



# Care@Home™

Camera Detector

User Guide

ESUGSC006

Version 2.0

July 2017

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## 1. Overview

The Essence Camera Detector (IPD) is a battery operated, bi-directional, wireless device combining the functionality of a passive infrared (PIR) motion detector with a high-resolution, full-color, JPEG-image-capturing camera.



**Figure 1: Essence Camera Detector**

## 2. Installing the IPD

To install the IPD:

- Ensure you have three 1.5 V AA alkaline batteries



**NOTE:** To comply with the UL certification standards, use GP International Ltd. batteries.

- Determine the best location
- Check if a pet immune lens is required
- Set up the IPD
- Conduct a walk test

### 2.1. Determining the Best Location

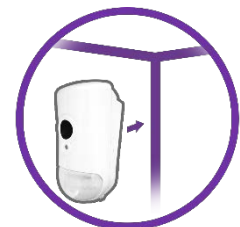
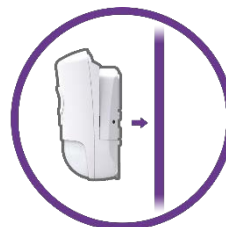
When selecting a mounting location for the IPD, it is important to take account of:

- Basic location requirements
- Locations to avoid

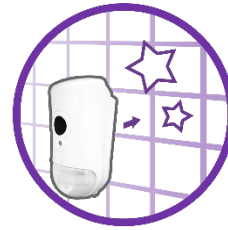
#### 2.1.1 Basic Location Requirements

The mounting location should be:

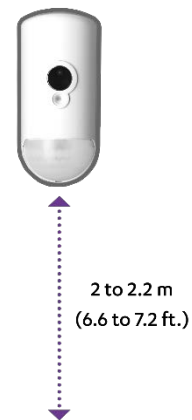
- A flat wall surface or a corner in a room



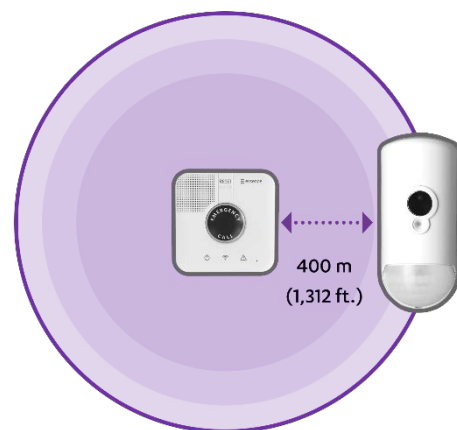
- A surface that is clean, dry, and smooth




- At a height of 2 to 2.2 m (6.6 to 7.2 ft.)



- Within 400 m (1,312 ft.) of the control panel (CP)



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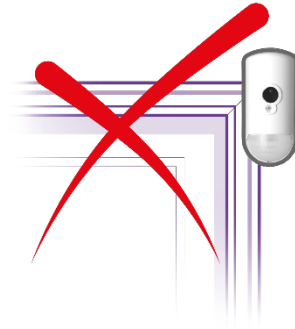
 **NOTE:** The IPD has a maximum detection range of 12 m (40 ft.), and maximum detection angles of 105° horizontal, and 80° vertical.

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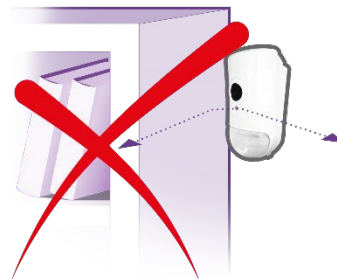
## 2.1.2 Locations to Avoid

The mounting location should **not** be:

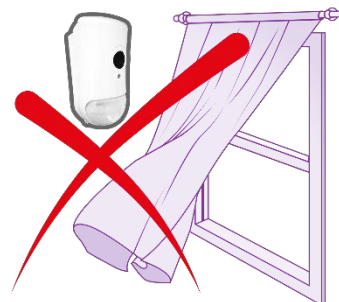
- On a door frame.



