

Alarm.com Flex IO™ sensor (ADC-FLEX-100) - Installation Guide

Overview

The Alarm.com Flex IO™ sensor enables new levels of flexibility for monitoring valuable property and assets anywhere that LTE connectivity is available. Whether used with a backyard gate or a remote storage unit, the Alarm.com Flex IO™ sensor empowers users to keep an eye on what matters most. It can be used with the included magnet to monitor doors, gates, and other entryways. It also comes equipped with input and output options for integrating compatible devices that lack long-range connectivity.



Important: The Alarm.com Flex IO™ sensor is a monitoring device that is not intended for life safety use cases.

For a video guide about installing the Alarm.com Flex IO™ sensor, see [Alarm.com Flex IO™ sensor - Installation Videos](#).

Equipment

In the box:

- Alarm.com Flex IO™ sensor
- Magnet
- 4x AA 1.5V lithium batteries



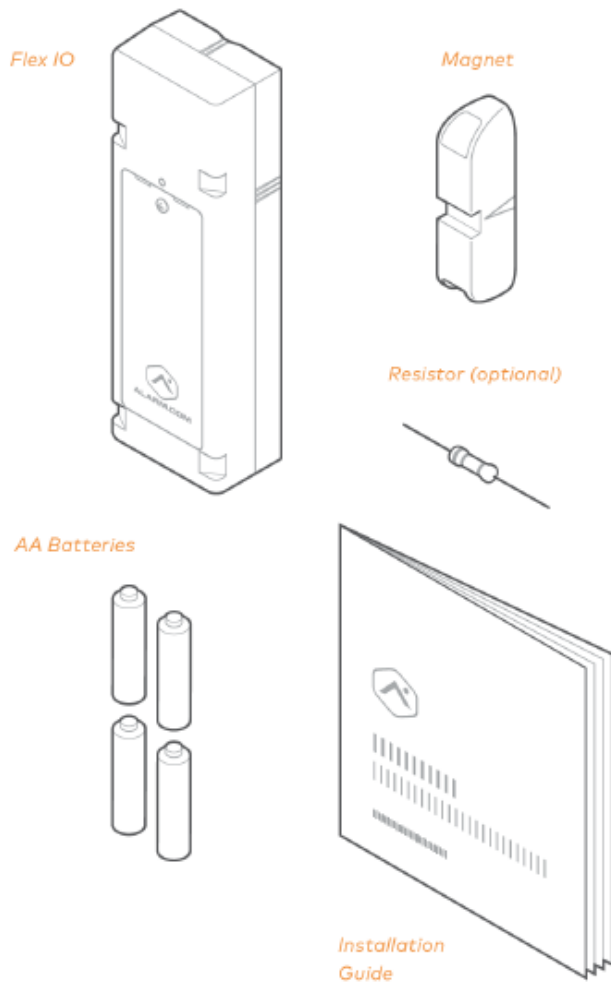
- Installation guide
- 300 kΩ resistor (optional)

Recommended tools and supplies (not included):

- Phillips head screwdriver
- Zip ties (up to 3 recommended: 2 for the Alarm.com Flex IO™ sensor and 1 for magnet)
- #8 Phillips screws (4x)
- Paper clip (to press the sensor's diagnostic button; see [Cellular signal strength](#))

Loop input tools and supplies (if required, not included):

- 18-22 AWG wire
- Power supply (ADC-FLEX-100-PS)
- Wire retention clip (ADC-FLEX-100-WRC)



Installation for each supported use case

This article contains general information about installing the Alarm.com Flex IO™ sensor. For more information about installation depending on how the Alarm.com Flex IO™ sensor will be used, see the specific use case installation guide.

How will this Alarm.com Flex IO™ sensor be used?	Description	Installation guide
Contact Sensor using built-in reed switch	Selecting <i>Contact Sensor</i> allows you to use the Flex and built-in reed switch to monitor if something is opened or closed.	<ul style="list-style-type: none"> • Using the Alarm.com Flex IO™ sensor as a contact (built-in reed switch)
Wired Contact Sensor using wired loop input	Selecting <i>Wired Contact Sensor</i> allows you to wire a contact sensor to the Flex using the loop input terminal.	<ul style="list-style-type: none"> • Alarm.com Flex IO™ sensor - Wired Contact (Loop Input) Installation Guide
Pull-Apart Sensor using pull-apart or Magnapull sensor	Selecting <i>Wired Contact Sensor</i> allows you to use the Flex with a pull-apart or Magnapull sensor. This could be used to determine if something is moved from its location.	<ul style="list-style-type: none"> • Alarm.com Flex IO™ sensor - Pull-Apart Installation Guide
Gate control using a compatible gate controller	Selecting <i>Gate Control & Contact Sensor</i> or <i>Gate Control & Wired Contact</i> allows you to use the Flex with a compatible gate controller. This allows you to monitor and open the connected gate controller.	<ul style="list-style-type: none"> • Alarm.com Flex IO™ sensor - Ghost Controls TSS1 Installation Guide • Alarm.com Flex IO™ sensor - LiftMaster LA400/500 Installation Guide • Alarm.com Flex IO™ sensor - Mighty Mule MM371W Installation Guide

For more information about use cases, see [Alarm.com Flex IO™ sensor - Supported Use Cases](#).

