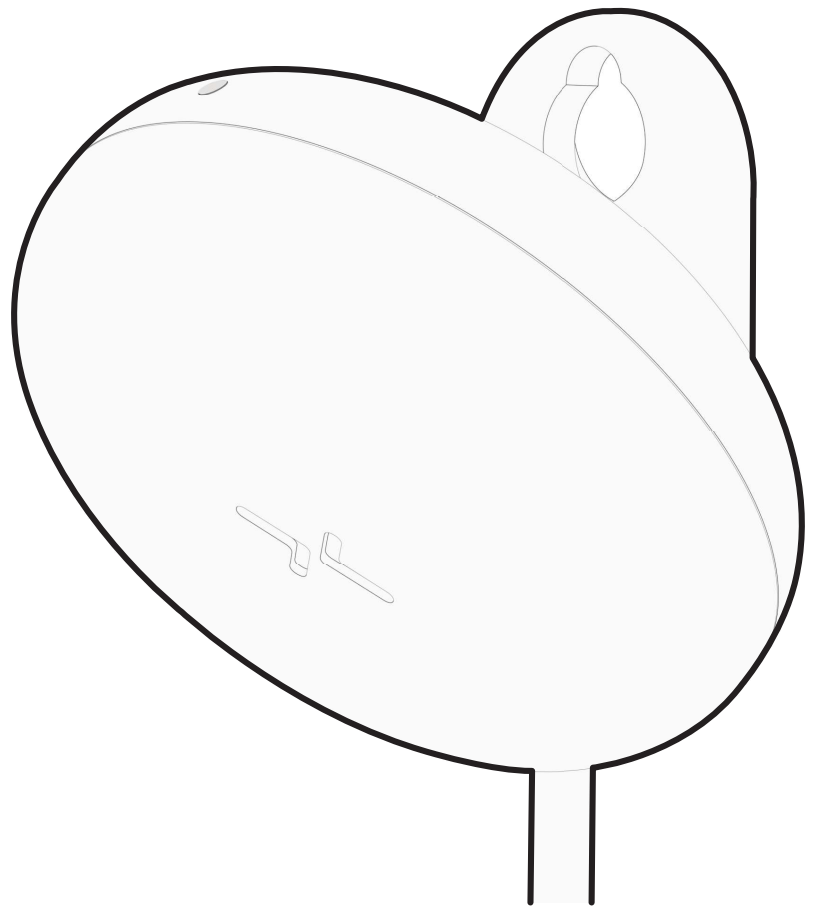


K A R D I A N

Mini



*Know
Before
You KnowTM*



X A N D A R K A R D I A N

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01 Intended Use

The Vital Sign Monitoring Sensor (Model: Kardian Mini) is intended to measure heart rate and respiration rate in adult patients, in general care hospitals environments including nursing home and home care Etc. The Vital Sign Monitoring Sensor can be used for home healthcare for data collection to inform patient care but not to acutely treat a patient. Kardian Mini provides measurements of:

- Heart Rate
- Respiratory Rate
- Presence Detection
- Movement Index

02 Caution

Caution

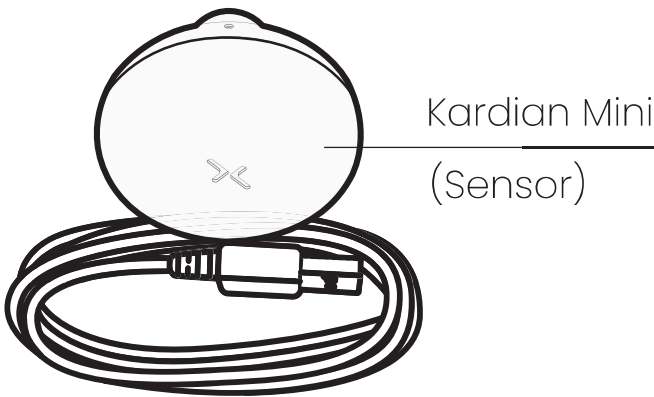
Please read the following information before use.

- Items that emit additional sources of vibration (such as analog clocks, floating balloons, vibrating appliances /products etc.) within the sensor range may affect the performance of the sensor.
- Do not use the sensor in the same place as equipment with strong electromagnetic waves. (e.g. X-ray, MRI etc.)
- Do not place the sensor under excessive heat, pressure or acceleration.

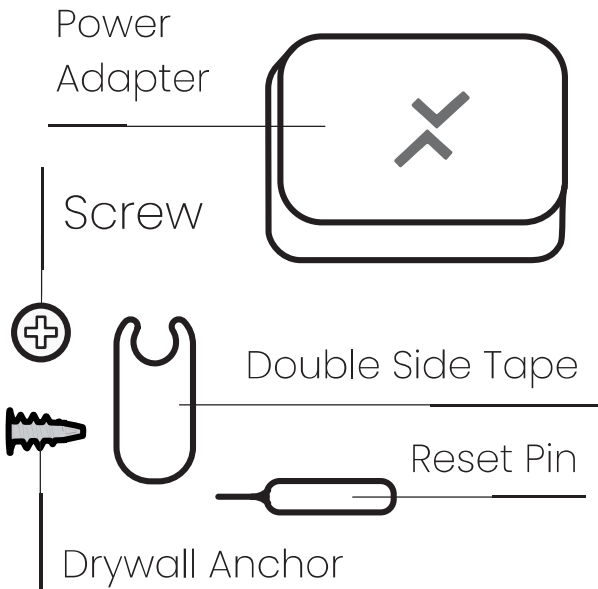
-
- Do not alter the sensor without permission of the manufacturer.
 - Use the components only supplied in the package.
 - To clean the sensor, gently wipe all surfaces with a disposable tissue or soft cloth moistened with water and a mild detergent.
 - Before using the Kardian Mini, check for any cracks, dents, or visible damage, and contact customer support if any issues are found.
 - Do not disassemble the sensor.

-
- For optimal performance and continuous monitoring, keep the sensor powered on all time.
 - Do not pull the cable connected to the sensor.
 - When the sensor has completed its useful service life, it may be disposed in compliance with the local environmental regulations.
 - Do not install the device near high-powered RF transmitters such as Wi-Fi routers, RFID systems, or microwave ovens. Maintain a minimum separation distance of 1 meter to avoid potential interference.

