PARADOX

DCT12M

Door / Window Magnetic Contact + Zone

INSTALLATION MANUAL

FW: V1.01.004

Introduction

Door contacts are essential for home and business security systems, as they provide real-time monitoring of entry points, ensuring that any unauthorized access is immediately detected. DCT12M is an indoor, 2-way wireless 2-zone door contact. It communicates with the Paradox M systems using 2-way wireless communication, featuring the latest Gaussian Frequency Shift Keying (GFSK) technology with frequency and encryption hopping. This ensures superior wireless range, enhanced encryption, supervision, and reliability. It is typically used to monitor the opening of doors and windows. DCT12M can support a magnet-activated wireless zone and an additional cabled zone input simultaneously. The additional zone input can be used to provide wireless transmission of the device's status.

DCT12M includes both a sensor and a magnet, providing detection on either side of the sensor. It registers as ***closed*** when the magnet is near the sensor and as ***open*** when the magnet is removed. DCT12M is offered at the 868 or 914 MHz range, can be upgraded over the air, and is supervised at intervals of 10 minutes (default), 20 minutes, or 3 minutes (system setting). DCT12M adjusts its transmission power based on the signal quality received at the wireless console or repeater to extend battery life.

DCT12M Sensor and Magnet

Quick Installation - Experienced Installers

To install DCT12M:

1. Unscrew the device from the bottom, then open the sensor.
2. Fix the backplate and the magnet ensuring proper alignment.
3. Remove the battery tab and close the sensor.
4. Pair DCT12M with the console (Using the BlueEye application):
   - Go to: **Hardware** > Tap **Add Devices** > **Wireless Devices Auto learn**.
     NOTE: *You can instantly pair DCT12M by pressing the **Learn** button, or by opening the tamper or a zone.*
5. Configure DCT12M (Using the BlueEye application):
   - Go to: **Hardware** > Tap **DCT12M** from the device list > Enter the necessary details > **Save**.

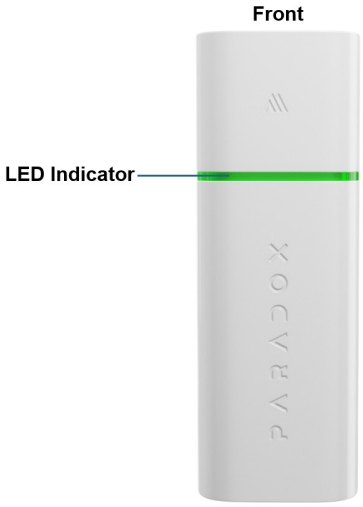
   Built-in status indications of DCT12M:
   - Red – DCT12M not connected to the wireless console
   - Green – Magnet attached; zone closed
   - Yellow – Magnet detached; zone open

- Red/Green – Tamper alarm activation

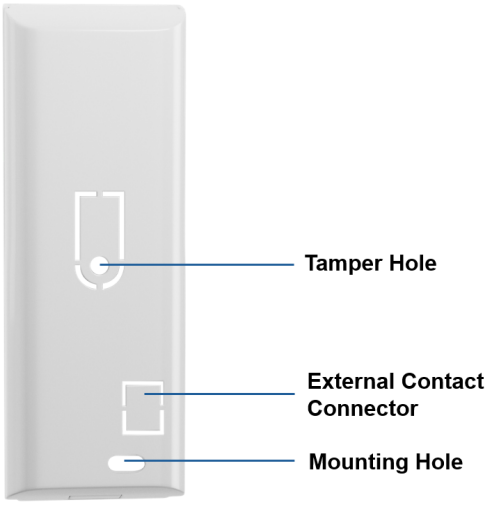
NOTE: *The low battery voltage threshold of the DCT12M is 3.15V, and the battery is considered restored at 3.35V (on power-up only).*

Components of DCT12M

The following figure displays the components of DCT12M.



Components of DCT12M



Back Side of DCT12M

Physical Mounting

NOTE: *Installing the door contact on large metal surfaces may interfere with wireless signals and reduce performance.*

To mount the DCT12M door contact:

1. Unscrew the device from the bottom.
2. Press the **Opening Tab** at the bottom of the device with a flat head screwdriver and lift the front cover to remove it.
3. Fix the backplate on the wall with two screws.
   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.*

4. Remove the battery tab from the battery holder.
   The DCT12M is now powered on.
5. Reattach the front cover to the backplate, securing the top first, followed by the bottom. A click sound indicates proper closing.
6. Fix the magnet in alignment with the arrows marked on the left or right side of the sensor, positioning it as close as possible to the sensor when the door, window, or monitored object is closed. **NOTE**: *The detector does not support two wireless magnets on both sides at once. However, an additional wired magnet can be connected through the **External Contact Connector** located on the back of the detector. This serves as a second zone.*

Alignment of Magnet with the Sensor (Left/Right)

After powering up, the LED indicator on the DCT12M shows a red light, indicating that the DCT12M is not yet paired with the wireless console. Ensure that the DCT12M registers as ***closed*** when the magnet is within 1 cm or less from the sensor. It is recommended to keep the gap as small as possible, ideally 5 mm or less. The DCT12M registers as ***open*** when the magnet is 3 cm or more away from the sensor. The detection distance can vary depending on the material where it is installed and the type of movement (X, Y, or Z). Adjust the distance between the sensor and the magnet as needed, and when paired with the wireless console, test to ensure proper opening and closing detection.

