PARADOX

FD25M

Water Detector

INSTALLATION MANUAL

FW Version: V0.68.080
Document Version: V1

Introduction

The Paradox FD25M is a compact and highly effective water detector used to detect the presence of water in areas prone to leaks or flooding. Equipped with detection probes that identify water contact, it immediately triggers an audible alarm to alert users of potential water damage. 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.
Its compact design allows for easy installation in areas prone to leaks, such as under sinks, near water heaters, sump pumps, or basements.

FD25M Water Detector

Quick Installation- Experienced Installers

To install FD25M:

1. Loosen the top screw and remove the bracket.
2. Unscrew and remove the back cover.
3. Remove the orange battery tab to activate the device.
4. Reattach and secure the back cover.
5. Attach the device to the bracket and tighten the mounting screw.
6. Pair FD25M 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 FD25M by pressing the Learn/Tamper button.*
7. Configure FD25M (Using the BlueEye application):
    - Go to: **Hardware** > tap FD25M from the device list > enter the necessary details > **Save**.

Built-in status indications of FD25M:

- 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).
- 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.

Components of FD25M

The following figure displays the components of FD25M.

Components of FD25M

Physical Mounting

The FD25M should be placed on a flat surface where floods, leaks, and water infiltration can occur. Ensure that the detection probes touch the surface being monitored. When water touches any of the three probes, an alarm will be sent to the panel, the FD25M will continue to send an alarm until the panel acknowledges receipt.

To mount the FD25M water detector:

1. Loosen the screw at the top of the water detector and remove the bracket
2. Release the three screws at the back of the unit and remove the back cover.
3. Remove the orange battery tab to activate the device. The FD25M is now powered on.
4. Close the device and tighten the back cover screws.
5. **Bracket:** Remove the double-sided tape from the bottom of the bracket and secure the bracket to the floor. Align the FD25M to the bracket until it snaps into place. Tighten with the mounting screw.
   NOTE: *If the FD25M is installed without a bracket, disable the tamper option in the BlueEye application.*

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 FD25M 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 FD25M with the Wireless M Console

The pairing and configuration settings of FD25M are managed through the BlueEye application.

Prerequisites

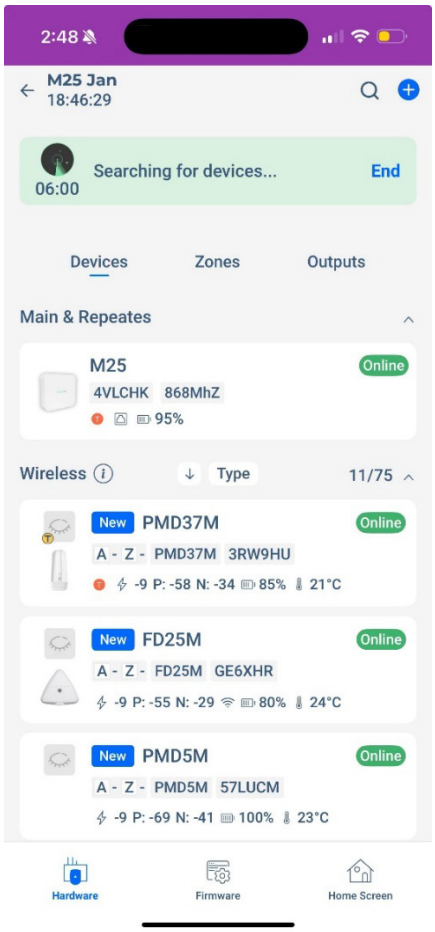
Ensure that:

1. The FD25M 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 FD25M

To pair the FD25M with the wireless console, by an installer:

1. In BlueEye, 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. To instantly pair, you can press the Learn/Tamper button momentarily.



To identify the device that you want to pair, you can trigger the device tamper, and then check the device's screen in the BlueEye application to see the corresponding display. When you trigger the device tamper, a **T** symbol appears on the device name in the BlueEye application.

NOTE: *The **T** symbol will be removed only after the tamper has remained closed for more than 10 seconds.*

Pairing Previously Used Devices

You can pair used devices under the following conditions:

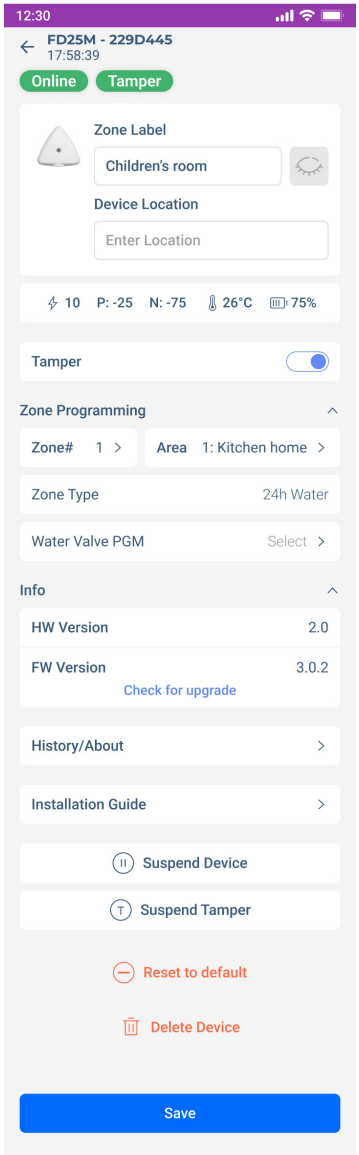
- **When the previously used device is not online with another wireless console:** Start auto-learn. Open the device or press the **Learn/Tamper** button momentarily for immediate pairing, or wait up to 6 minutes for automatic pairing.