Install the Alarm.com Flex IO™ sensor

Expand all

Step 1: Determine location and check signal strength ^

Before installing your device, it is important to consider the following:



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- Reed switch position
- Mounting options
- Input and output wiring
- DC power requirements
- Cellular signal strength

Contact (reed switch) position

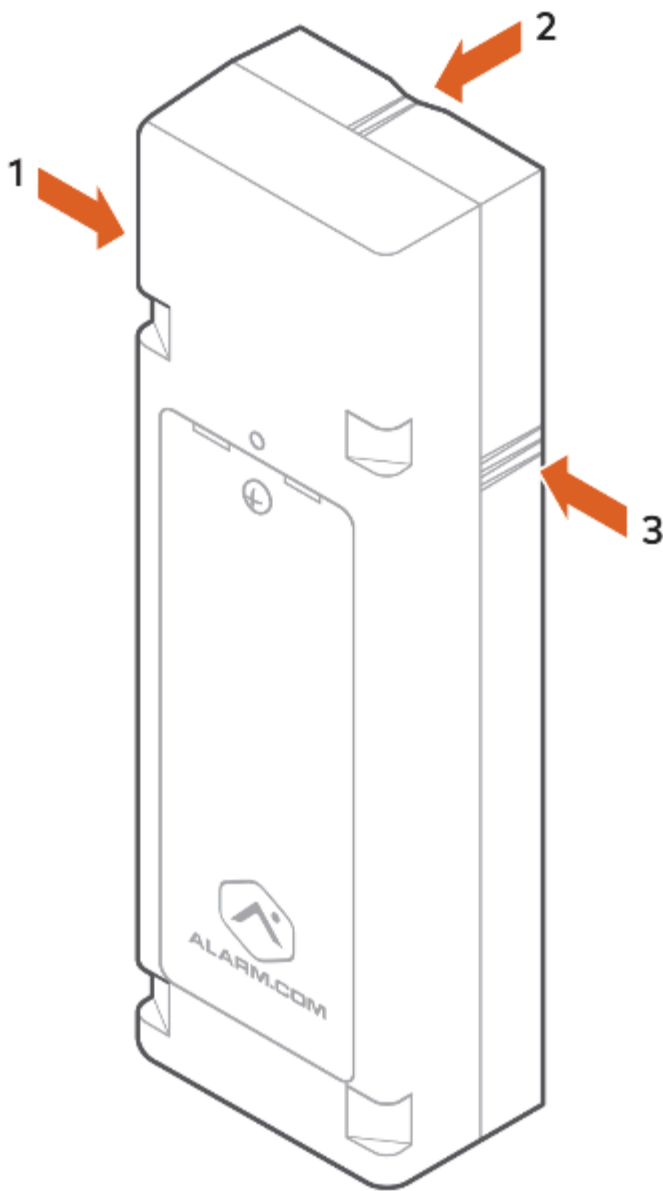
Like a standard door/window contact, the Alarm.com Flex IO™ sensor can be installed with the accompanying magnet to detect activity at potential entryways.

To determine your installation orientation, consider the following:

- Three separate reed switch positions are available. Only one reed switch position can be active at a time. You will select the reed switch position in Step 2.
- Use the tick marks on the sides of the device for guidance:
 - | = Position 1
 - || = Position 2
 - ||| = Position 3
- The magnet should be positioned no more than 1.25 inches from the device.

For additional information about using the sensor as a reed switch, see [Using the Alarm.com Flex IO™ sensor as a reed switch](#).





Mounting options

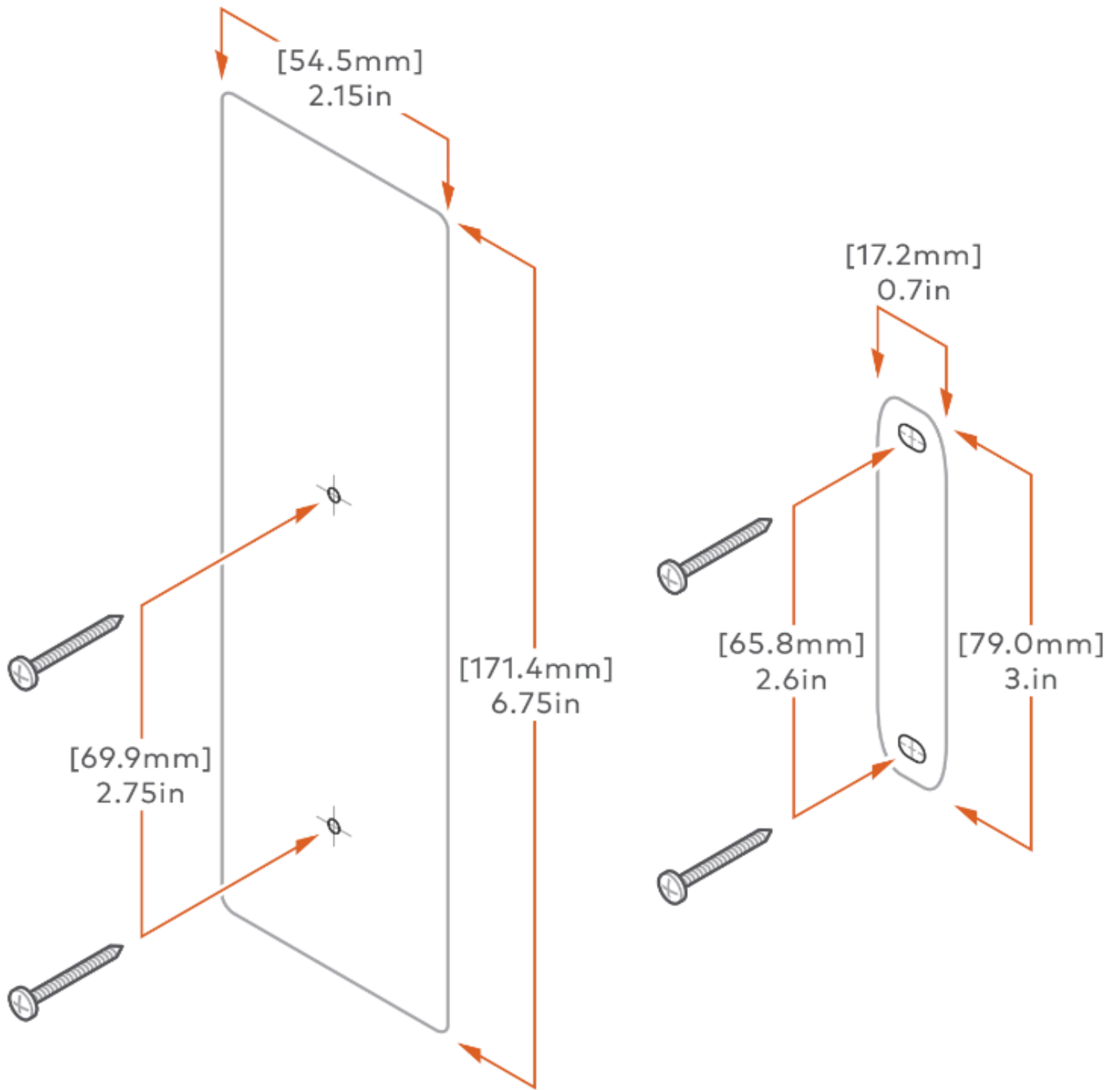
Consider the following mounting requirements. Review [Step 3: Mount the Alarm.com Flex IO™ sensor](#) for diagrams and more information.

