INSTRUCTIONS FOR THE CARDIOSIGNAL SMARTPHONE APPLICATION



QUICK START GUIDE

GENERAL & PRODUCT INFO

INSTALLING & ACTIVATING

TAKING A MEASUREMENT & VIEWING RESULTS

SETTINGS

SECURITY & MANUFACTURER





Updated on 19 November 2021. - ©Precordior Ltd. 2017-2021. All rights reserved.

QUICK START GUIDE page 1/2

INSTALLING & ACTIVATING APPLICATION

- → Take note of restrictions on use and cautions.
- → Install the CardioSignal application (from the Apple App Store or Google Play store).
- \rightarrow Create user account.
- $\rightarrow\,$ Accept terms of use.
- → Activate measurement feature.
 (You can purchase a 1-month, 3-month or 12-month subscription.)

TAKING A MEASUREMENT & VIEWING RESULTS

- $\rightarrow\,$ Take note of things to remember when measuring atrial fibrillation.
- $\rightarrow\,$ Read carefully measurement instructions.
- \rightarrow Take a measurement.
- $\rightarrow\,$ Check your result.

Cautions

The CardioSignal application is designed to detect possible atrial fibrillation. It is not designed to detect other medical conditions.

- CardioSignal can not detect other arrhythmias than atrial fibrillation
- CardioSignal can not detect embolism nor stroke
- CardioSignal can not detect heart attacks. If you ever experience chest pain, pressure, tightness, or what you think is a heart attack, call emergency services immediately
- CardioSignal can not detect other cardiac or cardiovascular diseases
- If you are not feeling well, or you have any symptoms, contact health care provider

If you have been diagnosed with permanent atrial fibrillation, the CardioSignal application does not offer additional information on your condition. In this case, it has already been established that you suffer from atrial fibrillation.

Information and markings stored within the service will not automatically be transmitted to other parties even if the application interprets the user as being in need of medical attention. In case of atrial fibrillation, contact your healthcare provider.

In case of health emergency, contact your emergency response center.

Restrictions on use

The application is intended for adults. The heart rate of children and young people can vary a lot according to respiration (sinus arrhythmia), in which case irregular respiration has more effect on the result and a normal rhythm might look irregular. The measurement must not be performed in the following situations: the skin on the chest is damaged in the measurement area, or the phone is connected to a charger. Persons who have a cardiac pacemaker may not use the application. Holding a phone powered on close to a cardiac pacemaker can create electromagnetic interference (EMI), which may cause a malfunction in the pacemaker.



QUICK START GUIDE page

Things to remember when measuring atrial fibrillation

Atrial fibrillation is the most common cardiac arrhythmia, and it may occur occasionally or in a sustained manner. In order to detect possible atrial fibrillation with the CardioSignal application according to the intended use, a measurement must be taken twice per 24-hour period, for example, in the morning and evening.

Follow the instructions below in order to achieve the best measurement result.

- Take the measurement while lying on your back, strive to be relaxed.
- Do not move, speak or cough.
- Do not hold the phone.
- Keep hands relaxed aside the body. For example putting palms under your neck may cause contractions of pectorals (breast muscles) which affects the measurement.
- Do not take the measurement after exercising, because your heart rate will be unnaturally high.
- Moving the phone or touching the screen during the 60-second measurement will interrupt the measurement.

Take a measurement

Take a measurement

- Remove any thick clothing from your chest area.
- Lay on your back and relax.
- Press the Start button in the CardioSignal application, which will begin the 10-second countdown period.
- Place the phone in the middle of your chest the phone screen facing upwards. Put 2-3 fingers between the upper edge of the phone and the upper edge of the sternum to find the optimal location for the phone.
- The measurement lasts for 60 seconds. You will hear a beep every 10 seconds and the end signal will sound when the measurement has been completed.
- The measurement is displayed after the analysis phase. The speed of your internet connection affects the duration of the analysis phase.

8

What to do in the following situations?

ATRIAL FIBRILLATION DETECTED

Repeat the measurement several times and ensure that you have followed the instructions If atrial fibrillation is detected in consecutive measurements, contact a doctor or your care provider.

ATRIAL FIBRILLATION DETECTED BUT I'M SURE THAT I DON'T HAVE IT

The heart rate can vary a lot. Try holding your breath during the measurement (for example, for 15 seconds) to reduce the effect of respiration on irregular heart rate. THE MEASUREMENT FAILS REPEATEDLY Ensure that you have followed the instructions.



