PARADOX

PMD5M

Indoor Miniature Motion Detector

INSTALLATION MANUAL

FW Version: V1.01.000

Introduction

The Paradox PMD5M is a miniature indoor, single-optic wireless Passive Infrared (PIR) motion detector with a super creep down-looking detection beam. 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 PMD5M:

1. Loosen the screw at the bottom of the detector and remove the backplate.
2. Secure the backplate to the wall using the mounting holes.
3. Remove the orange tab to activate the device.
4. Secure the device onto the backplate.
5. Perform a walk test.
6. Pair PMD5M with the console (Using the BlueEye application):
   - Go to: **Hardware** > Tap **Add Devices** > **Wireless Devices Auto learn**.
     NOTE: *You can instantly pair PMD5M by pressing the **Learn** button, or by opening the tamper or a zone.*
7. Configure PMD5M (Using the BlueEye application):
   - Go to: **Hardware** > Tap PMD5M from the device list > Enter the necessary details > **Save**.

Built-in status indications of PMD5M:
- 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 the 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).

NOTE: *The low battery voltage threshold of the PMD5M is 2.4V, and the battery is considered restored at 2.8V (on power-up only).*

Components of PMD5M

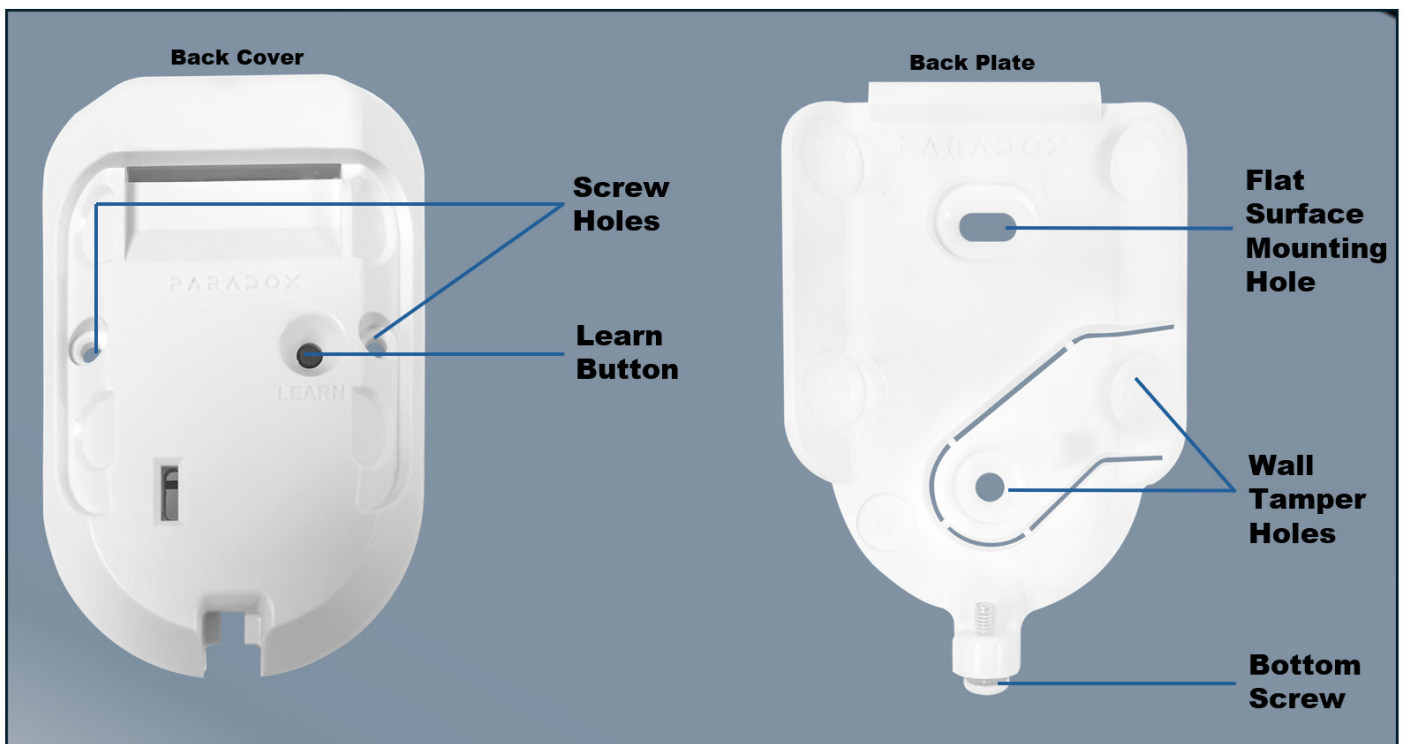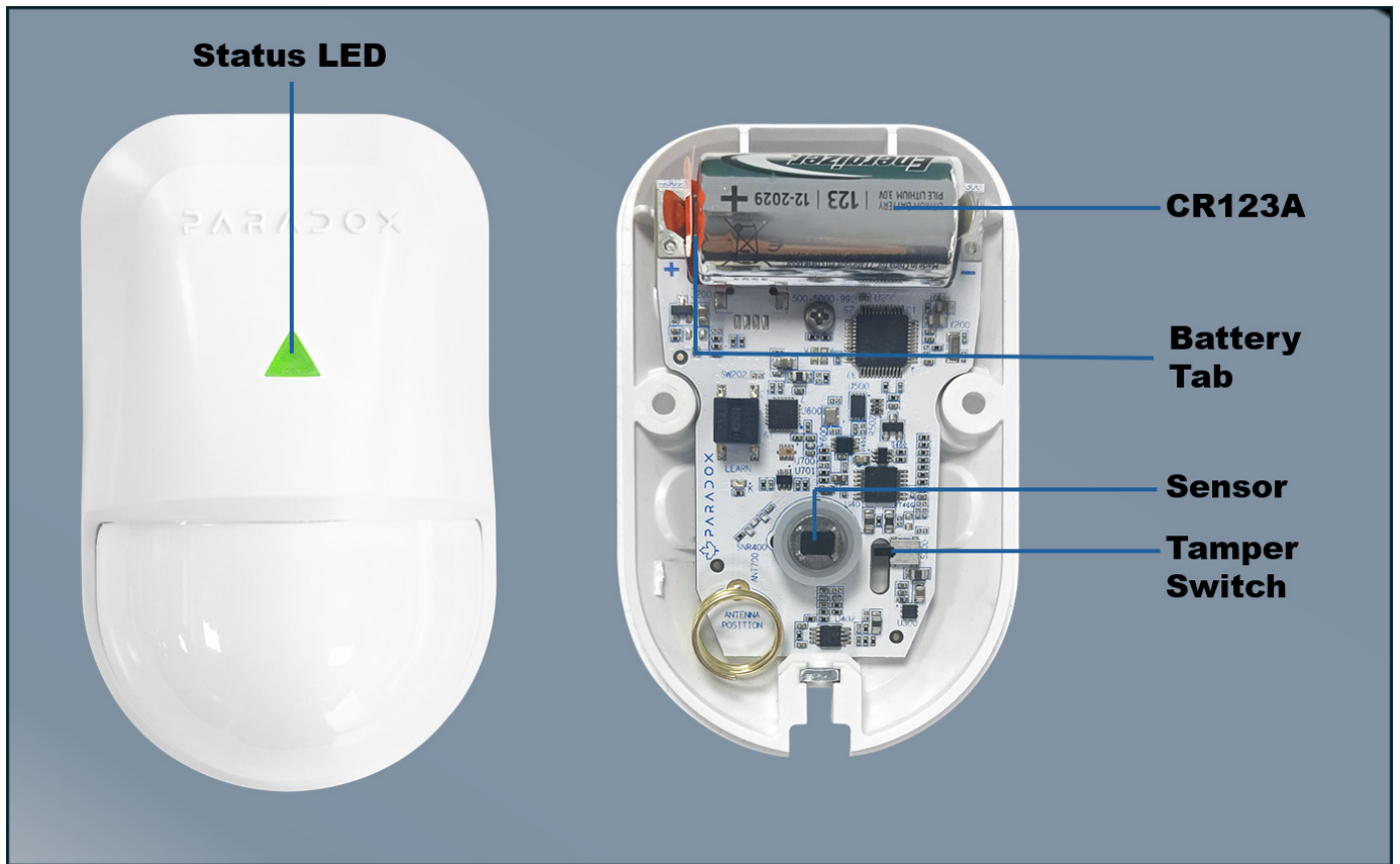The following figures display the components of PMD5M.

