PARADOX

PMD3M

Analog Single-Optic PIR

INSTALLATION MANUAL

Version - 1.0

Introduction

The Paradox PMD3M is an indoor, analog, single-optic wireless Passive Infrared (PIR) motion detector. It communicates with the Paradox M systems using 2-way wireless communication and incorporates the latest Gaussian Frequency Shift Keying (GFSK) technology with frequency and encryption hopping. These features ensure superior wireless range, enhanced encryption for security, reliable communication, and extended battery life.

Quick Installation - Experienced Installers

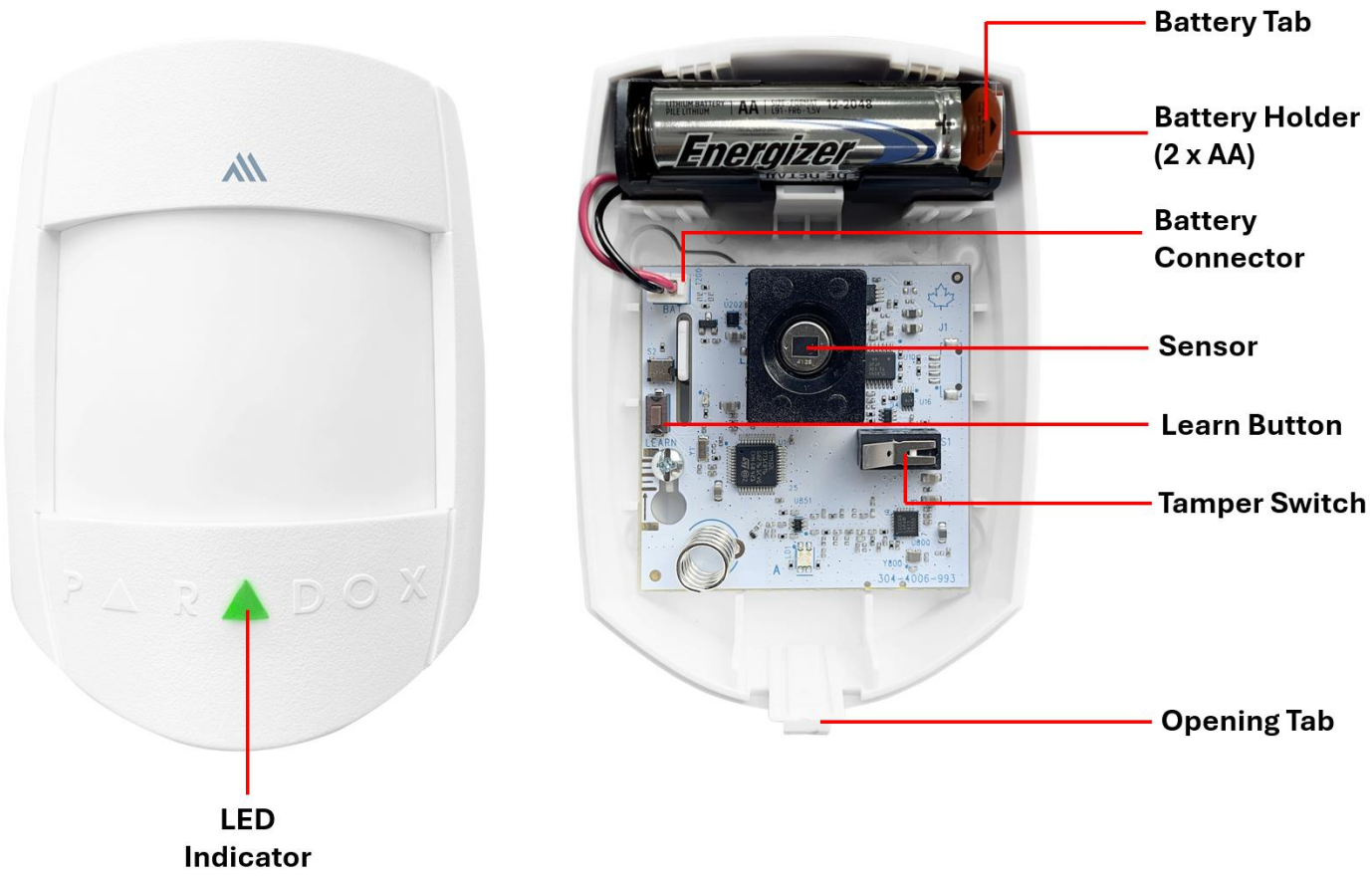
To install PMD3M:

