

433 Door/Window Sensor Installation Sheet



EN: Installation instructions

Figure 1. Removing the sensor cover.

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1	Cover.
2	Slot.
3	Cover screw mounting hole.
Figu	ire 2. Battery insertion.
4	+ end of battery.
Figu	re 3. Mounting holes.
5	Mounting hole for T screw.
6	Mounting hole for L screw.
Figu	re 4. Sensor and magnet alignment.
7	Alignment marks.
Figu	re 5. External contact wiring.
8	Door/Window Sensor.
9	4.7 Kohm.
10	EOL 4.7 Kohm.
11	Contacts.
Figu	re 6. Input selection jumper.
12	Reed 1.
13	Reed 2.
14	Input selection jumper.
15	Reed 1 = Top two pins covered.
16	Reed 2 = Bottom two pins covered.
17	External contact = Jumper removed.

Introduction

This is the 433 Door/Window Sensor. 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.
- 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 Ø6 x 1.00 in. PPH (Phillips pan head) screws and two plastic anchors for mounting the sensor (included).
- Two Ø6 x 0.625 in. PPH screws for mounting the magnet (included).
- One Ø4 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 (see fig. 1).
- 2. If required, insert the battery into the battery holder, observing correct polarity (see fig. 2).
- 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 \emptyset 6 x 1.00 in. PPH screws at the *T* and *L* mounting hole locations.

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 (see fig. 3).

- 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 (see fig. 4).
- Mount the magnet base with the Ø6 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 \varnothing 4 x 0.250 in. PPH screw.

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. 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)

See fig. 5.

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.

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

See fig. 6.

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.
- 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 or contact technical support for more information.

To replace the batteries, do the following:

- 1. Remove the sensor cover.
- 2. Remove the battery and dispose as required by local laws.
- 3. Insert the replacement battery, observing correct polarity.
- 4. Do a sensor test with the panel.

WARNING! Using incorrect types of batteries may cause risk of fire, explosion or chemical leakage.

Use only following type of battery: Panasonic CR123A. Disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery can result in an explosion. Leaving a battery in an extremely high temperature surrounding environment or subjecting it to extremely low air pressure can result in an explosion or the leakage of flammable liquid or gas.

Specifications

Model number	Brown: NX-451-N, RF320I4B-N, 600-1056-43 White: NX-450-N, RF320I4-N, 600-1057-43
Frequency	433.050 MHz - 434.040 MHz
Compatibility	Carrier 433 MHz AM control panels / receivers
Battery type	3.0 V, 1300 mAh lithium
Recommended batteries	Panasonic CR123A
Estimated battery life	3 to 5 years (at 20°C)
Supervisory interval	Less than 20 minutes
Maximum RF output power	0.50 dBm
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

Regulatory information

Manufacturer	PLACED ON THE MARKET BY: Carrier Fire & Security Americas Corporation Inc. 13995 Pasteur Blvd Palm Beach Gardens, FL 33418, USA AUTHORIZED EU REPRESENTATIVE: Carrier Fire & Security B.V. Kelvinstraat 7, 6003 DH Weert, Netherlands
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