

1164 Wireless Commercial Smoke Detector

Description

The Model 1164 Smoke Detector with Sounder is a 3 volt battery powered, wireless, low profile, photoelectric smoke detector used with 1100 Series Wireless Receivers. The 1164 has the capability of synchronizing the alarm cadence with other 1164 smoke detectors installed on the same commercial fire system.

Features

- Tamper switch sends a trouble signal to the control panel when the detector is removed from the mounting base.
- Built-in sounder and mechanical test switch
- The Green LED indicates standby within proper sensitivity.
- The Red LED indicates alarm, maintenance, and low battery.
- When more than one 1164 is installed on a system, the alarm cadence will synchronize.

What is Included

The 1164 Wireless Commercial Smoke Detectors include the following:

- One 1164 Smoke Detector with DMP wireless transmitter installed
- One 3V lithium Panasonic CR123A or DMP CR123-FIRE batteries
- Hardware pack
- Zone name and number label
- Serial number labels

Transmitter Serial Number

For your convenience, an additional pre-printed serial number label is included. Prior to installing the device, record the serial number or place the pre-printed serial number label on the panel programming sheet. This number is required during programming. As needed, use the zone name and number label to identify a specific transmitter.

Programming the Transmitter in the Panel

Program the device as a zone in **Zone Information** during panel programming. At the Serial Number: prompt, enter the eight-digit serial number. Set supervision time to 3 minutes. Continue to program the zone as directed in the panel programming guide.

Note: For cadence synchronization with other 1164 smoke detectors on the system, in Bell Options, set Fire Bell Action to T (Temporal).

Note: When a receiver is installed, powered up, or the panel is reset, the supervision time for transmitters is reset. If the receiver has been powered down for more than one hour, wireless transmitters may take up to an additional hour to send a supervision message unless tripped, tampered, or powered up. This operation extends battery life for transmitters. A missing message may display on the keypad until the transmitter sends a supervision message.

Transmitted Signal Outputs

The smoke detector provides the signals listed in the table:

Signal	Keypad Display
Alarm	ALARM
Alarm restore	OK
Low battery	LO BAT

Selecting the Proper Location (LED Survey Operation)

Since the 1164 transmitter PCB is not visible, use a separate 1100 Series Transmitter for the LED Survey Operation such as an 1107. The 1107 provides survey capability to allow one person to confirm transmitter communication with the receiver before installation. The 1107 Red Survey LED turns on whenever data is sent to the receiver then immediately turns off when the receiver acknowledgement is received. Using the contact magnet is a convenient way to send data to the receiver to confirm operation. When the magnet is moved away or brought towards the contact, the LED blinks once to indicate proper communication. When the transmitter does not receive an acknowledgement from the receiver the LED remains on for about 8 seconds to let you know communication is not established. Communication is also faulty when the LED flashes multiple times in quick succession. Relocate the contact or receiver until the LED immediately turns off indicating the transmitter and receiver are communicating properly. Proper communication between the transmitter and receiver is verified each time the magnet is moved within 1/2 inch of the transmitter or pulled away from the transmitter.

For optimum wireless performance, install the transmitter away from large metal objects. Mounting the transmitter on or near metal surfaces impairs performance.

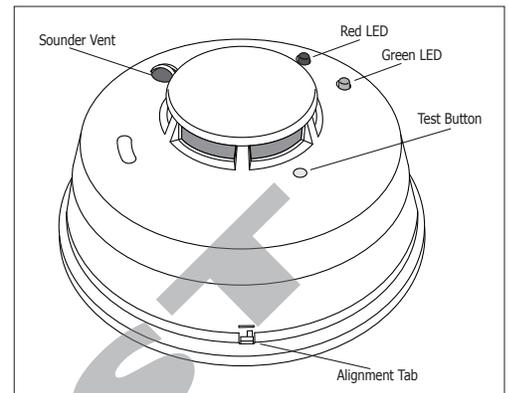


Figure 1: Smoke Detector Features

General Guidelines

In addition to NFPA 72, use the following location guidelines to optimize performance and reduce the chance of false alarms from the detector:

- Locate ceiling-mounted smoke detectors in the center of a room or hallway at least 4 inches from any walls or partitions
- Locate wall-mounted smoke detectors so the top of the detector is 4 to 12 inches below the ceiling
- Mount smoke detectors on a firm permanent surface
- Locate the detector in environmentally controlled areas where the temperature range is between 40° and 100° F (4.4° and 37.8° C) and the humidity is between 0 and 90% non-condensing
- In rooms with sloped, peaked, or gabled ceilings, locate detectors 3 feet (.9 meters) down or away from the highest point of the ceiling
- When mounting to suspended ceiling tile, the tile must be secured with the appropriate fastener across the ceiling panel supports to prevent removal of the detector with the ceiling tile.

