PARADOX

ZX10M

10-Zone Expander



INSTALLATION MANUAL

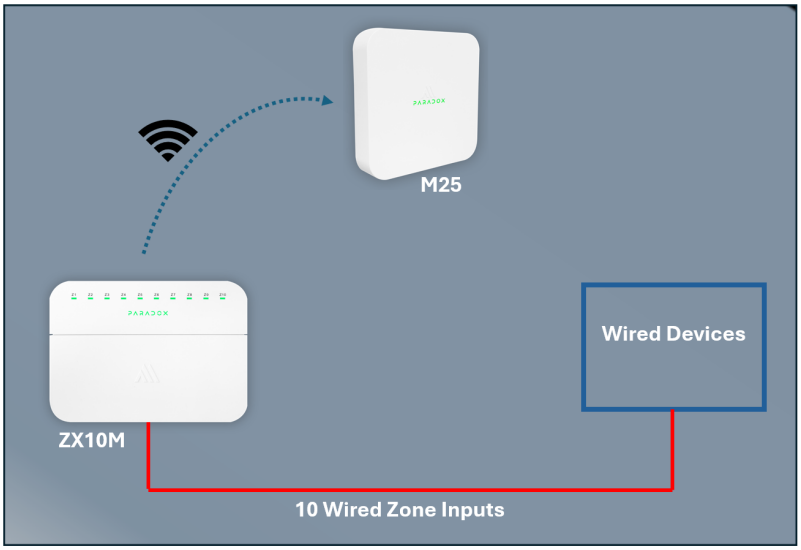
FW Version: V0.68.082
Document Version: V1

Introduction

The ZX10M is a 10-zone hardwired wireless expander. 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. The ZX10M is useful when replacing a wired system or expanding the M25 system with wired devices. The ZX10M includes a built-in Lithium-ion rechargeable battery capable of providing internal operation and auxiliary 12.5V - 13.8V power output at 220 mA for up to 10 hours, supporting powered devices such as motion detectors. The batteries are not dealer-replaceable and are designed to last throughout the device's life expectancy.

Input 1 can also be configured as a fire zone, where disarming the fire alarm will reset the connected two-wire smoke detectors. All zone inputs support configurations with no EOL resistor, one EOL resistor, or two EOL resistors. Additionally, the ZX10M features dual tamper protection (wall and cover).

NOTE: *The device is delivered with a battery charge of 10% or less.*



Overview

Quick Installation - Experienced Installers

To install ZX10M:

1. Mount the device on the wall with two screws.
2. Provide a 12 - 14VDC/1A power supply to power the ZX10M. Connect all the required zones with or without EOL.
3. Pair ZX10M 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 ZX10M by either pressing momentarily the **Power off** button, or by opening the tamper or any zone.*

4. Configure ZX10M (Using the BlueEye application):
   - Go to: **Hardware** > Tap **ZX10M** from the device list > Enter the necessary details > **Save**.

Built-in status indications of ZX10M:

Paradox Logo:

- Red – Not connected to the console; offline.
- White – Connected to the console; online.
- Green blinking every two seconds – Battery-powered, online with console
- Red blinking every two seconds – Battery-powered, offline, not communicating with the console.
- Red and Green flashing (5x) – Tamper open
- Green flashing (5x) – Tamper closed

