



# Sensor Smoke Alarm

PHOTOELECTRIC SMOKE ALARM

MODEL: 217E-02

Installation Guide and User Manual



## Specifications - Sensor 21E-02

Primary Power Source	AC(100 ~ 240)V
Secondary Power Source	DC 3V
Mains supply current limit	0.06A@230V, 0.12A@115V
Number of interconnected devices	20
Operating temperature	(0 ~ +55)°C
Operating humidity	(10 ~ 95) % RH, non-condensing
Storage temperature	(-25 ~ +80) °C
Storage humidity	(0 ~ 98) % RH, non-condensing
Complies with	AS3786:2014

### Caution

This product must only be used for the purpose described in these instructions and must be installed by a licensed electrician in accordance with the Building Code Australia (BCA) and local and state wiring rules and regulations.

**Product Limitations:** **Caution!** This device does not detect heat, gas or flame, and should not be covered with a guard or similar obstructing item.

This device may not alert people who are hearing impaired. It is strongly recommended that special-purpose smoke alarms using visual or vibrating alerting devices be installed for occupants with a hearing impairment.

This device may not be effective in fires where smoke is prevented from reaching the device (e.g., where intermediate doors are closed), where the fire grows so rapidly that the egress path is blocked (even when correctly located), and where the fire is intimate to a person (e.g., where a victim's clothes catch fire).

**Sleeping Occupants:** Studies have shown that smoke alarms may not awaken all sleeping occupants. It is the responsibility of individuals in the household who are capable of assisting others to provide assistance to those who may not be awakened by the alarm sound, or to those who may be incapable of safely evacuating the area unassisted.

**Installation Limitations:** This product is designed for use in a single residential unit, such as a family home or apartment. Smoke alarms located outside the dwelling may not provide adequate warning to occupants. This product is not designed for use in non-residential buildings. Non-residential buildings require special-purpose fire detection and alarm systems. This product alone is not a suitable substitute for a fire detection system installed in places of business or where people sleep on a temporary basis, such as hotels, motels, dormitories, hospitals, nursing homes, or group homes of any kind, even if they were once dwellings. Please refer to local and state regulations for fire detection and alarm system requirements for non-residential buildings and temporary accommodation settings.

## Overview

**SENSOR** provides an online platform and ecosystem that allows 24/7 line of sight for real estate property managers to monitor the compliance of their properties.

With round-the-clock monitoring without the need to physically visit the property, **SENSOR** mitigates the risk of the unknown.

Using return pathway Internet of Things (IoT) devices installed at the property, **SENSOR** provides real-time device updates to meet legislative requirements and reduce the risk of property damage.

Achieve legislative compliance and enhanced tenant safety with **SENSOR's** range of smoke-detection sensors and alarms.

### Introduction to the **SENSOR 217E-02 Photoelectric Smoke Alarm**

The **SENSOR 217E-02 Photoelectric Smoke Alarm** works as an independent or interconnected photoelectric smoke alarm. When used in conjunction with the **SENSOR** Hub, an intuitive return pathway is created giving users access to monitoring, event logging, and remote testing via an IoT (Internet of Things) connection housed within the **SENSOR** Hub.

Due to the advanced battery technology and low power consumption, each model of alarm in the 217E-02 series can be used to satisfy either the 230V or 10 year lithium requirement - depending on the applicable installation legislation or other local or state requirements.

Each alarm connects to the **SENSOR** Hub independently of each other with a range of up to 200m line of sight.

The 217E-02 model utilises a sealed lithium battery for both the operation of the alarm and the RF interconnect to the hub, ensuring no battery replacements are required over the life of the alarm.

### The alarms are fitted with two test functions:

1. The test button on the face of the alarm can be used to test the alarm if required.
2. The alarm is also fitted with a software-based test which can be scheduled for a particular date and time or performed in real time via the portal.

### The alarms are also fitted with several additional functions to ensure safety and compliance, including:

- **Early low battery detection** – designed to pre-empt a low battery alarm so it can be replaced prior to low battery beeping.
- **Tamper detection** – to ensure the alarms are always closed and operating correctly.
- **RF disconnect warning** – should an alarm become disconnected from the network a notification will be sent via the portal.
- **230V power outage** – if power is lost to the alarm or hub a notification will be sent via the portal.

### Disclaimers

All electrical installations must be carried out by a qualified electrician, in accordance with local regulations and Australian Standards.

