IXXAT®

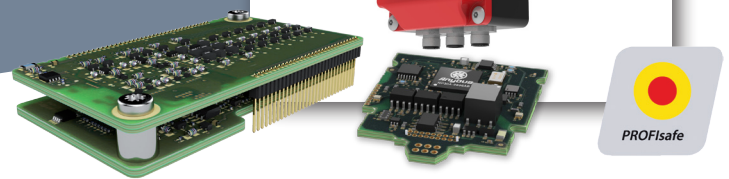## CASE STUDY: SAFETY INTERLOCKS

Solution:	Integrated safety communication
Country:	U.K.
Company:	Fortress Interlocks Ltd.
Summary:	IXXAT Safe T100 and Anybus CompactCom are used to enable safety interlock systems to communicate with safety networks.

The effects

✔ Fortress Interlocks can offer products which can communicate on PROFINET/PROFIsafe.

✔ Quick TÜV-certification since the HMS solution is pre-certified.

✔ Fast time-to-market.

"The TÜV pre-certification has certainly been a big help for us."

Rob Johnson,
Senior Electronics Engineer,
Fortress Interlocks

Easy PROFIsafe integration for Fortress Interlocks

How Fortress Interlocks integrated functional safety communication into their amGardpro series by using industrial communication solutions from HMS.

UK-based Fortress Interlocks manufacture premium safety interlock systems for industrial applications. These interlocks are used to help prevent a machine from harming its operator or damaging itself. The interlocks stop the machine whenever certain states occur such as the opening of a door or the push of a button.

Fortress Interlock's customers come from many lines of business such as power generation, steel making, automotive manufacturing, food and beverage processing, materials recycling and construction. With such a wide customer base, there is also a wide variety of demands for safety solutions – from purely mechanical door locks and trapped-key interlocks to advanced systems which need to communicate with industrial safety networks.

Fortress Interlocks' products are therefore very modular allowing the customer to design a personalized safety solution. In fact, the customer can do so right on their website where they can use a product configurator to put together different components into a fully customized solution.

Increased demand for communication with safety networks

Lately, Fortress Interlocks has seen an increasing demand for interlock solutions which are compatible with PROFIsafe – the safety standard used within PROFINET which is the preferred choice of many car manufacturers, especially in Germany.

"We've seen that the interest in integrated safety networks such as PROFIsafe, CIP safety and FSoE has been growing over the past few years," says Rob Johnson, Senior Electronics Engineer at Fortress Interlocks. "We wanted to be able to offer a PROFINET solution relatively quickly which is why we turned to HMS. We knew that they had an integrated safety solution for PROFINET and PROFIsafe in place, and their flexibility fitted well with

our modular approach. Also, we knew that they had solutions for CIP-safety and FSOE in the roadmap."

How it works

Fortress Interlocks decided to implement the IXXAT Safe T100 from HMS – an integrated safety module which controls safe I/O signals. The IXXAT Safe T100 works together with the Anybus CompactCom communication module, also from HMS. The Anybus CompactCom is used to handle the unsafe network communication while safe I/O signals pass through the CompactCom (using the black channel principle) to the IXXAT Safe T100.
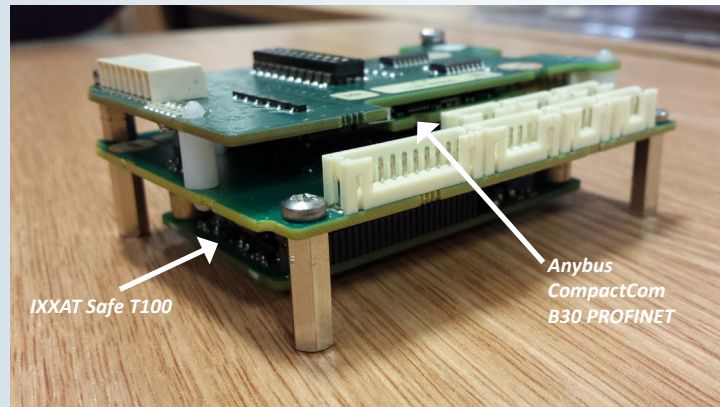
"The amGardpro solutions with PROFINET look exactly the same as our regular hardwired solutions, except for the fact that you have a PROFINET interface. This makes it very easy for the customer to simply plug in and use the solution," says Rob Johnson.

IXXAT Safe T100

Anybus CompactCom B30 PROFINET

What safety looks like. *The IXXAT Safe T100 implements the PROFIsafe layer and the safe control of three dual-channel inputs, as well as one dual-channel output. The Anybus CompactCom handles the unsafe communication and routes the safety communication to the IXXAT T100 via the black channel.*

PROFIsafe

Saving time with a pre-certified solution

Developing a safety solution can be a time-consuming process since the certification requirements are rigorous, but with the Anybus CompactCom and IXXAT SafeT100, Fortress Interlocks could get a solution in place relatively quickly. "The TÜV pre-certification has certainly been a big help for us," says Rob Johnson. "With the template material available from HMS, we could easily create the document required for the TÜV certification and did not have to go through the whole process from scratch."

The results

The cooperation with HMS has allowed Fortress Interlocks to move into a new technical area quickly with a lower capital investment. With the capability to offer safe communication with PROFINET and other industrial networks, Fortress Interlocks now has a competitive edge on the market.

After implementing the solution, Rob Johnson has a couple of tips for users wanting to implement functional safety: "Since the solution from HMS is modular, you can do things incrementally – you can start with implementing PROFINET and then add safety functionality later on. Also, make sure to use the support you get from HMS. For example they have detailed safety manuals which are very useful."

As Fortress Interlocks' amGardpro series is being equipped with safe I/O communication, Rob Johnson can look back on a successful implementation project. "The HMS team has been very helpful when integrating safety network communication into our solutions. We can focus on building best-in-class interlocks, while HMS products handle the communication with industrial networks."
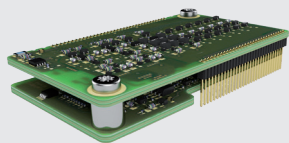
Learn more on www.ixxat.com or www.fortressinterlocks.com

Under the IXXAT brand, HMS Industrial Networks offers communication solutions for machines, safety and automotive. This includes standardized software and hardware as well as customized OEM solutions. With a long track record within CAN-related connectivity, IXXAT solutions enable communication inside cars, medical equipment, industrial automation devices etc. The IXXAT brand also includes safety solutions for industrial communication.

HMS