- Using screws: Holes are located in the battery compartment.
- Using zip ties: Use cutouts at the top and bottom of the device to make sure the Alarm.com Flex IO™ sensor is mounted flush to the install surface.

Important: A mounting tamper is located on the back of the Alarm.com Flex IO™ sensor. This tamper button must be fully pressed (until you hear a clicking sound) to avoid reporting a mounting tamper malfunction.



If not applicable for your installation, tampers can be disabled by updating device settings on the Partner Portal or MobileTech app.



Input wiring

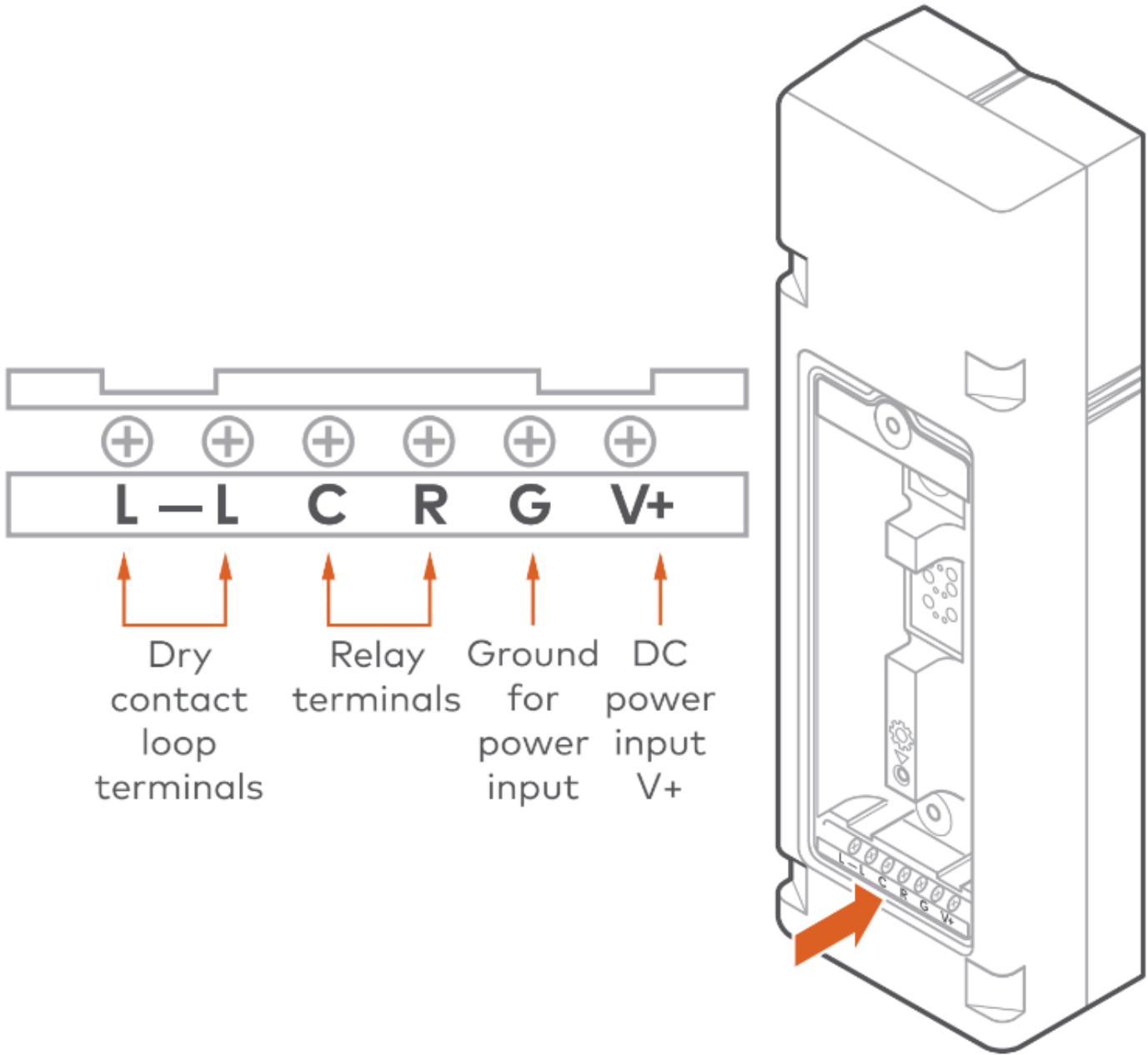
If Loop will also be used, it is important to consider how the wiring will be configured before mounting the Alarm.com Flex IO™ sensor. For more information, see:



