



AlarmCalm

Complete False Alarm Management



Contents

The problem of unwanted false alarms	3
Introduction to AlarmCalm	4
Building areas	6
Alarm verification and investigation delay	8
AlarmCalm button	13
How alarm verification and investigation delays differ	14

Advanced – Made in the UK. Trusted Around the World

At Advanced, we're committed to building a safer future. We create fire protection and life safety solutions that protect people and property in more than 80 countries across the globe.

Our products are shaped by decades of research and development expertise as well as ongoing investment in new technologies. This ensures they provide years of high performance and reliability – for ultimate peace of mind.

Everything we deliver is rigorously tested and approved to exacting quality standards – which is why Advanced products are trusted by customers the world over and synonymous with **quality, performance** and **ease of use**.

We understand that few fire protection challenges are the same, so as well as our mass-customised ranges, we also offer fully-customised solutions. This flexibility gives you complete control over the functions, format and finish of products to suit your site's unique specification.

We are dedicated to providing excellent service and have an international network of offices and agents to help you access sales support with ease – wherever you are in the world.

In addition, our training and technical services are free of charge to all our direct customers and consistently rated as excellent.



Advanced headquarters, Newcastle, UK



For added reassurance, Advanced is part of the safety sector of FTSE 100 company Halma plc. This global group of life-saving technology companies has a clear purpose to grow a safer, cleaner, healthier future for everyone, every day.



The Problem of False Alarms

False alarms are a persistent problem. They're disruptive, can be costly and waste fire and rescue service resources. Worse still, they can cause complacency and delayed reactions in real fire emergencies – putting lives and property at risk.

False alarms cause disruption to businesses, annoyance to customers, can damage a company's reputation and may also divert fire and rescue teams away from real emergencies.



Watch our short film
AlarmCalm: Common scenarios



Many Fire and Rescue Services in the UK now charge organisations for repeated false alarm callouts.

Common Causes of False Alarms

- ✓ Faults
- ✓ Dust
- ✓ Cooking
- ✓ Toasters
- ✓ Smoking
- ✓ Weekly testing
- ✓ Accidental activations
- ✓ Steam
- ✓ Aerosols
- ✓ Water ingress
- ✓ Malicious activations
- ✓ No access to premises
- ✓ Call point misuse
- ✓ Artificial smoke
- ✓ Hot works
- ✓ Sprinkler maintenance
- ✓ Contractor activity
- ✓ System maintenance

7.11 Delays to Outputs and 7.12 Dependencies on More Than One Alarm (Option with Requirements)

This European Standard outlines the requirements that control and indicating equipment must meet in relation to delaying the activation of outputs to fire alarm devices including callpoints and detectors. To comply with the standard, the following false alarm options must be available:

Investigation Delay (Delay to Outputs)

This can be used to delay the operation of certain outputs after the fire alarm condition is displayed.

Advanced fire panels have built-in false alarm management features that meet the requirements of this standard.

Alarm Verification (Dependencies on more than one alarm)

Features that can help verify if an activated condition from a device is considered to be a genuine alarm before the fire alarm condition is displayed on the panel.



For full details of the standard, please refer to this document from the FIA.



Leuchie House in East Lothian, Scotland, is a respite centre for people with multiple sclerosis. It is protected by an Advanced 4-loop MxPro 5 panel with AlarmCalm false alarm management.

How AlarmCalm Can Help

AlarmCalm has the solution for common false alarm problems. Fire alarm risks vary based on the type of building and building use. Different false alarm strategies can be put in place depending, for instance, on the length of time that a building, or area of a building, is occupied. Here are some common scenarios.



Apartment blocks

Problem
Steam from showers, smoke from cooking and call point misuse can lead to unnecessary evacuations – annoying residents and deterring prospective tenants.

Solution
If someone in a flat creates cooking smoke, their verification sounder will activate. If they have an AlarmCalm button installed, they can press it to silence the sounder, extend the verification time and give the smoke chance to clear. During verification, if no other device activates and the smoke dissipates, the system will return to normal, avoiding unnecessary evacuation of other residents. If the problem becomes more serious and smoke persists beyond the verification time, a second device activates or the heat element of a multisensor is triggered, this will verify the alarm and the building or apartment can be evacuated.



Supermarket bakery

Problem
Repeated false activations can be caused by heat, steam and smoke from in-store bakery ovens. When the problem persists, staff sometimes turn off their whole fire system in frustration – with serious potential consequences.

Solution
If smoke from the oven activates a multisensor, a configurable internal timer can be programmed to begin (in line with EN54 Part 2 Section 7.12 – Dependencies on more than one alarm signal) and a verifying message display on the fire panel. The output devices (sounders) will be held off for the period of the timer, or the delay period can be extended further (using the AlarmCalm acknowledgement module) to investigate the root cause. If the smoke clears and no heat is detected, the system will return to normal, avoiding unnecessary evacuation.



Manufacturing plants – shop floor

Problem
High temperatures, dust and chemicals can all increase the chance of unwanted alarms and unnecessary evacuations in manufacturing plants, causing production downtime and potential loss of business. On a shop floor, steam or smoke can occur around the clock.

Solution
Setting up an investigation delay time means that activation of a detector will register on the fire panel and display a fire event with the countdown timer counting down to 0. If no other detector is activated during the countdown, the system will go into alarm. However, if the alarm is acknowledged, the investigation period can be extended. Operation of a second device within the same area would indicate that the fire has spread. This will cancel the investigation, set the system in full alarm and trigger a full evacuation.

This meets the requirements of Section 7.11 options with requirements/delay to outputs. Manual call points by default will override the timer delay, but can also be configured to start the investigation. The maximum delay for both stage 1 and stage 2 timers must not exceed 10 minutes.



The Complete, Advanced False Alarm Management Solution

MxPro⁵ Axis^{EN} Go AxisGo

AlarmCalm software is available for MxPro 5, Go, Axis EN and AxisGo fire panels and allows total control and configurability of the false alarm strategy across any site.



