



Care@Home™

MDsense

User Guide



March 2021

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1. Overview

The Essence MDsense is a battery operated, bi-directional, wireless, multidimensional fall sensor.

The MDsense can also be used with either an optional power cable or an optional emergency pull cord, but not both at the same time.



2. Setting Up the MDsense

To set up the MDsense:

- Ensure you have four 1.5 V C alkaline batteries
- [Determine the best location](#)
- [Install and test the MDsense](#)
- [Configure the MDsense](#)

2.1. Determining the Best Location

The mounting location should be:

- In a room up to 4 x 4 m (13.1 x 13.1 ft.) or up to 5 m (16.4 ft.) from the part of the room to be covered.

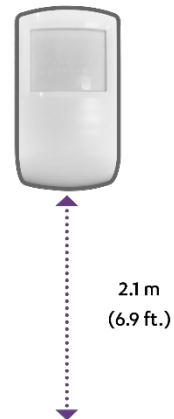
- In the corner of the room



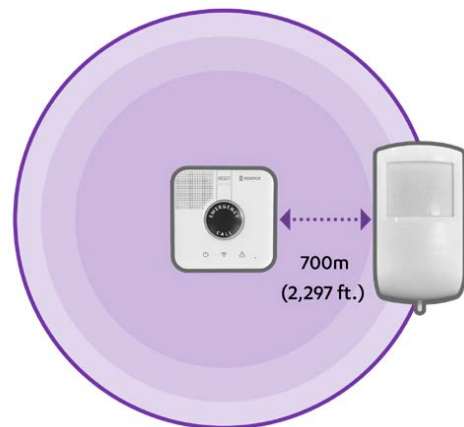
- On a surface that is clean, dry, and smooth



- At a height of 2.1 m (6.9 ft.)

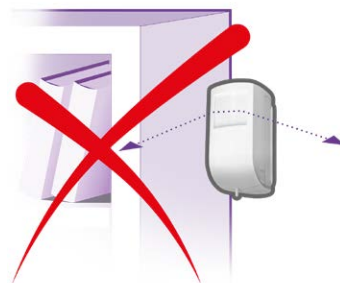


- Within 700 m (2,297 ft.), open air, of the control panel

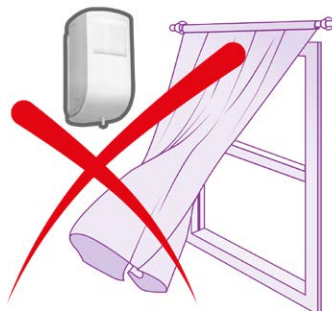


The mounting location should **not** be:

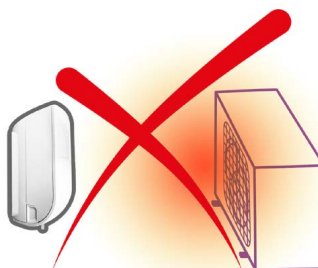
- Where objects obscure the coverage area, even partially. For example, bookcases or cabinets.



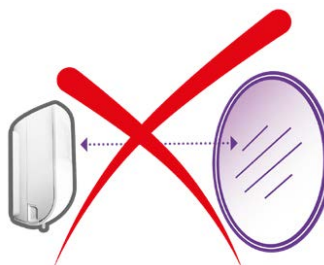
- A location that has moving objects in the coverage area. For example, curtains or light fixtures with hanging parts.



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



- In front of a mirror



2.2. Installing and Testing the MDsense

To install the MDsense:

1. Identify the location for mounting the MDsense. Refer to 2.1 Determining the Best Location on page 4.

2. Remove the plastic covering the lens.



3. Remove the battery compartment, by pressing the release buttons and pulling downward.



4. Insert four 1.5 V C alkaline batteries into the battery compartment, for each battery:
 - a. Place the negative (-) end of the battery against the spring.
 - b. Press the positive (+) end of the battery toward the battery compartment until it clicks.





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

5. On the control panel, press the PAIRING button for five seconds. The control panel beeps and the ring around the **EMERGENCY** button lights blue.

