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Care@Home™

MDsense

User Guide

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Table of Contents

1. Overview

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

The MDsense can also be used with an optional power cable.

If you use the power cable, you cannot use the optional emergency pull cord provided with the device.

> NOTE: If a caregiver or pet are regularly on the premises, it is recommended that the MDsense be used with the power cable instead of the batteries

2.   Setting Up the MDsense

To set up the MDsense:

- Ensure you have four 1.5 V C alkaline batteries
- [Determine the best location](#)
- [Pair the device with the control panel](#)
- [Perform a range test](#)
- [Mount the device](#)
- [Perform a fall test](#)

2.1.   Determining the Best Location

The effective detection distance for MDsense is up to 4 x 4 m (13 x 13 ft.).

The MDsense **Room Type** option can be configured for use in large rooms up to 4 x 4 m (13 x 13 ft.), or in standard rooms up to 3 x 3 m (9 ft. 8 inches x 9 ft. 8 inches). This option is configurable in CareView and the CMS. For more information, see Configuring the Room Type on page 6.

The mounting location should be:

- On the wall of a room in a corner with an angle of 90°.
- On a suitable surface.

  Suitable surfaces include dry surfaces, painted or sealed wood and concrete, ceramic tiles

  On all other surfaces, mount the device using screws. For more information, refer to Appendix A Installing with Screws on page 22.

NOTE: It is recommended that you clean the mounting surface with the alcohol prep pads provided to remove dust, moisture and grease.

- With a distance of **exactly** 210 cm (82½ inches) between the bottom of the MDsense and the floor.

210 cm
(82½ inches)
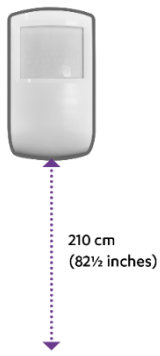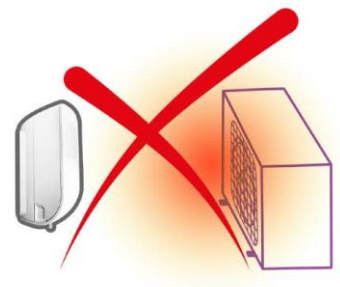
The mounting location should **not** be:

- Where objects obscure the MDsense, even partially. For example, bookcases or cabinets.
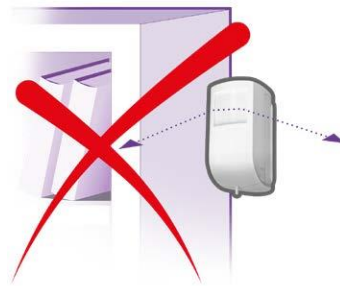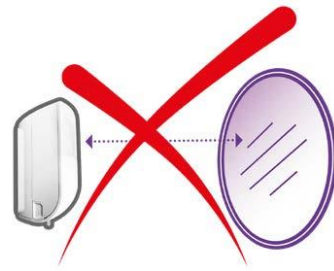
- A location that has moving objects near the MDsense. For example, curtains or light fixtures with hanging parts.

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

- In front of a mirror.

- Where a reclining armchair or sofa obscures the coverage area, even partially. The reclining armchair or sofa must be nowhere within an 80cm (31.5 in.) radius of the mounting location.
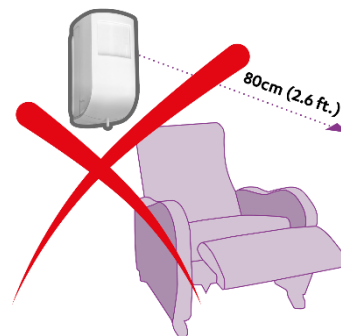
2.2. Configuring the Room Type

The MDsense **Room Type** option can be configured for use in large rooms up to 4 x 4 m (13 x 13 ft.), or in standard rooms up to 3 x 3 m (9 ft. 8 inches x 9 ft. 8 inches).

This option is configurable in CareView and the CMS.

