INSOMNIAC® SmartMotion™

Motion Sensor

P/N SMM-PIR-100-01
P/N SMM-PIR-200-01
Updated: 4/17/26

Contents

Welcome to INSOMNIAC® SmartMotion™

SmartMotion™ is an advanced passive infrared (PIR) motion sensor designed for self-storage use. It integrates with OpenTech Alliance, Inc.'s IoE Control Center and uses OpenTech's OpenNet™ wireless mesh network for reliable connectivity. Its primary purpose is to enhance unit-level monitoring by detecting motion and triggering alerts for tenants and facility managers.

Power and usage

Each SmartMotion device contains a main circuit board (PCB) and internal batteries. Sensors are intended for indoor use within protected areas. They can integrate with, and support, broader functions such as access control, lighting automation, and event-based alerts. Final control logic and rules for operation are always managed and configured through the Control Center.

Internet-based communication

OpenTech's Control Center is a centrally managed, internet-accessible online platform that serves as the system's source for access permissions, configuration data, and reporting. In the event of an internet outage, the SmartMotion sensor will continue to function and motion events will be cached locally until connectivity is restored. In this case, configuration updates will be applied once the Control Center connection is reestablished.

Mesh network communication

SmartMotion sensors communicate over OpenNet's Wirepas mesh protocol, allowing devices to talk to nearby sensors and OpenNet Access Points. Messages "hop" across sensors until they reach an Access Point that acts as the sink node (local collection point). This design is self-healing and energy-efficient, extending coverage across large facilities without long-range transmissions and preserving battery life.

About this User Guide

In this guide you will find important information about your SmartMotion system. It includes essential safety warnings, package contents, tools required, motion detection workflows, testing and troubleshooting procedures, plus maintenance guidelines to help you maximize performance and maintain compliance.

Find more information in the companion SmartMotion Installer Manual and other resources in OpenTech's Resource Library and Help Center.

Looking for an authorized installer?

Click the link or QR code to find Authorized Dealers in your area who sell and service OpenTech's INSOMNIAC® self storage solutions

https://opentechalliance.com/dealers/

SmartMotion™ Sensor Specifications

ITEM	DESCRIPTION	PIR-100-01 FEATURES	PIR-200-01 FEATURES
1	ENSLOSURE	INDOOR, POLYMER	ABS
2	COMMUNICATIONS	WIRELESS (2.4 GHz)	WIRELESS (2.4 GHz)
3	COMMUNICATIONS RANGE	30 METERS / 100 FEET	30 METERS / 100 FEET
4	SECURE COMMUNICATIONS	YES	YES
5	BATTERY VOLTAGE RANGE	3.3v – 3.7v	1.5v
6	BATTERY TYPE	AA LITHIUM THIONYL CHLORIDE	AA ALKALINE
7	BATTERY QUANTITY	2 AA	4 AA
8	BATTERY CAPACITY	4800 mAh	3000+ mAh
9	BATTERY LIFE EXPECTANCY	4+ YEARS IN CLIMATE CONTROLLED FACILITIES	4+ YEARS IN CLIMATE CONTROLLED FACILITIES
10	OPERATING TEMPERATURE RANGE	-40 °F - 185 °F	-40 °F - 185 °F

IMPORTANT

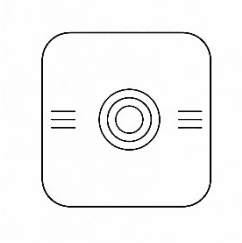
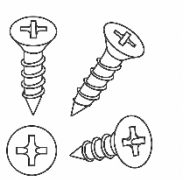
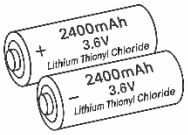
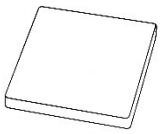
- All installations must conform to local building and electrical codes and shall be in accordance with the National Electric Code, ANSI/NFPA 70.
- When discrepancies exist between local codes and this manual, local code takes precedence.
- Follow recommended UL installation standards. Find the standards catalog here: Standards Catalog | UL Solutions
- Failure to install and use this product as intended may void any hardware protection plan.

