EXTINGUISHANT CONTROL GROWING MARKETS

Kentec Electronics's technical director Robert Jefferys explains how the company's benchmark control solutions combine intelligence, versatility and reliability for rapid installation and commissioning.

Mobile phone company Telenor in Pakistan is protected by Kentec's extinguishant control and release system

MOST FIRES CANNOT BE SUSTAINED WITH LESS THAN FIFTEEN PERCENT OXYGEN, A phenomenon of physics central to the development of inert gas Automatic Fire Extinguishing Systems, and also a reason why this technology is increasingly being specified in environments where system continuity is critical, and fire prevention management of the highest reliability is essential.

24/7 IT operations such as electronic data processing areas, telecommunications, Internet co-location sites, logistics control areas, production machinery, broadcasting and archive resources require appropriate and reliable protection at all times. This is combined, of course, with the choice of fire suppressant technology being driven by the need to prevent damage to the risk being protected and to meet increasingly stringent environmental and insurance criteria.

However, it's a curious anomaly that only in recent years has the design and functionality of one of the most important pieces of equipment associated with fire protection extinguishing systems – the control panel – been defined by its specification within a common standard.

First to be compliant

This change occurred in 2003 with the publication of EN 12094-1:2003 'Fixed Firefighting systems – components for gas extinguishing systems, requirements and test methods for electrical automatic control and delay devices'. In that same year Kentec was the first company to introduce an EN12094-1 compliant extinguishing panel (Sigma XT, 3 zone single area extinguishing panel) to the market.

This major development is testament to Kentec's pioneering expertise in this demanding sector. We have been specialists in the specification and production of many bespoke extinguishant control systems, and in the design and manufacture of a wide range of standard extinguishing control panels, since the company was formed in 1985. In fact, Kentec is by far the largest manufacturer of these types of control panel in the UK.

EN 12094-1 became a harmonised standard in 2005. It is a measure of our command of this specialised technology that, at the time of harmonisation, we were the only manufacturer able to apply the CE mark showing compliance with the Construction Products Directive to any type of fire control panel.

Design ergonomics

The introduction of EN 12094-1 was a defining moment in Kentec's technological developments. It saw us initiate a complete re-evaluation of the design and functionality of our extinguishant control panels and ancillaries, incorporating customer feedback with enhancements that made the panels far more ergonomically accessible for installation and servicing. Field trials proved the new features to be very popular with customers, particularly the expansion of configuration options for versatile programming, the enhanced wide choice of inputs and outputs, the serial interface to ancillary items such as status indicator units to reduce wiring, and the simple connectivity for ease of installation for rapid commissioning.

All types of extinguishant agents

By their compliance with EN12094-1:2003, the extinguishing control panels are suitable for controlling the actuation and discharge of all types of extinguishing agents including CO_2, inert gasses, gas generators, water mist and pre-action sprinkler systems. Although the scope of the standard does not include water mist or pre-action sprinkler systems, the update to BS 7273-1: 'Code of practice for the operation of fire protection measures – Electrical actuation of gaseous total flooding extinguishing systems' in 2006, and the publication of BS 7273 Part 3 'Electrical actuation of pre-action water mist and sprinkler systems' and BS 7273 Part 5 'Electrical actuation of water mist systems (except pre-action systems)' in 2008, require all of these types of system to have control equipment conforming to the requirements of EN 12094-1.

Industry-leading features

At the heart of the integrated control solutions for extinguishing systems is the Sigma XT 3-zone single area extinguishing panel. It continues the tradition of its forerunner, the K2.01, 2-zone single area extinguishing panel, which set the industry standard for more than a decade.

The Sigma XT is a simple, powerful and highly configurable control panel with a large range of ancillary items that connect via a serial bus. The range of ancillaries includes: Sigma Si status indicator units with and without controls (including a weatherproof version), and relay output boards for remote control of plant or remote signalling. Such is the authoritative design of the Sigma XT that many of its characteristics have been copied – a tribute to its industry-leading status as a benchmark product.

Extended range for versatile configurability

Kentec has recently extended its extinguishing panel range with the introduction of the Sigma XT+ series. This range replaces the popular

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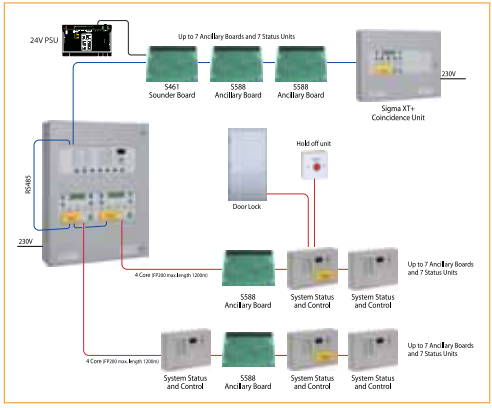

K4.01 range of extinguishing control panels with an EN 12094-1 compliant range. Each unit is controlled by its own powerful microcontroller bringing unparalleled intelligence, versatility and reliability to integrate with multi-area extinguishing systems.

The control panels are modular and can be supplied with up to four extinguishing areas and eight detection zones in a single enclosure. Each extinguishing area can be configured to be activated by a range of zones, allowing complex logic to be applied to the release of extinguishing agents. Configurable extinguishant delays are adjustable up to 60 seconds in 5-second steps and configurable extinguishant duration adjustable from one minute up to five minutes in 5-second steps.

Each module has two extinguishing outputs which can be configured to operate together or as main/reserve outputs to maintain vital protection for highly sensitive areas following an extinguishing agent discharge. Modules can be remotely connected to Sigma CP conventional fire panels via a two wire serial bus, to provide central fire detection and distributed extinguishing control units throughout a protected space with minimum wiring installation.

Sigma XT+ extinguishing modules can also be remotely connected to addressable fire panels via addressable modules or conventional fire panel zonal relay outputs wired to the monitored, activation inputs on each module. They are compatible with Sigma Si serially connected status indicator units and ancillary relay boards, which greatly reduces the wiring needed for an installation.

Simple intuitive configuration

All Sigma control panels feature Kentec's removable bridge plate concept, which makes installation easier and reduces the risk of damage to the sensitive electronic parts of the panel. Sigma XT+ modules have simple menus displayed on an LCD, which makes setting of the many configuration options easy and intuitive.

We pride ourselves on creating products for intuitive control and behind what we regard as the widest range of extinguishing control solutions available on the market today. We have established an exceptionally high level of dedicated technical support services, including telephone assistance, technical e-mail bulletins and customer specific training. In addition, a sophisticated technical support call-logging database provides the company with up-to-date information and an accurate analysis of all calls taken.

In-house design, manufacture and software development, supported by a sustained programme of investment in state-of-the-art plant and machinery, have been key contributors to Kentec's commitment to offer customers products of true excellence, a world class comprehensive range and consistent quality of service.

Kentec products are independently tested and approved to EN54 parts 2 & 4 and EN 12094 Part 1. The company is accredited to ISO 9001:2000 for its Quality Management Systems and ISO-14001:2004 for Environmental Management Systems.

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Top of page: Schematic showing typical system set up. Above left: The Sigma XT control panel is a simple, powerful and highly configurable control panel. Right: Increasing reliance on computerised systems means that compliant control of automatic fire suppression is essential for assured business continuity