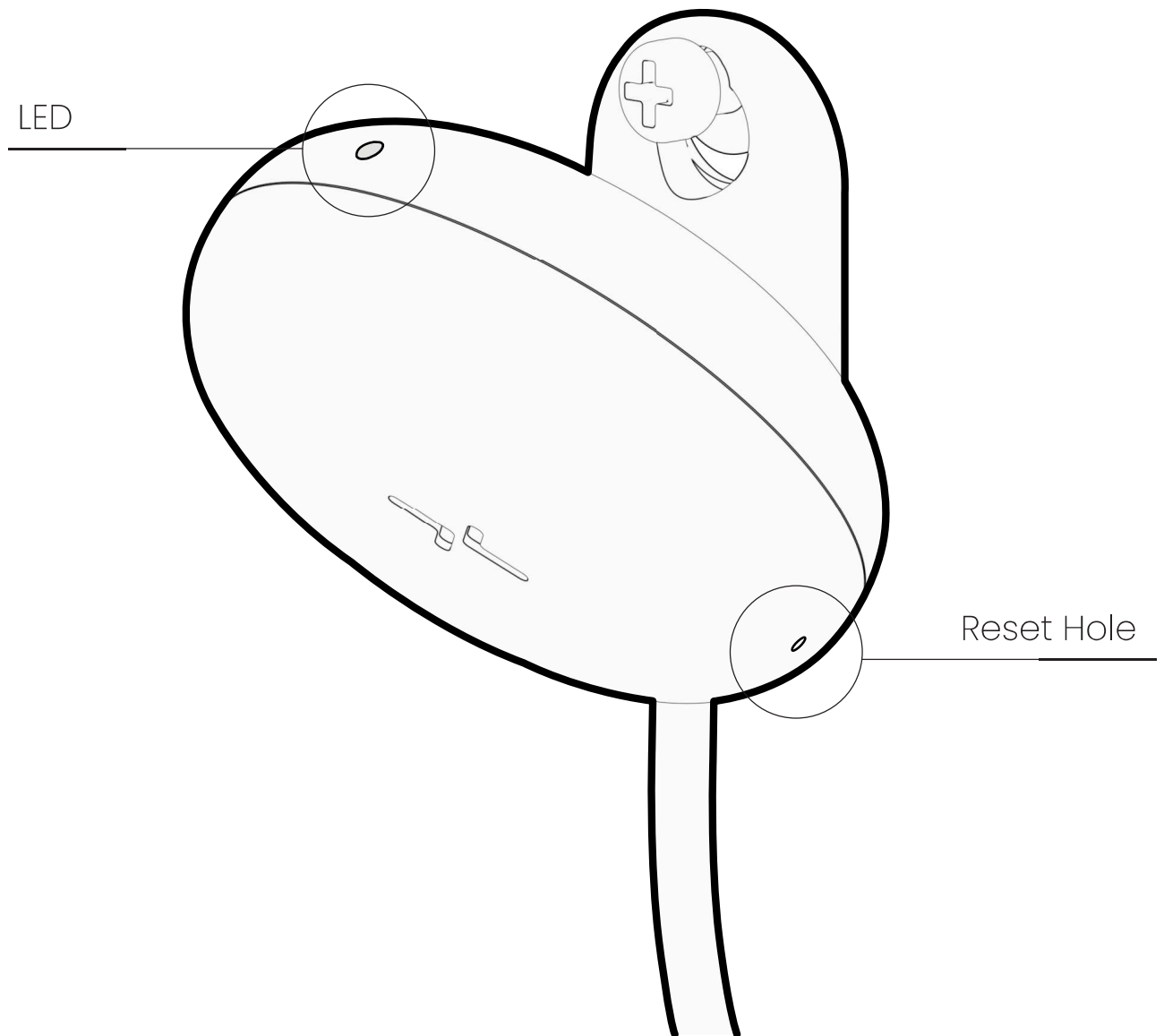
03 Package Contents

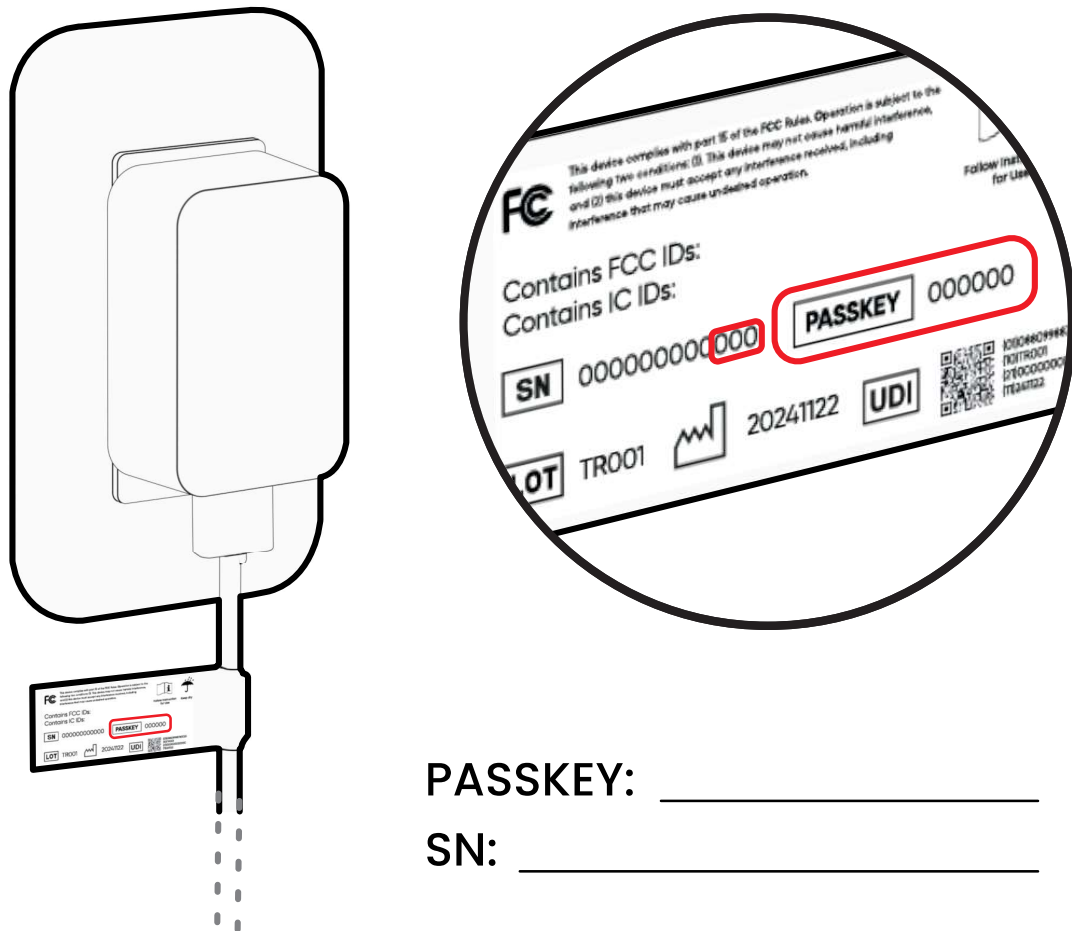


 **Warning**
Choking hazard.
Small parts.
Keep away from
children and pets.



3.1 Product Details





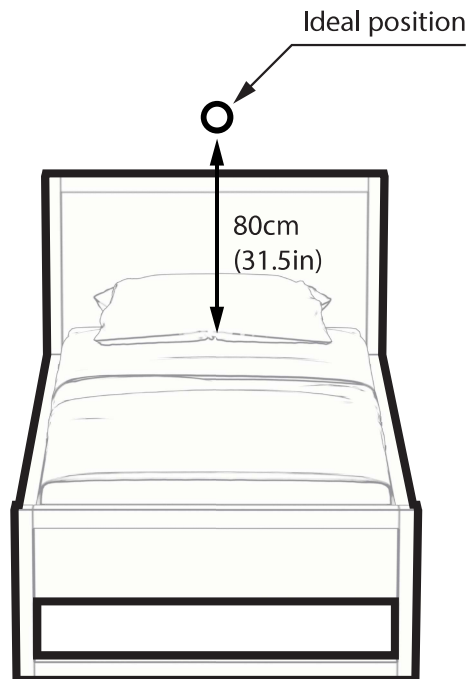
Note: Write down the PASSKEY and the last three digits of the Serial Number (SN) located on the tag. You will be required to enter these numbers for pairing your device (section 5 below)

04 Installation

4.1 Location Selection

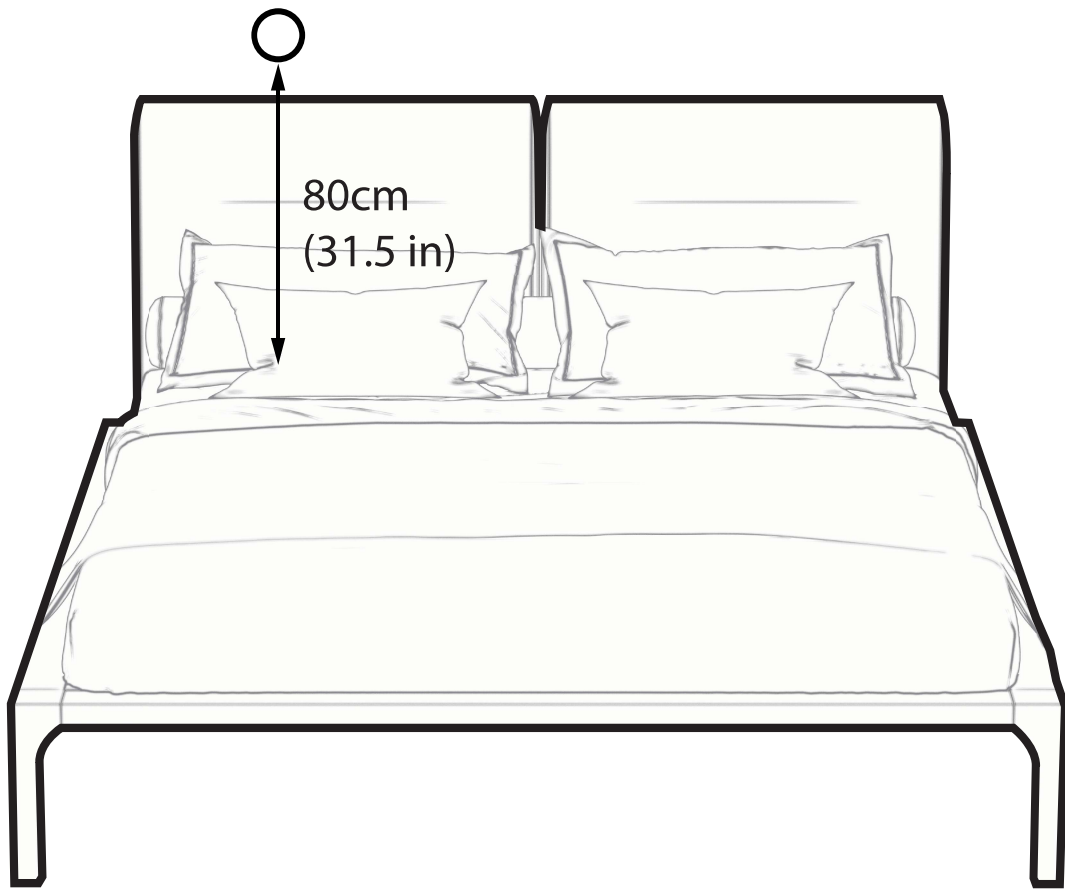
- The sensor should be installed near the ideal position, facing the user's chest.

