

ESP
intelligent

RANGEOVERVIEW
Intelligent Range of Fire Detection Equipment



Globally Proven Product Design

Hochiki's Intelligent range of automatic fire detection and alarm equipment is designed and manufactured to the highest international standards, offering life safety products and systems of incomparable reliability. This extensive range of products includes high performance sensors, a wide selection of input and output modules, and ancillaries. All products use Hochiki's high integrity communications link, ENHANCED SYSTEM PROTOCOL (**ESP**) that is fundamental to the range.

Specified in many prestigious projects, **ESP** is a secure, expandable open digital protocol that, together with Hochiki's Intelligent range of devices, is the premier choice for system designers.



Open Protocol, Flexibility and Cost Minimisation

Hochiki's **ESP** is an open protocol and is supported by a number of leading independent control panel manufacturers. Panel development in close partnership with Hochiki ensures that the functional benefits of Hochiki's system are incorporated and rigorous testing of compatibility guarantees that compliance is maintained.



Data Integrity and Error Detection

Strength against external interference is important for system integrity. **ESP** protocol minimises the possibility of data corruption using a proven combination of algorithms and applies parity and checksum principles to every packet of data in order to verify the data integrity and eliminate unwanted alarms or faults being generated by external noise.



System Tailoring

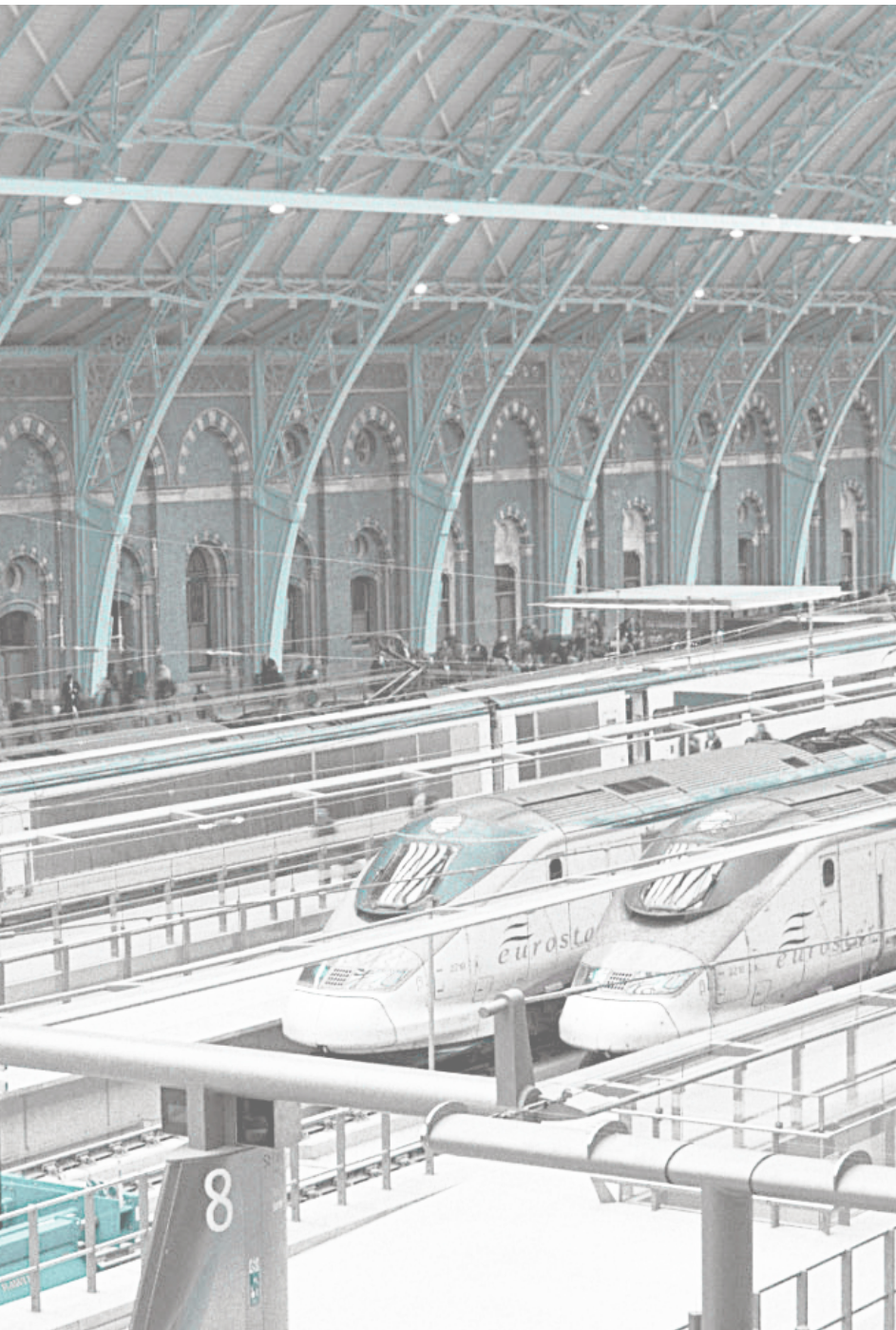
Advanced controls within the Hochiki **ESP** products include variable sensitivities, volumes and tones that allow systems to be tailored to achieve optimum performance for life safety.



Programming

Sensors are programmed through Hochiki's FAST addressing technique, using an electronic hand-held programmer or the system's Fire Alarm Panel.

