FIREX
Smoke Alarm

USER'S MANUAL
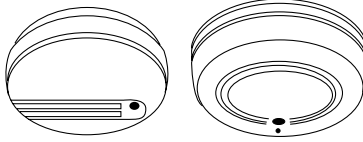
Model
I240C, GC240
IAR230C
Ionisation

Models
PG240, PAD240, PADC240,
PAR230
Optical

BS5446 : Pt 1 : 2000
LICENSE NO. 7832

C E

Printed
in
U.S.A.

PLEASE READ AND SAVE
INSTALLER: Please leave this manual with the product.

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SMOKE ALARM DESCRIPTION

Model GC240   Ionisation 230V AC smoke alarm with
                      False Alarm Control
Model I240C   Ionisation 230V AC smoke alarm with 9V
                      battery back-up and False Alarm Control
Model IAR230C   Ionisation 230V AC smoke alarm with recharge-
                      able battery backup and False Alarm Control
Model PG240   Optical 230V AC smoke alarm and False Alarm Control
Model PAD240   Optical 230V AC smoke alarm with 9V
& PADC240   battery back-up with False Alarm Control
Model PAR230   Optical 230V AC smoke alarm with rechargeable
                      battery back-up and False Alarm Control

SMOKE ALARM FEATURES

- Interconnects with up to 36 Model GC240, I240C, PG240, PAD240, PADC240, IAR230C, PAR230 smoke alarms. Unique power connector prevents interconnection with incompatible smoke alarms or security systems.
- Tamper-resist bracket quickly snaps into place and serves as a safeguard against tampering.
- Multi-purpose green and red LEDs indicate that the smoke alarm is receiving AC power, working under normal operation, in alarm, or under False Alarm Control.
- Loud alarm horn—85 decibels at 3 metres (10 feet)—sounds to alert you of an emergency.
- Test button checks smoke alarm operation.
- Models GC240, I240C, PADC240 , PG240, PAR230 and IAR230C feature False Alarm Control, which, when activated, quiets unwanted alarms for up to 15 minutes.
- Models I240C, PAD240 and PADC240 will not attach to the mounting bracket if a battery is not in the battery pocket. These models will also sound a short beep about once a minute if the battery is weak or improperly connected.
- Models IAR230C and PAR230 include permanent rechargeable lithium batteries.

IMPORTANT SAFETY INFORMATION
PLEASE READ AND SAVE THESE INSTRUCTIONS

⚠ **W   A   R   N   I   N   G**

- **AC smoke alarms require constant 230V AC, 50Hz power to operate properly.** Mains-powered smoke alarms WILL NOT work if AC power is not connected or has failed or been interrupted for any reason. Models I240C, PAD240 and PADC240 require a working 9-volt battery to operate properly in the event of a power failure. Models IAR230C and PAR230 require a minimum of 2 full days under mains power to reach full backup capacity. DO NOT use any other kind of battery except as specified in this manual. DO NOT connect this smoke alarm to any other type of smoke alarm or auxiliary device, except those listed in this manual.
- **DO NOT remove or disconnect battery or turn off AC power to quiet unwanted alarms.** This will remove your protection. Open windows or fan the air around smoke alarm to silence it. Models GC240, I240C, IAR230C, PG240, PAR230 and PADC240 smoke alarms feature a False Alarm Control button which, when activated, will quiet unwanted alarms for up to 15 minutes.
- **The Push-to-Test button accurately tests all smoke alarm functions.** DO NOT use any other test method. **Test smoke alarm weekly to ensure proper operation.**
- **This smoke alarm should be installed only by a qualified electrician.**
- **This smoke alarm is designed to be used inside a single family household only.** In multi-family buildings, each individual living unit should have its own smoke alarms. Do not install in non-residential buildings or places which house many people like hotels, motels, dormitories, hospitals, nursing homes, or group homes of any kind. This smoke alarm is not a substitute for a complete alarm system.

