

# ELK-6021 Wireless Mini Door and Window Sensor



## SPECIFICATIONS:

Frequency: 902 Mhz - 928 Mhz frequency hopping  
 Tamper: Front and back provided by a single flex plunger  
 Dimensions: 1.1"W x 2.3"L x .25"D Mag: .57"W x 1.5L x .6D  
 Maximum Operating Gap of Reed: 3/8"  
 Operating Temperature: 32° to 120° F (0° to 49° Degrees C)  
 Relative Humidity: 5-95% Non-Condensing  
 Battery: 3V Lithium - See Battery Installation & Replacement  
 Unique TXID Code: Over 1 million combinations

## Enrolling from M1 Keypad Installer Programming

1. Enter **M1 Keypad Installer Programming** and scroll or navigate to Menu: **14-Wireless Setup**
2. Press right arrow and scroll up to Sub-Menu: **3: Learn Sel**
3. Press right arrow and pick a **WZone** (wireless zone) number.
4. Press right arrow to **Lrn** (Enroll) a new sensor.
5. **Insert the Battery into the 6021**, as soon as the keypad displays **Push Transmitter Button**. Elk's RFTW sensors utilize a unique battery insertion signal for enrollment.  
**NOTE: If battery happens to be already inserted, remove it and wait 5 seconds before re-inserting.**
6. If enrollment is successful the M1 Keypad will ding-dong and briefly display the 6 digit TXID code attached to the sensor. For Dr/Wnd sensors the 1st digit is "A" followed by 5 digits (0 to F). e.g. A9AB4C. If enrollment fails and a TXID does not display; remove the battery, wait 5 seconds, then re-insert. It may be necessary to repeat steps 3 - 6.
7. The M1 Rapid-Enroll feature advances to the next zone in sequence and waits for a battery insert signal. Just repeat step 5 for each additional wireless sensor. The M1G voice will speak: "Press Transmitter button for zone xx" (next zone).
8. To end Rapid-Enroll press the ELK key one time AFTER all wireless zones (sensors) have been enrolled.
9. **Set the Loop Number - VERY IMPORTANT.** Scroll up or down to the desired M1 wireless zone and press the left arrow. The screen will display a 9 digit number (the TXID in decimal) followed by **Loop=**. Press the right arrow and move cursor over to **Loop=**. Set the Loop to 2. Press the ELK key twice to return to the Zone select display. Scroll to each of the other wireless zones and set or verify their Loop number. **NOTE: A sensor will not operate if the Loop number is not set correctly. Loop=2 is always the setting for the built-in reed input.**

**IMPORTANT!** Once all wireless zones have been enrolled the next step is to exit Menu 14 and proceed to Menu: **5 - Zone Definitions**. Locate each zone and program a name, zone type, and any required options. Repeat for each wireless zone that was enrolled.

## APPLICATION

The ELK-6021 is an exceptionally small, slim, and low profile Wireless Door & Window Sensor. It is perfect for double hung windows and is compatible with Wireless Receivers and Controls that accept Elk's 'RFTW' two-way technology; such as, the ELK-M1XRFTW. The 6021 has 1 built-in reed switch and sends a unique TXID identifier and Loop number when it transmits to the receiver. The Loop number should be programmed as a 2 for the wireless zone where a 6021 is enrolled.

The 6021 features Elk's Industry Leading Two-Way Technology, capable of on-demand status updates as well as extended range and extremely long battery life.

## Enrolling from ElkRP Software

1. Launch ElkRP and open the desired Customer Account file.
2. RP requires wireless zones to be defined in groups of 16. Wireless can begin at Zone 17 (Group 2) but CANNOT go beyond Zone 160 (Group 10). In the Folders column right click on > **Zones (Inputs)** to create a group of 16 wireless zones. Then click **New Wireless Zones**. Place a check mark in the box beside the desired group, then click OK. Repeat if additional wireless groups are required.