4.1.1 Single occupant



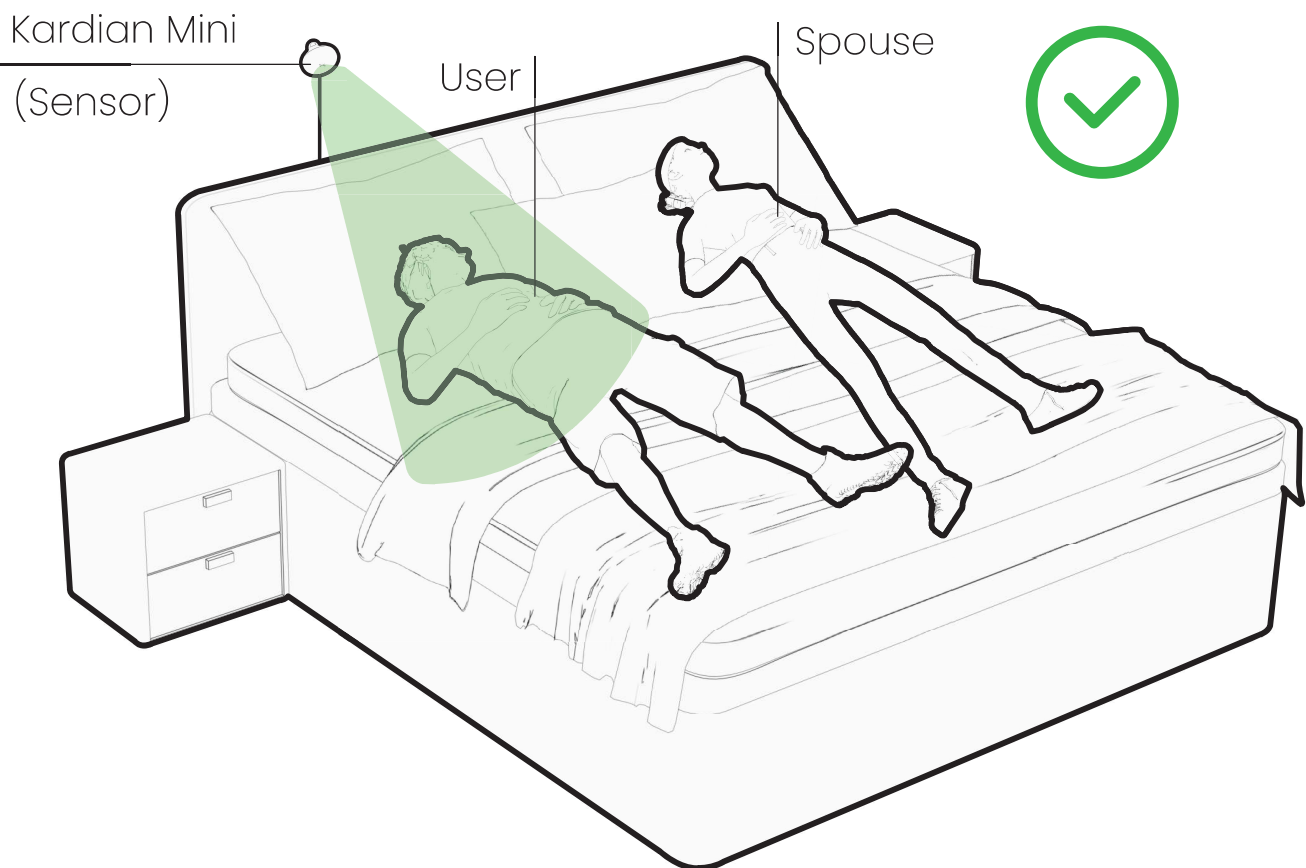
*Acceptable Installation Range: Within $\pm 15\text{--}20\text{cm}$ from the ideal position

4.1.2 Two occupants



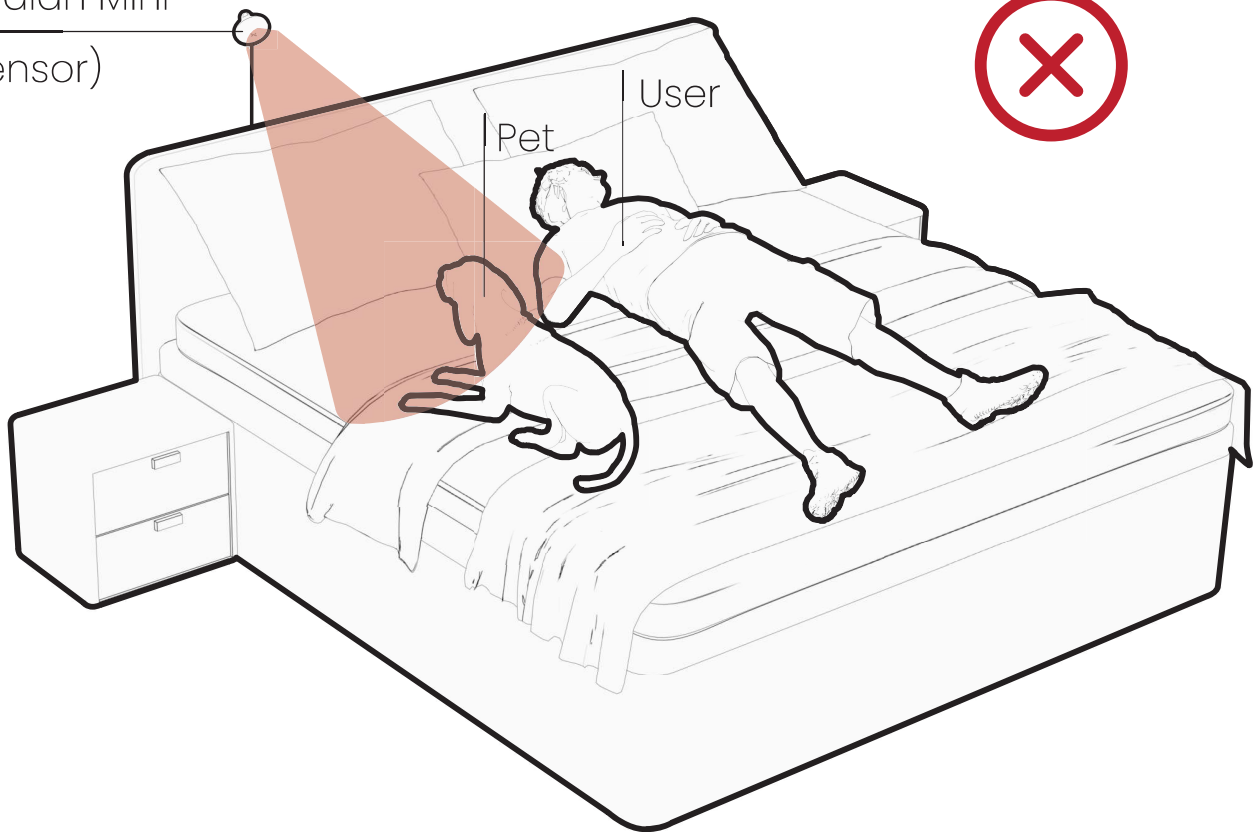
*Acceptable Installation Range: Within $\pm 5\text{cm}$ of the ideal position

-
- The sensor monitors one person within its coverage area, and is designed to monitor the person closest to the sensor. For accurate monitoring in shared spaces, ensure the intended user is closest to the sensor.



-
- It is recommended that users avoid sleeping with pets while using the sensor.

Kardian Mini
(Sensor)



-
- In rare cases, the sensor may pick up vital signs from someone farther away if their breathing movements are much stronger than the closer person's.

To minimize this risk, always follow proper setup procedures and ensure that the intended user is positioned closest to the sensor.

4.2 Sensor Mounting

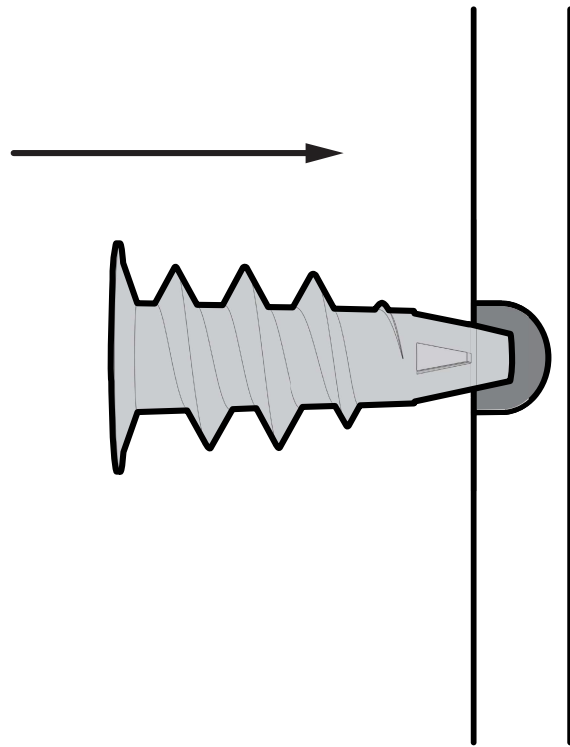
It is recommended to use both the provided screw and double-sided tape when mounting the sensor. Using only the screw or only the tape may result in the sensor becoming dislodged if subjected to impact or if the cable is pulled.