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- **Install a smoke alarm in every room and on every level of the home.** Smoke may not reach the smoke alarm for many reasons. For example, if a fire starts in a remote part of the home, on another level, in a chimney, wall, roof, or on the other side of a closed door, smoke may not reach the smoke alarm in time to alert household members. A smoke alarm will not promptly detect a fire EXCEPT in the area or room in which it is installed.
- **Interconnected smoke alarms installed in every room and on every level of the household offers maximum protection.** We recommend interconnecting smoke alarms so that when one smoke alarm senses smoke and sounds its alarm, all others will sound as well. Do not interconnect smoke alarms from one individual family living unit to another. Do not connect this smoke alarm to any other type of alarm or auxiliary device.
- **Smoke alarms may not alert every household member every time.** The alarm horn is loud in order to alert individuals of a potential danger. However, there may be limiting circumstances where a household member may not hear the alarm (i.e. outdoor or indoor noise, sound sleepers, drug or alcohol usage, the hearing impaired, etc.). If you suspect that this smoke alarm may not alert a household member, install and maintain specialty smoke alarms. Household members must hear the alarm's 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 hearing impaired, install special smoke alarms with lights or vibrating devices to alert occupants.
- **Smoke alarms can only sound their alarms when they detect smoke.** Smoke alarms detect combustion particles in the air. They do not sense heat, flame, or gas. This smoke alarm is designed to give audible warning of a developing fire. However, many fires are fast-burning, explosive, or intentional. Others are caused by carelessness or safety hazards. Smoke may not reach the smoke alarm QUICKLY ENOUGH to ensure safe escape.
- **Smoke alarms have limitations.** This smoke alarm is not fool-proof and is not warranted to protect lives or property from fire. Smoke alarms are not a substitute for insurance. Homeowners and renters should insure their lives and property. In addition, it is possible for the smoke alarm to fail at any time. **For this reason, you must test the smoke alarm weekly and replace every 10 years.**

SMOKE ALARM PLACEMENT

It is recommended to achieve complete coverage protection by installing a smoke alarm in every room of your home.

At a minimum, smoke alarms shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms and on each additional storey of the family living unit including basements and excluding crawl spaces and unfinished attics. Any home requires a minimum of two smoke alarms.

FOR BEST PROTECTION, IT IS RECOMMENDED THAT YOU INSTALL A SMOKE ALARM IN EVERY ROOM

**In addition, it is recommended that all smoke alarms be interconnected.**

Typical Efficiency Home (Apartment)
- Install a smoke alarm on the ceiling or wall closest to the sleeping area. Install a smoke alarm with False Alarm Control in the kitchen/living area.
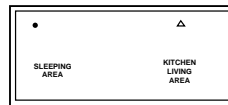
Typical Single Storey Home
- Install a smoke alarm on the ceiling or wall inside each bedroom and in the hallway outside each separate sleeping area. If a bedroom area hallway is more than 9 m long, install a smoke alarm at each end.
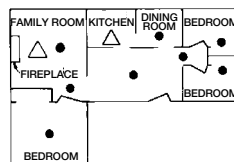
Typical Two-Storey Home
- Install a smoke alarm on the ceiling or wall inside each bedroom and in the hallway outside each separate sleeping area.

  If a bedroom area hallway is more than 9 m long, install a smoke alarm at each end.

- Install a smoke alarm at the top of a first-to-second floor stairwell.
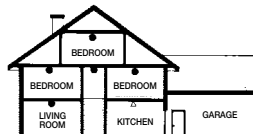
Key
- Smoke Alarm
△ Smoke Alarm with False Alarm Control

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IMPORTANT SMOKE ALARM PLACEMENT AND EXCEPTION INFORMATION:

- Install a smoke alarm as close to the centre of the ceiling as possible. If this is not practical, mount no closer than 10 cm (4 inches) from a wall or corner. Also, if local codes allow, install smoke alarms on walls, between 10 and 30 cm (4 and 12 inches) from ceiling/wall intersections.

- Install a minimum of two smoke alarms in every home, no matter how small the home. Any size home requires fitting a minimum of two smoke alarms.

- Install a smoke alarm in each room that is divided by a partial wall (either coming down from the ceiling at least 20 cm (8 inches), or coming up from the floor).

- Install smoke alarms on peaked, cathedral, or gabled ceilings 1 m from the highest point (measured horizontally).

