

**Description**

Combined Optical Smoke and Heat Alarms with a 10-year sealed for life battery back-up. The alarms mount onto a wiring base.

Multiple combined alarms can either be hardwired or wirelessly interlinked together. Combined Optical Smoke and Heat Alarms (1171) can be hardwired linked to other alarms within the series e.g. 1163, 1164, 1169. The combined alarm can be wirelessly linked with a RF switch for remote testing and silencing.

Alarms suitable for BS 5839-6 requirements for Grade D systems.

All products must be installed by a competent person in accordance BS 7671, the current edition of the IET Wiring Regulations.

**Where to Locate**

Combined or Smoke alarms need to be installed in circulation areas of a dwelling, for example, hall ways and landing, as a minimum, and ideally heat alarms need to be installed in kitchens, as required by BS 5839-6, Code of Practice for the design, installation, commissioning and maintenance of fire detection and fire alarm systems in domestic premises.

- Ideally, Combined or Smoke alarms should be located:
- In living and sleeping areas.
  - On each floor of the dwelling.
  - In every room where electrical appliances are operated, e.g. portable heaters, tumble dryers.
  - In each room where there are fossil fuel burning appliances, e.g. gas boilers, cookers, fireplaces.

It may be necessary to install more than one Combined or Smoke alarm in an area, e.g. in halls/corridors that are more than 9m long. See diagram 1.

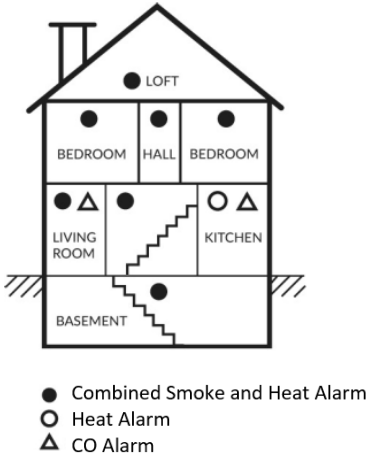


Diagram 1

**Positioning of Alarms**

- Smoke and heat from and burning materials rise to the ceiling and spread horizontally. Mounting the smoke alarm on the ceiling in the centre of the room places it closest to all points in the room. Ceiling mounting is preferred in ordinary residential dwellings.
- If smoke alarms are not positioned centrally on a ceiling within a room, it is recommended to locate it a minimum of 300mm (12") from the side wall (see Diagram 2).

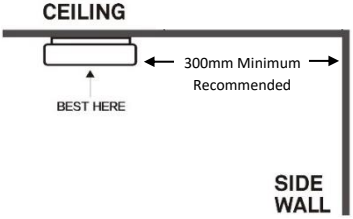


Diagram 2

- Put a Combined or Smoke alarm at both ends of a hallway/corridor or large room if it is more than 9000mm (30') long.
- In rooms with an A-shaped peaked ceiling, a sloped or cathedral ceiling, install a Combined/smoke/heat alarm between 500mm and 1500mm from the highest point of the ceiling. (See Diagram 3).

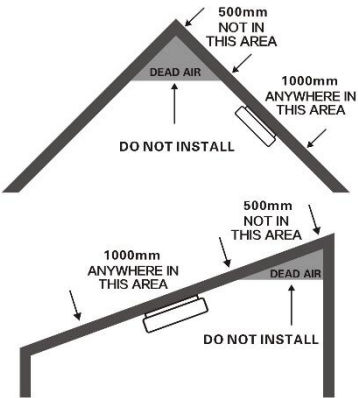


Diagram 3

- To limit false alarms as laid within BS 5839-6, it is recommended that smoke alarms should not be installed within 900mm (3') of the following: the door to a kitchen, the door to a bathroom containing a tub or shower. If space restrictions prevent this, it must not be located closer than 300mm (12") from the side wall.
- Also, alarms should be positioned away from forced air supply ducts used for heating or cooling, ceiling or whole house ventilating fans, or other high air flow areas to limit false alarming.
- It is recommended that smoke alarms are not installed within 300mm of light fittings.
- If positioning the alarm in the loft space, it must be easily accessible. Ideally, from the loft hatch.
- Ideally, where possible, mount the alarm on a horizontal surface in the loft space. It is recommended that alarms are positioned at least 1m away from any electrical/electronic equipment such as PV invertors and connected cabling.

