HOCHIKI

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RANGECOMPARISON

Hybrid Wireless Fire Detection System

Many fire alarm manufacturers provide their own line of wireless devices in one form or another.

This trend is explained by the fact that radio frequency technologies are becoming more sophisticated with increased range and capacity. This makes the option of utilisng hybrid wireless systems a simple and cost-effective solution for certain challenging environments.

This overview is aimed at comparing EKHO to six other systems from international manufacturers and demonstrating why it is one of the best choices when it comes to hybrid wireless fire protection.

EK-WL8-TRH/AU
Hybrid Wireless Translator Module

EK-WL8-O/AU
Hybrid Wireless Optical Sensor

EK-WL8-SND/AU
Hybrid Wireless Sounder

EK-WL8-EXP/AU
Hybrid Wireless Expander Module

EK-WL8-OH/AU
Hybrid Wireless Multi Sensor

EK-WL8-CP/AU
Hybrid Wireless Manual Call Point

EK-WL8-OUT/AU
Hybrid Wireless Output Module

EK-WL8-H/AU
Hybrid Wireless Heat Sensor

EK-WL8-SK/AU
Hybrid Wireless Survey Test Kit

EK-WL8-IN/AU
Hybrid Wireless Input Module

EK-WL8-OV/AU
Hybrid Wireless Optical Sensor with Built-in Voice Alarm and VAD

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MOVE OVER FIREWAVE

Battery Life*1

	FIREwave	5 YEARS
	EKHO	10 YEARS

Devices per Expander

	FIREwave	32
	EKHO	UNLIMITED*2

Communication Range*3

	FIREwave	150 METRES
	EKHO	1200 METRES

Number of Expanders per Translator*4

	FIREwave	7
	EKHO	UNLIMITED*2

*1 Dependent on operational usage   *2 Within the 126 device capacity of associated Translator   *3 In open air   *4 Dependent on local installation standards

Maximum Number of Field Devices per Network

Systems with a large capacity allow you to build one big wireless system that will cover your whole building or site. Otherwise several translator modules will need to be installed each controlling their own separate networks.

Hochiki Europe - Ekho	**126***
Competitor 1	32
Competitor 2	240
Competitor 3	31
Competitor 4	30
Competitor 5	504
Competitor 6	240

*Dependent on local installation standards. Based on a system comprising 1 x Translator.

Communication Range

A large communication range allows you to use fewer resources and equipment to fulfill complicated projects, such as buildings with thick walls or multiple floors. All measurements taken in open air.

Hochiki Europe - Ekho	1,200 m
Competitor 1	400 m
Competitor 2	150 m
Competitor 3	UNDISCLOSED
Competitor 4	1,000 m
Competitor 5	UNDISCLOSED
Competitor 6	UNDISCLOSED

Maximum Number of Repeaters / Expanders

Expanders and similar devices act as communication nodes in a wireless network. The more nodes the network has, the bigger the area it's able to cover.

Hochiki Europe - Ekho	UNLIMITED*
Competitor 1	32
Competitor 2	7
Competitor 3	0
Competitor 4	30
Competitor 5	31
Competitor 6	7

* Within the 126 device capacity of associated Translator

Expected Battery Life

Having a long battery life reduces the expenses required for system maintenance and makes a hybrid wireless system cost-effective.

| Hochiki Europe - Ekho	UP TO **10** YEARS*
Competitor 1	**5** YEARS
Competitor 2	**8** YEARS
Competitor 3	**5** YEARS
Competitor 4	**3** YEARS
Competitor 5	**5** YEARS
Competitor 6	**5** YEARS

*Dependent on operational usage

Battery Type

Maintenance costs greatly depend on the number and the type of batteries used in the devices. Additionally, systems that utilize generic mass production batteries are usually easier and cheaper to maintain, as opposed to systems that require proprietary battery packs.
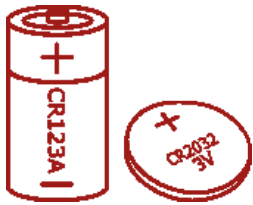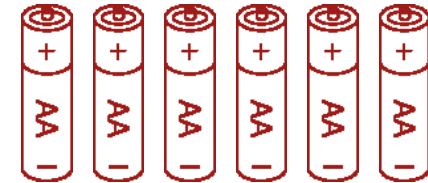
Hochiki Europe - Ekho
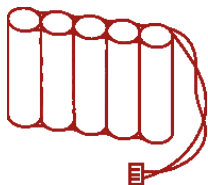**1 x CR123A + 1 x CR302A**
(LITHIUM BATTERIES)
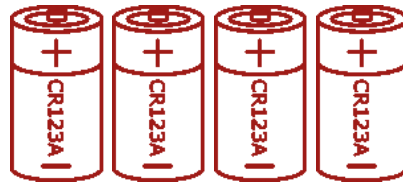
Competitor 1
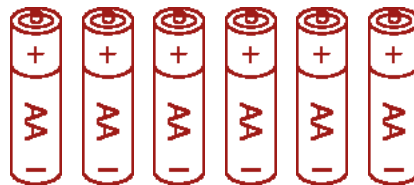**4 x CR123A**
(LITHIUM BATTERIES)