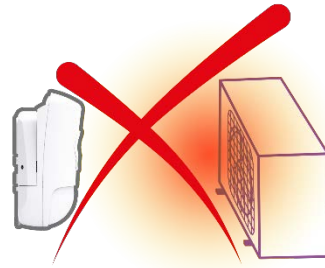
- Where objects obscure the coverage area, even partially. For example, bookcases or cabinets.



- A location that has moving objects in the coverage area. For example, curtains or light fixtures with hanging parts.

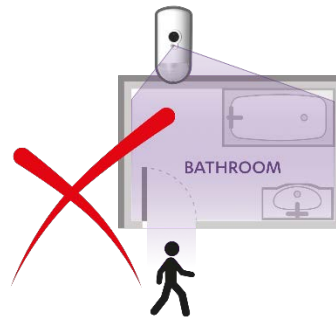


- Directly in front of an air conditioner or heat source.

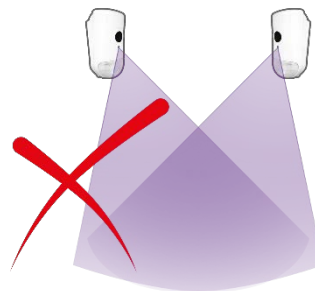


- Directly opposite a door.

For example, if the IPD is installed facing the door, when the resident passes the open door through the hallway, the IPD sends an event to the CP reporting incorrectly that the resident is entering the bathroom.



- A location that has overlapping coverage areas with another IPD or motion detector. Overlapping coverage can cause false detection reporting. Separate coverage areas ensure distinct identification of the activity area for each detector.



## 2.2. Checking if a Pet Immune Lens is Required

If there are pets on the premises, it is important to differentiate between the movement of the resident and the movement of the pet by using a pet immune lens.

Instructions for fitting a pet immune lens are included in 2.3 Setting Up the IPD on page 8.

The following figure shows the pet immune lens.



Figure 2: Pet Immune Lens

## 2.3. Setting Up the IPD

To setup the IPD:

1. Identify the location for mounting the IPD. Refer to 2.1 Determining the Best Location on page 4.
2. Clean the surface of the mounting location thoroughly.
3. Release the IPD mounting base by lifting the tab and pushing it forward.