MANUFACTURER: ■ Precordior Ltd. Aurakatu 6, 20100 Turku, Finland ■ Contact us: +358 102 021 200 > support@cardiosignal.com







TABLE OF CONTENTS



TAKING A MEASUREMENT AND VIEWING RESULTS 12

- Things to remember when measuring atrial fibrillation
- 1 Take a measurement
- Results view
 - Medical result
 - Signs of atrial fibrillation
 - No signs of atrial fibrillation
 - Physiology
 - Cardiogram
- Unsuccessful measurement
- What to do in the following situations? Atrial fibrillation detected Atrial fibrillation detected, but I'm sure that I don't have it. The measurement fails repeatedly
- Should I take measurement with or without protective casing and auxiliary devices?

Interrupt a measurement

Check My Progress and features Delete a measurement

4 SETTINGS 20 User profile Change password Delete account Health survey Log out Language Sounds Vibration Feedback

- Terms of Use
- Privacy policy

5

Open source components

PRIVACY PROTECTION

AND USER DATA 22 DATA SECURITY 22 MANUFACTURER INFORMATION 23

CARDIOSIGNAL by Precordior *



GENERAL

1.

These instructions are provided in PDF format. You can request a paper version by sending an e-mail to **support@cardiosignal.com**.

These instructions were updated on 19 November 2021 and they apply to the CardioSignal iOS and Android software version 2.4 or newer.

PRODUCT DESCRIPTION



CardioSignal is a smartphone application to monitor atrial fibrillation of the heart. The CardioSignal smartphone application and related services are produced by the Finnish company Pre-

cordior Oy. The CardioSignal application is a CE-marked medical device (class IIa) which has a sales permit in the European Union region. The application is not available in all countries. You can check country availability at **www.cardiosignal.com**.

Safety and performance

The technology, measurement method and atrial fibrillation detection algorithms CardioSignal application uses have been validated in clinical trials. The study comprised 300 patients, 150 in atrial fibrillation and 150 age- and sex-matched patients in sinus rhythm (normal electrical activity of the heart). Motion data recording was acquired from each subject with a smartphone placed on the sternum. A simultaneously obtained electrocardiography recording was used as the comparison method to assess rhythm. Electrocardiographic rhythm classifications were confirmed by 2 independent cardiologists, and a third cardiologist made the final decision if interpretations diverged. The institutional ethics review board approved the study protocol. The algorithm developed beforehand analyzed the motion data acauired by the smart phone and classified the rhythm to be either sinus or atrial fibrillation. Electrocardiographic rhythm classifications were blinded to the algorithm and the algorithm developers. The result of this study is that the CardioSignal application is able to detect atrial fibrillation with 95.3% sensitivity (identifies atrial fibrillation rhythm correctly) and the 96.0% positive predictive value, as well as 96.0% specificity (identifies sinus rhythm correctly) and 95.4% negative predictive value. The study population

presents a large variety of different person and body characteristics. No serious device adverse effects were observed. Details of the study are publicly available here:

- ► https://www.ahajournals.org/doi/ full/10.1161/CIRCULATIONAHA.117.032804
- ► https://clinicaltrials.gov/ct2/ show/NCT03274583

Intended use

The intended use is to detect signs suggestive of atrial fibrillation in the adult population.

Note: Not approved in the USA by the FDA.





Supported operating systems, devices and other requirements

The CardioSignal smartphone application can be used on Apple iPhone and Android smartphones. The following requirements are necessary for the application to operate:

- The smartphone must have motion sensors (accelerometer and gyroscope).
- Android operating system version 6.0 or newer, but we recommend that you always update to the latest operating system.
- Please note that operations of the Android application may vary depending on the components used by the Android phone manufacturer and changes made to the operating system.
- Apple iPhone SE or newer phones.
- iOS operating system 12.1 or newer.
- The WiFi or Mobile-Internet connection must be turned on when using the application. Please note that the use of mobile data may cause additional costs depending on the phone subscription.
- A user account must be created in order to use the application.

• The application is intended for personal use by the holder of the user account. The holder of the user account is responsible for adequate locking of the phone on which CardioSignal is installed in order to prevent unauthorized use of the application. This can be done, for example, using a biometric identifier or password.



Restrictions on use

The application is intended for adults. The heart rate of children and young people can vary a lot according to respiration (sinus arrhythmia), in which case irregular respiration has more effect on the result and a normal rhythm might look irregular.

The measurement must not be performed in the following situations: the skin on the chest is damaged in the measurement area, or the phone is connected to a charger.

Persons who have a cardiac pacemaker may not use the application. Holding a phone powered on close to a cardiac pacemaker can create electromagnetic interference (EMI), which may cause a malfunction in the pacemaker.



Cautions

The CardioSignal application is designed to detect possible atrial fibrillation. It is not designed to detect other medical conditions.