1. Open the detector and remove the battery holder and PCB.
2. Fix the backplate.
3. Insert the batteries and the PCB. Close the detector.
4. Perform a walk test.
5. Pair PMD3M with the console (Using the BlueEye application):
    - Go to: **Hardware** > Tap **+** on the top-right of the page >**Auto learn devices**. **NOTE**: *You can instantly pair PMD3M by pressing the **Learn** button, or by opening the tamper or a zone.*
6. Configure PMD3M (Using the BlueEye application):
    - Go to: **Hardware** > Tap PMD3M from the device list > Enter the necessary details > **Save**.

    Built-in status indications of PMD3M:
    - Red Blinking 3 times – Not connected to the console; the device is defaulted (new or unpaired).
    - Red (3 seconds) - Not connected to the console; but the device is paired.
    - Green (3 seconds) - Detection and transmission occurred (maximum twice within 3 minutes)
    - Green Blinking - Two detections within 3 minutes and goes to ***cool-down*** mode.
    - Red/Green - After tamper is detected, the device blinks red and green alternately for 3 seconds. After the tamper is resolved and the device is closed, the device blinks green for 3 seconds.
    - Green Blinking (8 seconds) - PIR stabilization is in progress (after power-up).

Components of PMD3M

The following figure displays the components of PMD3M.

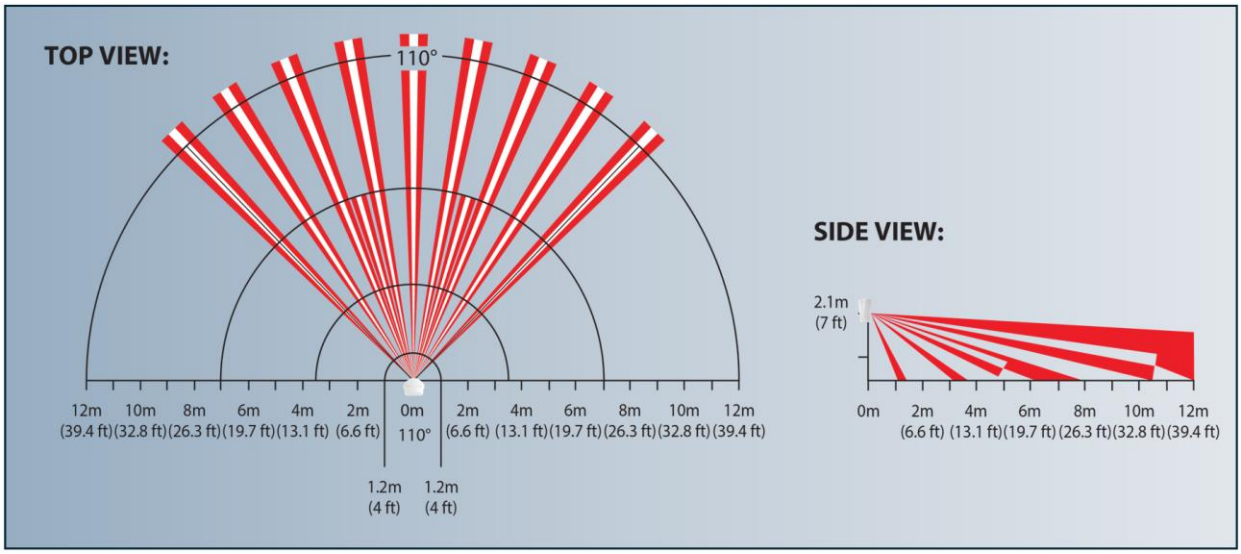


Components of PMD3M

Detection Field

The detector should be installed at a height of 2.1 meters (6.89 feet) above the floor level. The horizontal coverage angle of PMD3M is 110^0. It provides effective detection across a range from 1.2 meters (3.9 feet) to 12 meters (39.3 feet).

