

# PMD75N

Installation Manual V1.0 DRAFT

## Digital Wireless Motion Detector with Pet Immunity



## Introduction

The PMD75N is a wireless, digital, dual-optic passive infrared (PIR) motion detector designed for compatibility with Paradox alarm systems. It is immune to pets weighing up to 40 kg (90 lbs). The PMD75N is battery-powered and offers precision protection and high performance in maximum security applications.

## Overview

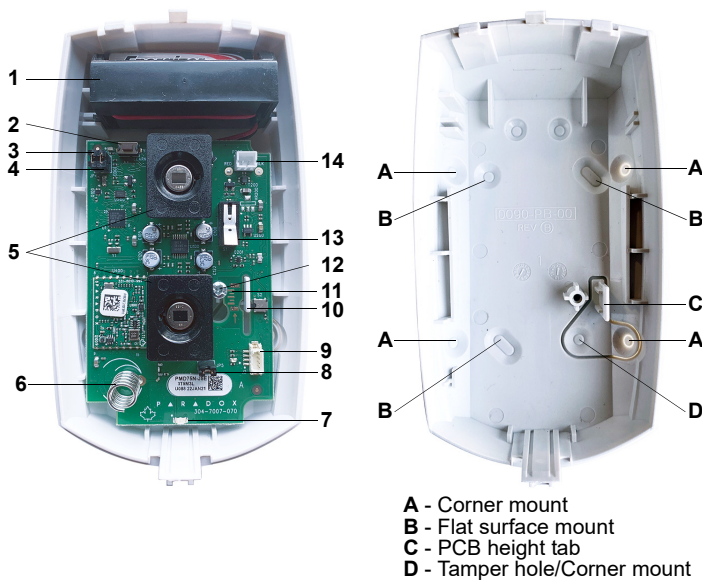


Figure 1 – PMD75N PCB Overview

1. Battery compartment
2. Learn switch
3. Single or Dual Edge Processing Jumper (JP3)
4. Digital Shield Jumper (JP4)
5. Sensors
6. Antenna
7. Alarm LED
8. LED Jumper (JP5)
9. Firmware upgrade connector
10. PCB height tab
11. Height markings
12. Height adjustment screw
13. Anti-tamper switch
14. Battery connector

## Location and Mounting

At the recommended height of 2.1m (7 ft)  $\pm 10\%$ , the PMD75N provides full coverage from 1.5m to 11m (5 ft to 35 ft). The installation height is measured from the center of the detector, refer to Figure 2.

Avoid placing the detector within proximity of the following sources of interference: reflective surfaces, direct airflow from vents, fans, windows, sources of steam/oil vapor, infrared light sources, and objects causing temperature changes such as heaters, refrigerators, and ovens.

- ⚠ **Avoid bending, cutting, or altering the antenna or mounting the detector near or on metal as this may affect signal transmission.**
- Do not touch the sensor surface as this could result in a detector malfunction. If necessary, clean the sensor surface using a soft cloth with pure alcohol.**

## Installing the PMD75N

1. Write down the serial number and the location of the PMD75N for future reference. This will be needed to enter into the Paradox BabyWare software.
2. Using a screwdriver, pry the cover apart from the backplate, starting at the bottom.
3. Using a Phillips screwdriver, loosen the height adjustment screw. Slide the PCB board up and gently lift the PCB out of its casing.
4. Remove the battery compartment from the backplate.
5. Screw the PMD75N onto the wall through the provided holes.
  - Note:** Ensure that the tamper screw is secured through the respective tamper hole, refer to D in Figure 1.
6. Reinstall the battery compartment, refer to *Powering the Detector* before completing the following steps.
7. Reinstall the PCB and connect the battery connector.
8. Adjust the PCB height, refer to the *PCB Height Adjustment* section. Once adjusted, secure the height adjustment screw.
9. Reinstall the top cover.

## Powering the Detector

1. Insert three “AAA” batteries into the battery holder while verifying polarity.
2. Insert the battery holder into the back cover and affix the battery connector to the PCB.

⚠ **After connecting the battery connector, a power-up sequence will begin (lasting 60 seconds). During this time, the red LED will flash and the detector will not detect an open zone or tamper.**

## Replacing Batteries

1. Disconnect the battery connector from the PCB. Remove the battery holder and remove the old batteries.
2. Press and release the anti-tamper switch to ensure that the unit has powered down.
3. Follow the steps outlined in “Powering the Detector”.