Additional Location Recommendations

Selecting a suitable location is critical to the operation of smoke detectors. This equipment should be installed in accordance with the National Fire Protection Association's (NFPA) Standard 72, Chapters 2 and 8. Depending on the application, you may need to reference other chapters of NFPA 72 or NFPA 101.

Since regulations pertaining to smoke detector installation vary from state to state, contact the Authority Having Jurisdiction (AHJ). Where public safety is primary, the AHJ may be a federal, state, local, or other regional department or individual such as a fire chief, fire marshal, chief of a fire prevention bureau, labor or health department, building official, electrical inspector, or others having statutory authority. For insurance purposes, an insurance inspection department, rating bureau, or other insurance company representative may be the AHJ. In some cases, the property owner or their designated agent assumes the role of the AHJ. At government installations, the commanding officer or department official may be the AHJ.

Additional NFPA Guidelines, Smoke Detector Limitations, and Fire Prevention information are listed at the end of this document.

Locations to Avoid

Do not install smoke alarms/detectors:

- In or near areas where combustion particles are normally present such as in kitchens, garages, near furnaces, hot water heaters, or gas space heaters.
- On the ceiling in rooms next to kitchens where there is no transom between the kitchen and such rooms.
- In damp or very humid areas or next to bathrooms with showers, locate detectors at least 5 feet (1.5 meters) away from bathrooms.
- In very cold or very hot areas.
- In dusty, dirty, or insect infested areas.
- Away from air conditioners, heating registers, and any other ventilation source that may interfere with smoke entering the detector.
- Near fresh air inlets or returns or excessively drafty areas – heating/air conditioning vents, fans, and fresh air intakes can drive smoke away from smoke alarms/detectors.
- In dead air spaces at the top of peaked ceilings or in corners where walls and ceiling meet – dead air may prevent smoke from reaching a smoke alarm/detector.
- Near fluorescent light fixtures – locate smoke alarms/detectors at least 10 feet (3 meters) away from these fixtures.

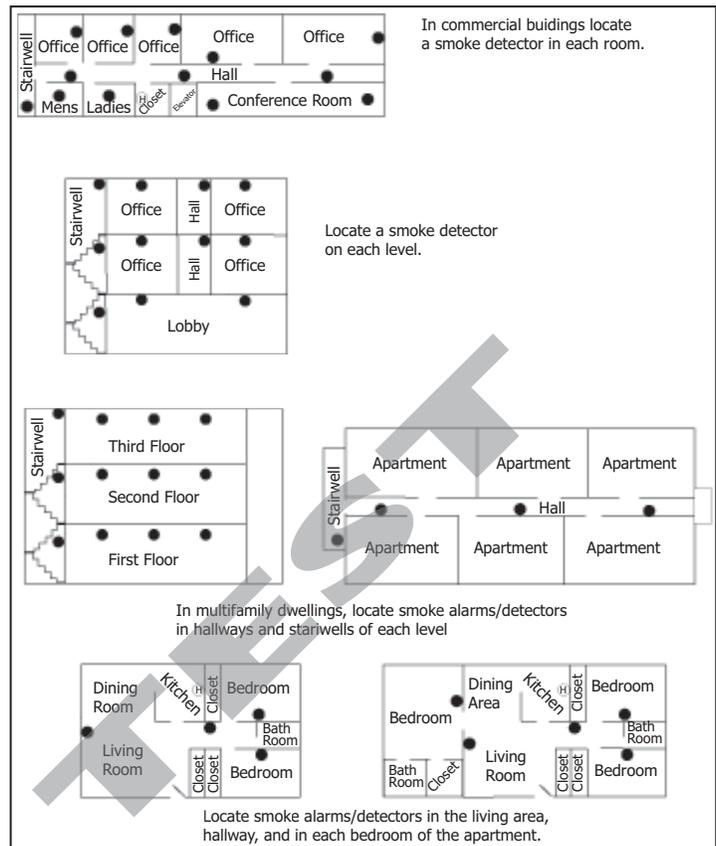


Figure 2: Smoke Detector Placement Locations

Installing the Detector

Note: When setting up a wireless system, it is recommended to program zones and connect the receiver before installing batteries in the transmitters.