- CardioSignal can not detect other arrhythmias than atrial fibrillation
- CardioSignal can not detect embolism nor stroke
- CardioSignal can not detect heart attacks. If you ever experience chest pain, pressure, tightness, or what you think is a heart attack, call emergency services immediately
- CardioSignal can not detect other cardiac or cardiovascular diseases
- If you are not feeling well, or you have any symptoms, contact health care provider

Information and markings stored within the service will not automatically be transmitted to other parties even if the application interprets the user as being in need of medical attention. In case of atrial fibrillation, contact your healthcare provider.

In case of health emergency, contact your emergency response center.



1.

INSTALL THE APPLICATION

2.

The CardioSignal application cannot be installed on an incompatible phone from an app store. The phone is incompatible when it does not have the required motion sensors or the operating system is too old. There are known Android phone models which are blocked regardless of having the required sensors or operating system version. Google play or Apple App Store don't allow installation to incompatible phones. The easiest way to test the application's compatibility is to try and install it from the application store.



IPHONE APPLICATION

- Open the App Store application on your iPhone and select the Search feature (magnifying glass).
- Write CardioSignal in the search field and press the Search button on the keyboard.
- Open the CardioSignal application information and press the Get button.
- The application will be installed.



ANDROID APPLICATION

- Open the Google Play application on your Android phone.
- Write CardioSignal in the search field and press the magnifying glass icon.
- Open the CardioSignal application information and press Install.
- The application will be installed.



Icon of the CardioSignal smartphone application





CREATE A USER ACCOUNT

CREATE A USER ACCOUNT

2.

After starting the CardioSignal application, a user can either select tutorial or skip the tutorial to sign in.

A valid e-mail address is required to create a user account. Enter your e-mail address and password. The application instructs user if the password is not valid for example too short. The new account must be verified by opening a verification link sent to the user's email address. (@ 1-4)

Creating user account



- → Check tutorial
- \rightarrow Create new account
- → Enter your e-mail & password
- \rightarrow Check your email & verify your account
- ightarrow Log into the application using the credentials that you just created





PRIVACY NOTICE AND TERMS OF USE

2.

In order to use the CardioSignal application, you must accept the Terms of Use. Read the Terms of use and the Privacy notice, touch the checkbox with your finger after you have read and understood the Terms of use; only then you can move forward by pressing the I agree button. (@ 5-7)

Privacy Notice & Terms of Use



 \rightarrow Read Terms of use & accept





ACTIVATE THE ATRIAL FIBRILLATION MEASUREMENT FEATURE

After accepting the Terms of Use, the user will need to activate the measurement feature by purchasing a subscription. CardioSignal may also offer a free trial depending on the time or country where the application is used.

Selecting subscription

- \rightarrow Go to subscription selection
- \rightarrow Select a subscription type

ACTIVATE THE MEASURE-MENT FEATURE WITH AN APPLE OR GOO-GLE SUBSCRIPTION

The CardioSignal application offers subscriptions to enable measurement feature. When the user chooses the **See the subscriptions** feature, the prices and durations of different subscription options (1 month, 3 months and 1 year) are displayed. After selecting a single subscription option, the user is asked to approve the subscription in the manner offered by Apple or Google, for example, FaceID, fingerprint, password, etc. A successful or unsuccessful subscription is clearly displayed to the user. The measurement view is displayed to the user after successful payment. (**@** 8-9)



▲ Please note that the subscription options and prices presented in the image may differ from the prices displayed by the application. The application always displays the up-to-date prices.





Subscription duration, renewal and cancellation

2.

An active subscription is automatically renewed unless it is canceled at least 24 hours prior to the start of the next subscription period. This may vary depending on the Google or Apple practices. Subscriptions cannot be canceled from the CardioSignal application, but must be done via the Google or Apple subscription management system.

Cancel an Apple subscription:

https://support.apple.com/en-us/HT202039

Cancel a Google subscription:

https://support.google.com/googleplay/ answer/7018481?hl=en&ref_topic=1689236

Please note that the links may be changed by Apple or Google.

Change the subscription type

The subscription type (e.g. 1 month, 3 months or 1 year) cannot be updated during a subscription period. If you want to change a subscription that is renewed every month to a 3-month subscription, you can do so in the manner offered by your iPhone or Android phone. It is the responsibility of the service provider (Apple or Google) to provide any refunds in connection with a change in the subscription type and Precordior cannot affect these matters. It is recommended to open the link above and read more about Apple and Google instructions concerning a change in subscription.

Restore a subscription

If you have an active subscription but, for example. you had to reinstall the CardioSignal application, you can restore the valid subscription. iPhone: Log in to the CardioSignal application with the CardioSignal user ID you created earlier, select the **Restore purchase** feature and try to restore the subscription with the Apple ID. After restoring the subscription, the measurement feature is available until the end of the subscription period. Android: Make sure you are using the same Google account as before. Log into the CardioSignal application using your CardioSignal username. The subscription is restored automatically, and you can continue taking measurements.