- Install a smoke alarm in lived-in attics or attics which house electrical equipment like furnaces, air conditioners, or heaters.
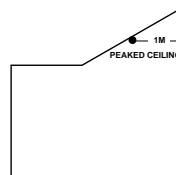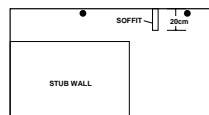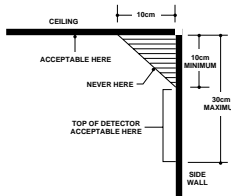
DO NOT install smoke alarms:

Near appliances or areas where normal combustion regularly occurs (kitchens, near boilers, hot water heaters). Use specialized smoke alarms with unwanted alarm control for these areas.

In areas with high humidity, like bathrooms or areas near dishwashers or washing machines. Install at least 3 metres away from these areas.

Near air returns or heating and cooling supply vents. The air could blow smoke away from the detector, interrupting its alarm.

In rooms where temperatures may fall below 5°C (41°F) or rise above 45°C (113°F).

In extremely dusty, dirty, or insect-infested areas. Loose particles interfere with smoke alarm operation.

HOW TO INSTALL THIS SMOKE ALARM

⚠ **DANGER:** **ELECTRICAL SHOCK HAZARD. Turn off power at the main fuse box or circuit breaker by removing the fuse or switching the circuit breaker to the OFF position and securing it.**

⚠ **WARNING:** **Mains operated smoke alarms should be installed by a qualified electrician in accordance with the Regulations for Electrical Installations published by the Institution of Electrical Engineers (BS). Failure to install this smoke alarm correctly may expose the user to shock or fire hazards.**

⚠ **WARNING:** **The smoke alarm, its associated supply and interconnect wiring must be installed in accordance with BS 7671 published by the Institution of Electrical Engineers.**

- Install smoke alarm on a wall, ceiling, standard electrical box, or surface mounting pattress.

1. Align mounting plate with mounting holes of standard electrical box or surface mounting pattress. For siting on wall or ceiling, use mounting plate as template to mark holes. Drill holes (for wall or ceiling only) and insert supplied screw plugs into holes until flush with wall or ceiling.

2. Secure mounting plate to electrical box, pattress, wall, or ceiling. (Diagram illustrates fixing mounting plate to electrical box.)

3. Connect blue wire from connector plug of smoke alarm to neutral (black or blue) mains power wire.

4. Connect brown wire from connector plug of smoke alarm to live (red or brown) mains power wire .

5. If interconnection is desired, connect orange wire from connector to interconnect wire between smoke alarms. See section, "Interconnecting Smoke Alarms."

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NOTE: If this will be a single-station smoke alarm, cover orange wire with electrical tape and tuck into ceiling, wall, or pattress.
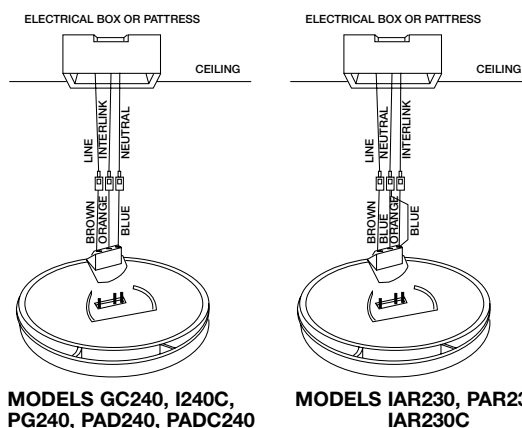
MODELS GC240, I240C, PG240, PAD240, PADC240   **MODELS IAR230, PAR230, IAR230C**

Steps 6-9 for Models I240C, PAD240 and PADC240 ONLY:

6. Lift open battery pocket door.

7. Connect new 9-volt battery to battery connector inside battery pocket. BE SURE BATTERY IS SECURELY CONNECTED. Smoke alarm may beep briefly when battery is installed.

8. Close battery pocket door, snapping it into place.

9. Push button and hold button on front cover of smoke alarm for three (3) seconds. Smoke alarm should sound its alarm horn if battery is fitted correctly.

10. Attach connector plug to pins on back of smoke alarm. Plug will only fit one way and will snap into place.

11. Gently tug connector to be sure it is attached securely.

12. Position smoke alarm to mounting plate so that keyslot on side of smoke alarm is to left of tab on mounting plate. Turn clockwise to lock into place.

