

APPLICATION NOTE 152

ACD Multi-Sensor Mode Selection

Your Safety, Our Technology

ESPintelligent

ACD-EN
Multi-Criteria Sensor



Description

Introducing the ACD-EN, the most sophisticated multi-sensor released to market to date. This revolutionary product offers a staggering 24 EN approved modes of operation, including combinations of smoke detection, fixed temperature heat detection, rate of rise heat detection, CO detection and COHb detection; making it ideal for a variety of applications. The installer also has the ability to select a day mode and a night mode; increasing flexibility and ensuring reliability.

The ACD-EN is also enhanced for false alarm reduction. In modes featuring the Reduced False Alarm aspect (+RFA), the sensor will automatically adjust its sensitivity based on its surroundings, over time. The ACD-EN is installed with a default time delay. If the environment is clean with no smoke detected for a period of time, this time delay is reduced. If the environment continues to be clean, the time delay is reduced again. However, if transient smoke is detected, the time delay is increased. Any changes in CO and/or temperature will also automatically adjust the sensitivity levels up. We call this ground-breaking algorithm 'Suitable Moving Average Time' (SMART).

The Mode Selector Chart

| | ☀ Day | ☾ Night |
|--------------------------------|-------|---------|
| Hotel Room | 8D | 8D |
| Hospital Common Areas | 99 | 99 |
| Care Homes | 99 | 8D |
| Church or Cathedral | 8D | 99 |
| Boiler Room | 89 | 89 |
| Data Centre | 80 | 80 |
| Electrical Room | 80 | 81 |
| Laboratories | 8D | 8D |
| Warehouse | 89 | 89 |
| Workshop | 80 | 81 |
| Court Room | 8D | 99 |
| Above Control Panel | 83 | 83 |
| Bathroom or Toilet | 87 | 80 |
| Lift Shaft | 81 | 81 |
| Hallway or Corridor | 82 | 83 |
| Kitchen | 89 | 80 |
| Reception Area | 82 | 82 |
| Meeting Room | 8D | 8D |
| Office | 9A | 9A |
| Stairwell | 82 | 82 |
| Storage Room | 80 | 81 |
| Classroom | 8D | 8D |
| College or University Building | 9A | 99 |
| Student Accom* | 99 | 8D |

Mode Selection

A wide range of modes have been approved for use by LPCB. Each mode utilises different fire detection technologies in combination or individually. This allows the installer to “fine-tune” the ACD for the environment in which it is being fitted, where they can select both a day mode and a night mode.

| | | | |
|-----------|--|-----------|--|
| 9A | Smoke/Heat/Co Combine (Default Mode) | 8D | Smoke, Co, Heat (FT), Heat (RoR), COHb |
| 9B | Co/Heat combine, Heat (RoR) | 8E | Smoke/Heat Combine, COHb (Reduce false alarm function) |
| 80 | Smoke/Heat combine (Reduce false alarm function) | 8F | Smoke, COHb (Reduce false alarm function) |
| 81 | Smoke/Heat combine | 93 | Heat (FT), Heat (RoR), COHb (Fixed Level 1 - Class A1) +COHb |
| 82 | Smoke (Reduce false alarm function) | 94 | Heat (FT), Heat (RoR), COHb (Fixed Level 2 - Class A1R) +COHb |
| 83 | Smoke | 95 | Heat (FT), COHb (Fixed Level 3 - Class A1S) +COHb |
| 87 | Heat (FT) Heat (RoR) (Fixed Level 1 - Class A1) | 96 | Heat (FT), Heat (RoR), COHb (Fixed Level 4 - Class C) +COHb |
| 88 | Heat (FT) Heat (RoR) (Fixed Level 2 - Class A1R) | 97 | Heat (FT), Heat (RoR), COHb (Fixed Level 5 - Class CR) +COHb |
| 89 | Heat (FT) (Fixed Level 3 - Class A1S) | 98 | Heat (FT), COHb (Fixed Level 6 - Class CS) +COHb |
| 8A | Heat (FT) Heat (RoR) (Fixed Level 4 - Class C) | 99 | Smoke/Heat/CO Combine, Smoke, CO/Heat Combine, Heat (FT), Heat (RoR), COHb (Reduce false alarm function) |
| 8B | Heat (FT) Heat (RoR) (Fixed Level 5 - Class CR) | 9C | COHb |
| 8C | Heat (FT) (Fixed Level 6 - Class CS) | 9D | CO |

FT = Fixed Temperature | RoR = Rate of Rise | COHb = Carboxyhaemoglobin

*Dependent on control panel compatibility.

** This document should be used as a guide only. It remains the responsibility of the installer to correctly risk assess the environment and install the correct fire detection equipment.

The Mode Selector Tool

The mode selector tool has been designed to assist in the selection of the best day and night modes for the specific installation environment**.

To receive your free selector tool, contact your Regional Sales Manager or the Hochiki Europe Marketing Department. There is also an online version of the tool available on the ACD page of our web site at www.hochikieurope.com/acd.

