



**MX-974 Installation instructions**  
Addressable mirror PIR detector

**Overview**

MX-974 is a hardwired mirror PIR motion detector that is addressable in an MX-loop. The device has the following features:

- Pet immunity for animals weighing up to 40 kg/90 lb
- Patent pending black mirrors with extremely high white light immunity
- Patented advanced elliptical and parabolic mirror technology
- Patented V-slot® optic technology for improved robustness, reliability, and anti-vandalism
- Creep zone protection
- Patented True Motion Recognition™ algorithm prevents false alarms
- No vertical adjustment required
- Microprocessor-controlled temperature compensation
- Sealed chamber for protection of optical system
- Self-testing

Figure 1: Legend

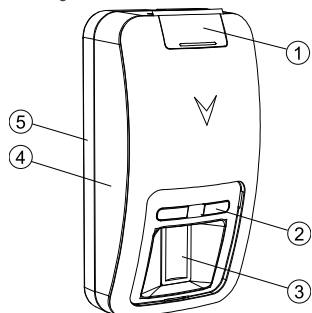


Table 1. MX-974 device parts

Callout	Part
1	Screw cover
2	LED
3	PIR optical window
4	Device cover
5	Device bracket

**Installation guidelines**

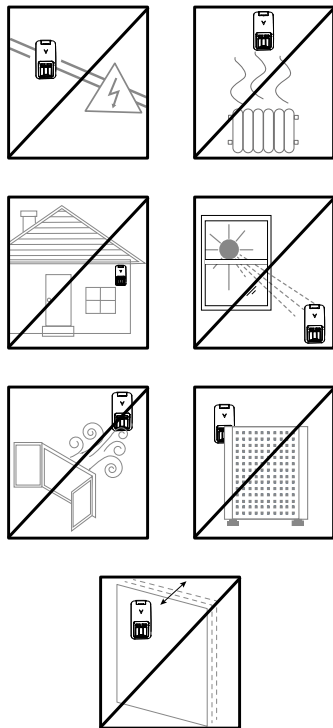
- Only qualified service persons can install the device.
- When you mount the device, orient it so that it is perpendicular to the expected path of intrusion.
- Do not install the device in any of the following locations:

- Near power cables
- Near heat sources
- Outdoors
- In direct sunlight
- In an area exposed to air drafts
- Behind a partition or anything that reduces visibility
- On unstable surfaces

**Note:** For more information, see Figure 2.

- The device enters a two-minute stabilization period when it connects to the power supply for the first time. Slow LED blinks indicate this event, but only if the panel is in test mode.

Figure 2: Device mounting hazards



**Pet immunity guidelines**

- The movement of animals lighter than 40 kg or 90 lb does not trigger an alarm if the movement occurs below 1 m from the ground.
- For pet immunity, install the device 2.1 m from the ground. If you mount the device on a flat surface, use mounting hole Set 1. For more information on mounting hole Set 1, see Figure 4.

**Selecting the mounting holes for a flat surface mount**

1. For an X value, measure the horizontal distance between the desired location of the device and the surface that the PIR beams reach.
2. For a Y value, measure the vertical distance between the device and the ground.
3. To determine the correct set of mounting holes, find where the X and Y values meet on Figure 3 and use

- the suggested set number.  
**Note:** There are two mounting hole sets that position the detector: Set 1 and Set 2.
4. To mount the device on a flat surface, select the mounting hole set according to Figure 4.