## PCB Height Adjustment

The PMD75N is designed for optimal performance at a height of 2.1m (7 ft) but can be installed at a lower or higher height. After you have installed the detector, ensure that the adjustable height markings on the right side of the PCB match the tab inside the back cover. For example, if the detector is installed at a height of 2.1m (7 ft), the PCB should then be adjusted to 2.1m (7 ft). Ensure to align the desired markings (height) with the back cover’s plastic tab. If another installation height is called for, readjust the PCB accordingly. Any PCB adjustments should be followed by a walk-test of the protected area, refer to *Testing the PMD75N*.

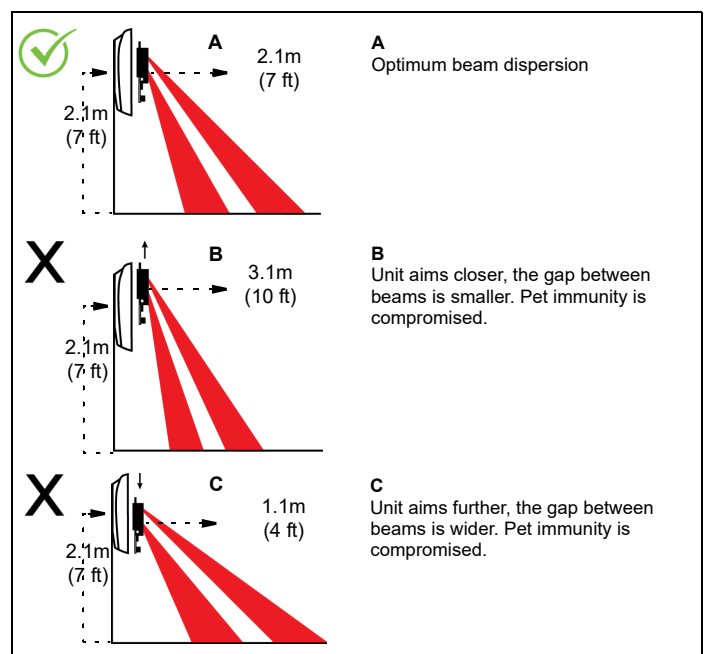


Figure 2 – Beam Dispersion

## Jumper Settings

### Single or Dual Edge Processing (J3)

This setting determines the Digital Signal Processing (DSP) operational mode of the detector. Single Edge Processing mode should be used in normal environments with minimal sources of interference. Dual Edge Processing mode provides better false alarm rejection in the case where the detector is placed near sources of interference that can adversely affect the motion detector.

### Digital Shield™ Setting (J4)

In Normal Shield mode, the detector is set for normal environments. In High Shield mode, the detector is set for high-risk environments (potential interferences) and therefore provides greatly increased false alarm immunity. However, response time and detector speed may be slower.

### LED Setting (J5)

This setting enables or disables the LED. The LED will illuminate for four seconds to indicate detected movement. The motion detector performs a battery test every 12 hours. If the battery voltage is too low, the LED will flash at 5-second intervals and the motion detector will send a low battery signal to the receiver. A trouble will then be generated and transmitted to the central monitoring station. The LED will flash rapidly when the motion detector transmits a signal to the receiver.

Feature	LED Status Indicator
<b>J3</b> Processing Type	OFF = Dual edge <b>ON = Single edge</b>
<b>J4</b> Digital Shield sensitivity	OFF = High Shield (low sensitivity) <b>ON = Normal Shield (high sensitivity)</b>
<b>J5</b> Alarm LED (Red)	OFF = Disabled <b>ON = Enabled</b>

After changing jumper settings, power cycle the PMD75N. Snap-on the cover to close the anti-tamper switch or press and release the anti-tamper switch to save the changes.

## Testing the PMD75N

Open the cover to trigger the anti-tamper switch, then snap the cover back into position. This will activate the motion detector's walk-test mode for 3 minutes.

At 20°C (68°F), in Normal Shield (J4 = ON) mode and Single Edge Processing mode (J3 = ON), you should not be able to cross more than one complete zone (consisting of 2 beams, left and right sensor detecting elements) in the coverage area with any kind of movement; slow/fast walking or running.

In High Shield mode, the amount of movement required to generate an alarm is doubled. The approximate width of a full-beam at 11m (35 ft) from the detector is 1.8m (6 ft). When walk-testing, always move across the detection path and not toward the detector.