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- [Alarm.com Flex IO™ sensor - Pull-Apart Installation Guide.](#)
- [Alarm.com Flex IO™ sensor - Wired Contact \(Loop Input\) Installation Guide.](#)



DC power requirements

In addition to battery power, the Alarm.com Flex IO™ sensor can be powered with a DC converter. DC power is optional for reed switch or input installations.

- Anything from 6-15VDC is acceptable.



- A minimum of 1 Amperage is required.
- For best performance, 18-22 AWG wire should be used.

Important: DC power is required for relay installations due to increased power demands.

Note: It is recommended to still install batteries for backup power to prevent damage in case of a sudden power loss. If batteries are not installed, a *Low Battery* trouble condition will still appear on the customer account. The Alarm.com Flex IO™ sensor uses battery power in the event DC power is lost.

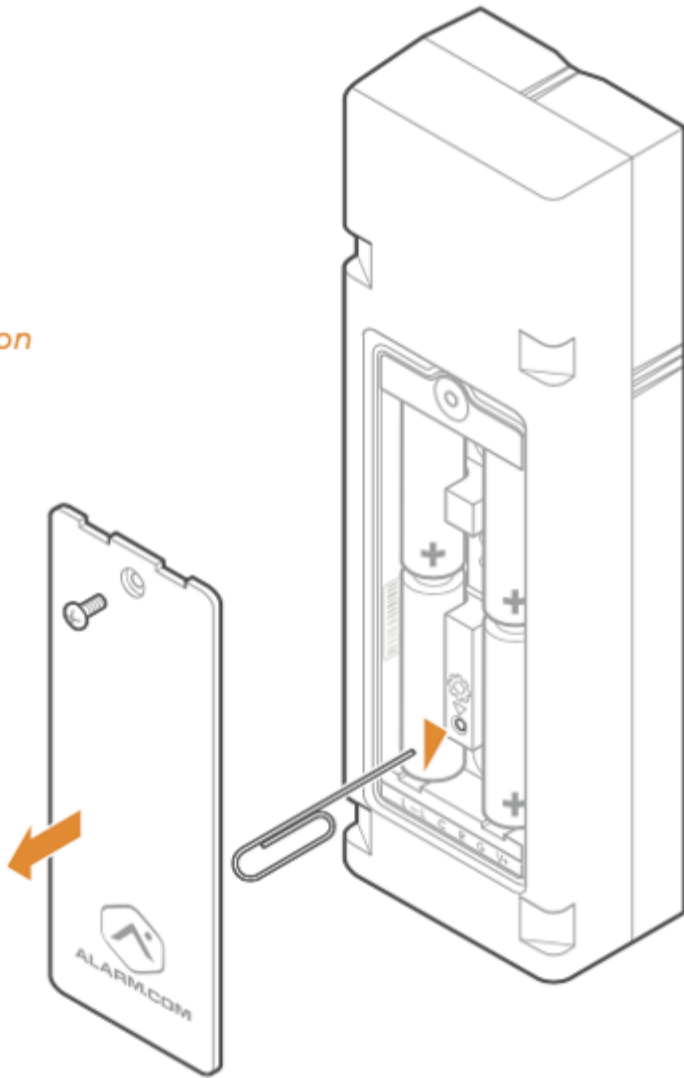
Cellular signal strength

Prior to mounting, check the cellular signal strength using the following steps.

1. Using a screwdriver, remove the battery door and temporarily insert batteries. Leave the battery cover off. The device LED should now be active.
2. Hold the Alarm.com Flex IO™ sensor in the desired installation location.
3. Using a paper clip, push the diagnostic button for 5 seconds, then release. The device LED should now be active.
 - Tip: Don't have a paper clip? You can use the optional resistor included in the box.
4. Once diagnostic mode is initiated, the LED will display the cell signal strength in a continuous loop for 2 minutes based on the patterns below. It may take up to 30 seconds for the signal strength to be acquired.





*Diagnostic
button location*









As you move the device, any changes in signal strength will be displayed by updates to the LED pattern. Alarm.com recommends a signal strength of 2 bars or greater.

Important: Once the cellular signal strength is sufficient, remove the batteries from the Alarm.com Flex IO™ sensor before adding it to a customer account.

Signal strength	LED pattern	LED visual
Signal strength pending	Solid red	
0 bars	Single red LED blink every 8 seconds	 every 8 seconds



Signal strength	LED pattern	LED visual
1 bar	1 red LED blink, followed by 1 yellow LED blink	
2 bars	1 red LED blink, followed by 2 yellow LED blinks	
3 bars	1 red LED blink, followed by 3 yellow LED blinks	
4 bars	1 red LED blink, followed by 4 yellow LED blinks	
5 bars	1 red LED blink, followed by 5 yellow LED blinks	
6 bars	1 red LED blink, followed by 6 yellow LED blinks	

Step 2: Add the Alarm.com Flex IO™ sensor to an account ^

After Step 1 is completed, and the installation location (including power and wiring considerations) has been identified, proceed with adding the device to an account using the Partner Portal or MobileTech app.