Connect and power the alarm with 220-240VAC only. The smoke alarm is suitable for use with non-pure sinusoidal power sources. (e.g. Power derived from square-wave inverters.)

It remains the duty of the installer to ensure that:

- All hardware is undamaged and in proper operating order,
- The correct number of alarms are being installed in compliant locations as per the local requirements.

This product must only be used for the purpose described in these instructions and must be installed by a licensed electrician in accordance with the Building Code Australia (BCA) and local and state wiring rules and regulations.

## Understanding Indicator and Alarm Signals

Smoke alarms produce the following indicator and alarm signals, depending on their status condition.

Specifications - Sensor 21E-02	
Quiescent condition indication	Green LED continuously on, Red LED flashes every 40s
Low battery indication	Short audible signal every 40 secs, synchronized with a single flash of the yellow LED for 30 days
Low battery hush indication	Flashing yellow LED every 40 secs
Low Battery hush time	10 hrs
Alarm Condition	
Alarm condition audible indication output	≥ 85 dB @ 3 mins three long beeps, repeating
Alarm condition visual indication	Three blinks synchronized with audible alarm
Alarm condition hush indicator	Device entering the alarm condition: Flashing red LED every 1 sec
Alarm condition hush time	Smoke alarm: 8 mins
Test Condition	
Test condition audible indication output	≥ 85 dB @ 3 mins three long beeps, repeating
Test condition visual indication	The yellow LED flashes once, then the red LED flashes three times in two cycles
Fault Condition	
Smoke chamber fault indication	Short audible signal every 40 secs, synchronized with yellow LED flashes three times
Smoke chamber fault hush indication	Three flashes of yellow LED every 40 secs
Smoke chamber fault hush time	10 hours
Wireless Interconnection	
Group mode connection indication on slave device(s)	Flashing yellow LED every 1 sec followed by a short audible signal

## Interconnected Units

When configured as a group, interconnected units produce the following additional indicator and alarm signal when the primary unit is operated.

Alarm Condition	
Alarm condition audible indication output	≥ 85 dB @ 3 mins three long beeps, repeating
Alarm condition visual indication	-
Test Condition	
Test condition audible indication output	≥ 85 dB @ 3 mins three long beeps, repeating
Test condition visual indication	-
Fault Condition	
Smoke chamber fault indication	Short audible signal every 40 secs

# Installation Preparation

## Equipment

Before commencing installation, ensure all equipment and tools to mount and test the device are available, such as drills, mounting screws (supplied), cables, and ladders.

## Location Selection in Homes and Apartments

For complete coverage, alarms are to be installed in alignment with local, state, and federal regulations. For enhanced coverage, alarms can be installed in all rooms, halls, storage areas, basements, and attics in the dwelling. Please use the following location guide.

### Single Storey Dwellings

Install a smoke alarm in the hallway outside every separate bedroom area, as shown in Fig. 1 a). Two smoke alarms should be installed in dwellings with two bedroom areas, as shown in Fig. 1 b).

### Multi-Storey Dwellings

Install a smoke alarm on every floor of a multi-floor dwelling, as shown in Fig. 2.

Fig. 2 Multi-storey dwelling

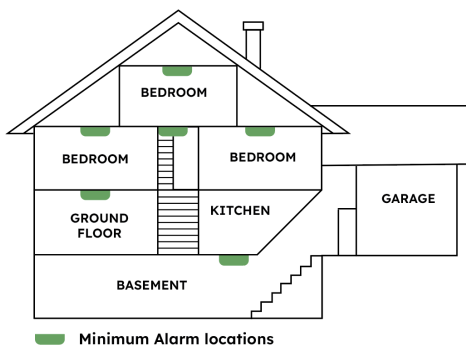


Fig. 1 a) Single bedroom home

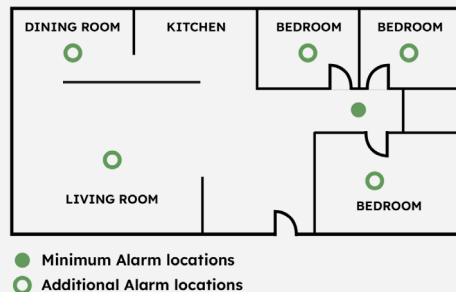
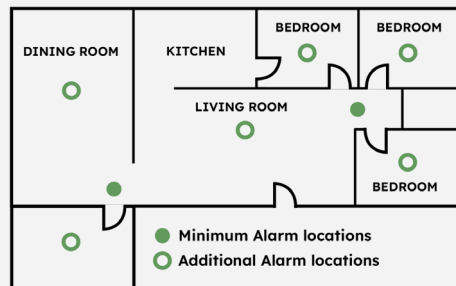