Fast, high-performance fire panels

Advanced is renowned for the performance and speed of its panels and networking. These provide the foundation for complete, high-performance false alarm management.

Whilst detector technology screens any false signals in the detector heads themselves, Advanced fire panels analyse the signals received from the sensors and interpret this information to determine if the fire signal is real. The panels match detector signals with powerful cause-and-effect programming, and use a range of verification and investigation delay procedures to significantly reduce false alarms.

Easy to set up

The basic elements of false alarm management can be set up directly from the panel. These include adjusting the day/night sensitivity, using built-in 7-day time clocks to control any input/output device and delays on sounder/relay operation.

Setting up the full range of false alarm management functions, including customised options for verification and investigation delay, is easy to do via the in-built DynamixTools software on a laptop or PC.



Intelligent alarm acknowledgement

The AlarmCalm module is an *optional* button within our AlarmCalm system. It allows the residents of a building to verify and acknowledge false alarms, one of the most potent methods of false alarm reduction.

The AlarmCalm button is a fully intelligent loop device. It is compatible with a standard, UK single-gang backbox and installation is quick, inexpensive and looks good. As it's intelligent, the button offers multiple configuration options. It is compatible with Axis EN systems and on MxPro 5 Apollo and Argus Vega protocols.



Verification dependencies and delay technology

Operating at exceptionally high speeds, AlarmCalm's sophisticated verification and investigation delay technology provides the maximum possible time to check if an alarm is genuine, thereby avoiding unnecessary building evacuation. It can be configured to your exact needs based on variables such as device type, number of activated devices, time of day or day of the week.

- **Alarm Verification** automatically checks if a device activation is genuine before a fire condition is displayed on the panel. This is ideal for when the designated responsible person is not available on site.
- **Investigation Delays** allow the occupant to physically check if an activated device is genuine after a fire condition is displayed on the panel. This option is suitable when there is a responsible person on site.



Recording via the event log

Any false alarms that do occur when using AlarmCalm are recorded in the event log. This means that recurring false alarms can be investigated to solve the problem.



Programming flexibility

AlarmCalm's programming flexibility makes it highly adaptable across a wide range of settings. You can easily program a variety of alarm verification and investigation delays according to time of day, staff presence and building use.

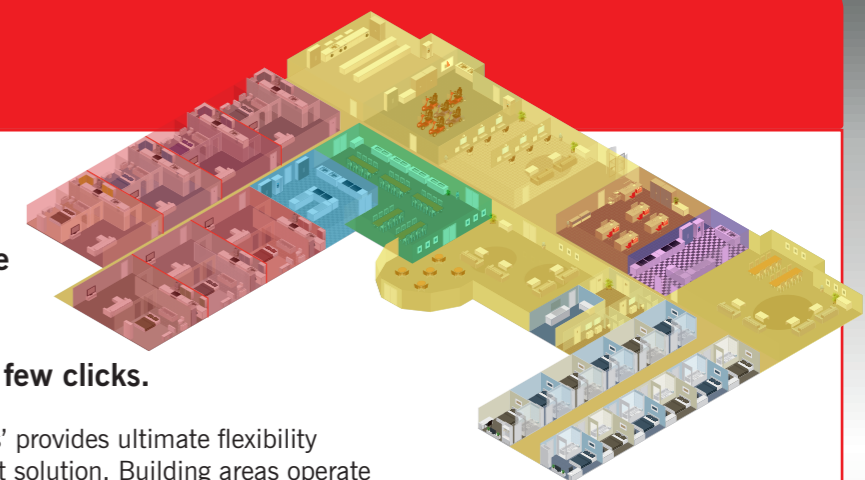
Other special features like 'exam mode' make AlarmCalm ideal for schools or other situations where it's critical to avoid accidental sounder disturbance.



