

ESPintelligent

Analogue Addressable Fire Detection

What is ESP?

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.

The **ESP PROTOCOL** has been designed with a multi-purpose structure that provides the flexibility and expansion to accommodate simple addressable systems through to sophisticated integrated building management and safety systems. Whereas the system components may be subject to technological changes, the ESP protocol has been designed such that it will not change, thereby satisfying future system needs for decades to come.

The **ESP RANGE** of intelligent automatic fire detection and alarm equipment is designed to operate with the ESP protocol and is manufactured to the highest international standards, offering life safety products and systems of incomparable reliability.

Open Protocol Systems – An Explanation

Generally Open Protocol systems allow fire detection equipment and control panels to be compatible between a greater selection of manufacturers, offering you more freedom of choice when sourcing products and installation companies.international standards, offering life safety products and systems of incomparable reliability.

Advantages

- ▶ Your installer is free to select devices which best meet the requirements of the project design from a greater selection of sources.
- ▶ You, as a building owner, are free to source your equipment from a wider range of suppliers depending on their individual areas of proficiency, safe in the knowledge that the common protocol means complete compatibility.
- ▶ Once a fire system has been installed you are free to choose a maintenance company other than the installation company to carry out the on-going maintenance regime or to provide additions or upgrades to the system.

Features & Benefits

False Alarm Reduction – Driven with the world proven, open protocol system. The high-performance chamber allows for adjustable sensitivity settings. The chamber is equally responsive to all smoke types and helps to reduce the possibility of unwanted alarms.

Fully Compliant – The ESP range of products is fully compliant to world recognised standards such as LPCB and VdS.

Extended Addressing – The usable address range has extended from 127 to 254, minimising the cost of cabling and control panels.

Sub-Addressing – Accommodates up to 8 inputs and 8 outputs at each address. Each sub-address can be used within the cause and effects to give greater system flexibility.

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

Data Integrity – ESP protocol minimises the possibility of data corruption using a proven combination of algorithms and applies arity and checksum principles to every packet of data.

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A guide to Hochiki's ESP Protocol

Your Safety, Our Technology

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System Communication

The system can communicate with the devices on the loop in one of four modes;

- **POLLING** - The polling command is used to determine the status of a device on the loop, each device is accessed on power up and then each device is addressed and its present status returned. This enables the control panel to give the appropriate response according to device type.
- **CONTROL** - The control command is used to control a device on the loop, this provides a secure method of proving any output actions are valid. No output action can take place without the control panel sanctioning the action.
- **GROUP ACTION** - The group action command is used to communicate with all the devices on the loop within the defined group, this allows specific actions to be carried out with one command rather than individually addressing each device.
- **INTERRUPT** - The interrupt command is used to quickly determine a response to a device on the loop i.e. Fire Condition.

Each of the above communication modes allows the system to completely control each device on the loop.

Control Panel Manufacturers

Hochiki's ESP is an open protocol and is supported by a number of leading independent control panel manufacturers.



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Technical Specification

Enhanced Systems Protocol (ESP)	
Transmission Type	Half duplex, serial asynchronous digital
	2 wire, Voltage transmit, Current receive
Data format	8 data bits, 1 start and 1 stop bit
Data rate	1200 bits/second
Operating voltage	Digital 0 - 24Vdc
	Digital 1 - 32Vdc
Operating current	Digital 0 - Loop current + 22mA
	Digital 1 - Loop current + 0mA
Error checking	Byte - Even parity
	Message - 8 bit checksum
Command Types	Polling, Control, Interrupt and Group
Interrupt response time	1.5 seconds max., 1.0 seconds typ.
Polling rate	7.5 seconds per loop

For further information visit www.hochikieurope.com/esp

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