Ship equipment in construction machines

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The PowerKey Pro (PKP), a digital keypad designed and developed by Blink Marine, is debuting in the market for agricultural and construction machines. The keypad was originally developed for the nautical sector. We met with Blink Marine's CEO Riccardo Arienti, who oversaw the move from the nautical sector into general machinery.

Riccardo Arienti
CEO
Blink Marine

Figure 1: CAN, CANopen, J1939, Isobus, and other protocols are available with all PKP modules

Q *A crane is significantly different from a motorboat. Can you point out anything they have in common?*

A Well, they both come from areas where product quality is a determining factor. When we first started to show the PKP to important companies in the automotive sector, we realized that most of their requests were defined in terms of robustness, in other words resistance to water, dust, atmospheric agents, UV rays, and things like that. That was a good sign right from the start. We said to ourselves: If this is what people are looking for, then our product will be a success.

It's an area where the PKP excels. It was designed for installation on an open boat bridge, therefore subjected not only to rain, sun, and UV rays, but to the devastating effects of saltwater and sea spray 365 days a year. I don't know if you've ever seen what these kinds of elements can do to switches or certain pushbuttons in just a year's time. In any case, it's hard to think of conditions that are a tougher test for the resistance of an electronic device. When it comes to robustness, even the IP67 certificate isn't necessarily the last word.

Q *What does IP67 not cover?*

A The IP67 certificate covers resistance to the infiltration of water and solid bodies – but the PKP also possesses other characteristics that are at least as important, like the fact that it can work for a long time even in extreme temperatures (for example 24 hours at -40 °C or +85 °C) and is resistant to chemical agents.

Q *What other aspects were people you spoke to interested in?*

A While the first question was always about robustness, I'd have to say the second question was ▷

almost always about versatility. That is an area in which Blink Marine made ample experience while working in the nautical sector. In the nautical sector, you often have to deal with extremely specialized production realities, where people create complex, expensive machinery with no more than a handful of display products built per year. For these kinds of companies, we offer a keypad that can be transformed into a number of variations.

Q How is that possible?

A When we started working with our American partners at Digital Switching Systems, studying the product, we wondered if there wasn't some way of fixing a problem that our clients were bringing up all the time: When somebody builds a boat, they are usually able to "tailor fit" the final product to a range of client requests. This can often present a problem for purchasing keypads, since these custom requests are connected with a very small range of products, and often they were forced to purchase more keypads than they really needed just so that they could get the product they wanted on the boat they were building. To make matters worse, any request that fell outside the "standard" implied extra costs (for the client) and extra time (for us), both of which almost always appeared out of proportion with what were often minor modifications. With the PKP, we wanted to put all these issues behind us. That's why we created a system with removable inserts that make it possible to substitute any single button at any time. This way there is no single standard: the configuration of each individual keypad can be changed at any time without having to substitute the entire product. We already have more than 250 different inserts available, and we can create additional, new inserts at cost.

Q You still have the issue of minimum order quantities though.

A We made a daring decision for minimum order quantities too: there is no minimum order quantity for the PKP. We'll even accept an order for a single piece. Given the efforts we put into reaching out to clients who need top quality even for a small number of pieces, it would have been a contradiction in terms to do anything else.

Q What were the most difficult technological challenges you had to face?

A We had to adapt our keypad to the most common standards used for commercial vehicles. The first were the J1939 and NMEA2000 protocols, the most commonly used in the US. After that we had to handle requests from European producers and installers, extending the range to include CANopen protocols.

Q What else is in store for Blink Marine?

A We will promote our wired remote control for trucks in November 2014. It is suitable for using the tilt function, ECAS-, EDS- or ELM Systems and so on. We are also adding different LED light options. Last but not least, we are developing several products that will join our keypads: user interface models, as well as power management solutions for electric loads. Our aim is to make it possible for clients to rely on Blink not only for keypads, but for their entire on-board systems as well. ◀