Fig. 1 b) Multiple bedroom home





## Recommended Enhanced Safety

To improve early detection performance and safe evacuation, ensure that a minimum of two alarms are installed per dwelling. Consider installing additional alarms as follows:

- Inside every bedroom
- At both ends of a bedroom hallway if the hallway is more than 12 m
- Inside every room where one sleeps with the door partly or completely closed, since smoke could be blocked by the closed door, and a hallway alarm may not wake up the sleeper if the door is closed
- At the bottom of the basement stairwell
- On the second floor, at the top of the first-to-second floor stairwell
- In the living room, dining room, family room, attic, utility room, and storage rooms.

## Installation Location

- Installation must adhere to all relevant local and state regulations. However, as a base guideline, alarms should be installed as close to the centre of the ceiling as possible, away from light fittings and air-conditioning ducts. If this is not practical, mount the alarm on the ceiling, no closer than 50 cm from any wall or corner.
- If some of your rooms have sloped, peaked, or gabled ceilings, try to mount alarms 0.9 m from the highest point of the ceiling measured horizontally. (see Fig. 3).

Fig. 3 Alarm location from walls

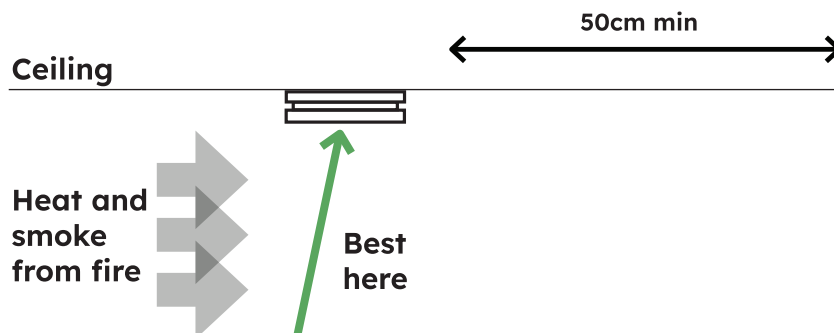




Fig. 3 a) Alarm location

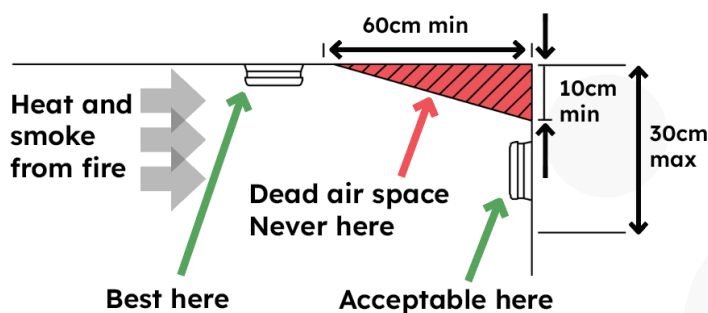
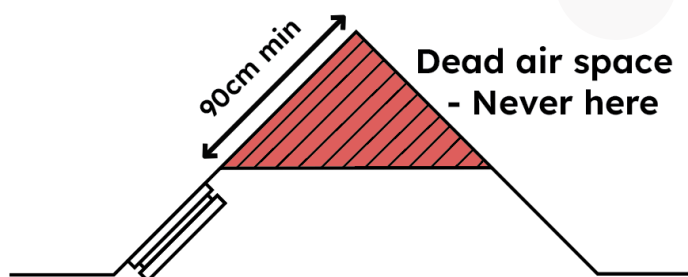