Use the following steps to install the detector.

1. Determine the best location for the smoke detector, one that provides a strong wireless transmission path and proper smoke detection. See *Selecting the Proper Location (LED Survey Operation)*.
1. Remove the detector from the mounting base. See Figure 4.
2. Locate and record the detector serial number. This number is required during programming. See *Programming the Transmitter in the Panel*.
3. Using the two screws and anchors provided, mount the base.
4. Grasp the battery pull-tab firmly and pull completely to remove and allow the battery to make contact. The green and red LED's will flash 4 times simultaneously and then the green LED will continue to flash every 10 seconds to indicate the detector is in Standby.
5. Press the test switch. When pressed, and the detector is operating within its proper sensitivity limits and not in low battery condition, the green LED will turn off while the red LED turns on continuously.
6. To mount the detector to the base, line up the raised tab on the lip of the detector with the slot on the lip of the mounting base and rotate until it clicks into place. See Figure 3.
7. The detector is shipped with a dust cover for protection on construction sites with dusty environments. Remove the orange plastic dust cover from the detector only when installation and all construction is complete. If the dust cover is removed prior to the completion of construction, the detector's sensitivity may be degraded making it inoperable.

Important: The control panel alarm and all auxiliary functions should be verified for a complete test of the system.

Smoke Testing the Smoke Detector

Smoke detectors should be tested in place annually using one of the following methods:

- A. Use a canned aerosol simulated smoke and follow the directions on the can.
- B. Use the following steps to test the detector with smoke:
 1. Hold a smoldering punk or cotton wick close to the smoke entry openings.
 2. Gently direct the smoke into the detector for 20 seconds or until an alarm is indicated.

Be sure to extinguish the smoke source after testing! The detector LED should stay on and an alarm should be indicated at the control panel. Use the system reset switch to reset the detector.

Understanding the LEDs

The LEDs on the detector indicates the status of the detector as follows:

Standby = The Green LED flashes once every 10 seconds and the Red LED is off

Detects smoke = The Red LED is on steady and the Green LED is off

Low battery = The Red LED flashes once every 45 seconds and the Green LED is off

Test Alarm = The Red LED is on steady and Green LED is off

Maintenance or communication failure = The Red LED flashes every 5 seconds and Green LED is off

Understanding the Test/Silence Button

The Test/Silence button on the detector performs the following three functions:

Testing = Pressing the Test/Silence button tests the functionality of the circuitry, proper sensitivity limits and battery condition. If pressed and held for 2.5 seconds or longer, the sounder will be enabled. When released, the sounder will silence and the detector returns to the state prior to the test switch being pressed.

Silence alarm = When pressed during an alarm the sounder is disabled for five minutes.

Silence trouble chirp = Press to silence a trouble chirp for 12 hours. If the test switch is pressed during the silence period, the detector will not respond. If an alarm condition occurs during the silence period, the sounder will enable as per alarm requirements. The trouble chirp resumes after 12 hours if the trouble condition is not corrected.

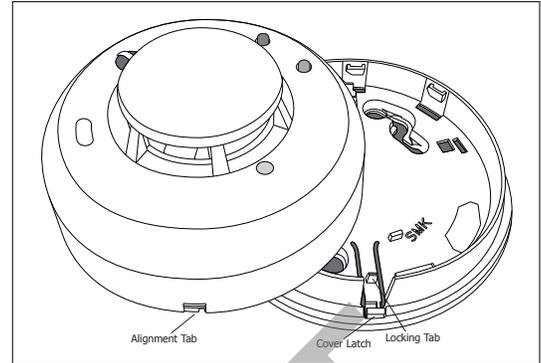


Figure 3: Smoke Detector-to-Base Alignment

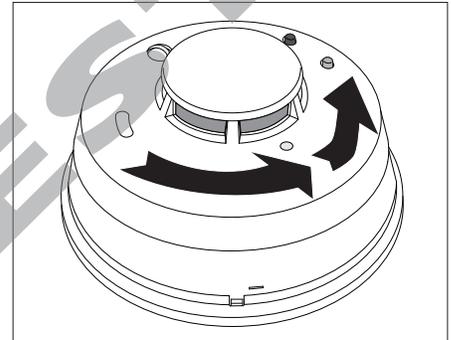


Figure 4: Remove Detector from Base

Attaching and Removing the Detector

To remove the detector from the mounting base, grasp the detector and turn it counterclockwise approximately 15 degrees. The detector should snap off of the mounting base.