Figure 3: Mounting hole set selection graph

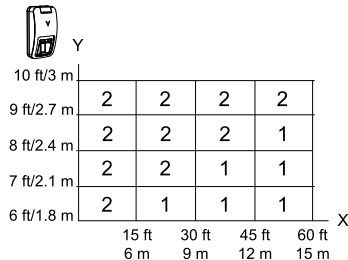
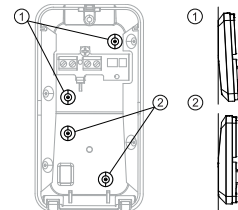


Figure 4: Flat surface mounting hole sets



**Selecting the mounting holes for a corner mount**

- There is no tilt option for a corner mount.
- To corner mount with only the left side of the bracket, use Set 1 in Figure 7.
- To corner mount with only the right side of the bracket, use Set 2 in Figure 7.
- To corner mount with both sides of the bracket, use Set 1 or Set 2 in Figure 8.

Figure 5: Left side corner mount

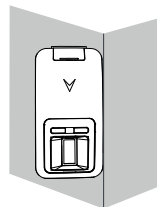


Figure 6: Corner mount

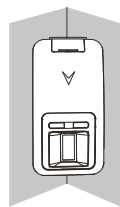


Figure 7: Side corner mounting options

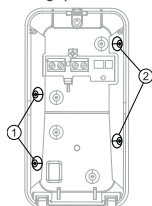
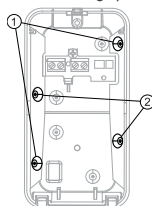


Figure 8: Diagonal corner mounting options



**Mounting and wiring the device**

1. Open the screw cover with your thumbnail. See Figure 9.
2. To open the device, remove the device cover screw. See Figure 10.
3. To separate the bracket from the cover, insert a screwdriver into the slot and push inward. See Figure 11.
4. Wire the device.
  - a. Remove the jacket at the end of both cables to expose the jacketed wires. To expose the wires, remove the insulation at the end of each wire. See Figure 12.
  - b. Feed both cables through the cable openings. See Figure 13.
  - c. For each cable, insert one wire in the positive terminal loop that is marked L+ and the other wire in the negative terminal loop that is marked L-. See Figure 14.
  - d. Close both terminals with a flat-head screwdriver. See Figure 15.
5. To fix the bracket to the mounting surface, hold the bracket in its final position on the mounting surface and mark and drill two holes according to the mounting holes in the bracket. Drill two countersunk screws through the mounting holes to fasten the detector bracket to the mounting surface. See Figure 16.
 

**Note:** To select the correct mounting holes, see [Selecting the mounting holes for a corner mount](#) or [Selecting the mounting holes for a flat surface mount](#).
6. Replace the device cover and close it with the screw. See Figure 16. Close the screw cover.