Pairing DCT12M with the Wireless M Console

The pairing and configuration settings of DCT12M are managed through the BlueEye application.

Prerequisites

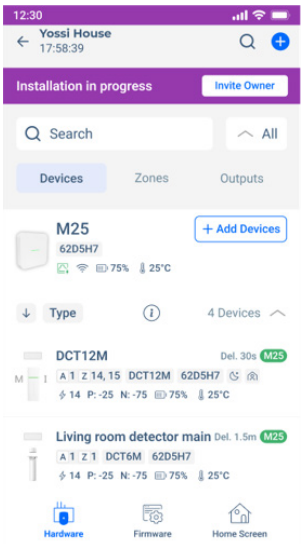
Ensure that:

1. The DCT12M 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 DCT12M

To pair the DCT12M 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 open the front cover of the sensor and press the **Learn** button momentarily, or open the tamper or a zone for immediate pairing.



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 previously 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.

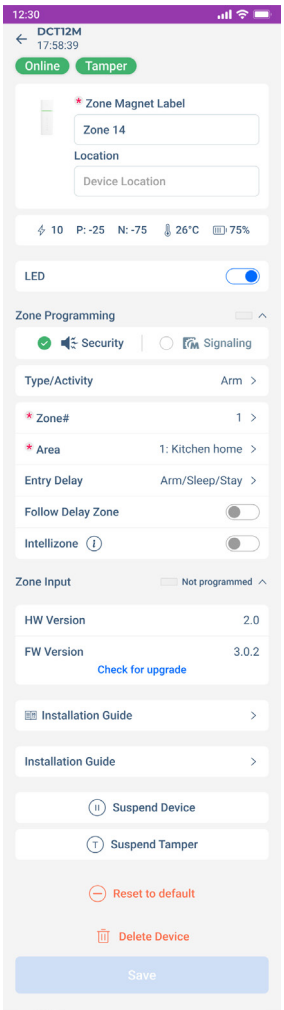
- **When the previously used device is online with another wireless console:** Press and hold the **Learn** button for 8 seconds to reset the device to its default settings. Reset is indicated by the LED flashing red three times. Once the reset is complete, initiate auto-learn.
  NOTE: *Ensure the device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

Configuring the DCT12M

You can configure the DCT12M settings in the BlueEye application.

To configure the DCT12M settings:

1. When in the **Hardware** tab, tap the **DCT12M** 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 DCT12M, along with their descriptions.

Table 1

Parameter		Description
Zone Magnet Label		Enter a name for a zone.
LED		Determines whether the LED indications for the device are enabled or disabled.
Zone Magnet	**Type/Activity**	Select the type or activity of the zone. • Arm • Arm/Sleep • Arm/Stay • Arm/Sleep/Stay • 24 Hours
	Zone # and **Area**	Assign a zone and area number.
	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 (default) • 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.
Zone Input		Follow the same configuration as the **Zone Magnet**.
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.*

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.

LED Indications

After configuring DCT12M, the door contact 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	Not connected to the wireless console
Green	Magnet attached; zone closed
Yellow	Magnet detached; zone open
Red/Green	Tamper alarm activation

NOTE: *If the LED indicator shows a red light when opening or closing a zone, it indicates that DCT12M is either not paired with any head unit, or lost connection with the unit.*

Upgrading Firmware

To upgrade the firmware:

1. 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.

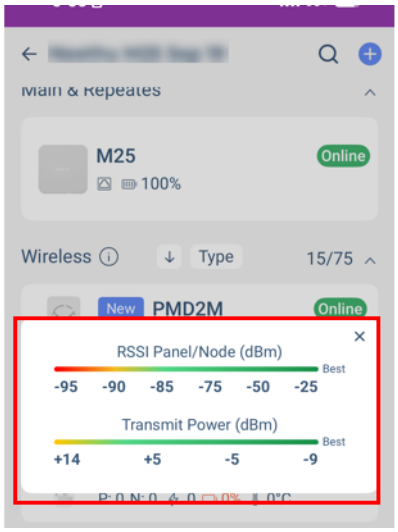
IMPORTANT: The firmware upgrade can be done only when the system is disarmed.

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 DCT12M:
   - 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.

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.

Dual Tamper Protection

The DCT12M door contact 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 DCT12M 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.
Close Distance of the Magnet (Left/Right)	Less than 1 cm (0.4")
Open Distance of the Magnet (Left/Right)	Above 2 cm (1.1")
Transmission Time	Less than 20 ms
Supervision Time	20 minutes, 10 minutes (Default), and 3 minutes
Status Indicators	Battery, temperature, TX/RX values
Battery	ER17335, 10+ years of battery life
Installation Environment	Indoor
External Contact Cable maximum resistance	Up to 50-ohm resistance
Firmware Upgrade	Remotely over the air, via BlueEye
Operating Temperature	-30°C to +50°C (-22°F to 122°F)
Auto Learn	Yes
Colors	White, Brown, Grey
Dimensions	3.4W x 9.6H x 2.1D cm (1.3" W x 3.8" H x 0.8" D)
Weight	Sensor 47g/Magnet 12g
Certification	CE, EN 50131-2-6, 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: KDYDCT12M
IC: 2438A-DCT12M

- 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

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