



**AlarmSense**<sup>®</sup>

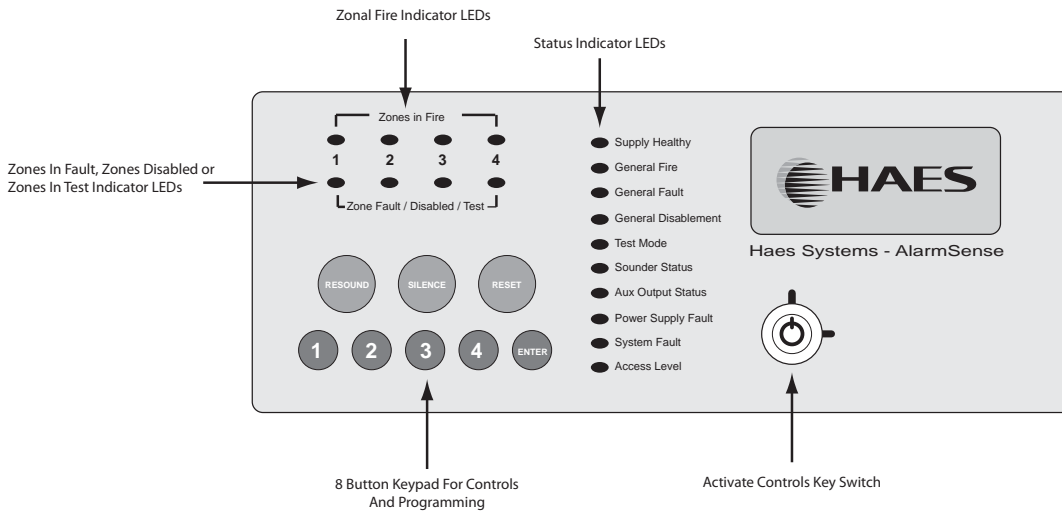
EN54 APPROVED 2 - 4 ZONE ALARMSENSE CONTROL  
PANEL

## Installation, Commissioning & Operating Manual



810a/05

## PANEL CONTROLS & INDICATIONS



### Activate Controls

In normal standby mode the keypad controls are inactive to protect from unauthorised operation. Controls can be activated by using the 'Activate Controls' key switch or by entering a four digit code using the keypad.

The use of a code entry to activate the controls is enabled by default but can be disabled in the engineering functions.

**To activate the controls using the key switch;** turn the key clockwise to the 'On' position. The 'Access Level' indicator LED will light and all buttons on the keypad will now be operational. To deactivate the controls, turn the key back to the 'Off' position and the 'Access Level' indicator LED will extinguish.

If the key switch is in the 'On' position the keypad will remain active.

**NOTE :** It is not possible to remove the key in the 'On' position.

**To activate the controls using the keypad;** enter the four digit code using buttons 1 - 4. The factory default code is 1-2-3-4 but can be changed in the engineering functions. After entering the four digit code press the 'ENTER' button. The 'Access Level' indicator LED will light and all buttons on the keypad will now be operational.

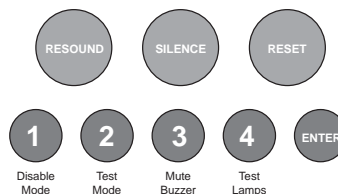
After activation by code entry, controls will automatically deactivate again after 2 minutes and the panel will return to standby mode.

The test lamps and mute buzzer functions are operational without the need to activate controls.