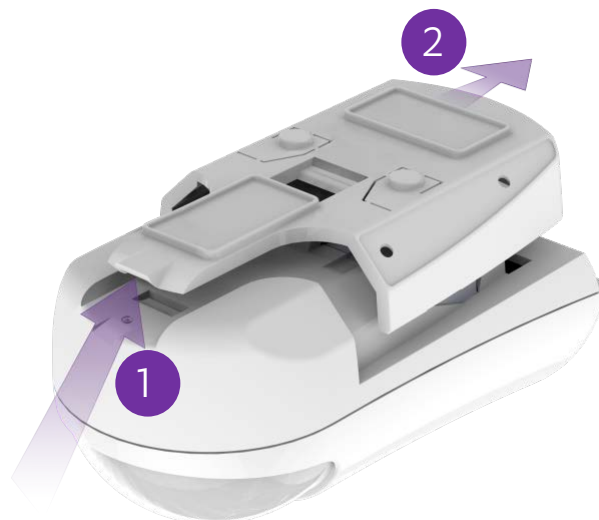


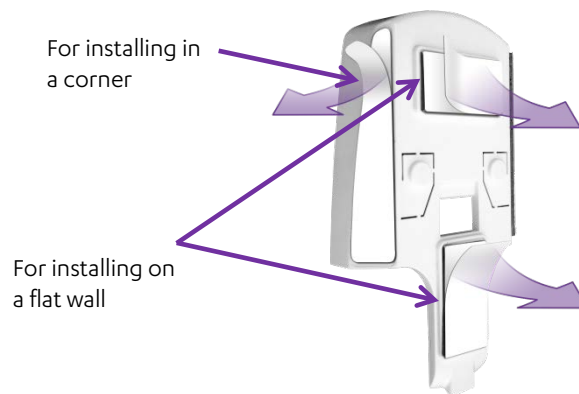
Figure 3: Release the Mounting Base





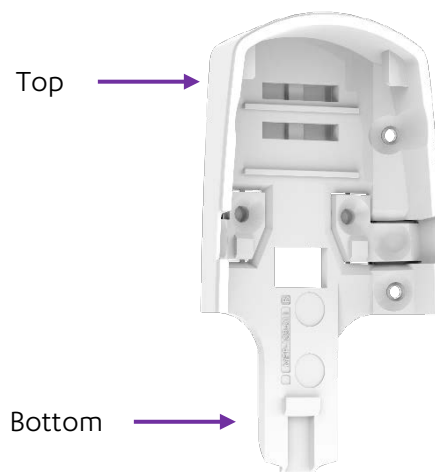
**NOTE:** Refer to Using Screws on page 22, for information about installing the IPD using screws.

4. Peel off the protective strips from the mounting tape required for the installation location.



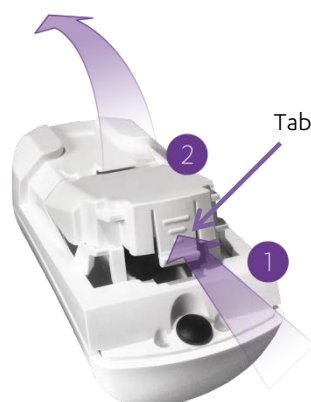
**Figure 4: Peel Off the Protective Strips**

5. Press the mounting base into place, ensuring it is the right way up.



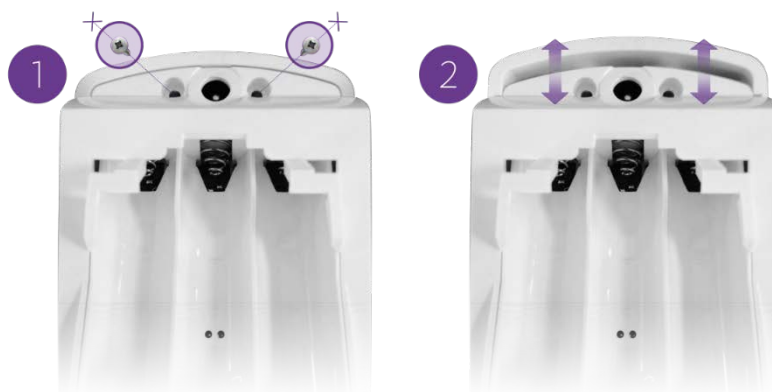
**Figure 5: Put the Mounting Base the Right Way Up**

- Remove the battery cover, by pressing the tab and pushing the cover up and out.



**Figure 6: Remove the Battery Cover**

- If the IPD does not require a pet immune lens, skip ahead to step 16 on page 14.
- If the IPD does require a pet immune lens, unscrew the two screws above the battery compartment at the top of the back cover.



**Figure 7: Unscrew the Screws**

- Detach the back cover from the front panel.



Figure 8: Detach Back Cover



Caution: Be careful not to damage the internal parts of the IPD.

10. Use a flat screwdriver to release the three latch tabs on the front panel so that the outer lens falls free from the IPD.

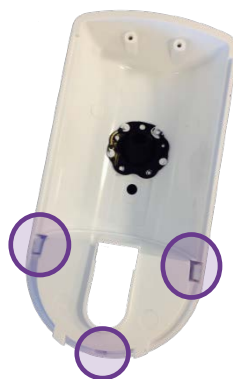


Figure 9: Release the Latch Tabs

11. Insert the pet immune lens into the opening for the lens in the IPD front panel. The pet immune lens fits inside the opening of the IPD.



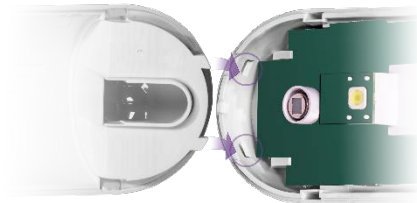
**Figure 10 Insert Pet Immune Lens into the IPD**

12. Insert the IPD outer lens, on top of the pet immune lens, in the groove surrounding the opening for the lenses, putting the outer lens latch tabs into the matching holes.