Customised configuration

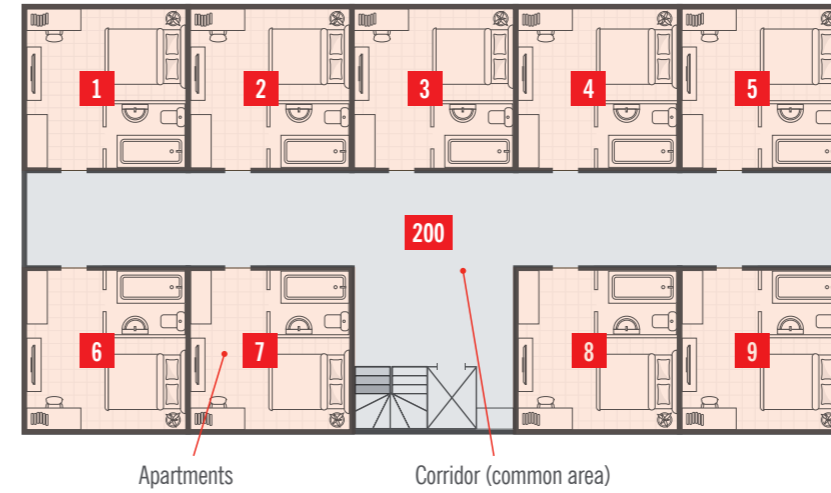
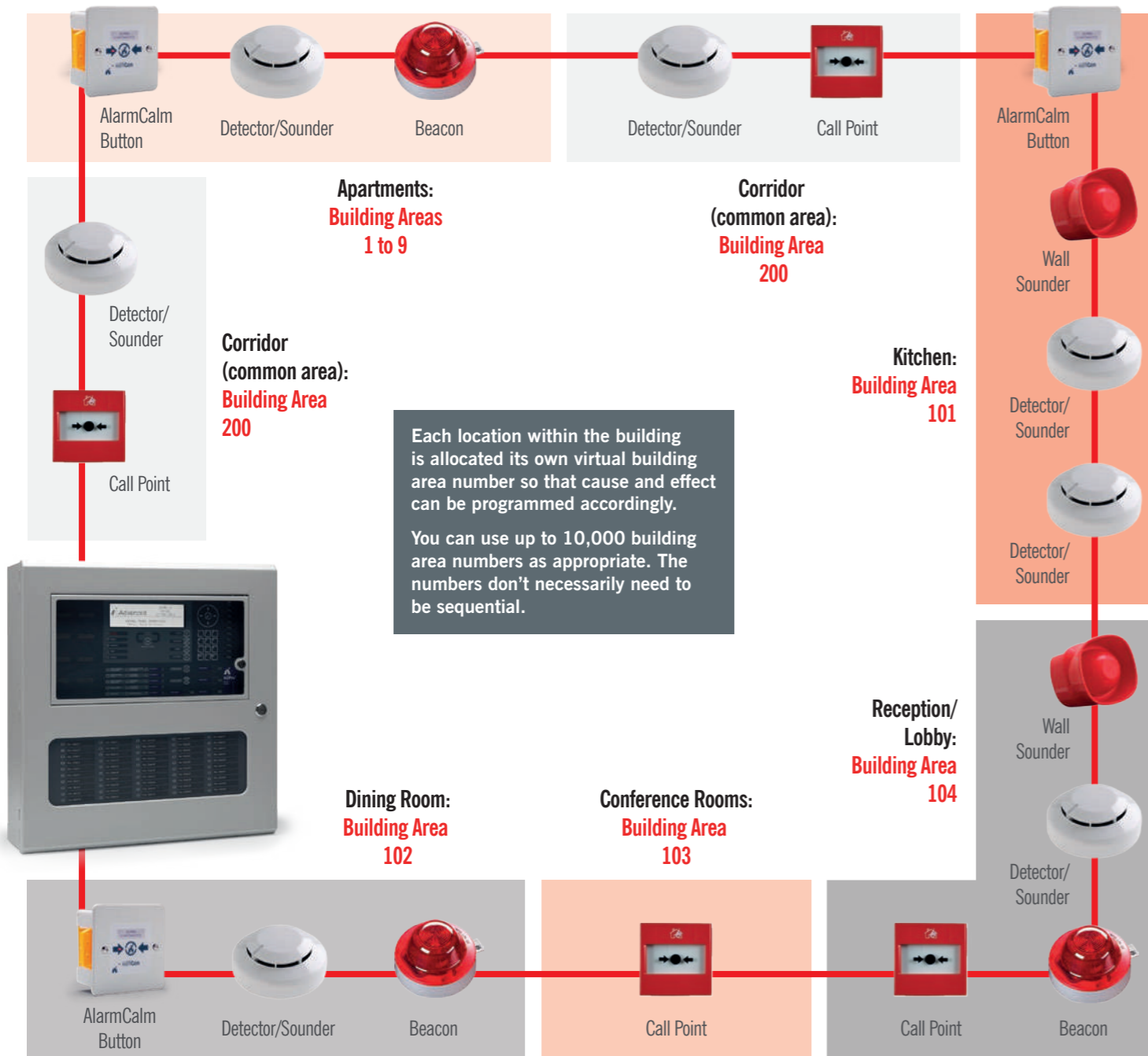
It's easy to configure your false alarm management strategy. All programming is done within our DynamixTool software and all settings are managed via simple yes/no matrices. Even complicated configurations can be set up with just a few clicks.

AlarmCalm's unique use of virtual 'building areas' provides ultimate flexibility in designing an effective false alarm management solution. Building areas operate independently of fire zones, giving users more precise control of false alarm management and reduction strategies that fit the needs of each part of a building.



Virtual Building Areas for Total Flexibility

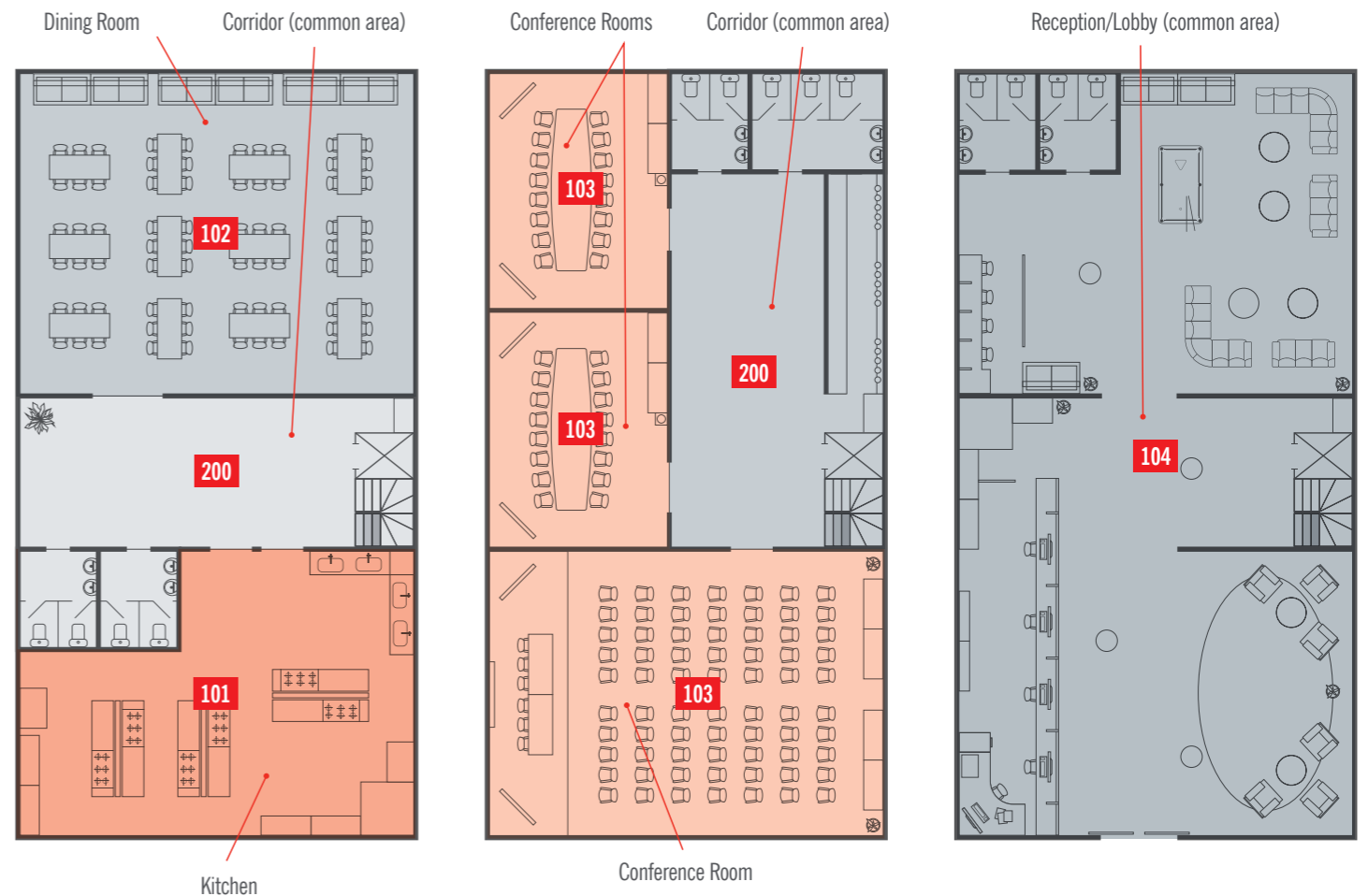
Setting up building areas gives you maximum control to configure your false alarm management software exactly the way you want it. These virtual areas match fire zones by default but can be specified independently, to cover multiple zones and points or individual points. This allows you to design your false alarm management around specific risks on your site rather than being restricted by the fire zones in place.



