Smoke Detector Photoelectric 240Vac c/w Back-Up Battery

Product Code: DET-SMK/AC/1 & DET-SMK/AC/10

Thank you for purchasing this MATelec Australia Smoke Alarm.

Please take a few minutes to read this user's manual thoroughly to familiarise yourself with the operation of the unit before use.

WIRED INTERCONNECT

7 YEAR WARRANTY

WALL LOCKS INCLUDED

Important information

- MATelec Smoke Alarms are designed for use in residential dwellings and intended to detect smoke before it reaches occupants, resulting in an alarm which gives a warning to evacuate the building.
- Smoke Alarms MUST be installed in accordance with national and local council building regulations, state fire department requirements and the latest edition of the Australian and New Zealand wiring Rules AS/NZS 3000. Building codes and regulations may vary from each state jurisdiction.
- All electrical installations must be carried out by a qualified electrician, in accordance with Australian Standards and local regulations.
- Alternative Energy Sources - (Wind, Solar, UPS etc.) This product is designed to be connected to a Pure or True Sine Wave 230V AC supply. If connecting to a power source that utilises an inverter, e.g. PV solar panel, the Total Harmonic Distortion (THD) must be less than 5%. If in doubt please check with the manufacturer of the inverter. This also applies to battery powered UPS (Uninterruptible Power Supply) inverters.
- Light Dimmer Circuits – The Alarms must not be powered from a light dimmer circuit.
- Do not install Alarms in new or renovated buildings until all work is completed.
- The Alarm must not be connected when the house wiring insulation is being checked with high voltages. i.e. Do not use a high voltage insulation tester on the Alarm.
- The Alarm must be continuously powered 24 hours a day so it is important that it is not on a circuit that can be turned off by a switch.
- The power supply for the Alarms should be derived from the public electricity supply to the dwelling. The mains supply to the Alarms should take the form of either:
  a. an independent circuit at the dwelling's main distribution board, in which case no other electrical equipment should be connected to this circuit (other than a dedicated monitoring device installed to indicate failure of the mains supply to the Alarms); or
  b. the non-switched side of a separately electrically protected, regularly used local lighting circuit. Alarms should be connected on a single final circuit, unless the means of interconnection is by radio signals (e.g. RadioLINK).

Product specifications

Sensing Type	Photoelectric (Type A - contains no radioactive material)
Power Supply	Main: 220-240V AC 50Hz Back-Up: • DET-SMK/AC/1, Replaceable 9V, 1 Year Alkaline • DET-SMK/AC/10, Replaceable 9V, 10 Year Lithium
Battery life	DET-SMK/AC/1 – One year. DET-SMK/AC/10 – Ten years. *with mains power permanently connected
Interconnectivity	Hard Wired, cable interconnect
Interconnection (Wired I/Connect)	Maximum 24 paired alarms Max wiring length between first and last alarm: 150 m
Size	133mm x 48mm
Temp range	0°C - 45°C
Max Humidity	≤93% non-condensing
Alarm Signal Pattern	ISO 8201
Alarm Volume	85dB(A) at 3m
Hush Time	10 mins
Compliance	AS3786:2023 AS3786:2014 ISO12239:2021

Install locations

NOTE:

This information serves as a guide only. Ensure units are located and installed as per your local building codes and regulations.

1. As a minimum, smoke alarms should be located between sleeping areas and potential sources of fire such as a kitchen, heater or basement. In single story homes with one sleeping area, an alarm should be installed in the hallway outside the room. In single story homes with two or more sleeping areas, a minimum one alarm for each area is required. In multilevel dwellings, an alarm should be installed outside and inside each sleeping area, in the basement, and on every level of the home.
2. Wherever possible Smoke alarms should be installed on the ceiling and as close to the centre of the room as possible. (Avoiding dead air spaces, an area in which trapped hot air will prevent smoke from reaching the alarm). (Diagram 1).