Figure 9: Opening the screw cover

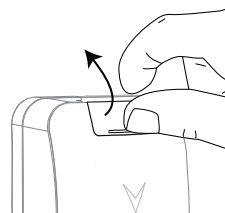


Figure 10: Removing the device cover screw

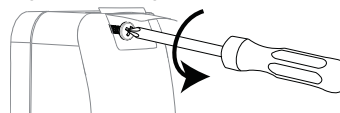


Figure 11: Separating the device cover

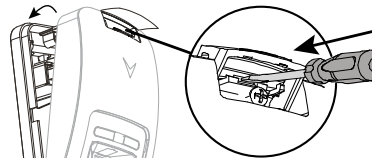


Figure 12: Removing the cable and wire jackets



Figure 13: Inserting the cables through the cable openings

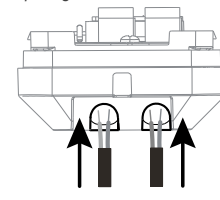


Figure 14: Positive and negative terminal loops

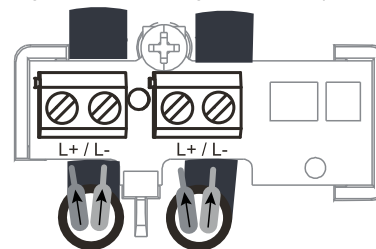


Figure 15: Closing the terminal with a screwdriver

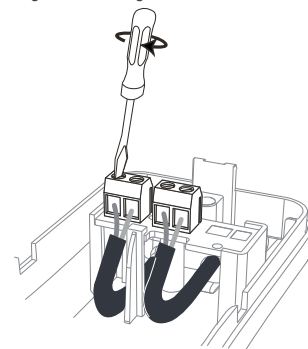
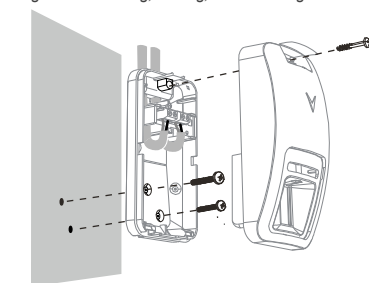


Figure 16: Marking, drilling, and screwing the device



**Enrolling the device**

Refer to the panel installation manual to find the enrollment procedure.

**Device settings**

To change a default device configuration, from the panel menu, select **DEVICE SETTINGS** and configure

one or more setting options in the following definition list:

- **Alarm LED:** To turn off the LED indication of alarm events, select **LED OFF**. **LED ON** is the default setting.
- **Walk test:** To disable the LED indication of alarm events in walk test mode, select **Disable**. **Enable** is the default setting.
- **Event counter:** If set to **LOW** sensitivity, the device alarms when it detects continual motion. If set to **HIGH** sensitivity, the device alarms when it detects a single motion. **LOW** is the default setting.

## LED event indication

Table 2. LED event indication

LED	Event
Slow blinks	Test mode stabilization
Fast blinks	Enrollment mode
On for 3 s	Intruder detection

## Specifications

### General

- **Detector type:** Dual element low-noise pyroelectric sensor
- **Lens data:** Beam elements: 18 x 3 = 54 parabolic mirror segments. For more information, see Figure 17.

Figure 17: PIR beam pattern

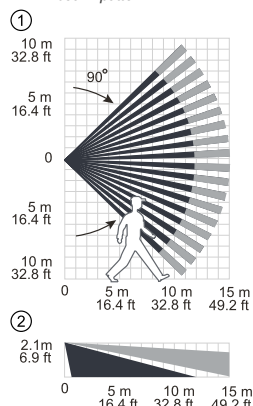


Table 3. PIR beam pattern diagram angles

Callout	Viewing angle
1	Top
2	Side

- **Max coverage:** 15 m/49 ft or 90°
- **Pet immunity:** Up to 40 kg or 90 lb

### Electrical

- **Power supply:** MX loop supply
- **Current consumption:** 0.3 mA average quiescent, 3.5 mA maximum

### Functional

- **True Motion Event Verification:** 1 or 2 motion events. The default is 2.
- **Alarm period:** 2 s
- **Communications protocol:** MX
- **Tamper alert:** Reported when the detector is opened

## Mounting

- **Height:** From 1.8 m to 3.0 m or 6 ft to 10 ft
- **Installation options:** Flat surface or corner

## Accessories

**Note:** The following accessories are not verified by UL.

- **BR-1:** Surface mounted swivel bracket that can be adjusted 30° down and 45° left or right
- **BR-2:** BR-1 with a corner adapter
- **BR-3:** BR-1 with a ceiling adapter

## Environmental

- **RFI protection:** > 10 V/m up to 2700 MHz, excluding in-band frequencies
- **Operating temperature:** From -10°C to 50°C or 14°F to 122°F indoors  
**Note:** UL tested from 0°C to 49°C
- **Relative humidity:** Up to a maximum of 93% non-condensing

## Physical

- **Size (H x W x D):** 115 mm x 60 mm x 48 mm or 4.5 in. x 2.4 in. x 1.9 in.
- **Weight:** 90 g/3 oz
- **Color:** White

## Compliance with standards



The MX-974 is listed by UL 639 and by ULC-S306 for Intrusion-Detection Units.



Europe: Model MX-974 Certified by Aplica Test & Certification AS in accordance with: EN 50131-2-2 Grade 2 Class II



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