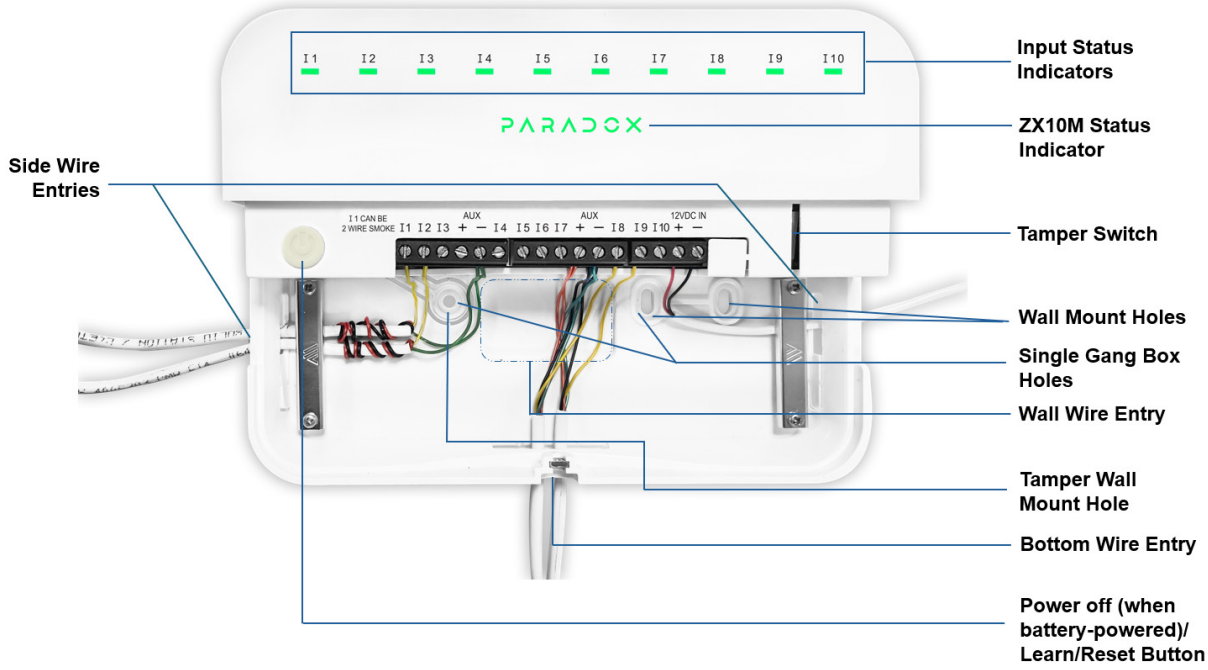
Zone LED:

- Green – Zone is open
- Off – Zone is closed

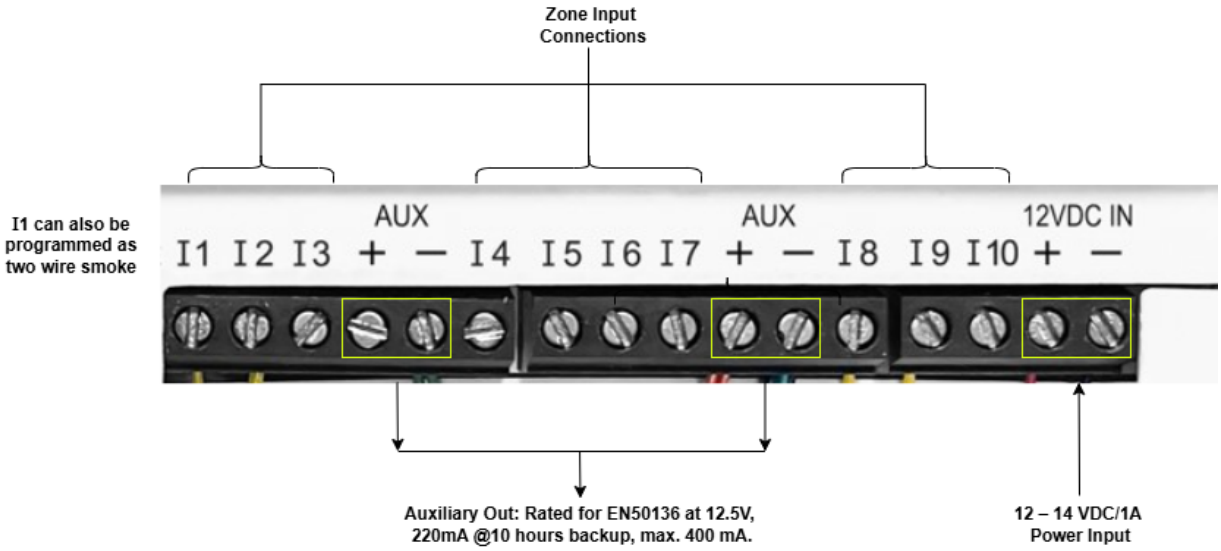
NOTE: *The low battery voltage threshold of the ZX10M is 6.8V, and the battery is considered restored at 7.5V (on power-up only).*