Note: Want to add an Alarm.com Flex IO™ sensor to an account without a Security System? Use the Partner Portal or MobileTech app to Create New Customer. For the *Account Type*, select **Standalone (Video and/or Cellular Sensor)**.

To add a sensor using the Partner Portal:

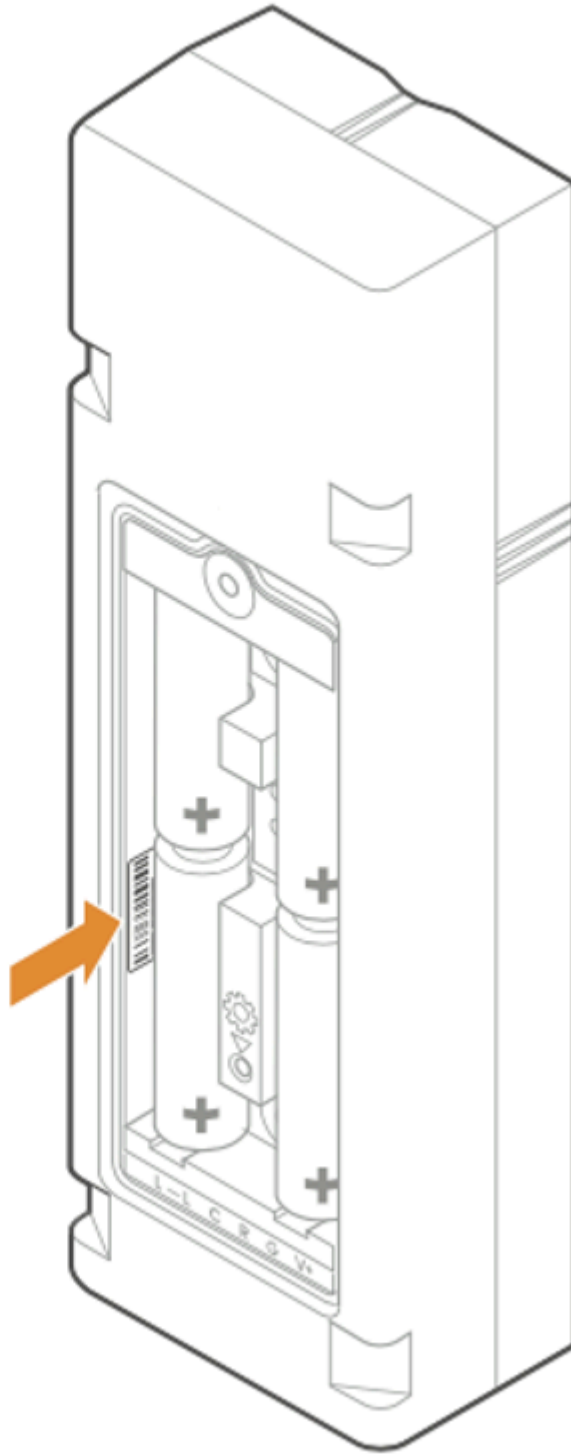
1. Log into the Partner Portal.
2. Find the customer account. If an account has not yet been created, create one following the steps in [How to create an Alarm.com customer account](#).
3. Verify at least one Alarm.com Flex IO™ sensor has been added to their *Service Package*. The Alarm.com Flex IO™ sensor is listed under *Cellular Sensors*.
4. Click **Equipment**.
5. Click **Cellular Sensors**.
6. Click **Add a Cellular Sensor**.
7. Using a screwdriver, open the battery compartment to find the Serial Number (Device IMEI) of the device.

Important: The batteries should not be inserted until [Step 4: Insert the Batteries](#).



8. Enter the Device IMEI number, then click **Next**. Follow the on-screen instructions to set up the device

*IMEI number
location*



To add a sensor using the MobileTech app:

1. Log into the MobileTech app.



2. Find the customer account. If an account has not yet been created, create one following the steps in [How to create an Alarm.com customer account](#).
3. Verify at least one Alarm.com Flex IO™ sensor has been added to their *Service Package*. The Alarm.com Flex IO™ sensor is listed under *Cellular Sensors*.
4. Tap **Equipment**.
5. Tap **Cellular Sensors**.
6. Tap to expand **Cellular Sensor Actions**.
7. Tap **Add Device**.
8. Using a screwdriver, open the battery compartment to find the Serial Number (Device IMEI) of the device.

Important: The batteries should not be inserted until [Step 4: Insert the Batteries](#).

9. Enter the Device IMEI number, then tap **Next**. Follow the on-screen instructions to set up the device

Step 3: Mount the Alarm.com Flex IO™ sensor^

Important: If wiring any devices into the screw terminals, it is recommended to do so before mounting the Alarm.com Flex IO™ sensor.