Status LED Indicators

	LED On	LED Pulsing
<b>Zones in Fire 1 - 4</b>	N/A	Indicates alarm condition in zone.
<b>Zone Fault/Disabled/Test 1 - 4</b>	Indicates zone circuit is disabled or in test mode.	Indicates a fault in the zone circuit.
<b>Supply Healthy:</b>	Indicates mains and/or battery supply is present.	N/A
<b>General Fire:</b>	N/A	Indicates panel is in alarm condition.
<b>General Fault:</b>	N/A	Indicates one or more faults are present.
<b>General Disablement:</b>	Indicates one or more circuits have been disabled.	Indicates disablement selection mode is active.
<b>Test Mode:</b>	Indicates one or more circuits are in test mode	Indicates test mode selection is active.
<b>Sounder Status:</b>	Indicates sounder circuits have been disabled or are in test mode	Indicates a fault on one or more sounder circuits.
<b>Aux Output Status:</b>	Indicates auxiliary outputs have been disabled.	N/A
<b>Power Supply Fault:</b>	N/A	Indicates a power supply or battery fault.
<b>System Fault:</b>	Indicates a system failure, panel not functional.	Indicates the panel has recovered from a system fault.
<b>Access Level:</b>	Indicates controls are active (access level 2).	Indicates panel is in configuration mode (access level 3).

Keypad



<b>RESOUND (red):</b>	Use to resound the alarms after they have been silenced. Can also be used to invoke full evacuation.
<b>SILENCE (blue):</b>	Use to silence the sounders during an alarm condition.
<b>RESET (green):</b>	Resets the panel back to standby mode.
<b>1: (Disable Mode)</b>	With controls inactive, use to initialise code entry mode for activation of controls. With controls active, use to disable zones, sounder circuits or aux outputs (see DISABLE MODE section). Also has the numeric value 1 for code entry.
<b>2: (Test Mode)</b>	With controls inactive, use to initialise code entry mode for activation of controls. With controls active, use to put zones or sounders circuits into test mode (see TEST MODE section). Also has the numeric value 2 for code entry.
<b>3: (Mute Buzzer)</b>	Mutes the panels internal fire and fault buzzer. (The buzzer will still blip every 5-6 seconds during a fire or fault condition). This function is operational without the need to activate controls. Also has the numeric value 3 for code entry.
<b>4: (Test Lamps &amp; Buzzer)</b>	Use this button to illuminate all LEDs and sound the internal buzzer to check that they are working correctly. This function is operational without the need to activate controls. Also has the numeric value 4 for code entry.
<b>ENTER:</b>	This button is used to confirm code entries. It can also be used for fault diagnosis (see FAULT DIAGNOSIS section).

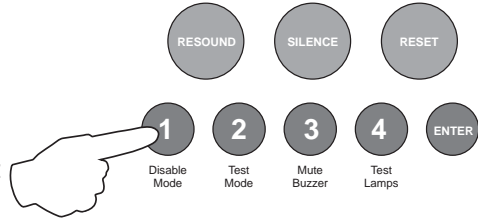
Some buttons have other functions within the engineering facilities. These functions are described in the relevant sections.

## DISABLE MODE

Disable Mode is used to disable or isolate individual zone circuits or all sounder circuits or all auxiliary outputs.

To initialise Disable Mode, firstly activate the controls by turning the key switch or by entering the four digit code. Then press and hold the Disable Mode button (1) for 3 seconds.

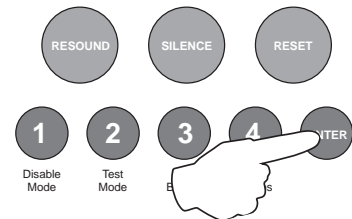
After 3 seconds the panel will bleep and the General Disablement LED and Zone 1 Fault/Disabled/Test LED will pulse slowly, indicating that Zone 1 is in disable selection mode.



Pressing the Disable Mode button again will move disable selection mode to Zone 2 and the Zone 2 Fault/Disabled/Test LED will be pulsing instead. Subsequent presses will move the selection to Zones 3 and 4.

After Zone 4 the next press will move the selection mode to the sounder circuits, indicated by the Sounder Status LED and then to the Aux outputs, indicated by the Aux Output Status LED. Pressing the button once more will move the selection back to Zone 1 again.