NOTE: *Mounting the detector at a lower height may reduce its detection range while mounting it higher could reduce the performance of the lower detection beams.*



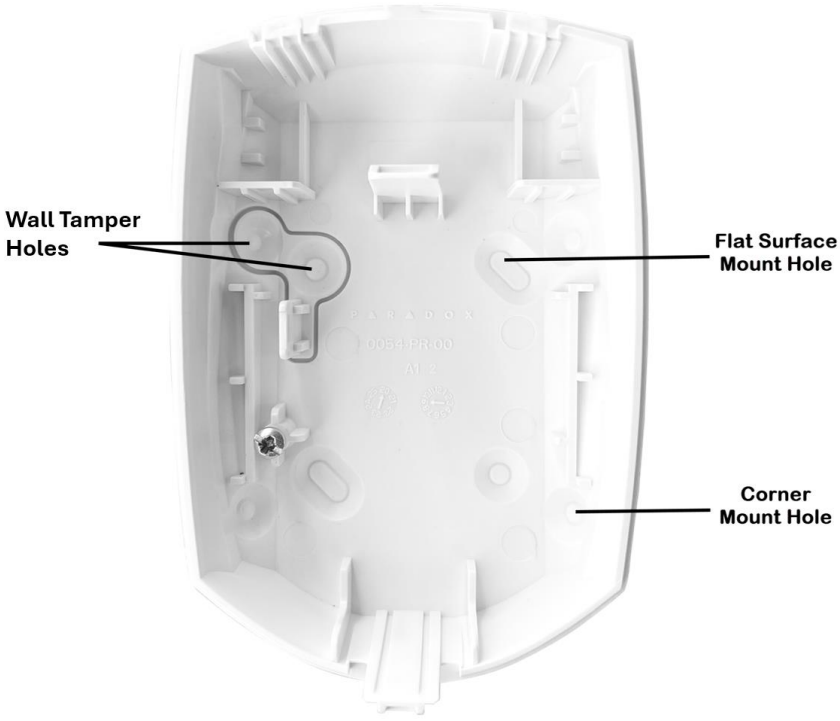
Physical Mounting

CAUTION:

- *Ensure that there are no obstacles, such as curtains, furniture, or doors that may block its detection field.*
- *Avoid placing the detector near heat sources, air conditioners, or in direct sunlight to minimize false alarms.*

To mount the PMD3M motion detector:

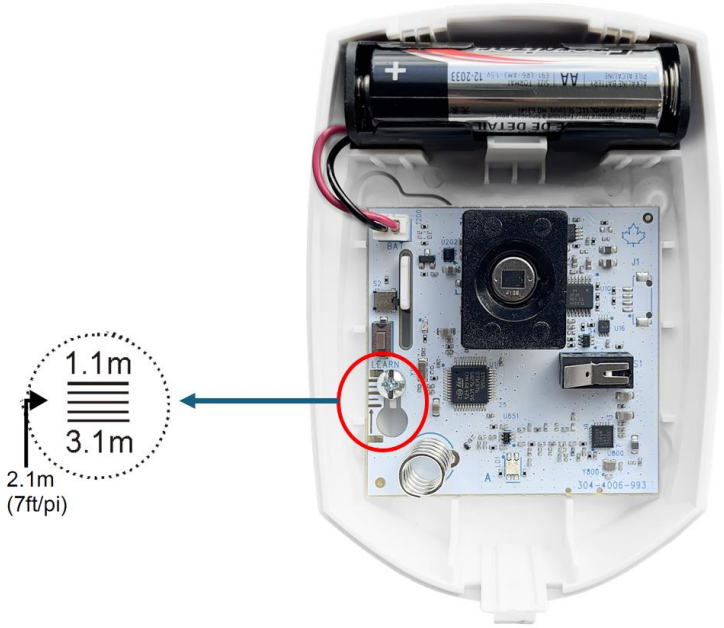
1. Insert a flathead screwdriver into the opening tab at the bottom of the PMD3M motion detector and lift to remove the front cover.
2. Remove the battery holder from the backplate.
3. Release the screw from the device board and remove the board.
   CAUTION: *Do not touch the sensor on the device board, as this may lead to malfunction. If contact occurs, clean the sensor surface using a soft cloth moistened with pure alcohol.*
4. Fix the backplate on the wall.
   NOTE: A*s per the EN security standards, one screw must be secured in the tamper hole. The use of double-sided tape does not trigger a wall tamper alarm.*



