



433 Door/Window Sensor Installation Instructions

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Introduction

This is the GE 433 *Door/Window Sensor Installation Instructions*. You can install the sensor on doors, windows, and other objects that open and close. The sensor transmits signals to the control panel when a magnet mounted near the sensor is moved away from or closer to the sensor. The sensor is equipped with a wall and cover tamper for additional security.

Installation guidelines

Use the following installation guidelines:

- Mount the sensor on the door frame and the magnet on the door. If the sensor is used on double doors, mount the sensor on the least-used door and the magnet on the most-used door.
- If possible, locate sensors within 30 m (100 ft.) of the panel. While a transmitter may have a range of 150 m (500 ft.) or more out in the open, the environment at the installation site can have a significant effect on transmitter range. Sometimes a change in sensor location can help overcome adverse wireless conditions.
- Make sure the alignment arrow on the magnet points to the alignment mark on the sensor (*Figure 4* on page 2).
- Place sensors at least 12 cm (4.7 in.) above the floor to avoid damaging them.
- Avoid mounting sensors in areas where they will be exposed to moisture or where the sensor operating temperature range of 0 to 49°C (0 to 120°F) will be exceeded.
- If possible, mount directly to a stud. If a stud is not available, use plastic anchors.
- Avoid mounting the sensor in areas with a large quantity of metal or electrical wiring.
- Only one input can be used at any given time.
- End-of-line (EOL) resistors must always be connected to the external contact terminals. The sensor is shipped with a single EOL resistor already installed. The single resistor must be removed if the external contact is going to be used. See [External contact wiring](#) on page 2 for proper wiring details.
- Mount sensors with screws, not double-sided tape.

Materials needed

You will need the following tools and materials:

- Two #6 x 1.00 in. PPH (Phillips pan head) screws and two plastic anchors for mounting the sensor (included).
- Two #6 x 0.625 in. PPH screws for mounting the magnet (included).
- One #4 x 0.250 in. PPH screw to secure the sensor cover to the sensor base (included).
- External contact end-of-line (EOL) resistors (included).
- Phillips screwdriver.



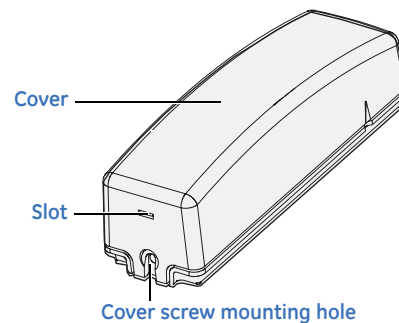
CAUTION: You must be free of all static electricity when handling electronic components. Touch a grounded, bare metal surface before touching a circuit board or wear a grounded wrist strap.

Programming

The following steps describe general guidelines for programming (learning) the sensor into panel memory. Refer to the specific panel/and or receiver's documentation for complete programming details.

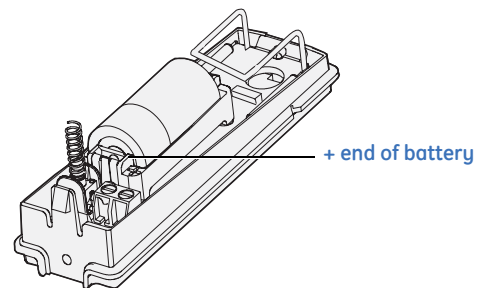
1. To remove the sensor cover, press a small screwdriver into the slot on the end of the sensor while lifting the cover (*Figure 1*).

Figure 1. Removing the sensor cover



2. If required, insert the battery into the battery holder, observing correct polarity (*Figure 2*).

Figure 2. Battery insertion



3. Set the panel to program mode.
4. Proceed to the *Learn sensors* menu.
5. Press and release the tamper switch on the sensor until the panel responds.
6. Select the appropriate sensor group and sensor number.
7. Exit program mode.

Verify RF communication

Before mounting the sensor, verify that the sensor mounting location provides good RF communications to the panel.