Components and Connection Diagram of ZX10M

The following figure displays the components and connection diagrams of ZX10M.



Components of ZX10M



Connection Diagram

Physical Mounting

To mount ZX10M:

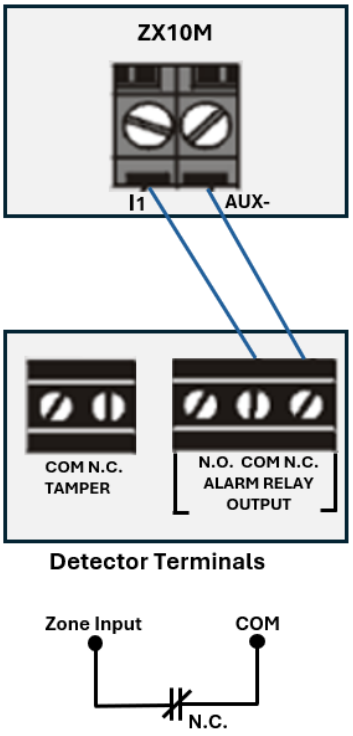
1. Release the screw from the bottom of the ZX10M and remove the front cover.



2. Screw the ZX10M device onto the wall through the mounting holes.
   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.*
3. Provide a 12 - 14VDC/1A input connection to power the ZX10M. Connect all required zones by routing cables through the wire entry holes of the device with or without EOL. Each two-wire zone connects to the zone input and the negative aux terminal.

