 employees in 46 countries worldwide.

Parker Hannifin-MCD (Mobile Control Division) in Mölnlycke, Sweden is a separate business unit that supplies the entire Parker organization all over the world with electronic control systems for mobile hydraulic applications.

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