When installing with only double-sided tape, ensure that there is no risk of the device falling.

4.2.1 Recommendation

1. Select the installation location as recommended in Section 4.1, and mark the spot with a pen or pencil.

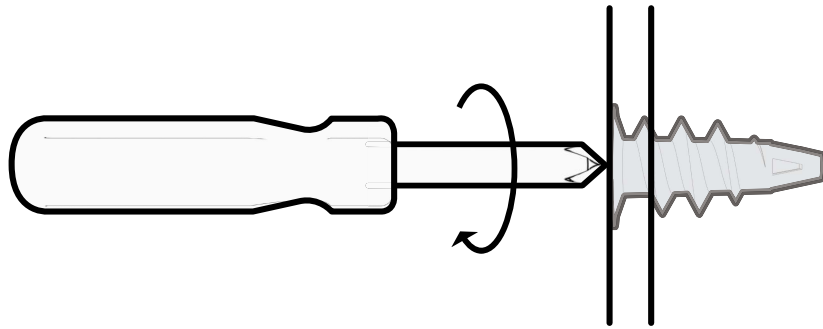
2. Press the drywall anchor tip into the wall at the marked location.



Note: For thicker or harder wall materials, it is recommended to pre-drill the hole.

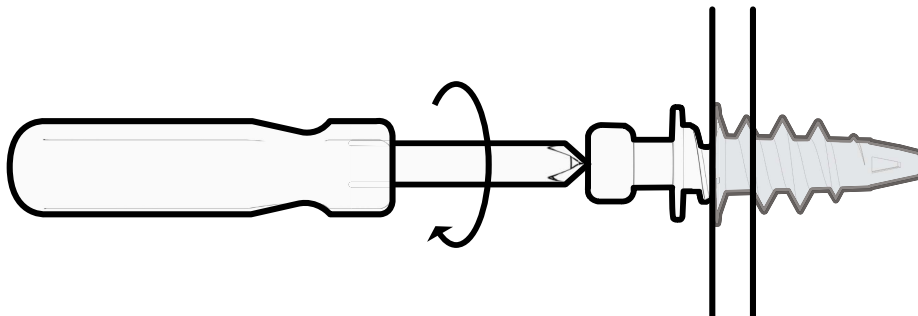
3. Secure the drywall anchor into the wall.

- Turn the anchor clockwise with a screwdriver or drill until it's flush with the drywall.

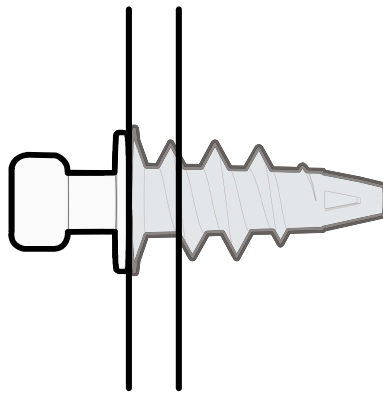


4. Secure the screw into the drywall anchor.

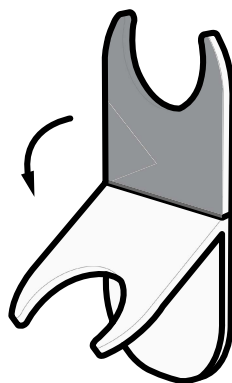
- Insert the screw into the drywall anchor, and turn clockwise until secured in place.



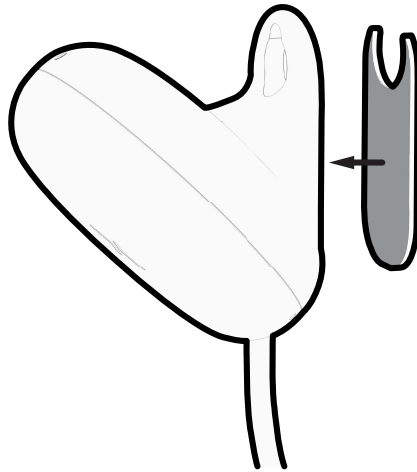
-
- Leave the secondary flange of the screw exposed to allow the sensor to be hung.



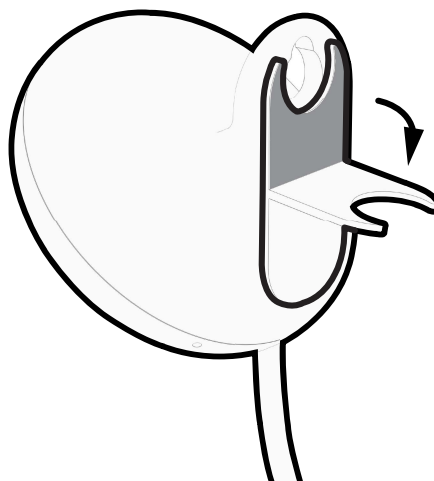
5. Peel off one side of the double-sided tape.



6. Attach the peeled off side of the tape to the sensor.

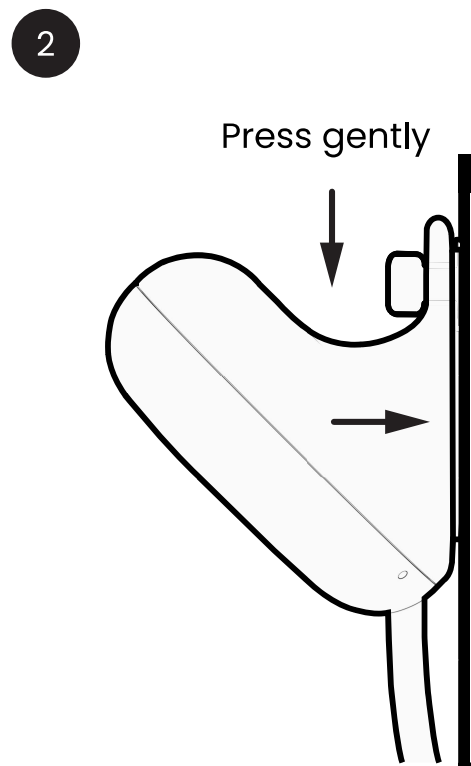
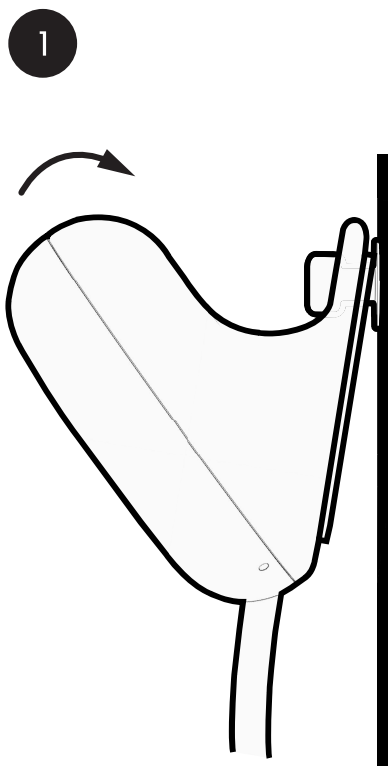


7. Peel off the protective layer from the other side of the double-sided tape.



8. Hang the sensor on the screw and attach it to the wall.

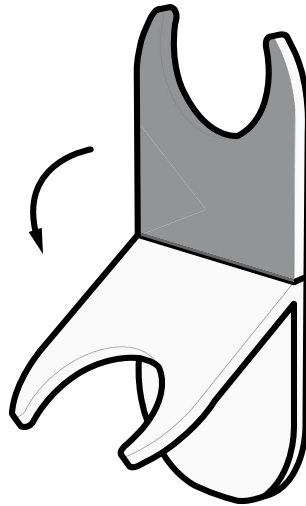
- Press the sensor against the wall to attach it firmly using the double-sided tape.



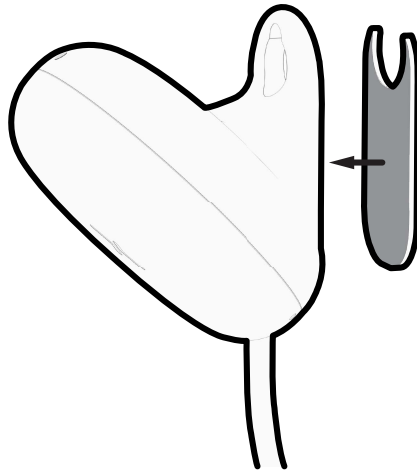
4.2.2 Double-Sided Tape Optional Installation

It is recommended to use both the provided screw and double-sided tape when mounting the sensor. Using only the tape may result in the sensor becoming dislodged if subjected to impact or if the cable is pulled.