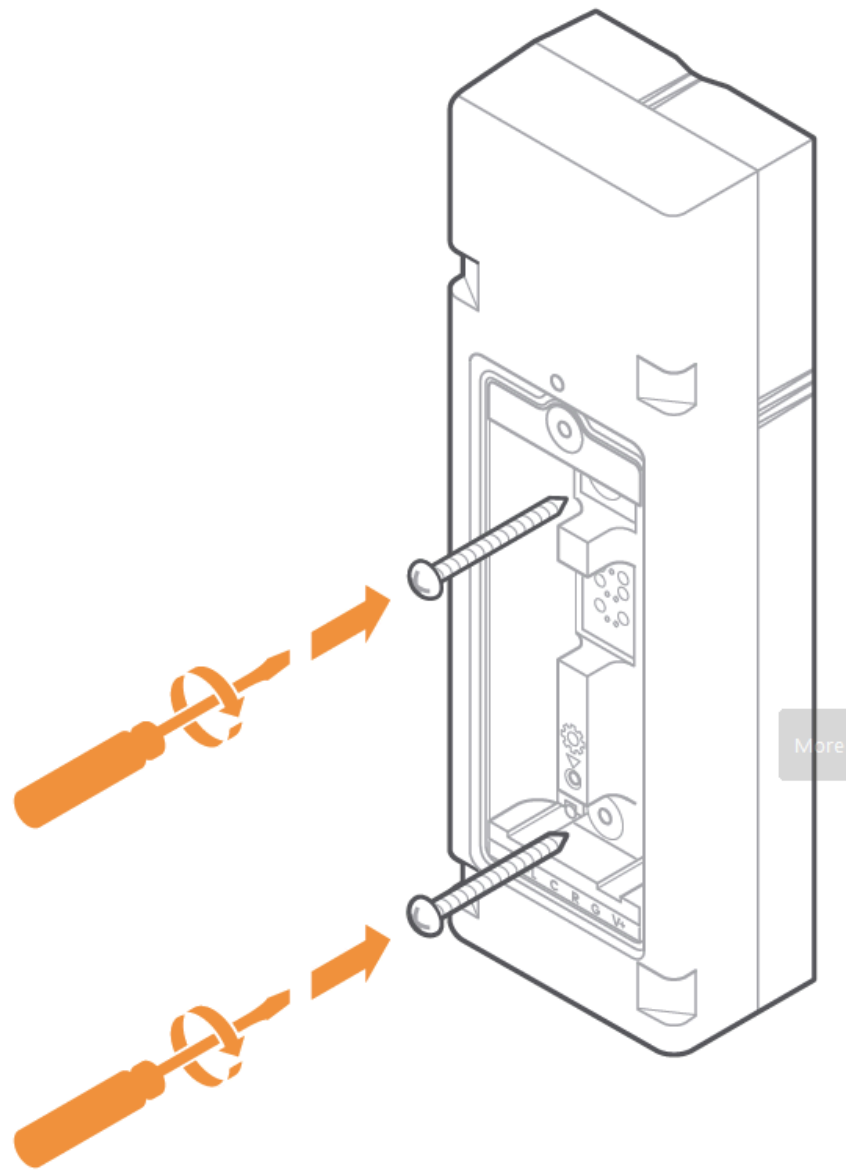
The Alarm.com Flex IO™ sensor can be mounted using either screws or zip ties.

Using screws

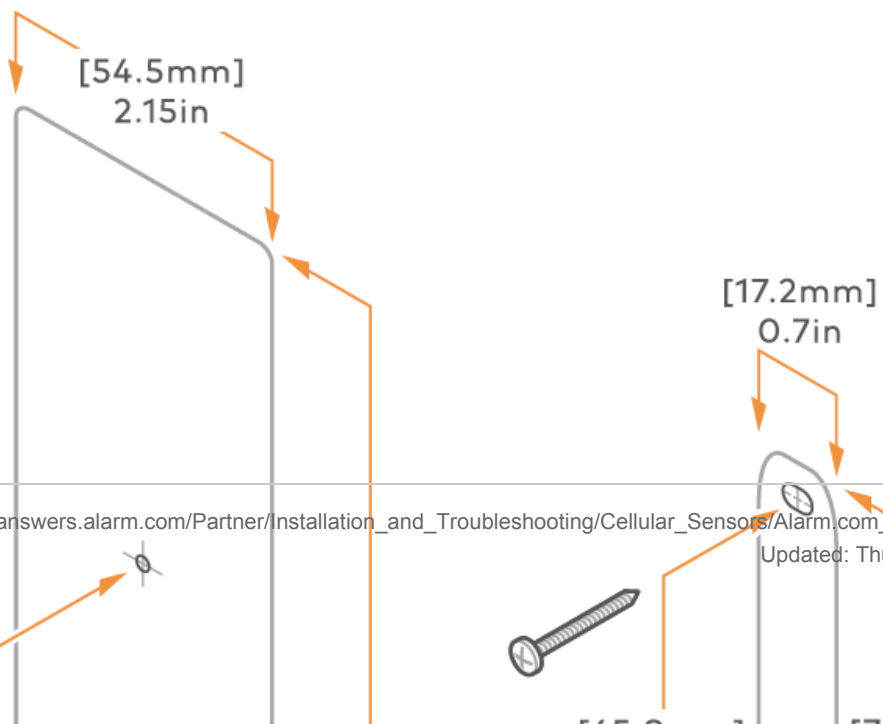
- Screw mounting holes are located in the battery compartment. To avoid damaging the batteries, it is recommended to remove them before installing screws.
- Use two #8 Phillips screws to puncture the gasket and securely mount the Alarm.com Flex IO™ sensor.
- Take care not to over-torque the screws. Power tools should be avoided. If pilot holes are necessary, a drill bit size of 5/64" is recommended.