   Smoke alarms should not be placed within:

   - 300mm of a corner of a ceiling and a wall
   - 300mm of a light fitting
   - 400mm of an air-conditioning vent
   - 400mm of the blades of a ceiling fan.
3. Larger rooms, in excess of 10m in length, should have multiple alarms installed.
4. For buildings with a peaked, or cathedral type ceiling, the alarm musty be installed at least 50cm from the apex (Diagram 2).
5. Smoke alarms must be paired (interconnected) with every other smoke alarm in the residence so they all activate together.

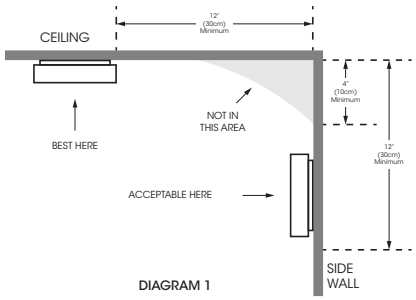


DIAGRAM 1

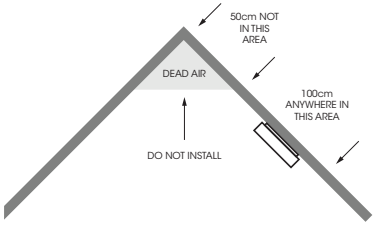


DIAGRAM 2

Avoid these locations

Smoke Alarms are sensitive electrical equipment by nature.

To reduce the likelihood of nuisance or repetitive false-triggering smoke alarms, avoid installing:

1. Near cooking appliances, such as kitchens
2. In dusty or dirty areas.
3. In areas of excessive heat. (Outside 0-45C)
4. In a garage or where car fumes exist
5. In areas subjected to relative humidity outside the range of 5%-95% (Including close proximity to bathrooms/wet areas where tubs or showers are located)
6. Where bugs or insects are present.
7. Near ceiling fans, air conditioners or other high flow areas
8. Near fluorescent lights, where 'electronic noise' exists)

Installation

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

1. Remove battery isolation strip to activate battery.
2. Select suitable install placement location and isolate power supply.
3. Complete wiring termination as per wiring instructions.
4. If interconnecting to other hardwired alarms, wire interconnecting cable/s. (Ensure terminal cover is installed after wiring)
5. Place base bracket in required location, mark fixing holes and mount using the fixings provided. Clip alarm head and base together.
6. Restore power to smoke alarm circuit. Green LED will illuminate showing power is connected.
7. Complete testing process

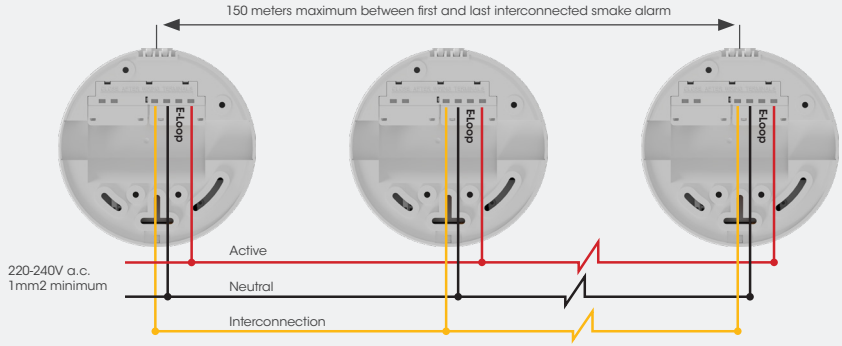
NOTE: 1:

1. *Not compatible for interconnection with wireless alarms – see other available MATelec Australia models if this is required.*
2. *All interconnected units must be supplied from a single power circuit.*
3. *Interconnection shall be no less than 1.5mm2 and be SDI cable.*
4. *Do not connect high-power requirement electrical appliances in same circuit of smoke alarms.*

Wiring instructions

1. All interconnected alarms must be connected to the same sub/circuit
2. A common Neutral must be used for interconnect to function
3. Do not connect the interconnect wires to Active or Neutral.

