Ness-6021 Wireless Mini Window Sensor

APPLICATION

The Ness-6021 is an exceptionally thin Wireless Window Sensor. It is designed primarily for use on non-metal surfaces and is ideal for double hung or casement style wood/vinyl windows. It is nearly invisible when installed properly. The 6021 is compatible with Wireless Transceivers and Controls that accept Ness two-way technology. The 6021 contains a built-in reed switch and reports a unique TXID identifier to the transceiver.

The 6021 features Ness' Industry Leading Two-Way Technology, capable of on-demand status updates and good battery life.

SPECIFICATIONS:

Frequency: 915.5Mhz to 927.5Mhz frequency hopping
Auto-Sync Type: C
Dimensions: 28mm(W) x 58mm(L) x 6mm(D) Mag: 9mm(W) x 58mm(L) x 6mm(D)
Max. Operating Gap of Reed: 9mm
Do not mount on metal surfaces.
Operating Temperature: -10° to 40°C
Relative Humidity: 5-95% Non-Condensing
Battery: 3V CR2032 Lithium - See Battery Installation
Unique TXID Code: Over 1 million combinations

Enrolling from M1 Keypad Installer Programming

1. Enter **M1 Keypad Installer Programming** and navigate to Menu: **14-Wireless Setup**
2. Press right arrow, then scroll up to Sub-Menu: **3:Learn Sel WirelessTransmtr**
3. Press right arrow, then scroll or select a unused/available **WZone** (wireless zone).
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**. The M1G voice will speak; "Press Transmitter button for zone xx".
   NOTE: If battery is already installed; remove it, wait 5 seconds, then re-insert.
6. Upon successful enrollment the Keypad will chime and briefly display the 6 digit TXID code of the sensor.
   If enrollment fails the TXID will not display. If that occurs; remove the battery, wait 5 seconds, then re-insert. In certain instances it may be necessary to repeat steps 3 - 6.
7. The Rapid-Enroll feature will auto advance to the next wireless zone in sequence and wait for the next sensor enrollment. Simply repeat step 5 for each additional sensor.
8. To end Rapid-Enroll AFTER after all wireless zones (sensors) are enrolled, press the ELK key one time.
9. Set the Loop Number. Ness wireless sensors use Loop 2 for the built-in reed switch. Since the 6021 only has the single "reed switch" zone, the default M1 Loop # 0 will recognize the reed switch WITHOUT the need to change the Loop from 0 to 2. If you wish to view (or change) the Loop #, scroll up or down to the desired M1 wireless zone and press the left arrow. The screen will display a 9 digit number (TXID in decimal) followed by **Loop=**.
10. Supervision - For wireless Burg sensors the supervision should be set to 1=Normal "Burg". This happens to be the factory default setting for all wireless zones. To view or change the Supervision value, press the ELK key to locate Sub-Menu: **2:Xmit Transmitter Opt**. Press the right arrow and scroll to the wireless zone, then press right arrow to select.

ZONE DEFINITION: After all wireless zones (sensors) have been enrolled proceed to Menu: **5 - Zone Definitions** to program the name, zone type, and any desirable options.

Enrolling from ElkRP Software

1. Launch ElkRP and open the desired Customer Account file.
2. If no wireless zones currently exist in this M1 you will need to create a group of 16 wireless zones. In the folders column right click on **Zones (Inputs)** and 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. All expanded zones must be defined in groups of 16. The M1XRFTW wireless must always start at Zone 17 (Group 2) and the last wireless zone CANNOT be higher than Zone 160 (Group 10).

Note: M1 only allows Zones 17 to 160 to be used for wireless zones (max. of 144 wireless sensors). If a large number of wireless zones is expected, avoid conflict with any future Hardwired Zones in the range of zones 17 to 160 by NOT enrolling any Hardwired Zone Expanders (M1XIN) at data bus addresses below 10.

3. Double click on **Wireless - Group _** (the group just added), then double click one zone at a time to define a name, type, and options. Repeat for each wireless zone. It is more time efficient in ElkRP to program the Zone Definitions (name, type, and options) before moving to the Wireless Setup for entering the TXID and Loop number.
4. From the Folders column double click on **Wireless Setup** to setup and enroll the wireless sensors.
   4a. Click the **Transmitters** tab, then double click a zone.
   4b. Place a check mark in the **Enabled** box.
   4c. Set Supervision type: **0**=Non Supervised (Keyfobs), **1**=Normal "Burg" Supervision, or **2**=Fire Supervision
   4d. Skip down to the **TXID box** and enter the Sensor TXID from the printed label located on the sensor.
   4e. Skip to the **LOOP** box and enter a 2. Loop 2 defines the built-in reed switch.
   4f. Click **Save**. Repeat the entire step 4 for each additional Wireless Zone and Sensor.