Each Advanced panel supports 200 building areas and MxPro 5 and Axis EN panels can support up to 40,000 building areas over a large network. Each building area can have entirely independent false alarm management strategies, or can be grouped and share common settings.

To facilitate quick setup, the building area assigned for each device will automatically be set as the device's zone number. However, the building area can also be freely assigned for each point on a panel – and as such every detector, call point, input and output can be allocated to a different building area.

There is no restriction on the number of points or devices in a building area. Each can contain any option – from one detector and sounder, to every device on a panel.



200 = Building Area

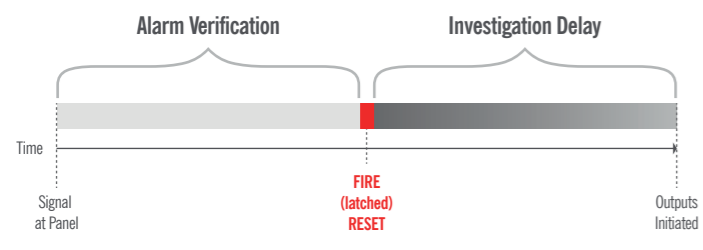
Inbuilt Features for Reducing False Alarms

Advanced panels all have features built into them that help reduce unwanted alarms.

This is based on EN54 Part 2 section 7.11 and 7.12 with delays to outputs and dependency mode operation.

Alarm Verification and Investigation Delay

False alarm management (FAM) is built around configurable time periods that occur either side of a latched fire condition. Alarm verification (type A not displayed and type B displayed) takes place before the fire condition is latched; investigation delays to outputs occur after the fire condition is latched on the panel. They both offer significant but different FAM options and both are managed in the same way in our software, to maximise ease of use and speed of configuration.



Verification and investigation comprise the two stages of complete false alarm management. Both are handled separately but configured in the same simple, powerful way using our AlarmCalm software.

Verification Types

Two kinds of verification methods can be used on the Advanced fire network: Type A Dependency and Type B Dependency.

Type A Dependency (Not Displayed)

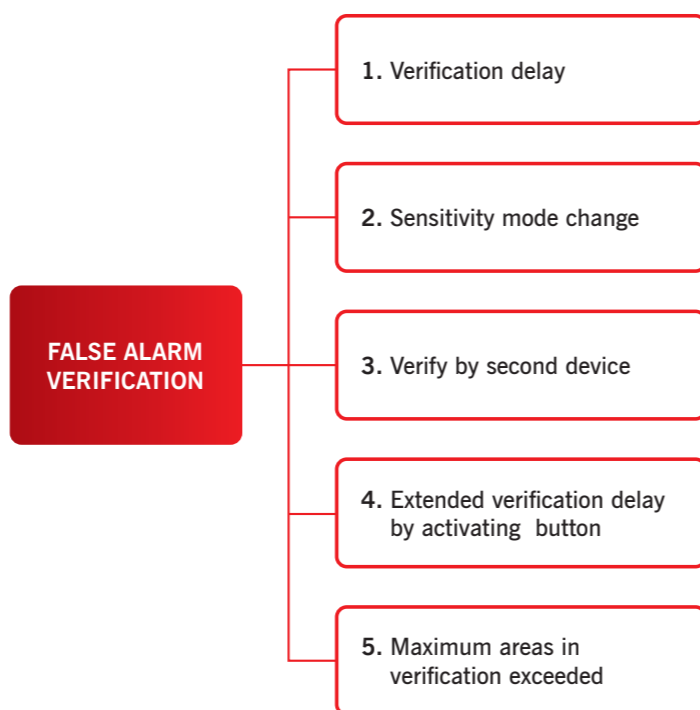
Allows any qualifying detector to go into alarm for up to 60 seconds without it causing a fire. The panel will not display the alarm during the verification period.

Type B Dependency (Displayed)

Delivers great flexibility on every aspect of the verification time and methods, and allows full programming of outputs and visual warnings during the verification period. The alarm location is displayed at the panel and on any associated remote terminals throughout the verification period.