When the desired circuit or output to be disabled is indicated by a slow pulsing LED, use the ENTER button to select it. Once selected the indicator LED will change to a rapid pulse. Pressing ENTER again will toggle the circuit between disabled and enabled. Then use Disable Mode button again to move to the next circuit. Any or all circuits can be disabled simultaneously.



When all disablements have been set, press and hold the Disable Mode button for 3 seconds again. This will exit the disable selection mode and the panel will return to standby. All disabled circuits and the General Disablement will now be indicated by a steady LED.

To enable the circuits again, repeat the above process using the Disable Mode button to select the circuit and the ENTER button to remove the disablement.

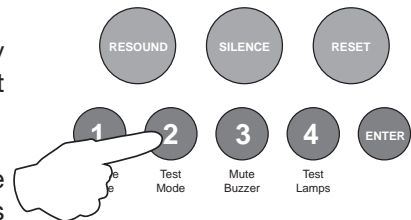
**Tip:**

With the controls active, pressing the Disable Mode button briefly will reveal which circuits are disabled (as opposed to in test mode). This is useful if using Disable Mode and Test Mode at the same time.

**TEST MODE**

Test Mode is used when testing the fire alarm system. In test mode the devices in the zone(s) in test, detectors and call points etc, can be activated and the panel will automatically reset, enabling the system to be tested by one person. It is possible to test head removal monitoring and to test the system with or without the sounders.

To initialise Test Mode, firstly activate the controls by turning the key switch or by entering the four digit code. Then press and hold the Test Mode button (2) for 3 seconds.

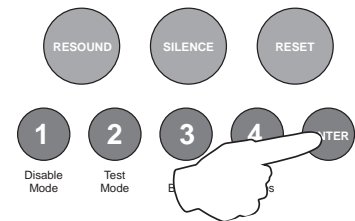


After 3 seconds the panel will bleep and the Test Mode LED and Zone 1 Fault/Disabled/Test LED will pulse slowly, indicating that Zone 1 is in test selection mode. The Sounder Status LED will also be pulsing rapidly, this indicates that the test will be **with** sounders. (Test mode without sounders is explained below)

Pressing the Test Mode button again will move test selection mode to Zone 2 and the Zone 2 Fault/Disabled/Test LED will be pulsing instead. Subsequent presses will move the selection to Zones 3 and 4.

After Zone 4 the next press will move the selection mode to the sounder circuits, indicated by no Zone Fault/Disabled/Test LEDs on. This position selects whether or not the sounders will ring during test. Pressing the button once more will move the selection back to Zone 1 again.

When the desired zone to be tested is indicated by a slow pulsing LED, use the ENTER button to select it. Once selected the indicator LED will change to a rapid pulse. Pressing ENTER again will toggle the zone between in and out of test. Then use Test Mode button again to move to the next zone. Any or all zones can be in test mode simultaneously.



When at the sounder status position, use the ENTER button to toggle between testing with or without sounders. A rapid pulse = with sounders (default), a slow pulse = without sounders.

When all zones to be tested have been set, press and hold the Test Mode button for 3 seconds again. This will exit the test selection mode. All zones in test and the Test Mode will now be indicated by a steady LED.

To take zones out of test mode, repeat the above process using the Test Mode button to select the zone and the ENTER button to change the status.

**Test Mode With Sounders**

Activation of a call point or detector - sounders will pulse twice, device is automatically reset.  
Removal of a detector - sounders will pulse once.

**Test Mode Without Sounders**

Activation of a call point or detector - panel buzzer and LED response only, device is automatically reset.

**Tip:**

With the controls active, pressing the Test Mode button briefly will reveal which circuits are in test mode (as opposed to disabled). This is useful if using Disable Mode and Test Mode at the same time.