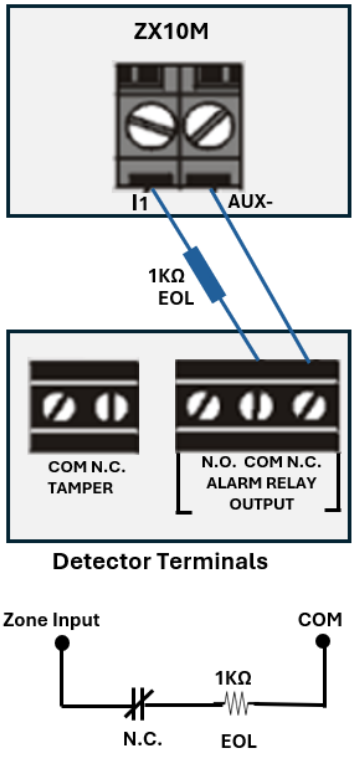
N.C. Contacts, No EOL

No EOL



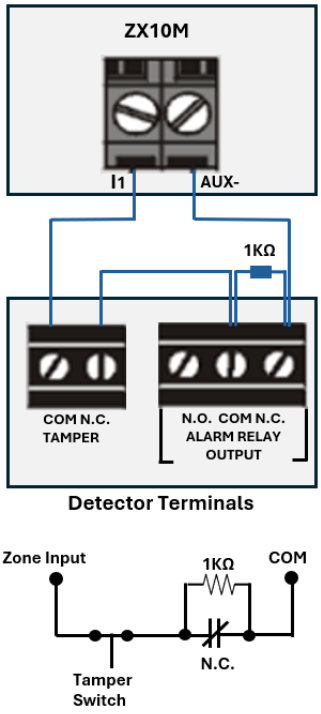
N.C., With EOL
UL/ULC Configuration

1 EOL 1A



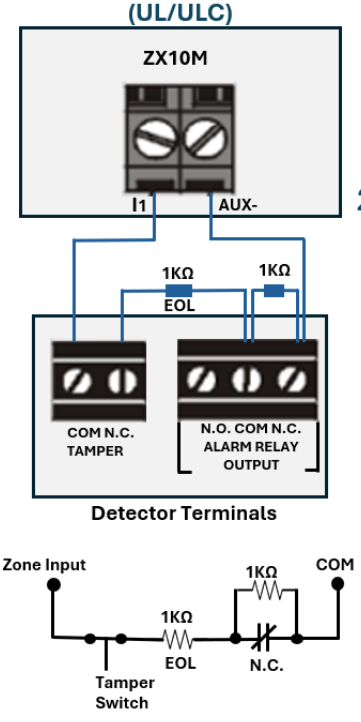
N.C. Contacts, No EOL,
With Tamper Recognition

1EOL 1B



N.C., With EOL, With Tamper
& Wire Fault Recognition
(UL/ULC)

2EOL



EOL Connection Options

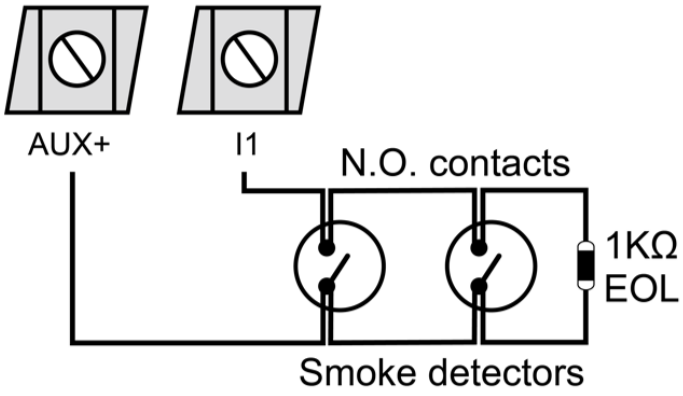
4. After completing the wire connection, reattach the front cover and tighten the screw at the bottom. Ensure the logo flashes green 5 times to confirm the screw is secured properly and the tamper is closed.

The AC/DC adapter/external power supply must be certified and safety-approved for the specified voltage and current.

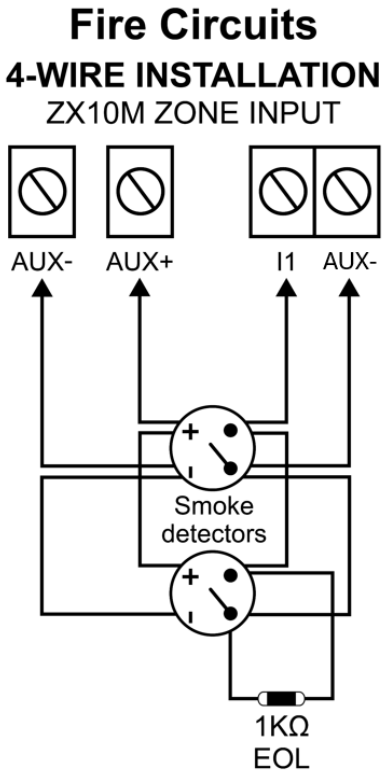
Connecting 2 Wire Smoke Detectors to Input 1

When input 1 is programmed as a 2-wire smoke fire input, it operates as a normally open circuit and provides auxiliary power. Up to eight two-wire smoke detectors can be connected in parallel and a 1K Ohm end-of-line resistor must be used as per the following drawing. The input can support up to four detectors in alarm simultaneously before the auxiliary power output shuts down. This limit also depends on the current consumption of other connected devices).