Type C Dependency

Type C dependency is for smaller, less complex fire systems using ringing style delays. Verification methods do not apply to Type C dependency.



Simultaneous Verification Rules

Verification can occur simultaneously in multiple areas. Users can set the maximum number of building areas in verification at any one time before a full fire condition is indicated.

Verification by Building Area

It is sometimes necessary to have different verification strategies for different building areas. With up to 200 building areas per panel, configuration could be complicated, but with AlarmCalm it's incredibly simple. AlarmCalm allows building area configuration to be set by individual area or by 'other areas'. In 'other areas', simply enter the parameters that apply to most building areas, and then add parameters for the individual areas.

Example configuration: In a 50-apartment, multi-occupancy building, all apartments have the same verification requirements but need to function independently. Escape corridors are not allowed any verification.

Solution: Group all the apartments into 'other areas' and apply the verification settings. Configure the escape corridors separately without verification. In a few clicks the whole building is configured.

Day and Night Settings

Different false alarm strategies can be programmed depending on time of day, or day of week, using the programmable time clocks available in the DynamixTools Config software.

For example, different verification settings can be applied during the day and night and investigation delays can be programmed to be in use at different days/times.

Each time clock works on seven-day weeks, allowing different verification or investigation delay strategies to be activated during weekdays, at the weekend and during the day and night.

Verification Mode

AlarmCalm allows devices that support multiple sensitivity modes to verify an alarm using different settings. For example, combined optical/heat detectors can change to heat-only mode to verify the alarm. You can also alter these settings based on day/time.

Multiple Verification Options

The verification strategy for each building area is highly flexible. The following options are supported:

- Allow verification: Yes/no
- Extend verification period/silence verification outputs using an AlarmCalm button
- Verified by second device within the same building area
- Verified by mode change e.g. an optical/heat detector can confirm fire if it confirms a signal in both smoke and heat modes.

Multiple Verification Inputs

Verification can be set quickly according to device type in each building area. Heat, smoke, multi-sensors and other inputs (call points or any input modules) can be used as verification inputs and set by all devices of each type – or individually per device.

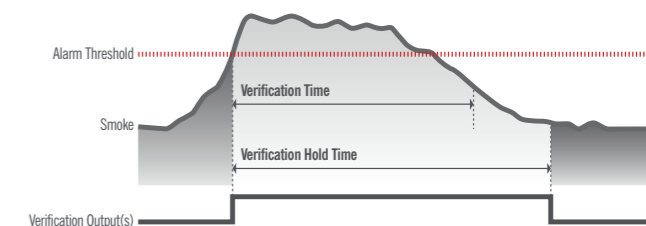
Multiple Verification Outputs

Sounders, beacons and relays in each building area can be operated during the verification period and can be quickly set by all devices of each type or individually by point.

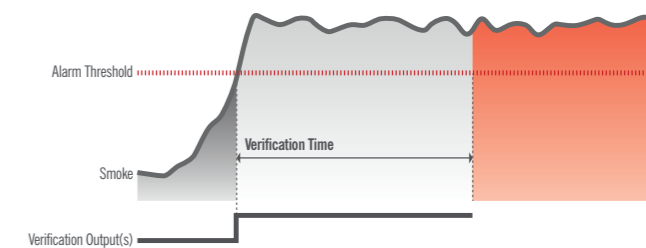
Multiple Verification Options for Type B Dependency

Type A (Not Displayed) dependency is fixed at 60 seconds. However, with Type B (Displayed) alarm verification, AlarmCalm delivers a number of adjustable timing parameters. The verification time starts from the instant the smoke in a detector increases above alarm threshold or any other applicable input device is activated. The panel will turn on any programmed verification outputs for the building area during the verification time. Verification hold time helps ensure that transient signals are displayed on the panel long enough to be acknowledged and investigated, but still trigger full alarm conditions when necessary.

If the alarm signal clears before the verification time period has elapsed, the system returns to normal operation after the verification hold time elapses. This can be more or less than the verification time. If the smoke or signal from a device remains above the alarm threshold when the verification time elapses, the panel will go immediately into full alarm condition.



Signal cleared before verification time expires – no signal. Without verification hold time the panel would return to normal as soon as the signal dropped below alarm threshold.



Signal not cleared, system in full fire condition at end of verification time.

Type C Sounder Ringing Style

Sounders can be programmed to turn on using different ring styles to distinguish each stage of the verification or investigation delay periods.

Investigation Delays to Outputs

Output delays are managed in AlarmCalm in exactly the same way as verification delays, and with the same degree of flexibility. Day/night settings can be applied, as can the maximum number of building areas to be investigated. Delayed alarm inputs can be set quickly by all devices of each type, or individually by point.

FALSE ALARM VERIFICATION

1. Delayed by individual device or device type
2. Maximum number of areas to investigate exceeded
3. Operation dependent on time of day/day of week
4. Operation of configurable outputs
5. Cancel delay on coincidence (double knock)

Delays to Output by Building Area

Cancel on coincidence can be set by building area allowing a second device in the same building area to override the delay. The maximum number of building areas to be investigated at any one time can be set, allowing full fire conditions to be activated more precisely than ever before.

Global Acknowledgement

Panel inputs (e.g. a button on the panel) can be configured to extend the verification period, regardless of the building area in verification or output delay. Options include:

- Alarm verification only: Verification alarm in any building area is acknowledged without any effect on verification outputs.
- Alarm verification with silence: Verification alarm in any building area is acknowledged and outputs are turned off.
- Delaying outputs/verification: Dual function acknowledges both investigation delay and verification alarms.

False Alarm Management and Networks

Each panel is configured with its own verification strategy allowing each panel's strategy to be changed without affecting the network. By default, all network nodes will be aware of verification alarms occurring at other nodes.

The effects of this can be limited:

- Network display of verification can be suppressed
- Maximum areas in verification can be monitored network-wide
- Global alarm acknowledgement from other panels can be included or excluded by sector.