Use minimum of 1.5mm^2 250V insulated wire for all wiring including inter-connecting.



Testing

Test the smoke alarm regularly to confirm correct operation.

1. Ensure Green LED is continuously illuminated meaning AC power is connected
2. Complete testing of smoke alarm/s by pressing and holding Test button on alarm face for minimum 5 seconds. If installed correctly and unit is functioning properly, an alarm will sound, and Red LED will flash. Confirm connectivity by checking that all interconnected alarms also sound.
3. If multiple alarms are installed, repeat this Test procedure for all subsequent alarms.

NOTE:

1. *Smoke alarms CANNOT be HUSHED while in TESTING mode.*
2. *All other interconnected smoke alarms will stop alarming when releasing the Test button, but red LED will flash for 3 minutes*
3. *The sending/test unit will only sound on initial pressing, not together at same time as the receiving units.*
4. *If replacing battery, ensure unit is tested on completion to confirm correct operation.*

Operation

- The green LED remains illuminated when the unit is connected to mains power. This should always be on.
- In standby mode, the red LED will flash faintly for 48 seconds periodically to indicate that the unit is operating correctly.
- When smoke is detected, unit will sound a loud audible alarm, and the red LED will flash continuously. Alarm will silence once the presence of smoke is removed.

Hush function

NOTE:

If the alarm sounds, first ensure there is NO DANGER, do not assume it is a false alarm. Carefully check residence for the presence of smoke.

1. In the event of an alarm situation, pressing the HUSH button on the alarm will silence the alarm for approximately 10 minutes
2. After approximately 10 minutes, the unit will resume normal operation. If smoke or false-trigger source is still present, the unit will alarm again.
3. The hush mode feature can be repeated as many times as necessary.

NOTE:

4. *Where multiple alarms are interconnected, the HUSH function* ***WILL NOT OPERATE EXCEPT ON THE UNIT THAT THE ALARM WAS TRIGGERED FROM.***
5. *The triggered unit can be identified by the red LED flashing.*

ALARM MEMORY

The Red LED on the triggered alarm ashes TWICE every 24 seconds for one week. This can be used to identify the triggered unit. The memory will last for 7 days from the last trigger event. Removing the battery will pause the memory, not delete it.

DO NOT DISTURB MODE

When the unit indicates a low battery alarm or internal fault, pushing the HUSH button will silence the alarm for 10 hours and red LED will flash every 48 seconds.

Resetting

Isolate mains power by pushing the 'push to open' tab on the side of the unit and detach the head unit from the base.

Step 1. Remove and replace the battery.

Step 2. Press and hold the TEST button for a total of 15 seconds.

If multiple units are interconnected, replicate steps 1-2 with all additional units.

Very important – Do not replace battery and/or reattach head unit to base of any units until all units have had steps 1-2 completed.

The units have now been reset to factory state.

When all interconnected units have been reset as above, replace battery and reattach head unit to base on all units.

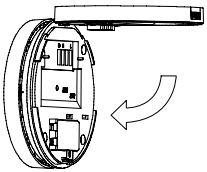
Replacing the battery

This alarm utilizes a replaceable (9Vdc) battery which is designed to power the alarm in the event of a short-term power outage. DET-SMK/AC/1 comes with a 1-year alkaline battery that must be replaced every 12 months, the DET-SMK/AC/10 comes with a 10-year lithium battery that shouldn't need replacing for the lifespan of the alarm.

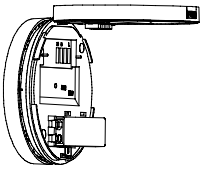
This battery should be checked routinely and replaced as required.