Screw mounting



Mounting screw locations



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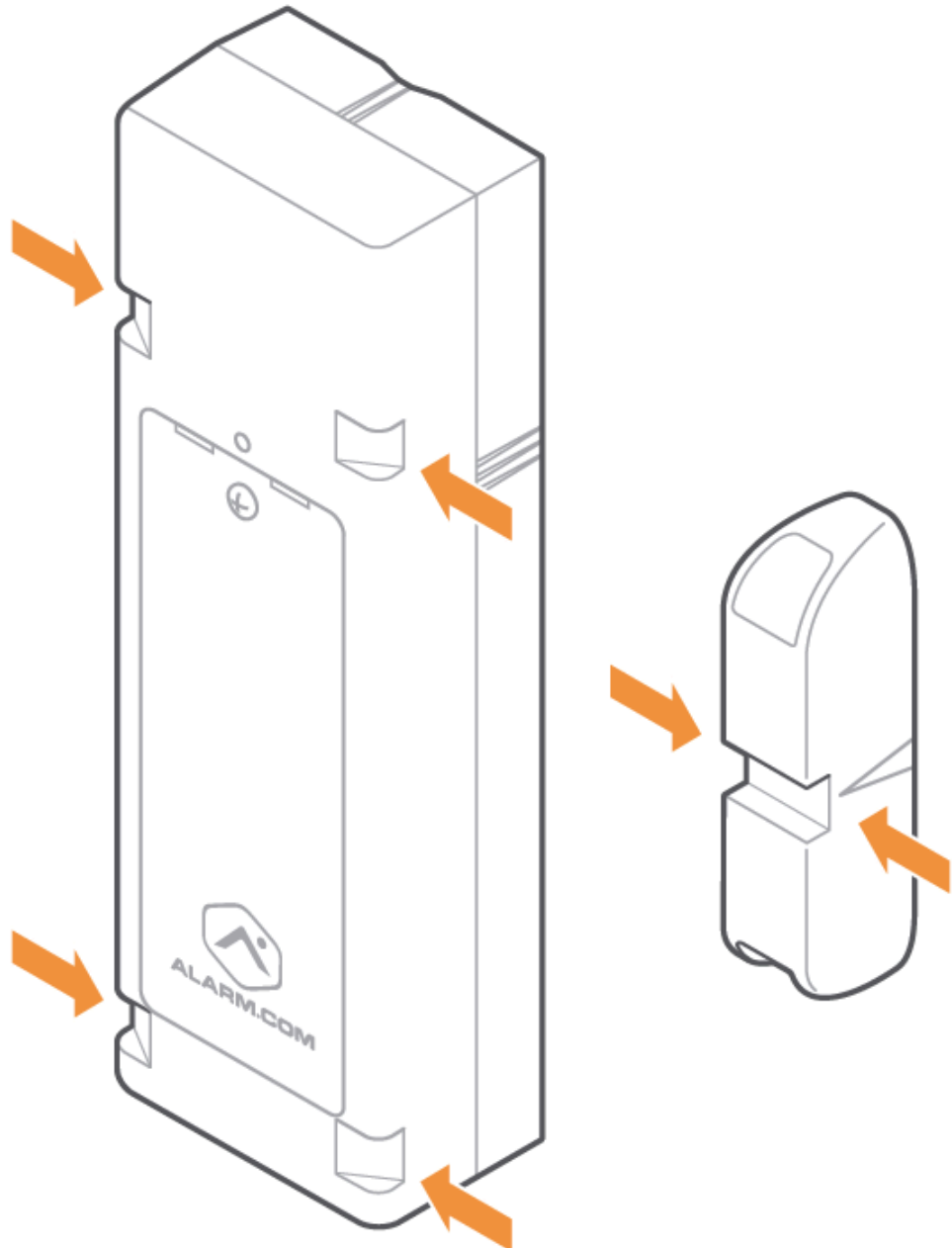
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Using zip ties

- Zip ties should have a maximum width of 0.34 inches. UV resistant zip ties are recommended.
- Use the zip tie grooves at the top and bottom of the Alarm.com Flex IO™ sensor to ensure a secure installation. The magnet also has a zip tie groove across the center.

Zip tie mounting



Mounting tamper

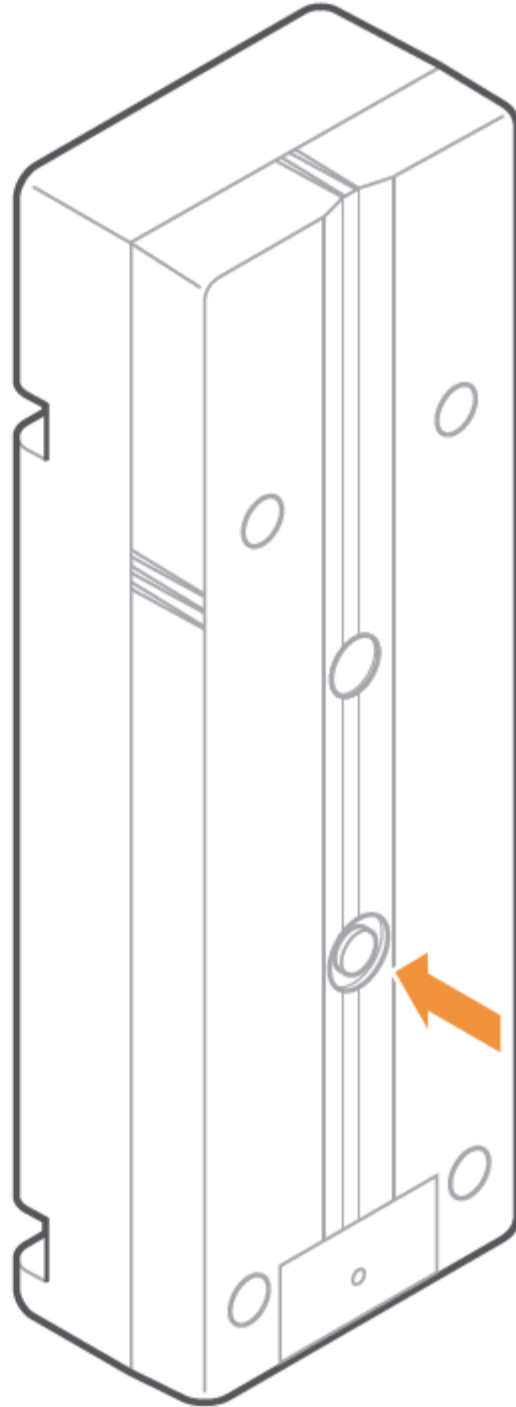
A mounting tamper is located on the back of the Alarm.com Flex IO™ sensor. This tamper button must be fully pressed (until you hear a clicking sound) to avoid reporting a mounting tamper malfunction, as indicated by an alternating single Red and Yellow LED pattern.