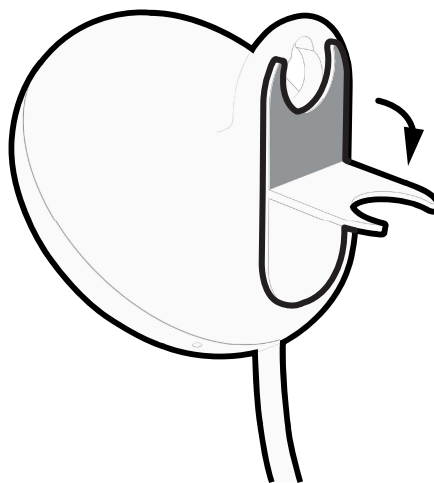
1. Peel off one side of the double-sided tape.



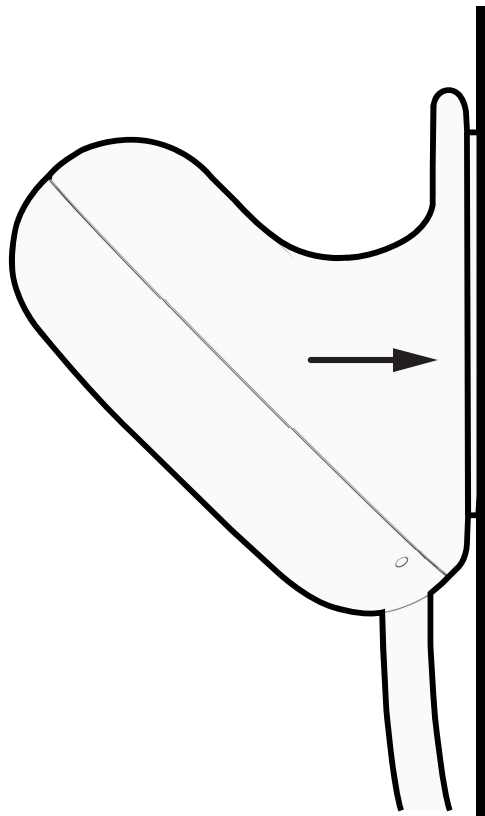
2. Attach the peeled off side of the tape to the sensor.



3. Peel off the protective layer from the other side of the double-sided tape.

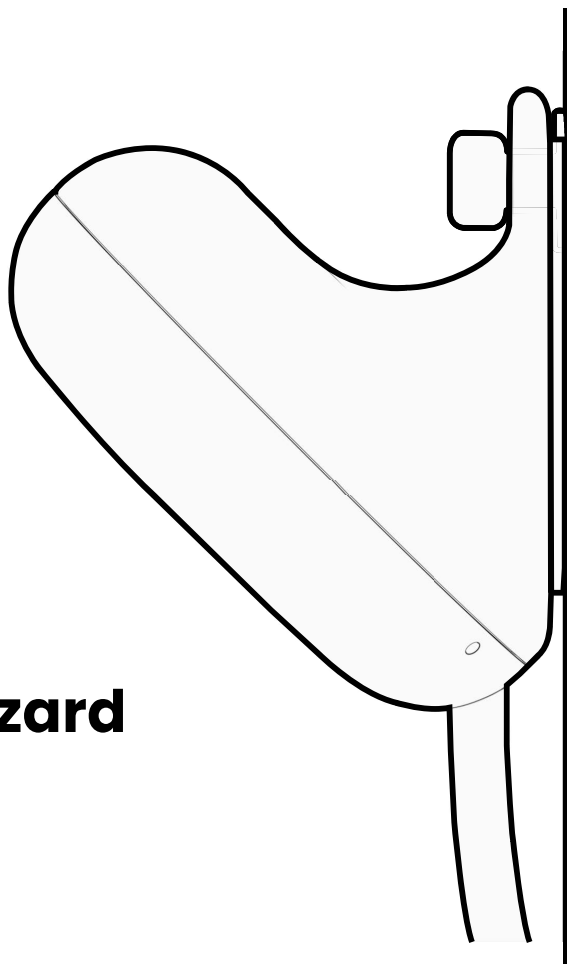


-
4. Hang the sensor on the screw and attach it to the wall.
- Press the sensor against the wall to attach it firmly using the double-sided tape.





Fall hazard



Note: Ensure the sensor is securely attached before use.
Avoid excessive force when attaching or removing
the sensor to prevent damage to the wall or sensor.

05 Connect and Use

When the Kardian Mini (hereinafter referred to as "the sensor") is successfully connected, it continuously and autonomously measures vital signs. Users can check the data through mobile application and web dashboard.

Follow the instructions carefully to ensure a successful connection.

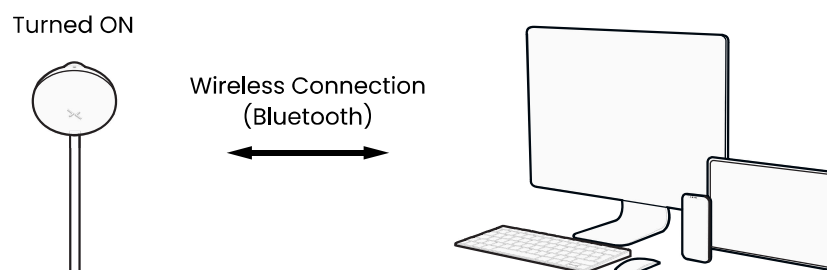
5.1 Mobile Application

Coming Soon.

5.2 Web Dashboard

The Kardian Edge Dashboard is a web page-based application that displays both real-time results and historical data stored in the sensor. To access the dashboard, you will need:

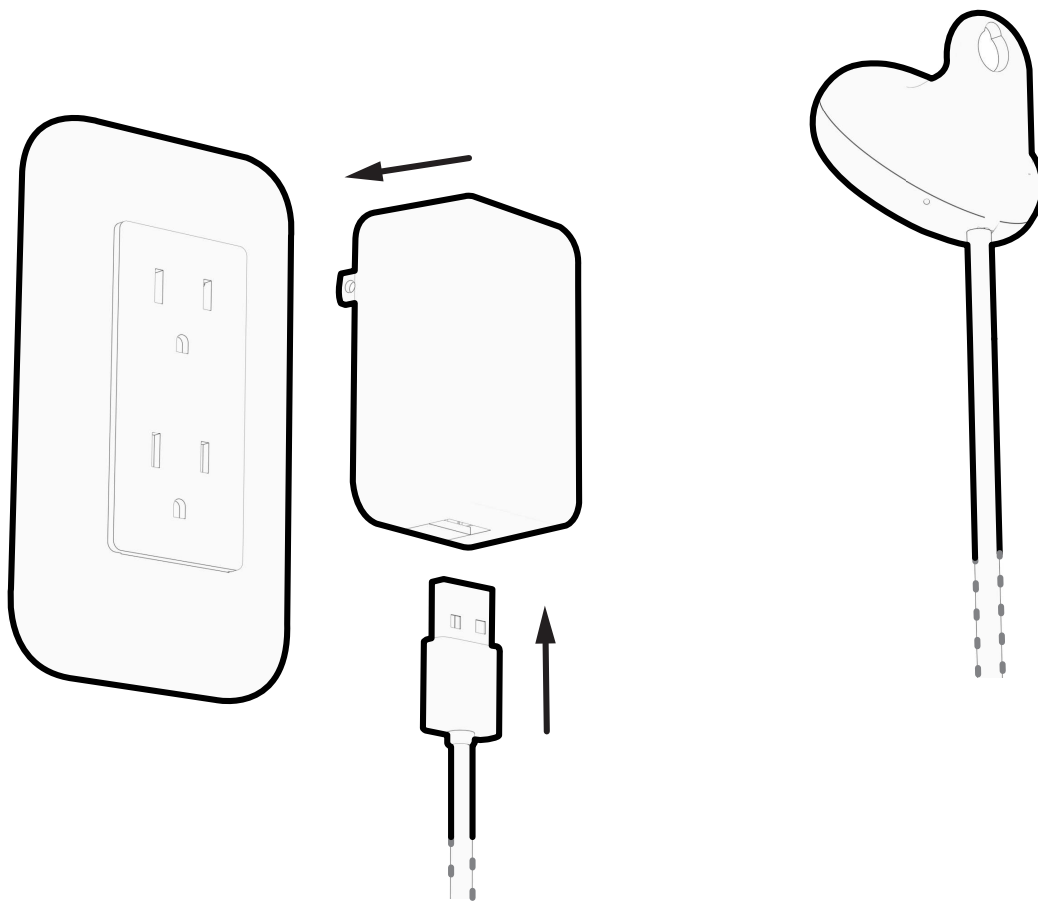
- Kardian Mini connected to a power source.