5. Reattach the device board to the backplate and tighten the screw.
6. Remove the battery tab (present only if the battery is included with the product) from the battery holder. Ensure that two ***AA*** Lithium batteries are installed with the correct polarity.
7. Insert the battery holder into the backplate.
8. Connect **Battery Connector**.
   The PMD3M is powered on. After the PMD3M detector is powered on, it enters a walk-test mode for 15 minutes. For more information, see the Walk Test section in this manual.
9. Reattach the front cover and tighten it using the screw at the bottom.

If needed, adjust the height of the device board to match the installation height after mounting the detector. For example, if the detector is installed at a height of 2.1m (6.89 ft), the device board should be adjusted to 2.1m (6.89 ft) height.

NOTE: *Any device board adjustments should be followed by a walk test.*



Power-up Sequence

During the power-up sequence, the LED will flash five times red if the device is not paired to the console or five times green if paired to the console. The PMD3M waits between 0-10 seconds before connecting/pairing with the console. During this time, if the cover is open, green and red LEDs will flash quickly.

Pairing PMD3M with the Wireless M Console

The pairing and configuration settings of PMD3M are managed through the BlueEye application.

Prerequisites

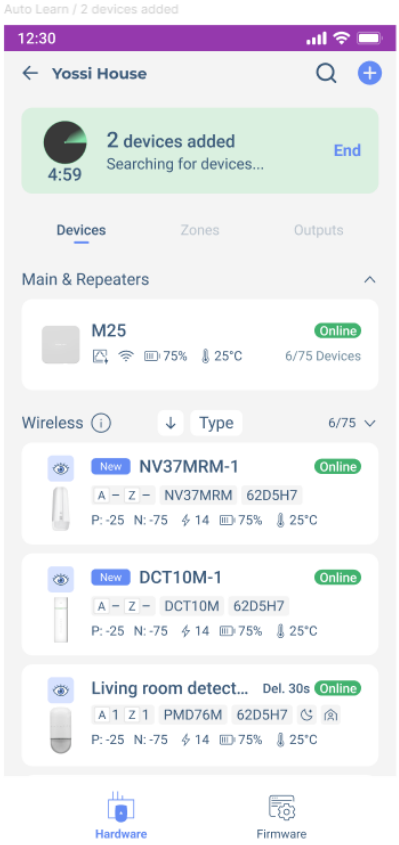
Ensure that:

1. The PMD3M is within the range of the console.
2. The BlueEye application is installed on your mobile and connected to the site.
3. The M console is powered on (Paradox logo color - white, red, or green).

Pairing PMD3M

To pair the PMD3M with the wireless console by an installer:

1. When in the **Hardware** tab, tap **+** on the top-right of the page, and then tap **Auto learn wireless devices**. The wireless console searches for new devices and a rotating radar icon is displayed. All unpaired devices pair within 6 minutes and appear at the top of the device list with a ***new*** tag and voice announcements. You can open the front cover of the detector and press the **Learn** button momentarily, or open the tamper or a zone for immediate pairing.



To identify the device, you can either open or close the zone, or trigger the device tamper, and then check the device's screen in the BlueEye application to see the corresponding display. When you open or close the zone, an eye icon displayed beside the device name shows opening and closing. When you trigger the device tamper, a T symbol appears on the device name in the BlueEye application.