1. Press the PUSH button

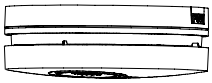
2. Open the alarm body from base



3. Replace the battery



4. Close the alarm body.



NOTE:

1. *The alarm has a single low battery audible beep, which will sound at 30-40 second intervals and cannot be hushed – replace the battery immediately when this occurs.*
2. *When replacing battery, ensure unit is tested afterwards to confirm correct operation.*

Use one of the following batteries for replacement:

- *GP DC 9V carbon battery*
- *PAKKO DC 9V carbon battery*
- *EVE DC 9V Lithium battery*
- *Raymax DC 9V Alkaline battery.*

Function description

Function	Indication	Description
Standby status (Normal operation)	Red LED flashes every 48 seconds.	Normal operation.
AC power indication	Green LED illuminates continuously.	AC power connected.
Low battery warning	The unit chirps & Red LED flashes once every 48 seconds.	Low battery voltage - replace with a new battery as soon as possible.
Fault warning	The unit beeps twice and flashes twice every 48 seconds	The unit may be faulty - refer to "Trouble Shooting" section.
End-of-life warning	The unit chirps & Red LED flashes twice every 48 sec.	The unit will send end-of-life warning after working 10 years. Replace with a new smoke alarm.
Test function	Red LED flashes once every second with alarm sounding until the TEST button is released.	• Test by pressing the TEST button on the smoke alarm for at least 5 seconds. • The alarm will sound if all functioning properly. • If no alarm sounds, refer to "Trouble Shooting". • Recommend testing the alarm weekly by pressing the TEST button.
Hush Mode	The Red LED flashes every 8 seconds.	• This smoke alarm has a built-in Silence feature. • If cooking or or other false triggers cause the alarm to sound, it can be temporarily silenced by pressing the HUSH button for more than 2 seconds. • The alarm enters Hush mode for 10 minutes. • After the 10 minute hushed period, the smoke alarm will resume normal operation.
Alarm Triggered	The Red LED flashes every second with alarm sounding.	Smoke (or false trigger) detected and alarm sounds.

Function	Indication	Description
Alarm Memory	The Red LED flashes twice every 24 seconds	After the unit triggers, it enters a memory state, and the red LED flashes twice every 24 seconds for one week.
Interconnection alarm	The unit alarms sounds without Red LED flashing.	The unit will enter the interconnection alarm mode when interconnected alarm signals received.
Interconnection alarm memory	The Red LED flashes once, every 1 second.	After the unit exits Interconnection alarm state, it enters Interconnection alarm memory state, and red LED flashes once, every 1 second, for 3 minutes.
Do not disturb function	Red LED flashes once every 48 seconds	When the unit indicates a low battery, pushing the HUSH button will silence the alarm for 10 hours and red LED will flash once every 48 seconds.
	Red LED flashes twice every 48 seconds	When the unit indicates a internal fault, pushing the HUSH button will silence the alarm for 10 hours and red LED will flash twice every 48 seconds.

Maintenance

Periodically conduct Test process to ensure Alarm/s are functioning correctly.

Periodically clean the smoke alarm by carefully vacuuming the outside of the unit to remove any dust build up and wipe gently with a damp cloth.

Do not spray any cleaning liquids directly onto/into the smoke alarm. A low-pressure gentle air wash can be used to remove dust build up around the unit.

WARNING:

Aerosol products, such as Smoke Alarm Test Smoke, (Although Photelectric smoke detectors are less susceptible to trigger by this method) can be used to test the integrity of smoke alarms by simulating

smoke conditions. If using an aerosol smoke alarm testing product, from a distance of

1-2 metres, spray the can towards the smoke alarm for 2 seconds. Smoke alarms with built in time delay circuitry may require additional spray to trigger the alarm.

Excessive spraying at close range may permanently affect the smoke alarm's sensitivity.

Troubleshooting

The following are some simple guides to rectifying issues with your MATelec Smoke Alarm.