Looking for an authorized installer?

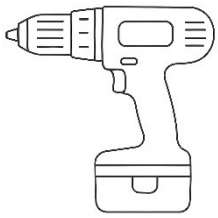
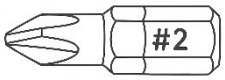
Click the link or QR code to find Authorized Dealers in your area who sell and service OpenTech's INSOMNIAC® self storage solutions

https://opentechalliance.com/dealers/

Package Contents

INSOMNIAC Smart Motion Sensor 	**(2) ¾ #2 screws** 
(4) Alkaline AA Batteries 	**Magnetic Mount** 

Tools Required for Installation

Driver Drill 	**#2 Phillips Screw Bit** 

Installation Prerequisites

Before SmartMotion sensors are installed in units or common areas, the IoE gateway and OpenNet router with Access Points must be installed. This wireless network is required to allow the necessary communication between devices and with the Control Center. Find more information in the companion SmartMotion Installation Guide in the OpenTech online Resource Library or Help Center.

SmartMotion Wireless Network

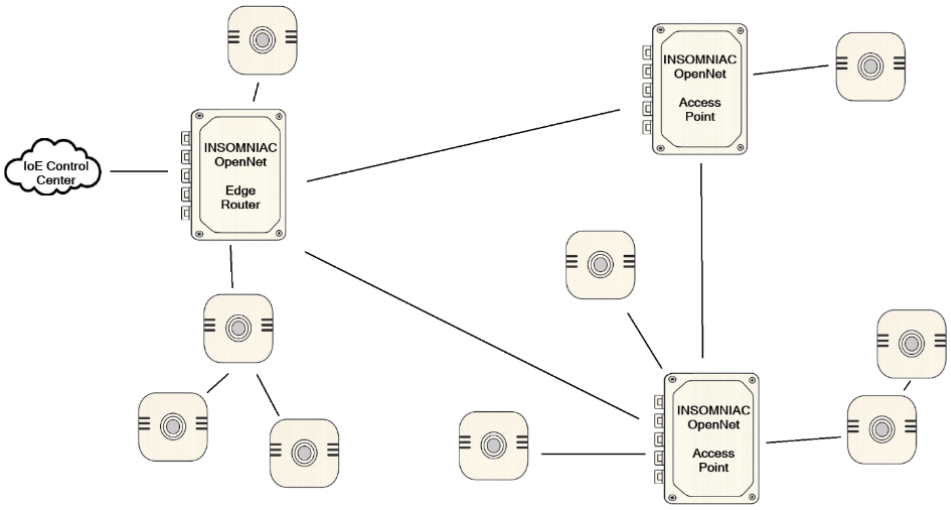
SmartMotion sensors use OpenNet's Wirepas mesh network to create a reliable and energy-efficient wireless network. Each sensor is capable of communicating not only with the Access Point but also with other nearby sensors. By passing messages between devices, the network is able to cover a wide area while keeping individual transmission distances short.

Access Points are at the center of the system and contain the Wirepas sink node. This serves as the collection point for all wireless traffic coming from the sensors. Once data reaches the sink, it is forwarded through the Access Point into the wired OpenNet network, where it can be processed by the edge router and made available to applications including the Control Center.

Each SmartMotion sensor has an effective range of approximately 30 meters (100 feet) when there is a clear line of sight. Access Points provide a much wider communication range, reaching up to 200 meters (650 feet) in open conditions. In addition, OpenTech provides other sensor products like INSOMNIAC® SmartLock™, which also operates within this mesh network. Together, these ranges allow sensors to connect to each other and to Access Points without requiring high transmission power, which helps preserve battery life.

Because the network is built on a self-healing mesh, each sensor automatically finds the most efficient path to reach the sink. If one sensor or Access Point becomes unavailable, nearby devices will reroute traffic through alternative nodes. This redundancy ensures reliability across the facility.