Pairing Previously Used Devices

You can pair used devices under the following conditions:

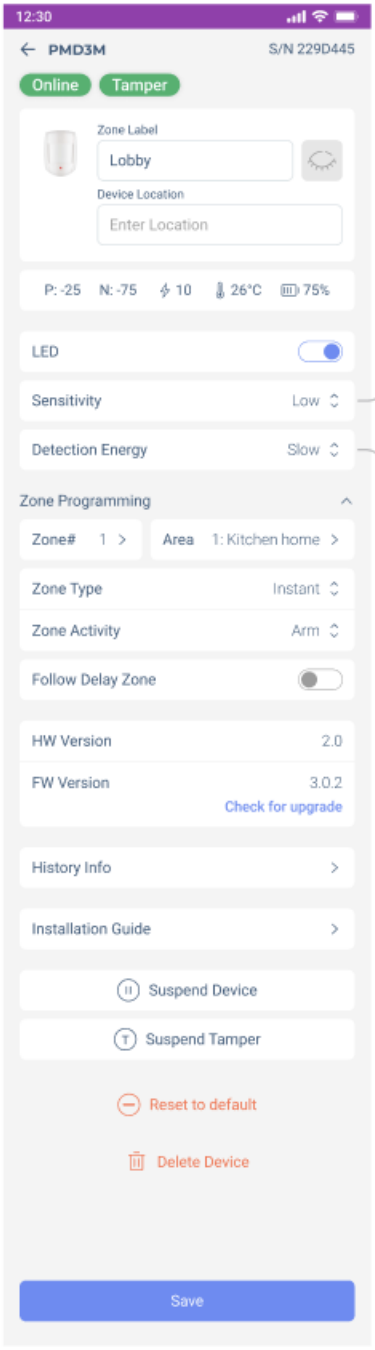
- **When the previously used device is not online with another wireless console:** Start auto-learn. Open the device or press the **Learn** button momentarily for immediate pairing, or wait up to 6 minutes for automatic pairing.

- **When the previously used device is online with another wireless console:** Press and hold the **Learn** button for 8 seconds to reset the device to its default settings. Reset is indicated by the LED flashing red three times. Once the reset is complete, initiate auto-learn.
  NOTE: *Ensure the device is not connected or paired with the previous console before resetting the device.*

Configuring PMD3M

To configure the PMD3M settings:

1. In BlueEye, when in the **Hardware** tab, tap the **PMD3M** device.
2. On the page that opens, enter the necessary details for the parameters and then tap **Save**.
   For details about each parameter displayed on the page, see Table 1.



The following table lists the parameters displayed for configuring the PMD3M, along with their descriptions.

Table 1

Parameter	Description
Label	Enter a name for the zone.
LED	Determines whether the LED indications for the device are enabled or disabled.
Sensitivity	There are two sensitivity levels, High (default) and Low. • **High** sensitivity mode detects smaller, subtle movements; useful for high-security areas or when precise detection is needed. • **Low** sensitivity mode requires larger movements to trigger detection. It is recommended in areas where the incidence of false alarms from vibrations may be greater.

Detection Energy		Adjust the energy level required to trigger an alarm. • ***Slow*** is the standard setting for normal detection. • ***Fast*** *(Default)* – You can use this option if there is a risk of false alarms due to factors such as strong sunlight reflections, air conditioning drafts, or moving curtains.
Zone Programming	**Zone#** and **Area**	Assign a zone and area number.
	Zone Type and **Zone Activity**	Select the type of zone – Instant, Delay, 24 hours when the device is active in the Arm, Stay, or Sleep modes. The following are the different zone types: • **Instant** – When in any armed status, an immediate alarm occurs. However, a delay period can be added to the **Instant** zone when arming in the Stay and Sleep modes. • **Delay** – When a zone is opened, it triggers an entry delay in any arming mode. • **24 hours** – Always armed. The system remains in alarm as long as this zone is open. The system can be armed even if the 24-hour zone is in alarm.
	Follow Delay Zone	This zone is instant and becomes a delay zone if a delay zone is opened first.
About		This tab displays details such as the installation date, production date, last programming date, battery replacements, battery history, and upgrade history.
Suspend Device		Disables monitoring of the device in the system.
Suspend Tamper		Disables tamper monitoring for the device.
Reset to Default		This will reset the device to the factory default settings. **NOTE**: *Only an installer can reset the device.*
Delete Device		This option deletes the device from the system completely. After deletion, the system generates a push notification only if the owner registration is complete, not during installation. **NOTE**: *Only an installer can delete the device.*