**NOTE:** Walk-test mode is also activated for 3 minutes once the motion detector is powered on.

## Signal Strength Test

To verify the receiver's reception of the motion detector's signal, perform a signal strength test before finalizing the installation of the motion detector. Before performing the test, make sure the batteries have been inserted into the battery holder to power the detector. Also, verify that the motion detector has been assigned to a zone. For more information on signal strength tests and zone programming, refer to the appropriate receiver's *Reference and Installation Manual*. If the transmission is weak, relocating the transmitter by a few inches can greatly improve the reception.

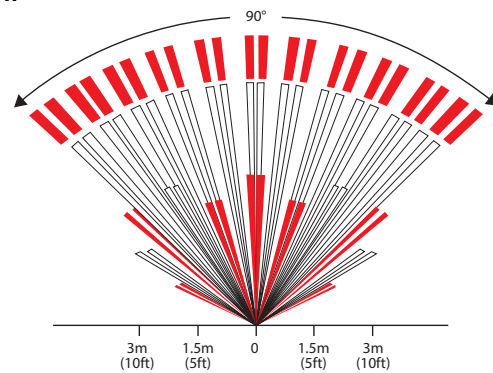
## Alive Software

If the motion detector transmits 2 alarm signals (LED on for 4 sec.) within five minutes, the detector falls into Energy Save mode where it won't transmit any alarm signals for approximately 3 minutes. Due to the motion detector's Alive Software, the red LED continues to flash to indicate a detection even when in Energy Saver mode. Once the 3-minute Energy Save mode ends, the motion detector returns to normal operation.

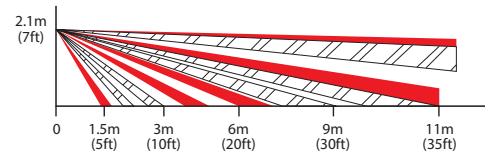
**NOTE:** If the detector's cover is removed and then replaced while in Energy Save mode, the first detection will trigger an alarm signal.

## Beam Pattern

### Top View



### Side View



## Technical Specifications

Specification	Description
Sensor Type	Two dual opposed infrared sensors
Coverage - 90° (standard)	11m x 11m (35 ft x 35 ft)
Pet Immunity	Up to 40 kg (90 lbs)
Detector Speed	0.2m to 3.5m/sec. (0.6 ft to 11.5 ft/sec.)
Installation Height	2.1m to 2.7m (7 ft to 9 ft)
RF Frequency	433* or 868 MHz
Lens	2nd generation Fresnel lens, LODIFF®, segments
Power	4.5 Vdc (3 x 1.5 Vdc "AAA" alkaline batteries)
Low Battery	3.2V
Battery Life†	Lowest check-in setting: 3 years Highest check-in setting: 1.5 years
Transmitter Range	35m (115 ft) with MG6250 70m (230 ft) with MG5000 / MG5050 / RTX3
Anti-Tamper Switch	Yes
Operating Temperature	0°C to +50°C (+32°F to +122°F)
Certifications	EN 50131-2-2, Security Grade 2, EN 50130-5 Environmental Class II EN 50131-6 Type C Certification Body: Applica Test and Certification
Compatibility	MG5000, MG5050, MG5075, MG6250, RTX3, and RX1

### FCC and Industry Canada Compliance Statement

This device complies with FCC Rules Part 15 and with Industry Canada license exempt RSS standard(s). Operation is subject to two conditions:

1. This device may not cause harmful interference.
  2. This device must accept any interference that may be received or that may cause undesired operation.
- Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
1. l'appareil ne doit pas produire de brouillage, et
  2. l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

\*FCC ID: KDYPMD75N  
IC: 2438A-PMD75N

†Battery life expectancy will vary according to the check-in time interval and the amount of traffic (movement) the detector has processed. A higher check-in time interval and higher traffic will lower battery life.

### FCC WARNING

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 the receiver.
  - Connect the equipment into an outlet different from that to which the receiver is connected.
  - Consult the dealer or an experienced radio/TV technician for help.
- Changes or modifications to this equipment not expressly approved by the party responsible for compliance (Paradox Security Systems Ltd.) could void the user's authority to operate the equipment.

### Warranty

For complete warranty information on this product, please refer to the Limited Warranty Statement found on the website: [www.paradox.com/terms](http://www.paradox.com/terms) or contact your local distributor. Specifications may change without prior notice.

### Patents

US, Canadian and international patents may apply. Paradox is a trademark or registered trademark of Paradox Security Systems (Bahamas) Ltd.