Full Event Log

All verifications and delays are recorded in panel event logs.



Bulgaria's Communications Regulation Commission

Bulgaria's Communications Regulation Commission in Sofia is protected by an Axis EN fire system including false alarm management.



The Bay Campus at Swansea University

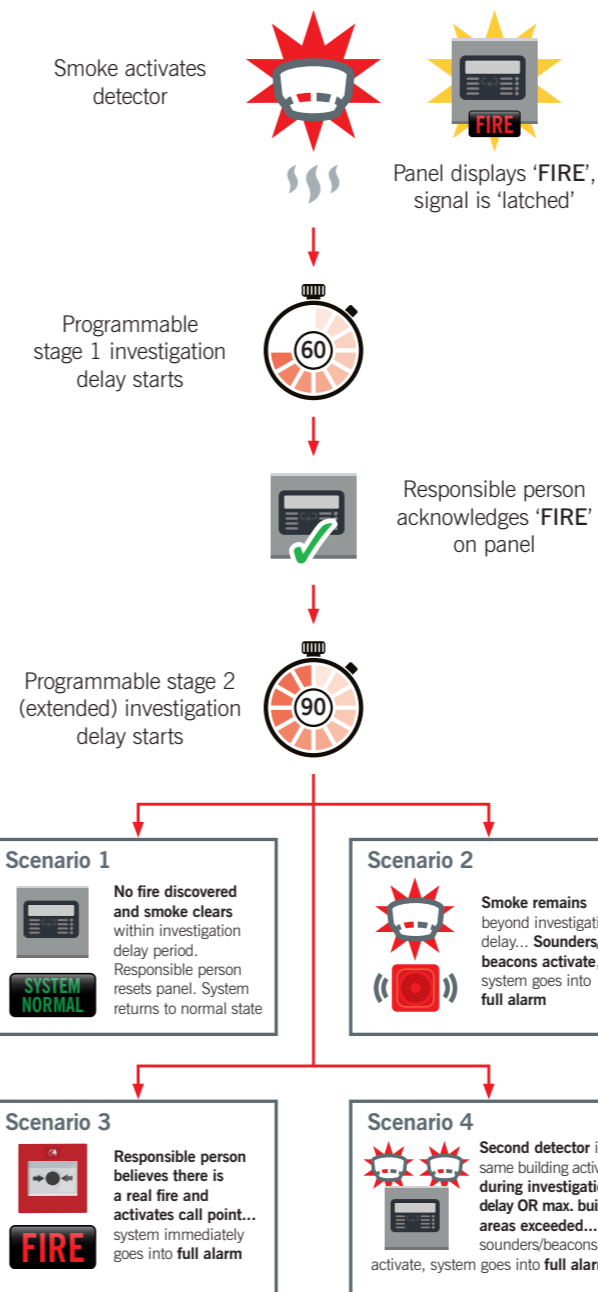
The Bay Campus at Swansea University is protected by a network of Advanced MxPro 5 fire panels including false alarm management.

Example Investigation Delay

During the hours when a building is staffed, you can set an investigation delay to trigger a pre-programmed countdown when a detector is activated. This gives staff time to attend the area in question and check if the alarm's cause is reason to evacuate.

If the detector activation is false, you can reset the panel and avoid unnecessary evacuation. If a fire has caused the activation, you can immediately halt the delay and put the system into full alarm to initiate evacuation.

These delay the operation of certain outputs after the fire condition displays on the panel



Investigation Delays:

Used to: Physically check if an activated device is genuinely in alarm *after* a fire condition is displayed on the panel.

Ideal for circumstances when: A Responsible Person is usually present.

Benefits: Human input brings certainty in identifying the cause of the alarm. Flexibility - can be turned on/off depending whether the Responsible Person is present. Reduced false alarms.



Heythrop Park Hotel, Oxfordshire, UK

Dating back to 1710, the hotel is protected by two networked MxPro 5 panels controlling ten loops and supporting more than 700 individual devices.

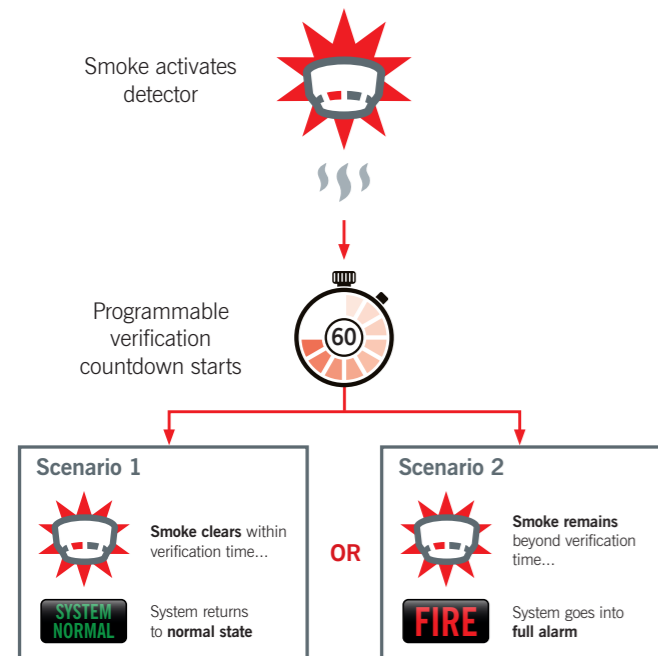
Alarm Acknowledgment Module

Example Verification Delay

AlarmCalm is invaluable in ensuring that only genuine incidents initiate full alarm mode, thereby minimising cost, inconvenience and complacency while providing complete peace of mind.

You can set a verification delay, which allows the system to automatically check if an activated device is genuinely in alarm before a fire condition is displayed on the panel.

AlarmCalm allows a range of alarm verification methods



Verification Delays:

Used to:

- Automatically check if an activated device is genuinely in alarm before a fire condition is displayed on the panel.