- ▶ Flexible addressing allows devices to be programmed in any sequence
- ▶ Automatic address storage within the devices
- ▶ Secure addresses cannot be accidentally changed
- ▶ Time is saved by reducing commissioning time and minimising the likelihood of double addresses



Company Overview

Established in Japan in 1918, Hochiki is an independent, multi-national, publicly listed company with over 1700 employees across the globe. One of the world's leading manufacturers of commercial and industrial fire detection and emergency lighting solutions, Hochiki has acquired global acceptance as the benchmark for high-integrity and long-term reliability.

Hochiki's facilities in Japan, the United States of America and Europe design and manufacture products and provide technical support suited to local standards and customer requirements. Total commitment to meeting the needs of individual national markets has reinforced the company's global reputation, resulting in Hochiki products being installed in many prestigious sites and in over 80 countries worldwide.



STATS TAKEN FROM THE HOCHIKI CUSTOMER SERVICE SURVEY



Respondents rated product quality as either 'very good' or 'excellent'



Customers stated our market reputation is 'very good' or 'excellent'



Customers are most likely to recommend our products

Key Features & Benefits



Approvals

Products are manufactured, tested and approved to international standards by the major European third party test bodies, such as LPCB and VdS, thereby guaranteeing the quality of design and manufacture of all of our life safety products.



Extended Addressing

Through the development of ESP, Hochiki has extended the usable address range from 127 to 254 for some alarm devices, minimising the cost of cabling and control panels, but without compromising conformance to European standards (EN54).

For example, a sensor mounted onto a sounder-beacon base uses just one main loop address and one extended address, but all three elements can be individually identified and controlled.



Sub-Addressing

Hochiki's sub-addressing capability accommodates up to eight inputs and eight outputs at each address, allowing comprehensive control of the system. Each sub-address can be used within the Cause & Effect programme to give greater system flexibility, and to ensure clear text identification of each input or output at the control panel.

For example, a PCM module, which has four inputs and four outputs takes up one main loop address, but each input and output can be individually identified and controlled.



Unique Identification

Each ESP device has a unique type code. Therefore, the system knows if the alarm has been generated from a smoke or heat sensor, a combination sensor or a manual callpoint. This level of discrimination ensures that the appropriate response to an alarm is given. The protocol can support up to 240 different codes, ensuring that future products can be accommodated with ease.



Rapid Response

ESP uses an Interrupt System to guarantee rapid responses from any device, and the time lapse between operation of a call point and indication of fire on the system is typically less than 1.5 seconds.



Diverse Range

The ESP range houses a variety of intelligent products including; high performance sensors, flexible input and output modules and an assortment of ancillaries. Recently expanded, the range now also features a highly sophisticated CO multi-sensor with 24 modes of operation and a 10-year CO cell life. ESP devices are suitable for even the most demanding environments and in many cases, we can offer a marine approved, SIL approved or SCI variant. Furthermore, ESP zone monitors can be used to interface ESP addressable systems with Hochiki's CDX conventional range.



False Alarm Management

False activation of a fire alarm system is both disruptive and expensive. Hochiki's Intelligent products and **ESP** digital communications protocol employ advanced techniques to minimise the potential for false or unwanted alarms.

Drift Compensation - A smoke sensor's performance will vary over time due to gradual contamination by the environment, leading to over-sensitivity and unwanted alarms, or to over-contamination and failure to respond to smoke. To prevent degradation, the Hochiki **ESP** Intelligent system automatically recalibrates all sensors once every 24 hours to ensure optimum performance is maintained.

Alarm Verification - Using a time delay integration algorithm, the existence of smoke or heat over the programmed period is confirmed, eliminating unwanted activations from transients. Individual sensors can be programmed for specific conditions which is ideal for applications such as hotel rooms and kitchens.

Variable Sensitivity - Smoke and heat sensors are installed in a wide variety of environments, from clean rooms and computer suites to public areas. The sensitivity of each **ESP** sensor can be individually adjusted to match the expected risk, either permanently or under a timed day and night operation.



ESP Components

Sensors - Foremost in the range is the Photoelectric Smoke Sensor. Utilising Hochiki's high performance chamber technology, provides a high level of false alarm immunity whilst maintaining a superior fire detection capability. It exceeds all requirements of EN54 standards and is unrivalled by any competitor's technology.

For applications where risk factors change, the Multi-Sensor incorporates both a

photoelectric smoke sensor and a heat sensor which can be used in combination or individually to provide optimum detection with an enhanced immunity to false alarms. Multi-heat sensors incorporate both fixed temperature and rate of rise heat elements in reaching the fire decision.

Interfaces - A comprehensive range of Input and Output interfaces covers all of the normal integration requirements, from connecting an existing conventional zone to shutting down smoke dampers, closing fire doors and preventing the use of elevators. There is also provision for 24 V to be obtained from the device loop, allowing additional equipment to be powered.

All Hochiki interfaces have multiple Input / Output functionality. However, they only take up a single loop address. This provides a very cost effective system solution by minimising the total number of physical devices required to achieve the desired cause & effect requirements.

Most interfaces are loop powered to simplify installation. Loop powered sounders and beacons can also provide considerable savings through the reduction of installation costs. These devices consume exceptionally low levels of electrical current and maximise the loop's capacity.



Product Design, Maintenance & Support for Optimum Performance

Hochiki **ESP** products are designed for ease of installation, with a wide range of bases and adapters and a locking mechanism on all sensors for on-site activation. Simple and robust connections provide sufficient space for all modern fire alarm cables. For effortless on-site maintenance, **ESP** Photoelectric Smoke Sensors are designed with a removable chamber allowing quick cleaning, re-assembly and automatic recalibration.

Hochiki's Maintenance and Service facility also maximises product lifetime, where products returned are dismantled, cleaned and re-calibrated to ensure the products operate for many years, trouble free.

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