Locating and Mounting the Sensor

We recommend that the Ness-6021 Mini sensor be installed within 30m of the wireless receiver. While the open-air range is much greater than 30m obstacles and conditions in a building can significantly decrease effective operating range.

The Ness-6021 should not be mounted on metal surfaces as the extremely low profile of the device may cause the signal to be adversely affected by the metal.

Always test sensors in their intended location PRIOR to permanent mounting. Bear in mind that a sensor's operating range can often be improved by slightly moving or re-orienting the sensor mounting.

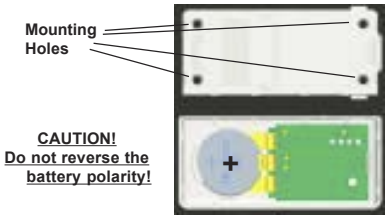

Figure 1. Ness-6021 Sensor & Backplate

Mounting surface should be clean, dry, and flat. Avoid metal surfaces! Observe temperature and humidity specs. Do not use in high moisture/humidity areas.

1. Separate the base from the sensor and magnet by inserting the tip of a small flat screwdriver in the end slot.
2. Install battery and enroll the sensor.
3. When ready to permanently mount, use the supplied adhesive pads or #4 flathead sheet metal screws. Be sure the align marks on both backplates face each other and the maximum gap DOES NOT EXCEED the gap specs.

Figure 2. Ness-6021 Mounting Gap and Alignment

4. Attach the sensor and magnet to their baseplates.

Applying the self adhesive mounting tape:

1. Clean all surfaces of any grease, dirt, etc.
2. Peel the protective cover from one side of adhesive pad and apply to back of sensor/magnet.
3. Grasp the remaining protective backing and remove just prior to mounting.
4. Hold for several seconds to allow a strong bond. It may require up to 24 hrs for tape to reach full bond.

NOTE: Adhesive tape cannot be used for UL Listed Installations.

CORPORATION

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Certified System
Quality
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Operational Testing

A two colour LED located behind the cover (front & center) will display feedback each time the sensor is violated or restored. The blink colour of this LED may be used for installation and troubleshooting. NOTE: It can be difficult to see this LED under direct sunlight conditions.

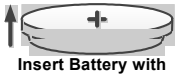
GREEN blink = Sensor has successfully transmitted a signal to the transceiver and that signal has been received and acknowledged by the transceiver.

RED blink = CAUTION Indicates sensor was unable to communicate with the transceiver after multiple repeated attempts. The most likely problem is that the distance between the sensor and the transceiver is too great. However it is also possible that the transceiver if off-line or powered off. Try the following troubleshooting steps:
A. Verify that the transceiver is on with its status LED blinking.
B. Walk to another sensor and test (trip) it to see if it can communicate with the transceiver.
If steps A & B appear to work then temporarily remove the failed sensor and re-test it at a closer range with the Transceiver. If the sensor successfully communicates at a closer range then one of two solutions may be needed:
1. Try to relocate the transceiver at a closer and more central location this and all other sensors.
2. Purchase and install an additional "remote" transceiver to cover the area where this sensor was mounted.

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 inserting the edge of a small coin or small flat screwdriver in the end slot.
2. **Observe correct polarity** when installing the new battery (see Fig 2). Do not bend or damage the metal battery holder leafs. Approved Batteries: 3V Lithium - CR2032
3. Test sensor operation with panel.



BATTERY WARNING:
Risk of fire, explosion and burns. Do not attempt to recharge or dissassemble. Do not incinerate or expose to heat above 100° C. Dispose of used batteries properly. Keep away from children.

Ness Corporation manufacturing processes are accredited to ISO9001 quality standards and all possible care and diligence has been applied during manufacture to ensure the reliable operation of this product. However there are various external factors that may impede or restrict the operation of this product in accordance with the product's specification. These factors include, but are not limited to:
1. Erratic or reduced radio range. Ness radio products are sophisticated low power devices, however the presence of in-band radio signals, high power transmissions or interference caused by electrical appliances such as wireless routers, cordless phones, computers, TVs and other electronic devices may reduce the range performance. While such occurrences are unusual, they are possible. In this case it may be necessary to either increase the physical separation between the Ness receiver and other devices or if possible change the radio frequency or channel of the other devices.
2. Unauthorised tampering, physical damage, electrical interruptions such as mains failure, electrical spikes or lightning.

MADE IN AUSTRALIA

MICRO RADIO REED - TWO WAY
RADIO INSTALLATION NOTES

Product Part No:
106-272 without battery
K-106-272 inc CR2032 battery
Document part number: 890-042