2.2.1 Configuring the Room Type in CareView

To configure the **Room Type** option in CareView:

1. In the **Panel management** screen, select the required panel and click the **Settings** icon.

2. Select the **Safety & SOS devices** tab.

3. In the **Safety & SOS devices** table, click the required MDsense.

4. From the **Room Type** drop-down list, select the required option.

5. Scroll back up to the list of tabs and click the **Update panel** icon above and to the right of the tab list.

6. When prompted, add an optional description and click **Yes**.

    CareView displays a confirmation message.

2.2.2 Configuring the Room Type in the CMS

To configure the **Room Type** option in the CMS:

1. From the **Main** panel, select **Safety & SOS.**

2. In the **Safety & SOS** screen, click the required MDsense.

   MDsense devices are listed as **Fall Detector** in the **Device Type** column.

3. From the **Room Type** drop-down list, select the required option.

4. Click **Update**.

5. At the top of the screen, click the **Download configuration** icon.

2.3. Pairing the Device with the Control Panel

Pair the device with the control panel as follows:

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

2. 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.

📝 NOTE: Do not insert the battery compartment back into the device yet.

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3. On the control panel, press the **PAIRING** button for three seconds.

PAIRING button

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

The control panel responds with a voice announcement.

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

    ● Success   The control panel beeps and the control panel activity LED blinks blue three times.

    ● Failure   The control panel beeps and the control panel activity LED lights up red for two seconds. Try to pair again.

    ● Already paired   The control panel beeps, the control panel activity LED lights up blue, and the **EMERGENCY** button lights up red.

NOTE: An installation mode lasting 20 minutes including the range and fall tests is initiated.

2.4. Performing a Range Test

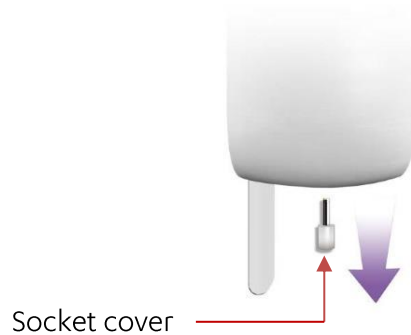Perform a range test with the control panel as follows:

1. Press the **PAIRING** button on the control panel twice.

    The three indication LEDs blink, the control panel responds with a voice announcement, and the control panel activity LED blinks blue once.

PAIRING button

2. Standing at the planned installation location, pull out the socket cover.

Socket cover

The device LED blinks red once. The control panel responds with a voice announcement and the control panel activity LED blinks blue once.

3. Insert the socket cover back or insert the pull cord or power cord provided with the device.

4. Press the **RESET** button on the control panel.

The control panel responds with a voice announcement and the control panel activity LED blinks blue once, and then the three indication LEDs stop blinking.

5. To install the MDsense with screws, refer to Appendix A Installing with Screws on page 22.

2.5. Mounting the Device

Mount the device as follows:

📝 NOTE: Use a ladder to place the device at the correct distance from the floor.

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1. Peel off the short protective strip
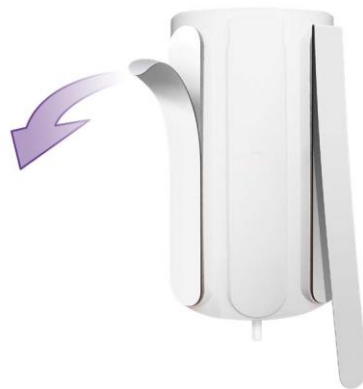
📝 NOTE: Do not peel off the long protective strip yet.

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2. Place the device against the wall to the left of the corner so that only the long protective strip is in contact with the wall.

3. Slide the device horizontally to the right into the corner until the exposed sticking pad is in full contact with the wall.

4. Press the right side of the device hard against the wall for 10 seconds until the device is securely attached to the wall. Make sure that the whole of the sticking pad is in contact with the wall.

5. Peel off the long protective strip.
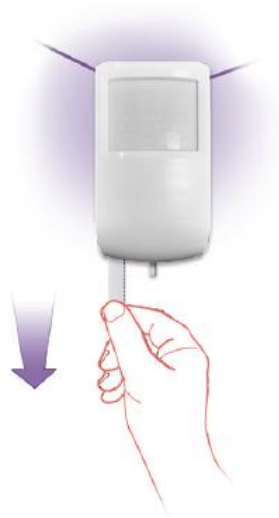
6. Press the left side of the device hard against the wall for 10 seconds until the device is securely attached to the wall. Make sure that the whole of the sticking pad is in contact with the wall.