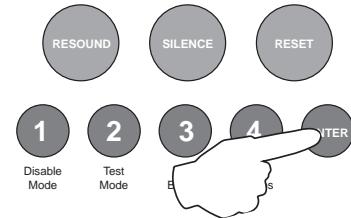
## FAULT DIAGNOSIS

If the panel has detected a fault on the system the General Fault LED will be illuminated and the internal fault buzzer will sound. Secondary LEDs will also be illuminated depending on the location of the fault.

Pressing and holding the ENTER button will reveal more detailed information about the location and type of fault.

This function will not work if the panel is in a fire condition. If no faults exist pressing the ENTER button will have no effect.

This function is only operational when controls are not active.



The following table shows details of the indications in fault diagnosis mode:

LED Indicator & State before pressing ENTER	LED Pulsing after pressing ENTER	LED Steady after pressing ENTER	LED Off after pressing ENTER	Location
Zone 1 Fire LED (off)	Sounder circuit 1 short circuit	Sounder circuit 1 open circuit	OK	Main PCB SNDR 1
Zone 2 Fire LED (off)	Sounder circuit 2 short circuit	Sounder circuit 2 open circuit	OK	Main PCB SNDR 2
Zone 1 - 4 Fault/ Disabled/Test LED (pulsing)	Zone # short circuit	Zone # open circuit	(slow pulse) Zone # detector removed	Main PCB Zones 1 - 4
Zone 1 - 4 Fault/ Disabled/Test LED (steady)	N/A	N/A	Zone # disabled or in test mode	
Power Supply Fault LED (pulsing)	Mains failure	Battery failure or high impedance	Voltage fault	Main PCB

**FUNCTIONALITY DURING A SYSTEM FAULT**

A system fault is indicated when a processor controlling a function in the panel has a watchdog time out or processor failure. In the event of a system fault the particular board affected may not be functional. The following indications may be observed.

**Display Board**

System Fault LED only continuous and continuous buzzer sound. Display board TPCA02 is halted and no other indication or control is possible. Fault relay and fault output are activated. If a fire occurs alarm sounders and outputs will still function.

**Main Board**

System Fault LED continuous and General Fault LED pulsing and continuous buzzer sound. Main board is halted. Fault relay is activated. No alarms may be activated on the system.

**System Fault recovery**

System Fault LED pulsing and General Fault LED pulsing along with a pulsed buzzer (fault tone) a system fault has occurred and the affected board has recovered. The indication will remain until the panel is reset.

**USER INSTRUCTIONS**

If an alarm condition is present YOU MUST FOLLOW YOUR NORMAL FIRE DRILL PROCEDURES.

A responsible person should then:-

1. Check the control panel to see which area or zone has caused the system to go into alarm. This will be indicated by a pulsing red LED on the front of the control panel.
2. Go to the area which has caused the alarm to check if a fire exists.
3. Only when it is safe to do so should the alarms be silenced. Activate the controls by turning the key switch or by entering the four digit code (see Activate Controls in the OPERATING section) and press the (blue) SILENCE ALARMS button (fig 1). To sound the alarms again press the (red) RESOUND button (fig 2).
4. In the event of a false alarm look for the device that has caused the alarm. A detector will have a red LED lit, or check to see if a call point glass is broken (if so replace the glass or call an engineer).
5. When fully satisfied that there is no fire, return to the control panel and press the (green) RESET button, (fig 3). The panel display should return to normal and only the green SUPPLY HEALTHY LED should be lit on the control panel.