This 1164 features a tamper switch that will send a trouble (TRBL) signal that displays on the keypad if it is removed from the mounting base.

The 1164 includes a tamper-resistant feature that prevents removal from the mounting base without the use of a tool. To engage the tamper-resistant feature, cut the small plastic tab located on the mounting base, and then install the detector. To remove the detector from the base once it has been made tamper resistant, use a small screwdriver to depress the cover latch and turn the detector counterclockwise. See Figure 5.

Installing or Replacing the Batteries

Observe polarity when installing the battery. Use only 3.0V lithium batteries, Panasonic Model CR123A or DMP Model CR123-FIRE.

When the batteries are low, the green LED will turn off. The Red LED will flash every 45 seconds and after 2 days of the low battery condition, the detector will begin to chirp until the batteries are replaced. The sounder can be silenced for 12 hours by pushing the Test/Silence button. See Figure 1.

Note: When setting up a wireless system, it is recommended to program zones and connect the receiver before installing batteries in the transmitters.

1. Remove the detector from the mounting base. See *Attaching and Removing the Detector*.
2. Remove the old battery and dispose of properly.
4. Observing correct polarity, insert the new 3V lithium battery into the battery compartment. Use only a new battery when replacing old one.
5. Reattach the detector to the mounting base. See *Attaching and Removing the Detector*.
6. Test the detector. See *Smoke Testing the Detector*.

Caution: Properly dispose of used batteries. Do not recharge, disassemble, heat above 212°F (100°C), or incinerate. Risk of fire, explosion, and burns.

Battery Life Expectancy

The current draw for the 1164 is:

Standby: 0.092 mA @ 3 Vdc

Alarm: 15.724 mA @ 3 Vdc

Typical battery life expectancy for DMP wireless smoke detectors is at least 1 year. DMP wireless equipment uses two-way communication to extend battery life.

The following situations can reduce battery life expectancy:

- If a receiver is unplugged or not installed, transmitters send supervision messages until a receiver returns an acknowledgement.
- Frequent transmissions, such as how often the detector is tested.
- When installed in extreme hot or cold environments.

Battery life expectancy may be extended by extending the detector test time schedule.

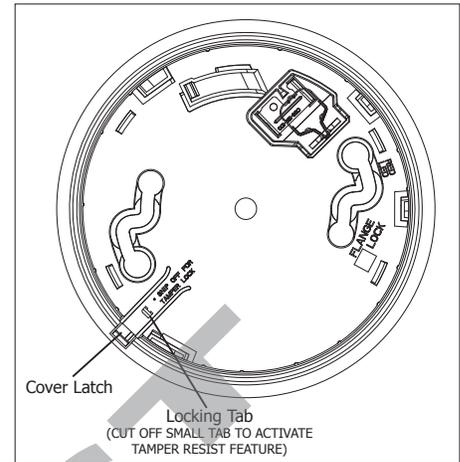


Figure 5: Locking Tab

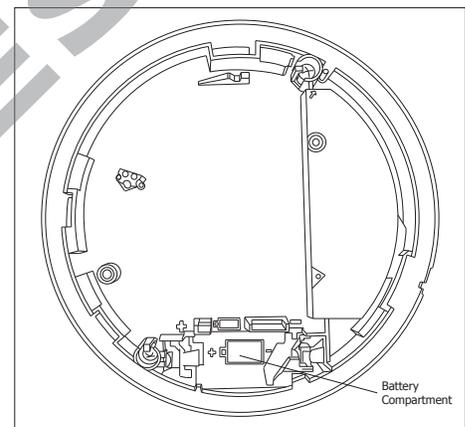


Figure 6: Battery Compartment

Cleaning the Detector

Clean the detector cover with a dry or damp (water) cloth as needed to keep it free from dust and dirt. When necessary, clean the detector interior and **replace** the smoke chamber as follows:

1. Remove the detector from its mounting base. See *Attaching and Removing the Detector*.
2. Remove the battery. See *Installing or Replacing the Batteries*.
3. Rotate the detector cap approximately 15 degrees to the left and gently lift off. See Figure 6.
4. Press the sides of the smoke chamber in where indicated by the alignment arrows. Pull the chamber up and away from the detector and discard. See Figure 7.
5. Blow out or use a soft-bristled brush to remove dust and dirt from the smoke chamber base.
6. Line the smoke chamber up with the smoke chamber base by lining up the arrows on the smoke chamber to the latches on the optical base and snap down into place.
7. Replace the detector cap as follows:
 - Line the cap up with the smoke detector.
 - Insert the cap into the smoke detector and turn clockwise approximately 15 degrees to the right. It should snap firmly into place.
8. Observing correct polarity, insert a new 3V lithium battery into the battery compartment and replace the cover.
9. Reattach the detector to its mounting base. See *Attaching and Removing the Detector*.