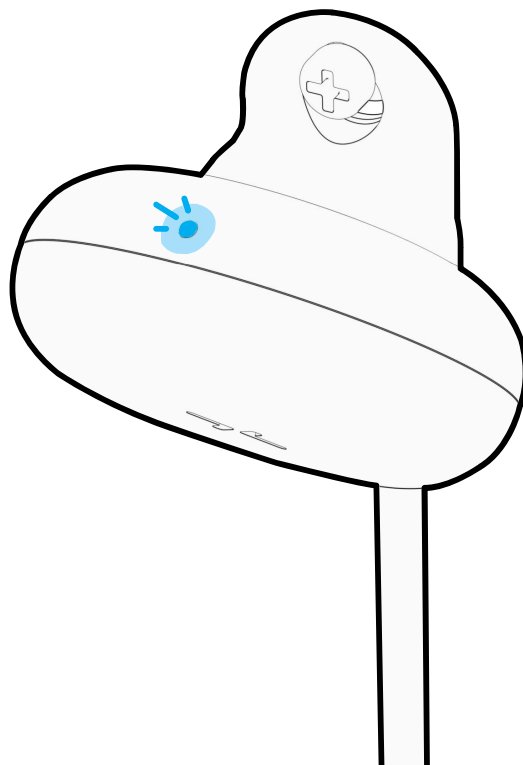
- A user device with Bluetooth and Internet connectivity (smartphone, tablet or PC). iPhone or iPad users will also need to have the Bluefy app downloaded.

5.2.1 How to Connect

1. Connect the sensor's USB cable to the provided power adapter. Plug the power adapter into a power outlet.



2. When the sensor is plugged in on, its LED pulses four times. After that, it blinks briefly every three seconds until it's connected via Bluetooth. Once connected, the LED will stay off until the device is restarted.



3. To connect the sensor to your device, ensure that your device's **Bluetooth** is enabled and follow these steps:

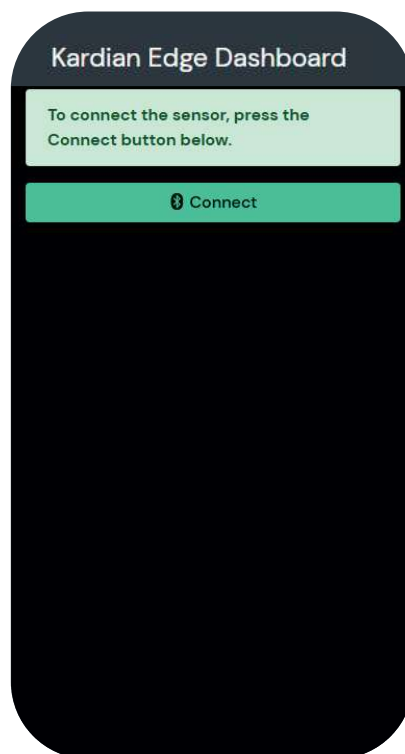
– Open your browser and navigate to:

<https://mini.xkcorp.com> or scan the QR code below:



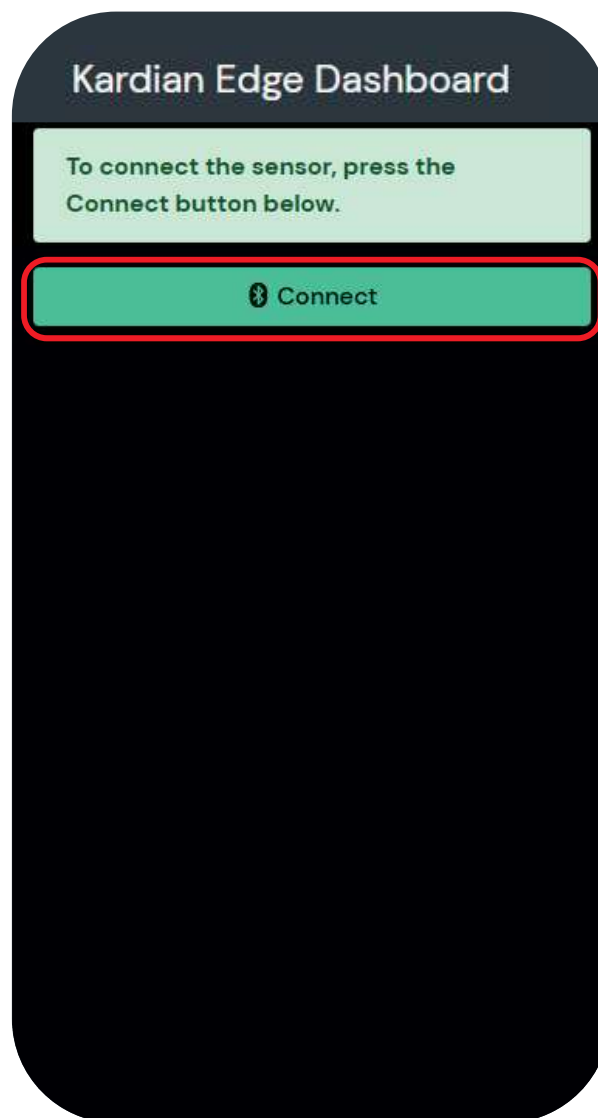
Note: We recommend using Chrome or Edge, as some browsers may not be fully supported.

Note: iPhone or iPad users must install the Bluefy app on their mobile device first. Install the Bluefy app by scanning the QR code on the left. Once Bluefy is installed, re-scan the QR code.

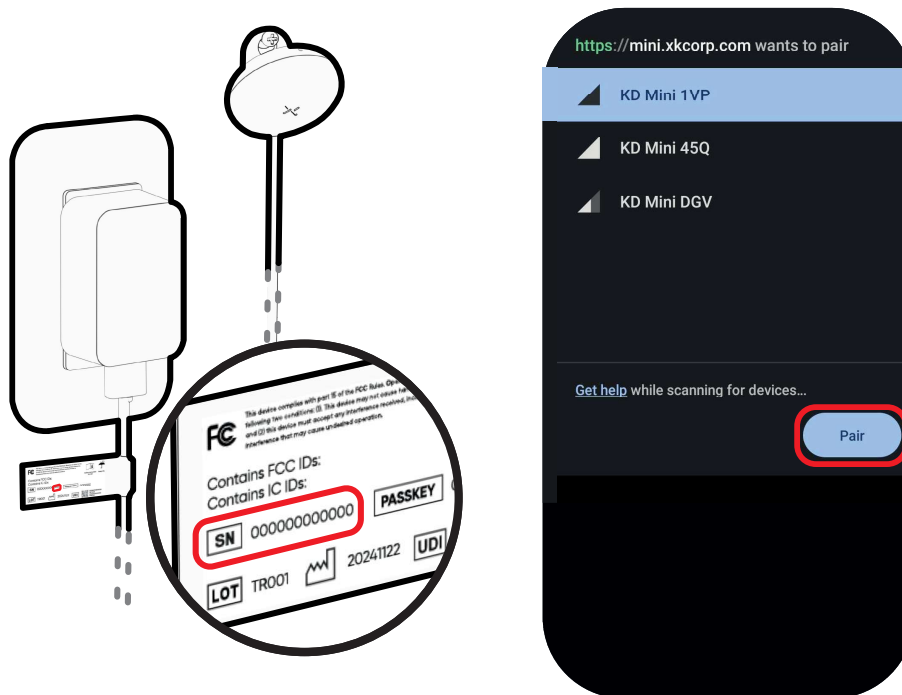


- If the connection is successful, you will see a screen similar as above.

-
4. Click the Connect button to start scanning for nearby Kardian Mini.

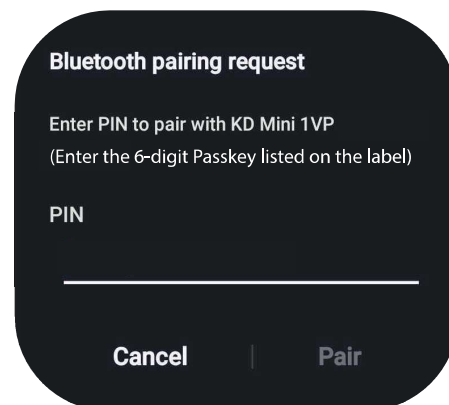


-
5. From the scanned list, find and select your sensor name, then press the Pair button.



Note: The sensor is identified by the last 3 characters of its serial number, which can be found on the product label. Hint: Use the three numbers you copied in Step 1 to identify your sensor. Hint: Use the three numbers you copied in Step 1 to identify your sensor.