- **When the previously used device is online with another wireless console:** Press and hold the **Learn/Tamper** button for 8 seconds to reset the device to its default settings. After 8 seconds, the LED will flash red one time, indicating that the first step is complete. Release the **Learn/Tamper** button, then press it again immediately. 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 FD25M

To configure the FD25M settings:

1. When in the **Hardware**, tap the **FD25M** 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 FD25M, along with their descriptions.

Table 1

Parameter		Description
Label		Enter a name for the zone.
Tamper		Determines whether the tamper for the device is enabled or disabled. **NOTE**: *If the FD25M is installed without a bracket, ensure that the tamper option is disabled.*
Zone Programming	**Zone#** and **Area**	Assign a zone and area number.
	Zone Type	The Zone Type is defined as **24h Water** – The 24-hour zone generates a water alarm that remains active until the zone is closed.
	Water Valve PGM	The Water Valve PGM option enables you to designate the PGM responsible for controlling the water valve. In the event of water detection, the PGM will automatically close the valve to prevent further leakage.
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 FD25M, 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)
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.

Resetting

Press and hold the **Learn/Tamper** button for 8 seconds to reset the device to its default settings. After 8 seconds, the LED will flash red one time, indicating that the first step is complete. Release the **Learn/Tamper** button, then press it again immediately. Reset is indicated by the 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 FD25M:
   - 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.*

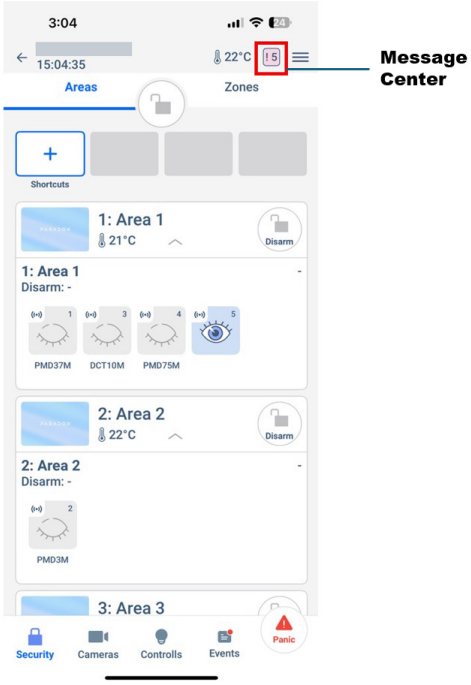
Power transmission impacts only **P**:

- 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.

Tamper Protection

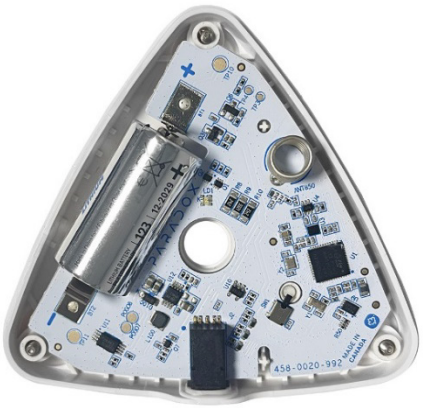
The FD25M motion detector is equipped with tamper protection. If the system is armed, any tamper activation immediately triggers a system alarm. When the system is disarmed, a tamper activation generates a report to the CMS, sends a push notification, and displays a tamper trouble alert in the BlueEye application.

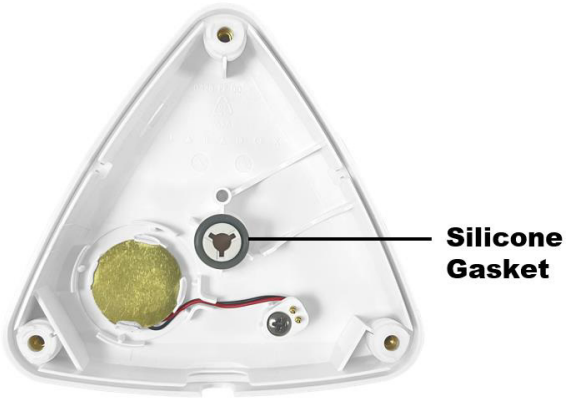


Replacing Battery

To replace the battery:

1. Remove the mounting screw from the FD25M.
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.
   NOTE: *Prior to closing, ensure that the silicone gasket within the back cover is secured to avoid any water infiltration.*
5. Reattach the device to the bracket and tighten the mounting screw.





Technical Specifications

The following table lists the technical specifications of FD25M 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
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.
Installation Environment	Indoor
Firmware Upgrade	Remotely over the air, via BlueEye
Operating Temperature	-30°C to +50°C (-22°F to 122°F) Below 4°C (detection functions only above the liquid's freezing point).
Auto Learn	Yes
Colors	White
Dimensions	8.9W x8.4H x 2.3D cm (3.5W x 3.3H x 0.9D in.)
Weight	70 g
Certification	CE, FCC 15.247 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 20 cm between the radiator and your body.

FCC ID: KDYFD25M
IC: 2438A-FD25M

- 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.
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