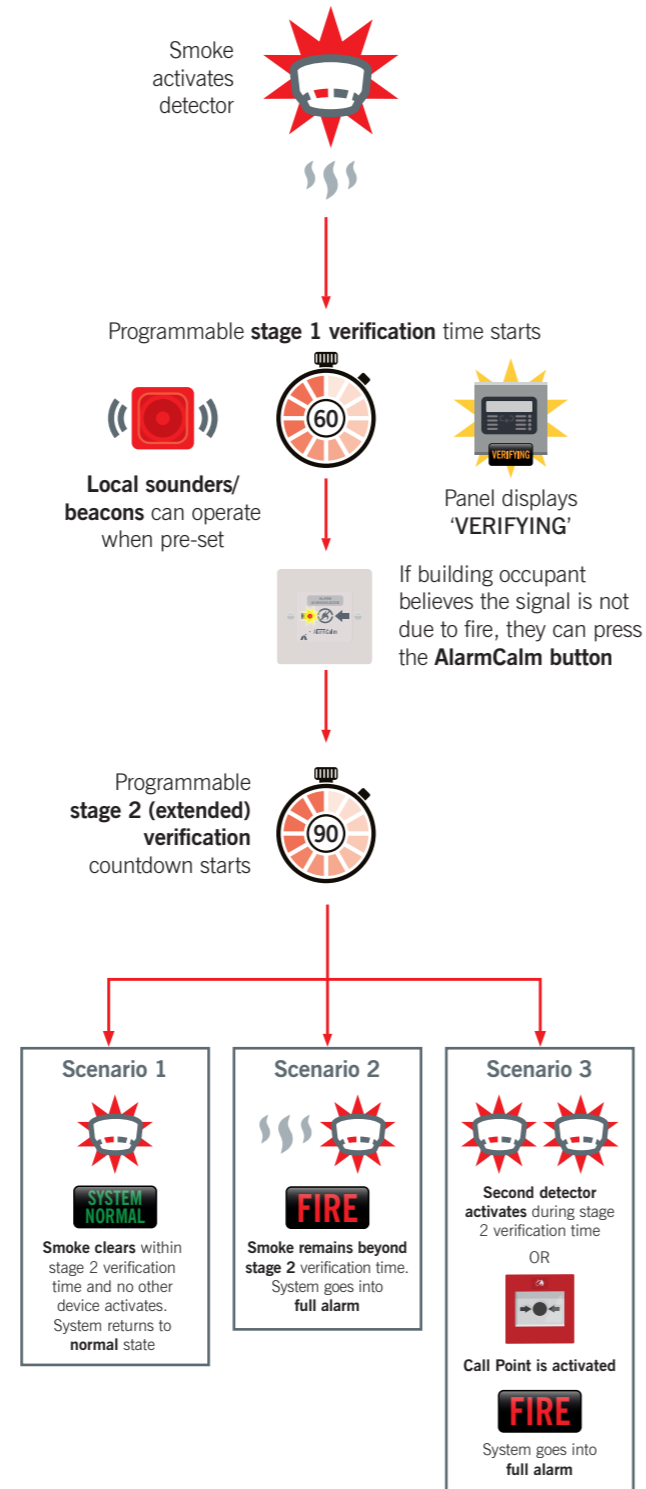
Ideal for circumstances when:

- A Responsible Person is not always in attendance.

Benefits:

- System works 'independently' and can verify the alarm without human input.
- Flexible - many timing options and scenarios can be easily accommodated.
- Reduced false alarms.

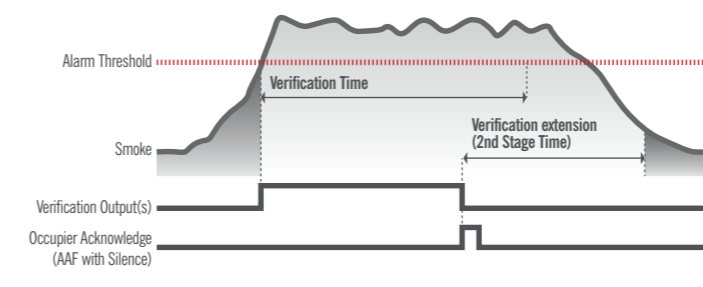
Extended verification delay by activating AlarmCalm button



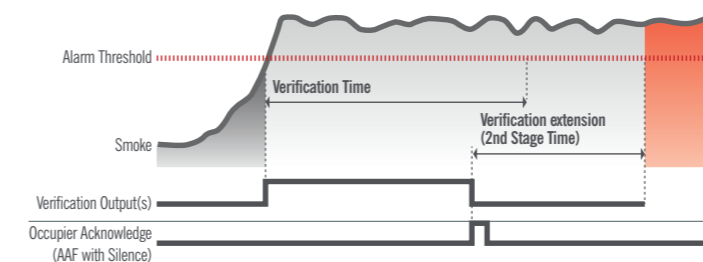
The AlarmCalm module is an optional fully intelligent loop device. It allows building occupants to acknowledge a fire alarm signal locally – for example, if they believe a smoke detector has signalled an alarm because of burnt toast or water vapour from a shower. The button allows anyone to manually clear the false alarm; you don't need to be an installer or maintenance engineer.

The AlarmCalm button extends the verification time set in the building area by a specified amount, giving time for any transient signal to clear.

Upon activation, the AlarmCalm button starts a pre-programmed second stage time that extends the verification time set in the building area by a specified amount. This gives time for any transient signal to clear.



2nd Stage Verification Time started on activation of AlarmCalm button. Signal drops below alarm threshold before end of 2nd Stage Time. System returns to Normal.



Signal remains above alarm threshold at end of 2nd Stage Time. System enters full alarm condition.