LED Indications

After configuring PMD3M, the detector displays various LED indications based on specific events.
The following table lists the LED indications and their corresponding event.

Table 2

LED Indication	Event
Red Blinking 3 times	Not connected to the console; the device is defaulted (new or unpaired).
Red (3 seconds)	Not connected to the console; but the device is paired.
Green (3 seconds)	Detection and transmission occurred (maximum twice within 3 minutes)
Green Blinking	Two detections within 3 minutes and goes to ***Cool Down*** mode.
Red/Green	After tamper is detected, the device blinks red and green alternately for 3 seconds. After the tamper is resolved and the device is closed, the device blinks green for 3 seconds.
Green Blinking (8 seconds)	PIR Stabilization is in progress (after power-up).

Resetting

Press and hold the **Learn** button for 8 seconds to reset the device to its default settings. Reset is indicated by LED flashing red three times.

Upgrading Firmware

To upgrade the firmware:

1. When in the **Hardware** tab, tap on the device > **Check for Upgrade**.

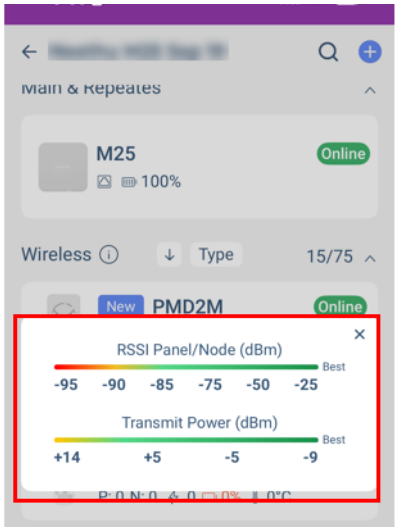
2. If an upgrade is available, tap **Upgrade** when prompted.
   The process may take a few minutes. Keep track of the progress in the BlueEye application to ensure that the upgrade is completed successfully. Both the Installers and owners can perform the upgrade.

Signal Strength and Transmit Power Monitoring

The BlueEye application provides insights into each device's received signal strength and transmission power to optimize performance.

To view the RSSI and transmit power range:

1. When in the **Hardware** tab, tap the ⓘ icon next to the **Wireless** tab.
   A pop-up window with the RSSI and transmit power range is displayed.
2. Maximum power transmitted by PMD3M:
   - 868 MHz: +14 dBm
   - 914 MHz: +22 dBm



Tap on any listed device to view signal strength and additional device metrics. The following parameters are displayed for each device:

- **P** - Received signal strength at the panel
- **N** - Received signal strength at the device
- - Transmit power of the device
- - Current temperature reading of the device
- - Battery level of the device

A higher P and N value indicates stronger and clearer communication between the console and the device.

- If **P** is low, the console struggles to receive signals from the device.
- If **N** is low, the device struggles to receive signals from the console.

NOTE: *Values below -93 with maximum Tx power are not recommended values, and RPT5M can be used to extend the range.*

Power transmission impacts only **P**:

- When **power transmission** increases, the **P** value at the console generally improves, as a stronger signal is sent.
- If **P** value is good, the device can reduce its transmission power to save battery life.

Walk Test

After powering on the detector or opening/closing the cover (if already powered on), the detector enters a walk-test mode for 15 minutes. Perform the following walk test to ensure the motion detector detects movement in the intended area.

Steps:

1. Walk across the detection field, moving in and out of the detector's range.
2. Observe LED Indications.
3. If the motion detector doesn't pick up movement as expected, adjust its height or location and re-test.