When the fire alarm is disarmed, the system initiates a reset process by temporarily cutting power to the auxiliary power output (Aux +) and then restoring it. This will reset both the two-wire and four-wire smoke detectors.
NOTE: *Each console can be connected to support a maximum of eight 2-wire smoke detectors.*



2-Wire Installation



4-Wire Installation

Pairing ZX10M with the Wireless M Console

The pairing and configuration settings of ZX10M are managed through the BlueEye application.

Prerequisites

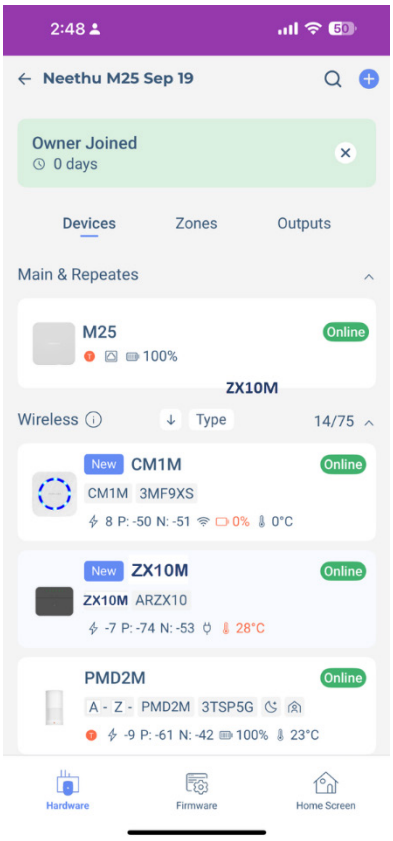
Ensure that:

1. The ZX10M 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 ZX10M

To pair the ZX10M 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. This may take up to 6 minutes. To pair instantly, press momentarily on the power off button, or open the tamper or any zone. The device pairs with the console and it appears at the top of the device list with a ***new*** tag and voice announcements.

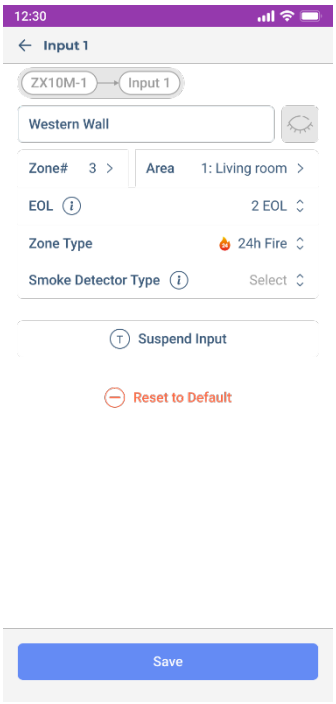


After pairing, to identify the new device, you can trigger the ZX10M tamper. A **T** symbol appears on the device tab in the BlueEye application.

Zone Configuring

To configure the ZX10M settings:

1. When in the **Hardware** tab, tap the **ZX10M** device.
2. On the page that opens, tap the input you want to configure and enter the necessary details.
3. Tap **Save**.
   For details about each parameter displayed on the page, see Table 1.
   NOTE: *Only Input 1 can be configured as a two-wire smoke fire zone.*



The following table lists the parameters displayed for configuring the ZX10M, along with their descriptions.

Table 1

Parameter		Description
Zones		Lists all 10 additional zone inputs provided by the ZX10M. Each zone can be configured individually with the following parameters.
	EOL (End of Line Resistors)	Configures the wiring supervision for zones. Options: • **No EOL** (Default): No resistors are used for supervision. • **1EOL 1A**: Single resistor (1K ohm) for basic supervision. • **1EOL 1B**: Single resistor (1K ohm) for basic supervision. • **2EOL**: Two resistors (2 x 1K ohm) for enhanced supervision and tamper detection.
	Zone# and **Area**	Assign a zone and area number.
	Zone Type and **Zone Activity**	Select the type of zone – Instant, Delay, 24 Hours, 24 Water, 24 Fire when the device is active in the Arm, Stay, or Sleep modes. The following are the different zone types: • **Instant** – When a zone is opened in any armed status, no entry delay is triggered, and 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. • **24 Water** – To be used with water detector devices and trigger water warning notification. • **24 Fire** – The 24-hour zone that generates a fire alarm that cannot be reset until the zone is closed.
	Follow Delay Zone	This zone is instant and becomes a delay zone if a delay zone is opened first.
	Suspend Input	Disables the monitoring of an input.
	Reset to Default	This will reset the device to the factory default settings. **NOTE**: *Only an installer can reset the device.*