**NOTE: Only Zones 17 to 160 can be used for wireless zones (max. of 144 wireless sensors). If a large number of wireless zones are expected, AVOID conflict with existing or future Hardwired Zones in the range of zones 17 to 160 by NOT enrolling any Hardwired Zone Expanders (M1XIN) at data bus addresses 2 thru 10.**

3. With ElkRP it may be more efficient to program the Zone Definitions (name, type, and options) before moving to the Wireless Setup to enter the TXID and Loop number. In the Folders column click on > **Wireless - Group X** (the group just added), then double click one zone at a time to define a name, type, and options. Repeat for each wireless zone.
4. From the Folders column click on > **Wireless Setup** to enroll the wireless sensors by typing in their TXIDs.
  - 4a. Click the > **Transmitters** tab, then double click a zone.
  - 4b. Place a check mark in the **Enabled** box.
  - 4c. Set Supervision type as: 0=Non Supervised (Keyfobs), 1=Normal "Burg" Supervision, or 2=Fire Supervision
  - 4d. Skip to the **TXID box** and enter the Sensor TXID from the label on the inside and outside of the sensor.
  - 4e. Skip to the **LOOP** box and enter a 2.
  - 4f. Click **Save**. Repeat the entire step 4 for each additional Wireless Sensor.

## Mounting

Enroll sensors first, then temporarily attaching them at their intended location and walk testing PRIOR TO PERMANENT MOUNTING. It may occasionally be necessary to re-orient the sensor to improve the range and operation.

Mount sensor to a flat dry surface, NOT on a curved surface as this could damage the sensor and void the warranty. Sensor and magnet can be oriented in many directions as long as the align marks on the sensor and magnet face each other and are closely aligned. The maximum distance between the sensor and magnet MUST NOT exceed the specified gap. Follow prescribed temperature and humidity specs. Do not use in areas with high moisture/humidity.

1. Remove sensor and magnet from their baseplates by grasping the sides and inserting the tip of a small flat screwdriver into the end slot(s). Gently lift to separate.
2. Attach baseplates using the supplied double faced adhesive pads or #4 flathead sheet metal screws. The small raised alignment marks on both backplates should face each other and be aligned and the gap between MUST NOT EXCEED the specified operating gap.

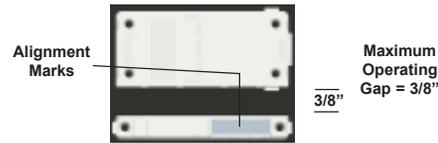


Figure 1. ELK-6021 Mounting Gap and Alignment

4. Attach the sensor and magnet to their baseplates.

## Battery Installation and Replacement

A Low Battery signal will be reported to the Control when the sensor battery needs to be replaced.

1. **Remove sensor cover** by grasping the sides and inserting the tip of a small flat screwdriver in the end slot.
  2. **Observe correct polarity** when installing the new battery (see Fig 2). Be careful to not bend or damage the metal contact leads holding the battery.
- Approved Batteries: 3V Lithium - CR2032
3. Test sensor operation with panel.



## Operational Testing

A two color LED is functional for 10 minutes after installation of the Battery. The LED may be re-activated for service or diagnostics by removing and reinstalling the battery, OR by activating the **Walk Test Area** menu on the M1 Keypad. NOTE: The LED may be difficult to see under direct sunlight.

**GOOD = GREEN blink** This indicates Sensor transmitted a signal and was received and acknowledged by the Receiver.

**CAUTION = RED blink(s) following by a GREEN** This indicates Sensor is experience difficulty reaching the Receiver. The first RED occurs after sensor has failed 4 times. Each additional RED blink indicates another attempt (up to 16) to reach the receiver. After a 16 failed attempts the sensor will timeout and go idle for 5 minutes. A GREEN blink anytime prior to 16 attempts indicates sensor was finally successful. During each check-in request or supervisory check-in interval the sensor will update or report the current state of it's input to the receiver.

**BAD = RED blinks with no GREEN** This may indicate that either: Receiver and Sensor are out of range, Receiver is not working, or Sensor is not transmitting.

\* The two color LED will remain active throughout the Walk Test process OR for 10 minutes after battery insertion and the enrollment has ended.

A complete system test and Walk Test of all wireless zones using the prescribed M1 Keypad Menu **3 - Walktest Area** feature should be performed a least once a year.

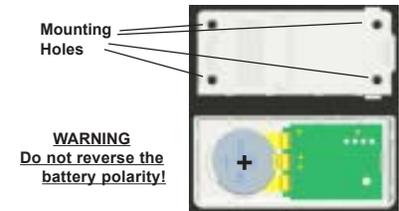


Figure 2. ELK-6021 Sensor & Backplate

**BATTERY CAUTION: Risk of fire, explosion and burns. Do not attempt to recharge or disassemble. Do not incinerate or expose to heat above 212° F (100° C). Dispose of used batteries properly. Keep away from children.**

## FCC COMPLIANCE STATEMENT:

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.

ELK-6021 Wireless Mini Door and Window Transmitter FCC ID: TMA ELK-6021

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Printed In USA

12/2/2011