The AlarmCalm button is highly flexible and easily installed and configured:

- Push-button operation
- Customisable slide-in label
- Acknowledge signal and silence verification outputs (sounders, strobes, modules)
- LED pulse on stage one activation, constant on AlarmCalm button activation
- Programmable AlarmCalm button buzzer on activation
- Set different sounder ring styles for each event/time period
- Day/night/day of week operation by time clocks
- Verification by second device or mode change
- Programmable maximum number of AlarmCalm buttons in operation before full fire condition signalled
- All time periods user defined
- Compatible with standard single-gang UK electrical back box
- Compatible with Advanced's MxPro 5 and Axis EN fire systems*
- Wiring terminations suitable for all Advanced-recommended loop cables.

*Apollo and Argus Vega protocols only

Parts List and Order Codes

AlarmCalm	
Mxp-541A-002	AlarmCalm button - Apollo protocol
Mxp-541V-002	AlarmCalm button - Argus Vega protocol

How Alarm Verification and Investigation Delays Differ

Alarm Verification

Used to:
Automatically check if an activated device is genuinely in alarm **before** a fire condition is displayed on the panel.

Ideal for scenarios:
Where Responsible Person is not always in attendance.

Benefits:

- ✓ System works 'independently' and can verify the alarm without human input.
- ✓ Flexible – many timing options and scenarios can be easily accommodated.
- ✓ Reduces false alarms.

All **verification delays** take place **BEFORE** the signal is latched on the panel



Investigation Delays

Used to:
Physically check if an activated device is genuinely in alarm, **after** a fire condition is displayed on the panel.

Ideal for scenarios:
Where Responsible Person is usually in attendance.

Benefits:

- ✓ Human input brings certainty in identifying the cause of the alarm.
- ✓ Flexible – can be turned on/off depending whether Responsible Person is present.
- ✓ Reduces false alarms.

All **investigation delays** take place **AFTER** the signal is latched on the panel

Verification Types

Two kinds of verification methods are allowed on an Advanced fire system.

Type A (Not Displayed) Allows any qualifying detector to go into alarm for up to 60 seconds without it causing a fire. The panel will not display the alarm during the verification period.

Type B (Displayed) Allows full programming of outputs and visual warnings during the verification period. The alarm location is displayed at the panel and on any associated remote terminals throughout the verification period.

Panel Indication:

SYSTEM NORMAL
No indication on panel in **Type A** verification.

OR

VERIFYING displays on panel in **Type B** dependency.

5 Main Verification Options:

- 1 Verification delay
- 2 Sensitivity mode change
- 3 Verification by 2nd device
- 4 Extended verification delay by activating AlarmCalm button
- 5 Maximum areas in verification exceeded

Verification Outcome Options:

VERIFYING Local occupants alerted to possible real/false alarm.

OR

FIRE System goes into full fire alarm mode.

OR

SYSTEM NORMAL System returns to normal, depending on whether signal persisted or cleared during verification time.

N.B. Verification lets system work independently.

Panel Indication:

FIRE automatically displays on panel. Signal is 'latched' until reset by a **Responsible Person**.

N.B. Investigation delays require input from Responsible Person.

5 Main Investigation Options:

- 1 Delayed by individual device or device type
- 2 Two-stage countdown timer displayed on the panel
- 3 Operation dependent on time of day/day of week or by key switch control
- 4 Extended verification delay by activating button or by pressing '0' button on panel or by designated switch
- 5 Cancel delay on coincidence (double knock) or if maximum investigation areas is exceeded

Investigation Outcome Options:

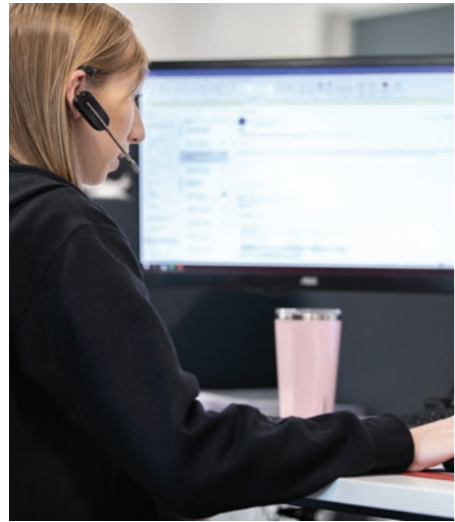
FIRE Fire is confirmed by Responsible Person or pre-programmed set of signals.

System goes into full fire alarm mode after countdown timer has elapsed.

OR

SYSTEM NORMAL System returns to normal, if:

- Signal clears and Responsible Person resets the panel.



Technical Support

Highly rated customer support. Available by telephone and online.

As an Advanced customer, you have access to a host of helpful advice and support.

This includes a wealth of online information, from 'how to' videos to datasheets and detailed product manuals. Simply complete one of our online forms and you'll be able to access a range of additional services, previously available to those with an Advanced360 account.

Services include:

- **Technical support** – available by phone and online from one of our experienced technical support engineers.
- **Training** – view dates available. Direct customers can book training certificates by email. If you need to access a previous training certificate, simply complete an online request form. All non-direct customers should book training through their distributor.



- **Software** – download software and save your software packages by installation/site.
- **Literature** – download manuals, specifications, approved partner certificates, technical information and more.
- **Warranty** – Download our warranty statement.



advancedco.com/training-support

MxPro⁵ Go^{*} Axis^{EN} AxisGo

Powerful, flexible false alarm management

AlarmCalm is the solution to common false alarm scenarios that's simple to install and easy to configure.

It's available on every panel in our MxPro 5, Go, Axis EN and AxisGo ranges, and provides ultimate peace of mind that you can control the false alarm strategy across any site.

To find out more visit www.advancedco.com or watch our short film on common false alarm scenarios.



Creating a safer future

Advanced – made in the UK. Trusted around the world.

Contact us to discuss your fire safety requirements:
advancedco.com | enquiries@advancedco.com | +44 (0)345 894 7000





Email: enquiries@advancedco.com
Web: www.advancedco.com



AlarmCalm and all other Advanced product brands are trademarks of Advanced Electronics Ltd. All rights reserved.



A **Halma** company