2.6. Performing a Fall Test

Perform an MDsense fall test, as follows:

📝 NOTE: During this test the technician must be alone in the room.

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1. Remove the plastic covering the lens.

2. Walk in front of the MDsense.

   The LED flashes quickly.

3. Lie on the floor on your back.

   The red LED will turn off for up to 10 seconds. After 10 seconds, the red LED turns on again and remains solid for approximately 20 seconds. After approximately 20 seconds, the red LED turns off unless a fall is detected.

If a fall is detected the red LED blinks slowly. The control panel emergency LED blinks, an emergency alarm is initiated, and the control panel responds with a voice announcement.

4. To prevent the control panel calling the service center, press the **RESET** button.

The control panel emits a short beep and the control panel emergency LED stops blinking.

The length of time for which you should press the **RESET** button is configurable in CareView and the CMS. For more information, see Configuring Alarm Delay on page 13.

> NOTE: The MDsense requires a learning phase after installation. During this time, the MDsense does not transmit any alarms while it learns the room settings and identifies problematic areas. The MDsense starts normal operation after the learning phase has been completed. This can take up to seven days depending on room conditions.

2.7. Configuring Alarm Delay

This section describes how to configure the length of time for which you need to press the RESET button to prevent the control panel calling the service center.

This option is configurable in CareView and the CMS.

2.7.1 Configuring Alarm Delay in CareView

To configure alarm delay in CareView:

1. In the **Panel management** screen, select the required panel and click the **Settings** icon.

2. Select the **Control panel** tab.

3. Scroll down to the **Medical alarm** section.

4. From the **Alarm delay** drop-down list, select the required value.

5. Scroll back up to the list of tabs and click the **Update panel** icon above and to the right of the tab list.

6. When prompted, add an optional description and click **Yes**.

CareView displays a confirmation message.

2.7.2 Configuring Alarm Delay in the CMS

To configure alarm delay in the CMS:

1. From the **Main** panel, select **Control Panel.**

    The **Control Panel** screen displays.

2. In the **Medical Alarm** section, enter the required value in the **Delay** field.

3. At the top of the screen, click the **Download configuration** icon.

3. Operating the MDsense

The MDsense sends status and event announcements 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 or returned to its wall bracket
- The MDsense 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 the expected time the control panel does not receive the MDsense status, the control panel sends a supervision lost event 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 Specifications on page 19.

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

NOTE:

- After replacing the batteries, an installation mode lasting 20 minutes including the range and fall tests is initiated.

- After replacing the batteries, no learning phase is initiated.

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.

Lens

- 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: ● 869.225 MHz (Europe) ● 916.5 MHz (North America and Australia) ● 916.3 MHz (Israel) ● 922.5 MHz (Thailand)
	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	● Energizer EN93, E93 ● Panasonic Powerline LR14AD
	Optional power supply	● 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 to 60°C (-4°F to 140°F)
	Operating ambient temperature range	-10°C to 55°C (14°F to 131°F)
	Water and dust resistant	IP54 compliant, when pull cord or socket cover inserted

19

Category	Details	
Certifications and approvals		• EN 300 220-1 • EN 300 220-3-1 • EN 301 489-1 • EN 301 489-3 • EN 61000-6-3 • EN 50130-4 • EN 62368-1 • EN 50134-2 • EN 50130-5, Environmental Class II • FCC CFR 47 Part 15 • RSS-210 • ICES-003 • UL 1637 • CSA 22.2 #205 • 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 numerique de la classe B est conforme a 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 situés ou exploités 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.

Top

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 6 on page 12.

Appendix B   LED Indications

Following are the MDsense LED indications:

LED Display	Event
Lights for two seconds	● Power up ● Pull cord removed/replaced ● Socket cover removed/replaced ● Power cord removed/replaced ● Tamper alarm/restored
Blinks quickly for two seconds	Motion detection in installation mode
Remains lit	Radar scanning in installation mode
Blinks slowly for 21 seconds	Fall detection
Blinks four times	Enter installation 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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