To verify, do the following:

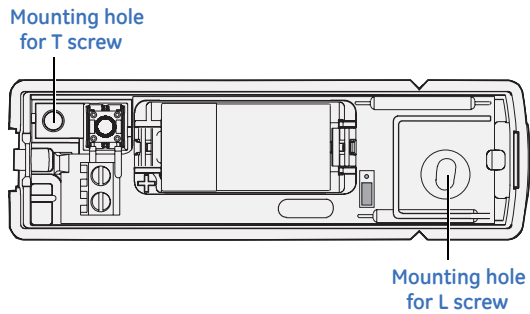
1. Put the panel/receiver into sensor test mode.
2. Take the sensor to the mounting location.
3. Hold the magnet next to the arrow on the end of the sensor and then pull the magnet away from the sensor.
4. Listen for siren beeps to determine appropriate response (refer to the specific panel/receiver documentation).
5. Exit sensor test mode.

Mounting

To mount the sensor, do the following:

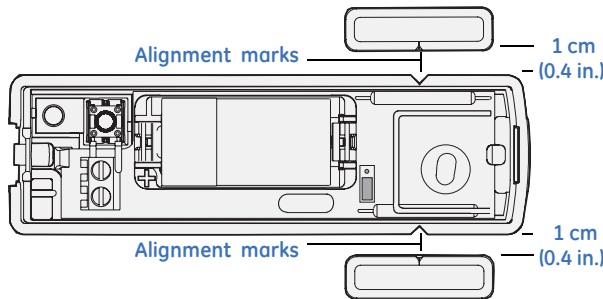
1. Mount the sensor base with two #6 x 1.00 in. PPH screws at the *T* and *L* mounting hole locations (*Figure 3*).
 - a. Start both the *T* and *L* screws and turn down about halfway.
 - b. Level and tighten the *L* screw first.
 - c. Tighten the *T* screw last. Do not overtighten the *T* screw.

Figure 3. Mounting holes



2. Remove the magnet from its base.
3. Line up the arrow on the magnet with the small notch on the side of the sensor, depending on the internal reed switch being used (*Figure 4*).

Figure 4. Sensor and magnet alignment



4. Mount the magnet base with the #6 x 0.625 in. PPH screws no more than 1 cm (0.4 in.) away from the sensor base. Replace the magnet cover.
5. Attach the sensor cover to the sensor base and secure with the #4 x 0.250 in. PPH screw (*Figure 1* on page 1).

External contact wiring

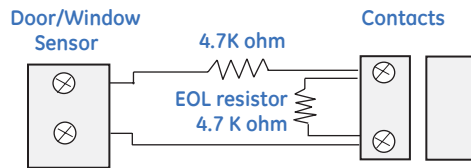
Use the following specifications for the external contact:

- Maximum wire length: 8 m (26 ft.).
- Stranded, 0.7112 mm (22-gauge) wire.
- Hermetically sealed external switches (sealed reed switch) that supply a minimum 250 milliseconds open or close on alarm.
- Do not connect more than five external contacts to a door/window sensor.

You can wire the terminal blocks on the sensor with leads from an external contact. Contact includes both alarm and tamper indication. The external contact is wired with two end-of-line (EOL) resistors; one in series with, and one across the external contact (*Figure 5*). EOL resistors must be installed at the external detection device for proper supervision. This gives the following readings for a normally closed configuration:

- Open/short = Tamper
- 1 R (4700 Ohms) = All devices closed (normal)
- 2 R (9400 Ohms) = Alarm (EOL resistor + parallel resistor)

Figure 5. External contact wiring



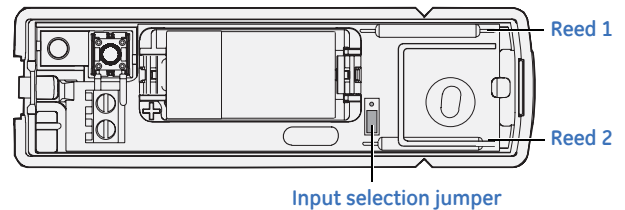
Input selection

Only one door/window input can be used at any given time. For example, if the external contact is being used, neither of the internal reed switches can be used.