**Figure 11: Insert the IPD Lens**

13. Insert the tabs, at the bottom end of the front panel, into the inner square slots, at the bottom end of the back cover.



**Figure 12: Align and Insert Tabs in Square Slots**

14. Put the back cover into the front panel.



**Figure 13: Put the Back Cover into the Front Panel**

15. Attach the front panel to the back cover using the two screws.



**Figure 14: Attach the Front Panel**

- On the CP, press the **PAIRING** button for five seconds.



**Figure 15: Press the CP PAIRING Button**

- Move the IPD at least 2 m (~6 ft. 7 in.) from the CP.
- Shake the IPD gently. The rattling sound is the tamper-prevention mechanism.
- Insert the batteries, observing the correct polarity.



**Figure 16: Insert the Batteries**

When the batteries are installed, the LED in the lens compartment flashes red, indicating that the IPD has powered up successfully.



**WARNING!** A new battery can cause damage if it is incorrectly installed.

20. Ensure that the pairing process is successful. The process can have the following results:

- Success                      The CP beeps and the CP **ring** blinks blue three times.
- Failure                        The CP beeps and the CP **ring** lights up red for two seconds. Try to pair the IPD again.
- Already paired              The CP beeps, the CP **ring** lights up blue, and the **EMERGENCY** button lights up red.



**NOTE:** If no additional peripheral devices can be integrated, as when the CP memory is full, the CP beeps and the **EMERGENCY** button ring lights up red.

21. Close the battery compartment.

22. Insert the IPD into the mounting base until the IPD clicks into place. Ensure that the lens is pointing downward.



**Figure 17: Click the IPD into Place**

## 2.4. Conducting a Walk Test

A **Walk Test** is a function and signal verification check. The test is used to determine the detection area of the IPD.

The **Walk Test** mode starts automatically after the IPD powers up, such as:

- When a new battery is inserted
- After adding and pairing a new IPD with the Care@Home™ system

This mode lasts 10 minutes.

During the **Walk Test**, you can check the detection area of the IPD by walking past it at different points. The LED on the IPD lights up for any motion the IPD detects. The IPD sends a notification of the motion detection event to the CP.



## 3. Operating the IPD

The IPD monitors activity and reports it by sending notifications to the CP. The IPD also takes video.

### 3.1. Notifications

The IPD sends notifications to the CP for the following events:

- A motion detection event
- The room temperature exceeds the configured temperature threshold
- The IPD battery charge is low
- The IPD tamper switch is disturbed

The LED indicator, which is inside the IPD behind the lens, lights up red when motion is detected or the device is tampered with.

### 3.2. Supervision

The IPD is a supervised device. The IPD periodically transmits its status to the CP. If after a pre-defined time the CP does not receive the status message, the CP sends a **Supervision lost** message to the monitoring station.

### 3.3. Configuring the IPD

You can configure parameters for the IPD using Care@Home™ CMS. For example, you can define how and when the IPD issues notifications to the CP. Refer to the Care@Home™ CMS Reference for the version of Care@Home™ system installed on your resident's premises.

## 4. Replacing the Battery

The battery status is reported automatically to the monitoring station via the CP. When the status indicates that the battery charge is low, the battery must be replaced. Discard used batteries responsibly.



**WARNING!** A new battery can cause damage if it is incorrectly installed. Be careful to replace the battery only with the same or equivalent type recommended by the manufacturer. Refer to 5 Specifications on page 20.