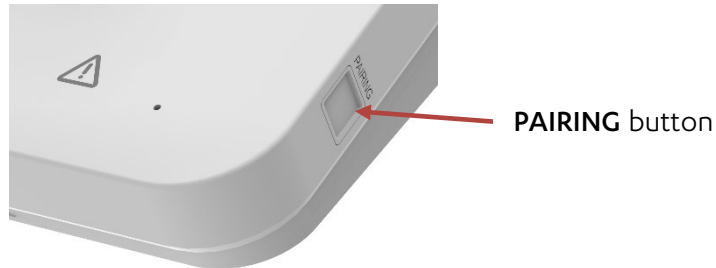


6. Slide the battery compartment upward into the MDsense until it clicks. The LED flashes.



7. Ensure that the pairing process is successful. The process can have the following results:
 - Success The control panel beeps and the control panel ring blinks blue three times.
 - Failure The control panel beeps and the control panel ring lights up red for two seconds. Try to pair again.
 - Already paired The control panel beeps, the control panel ring lights up blue, and the **EMERGENCY** button lights up red.
8. Test communication with the control panel:

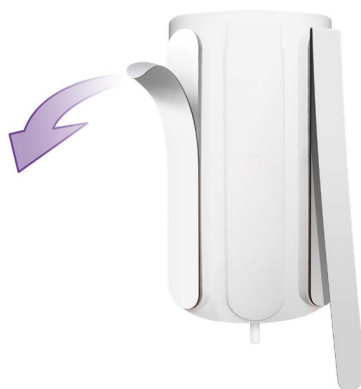
- a. Press the control panel's **PAIRING** button twice. The control panel responds, "Control panel entered test mode". The control panel's power, communication, and trouble LEDs flash.



- b. Move close to where you want to install the MDsense.
- c. Remove the socket cover. The MDsense's LED lights. The control panel responds with a voice message.



- d. Replace the socket cover or insert the pull cord or power cable.
9. To install the MDsense with screws, refer to Appendix A Installing with Screws on page 19.
 10. Peel off the short protective strip from the mounting tape.



11. Place the back of the MDsense against the wall so that the protective strip touches the wall.



12. Slide the MDsense into the corner. The tape sticks to the wall.



13. Peel off the strip and press the MDsense against the wall.



14. Test detection:

- a. Walk in front of the MDsense. The LED flashes.
- b. Lie on the floor. Remain still while the LED is solid red. Remain on the floor until the LED flashes slowly. The control panel announces, “Test successful”.
- c. Press the control panel’s **RESET** button. The control panel announces, “control panel exited test mode”.



NOTE: After testing is completed during installation, you do not need to test the MDsense again. Ongoing automatic self-tests ensure proper functioning of the MDsense.

2.3. Configuring the MDsense

You can configure parameters for the MDsense using Care@Home™ CMS. For example, you can define how and when the MDsense issues notifications to the control panel. Refer to the Care@Home™ CMS reference documentation.

3. Operating the MDsense

The MDsense sends status and event messages to the control panel.

3.1. Notifications

The MDsense sends notifications to the control panel when:

- The MDsense detects a fall
- The MDsense is removed from its position on the wall or returned to its position
- The MDsense's batteries are low or empty
- The optional pull cord is removed or replaced



NOTE: Some types of notifications are sent immediately, while others may take a few minutes.

3.2. Supervision

The MDsense is a supervised device. The MDsense periodically transmits its status to the control panel. If after a pre-defined time the control panel does not receive the status message, the control panel sends a supervision lost message to the monitoring station.

4. Maintaining the MDsense

Maintaining the MDsense includes:

- Battery replacement
- Software updates
- Cleaning the lens

4.1. Replacing the Batteries

When the batteries are low, replace the batteries.



NOTE: While the batteries are being changed, the MDsense does not function, even when using a power cable.

To replace the batteries:

1. Remove the battery compartment, by pressing the release buttons and pulling downward.



NOTE: It is recommended to leave the optional power cord or optional pull cord connected.

2. Remove the old batteries.

3. Insert four 1.5 V C alkaline batteries into the battery compartment, for each battery:
 - a. Place the negative (-) end of the battery against the spring.
 - b. Press the positive (+) end of the battery toward the battery compartment until it clicks.



WARNING! New batteries can cause damage if incorrectly installed. Replace the batteries only with recommended models. Refer to 5. Specifications on page 14.

4. Slide the battery compartment upward into the MDsense until it clicks. The LED flashes.



4.2. Updating Software

To perform software and firmware updates for the MDsense, use the remote boot function in Care@Home™ CMS. Refer to ESUG05074 Care@Home CMS Reference Manual.

4.3. Cleaning the Lens

To ensure the best performance, clean the lens as necessary.



- Use a lens cleaning cloth, without any glass cleaning sprays or liquids.
- Avoid touching the lens with your bare fingers.

5. Specifications

The following table lists the MDsense's technical specifications.

