



## Range Comparison

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 both cheaper and more sophisticated, making wireless alarm systems a reliable and cost-effective replacement for wired counterparts.

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 wireless fire protection.



### **EK-WL8-TRH**

Hybrid Wireless Translator Module

### **EK-WL8-EXP**

Hybrid Wireless Expander Module

### **EK-WL8-OUT**

Hybrid Wireless Output Module

### **EK-WL8-IN**

Hybrid Wireless Input Module

### **EK-WL8-O**

Hybrid Wireless Optical Sensor

### **EK-WL8-OH**

Hybrid Wireless Multi Sensor

### **EK-WL8-H**

Hybrid Wireless Heat Sensor

### **EK-WL8-OV**

Hybrid Wireless Optical Sensor  
with Built-in Voice Alarm and VAD

### **EK-WL8-SND**

Hybrid Wireless Sounder

### **EK-WL8-CP**

Hybrid Wireless Manual Call Point

### **EK-WL8-SK**

Hybrid Wireless Survey Test Kit



# Ekho

## Move over Firewave

### Battery Life<sup>\*1</sup>



**FIREwave**

**5 YEARS**

**EKHO**

**10 YEARS**

### Devices per Expander



**FIREwave**

**32**

**EKHO**

**UNLIMITED<sup>\*2</sup>**

### Communication Range<sup>\*3</sup>



**FIREwave**

**150 METRES**

**EKHO**

**1200 METRES**

### Number of Expanders per Translator<sup>\*4</sup>



**FIREwave**

**7**

**EKHO**

**UNLIMITED<sup>\*2</sup>**

# 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.

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

\*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

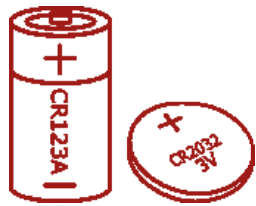
Having a long battery life reduces the expenses required for system maintenance and makes a hybrid wireless system cost-effective.

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

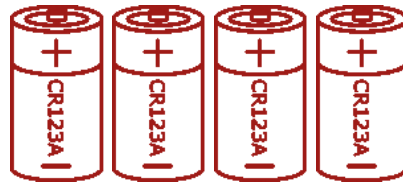
\*Dependent on operational usage

# 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.



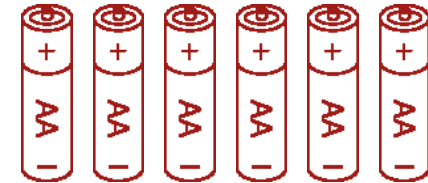
**Hochiki Europe - Ekho**  
1 x CR123A + 1 x CR302A  
(LITHIUM BATTERIES)



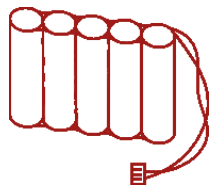
**Competitor 1**  
4 x CR123A  
(LITHIUM BATTERIES)



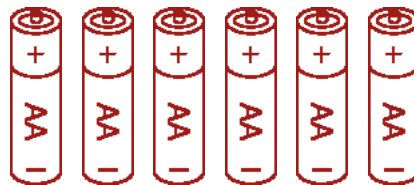
**Competitor 2**  
2 x CR123A  
(LITHIUM BATTERIES)



**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
<b>Hochiki Europe - Ekho</b>				
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 868 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](http://www.hochikieurope.com/ekho)

## HOCHIKI EUROPE (UK) LIMITED

Grosvenor Road, Gillingham Business Park,  
Gillingham, Kent, ME8 0SA, United Kingdom

Telephone: +44 (0)1634 260133  
info@hochikieurope.com  
www.hochikieurope.com

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