Competitor 2
2 x CR123A
(LITHIUM BATTERIES)

Competitor 3
6 x AA
(ALKALINE BATTERIES)

Competitor 4
5 x AA
(LITHIUM CELLS)

Competitor 5
6 x AA
(ALKALINE BATTERIES)

Competitor 6
2 x AA
(LITHIUM THYNOL CELLS)

Mesh Network

Mesh networks devices are not dependant on a specific expander, and can dynamically find pathways to the central translator through other expanders. This substantially enhances the design and installation process since there's no need to manually configure the network topology as well as providing a robust, "always on" system.

Hochiki Europe - Ekho	YES
Competitor 1	YES
Competitor 2	NO
Competitor 3	NO
Competitor 4	YES
Competitor 5	NO
Competitor 6	NO

Comparison Chart

	SMOKE SENSOR	SMOKE SENSOR WITH BUILT IN SPEAKER	HEAT SENSOR	COMBINED SENSOR
Hochiki Europe - Ekho				
Competitor 1	YES	NO	YES	YES
Competitor 2	YES	NO	YES	YES
Competitor 3	YES	YES	YES	YES
Competitor 4	YES	NO	NO	NO
Competitor 5	YES	NO	YES	NO
Competitor 6	YES	YES	YES	NO

	MANUAL CALL POINT	SOUNDER	INPUT MODULE	OUTPUT MODULE
Hochiki Europe - Ekho				
Competitor 1	YES	YES	YES	YES
Competitor 2	YES	YES	YES	YES
Competitor 3	YES	YES	YES	YES
Competitor 4	YES	NO	NO	NO
Competitor 5	YES	YES	YES	YES
Competitor 6	YES	YES	YES	YES

Communication Properties

Wireless communication isn't only characterised by general properties such as range and capacity. It's also important to know how fast information is transferred across devices, how the system protects itself from interference, what type of mechanisms are implemented to enhance connection reliability, and other possible limitations the system might have.

FALSE ALARM ACTIVATION
Communication in wireless alarm systems doesn't always happen instantly. Alarm signals from detectors are usually delivered immediately, while other commands may have a lower priority, which can cause sounders and other alarm devices to have a certain delay before activation. Ekho engineers were able to optimise communication protocol so that the delay between the alarm signals from the sensor and the sounder activation does not exceed 3 seconds.

BACKUP COMMUNICATION CHANNELS
When Ekho detects interference on the main frequency channel, it will automatically switch to a different one and continue operating normally. In fact; there are 6 frequency channels available in the 916 MHz range than can be utilised by Ekho. This makes the system resistant to natural and technological sources of electromagnetic interference.

EFFECTIVE RADIATED POWER ADJUSTMENT
A simple but clever principle is employed when the connection is strong, devices lower the effective radiated power in order to save battery life; if a device starts to lose connection, the transmission power is boosted to compensate.

SELF-CONFIGURING EXPANDER NETWORK
Expanders automatically create a mesh network, whereby signals can travel from the field devices through multiple expanders before they reach the Translator. One expander can serve as a communication node for 9 others, in a "daisy-chain"configuration, which allows for a far-reaching yet robust network.

MANY DEVICES WITHIN ONE RANGE
Some wireless systems can struggle with cross-interference when large numbers of devices are communicating in close proximity of each other. But Ekho employs a range of sophisticated software enhancements including automatic signal amplitude, temperature compensation and frequency hopping to ensure robust, 'always on' communications, no matter how complex the installation.

Summary

Ekho provides highly advanced technical specifications in terms of communication range and power consumption. Support for mesh network technology also puts Ekho a step ahead of some of its competitors. In addition, it has a versatile product range, incorporating a wireless model for all essential types of sensors, making Ekho the best choice within the hybrid wireless fire alarm market.

www.hochikieurope.com/ekho

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LPCB

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Business Member

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