Position the input selection jumper to select internal reed switch 1, internal reed switch 2, or external contact (*Figure 6*).

Note: Device should be powered down while positioning the input selection jumper.

Figure 6. Input selection jumper



Reed 1 = Top two pins covered

Reed 2 = Bottom two pins covered

External contact = Jumper removed

Sensor test

The sensor test verifies good communication between the sensor and the panel/receiver.

To test the sensor, do the following:

1. Put the panel/receiver into sensor test mode (refer to the specific panel/receiver's documentation).
2. Open the door/window the sensor is protecting. The sensor transmits a signal.
3. Listen for siren beeps to determine the appropriate response (refer to the specific panel/receiver's documentation).
4. Exit sensor test mode.

Battery replacement

When the system indicates the sensor battery is low, replace it immediately. Use the recommended replacement batteries (see [Specifications](#)) or contact technical support for more information.

To replace the batteries, do the following:

1. Remove the sensor cover (*Figure 1* on page 1).
2. Remove the battery and dispose as required by local laws.
3. Insert the replacement battery, observing correct polarity (*Figure 2* on page 1).
4. Do a sensor test with the panel. See [Sensor test](#).

Specifications

Model number	Brown: NX-451-N, RF320I4B-N, 600-1056-43 White: NX-450-N, RF320I4-N, 600-1057-43
Frequency	433 Mhz
Compatibility	GE Security 433 MHz AM control panels/ receivers
Battery type	3.0 V, 1300 mAh lithium
Recommended batteries	Duracell DL 123A, Panasonic CR123A, Sanyo CR123A, Varta CR123A
Estimated battery life	3 to 5 years (at 20°C)
Supervisory interval	Less than 20 minutes
Typical RF output power	25mW
Operating temperature	0 to 49°C (0 to 120°F)
Storage temperature	-34 to 60°C (-30 to 140°F)
Relative humidity	0 to 90% non-condensing
Dimensions (L x W x D)	102 x 32 x 32 mm (4.02 x 1.26 x 1.26 in.)
Weight	44 g

Notices



GE Security



MANUFACTURERS DECLARATION OF CONFORMITY For

Product identification:
Model/type : 600-1056-43 (white) aka NX-450-N, RF320I4-N
600-1057-43 (brown) aka, NX451-N, RF320I4B-N

Category (description) : Door Window Sensor
Brand : GE Security

Manufacturer:
GE Security
1275 Red Fox Road
Arden Hills, MN 55112
USA
Phone: (1)-651-777-2690
Fax: (01)-651-779-4890

EU Representative: GE Security B.V.
Kelvinstraat 7
6003 DH Weert
The Netherlands

Concerning	RTTE		
	EMC	Safety	Radio
A sample of the product has been tested by:	Intertek - ETL SEMKO	GE Security	Intertek - ETL SEMKO
Test report reference	CEQP 56-913-01-43		
Applied standards	EN50130-4 (1995) + A2 (2003)	EN60950-1 (2001)	EN300220-3 v1.1.1 (09-2000)

Equipment class identifier (RF products falling under the scope of R&TTE)

Not Applicable None (class 1 product) (class 2 product)

Means of conformity

We declare under our sole responsibility that this product is in conformity with Directive 93/68/EEC (Marking), and/or complies to the essential requirements and all other relevant provisions of the 1999/5/EC (R&TTE) based on test results using harmonized standards in accordance with the Directives mentioned.

Technical support

Toll-free: 888.GESECURITY (888.437.3287 in the US, including Alaska and Hawaii; Puerto Rico; Canada).
Outside the toll-free area: Contact your local dealer.

www.gesecurity.com