About	This tab displays details such as the installation date, production date, last programming date, battery replacements, battery history, and upgrade history.
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 ZX10M, the device displays various LED indications based on specific events.
The following table lists the LED indications and their corresponding event.

Table 2

LED Indication	Event
Paradox Logo	
Red	Not connected to the console, offline
White	Connected to the console; online.
Green blinking every two seconds	Battery-powered, online with console
Red blinking every two seconds	Battery-powered, offline, not communicating with the console.
Red and green flashing (5x)	Tamper open
Green flashing (5x)	Tamper closed
Zone LED	
Green	Zone is open
Off	Zone is closed

Functionalities of Power Button

The power-off button on the ZX10M is used to:

- **Power Off (only when battery-powered)**: Press the power button twice momentarily within 5 seconds to turn off the device. To turn it back on, provide an input power supply.
- **Reset**: Press and hold the power off button for 8 seconds to reset the device to its default settings. After 8 seconds the Paradox logo will display **amber.**

Upgrading Firmware

When the firmware upgrade is in progress, the Paradox logo on the device displays steady blue.
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

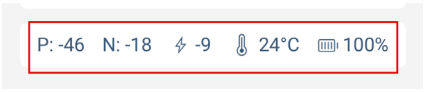
The BlueEye application provides insights into each device's received signal strength and transmission power to optimize performance.

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 ZX10M:
   - 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. 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 ZX10M zone is equipped with dual tamper protection (wall and cover). If the system is armed, any tamper activation 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 ZX10M, along with their descriptions.
NOTE: *The specifications are subject to change without prior notice.*

Table 3

Specification	Description
Power Input	12-14.0VDC/1A
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 Might vary in different countries.
RF Power	868 MHz: +14 dBm radiated, 914 MHz: +22 dBm in permitted countries.
Number of Inputs	10
Input Connection Type	Two wires, No EOL, 1EOL A (1K ohm), 1EOL B (1K ohm), 2EOL (2 x 1K ohm), Zone one can be set as two-wire smoke.
Status Indicators in Application	Zone open/close, tamper status, power supply, battery level, temperature, TX/RX values
Status Indication	Logo: online, offline, battery or power operation, upgrade in process, tamper, zone LEDs - open/close
Battery	2 x 3.7V Li-ion battery, 5000 mAh
Aux Output Supply	12.5 – 13.8V, rated at 220 mA, (10 hours battery backup at 220 mA), absolute maximum current 400 mA
Transmission Time	Less than 20 ms
Supervision Time	20 minutes, 10 minutes (Default), and 3 minutes
Installation Environment	Indoor
Firmware Upgrade	Remotely over the air, via BlueEye, about 2 minutes after start delay, delay up to supervision time, or any action on ZX10M.
Operating Temperature	-20°C to +50°C (-4°F to 122°F) Battery charging: 0°C to 40°C (32°F to 104°F)
Auto Learn	Yes
Colors	White
Dimensions	18W x 13H x 4.5D cm (7.09W x 5.12H x 1.79D in.)
Weight	0.41 Kg
Certification	CE, EN 50131-3, EN 50131-5-3, FCC 15.247, Security Grade – 2, Environmental Class – II. 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: KDYZX10M
IC: 2438A-ZX10M

- 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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