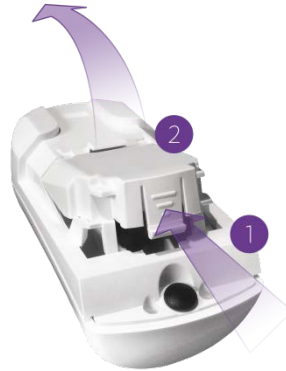
To replace the battery:

1. Release the IPD from the mounting base by lifting the tab and pushing it forward.



Figure 18: Dismount the IPD

2. Remove the battery cover by pressing the tab and pushing the cover up and out.



**Figure 19: Remove the Battery Cover**




3. Remove the old batteries.
4. Shake the IPD gently. The rattling sound is the tamper-prevention mechanism.
5. Insert the new batteries, observing the correct polarity.  
When the batteries are inserted, the LED behind the lens lights up red, indicating that the IPD has powered up successfully.
6. Close the battery cover.
7. Return the IPD to the mounting base.

## 5. Specifications

The following table lists all the technical aspects and data about the IPD.

**Table 1: Device Technical Specifications**

Category	Details	
<b>Essence</b>	Part number	ES700IPD
<b>Image Capture</b>	Resolution	VGA, QVGA, QQVGA
	Illumination for night and low lighting	Auto-activated bright white LED
	Diagonal shooting angle	67°
	Camera range	Up to 10 m (32.8 ft.)
	Photo capture	JPEG photos – up to 5 frames per second
<b>Optical</b>	Sensor	Dual element low-noise pyro-ceramic sensor <ul style="list-style-type: none"> <li>■ RFI shielding</li> <li>■ Insect immunity – sealed optics</li> </ul>
	Lens	White ESI 4 <sup>th</sup> generation DragonflyEye™ multi-zone lens <ul style="list-style-type: none"> <li>■ 12 m detection range</li> <li>■ 105° horizontal, 80° vertical</li> <li>■ 102 zones, 6 vertical beams</li> <li>■ Daylight immunity</li> </ul>
<b>Power Supply</b>	Battery	3 x 1.5 V AA alkaline
	Approved manufacturers	GP, Energizer, Duracell
	Nominal battery life	Up to two years
	Battery power test	Upon power-up and periodically
<b>Wireless</b>	Bi-directional	End-to-end bi-directional ESI protocol Advanced radio supervision algorithm
	Frequency	FSK modulation: <ul style="list-style-type: none"> <li>■ 868.3 MHz (Europe and China)</li> <li>■ 916.5 MHz (North America, Mexico, and Australia)</li> <li>■ 800 MHz (Israel)</li> </ul>
	RF coverage	400 m (1,312 ft.) – open air

Category	Details	
	Encoding	32-bit ID, over 4 billion combinations
<b>Functional</b>	Main MCU	<ul style="list-style-type: none"> <li>■ Advanced false alarm suppression algorithms</li> <li>■ Advanced gain temperature control</li> </ul>
	Immunity	Sealed PCB
	Multiple detection mechanism	Minimum time between detections: 2.5 minutes
	Walk test	Automatic after power-up, 10 minutes
	Visual indications	LED for detection, tampering, and walk test
	RFI protection	Over 30 V/m
	<b>Environmental</b>	Operating temperatures
Storage temperatures		-20° to 60° C (-4° to 140° F)
<b>Physical</b>	Dimensions (H x W x D)	123 x 60 x 60 mm - 4.84 x 2.36 x 2.36 in.
	Weight	210 g (incl. battery) / 0.165 lb.
	Color	Glossy white
	Mounting	Standard ESI wall mount
Standard ESI 2-screws and double-sided adhesive mounting tape		
<b>Compliance</b>	CE	EMC Safety
		  

## Appendix A Installation Method Alternatives

There are two ways to install the IPD mounting base:

- Using mounting tape
- Using screws

Before choosing the installation method, consider the following:

- Installation with mounting tape is more common.
- Installation with screws supports the device when installing the IPD at a difficult angle.

