HOCHIKI

World Class Leaders in Fire Detection Since 1918

ESPintelligent

PRODUCTOVERVIEW

ACD-EN 24 Mode Multi-Sensor with CO

100 YEARS OF INNOVATION

Introducing the ACD Multi-Sensor with CO. The most sophisticated multi-sensor Hochiki has brought to market to date.

This revolutionary product offers a staggering 24 EN54 approved modes of operation, including combinations of smoke detection, fixed temperature heat detection, rate of rise heat detection, CO detection and COHb toxicity recognition; making it ideal for a broad variety of applications.

The installer also has the ability to select a day mode and a night mode, increasing flexibility.

FALSE ALARM REDUCTION

The ACD is also enhanced for false alarm reduction. In the modes featuring the Reduced False Alarm function (+RFA), the sensor will automatically adjust the sensitivity of the optical sensing element over time, learning from its surrounding environment from the moment of installation.

ESP PROTOCOL

Furthermore, the ACD-EN operates on Hochiki's world renowned, robust and reliable, ESP open protocol; giving specifiers, installers and end users an open choice on system design, installation and maintenance; and therefore complete control over costs.

APPROVALS

The quality and performance of the ACD-EN has been approved by LPCB in accordance to EN54 Part 5, Part 7, Part 26, Part 29, Part 30 and Part 31; giving you total peace of mind.

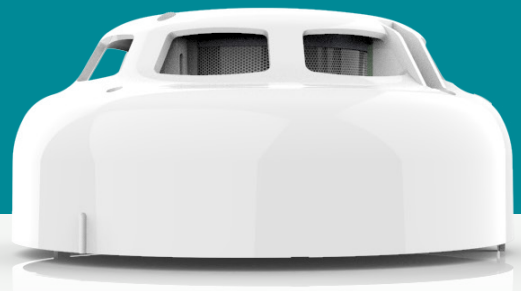
COHb THREAT DETECTION

Traditionally, CO detection is integrated into a multi-sensor to assist with the rapid detection of smouldering fires through the release of CO gas; however, the ACD can also recognise the threat of carboxyhaemoglobin toxic poisoning, commonly referred to as carbon monoxide poisoning.

Carbon monoxide poisoning can be suffered as the result of either a sudden high exposure to CO, or a prolonged exposure over time. The ACD therefore monitors for both criteria and will report an alarm condition if either scenario is met.

GLOBAL MARKETS

Hochiki also offers a UL approved variant, the ACD-V which features 16 UL-approved operational modes and is fully compatible with modern UL fire systems.



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.

STATISTICS TAKEN FROM THE HOCHIKI CUSTOMER SERVICE SURVEY

91%

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

92%

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

88%

Customers are most likely to recommend our products

Mode Selection

All of the ACD's 24 modes of operation have been approved by LPCB to EN54 standards.

Each mode utilises different fire detection technologies either in combination or individually to generate a fire condition. This allows the installer the flexibility to "fine-tune" the ACD for any environment in which it is being fitted.

The table below summarises the modes available and details the detection technologies employed by each mode.

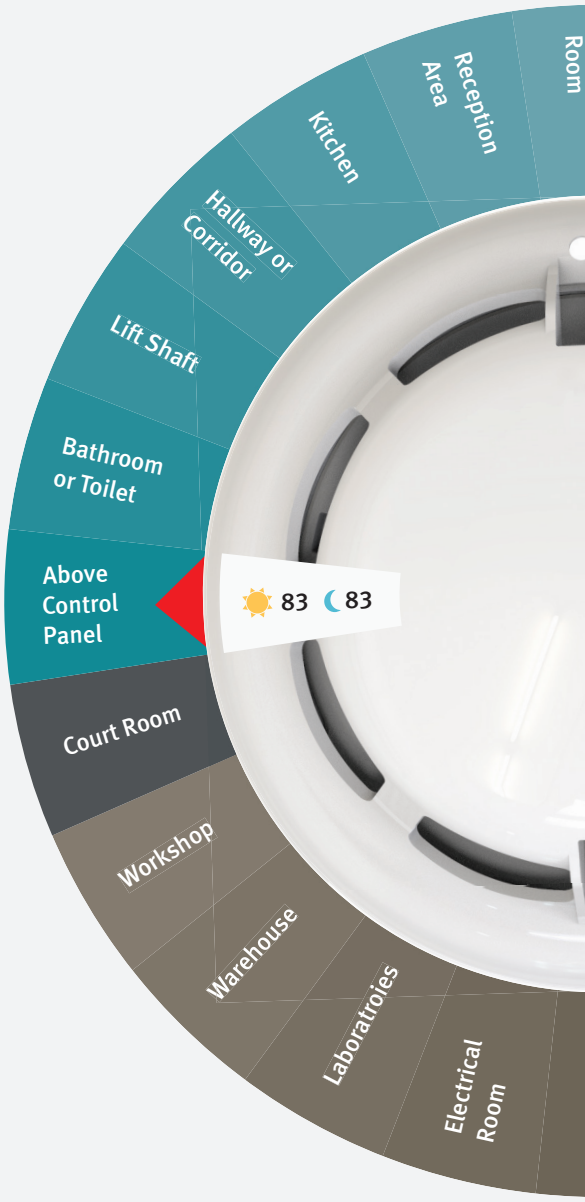
NOTE: "+" denotes the primary detection element(s) making the fire decision.
"/" denotes the detection element is working in unison with the primary element(s).