NOTE: (For Models I240C, PAD240 and PADC240 only):
Smoke alarm will not mount to plate if battery is not installed.

13. Turn on power at main fuse box or circuit breaker. The green LED on the cover should be illuminated.

14. Test smoke alarm. See "TESTING THE SMOKE ALARM".

INTERCONNECTING SMOKE ALARMS

- Use 1.5mm^2 minimum solid or stranded wire with a rating of 230V. When interconnecting, maximum wire length between any two is 450 m for 1.5mm^2 or 1200 m for 2.5mm^2 (20 OHMS loop resistance).

- This smoke alarm may be interconnected with as many as 35 other Models GC240, I240C, PG240, PAD240, PADC240, IAR230C, and PAR230 smoke alarms. DO NOT connect to any other type or model smoke alarm.

- Connect smoke alarms to a single AC branch circuit. If local codes do not permit, be sure the neutral wire is common to both phases. Wiring must conform to IEE Regulations for electrical installation.
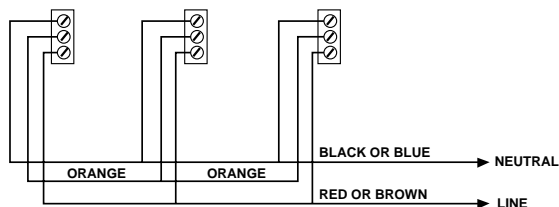
FOR INTERCONNECT: USE STANDARD 1.5MM^2 CABLE

RED AND GREEN LED INDICATORS

This smoke alarm features red and green LED indicators that can be seen through the Push-to-Test button or the LED lens above the test button. The LEDs indicate the following:

GREEN LED

ON — AC power is present.
OFF — AC power is not present.

RED LED

Blinks once a minute — indicating normal operation.
Blinks once a second — smoke alarm senses smoke and simultaneously sounds an audible alarm.
Blinks once every 10 seconds — smoke alarm is quieting an unwanted alarm. (Models GC240, I240C, PADC240, and IAR230C, PG240, PAR230.)

(Interconnected system only):

OFF — another smoke alarm in the network has sensed smoke and is signalling this alarm.

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FALSE ALARM CONTROL

Models GC240, I240C, PADC240, PG240, PAR230 and IAR230C feature False Alarm Control that, when activated, quiets unwanted alarms for up to 15 minutes.

To use the False Alarm Control:
Press and release the test button during an unwanted alarm. The alarm should stop within ten seconds. This means the smoke alarm is in False Alarm Control. If the smoke alarm does not go into False Alarm Control and continues to sound its loud alarm horn, or if it initially goes into False Alarm Control then resounds the alarm, the smoke is too heavy and could be a dangerous situation – take emergency action.

TESTING THE SMOKE ALARM

⚠ W A R N I N G

- Test each smoke alarm to be sure it is installed correctly and operating properly.
- Test all smoke alarms in an interconnected system after installation.
- The Push-to-Test button accurately tests all functions. DO NOT use an open flame to test this smoke alarm. You may ignite and damage the smoke alarm or your home.
- Test smoke alarms weekly and upon returning from holiday or when no one has been in the household for several days.
- Stand at arm's length from the smoke alarm when testing. The alarm horn is loud to alert you to an emergency and can be harmful to hearing.

Test all smoke alarms weekly by doing the following:
1. Check Push-to-Test button. A constant green light indicates the smoke alarm is receiving 230V AC, 50Hz power. A red flashing LED about once a minute verifies operation. For models I240C, PAD240, PADC240, IAR230C, and PAR230 the red flashing LED also verifies that a working battery is present.

2. Firmly depress the Push-to-Test button for at least five (5) seconds. The smoke alarm will sound a loud beep about four (4) times a second. The alarm may sound for up to 10 seconds after releasing the Push-to-Test button.

NOTE: If smoke alarms are interconnected, all smoke alarms should sound an alarm within three seconds after any test button is pushed and the tested smoke alarm sounds.

3. If smoke alarm does not sound, turn off power at main fuse box or circuit breaker and check wiring. Retest smoke alarm.