**Do Not Install Combined or Smoke Alarms in the Following Places**

- Alarms should not be positioned in hard-to-reach areas, such as above stairwells, that make it difficult to gain access for maintenance
- In unventilated garages as vehicle exhaust fumes may cause false alarm.
- In highly dusty areas. Dust particles may cause nuisance alarm or failure to alarm.
- In very humid areas (greater than 93% R.H.), e.g. bathrooms. Moisture or steam can cause nuisance alarms.
- In insect-infested areas.
- Near fluorescent lights. Electronic "noise" may cause nuisance alarms.

**Important:** These alarms are primarily intended for use in single family occupancy private dwellings.

## Installation

This alarm should be installed as late as possible within the schedule of works, particularly in new build properties, e.g. after decorating and making good works.

- This alarm must not be connected to any other manufacturer alarms.
- The combined Smoke and Heat alarm is compatible with DETA item numbers, 1163, 1165, 1164 and 1166 and 1169; and can be hardwired interlinked with these alarms. It is not compatible with the previous generations.

### Important

The circuit powering the safety alarms must be unswitched, i.e. permanently live. The electrical supply for mains powered alarms with battery back-up, as required by BS 5839-6 Grade D systems, must:

- Be an independent circuit from the consumer unit where no other electrical equipment is connected, or
- A separately electrically protected, regularly used local lighting circuit

Also, where alarms are interlinked, they must be connected to a single circuit.

### Safety Instructions

- Ensure the power supply is switched off before installation and during maintenance.
- These alarms should be installed by a competent person, e.g. a qualified electrician.
- These alarms must be installed in accordance with the current edition of the IET Wiring Regulations BS7671 and the Code of Practice for the design, installation, commissioning and maintenance of fire detection and fire alarm systems in domestic premises BS 5839-6.
- **Important:** Remove the alarm from the circuit for insulation resistance testing.

**If in doubt, contact a qualified electrician.**

### Installation

- Release the alarm from the base by using a screw insert into the slots and flexing outwards, see diagram. 4

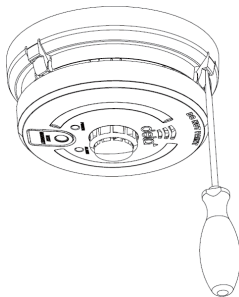


Diagram 4

- Remove the electrical connector from the alarm by squeezing the locking arms.
- Select the cable entry on the base and remove the cut out. Cable entry can either be through the back of the base or via surface mounted mini-trunking. Leave the gasket in place to prevent dust ingress into the alarm.
- Mount the base in the desired location using the wall plugs and screws, as required. See Diagram 5.

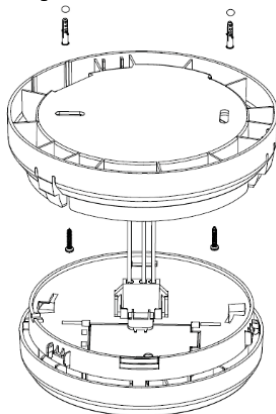


Diagram 5

- Terminate the live, neutral and earth supply cables and interlink cable if alarms are interlinked. See Diagram 6.

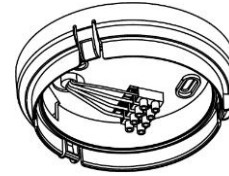


Diagram 6.