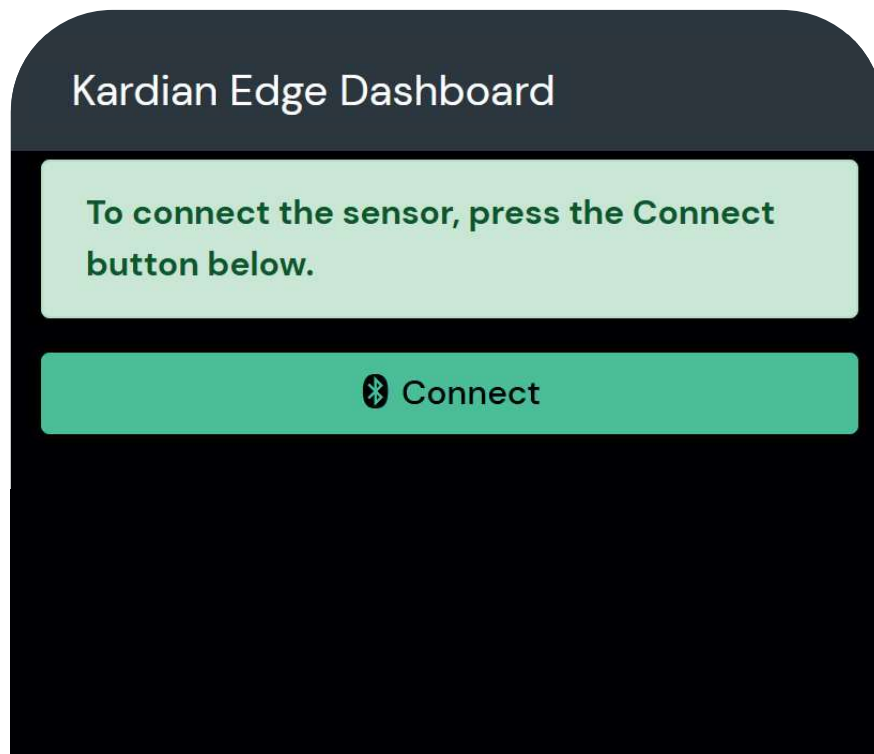
6. If you are connecting the sensor for the first time, a passkey entry window will appear. Enter the 6-digit Passkey listed on the label, then press the Pair button. Hint: Use the Passkey number that you copied at the beginning in Section 1. If you missed this step, the Passkey can be found on the label, near the power adapter.



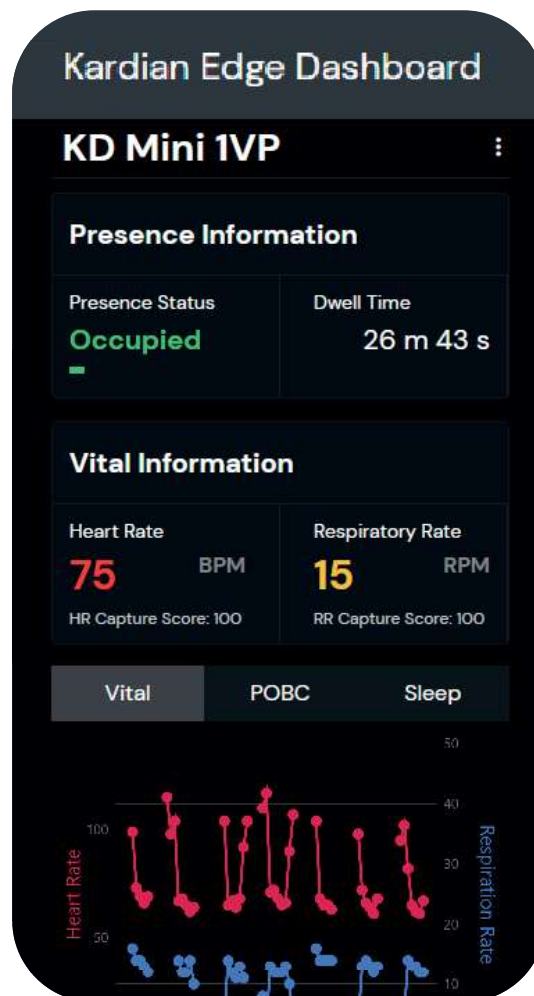
Note: Your device may refer to the Passkey as a "PIN" and may suggest PIN numbers to try. Use the Passkey number that you copied at the beginning in Section 1.

Note: If you are able to see bluetooth device but unable to connect, try to reconnect by clicking on the Connect button shown on screen.

If multiple connections fail, try to reset the sensor (as described in the FAQ section).

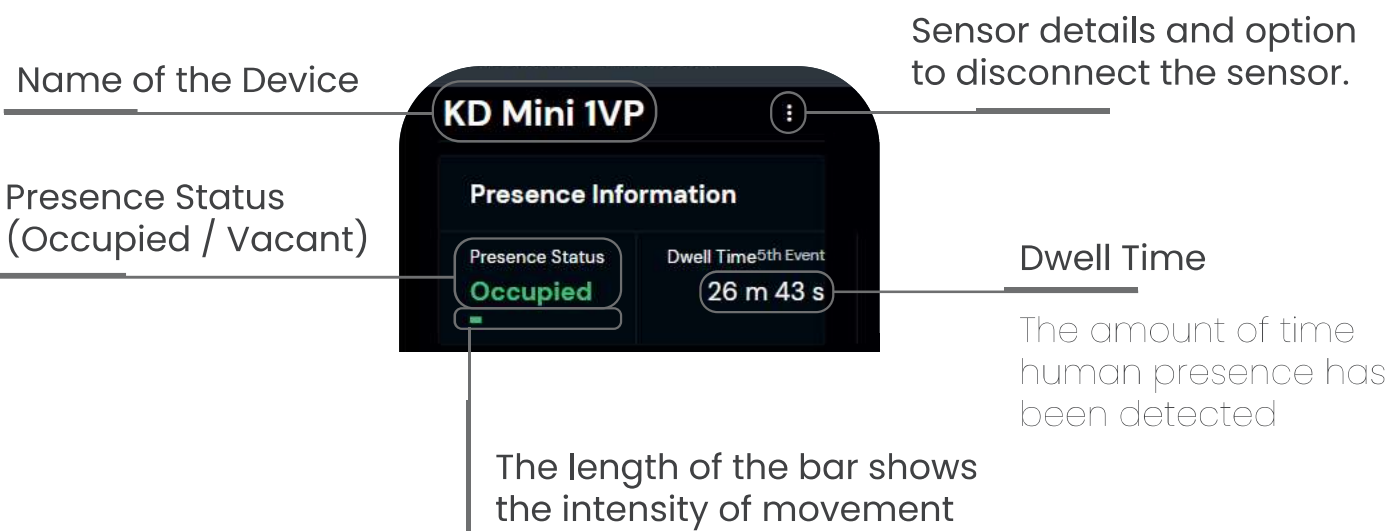


-
7. The initial connection may take up to 30 seconds.
- Once the connection is complete, you will see the dashboard screen. Your device is now ready to use!



5.2.2 Dashboard Overview

Detailed information is described in the below figure.



Current Heart Rate
(beats per minute)

Current Respiratory Rate
(breaths per minute)

Heart Rate Capture Score

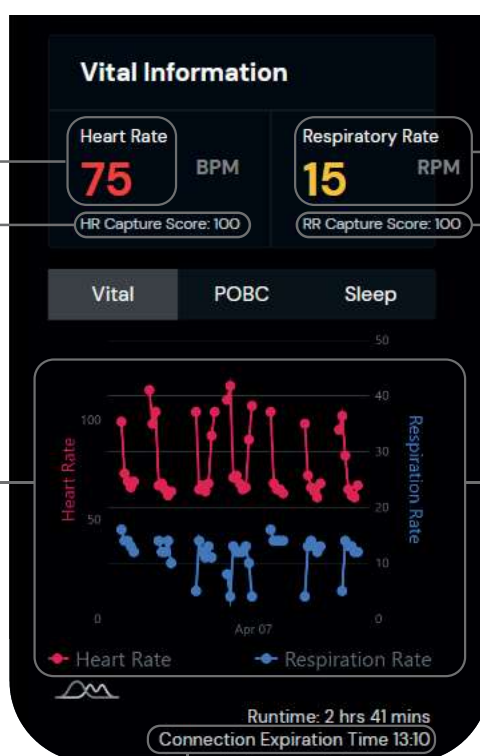
Results will not show if the
capture score is below 80.

Respiratory Rate Capture Score

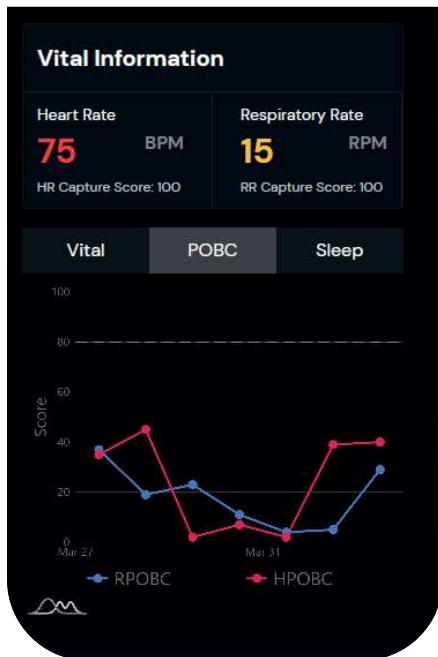
RR will not show if the
capture score is below 80.

Heart rate measured over
the time period.

Respiration rate
measured over time.