Important: The control panel alarm and all auxiliary functions should be verified for a complete test of the system.

Inspection Testing and Maintenance

The 1164 detector is designed for easy field service and maintenance. When installed and used properly, they require minimal maintenance. The smoke detector should be functionally tested per NFPA 72 for system type smoke detectors. See *Smoke Testing the Smoke Detector*. When an 1164 detector requires maintenance, it extinguishes its LED.

WARNING

Smoke alarms **CANNOT** provide warnings for fires resulting from explosions, smoking in bed or other furniture, ignition of flammable liquids, vapors and gases, children playing with matches or lighters.

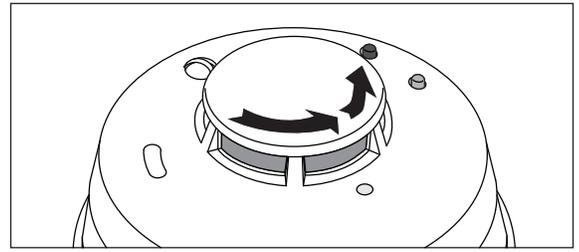


Figure 7: Remove Detector Cap

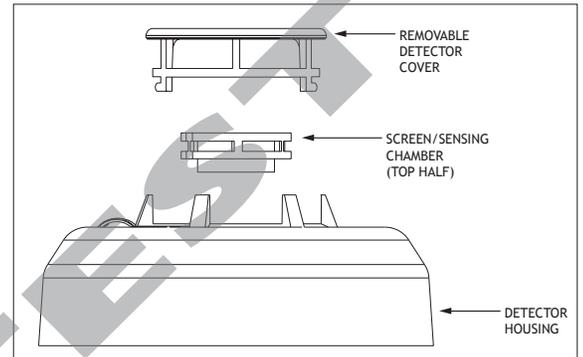


Figure 8: Detector Parts

NFPA 72 Guidelines

Total (Complete) Coverage. If required, total coverage shall include all rooms, halls, storage areas, basements, attics, lofts, spaces above suspended ceilings, and other subdivisions and accessible spaces; and the inside of all closets, elevator shafts, enclosed stairways, dumbwaiter shafts, and chutes. Inaccessible areas shall not be required to be protected by detectors. (For exceptions, refer to NFPA 72.)

Partial Coverage. If required, partial detection systems shall be provided in all common areas and work spaces, such as corridors, lobbies, storage rooms, equipment rooms, and other tenantless spaces in those environments suitable for proper detector operation in accordance with this code.

Selective Coverage. Where codes, standards, laws, or authorities having jurisdiction require the protection of selected areas only, the specified areas shall be protected in accordance with this code.

Supplementary (Non required) Coverage. Where installed, detection that is not required by an applicable law, code, or standard, whether total (complete), partial, or selective coverage, shall conform to the requirements of this code. (For exceptions, refer to NFPA 72 Spacing Requirements.)

Where non required detection devices are installed for a specific hazard, additional non required detection devices shall not be required to be installed throughout an entire room or building.

Heat-Sensing Fire Detectors. Heat-sensing fire detectors shall be installed in all areas where required by the NFPA codes and standards or by the authority having jurisdiction.

Detection in New Apartment Buildings. Approved, single-station smoke alarms shall be installed in accordance with 7-6.2.10 of NFPA 101 outside every sleeping area in the immediate vicinity of the bedrooms and on all levels of the dwelling unit including basements. (For exceptions, refer to this section of NFPA 72.)

Detection in Existing Apartment Buildings. Approved, single-station smoke alarms shall be installed in accordance with 7-6.2.10 of NFPA 101 outside every sleeping area in the immediate vicinity of the bedrooms and on all levels of the dwelling unit including basements. (For exceptions, refer to this section of NFPA 72.)