L (Live):	Brown conductor
N (Neutral):	Blue conductor
E ⊕ (Earth):	Green / Yellow
I (Interlink):	Grey (if using 6243Y cable)

- Interlink
  - A maximum of 12 alarms can be hardwired interlinked in a system. If more than 12 alarms are interlinked it may result in permanent damage.
  - A maximum of 50 Combined alarms (1171 only) can be wirelessly interlinked (see Wireless Interconnection section)
  - 1171 can also be installed in a hybrid system containing hardwired and wirelessly interlinked alarms. In a hybrid system containing hardwired and wireless interlink connections, it is recommended that each group of hardwired alarms is hardwired to only one wireless alarm, which interlinks wirelessly with other wireless products.
- For multiple alarm installations use three core and earth cable between all the alarms to be interlinked and connect the third core of that cable to terminal marked I. DO NOT use the earth wire for the interlink wire. This must be treated as live, i.e. insulated and sleeved.
- Connect the battery:
  - On 1171 by pulling tab on the sealed battery cover.
  - Test the alarm by pressing the TEST button.
- Refit the electrical connector, see Diagram 7.

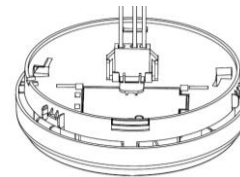


Diagram 7

- Attached the alarm to the base
- Turn on the electrical power. The green LED should be lit when the alarm is operating from the power supply.
- Test the alarm, including the interlink feature if more than one alarm is installed.

**Important:** Remove the alarm from the circuit for insulation resistance testing.

### Wireless Interlink Instructions

Combined Optical and Heat alarm is fitted with an RF module which allows up to 50 alarms to be wirelessly interlinked in a system. A hybrid system can have up to 12 hardwired and 50 wirelessly interlinked alarms. For a quick set-up of the alarm system network, it is recommended that the all alarms are placed in close proximity to each other on a flat surface.

### Setting up a wireless network

- To setup a wireless network, take one alarm and press the alarm test button 3 times within 2 seconds. The RED LED on the alarm will light up indicating that the alarm has entered the networking mode and is ready to be paired with other alarms. The next alarm must be added to the system within 30 seconds or the network will timeout.
- To add another alarm to the network, press the alarm test button 3 times within 2 seconds. The secondary alarm should automatically pair with the first; and a successful pairing is confirmed by a single LED flash and a beep. Each time a new alarm is added, the networking time period is extended by 30 seconds for adding more alarms to the system.
- Once all the alarms are added to the network, wait for 30 seconds to allow the network to time out. To test the interlink, press and hold the test button on any alarm in the network (see Testing the Alarm).