1. The smoke alarm is intermittently 'chirping' once every 48 seconds

Battery is low, and needs replacing. See the 'Replacing the Battery' section in this guide.

2. The smoke alarm is intermittently 'chirping' twice every 48 seconds

NOTE: If the alarm sounds, first ensure there is NO DANGER. Do not assume it is a false alarm. Carefully check residence for the presence of smoke.

There are a number of reasons why a smoke alarm may sound. If your alarm is sounding for no apparent reason, consider the following:

(a) Is the unit too close to an air vent or wet area?

As the unit has a very sensitive smoke chamber, strong air flows steam or water particles can interfere with normal operation causing nuisance alarming. Consider alternative placement of the unit if this issue persists.

(b) Presence of Insects in, on or near the unit in the photoelectric chamber can cause nuisance alarming - See the 'Maintenance' section of this guide.

(c) Dust / pollution build up - See the 'Maintenance' section of this guide.Heat and/or Humidity threshold exceeded.

Climate extremes can cause the units to nuisance alarm. This is a common issue in unoccupied residences or rooms that remain closed for long periods, especially when too hot and/or humid. Ensure regular fresh cool air is supplied to areas with smoke alarms, at all times. (Eg – by opening the door of a room)

(d) Spike/shortage in power supply.

Units are built to handle minor changes in power supply however like most electrical products, can be affected by these events (Eg, power cut or lighting strike) and may cause damage or nuisance alarming.

If this is the case, perform a smoke alarm reset. See the 'Reset to Factory' section in this guide.

(e) Electro Magnetic Interference (EMI)

The MATelec unit has EMI filtering built into the unit however may be susceptible to some forms of additional EMI. This can be in the form of fluorescent fittings, LED downlights, heavy inductive loads external sources such as Solar Inverters and A/C compressors, security sensors and lighting or a combination of these sources.

Where possible, it is best practice to install smoke alarms on a separate circuit from all other electrical circuits.

If EMI issues cannot be resolved by addressing all suspect triggers outlined above, installing an in-line EMI filter may solve the issue.

3. The red LED is flashing after installing a new battery.

After replacing the battery, the alarm will enter a calibration phase, with the red light flashing, and possible intermittent chirps. This is normal, and can last for approximately 10 minutes. If the red light remains flashing long after this time, check the battery is new and operational.

If the issue persists perform a smoke alarm reset. See the 'Reset to Factory' section in this guide.

If the issue still persists the unit may be faulty and require a replacement.

Problem	Solution
Green LED not illuminated	Check mains power connection If green power light still not visible, perform a re-start: Remove the battery, press Test button twice, re-install battery.
Hard wire I/ Connected smokes don't alarm during test	Check if Smoke Alarms are in same circuit, interconnect cable is corrected firmly and mains power is connected.
Alarms sound for no apparent reason	Check for fumes, steam, etc. from the kitchen or bathroom. Paint and other fumes can cause nuisance alarms. Check for any sign of contamination such as cobwebs or dust. Clean the alarm.
	Press the local Hush button to silence the triggered Smoke Alarm. identify the alarm that triggered by the flashing red LED (alarm will not silence if it does not have a flashing red LED)
	If cannot hush the smoke alarm, push the button located on the side and open the Smoke Alarm, take the battery out. Contact MATelec Australia.
1x Chirp every 48 seconds and cannot hush	Check if battery has been installed firmly, Install new 9V battery. Contact MATelec Australia if ongoing issue.

Warranty

This MATelec Smoke Alarm is designed for use in residential dwellings and is warranted as such.

The alarm is warranted for a period of 7 years, to be free of defects in materials or workmanship, under normal use. In the event of a warranty issue, please contact MATelec Australia via email, at *customer@matelecaustralia.com.au*

Please see the warranty card included with the smoke alarm package, for full details of the warranty.

Warranty will be void if differing brands are used in sequence/interconnection of the MATelec smoke alarms.

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