PARADOX

SR250M

Outdoor Siren

INSTALLATION MANUAL

FW Version: V1.00.014

Introduction

SR250M is a weatherproof, stand-alone, fully supervised outdoor siren with a built-in strobe light and transceiver. Using 2-way wireless communication, it ensures continuous supervision between the panel and siren, providing fast response to alarm signals within two seconds. It features the latest Gaussian Frequency Shift Keying (GFSK) technology with frequency and encryption hopping. This ensures superior wireless range, enhanced encryption, supervision, and reliability. Built to withstand harsh conditions, the SR250M operates reliably between -20°C to +50°C (-4°F to 122°F) when powered by alkaline batteries or an external power supply. The SR250M typically offers lens color options, such as red, blue, clear, and amber.

Quick Installation - Experienced Installers

NOTE: *Opening the cover (Tamper) will not trigger an audio alarm. The audio alarm will be triggered only if the SR250M is in the **Armed** state. In the **Disarmed** state, tamper events—such as cover removal or detachment from the wall —will send a CMS report and a push notification.*

To install SR250M:

1. Open the siren and fix the backplate.
2. Insert the batteries. Optionally, connect an external power supply (8–16 VAC or 9–20 VDC).
   NOTE: *In case of low battery or loss of external power, an event will be generated or a trouble alert will appear in the message center within 10 seconds.*
3. Pair SR250M with the console (Using the BlueEye application):
   - Go to: **Hardware** > Tap **Add Devices** > **Wireless Devices Auto learn/Scan QR code or add devices manually** (by entering serial number).
     NOTE: *You can instantly pair SR250M by pressing the **Learn** button, or by opening the tamper.*
4. Configure SR250M (Using the BlueEye application):
   - Go to: **Hardware** > Tap **SR250M** from the device list > Enter the necessary details > **Save**.

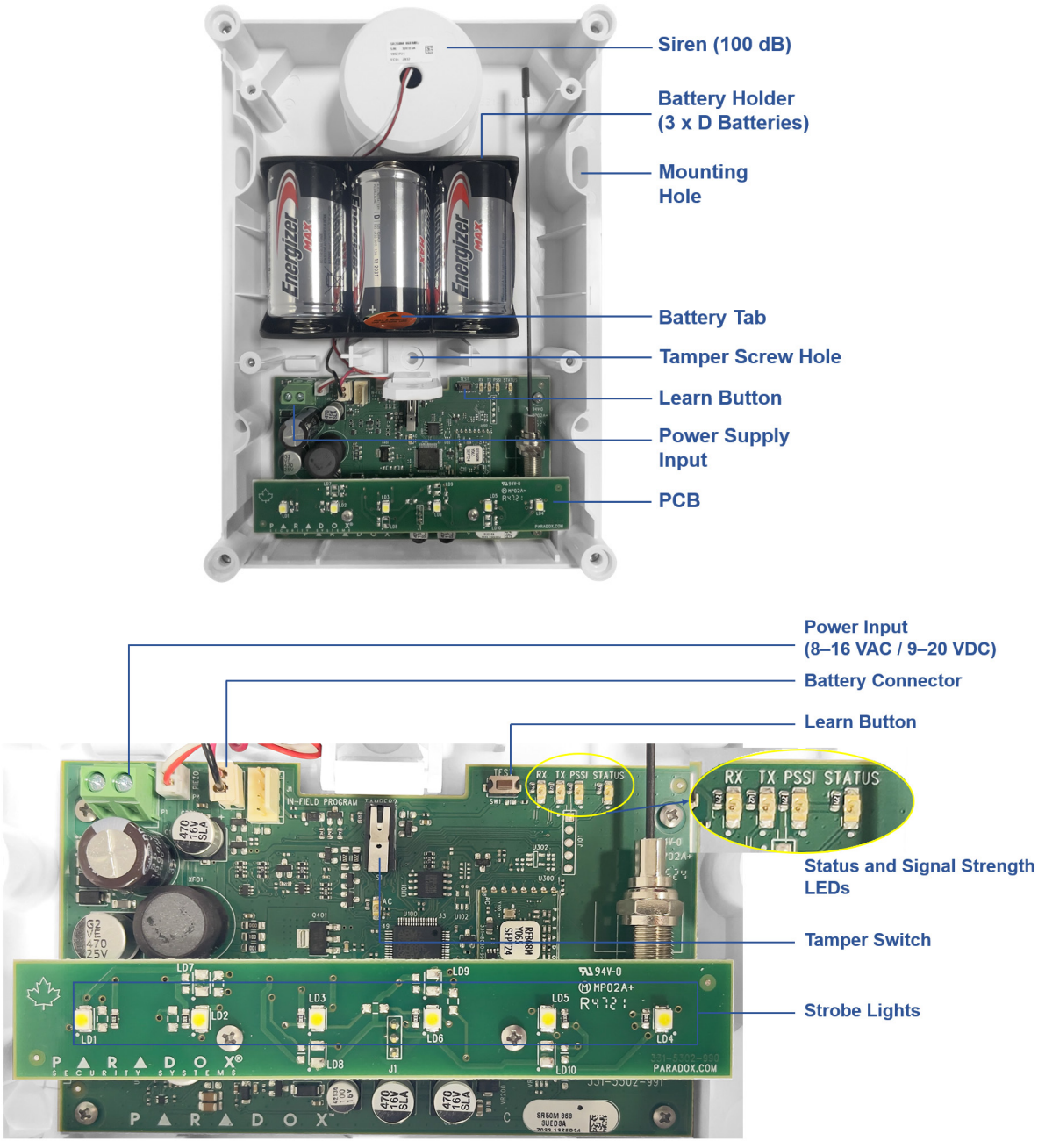
   Built-in status indications of SR250M:
   - **Status LED,** Flashing red 5 times: Power-up sequence
   - **RX/TX,** Red Blinking 5 times at power-up:
     - RX LED – The device is connected to the console