<p><b>Adding alarms to an existing network</b></p> <ul style="list-style-type: none"> <li>To add another alarm to an existing wireless network, the wireless network must be entered into networking mode. Follow steps in section <i>Setting up a wireless network</i>.</li> </ul>	<p><b>Removing an alarm from an existing network</b></p> <ul style="list-style-type: none"> <li>Press the alarm test button 5 times within 2 seconds. Then press and hold the test button immediately after the LED flashes. Alarm will beep once to indicate that it is reset and removed from the network.</li> </ul>
<b>User Information</b>	
<p><b>Alarm Operation</b></p> <p><b>LED indicators</b>  Green LED: Connected to mains voltage power supply.  Red LED: Flashing approximately every 40 seconds indicates that the smoke alarm is operating properly.  RED LED-Flashing: When test button is pressed, the combination alarm senses smoke particles or heat, the alarm goes into alarm mode (constant pulsating sound) and the red LED will flash once per second. The flashing LED and pulsating sound will continue until the test button is released, the air is cleared from alarms sensors or the ambient temperature is normal.  RED LED-Alarm silencer (Hush mode) indication: The red LED will flash every 8 seconds, indicating the alarm is in the silenced (hush) mode.</p> <p><b>Alarm silence (hush mode)</b></p> <ul style="list-style-type: none"> <li>Push TEST button to silence the alarm.</li> <li>This silence feature is only to be used when a known alarm condition, such as smoke from cooking, activates the alarm. This feature is useful in areas such as kitchens to prevent nuisance alarms.</li> <li>The alarm will automatically reset itself after approx. 10 minutes. Should smoke particles or high temperature still be present, the alarm will sound again.</li> </ul> <p><b>Locating the initiating alarm (Nuisance alarms)</b>  In the event of a nuisance alarm, although all interlinked alarms in the system sound, RED LED will flash only on the initiating alarm making it easy to identify.</p> <p><b>CAUTION:</b> Before using the alarm silence (hush), identify the source of the smoke and be certain that a safe condition exists.</p>	<p><b>What to do when the alarm sounds</b></p> <ol style="list-style-type: none"> <li>Alert small children in the home to quickly follow family escape plan.</li> <li>Leave immediately by your escape plan. Every second counts, so don't waste time getting dressed or picking up valuables.</li> <li>In leaving, don't open any inside door without first feeling its surface. If hot, or if you see smoke seeping through cracks, don't open that door! Instead, use your alternate exit. If the inside of the door is cool, place your shoulder against it, open it slightly and be ready to slam it shut if heat and smoke rush in.</li> <li>Stay close to the floor if the air is smoky. Breathe shallowly through a cloth, wet if possible.</li> <li>Once outside, go to your selected meeting place and make sure everyone is there.</li> <li>Call the fire department from neighbour's home – not from yours!</li> <li>Don't return to your home until the fire officials say that it is all right to do so.</li> <li>If there is any question as to the cause of an alarm, it should be assumed that the alarm is due to an actual fire and the dwelling should be evacuated immediately.</li> </ol> <p><b>Note:</b> These guidelines will assist you in the event of a fire, however, to reduce the chance that fires will start, practice fire safety rules to prevent hazardous situations.</p> <p><b>Plan of Escape</b></p> <ul style="list-style-type: none"> <li>It is recommended that a plan of escape is developed and practiced. A floor plan indicating doors and windows should be made and, if possible, that two routes of escape are established.</li> <li>It is also recommended that fire extinguishers are installed and maintained.</li> </ul> <p><b>DANGER:</b> If the alarm sounds, and it is not being tested, it means the unit is sensing smoke, <b>THE SOUND OF THE ALARM REQUIRES YOUR IMMEDIATE ATTENTION AND ACTION.</b></p>
<p><b>Testing the Alarm</b></p> <p>Test the alarm to ensure proper operation.</p> <ol style="list-style-type: none"> <li>Test alarm by pressing and holding the test button until it sounds. The alarm will sound 3 short beeps – 1.5 seconds pause, and then repeat until the button is released.</li> <li>If multiple alarms are installed within the dwelling, test each alarm. Each alarm should trigger other alarms connected within 10 seconds.</li> </ol> <p>Do not attempt to test the alarm with smoke or heat from a flame. Do <u>not</u> ignite combustible materials and start a fire.</p> <p>If no alarm sounds, the unit has a defective battery or other failure. Refer to "Trouble Shooting" section for a solution.</p> <p><b>Caution:</b> Due to the loudness (85 decibels) of the alarm, always stand an arms-length away from the unit when testing. Test the alarm monthly to ensure proper operation. Erratic or low sound coming from your alarm may indicate a defective alarm.</p> <p><b>NOTE: MONTHLY TESTING IS REQUIRED</b></p>	<p><b>Important Safety Information:</b></p> <ol style="list-style-type: none"> <li>This alarm must not be connected to any other manufacturer alarms.</li> <li>These alarms, item numbers, 1163,1165, 1164, 1166 and 1169 are only compatible with each other and Combined smoke and heat alarm 1171; they are not compatible with previous generations.</li> <li>Test alarm monthly to ensure proper operation. The test button accurately tests smoke and heat alarm functions. Do not use any other test method.</li> <li>The alarm must not be exposed to dripping or splashing water.</li> <li>These alarms are primarily intended for use in single family occupancy private dwellings. In multifamily buildings, each individual living unit should have its own alarms. Do not install in non-residential buildings. This alarm is not a substitute for a complete alarm system.</li> <li>The alarm may not alert every household member every time. The alarm horn is loud in order to alert individuals to a potential danger. However, there may be some circumstances where a household member may not hear the alarm (e.g. excessive outdoor or indoor noise, sound sleepers, drug or alcohol usage, the hard of hearing). If you suspect that this alarm may not alert a household member, install and maintain specialty alarms. Household member must hear the alarms warning sound and quickly respond to it to reduce the risk of damage, injury, or death that may result from fire. If a household member is hard of hearing, install special alarms with lights or vibrating devices to alert occupants.</li> <li>The alarms are designed to give audible warning of a developing fire and can only sound their alarms when they detect smoke, combustion particles in the air or abnormal ambient temperature. Many fires, however, are fast burning and in these circumstances the alarm may not be triggered quick enough to ensure a safe escape.</li> <li>The alarms have limitations. This alarm is not fool proof and is not warranted to protect lives or property from fire. The alarms are not a substitute for insurance. Occupants should insure their lives and property. In addition, it is possible for the alarm to fail at any time. For this reason, you must test the alarm monthly and replace unit after 10 years.</li> </ol>
<p><b>Cleaning</b>  The alarm should be cleaned on a monthly basis as a minimum. To do this:</p> <ul style="list-style-type: none"> <li>Turn off the electrical supply to the alarm.</li> <li>Use a vacuum cleaner with the soft brush to vacuum all sides and covers of alarm to remove dust, dirt, and debris. Be sure all the vents are free of debris.</li> <li>Use a damp cloth to clean the alarms cover.</li> <li>Turn the electrical supply to the alarm on.</li> </ul> <p><b>Important:</b> Do not attempt to remove the cover to clean inside. This will affect the warranty.  Do not paint the alarm</p> <p><b>Battery</b>  1171 model has a sealed 10-year battery and must not be replaced.</p>	