⚠ **DANGER: If alarm horn sounds, and smoke alarm is not being tested, the smoke alarm is sensing smoke. THE SOUND OF THE ALARM HORN REQUIRES YOUR IMMEDIATE ATTENTION AND ACTION.**

MAINTENANCE AND CLEANING

In addition to weekly testing, Models I240C, PAD240, and PADC240 also require periodic battery replacement. Regularly clean smoke alarm to remove dust, dirt, and debris.

⚠ **WARNING: Alarm comes equipped with a dust cover, which prevents dust and debris from damaging the unit during construction or remodeling. Remove dust cover before operation. Alarm will not operate properly while covered.**

⚠ **DANGER: ELECTRICAL SHOCK HAZARD. Turn off main power at fuse box or consumer unit by removing fuse or switching appropriate circuit breaker to OFF position before replacing battery or cleaning smoke alarm.**

BATTERY REPLACEMENT
(For Models I240C, PADC240, and PAD240 only):

⚠ **CAUTION: Danger of explosion if battery is incorrectly replaced.**

Always turn off power to smoke alarm before replacing battery. Replace battery at least once a year or immediately when the low battery signal sounds once a minute, even though the smoke alarm is receiving AC power. Use only the following batteries as replacements in this smoke alarm: Eveready 216, 522, 1222; Duracell MN 1604; or Ultralife U9VL-J

Replace only with the same or equivalent battery type recommended by the manufacturer. Discard used batteries safely according to manufacturer's instructions.

WHENEVER THE BATTERY IS REPLACED, TEST THE ALARM FOR CORRECT OPERATION PUSHING THE TEST BUTTON.

⚠ **WARNING: DO NOT USE ANY OTHER TYPE OF BATTERY, EXCEPT AS SPECIFIED IN THIS MANUAL. DO NOT USE RECHARGEABLE BATTERIES.**

(For Models IAR230C and PAR230 only):

NOTE: Rechargeable lithium batteries are permanently mounted and sealed in the tamper-proof housing. These cells are designed to last the useful life of the smoke alarm.

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1. Turn off power to smoke alarm at main service panel.
2. Insert a small screwdriver into the slot in the mounting plate. Depress locking tab with the screwdriver and turn smoke alarm counter-clockwise to detach from mounting plate.
3. Gently pull down smoke alarm. Be careful not to separate wire connections.
4. Pull out power plug from back of smoke alarm.
5. From back of smoke alarm, lift tab to open battery pocket door.
6. Remove battery from pocket. Disconnect and discard drained battery from battery connector.
7. Connect a fresh, 9-volt battery to connector. The battery will fit only one way. Be sure battery connector is securely attached to battery terminals. Smoke alarm may sound a short beep when battery is installed. This is normal and means the battery is installed correctly.
8. Place battery into battery pocket.
9. Close battery pocket door. **Push down until it snaps into place.**
10. Press and hold test button. The alarm will sound if the battery is properly connected and working.
11. Replace connector plug. Connector will "snap" into place. Gently tug connector to be sure it is attached properly.
12. Reattach smoke alarm to mounting plate by turning smoke alarm clockwise until it snaps into place.
13. Turn on power and test smoke alarm using test button.

CLEANING

Clean the smoke alarm at least once a month to remove dust, dirt, or debris. Always turn off power to smoke alarm before cleaning.

- Using the soft brush or wand attachment to a vacuum cleaner, vacuum all sides and cover of smoke alarm. Be sure all the vents are free of debris.
- If necessary, turn off power and use a damp cloth to clean smoke alarm cover.

IMPORTANT: Do not attempt to remove the cover or clean inside the smoke alarm. THIS WILL VOID YOUR GUARANTEE.

REPAIR

⚠ **CAUTION: Do not attempt to repair this smoke alarm. Doing so will void your guarantee.**

If smoke alarm is not operating properly, see "Troubleshooting". If necessary and if still under guarantee, return smoke alarm to Sensotec. Pack it in a well-padded carton and send, postage prepaid to Sensotec address at the end of this manual.

If the smoke alarm is no longer under guarantee, have a licensed electrician replace the smoke alarm immediately with a comparable Firex brand smoke alarm.