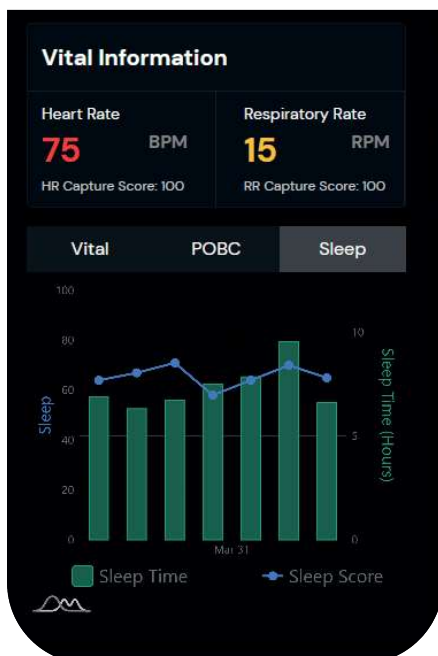


Auto logoff and disconnect time



POBC

The POBC is intended to let you know if there are meaningful changes in your baseline heart or breathing rates. A score over 80 means there may be meaningful changes in your heart or breathing rate.



Sleep Duration and score

The green bar shows how many hours you slept last night, and the Sleep Score shows the quality of your sleep.

06 Troubleshooting and FAQ

6.1 Common

Q: How long is the sensor's history data stored?

A: The sensor's history data is stored for up to 7 days. If not checked within 7 days, the data will be permanently deleted.

Q: Why is the sensor LED continuously blinking?

A: The LED will blink at regular intervals if the sensor is powered on but not yet paired. For data time synchronization, make sure to connect to the sensor

using your user device when you see the LED blinking.

Q: What should I do if I forget the passkey?

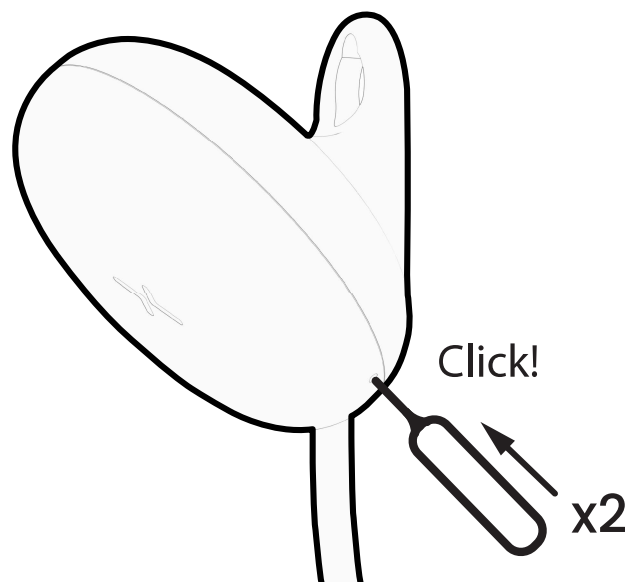
A: The passkey can be found on the label attached to the sensor cable. If the label is damaged or missing and the passkey cannot be verified, the sensor cannot be connected. Handle with care and store the passkey securely.

Q: Can more than one user device connect to the sensor simultaneously?

A: Only one user device can be connected to the sensor at any given time. To connect with another device, you must disconnect the currently connected user device.

Q: I don't see my sensor in the scan list when trying to pair it.

A: First, quickly press the sensor's reset button twice to reboot the sensor. If it still does not appear, press and hold the button for about 10 seconds to clear the sensor's paired user device list. Then, locate the sensor name in your user device's paired device list, remove it, and try reconnecting.



Q: What should I do if the sensor doesn't connect at all?

A: Try resetting the sensor's pairing list. Press and hold the reset pin for more than 10 seconds, then release it to clear the list. While the button is being held, the sensor's LED will pulse slowly at first, then begin pulsing faster after 10 seconds. The sensor can store up to five paired user devices. For security reasons, a new device cannot connect until the list is reset.

After resetting the paired list of sensor, check your user device that was previously connected to the sensor. Go to the Bluetooth settings on those devices and remove (or "forget") the sensor from the list of paired devices. After the reset, even previously connected devices will require the passkey to reconnect.

Q: I tried resetting the sensor's pairing list by holding the button for over 10 seconds, but it's still not connecting. What should I do next?

A: If the sensor still won't connect, go to the Bluetooth settings on your phone (or other device you're using) and check the list of paired devices. If the sensor is still listed there, remove or "forget" it, then try pairing again.

Q: Why is the sensor not showing up in the scan list?

A: If the sensor you are trying to connect does not appear on the scan list, try bringing your user device closer to the sensor.

6.2 Using Mobile Application

Coming soon.

6.3 Using Web Dashboard

Q: Is it safe to refresh the page?

A: No, refreshing the page on the Web Dashboard will disconnect the sensor, so please take caution.

Q: What should I do if the connection to the sensor keeps failing?

A: Remove the sensor name from your user device's paired Bluetooth devices list and try connecting again.

Q: Can my user device move away from the sensor during the connection?

A: No, if your user device moves too far from the sensor while using the Web Dashboard, the connection will be lost.

Q: Is it possible to connect to the sensor remotely?

A: Remote connection to the sensor is not supported. The Web Dashboard cannot maintain a connection with the sensor if you are far away.

07 FCC (United States) and ISED (Canada) statements

- FCC ID: 2AQ6KXM002
- IC certification number: 24388-XKA200

This device complies with Part 15 of the FCC Rules and contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS standard(s). Operation is subject to the following two conditions:

-
1. this device may not cause harmful interference, and
 2. this device must accept any interference received, including interference that may cause undesired operation.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique 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, et
2. l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Changes or modifications made to this equipment not expressly approved by Acconeer may void the FCC authorization to operate this equipment.

This equipment complies with FCC and IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 2 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé.

Cet équipement doit être installé et utilisé avec un minimum de 2 cm de distance entre la source de rayonnement et votre corps. Ce transmetteur ne doit pas être placé au même endroit ou utilisé simultanément avec un autre transmetteur ou antenne.

08 Technical Specifications

- Hardware
 - › Dimensions: 43mm X 43mm X 36mm (1.7" X 1.7" X 1.4")
 - › Weight: 42 g (0.1 lb)

- Software
 - › Version: XKA_PV version 1.0.0

- Power requirements
 - › Rate input: 5V DC, 2A (Max)
 - › Connector: USB A type male connector

- Measurement

- > Heart rate

- Measurement range: 60 – 120 bpm
 - Sensing range: 0.5 – 2.0 m
 - Accuracy: ± 5 bpm

- > Respiratory rate

- Measurement range: 6 – 55 bpm
 - Sensing range: 0.5 – 2.3 m
 - Accuracy: ± 3 bpm

- Wireless communication

- > Protocol : Bluetooth® 5.0 LE

- (Low Energy only, no Classic support)

- > Antenna: 2.4 GHz transceiver

-
- Operating conditions
 - › Temperature: 5°C - 40°C
 - › Humidity: 15% - 90%
 - › Ambient pressure : 700 hPa - 1,060 hPa

 - Transport and storage condition
 - › Temperature: -25°C - 70°C
 - › Humidity: 15% - 90%
 - › Ambient pressure : 700 hPa - 1,060 hPa

 - Water-resistant and dustproof (IP rating certified)
 - › Basic protection against small objects and drips (IP21 Rated)

-
- Expected service life
 - > 5 years

- Symbols and Definitions on Label



Medical device



UDI (Unique Device Identifier)



Serial number



Date of manufactured



Electronic instruction for use (eIFU)



Consult Instruction for use



Product reference or part number



Keep dry

Keep away from water



Caution

09 Manufacturer Information

Manufactured for:

Xandar Kardian Korea Inc.

2F, 27, Gyeonghuigung-Gil, Jongno-Gu,
Seoul, Republic of Korea

Tel : +1-833-695-2677

<https://www.kardian.com>

Support email: support@kardian.com

10 Product Warranty

Xandar Kardian warrants that Xandar Kardian's Products ('Kardian Mini') substantially conforms to Xandar Kardian's published specifications for such Product, and that the Product is free from defects in material or workmanship during the Warranty Period.

The Warranty Period begins on the date of the first use of the Product in a live environment, and extends for one year in case of Product purchases. The exclusive remedy for defective Product shall be for Xandar Kardian to, at its option, repair the defect (including labor and materials), replace the Product impacted, or issue credit for the Product impacted.

The above warranty does not apply to: (a) any prototypes or pre-production versions of products produced by Xandar Kardian as such products are supplied on an “AS IS” basis with no warranty, express or implied; (b) defects in products resulting from alterations, modifications or repairs done by anyone other than Xandar Kardian; (c) defects in products that have been caused by the customer or user and arise from mishandling, misuse, neglect or improper repair; or (D) where the defect or failure has been caused by a product or equipment not supplied by Xandar Kardian.

If the customer believes that a Product does not comply with the above warranty, it shall notify Xandar Kardian in writing of any alleged defect and request an RMA number.