In practice, SmartMotion sensors should be positioned so they are within range of at least one other active sensor or an Access Point. When installed in this way, the mesh continuously balances itself, maintaining connectivity and ensuring that motion events are captured and delivered reliably.



Sensor Installation

SmartMotion sensors may be installed in multiple configurations by using one of two physical install methods:

- **Magnetic mount with the included magnet on the sensor housing, mounted to wall/ceiling, or**
- **Screw mount with included 2 screws secured to wall/ceiling.**

Important! In any installation, sensors must be mounted to the ceiling or high on a wall, within 5 feet of the door, to provide the best view of the unit. Managers must instruct tenants who are moving in to avoid dislocating the sensors or placing items directly in front of the sensor to avoid disrupting the line of sight.

Here are the configuration options:

1. **Install in all units across the facility**
   a. **Ideal for new-build facilities looking to outfit the entire location with SmartMotion.**
   b. **Provides the best communication across the OpenNet mesh network giving the best reliability across sensors throughout the facility.**

2. **Install in all or groups of vacant units**
   a. **Best for pre-outfitting all or groups of vacant units that are ready to maximize implementation of SmartMotion with new rentals.**
   b. **Like Configuration 1, this provides the best communication across the OpenNet mesh network giving the best reliability across sensors throughout the facility.**
   c. **Control Center integration provides visibility of motion alerts to for vacant units and access areas directly onto the dashboard.**

d. Two options to integrate with your Property Management Software (PMS)
    i. Create a Unit Type in your PMS that is attributed for SmartMotion service and only rented with the service, OR
    ii. Add on the service when the unit is rented from your PMS.

Important: for units with pre-outfitted/assigned sensors, even if you do not bill the tenant, the sensor will still detect motion and send notifications to the tenant – to prevent this, change the sensor Deployment Type to Unassigned AND/OR physically remove the sensor and change Deployment Type before the tenant takes possession.

3. Install one at a time, as sold
    a. Designed for selling SmartMotion service to existing tenants, or when renting units without pre-outfitted sensors.

4. Install for Access Area use
    a. Provides motion detection in common areas (outside of specific units).

Important: Always place these sensors high up on walls/ceilings for an ideal line of sight (and device security (e.g., building entry points, elevator entry points, hallways/intersections, etc.).

All sensors must be powered on and assigned to locations in the Control Center. This may occur all at once or piecemeal, depending on the configuration. Find more information in the SmartMotion Installation Guide.

Property Management Software (PMS) and Control Center Setup

Once you have reviewed the SmartMotion Installation Guide and selected your Implementation Configuration, you will need to set up your PMS to specify either:

- **Which units will have SmartMotion attributed unit types**
  OR
- **The recurring fee that will be added to rentals adding the service.**

Then you can complete sensor setup in the Control Center.

1. **At initial power up of the sensors, first set the OpenNet Network to Beacon Mode**

2. **After Beacon Mode is activated, power on the sensors and allow 2-5 minutes for them to join the network**
    a. **Note: the sensors will automatically join the network and create hardware records (do not manually create any SmartMotion Hardware records)**
    b. **Once all sensors have joined, turn off Beacon Mode for the Network**

3. **Once the sensors have been added to the network, create the SmartMotion Device record and pair with the hardware record**

4. Confirm the sensor is online in the Control Center SmartMotion status page.

5. Assign the sensor to access area/unit in Control Center.
    a. Note: The facility access area may not yet be defined for desired sensor area placement within Control Center – if necessary, create these access areas in Control Center to assign the device as desired.
    b. Note: Sensors can only be placed INDOORS for access areas (INSIDE of outdoor storage units is an INDOOR placement)

6. Click to Save Device Edits.

Routine Maintenance

SmartMotion Sensor

Follow a simple schedule of routine maintenance to keep the system functional and to preserve the warranty.

Annually

1. Open the SmartMotion Sensor housing and inspect the inside of the housing and circuit board.
2. Use compressed air to remove any dust or debris that has collected on the inside of the housing and the circuit board.
3. Verify integrity of mounting hardware and or solutions.