PRACTICE FIRE SAFETY

If the smoke alarm sounds its alarm horn, and you have not pushed the test button, it is warning of a dangerous situation.
Your immediate response is necessary. To prepare for such occurrences, develop family escape plans, discuss them with
ALL household members, and practice them regularly.

- Expose everyone to the sound of a smoke alarm and explain what the sound means.
- Determine TWO exits from each room and an escape route to the outside from each exit.
- Teach all household members to touch the door and use an alternate exit if the door is hot. INSTRUCT THEM NOT TO OPEN THE DOOR IF THE DOOR IS HOT.
- Teach household members to crawl along the floor to stay below dangerous smoke, fumes, and gases.
- Determine a safe meeting place for all members outside the building.

WHAT TO DO IN CASE OF A FIRE

1. Don't panic; stay calm.

2. Leave the building as quickly as possible. Touch doors to feel if they are hot before opening them. Use an alternate exit if necessary. Crawl along the floor, and DO NOT stop to collect anything.

3. Meet at a pre-arranged meeting place outside the building.

4. Call the fire brigade from OUTSIDE the building.

5. DO NOT GO BACK INSIDE A BURNING BUILDING. Wait for the fire brigade to arrive.

These guidelines will assist you in the event of a fire. However, to reduce the chance that fires will start, practice fire safety rules and prevent hazardous situations.

TROUBLESHOOTING

⚠ **DANGER:**   **Always turn off power at main fuse box or consumer unit before taking trouble- shooting action.**

⚠ **WARNING:**   **DO NOT disconnect battery or mains power to quiet an unwanted alarm. This will remove your protection. Fan the air or open a window to remove smoke or dust. For Models GC240, I240C, PADC240, PG240, PAR230 and IAR230C you may also use the False Alarm Control feature to quiet unwanted alarms.**

PROBLEM	SOLUTION

Smoke alarm does not sound when tested.
 	
NOTE: Push test button for at least five (5) seconds while testing!
	1. Check that AC power is turned on. Green LED should be illuminated.
	
	2. Turn off power. Remove smoke alarm from mounting plate and:
	
	  a. check that connector plug is securely attached.
	
	  b. check that battery is properly attached to connector.
	
	3. Clean smoke alarm.

Smoke alarm beeps about once a minute. (Models I240C and PAD240 only) (Models IAR230C and PAR230)	1. Turn off power and replace battery. See Battery Replacement" in the MAINTENANCE AND CLEANING section. 2. Clean smoke alarm. 3. Verify that unit has been under mains operation for a minimum of 2 full days. If the beeping persists after required charging period, return the unit for service.
Smoke alarm sounds unwanted alarms when residents are cooking, taking showers, etc. Interconnected smoke alarms do not sound when system is tested.	1. Hire an electrician to move smoke alarm to a new location. See "SMOKE ALARM PLACEMENT" 1. Press and hold test button for at least three seconds after the first unit sounds. 2. Hire an electrician to ensure smoke alarms are properly connected.

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WARRANTY

Maple Chase Company warrants to the original consumer purchaser each new smoke alarm to be free from defects in material and workmanship under normal use and service for a period of six (6) years in the United Kingdom and Republic of Ireland from date of purchase. Maple Chase Company agrees to repair or replace, at its option, any defective smoke alarm, provided that it is returned with postage prepaid and with proof of purchase date to Maple Chase Company. This warranty does not cover damage resulting from accident, misuse or abuse or lack of reasonable care of the product. This warranty is in lieu of all other express warranties, obligations or liabilities. THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED TO A PERIOD OF SIX (6) YEARS FROM PURCHASE DATE. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. IN NO CASE SHALL MAPLE CHASE COMPANY BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WHATSOEVER, EVEN IF THE LOSS OR DAMAGE IS CAUSED BY ITS NEGLIGENCE OR FAULT. Some states 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 legal rights which vary from state to state.

Return units freight prepaid to your local reseller. For information on your local reseller in the U.K. and Republic of Ireland, contact:

Sensotec Europe Ltd.
Unit 7, Bala Industrial Estate
Bala, Gwynedd LL23 7NL
United Kingdom
Tel.: +44 (0) 1678 520022
Fax.: +44 (0) 1678 520689

Manufactured by:

invensys ®

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United States of America

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