WARNING! Limitations of Smoke Detectors

Wireless smoke alarms are very reliable, but may not work under all conditions. No fire alarm provides total protection of life or property. Smoke alarms are not a substitute for life insurance.

Smoke alarms require a source of power to work. This smoke alarm will not operate and the alarm will not sound if batteries are dead or not installed properly.

Smoke alarms may not be heard. A sound sleeper or someone who has taken drugs or alcohol may not awaken if the alarm is installed outside a bedroom. Closed or partially closed doors and distance can block sound. This alarm is not designed for the hearing impaired.

Smoke alarms may not always activate and provide warning early enough. Smoke alarms only activate when enough smoke reaches the alarm. If a fire starts in a chimney, wall, roof, on the other side of closed doors, or on a different level of the property enough smoke may not reach the alarm for it to alarm.

Smoke alarms are a significant help in reducing loss, injury and even death. However, no matter how good a detection device is, nothing works perfectly under every circumstance and we must warn you that you cannot expect a smoke alarm to ensure that you will never suffer any damage or injury.

Fire Prevention and Escape

The purpose of an early warning smoke alarm is to detect the presence of fire in its early stages and sound an alarm giving the occupants time to exit the premises safely.

Avoid Fire Hazards

No detection device can protect life in all situations. Therefore, safeguards should be taken to avoid potentially dangerous situations as follows:

- **Do not** smoke in bed.
- **Do not** leave children home alone.
- **Never** clean with flammable liquids such as gasoline.
- Properly store materials. Use general good housekeeping techniques to keep your home neat and tidy. A cluttered basement, attic, or other storage area is an open invitation to fire.
- Use combustible materials and electrical appliances carefully and only for their intended uses. **Do not** overload electrical outlets.
- **Do not** store explosive and/or fast burning materials in your home.
- Even after proper precautions have been taken, fires can start. **Be prepared.**

In Case of Fire

In the event of a fire, you should do the following:

- Leave immediately. Don't stop to pack or search for valuables.
- In heavy smoke, hold your breath and stay low, crawl if necessary.

The clearest air is usually near the floor.

- If you have to go through a closed door, carefully feel the door and door knob to see if undue heat is present. If they seem cool, brace your foot against the bottom of the door with your hip against the door and one hand against the top edge. Open it slightly. If a rush of hot air is felt, slam the door quickly and latch it. Unvented fire tends to build up considerable pressure. Be sure all members of the household or business realize and understand this danger.
- Use a neighbor's phone or a street fire alarm box to call the fire department. The job of extinguishing the fire should be left to the professionals.

Be Prepared

Practice the following steps to prepare you and your family in the event of a fire:

- Perform fire drills regularly. Use them to assure recognition of an alarm signal.
- Draw a floor plan and show two exits from each room. It is important that children be instructed carefully, because they tend to hide in times of crisis.
- Establish one meeting place outside the home. Insist that everyone meet there during an alarm. This will eliminate the tragedy of someone reentering the house for a missing member who is actually safe.
- If you have children and/or physically challenged people residing in your household, use window decals to help emergency personnel identify the sleeping quarters of these individuals.

FCC Information

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications made by the user and not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

TEST

Specifications

Battery

Life Expectancy At least 1 year (normal operation)

3.0V Lithium Panasonic CR123A or DMP CR123-Fire

See Battery Life Expectancy for full details.

Low battery

Threshold signal 2.65V

Beep rate 1 every 30 sec. ± 2 sec.

Sounder pattern

Temporal 85dBa at 10'

Sensitivity 2.0%

Frequency Range 905 - 924 MHz

Dimensions

Detector 5.6" x 2.4" (14.3cm x 6.1cm)

Base 5.4" x 0.46" (13.7cm x 0.46cm)

Color White

Compatibility

1100D Wireless Receiver (Version 203 or higher)

1100X Wireless Receiver (Version 203 or higher)

XT50 Series Panel with integrated wireless receiver (Version 122 or higher)

XT30 Series Panel (Version 122 or higher)

XR150/XR350/XR550 Series Panel (Version 108 or higher)

Patents

U. S. Patent No. 7,239,236

Certifications

FCC Part 15 Registration ID CCKPC0104

IC Registration ID 5251A-PC0104

ANSI/UL 268 Smoke-Automatic Fire Detectors



800-641-4282

www.dmp.com

Designed, Engineered and Assembled in U.S.A.

INTRUSION • FIRE • ACCESS • NETWORKS

2500 North Partnership Boulevard

Springfield, Missouri 65803-8877