Batteries

Every four years replace the batteries connected to the PCB, following this process:

1. Open SmartMotion casing.
2. Remove old AA batteries.
3. Replace ALL batteries with fresh new batteries.
4. Close and secure the SmartMotion casing.

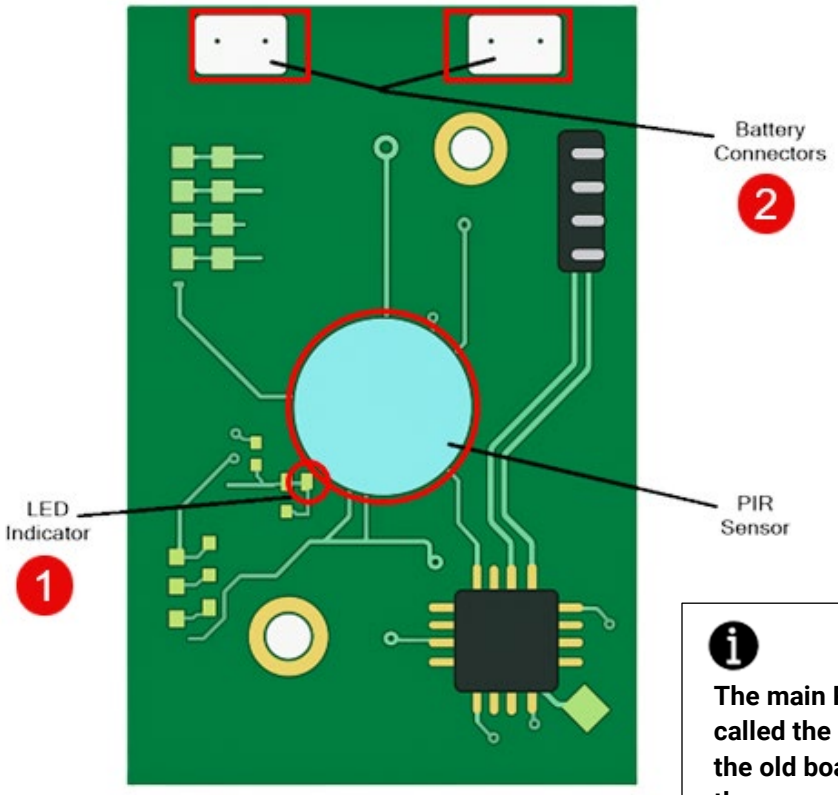
Testing and Troubleshooting

Test the sensor by applying power to the INCOMING battery power connections. There is one LED indicator as shown below that flashes on boot and new motion detection. This LED is visible from the front of all SmartMotion sensors. For troubleshooting purposes:

1. Check the Power Indicator/ Motion Detection LED.
    a. On boot the LED will flash to signify power ((PIR-200-01 will beep as well).

b. On new motion detection the LED will flash to signify motion detected.

2. Power cycle the sensor by disconnecting the batteries and reinstating the battery connection after 15 seconds.



The main PCB carries a Master ID Address called the UID. If this board is changed out, the old board's UID must be replaced with the new one in Control Center, for the new board to function.

Notices and Disclaimers

FCC Part 15 Notice: The referenced 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 can generate and radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

Liability Disclaimer: While every effort has been made to ensure the accuracy of the information in this document, we assume no liability for any inaccuracies contained herein. We reserve the right to change the information contained herein at any time and without notice.

How to Contact Us

OpenTech Alliance, Inc. Tech Support

(US-based, available 24/6)

Phone (US)	**602-773-1700** **For installation help, Press 1, then 1** **For post-installation help, Press 2, then 1**
Phone (Outside US)	**Click the Website Support link to find your phone contact**
Website	**https://opentechalliance.com/support/**
Email	**support@opentechalliance.com**
Resources	**OpenTech Alliance Resource Library** **OpenTech Alliance Help Center**