- TX LED – The device is not connected to the console; the device is defaulted (new or unpaired).
- **RX LED,** Red blinking 5 times: The device is connected to the console; the device is paired.
- **PSSI LED,** Blinking once per second: The device is not synchronized with the panel.
- **RX LED,** Slow blinking 8 times: The tamper state changes to closed.
- **RX/TX LED,** Slow blinking alternate: The tamper state changes to open.

NOTE: *The low battery voltage threshold of the SR250M is 3.6V, and the battery is considered restored at 4.1V (on power-up only).*

Components of SR250M

The following figure displays the components of SR250M.



Components of SR250M

Physical Mounting

To mount SR250M:

1. Unscrew and remove the top cover of the siren.
2. Screw the backplate onto the wall using 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. Remove the ***orange isolation tab*** (present only if the battery is included with the product) from the battery holder. Ensure that the three 1.5 V, **D** alkaline batteries in the compartment are installed with the correct polarity. You may also provide 8–16 VAC / 9–20 VDC to power the siren.
4. Connect **Battery Connector**.
5. Reattach the front cover and tighten the screws.

NOTE: *The default sound duration for the siren is 4 minutes. This setting can be adjusted in the BlueEye application (**Firmware** > **General** > **Siren Timeout**).*

External Power Supply Connection

The SR250M can operate using internal batteries or an external power supply. If an external power supply is used, connect the external power supply wires to the VAC/VDC input terminals on the SR250M PCB.
The external power source must provide 8–16 VAC or 9–20 VDC. Use 14-26 AWG suitable for the installation environment.
For compliant installations, use a UL 864, UL 1481, UL 603, or UL 294 listed power supply rated for outdoor use with output ratings compatible with the SR250M.

Ensure that all wiring connections are properly secured before restoring power.

Installation must be performed in accordance with the National Electrical Code (NFPA 70) and all applicable local electrical codes.

NOTE: *When both batteries and an external power supply are used, the batteries act as backup power if the external power source is lost.*

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 SR250M 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 SR250M with the Wireless M Console

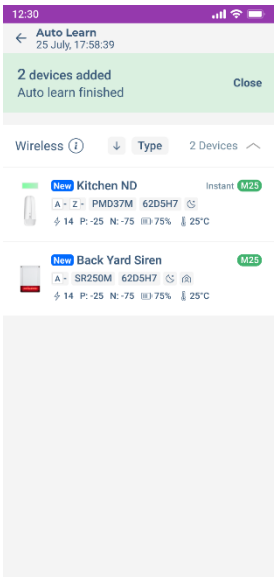
The pairing and configuration settings of SR250M are managed through the BlueEye application.

Prerequisites

Ensure that:

1. The SR250M 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 SR250M



To pair the SR250M with the wireless console by an installer:

1. In BlueEye, when in the **Hardware** tab, tap **Add Devices** > **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 siren and press the **Learn** button momentarily, or open the tamper for immediate pairing.

To identify the device, 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.