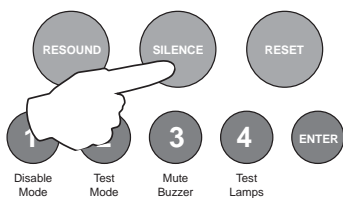


fig 1

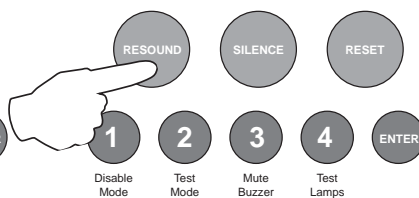


fig 2

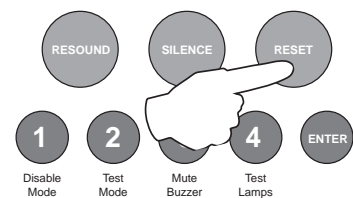


fig 3

**The following section is a summary of the requirements in BS5839 Part 1**

For comprehensive information a copy of BS5839 Part 1 can be purchased from the British Standards Institution via their web site at [www.bsi-global.com](http://www.bsi-global.com).

## THE NEED FOR MAINTENANCE

Your Fire Alarm System is working 24 hours a day, 365 days a year. The detectors and control & indicating panel are operating continuously and the fire alarm circuits are constantly monitored.

Legislation such as the Regulatory Reform (Fire Safety) Order 2005 and other legislation protecting both employees and the public require premises operators to conform with standards for Fire Alarm Systems.

It is a requirement of BS 5839 Part 1 that the system is subject to periodic inspection and servicing so that faults are identified, preventive measures can be taken to ensure the continued reliability of the system, false alarm problems are identified and suitably addressed, and the user is made aware of any changes to the building that affect the protection afforded by the system.

The inspection and servicing recommendations in this clause should be carried out by a competent person. A 'Competent Person' is a person or fire alarm servicing organisation with specialist knowledge of fire detection and fire alarm systems, including knowledge of the causes of false alarms, sufficient information regarding the system, and adequate access to spares.

The period between successive inspection and servicing visits should be based upon a risk assessment, taking into account the type of system installed, the environment in which it operates and other factors that may affect the long term operation of the system. The recommended period between successive inspection and servicing visits should not exceed six months. If this recommendation is not implemented, it should be considered that the system is no longer compliant with this part of BS 5839

## DUTIES OF THE RESPONSIBLE PERSON

The system user needs to appoint a single, named member of the premises management to supervise all matters pertaining to the fire detection and fire alarm system. The role of this person is to ensure that the system is tested and maintained in accordance with the recommendations of BS 5839 Part 1, that appropriate records are kept and that relevant occupants in the protected premises are aware of their roles and responsibilities in connection with the fire detection and fire alarm system.

This person also needs to ensure that necessary steps are taken to avoid situations that are detrimental to the standard of protection afforded by the system and to ensure that the level of false alarms is minimized.

## ROUTINE MAINTENANCE & TESTING

### DAILY

The 'Responsible Person' should check the control panel to make sure no faults or pre-alarm conditions are indicated and that the green 'Supply Healthy' lamp is lit.

### WEEKLY

The Fire Alarm System should be tested on a weekly basis as recommended in BS5839 Part 1 clause 44.2.

Every week a manual call point should be operated during normal working hours. The weekly test should be carried out at approximately the same time each week. Instructions to the occupants should be that they report any instance of poor audibility of the fire alarm signal.

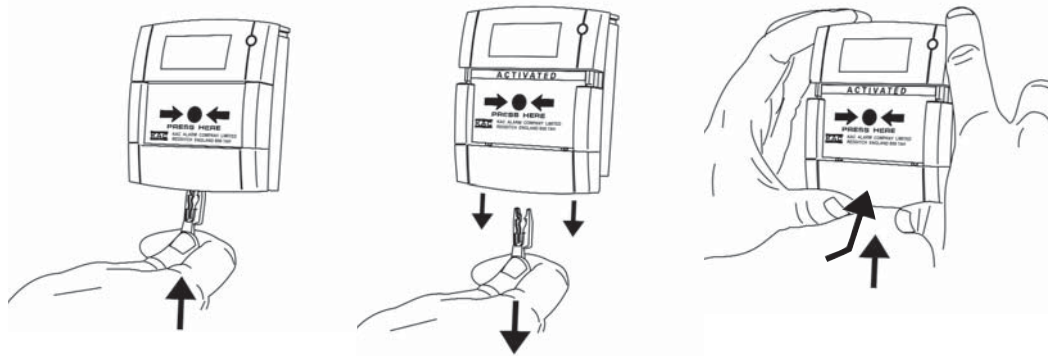
A different manual call point should be used at the time of every weekly test so that all manual call points in the building are tested in rotation over a prolonged period.