### Using Mounting tape

Mounting tape is approved for the following surfaces:

- ABS
- Polycarbonate (PC)
- Aluminum
- Galvanized Steel
- Enameled Steel
- Stainless Steel
- Nickel Coated ABS
- PVC
- Glass/Epoxy
- Ceramic
- PBT
- Glass (with and without silane coating)
- Acrylic/Polyurethane paint
- Polyester Paint

### Using Screws

You can use screws to install the IPD:

- Flat on a wall

- At an angle facing to the right or the left
- In a corner

## Required Equipment

Before beginning, prepare the following equipment:

- A drill with a standard bit
- 3 X 35 DIN 7982 C screws and wall anchors:
  - 2 for installation on a flat wall
  - 3 for installation at an angle
  - 6 for installation in a corner
- A standard Philips screwdriver

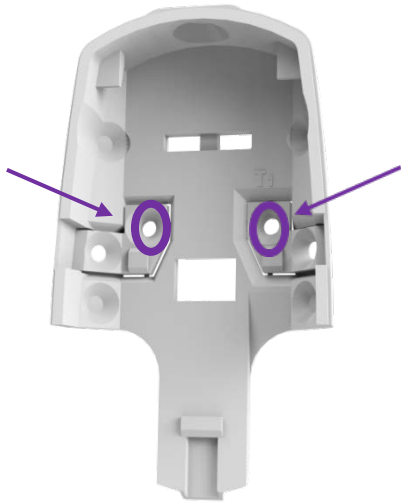
## Installing the IPD with Screws

To install the IPD using screws:

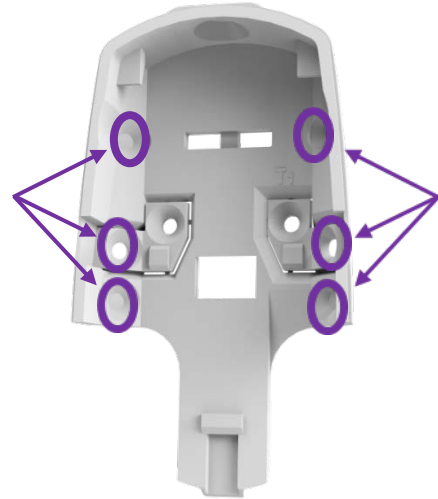
1. Release the IPD mounting base by lifting the tab and pushing it forward.
2. Clean the surface where the IPD is to be installed.
3. Use a flat screwdriver to clear the holes appropriate for the mounting location. Refer to **Screw Holes** on page 24.
4. Place and hold the mounting base on the desired location and mark the drilling spots.
5. Drill the holes.
6. Insert wall anchors if needed.
7. Place the mounting base over the wall anchors and screw in the screws.

### Screw Holes

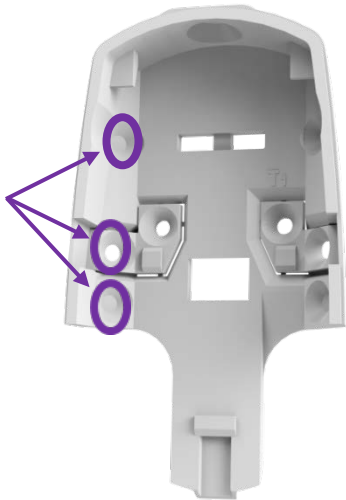
The following figures show the screw holes to use for each type of installation. The corner support holes are blocked by the mounting tape. You can drill through the tape.



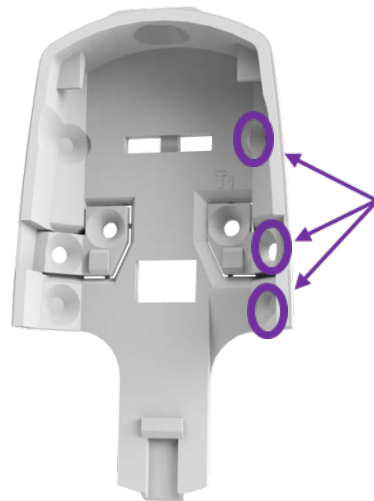
**Figure 20: Holes for Installing on a Flat Wall**



**Figure 21: Holes for Installing in a Corner**



**Figure 22: Holes for Installing on Left Side**



**Figure 23: Holes for Installing on Right Side**



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