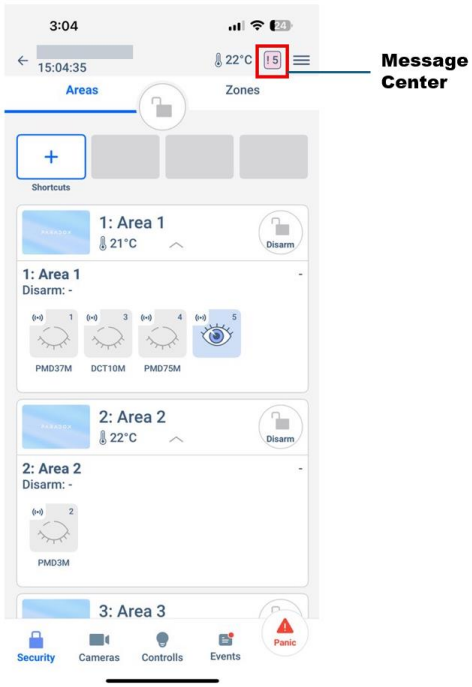
With **Sensitivity** set to **High**, and **Detection Energy** set to **Fast,** then crossing two beams is detected as a movement. With the **Sensitivity** set to **Low,** the amount of movement required to generate detection is doubled. The detector exits the walk-test mode after 15 minutes. To reactivate it, open the cover of the device to trigger the tamper switch, and then close the cover.

Cool-Down Mode

The PMD3M motion detector indicates detection with a 3-second green LED display (or 3-second red if the detector is not paired or connected to the console). After two detections within 3 minutes, the PMD3M enters a ***cool-down*** mode to conserve battery life. During this period, it is indicated by a green blink (or red if not paired), but this signal will not be transmitted to the console.

Dual Tamper Protection

The PMD3M motion detector is equipped with dual tamper protection (wall and cover). If the system is armed, any tamper activation immediately triggers a system alarm. When the system is disarmed, a tamper activation generates a report to the CMS, sends a push notification, and displays a tamper trouble alert in the BlueEye application.



Technical Specifications

The following table lists the technical specifications of PMD3M along with their descriptions.
NOTE: *The specifications are subject to change without prior notice.*

Table 3

Specification	Description
Wireless Type	GFSK two-way with frequency and encryption hopping
Sensor Type	Dual rectangular element
Coverage	110° - 12m (39 ft) x 12m (39 ft)
Detection Speed	0.2m/s to 3.5m/s (0.6 ft/s to 11.5 ft/s)
RF Frequency	868 (865.05 - 867.95) MHz or 914 (902.25 - 927.55) MHz Other countries might change
RF power	868 MHz up to +14 dBm radiated, 914 MHz up to +22 dBm in permitted countries.
Transmission Time	Less than 20 ms
Supervision Time	20 minutes, 10 minutes (Default), and 3 minutes
Status Indicators	Battery, temperature, TX/RX values
Battery Lithium	2 x 1.5 VDC AA, up to 5 years of battery life
Installation Environment	Indoor
Firmware Upgrade	Remotely over the air, via BlueEye
Operating Temperature (with lithium batteries)	-20°C to +40°C (-4°F to 104°F)
Auto Learn	Yes
Colors	White
Dimensions	6.6W x 9.9H x 6.1D cm (2.6W x 3.9H x 2.4D in.)
Weight	0.13 kg
Certification	CE, EN 50131-2-2, EN 50131-6, EN 50131-5-3, FCC 15.247

FCC Statements

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 not expressly approved by the party responsible for compliance could void the user's authority to operate this 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:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and the receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

4. Consult the dealer or an experienced radio/TV technician for help.

WARNING – RF EXPOSURE COMPLIANCE: This equipment should be installed and operated with a minimum distance 20cm between the radiator and your body.

FCC ID: KDYPMD3M
IC: 2438A-PMD3M

- This Class B digital apparatus complies with Canadian ICES-003.

IC Statements

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Warranty

For complete warranty information on this product, see the Limited Warranty Statement document, or contact your local Paradox distributor.

Patents

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