Status LED

CR123A

Battery Tab

Sensor

Tamper Switch

Back Cover

Screw Holes

Learn Button

Back Plate

Flat Surface Mounting Hole

Wall Tamper Holes

Bottom Screw

Fig 1 - Components of PMD5M

Detection Field

The detector must be installed at a height of 2.1 meters (6.9 feet) above the floor level.

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.*
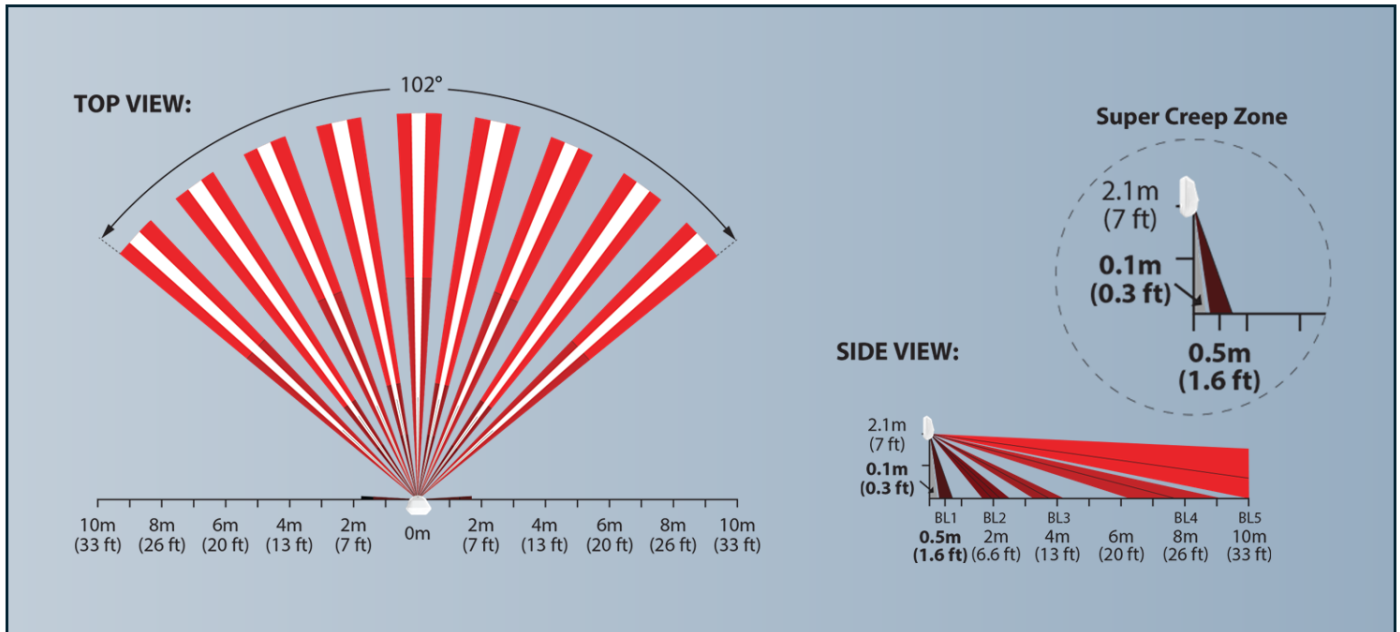

Fig 2 – Beam Patterns

Pet Resistance

PMD5M optics are designed to resist detection of one pet up to approximately 16 kg, such as cats or dogs, moving on the floor covered by beam layers 2 (BL2) and 3 (BL3). Please ensure that there are no stairs, shelves, or any surfaces within the detection range of beam layers 3 (BL3) and 4 (BL4) that the pet can access. Pet resistance works on beam layers 2 and 3. Do not install the mirror for the Super Creep Zone if a pet is present. Pet resistance is efficient but not fail-safe. For real pet immunity, use Paradox dual-optic detectors like the PMD75M.

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 PMD5M motion detector:
1. Release the screw from the bottom of the detector and remove the backplate.
2. Fix the backplate on the wall securing the mounting holes.
   NOTE: *As 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.*
3. Pull out the orange isolation tab from the device.
   The PMD5M is powered on.
4. Secure the device on the backplate and tighten the screw at the bottom.

After the PMD5M detector is powered on, it enters a walk-test mode for 15 minutes. For more information, see the Walk Test section in this manual.