The result of the weekly test and the identity or location of the manual call point used should be recorded in the system log book.



## WEEKLY TEST

The call point test key should be inserted firmly and deliberately into the bottom of the manual call point. Once activated it may be necessary to wait up to four seconds before the alarms sound.



Your manual call points may not be the same as the ones described above. If not please refer to your service and maintenance company for instructions.

**Note:**

*Before testing the fire alarm system it may be necessary to isolate ancillary outputs.*

*It is essential that any alarm receiving centre is contacted immediately before and immediately after, the weekly test to ensure that unwanted alarms are avoided and that fire alarm signals are correctly received at the alarm receiving centre.*

## PERIODIC INSPECTION & SERVICING

Inspection & servicing should only be carried out by a 'Competent Person' who has sufficient knowledge to check the whole system. This would normally be a qualified electrical contractor or fire alarm specialist.

Inspection & servicing visits are normally conducted on a quarterly basis unless such factors as a dirty environment warrant servicing on a more regular basis. The maximum period between inspections must not exceed six months.

### Recommendations of BS5839-1 for periodic service visits include:

- Every device on the system should be tested annually. The testing of each device can be split between periodic visits but with a minimum of one detector or call point tested on each circuit, per visit.
- On each visit the 'Competent Person' should check the record of false alarms. Any persistent occurrence should be investigated and corrective action taken as appropriate.
- Battery and connections should be examined and load tested to check serviceable condition and that they are not likely to fail before the next service visit.
- All other devices and control & indicating equipment should be checked for correct operation and any faults should be recorded and rectified.
- Details of the service visit must be recorded in the log book

## EVERY FOUR YEARS

Renew the sealed lead acid batteries and record the fact in the log book





















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2. Go to the area which has caused the alarm to check if a fire exists.
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4. In the event of a false alarm look for the device that has caused the alarm. A detector will have a red LED lit, or check to see if a call point glass is broken (if so replace the glass or call an engineer).
5. When fully satisfied that there is no fire, return to the control panel and press the (green) RESET button, (fig 3). The panel display should return to normal and only the green SUPPLY HEALTHY LED should be lit on the control panel.

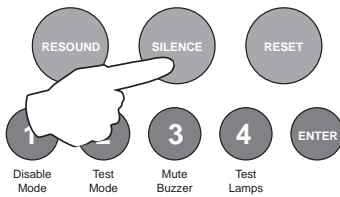


fig 1

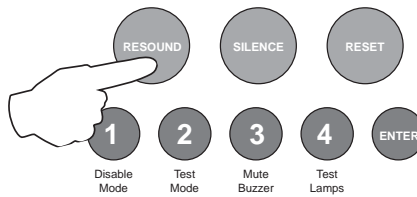


fig 2

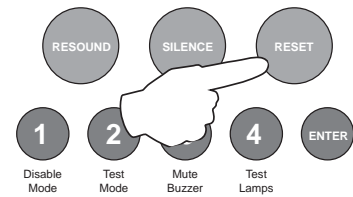


fig 3

**If the system continues to false alarm, call an engineer**

### Fault Condition

If a buzzer is sounding in the control panel but the sounders or bells are not ringing, then there is either a fault on the system, or zones / sounders have been disabled. CALL AN ENGINEER

**The internal fault buzzer can be silenced by pressing MUTE BUZZER (button 3 on the keypad). DO NOT RESET THE SYSTEM UNTIL AN ENGINEER HAS INVESTIGATED THE FAULT.**

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