Important: An active mounting tamper will drain the battery.

If not applicable for your installation, tampers can be disabled by updating device settings on the Partner Portal or MobileTech app. Disabled tampers will not drain the battery.



Tamper button



Step 4: Insert the batteries ^

Install the included batteries, close the battery compartment door, and tighten the screw securely.



Important: Make sure the battery door screw is securely tightened until the door tamper is no longer detected and then add an additional ¼ turn to the screw. This will also ensure a waterproof seal.

If this screw is not fully tightened, the LED will show a single red blink every 2 seconds. Be careful to not over-torque the screw. Power tools should be avoided.



Battery compatibility

- Lithium batteries are required for this device. Under normal conditions, battery life is expected to be 2 years.
- Any 1.5 V lithium battery should work. Alkaline batteries or any battery greater than 1.5 V (e.g., the Saft 3.6 V) should not be used.

Note: If batteries are not installed, a *Low Battery* trouble condition appears on the customer account.

Step 5: Confirm Communication ^

Confirm device communication

Activate the reed switch contact as well as any sensors wired into the device. The LED should blink yellow twice when the device is tripped. This will prompt the Alarm.com Flex IO™ sensor to communicate with Alarm.com. Make sure this sensor activity is displayed in the event history on the Partner Portal or MobileTech app.

Check LED

The device LED may cycle through a number of patterns as the device boots up and connects to a cell tower. If the LED continues to flash after 1 minute, check to make sure that the device does not have a tamper condition (review Step 3 and Step 4).

For battery-powered installations, when the device is successfully installed the LED should be off and activate only when the device is tripped, blinking yellow twice.

For powered installations, the yellow LED should be solid, blinking twice when the device is tripped.

If the device is not communicating with Alarm.com, see [Advanced Troubleshooting Using MobileTech](#).

For more information on LED patterns, see [Alarm.com Flex IO™ sensor - LED Patterns and Troubleshooting](#).

Post-installation checklist

- The Alarm.com Flex IO™ sensor is installed flush to the mounting surface. If the mounting tamper is enabled, the tamper button on the back of the device should be pressed in.
- LED is not blinking.



- For devices with only battery power, the LED should be off.
- For devices with wired power, the LED should be solid yellow and not flashing.
- The only LED activity should occur when the device is activated (either by reed switch or wired-in device), which should result in 2 yellow blinks.
- Any Loop Input wires are securely connected.
- Device activations are being reported in the account's Event History.

Specifications

Ingress Protection	IP56
Temperature	Battery life will be optimal between temperatures of 32°F to 140°F (0°C to 60°C), though the device can operate from -40°F to 140°F (-40°C to 60°C).
Reed Switches	3 unique reed switch locations to choose from that can be activated with included magnet.
Loop Input	<ul style="list-style-type: none"> • The Alarm.com Flex IO™ sensor can be powered by battery or external power. • Dry Contact, Normally Open (NO), or Normally Closed (NC). • Optional EOL resistor can be 300 kΩ or higher.
Relay Output	<ul style="list-style-type: none"> • If used, the Alarm.com Flex IO™ sensor must be externally powered (not compatible with battery power). • Up to 24 V (AC or DC), 40 mA max current. • Can be used only for control lines/dry contact. <p>Caution: Can never be connected directly to control electrical loads. This will damage the device.</p>
Dimensions	<ul style="list-style-type: none"> • Main unit: 6.8 x 2.2 x 1.3" (17.3 x 5.6 x 3.3 cm). • Magnet: 3.1 x 0.68 x 0.87" (7.9 x 1.7 x 2.2 cm).



Power

- Works with DC-wired power or battery power (battery backup recommended for wired installations).
- 6 to 15 VDC supply. Minimum 1 A.

Battery Power

- Four 1.5 V AA lithium batteries (iron disulfide).
- 2+ years of battery life, depending on battery chemistry and operating temperature.

Regulatory information

Important: The Alarm.com Flex IO™ sensor is a monitoring device that is not intended for life safety use cases.

FCC

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 manufacturer could void the user's authority to operate the 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:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

ISED

This device contains licence-exempt transmitters(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-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.

Cet appareil contient des émetteurs/récepteurs exemptés de licence conformes à la norme Innovation, Sciences, et Développement économique Canada. L'exploitation est autorisée aux deux conditions suivantes:

1. L'appareil ne doit pas produire de brouillage.
2. L'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Contact information

If you are experiencing difficulties with an Alarm.com Flex IO™ sensor installation, contact Alarm.com CORE Technical Support at 866-834-0470 and we'll be happy to assist you further.