Fig. 3 b) Alarm location

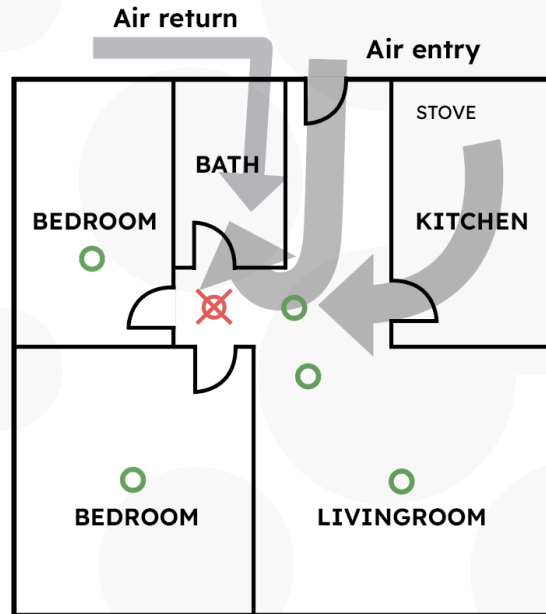


## Where Not to Install Your Alarm

Nuisance alarms occur when alarms are installed where they will not work properly. To avoid nuisance alarms, do not install alarms in the following situations.

- **In or near areas where combustion particles are present**, such as kitchens with few windows or poor ventilation, garages where there may be vehicle exhaust, near furnaces, combustion heaters, and space heaters. Combustion particles are the by-products of something that is burning, which the alarm may detect. As a guide, aim to avoid installing an alarm within 6 m of kitchens where combustion particles are normally present. If a 6 m distance is not possible (e.g. in a mobile home), try to install the alarm as far away from the combustion particles as possible, preferably on the wall. Ensure the area is well ventilated.
- **In dead air ceiling or wall spaces**, which are often at the top of a peaked roof or in apex of ceilings and walls. Dead air may prevent smoke from reaching the alarm. See Fig. 3 for the recommended installation location in such situations.

Fig. 4 - Dead-air areas



○ Correct location

✗ Incorrect location

### Where Not to Install Your Alarm (ctd)

- **In other dead-air areas**, where ventilation systems cause airflow that would not pass through the smoke sensing chamber. Also avoid airflow from areas where normal combustion articles are expected, such as kitchens. Refer to Fig. 4, which indicates the correct and incorrect alarm locations.
- **In damp or very humid areas**, or within 3 m of bathrooms with showers. Moisture in humid air can enter the sensing chamber then condense into droplets upon cooling, which can cause nuisance alarms.
- **In very cold or very hot areas**, including unheated buildings or outdoor rooms. If the temperature rises above or falls below the operating range of the alarm, it may not function properly. The temperature range for your alarm is (0 ~ 55) °C.
- **In very dusty or dirty areas**. Dirt and dust can build up on the smoke sensing chamber, causing it to become overly sensitive. Additionally, dust or dirt can block openings to the sensing chamber and prevent the alarm from sensing smoke.
- **Near fresh air vents or high draft areas** like air conditioners, heaters or fans, fresh air vents and drafts, which can drive smoke away from alarms.
- **In insect-infested areas**. If insects enter the smoke sensing chamber, they may cause a nuisance alarm. Where insects are a problem, ensure that pest control measures have been undertaken before installing the alarm.
- **Near fluorescent lights**. Electrical “noise” from fluorescent lights may cause nuisance alarms. Do not install alarms within 1.5 m of such lights.

## Installation

This product must only be used for the purpose described in these instructions and must be installed by a licensed electrician in accordance with the Building Code Australia (BCA) and local and state wiring rules and regulations. In the event of a mains powered installation this must be completed by a licenced electrician and the power should be turned off prior to commencing any installation or maintenance to avoid electric shock or electrocution.

The following steps are for the purpose of installation of the SMOKE Alarm ONLY. For full product suite installation including interconnectivity, please refer to the SENSOR HUB Installation Guide.