9A	+S/FT/Co + RFA (Default Mode)	8D	+S +FT +RoR +CO +COHb
9B	+CO/RoR	8E	+S/FT +COHb +RFA
80	+S/H +RFA	8F	+S +COHb
81	+S/H	93	+FT +RoR (A1) +COHb
82	+S +RFA	94	+FT +RoR (A1R) +COHb
83	+S	95	+FT (A1S) +COHb
87	+FT +RoR (A1)	96	+FT +RoR (C) +COHb
88	+FT +RoR (A1R)	97	+FT +RoR (CR) +COHb
89	+FT (A1S)	98	+FT (CS) +COHb
8A	+FT +RoR (C)	99	+S/H/CO +S +FT +RoR +CO/COHb
8B	+FT +RoR (CR)	9C	+COHb
8C	+FT (CS)	9D	+CO

S= Smoke | FT = Fixed Temperature | RoR = Rate of Rise | COHb = CO Toxicity Threat | RFA = Reduced False Alarm | H = Heat

We have produced a pocket-sized Mode Selector Tool which offers a handy guide to selecting the right mode for the right environment - contact us for a free copy.

Alternatively, you can visit the ACD page on our web site to use our online version: www.hochikieurope.com/acd



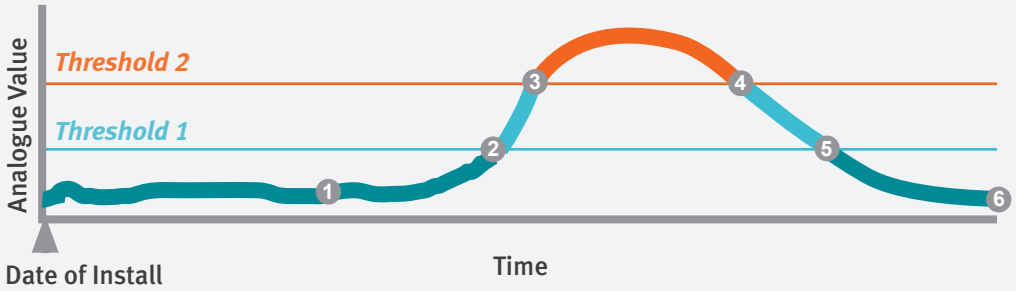
The SMART Algorithm

The ACD features a highly sophisticated algorithm which continually monitors the analogue value reading from a series of multiple samples of the environment and calculating an average value. This 'moving average' value is memorised by the sensor over time to determine the environment's baseline reading. We call this ground-breaking algorithm 'Suitable Moving AveRage Time', "SMART".

If no transient activity is detected within a set time period, the number of samples used to calculate the moving average is reduced, in effect adjusting the sensitivity of the sensor to its environment. If the environment remains clear for another set period, the number of samples used is reduced again.

However, any transient activity will result in the sensor automatically switching to the maximum number of samples, to quickly determine whether the transient is the start of a real fire or a false alarm, such as steam, burning food or cigarette smoke.

In this way the sensor remains as sensitive as it needs to be, based on its environment.



1

After a set period of monitoring its environment at the highest sampling rate and continually calculating the moving average as being below Threshold 1 – the environment is deemed clean by the sensor and the sampling rate is reduced.

The number of samples used by the **SMART** algorithm continues to decrease as long as the environment remains clean.

2

If Threshold 1 is reached, the set period counter is reset.

3

If Threshold 2 is reached, the number of samples used by the SMART algorithm is increased.

4

The sensor continues to monitor at the higher sampling rate. A timer is activated at this point – the number of samples and therefore the moving average doesn't change during this period – the sensor is verifying that the transient isn't a real fire.

5

After a set period the SMART algorithm starts again – checking the analogue value and calculating the moving average.

The set period counter starts again.

6

After another set period of the moving average remaining below Threshold 1, the number of samples is decreased as before.

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9-5-0-620/ISS2/OCT19

Quality Certificate No.164QMS
Assessed to ISO 9001

Environmental Certificate No.164EMS
Assessed to ISO 14001

Business Member

Fire Industry Association

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