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 PMD5M waits between 0-10 seconds before connecting/pairing with the console. If the cover of the device is open, green and red LEDs will flash quickly.

Pairing PMD5M with the Wireless M Console

The pairing and configuration settings of PMD5M are managed through the BlueEye application.

Prerequisites

Ensure that:

1. The PMD5M 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 PMD5M

To pair the PMD5M with the wireless console by an installer:

1. In BlueEye, when in the **Hardware** tab, tap **Add Devices**, and then tap **Wireless Devices Auto learn**. 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 remove the detector's backplate and press the Learn button momentarily, or you can trigger the tamper or open a zone for immediate pairing.
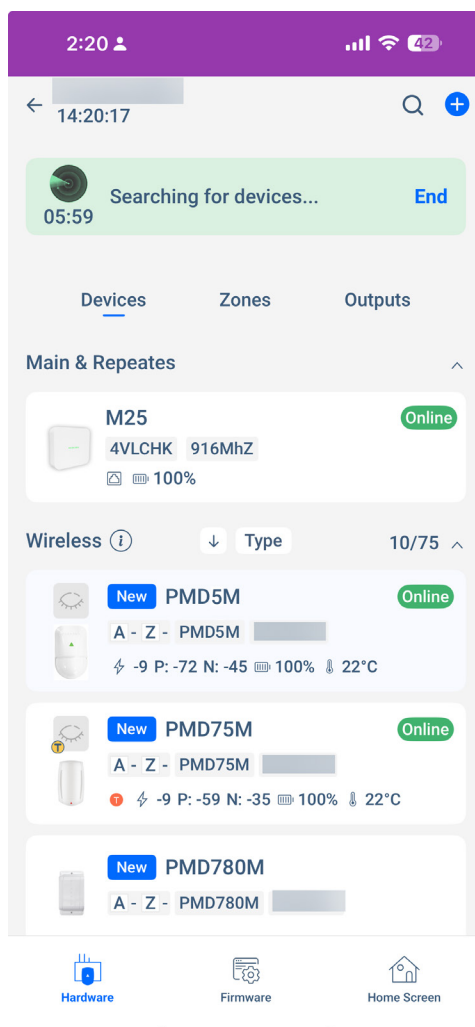
To identify the device, you can either open or close the zone, or trigger the tamper, and then check the device's screen in the BlueEye application to see the corresponding display.

When you open or close the zone, an eye icon displayed beside the device name shows opening and closing. When you trigger the 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 the PMD5M

To configure the PMD5M settings:

1. When in the **Hardware**, tap the **PMD5M** 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.
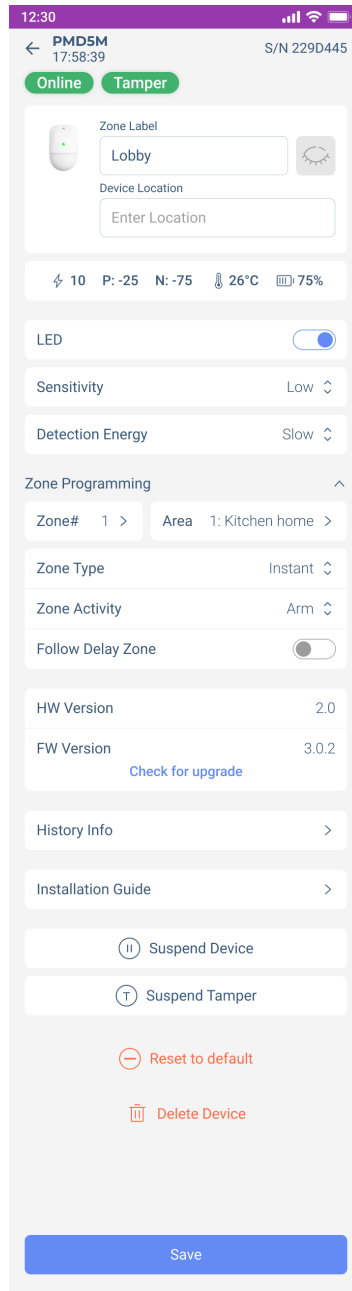
The following table lists the parameters displayed for configuring the PMD5M, along with their descriptions.

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.