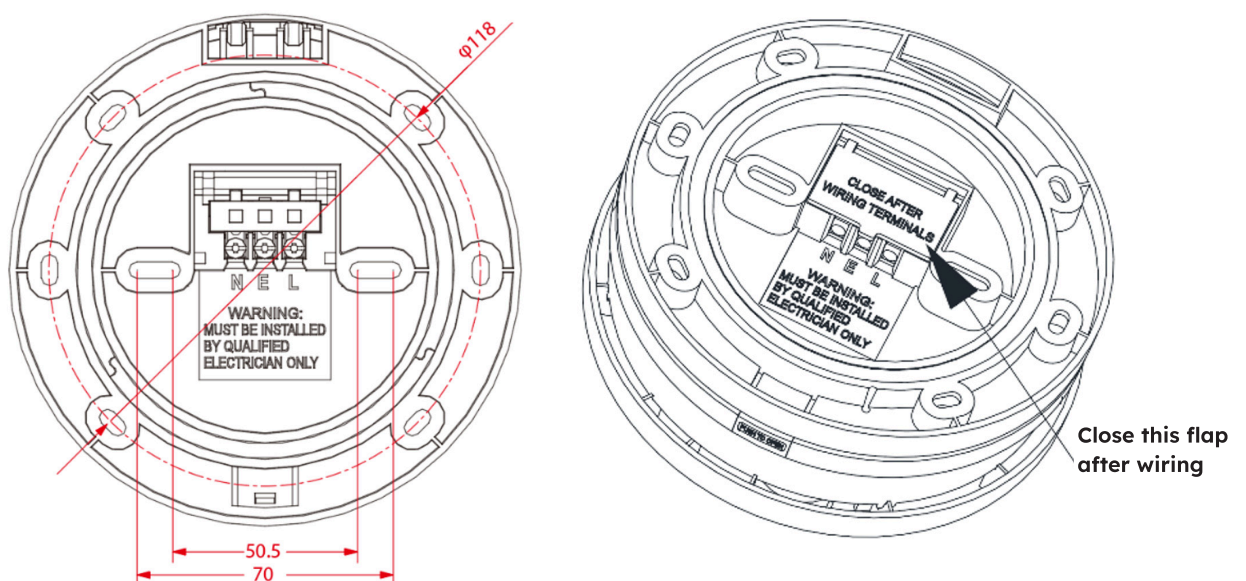
**Step 1.** Identify a suitable location for the installation of the alarm.

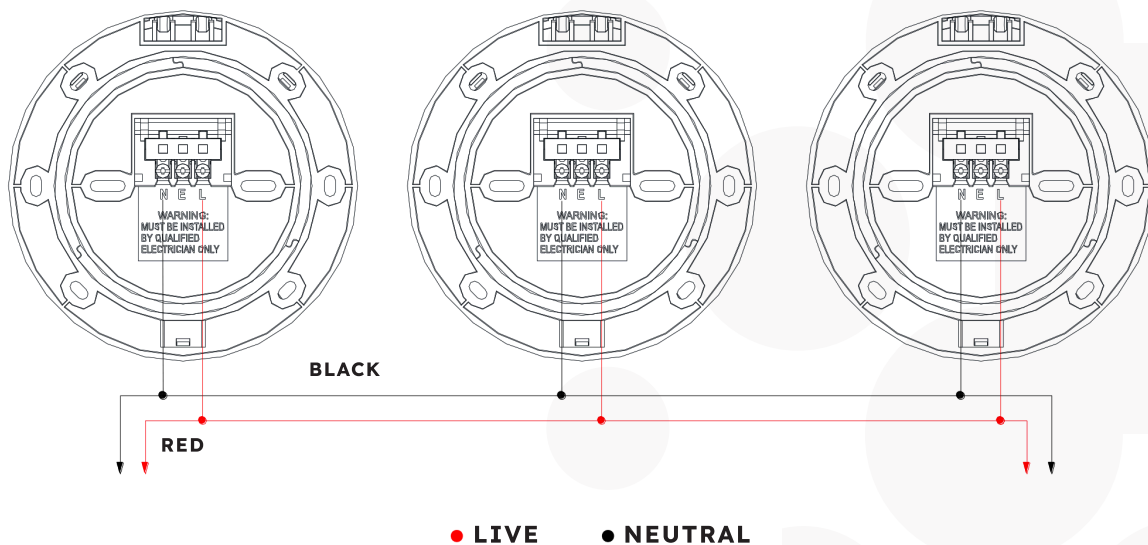
**Step 2.** Remove all packaging from the alarm (including the labelled tab in the clip of the alarm)

**Step 3.** Using the hardware included affix the alarm in its desired location. Mains power must be used if required by legislation, otherwise the alarm can be used via battery power.

**Step 4.** Close the alarm until it clicks.

**Step 5.** Repeat this process with each alarm required.





## What to do if the Alarm Sounds

1. **Alert every person in the premises**, paying particular care to alert any small children and elderly persons.
2. **Leave immediately by your plan of escape.** Every second counts, so don't waste time getting dressed or picking up valuables.
3. **When leaving, don't open any inside door without first feeling its surface.**  
If the door feels hot or if you see smoke seeping through the cracks, don't open that door! Instead, use your alternate exit. If inside door is cool, place your shoulder against it, open it slightly and be ready to slam it shut if heat and smoke rush in.
4. **Stay close to the floor if air is smoky.** Breathe shallowly through a wet cloth if possible.
5. **Once outside, go to your selected meeting place and make sure everyone is there.**
6. **Call the Fire Brigade on 000.**
7. **Don't return to your home until officials say that it is safe to do so.**  
For further information on fire safety contact your local Fire Brigade.