Category	Details	
Essence	Part number	ES700MDS
Communications	Maximum RF range	Up to 700 m (2,297 ft.) – open air
	RF Output	8.3 dBm without RF connector
	Protocols	Proprietary bi-directional radio protocol
	Modulation and frequency	FSK modulation: <ul style="list-style-type: none"> ● 869.225 MHz (Europe) ● 916.5 MHz (North America and Australia) ● 916.3 MHz (Israel)
	Data security	32-bit ID, over 4 billion combinations
Fall Detection	Modulation and frequency	FMCW modulation: 59 – 63 GHz
Safety	Indication	LED
	Temperature	Extreme temperature detection and reporting
Power	Batteries	4 x 1.5V C alkaline batteries
	Battery life	At least 12 months, when using batteries alone, based on the manufacturer's estimate of at least one activation per day.
	Battery models	<ul style="list-style-type: none"> ● Energizer EN93, E93 ● Panasonic Powerline LR14AD
	Optional power supply	<ul style="list-style-type: none"> ● 100-240 VAC ● 50/60 Hz
Dimensions	Size	H x W x D: 130 x 70 x 74 mm - 5.1 x 2.8 x 2.9 in.
	Weight (including batteries)	500 g (1.1 lbs.)
Environmental	Storage ambient temperature range	-20°C — 60°C (-4°F — 140°F)
	Operating ambient temperature range	-10°C — 55°C (14°F — 131°F)
	Water and dust resistant	IP54 compliant, when pull cord or socket cover inserted

Category	Details	
Certifications and approvals		<ul style="list-style-type: none"> ● CE ● FCC ● UL1637 ● IC ● EN50130-5 Environment class II ● EN50134 ● AS4607

This device complies with FCC Rules Part 15 and with Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference
- (2) this device must accept any interference received including interference that may cause undesired operation.

For Industry Canada:

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. 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.*

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.

For Industry Canada:

- This Class B digital apparatus complies with Canadian ICES-003.
- Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

WARNING! To comply with FCC RF exposure compliance requirements, the device should be located at a distance of at least 20 cm from all persons during normal operation. The antennas used for this product must not be co-located or operated in conjunction with any other antenna or transmitter.



AVERTISSEMENT! Le dispositif doit être placé à une distance d'au moins 20 cm à partir de toutes les personnes au cours de son fonctionnement normal. Les antennes utilisées pour ce produit ne doivent pas être situées ou exploitées conjointement avec une autre antenne ou transmetteur.

Changes or modifications to this equipment not expressly approved by the party responsible for compliance (Essence SmartCare Ltd.) could void the user's authority to operate the equipment.

Appendix A Installing with Screws

To install the mounting base with screws:

1. Prepare the following equipment:
 - A drill with a standard bit
 - 4 x 35 DIN 7982 C screws and wall anchors
 - A Philips head screwdriver
2. Pull the mounting base downward until it stops.

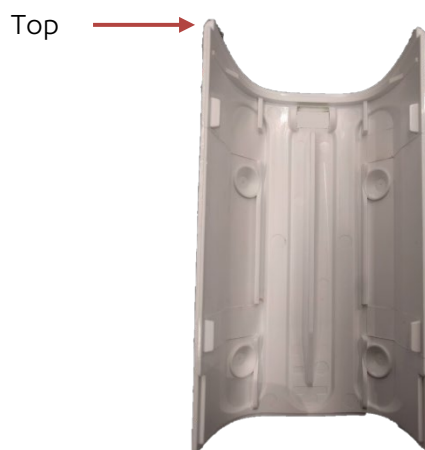


3. Lift the mounting base off the MDsense.

4. Use a screwdriver to clear the screw holes.



5. Ensure that the wall mount is right side up.



6. Place and hold the mounting base on the desired location and mark the drilling spots.
7. Drill the holes.
8. Insert wall anchors.
9. Place the mounting base over the wall anchors and screw in the screws.

10. Place the MDsense against the wall mount and pull downward.



11. Continue with step 14 on page 11.

Appendix B LED Indications

Following are the MDsense LED indications:

LED Display	Event
Lights for two seconds	<ul style="list-style-type: none"> ● Power up ● Pull cord removed/replaced ● Socket cover removed/replaced ● Power cord removed/replaced ● Tamper alarm/restored
Blinks quickly for two seconds	PIR detection in test mode
Remains lit	Radar scanning in test mode
Blinks slowly for 21 seconds	Fall detection
Blinks four times	Enter test mode

Appendix C Getting Support

Contact your reseller for assistance with your MDsense.

The MDsense can be serviced only by the manufacturer. If your reseller instructs you to return your MDsense to the manufacturer, ship it to the following address:

Essence Smart Care
12 Abba Eban Ave
Herzliya 4672530
Israel

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