Trouble Shooting			
Problem	Remedy	Problem	Remedy
The green LED does not light up	<ol style="list-style-type: none"> <li>1. Check electrical power supply is switched on</li> <li>2. Check the electrical connector is properly connected to the alarm</li> <li>3. If the problem still exists, replace the alarm</li> </ol>	Fault Mode - The alarm chirp occurs every 16 seconds approx. after the RED LED flashes. This could be due to the alarm receiving an abnormal smoke or heat signal.	<ol style="list-style-type: none"> <li>1. Clean alarm. Refer to "Cleaning"</li> <li>2. If the problem still exists, replace the alarm</li> </ol>
Alarm does not sound when tested. Note: push test button for at least five seconds while testing!	<ol style="list-style-type: none"> <li>1. Ensure that the battery and electrical connector is properly connected</li> <li>2. Clean alarm</li> <li>3. If the problem still exists, replace the alarm</li> </ol>	The alarm sounds intermittently or when residents are cooking, taking showers, etc. (false alarming)	<ol style="list-style-type: none"> <li>1. Press test button to pause alarm</li> <li>2. Open window or fan alarm to</li> <li>3. Clean alarm</li> </ol>
Low battery voltage mode: The alarm chirp occurs every 40 second approx. at the same time as the red LED flashes once	The long life alarm battery has reached end of life. Replace the alarm	The RED LED light flashes three times every 40 seconds, accompanied by a "squeak	<ol style="list-style-type: none"> <li>1. Alarm has reached the end of its service life. Replace the alarm as soon a possible</li> </ol>

**Warning:** Do not disconnect battery to quiet an unwanted alarm. This will remove your protection. Fan the air or open window to remove smoke or dust.

Product Specification			
Voltage	220 – 240V @ 50Hz with 9V battery backup	Alarm Button – dual function	<ul style="list-style-type: none"> <li>• Push to Test</li> <li>• Activate Silence (hush) mode</li> </ul>
Current	< 90mA	Silence (Hush) Time (approx.)	10 minute
Battery Specification	Lithium 9V battery DC. Brands: CR9V, EVE CP9V, Huiderei	Sound Pattern	ISO8201 (BI 0.5s - pause 0.5s - BI 0.5s - pause 0.5s - BI 0.5s - pause 1.5s, with the RED LED flash, then repeat)
Battery Service Life (as backup power)	10 year service life as backup power	Software Version	V01
Alarm Volume	> 85dB(A) at 3 meters	Operating Conditions	- 10 to +40°C, 25 to 95%RH
Alarm Sensitivity	Optical: 0.100 - 0.180dB/m Heat: 54°C - 70°C	Inter-linkable	Hardwired: up to 12 detectors Wireless: up to 50 detectors
Product Disposal	These alarms come under the Waste Electrical & Electronic Equipment Regulations and must be disposed of in accordance to these Regulations.		