6

			• *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.
	Type/Activity		Select the type of zone. The following are the different zone types: • Arm • Arm/Sleep • Arm/Stay • Arm/Sleep/Stay • **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.
	Entry Delay		When this option is enabled, opening a zone triggers an entry delay in any arming mode. • **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. • 5 sec • 10 sec • 15 sec • 30 sec • 45 sec • 1 minute • 1.5 minute You can select the delay duration from the available options.
	Intellizone		When the **Intellizone** option is enabled for a device, the system will trigger an alarm under one of the following conditions, within the configured Intellizone Timer window (default: 30 seconds): • **Two separate openings** are detected within the timer period. • A **trigger from an Intellizone**, followed by a **trigger from any other zone** within the timer period. • The **same zone remains open** throughout the timer period. Intellizone is not available for any 24H zones.
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 PMD5M, 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

7

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 from the list > **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.

IMPORTANT: The firmware upgrade can be done only when the system is disarmed.

## 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 PMD5M:
   - 868 MHz: +14 dBm
   - 914 MHz: +22 dBm
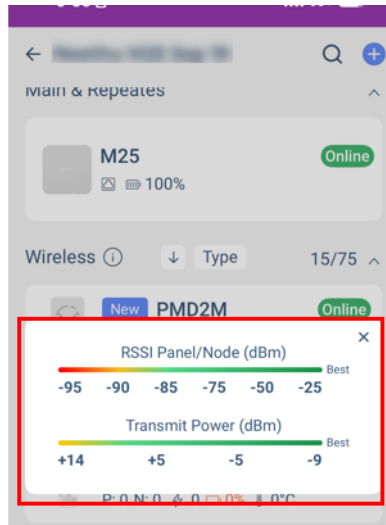
Tap on any listed device to view signal strength and additional device metrics. The following parameters are displayed for each device:
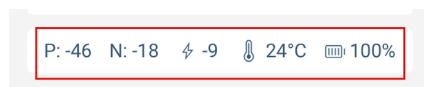
- **P** - Received signal strength at the panel
- **N** - Received signal strength at the device
- ⚡ - Transmit power of the device
- 🌡 - Current temperature reading of the device
- 🔋 - Battery level of the device

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 the **P** value is good, the device can reduce its transmission power to save battery life.

IMPORTANT: All nodes adjust their transmission power to save battery life. The adjustment depends on the surrounding noise level and is updated at intervals set by the supervision timer or during a node status update.

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. Adjust its location and re-test if the motion detector doesn't pick up movement as expected.

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 and then close the tamper.

Cool-Down Mode

The PMD5M motion detector indicates detection with a 3-second green LED display (or a 3-second red if the detector is not paired to the console). After two detections within 3 minutes, the PMD5M enters a ***cool-down*** mode to conserve battery life. The cool-down time is 3 minutes. 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.

Wall Tamper Protection

The PMD5M motion detector is equipped with wall tamper protection. 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.

Replacing Battery

To replace the battery:
1. Loosen the bottom screw of the device and detach it from the backplate.
2. Remove the screws from the back cover and open the device.
3. Take out the battery from the holder and replace it with a new one, ensuring correct polarity.
4. Close the device and tighten the back cover screws.
5. Reattach the device to the backplate and tighten the bottom screw.

Technical Specifications

The following table lists the technical specifications of PMD5M 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 May vary by region.
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	1 x CR123 lithium, 6+ years of battery life with normal usage.
Firmware Upgrade	Remotely over the air, via BlueEye
Installation Environment	Indoor
Operating Temperature	-20°C to +40°C (-4°F to 104°F)
Auto Learn	Yes
Colors	White, Grey
Dimensions	5.6W x 9.2H x 1.8D cm (2.2" W x 3.6" H x 0.7" D)
Weight	80 g
Certification	CE, EN 50131-2-2, EN 50131-6, EN 50131-5-3, FCC 15.247, Security Grade – 2, Environmental Class – II. Type of Power Supply – Type C Certification Body: Applica Test & Certification

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: KDYPMD5M
  IC: 2438A-PMD5M

- This Class B digital apparatus complies with Canadian ICES-003.
- -Cet appareil numerique de la classe B est conforme a la norme NMB-003 du Canada.

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.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique 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;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

AVERTISSEMENT – CONFORMITÉ AUX NORMES D'EXPOSITION AUX RF: Cet équipement doit être installé et utilisé à une distance minimale de 20 cm entre le radiateur et votre corps.

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.