

## **Specifying enclosures for Environmental Management systems in a 'Smart' world**

**Industry 4.0 is the current buzzword of choice for engineers and marketing professionals across almost every market sector; and for good reason. Industry 4.0 describes the integration of digital communication with the industrial process to create a network of 'smart' tools and components that can improve efficiency, quality, productivity and safety.**

The development of Smart Technology has also influenced Environmental Management processes – from simple home thermostats through to the largest industrial processes. Ironically, a key challenge when designing environmental control solutions is protecting the electronics from harsh environments. For this reason many design engineers are turning to Spelsberg UK for enclosure support.

While the UK is rarely exposed to the extremely cold weather experienced in some parts of the world, we still regularly have prolonged periods of sub-zero temperatures. This means that water can freeze, which can lead to burst pipes and interruptions to water supply. A very effective option for operators of industrial plants and commercial premises is to install thermostats to measure temperatures and activate trace heating systems.

Understanding that industrial thermostats may be subject to harsh treatment, Spelsberg UK manufactures and supplies the HT range of housed thermostats. The HT range is a turnkey solution that delivers a fully adjustable thermostat housed within a high-strength polycarbonate TK enclosure.

Installing trace heating solutions and other environmental control systems designed to protect the production environment used to be a binary solution. The thermostat would turn the heating on and off – but it wouldn't feed-back information that could be used for any other process. Now, with the increased functionality brought about by Smart Technology, engineers and facilities managers are able to collect the data and feed it into the heart of their processes.

Engineers designing external monitoring technology for Smart Systems will require enclosures that can protect electronics from the elements. Spelsberg's range of GEOS enclosures is lightweight, highly durable and features an innovative sealing system, making it one of the best enclosures on the market for weather protection.

The GEOS range offers all the standard qualities you'd expect of a weatherproof enclosure: UV protection, IP67 ingress protection, IK09 impact protection and excellent corrosion resistance. Where it really breaks new ground is its innovative Drain Protect seal system which serves to divert collected moisture from the environment via a drainage channel to the rear of the enclosure away from the access point.

Smart Technology is evolving at a rapid rate, with many new systems requiring specific entry points and mounting solutions. Spelsberg is able to offer a complete suite of design, customisation and installation services to complement the standard range of GEOS enclosures – as well as many other enclosures found in Spelsberg's standard range.

Chris Lloyd, Managing Director at Spelsberg UK, comments: *"We've invested heavily in our in-house capabilities to ensure that we can offer the fastest lead time on customised enclosures available in the UK. We have several CNC machine tools as well as a full time assembly line, which allows us to build turnkey solutions that are ready for installation upon delivery."*

*"Our expert sales engineers will work with customers during the design stages of their project to help ensure that the perfect enclosure is specified."*

While external monitoring technology is likely to be installed outside, the majority of smart systems for Environmental Management are installed inside. Here, enclosures are less likely to face such harsh environments, but engineers still face a specific set of challenges. Specifically, it's important that engineers are able to adapt a system to usage patterns that are frequently changing and technology that is always changing.

It is sensible to develop a modular architecture for the hardware, so that most of the system remains undisturbed when minor or local changes are being made. Furthermore, a wise choice of electrical enclosure, such as the Spelsberg AK distribution housing, will facilitate quick and simple changes to the physical hardware.

A feature of the AK design that is particularly useful in smart building systems is that the enclosures can be easily mounted adjacent to each other, so that large bespoke control panels can be built up and later adapted to meet changing requirements. Additionally, the perspex doors at the front of each enclosure provide access for the system controls UI's (user interfaces) whilst protecting the internal wiring.

The AK distribution housing series is certified to EN 60670-24, which defines special requirements for energy-consuming and protective devices to ensure safety with voltages up to 400 volts and feed current of up to 125 amps. Additionally, the high quality finish of the units enhances the overall aesthetic of the range; an important consideration for buildings where the control systems may be viewed by visitors to the control room – or even on permanent display in a prominent location.

Chris Lloyd concludes: *"Environmental Management has been one of the key beneficiaries of Smart Technology. Today's smart buildings and factories are able to continually optimise heating, ventilation, refrigeration and a whole host of other environmental factors. We work hard to keep up with our customers by offering enclosures that deliver the best protection with the highest levels of flexibility."*

## **Photography Captions**

### **Photograph 1:**

Engineers designing external monitoring technology for Smart Systems will require enclosures that can protect electronics from the elements. Spelsberg's range of GEOS enclosures is lightweight, highly durable and features an innovative sealing system, making it one of the best enclosures on the market for weather protection.

### **Photograph 2:**

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## **About Spelsberg**

Spelsberg is one of the largest manufacturers of electrical enclosures in the world. With over 4,000 enclosures available as standard and further customisation possible, it offers solutions for almost any application.

With the largest supply of non-metallic enclosures, ex-stock in the UK, its products are often available for delivery within 24 hours; customisation is possible on any product, including bespoke entries, engraved corporate logos or fitted terminals, within 48 hours. Products can be ordered direct from Spelsberg or from most leading supply specialists including RS, Rapid, Farnell and CPC.

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