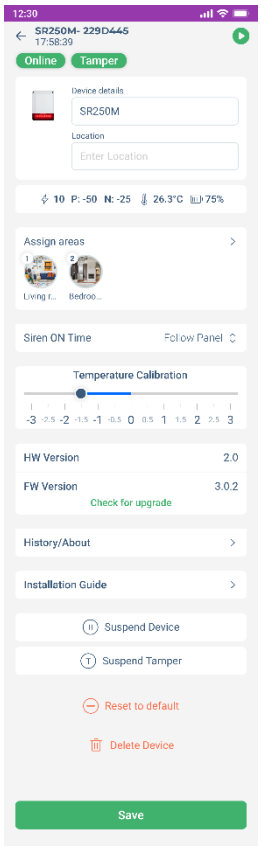
Pairing Previously Used Devices

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 cover or press the learn button 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 SR250M



To configure the SR250M settings:

1. When in the **Hardware** tab, tap **SR250M** from the device list if the device is already paired.
   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 SR250M, along with their descriptions.

Table 1

Parameter	Description
Assign areas	Specify the area where the siren will be mounted and assigned for operations.
Temperature Calibration	Allows manual calibration of the device's reported temperature to match the actual ambient temperature.
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.
Reset to Default	This will reset the device to the factory default settings. **NOTE**: *Only a dealer 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 SR250M, 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
Status	Flashing red 5 times	Power-up sequence
RX/TX	Red Blinking (5 times at power-up)	• RX LED – The device is connected to the console • TX LED – The device is not connected to the console; the device is defaulted (new or unpaired).
RX	Red blinking 5 times	The device is connected to the console; the device is paired.
PSSI	Blinking once per second	The device is not synchronized with the panel.
RX	Slow blinking 8 times	The tamper state changes to closed.
RX/TX	Slow blinking alternate	The tamper state changes to open.

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.

NOTE: *If the device is already paired and online, delete the device first, then perform the reset on the device, and pair it again. Otherwise, the reset will have no effect.*

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.

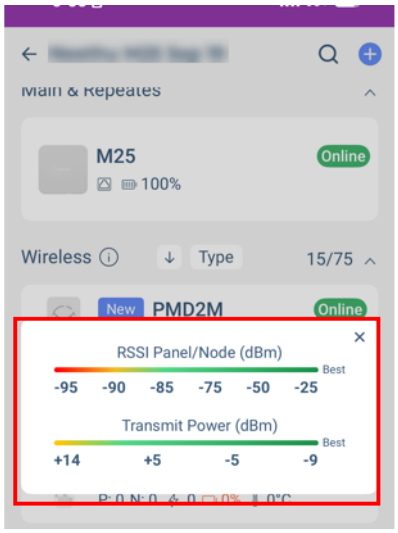
IMPORTANT: The firmware upgrade can be done only when the system is disarmed.

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 SR250M:
   - 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.

Alarm Signaling

When triggered by a human intrusion or system tamper while armed, the SR250M makes a loud siren and flashes its strobe light to alert its owner or user.

The SR250M communicates with the main security panel or console using two-way wireless signals, allowing it to send status updates and receive commands from the panel. This feature ensures the system stays informed of the siren's operational status, battery level, and tamper conditions.

Dual Tamper Protection

The SR250M 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 SR250M along with their descriptions.
NOTE: *The specifications are subject to change without prior notice.*

Table 3

Specification	Description
Power Supply Input	8–16 VAC / 9–20 VDC
Current Consumption	Sleep: 22 uA, Standby: 130 uA, Alarm: 550 mA
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.
Status Indicators	Battery, temperature, TX/RX values
Battery	3 x D alkaline**,** up to 5 years of battery life (due to the risk of leakage from alkaline batteries)**.**
Siren	100 dBA or more (1 meter), Piezo siren
Transmission Time	Less than 20 ms
Supervision Time	20 minutes, 10 minutes (Default), and 3 minutes
Firmware Upgrade	Remotely over the air, via BlueEye
Operating Temperature	-20°C to +50°C (-4°F to 122°F)
Installation Environment	Outdoor
Auto Learn	Yes
Colors	White
Dimensions	6W x 24H x 18D cm (2.3" W x 9.5" H x 7" D)
Weight	1.21 kg
Certification	CE, EN 50131-4, EN 50131-6, EN 50131-5-3, FCC 15.247, Security Grade – 2, Environmental Class – IV 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: KDYSR250M
IC: 2438A-SR250M

- 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 license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license-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.