## Testing

Regularly testing the alarm is imperative to ensure the proper function of the alarm and the safety of all occupants. The testing of the 217E-02 alarm can be by one of the following methods.

- 1. A test will begin after pushing the test button for three seconds.**  
This test will include the sounding of the alarm, and will trigger a test on all other alarms that are part of the RF network.
- 2. A more in-depth test can also be triggered via the **SENSOR** portal.**  
The additional tested functions tested via the portal include battery percentage, RF interconnection, and alarm volume.
- 3. It is recommended that testing be completed at least once every twelve months.**

## Good Practice - DEVELOP AN ESCAPE PLAN

Every family should formulate and regularly practice a fire escape plan. Ensure that the plan is updated whenever a change is made to the structure of the home, including the acquisition or repositioning of furniture or the repurposing of rooms. A comprehensive fire escape plan should include:

- 1. The two quickest ways out of each room.**
- 2. How to exit from upstairs**, for homes with a second story. A rope or chain may be required.
- 3. An agreed upon meeting place outside**, such as the letterbox.
- 4. Familiarity with the sound of the alarm**, including a sense of urgency to leave the home when the alarm is sounded.
- 5. A fire drill at least every six months** including drills at nights.

Practice allows you to test your plan before an emergency. Remember that you may not be able to reach your children. It is important that they know what to do in the event of a fire emergency.

## Care and Maintenance of your **SENSOR 217E-02 Photoelectric Smoke Alarm**

To ensure the optimal performance of your **SENSOR** smoke alarms, please familiarise yourself with the following care and maintenance instructions.

### Cleaning your **SENSOR** Smoke Alarm

- **Cobwebs on or near the alarm can cause nuisance false positive alarm sounds.**  
Ensure your alarm is always free from cobwebs by regularly vacuuming the smoke vent on the face of the alarm.
- **Clean the alarm housing by wiping the alarm gently with a damp cloth** to remove any dust, then dry the alarm thoroughly.  
  
The alarm housing must remain closed during cleaning.  
An open alarm is an electrocution risk.
- When your alarm is properly paired with a **SENSOR** Hub, you will be notified by the **SENSOR** platform when cleaning is required.

### Disposal of product

- This product is designed to work reliably for ten years after the installation date. Smoke alarms and replaceable batteries should not be disposed of as land-fill. Please dispose in an environmentally friendly manner, for example at your local authority recycling centre.

### Warning:

- This is an important document. Retain it for the life of the device.

## Warranty

In order to protect your rights, please retain the original purchase receipt for the proof of purchase. No warranty can be offered without the original purchase receipt. Sensor Pty Ltd (“Sensor”), warrants the enclosed product to be free from defects in materials and workmanship under normal use and service for a period of five years from date of purchase. This LIMITED WARRANTY is the sole and exclusive warranty, express or implied for Sensor products. No employee, agent, dealer or other person is authorized to alter, modify, expand or reduce the terms of this warranty or to make any other warranty on behalf of Sensor. Sensor’s obligation of this Warranty shall be limited to the repair or replacement of any part of the product which is found to be defective in materials or workmanship under normal use and service during the Warranty Period. Products in need of repair should be returned, shipping prepaid, to point of purchase.

Sensor shall not be obligated to repair or replace units which are found to be in need of repair because of damage, unreasonable use, modifications, or alterations occurring after the date of purchase. The duration of any implied Warranty, including that of merchantability or fitness for any particular purpose, shall be limited to the period of five years commencing from the date of purchase. In no case shall Sensor be liable for any consequential or incidental damages for breach of this or any other Warranty expressed or implied whatsoever, even if the loss or damage is caused by Sensor’s negligence or fault. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may also have other rights which vary from jurisdiction to jurisdiction.

Due to Sensors continual product development, we reserve the right to alter product details and specifications without prior notice.

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MODEL: 217E-02

INVENTED IN AUSTRALIA | MADE IN CHINA