Subscription price and duration

Please note that the price of the subscription and the subscription types (1 month, 3 months, 1 year) may differ from the prices and subscription types presented in this documentation. The application always displays the price separately for each subscription type. Apple and Google will also ask you to confirm the purchase before you are charged. The purchase price is separately displayed again to the user in conjunction with confirmation.





TAKING A MEASUREMENT AND VIEWING RESULTS

3.

After the measurement feature has been activated, the application displays the Press START to measure view. This view is the default view after starting the application. Before taking the first measurement, it's a good idea to read the instructions to ensure the most reliable result. You can open the Instructions view by clicking on the Read instructions text. Read the instructions carefully before taking a measurement in order to ensure the best possible measurement result. This document "CardioSignal User Manual" can also be accessed via the application's measurement instructions, at the end of the instructions view.



Things to remember when measuring atrial fibrillation

Atrial fibrillation is the most common cardiac arrhythmia, and it may occur occasionally or in a sustained manner. In order to detect possible atrial fibrillation with the CardioSignal application according to the intended use, a measurement must be taken twice per 24-hour period, for example, in the morning and evening.

Follow the instructions below in order to achieve the best measurement result:

- Take the measurement while lying on your back, strive to be relaxed.
- Do not move, speak or cough.
- Do not hold the phone.
- Keep hands relaxed aside the body. For example putting palms under your neck may cause contractions of pectorals (breast muscles) which affects the measurement.
- Do not take the measurement after exercising, because your heart rate will be unnaturally high.
- Moving the phone or touching the screen during the 60-second measurement will interrupt the measurement.







Start the measurement by pressing the START button in the middle of the screen. After this, you have 10 seconds to place the phone on top of your chest. During the countdown, you'll hear a beep every second and a start-up signal will indicate the beginning of the measurement. (**@** 10)

The atrial fibrillation measurement lasts for 60 seconds, during which you may not touch the phone or move. Please note that speaking, coughing or moving your body can cause a measurement error or unsuccessful measurement. The vibration feature may cause a measurement error if, for example, you receive a message during the measurement. (@ 11)

You will hear a beep every 10 seconds during the measurement, and the end of the measurement is indicated by an end signal if the vibration feature is turned on. You can change the vibration setting in the application settings. After the measurement, the measurement data will be analyzed for a short time. The duration of the analysis phase may vary depending on the speed of the internet connection.

CardioSignal will display the measurement result after the analysis phase. The application can provide 2 different measurement results: Signs of atrial fibrillation or No signs of atrial fibrillation.

Take a measurement

- \rightarrow Read instructions
- $\rightarrow\,$ Press START to measure
- $\rightarrow\,$ Place phone on your chest
- \rightarrow Measurement progress is displayed
- $\rightarrow\,$ Please wait while analyzing data

Take a measurement

- Remove any thick clothing from your chest area.
- Lay on your back and relax.
- Press the START button in the CardioSignal application, which will begin the 10-second countdown period.
- Place the phone in the middle of your chest the phone screen facing upwards. Put 2-3 fingers between the upper edge of the phone and the upper edge of the sternum to find the optimal location for the phone.
- The measurement lasts for 60 seconds. You will hear a beep every 10 seconds and the end signal will sound when the measurement has been completed.
- The measurement is displayed after the analysis phase. The speed of your internet connection affects the duration of the analysis phase.



CARDIOSIGNAL by Precordior ®



4 2 -

14.47-7

<

RESULTS VIEW

Medical result

Signs of atrial fibrillation

Signs of atrial fibrillation were detected in the user. If the CardioSignal application detects atrial fibrillation, the measurement must be repeated to confirm the result. (@ 12-13)

Please note that performing the measurement in a way that conflicts with the instructions (moving, talking, incorrect measurement position or holding the phone) may also cause a **Signs of atrial fibrillation** measurement result. Make sure that you followed the instructions and repeat the measurement a few times.

If you obtain the same measurement result several times, contact your doctor or care provider.

No signs of atrial fibrillation

No atrial fibrillation was detected. A successful measurement result does not require any further action. However, remember to continue taking daily measurements. We recommend measurements in the morning and in the evening. Regular measurement is important because atrial fibrillation can also occur occasionally, which makes it difficult to recognize. (@ 14)

CARDIOSIGNAL by Precordior

Measurement results

- \rightarrow View results
- \rightarrow More information
- \rightarrow New measurement

Perform the measurement again to confirm the result. Make sure you have completed the measurement correctly.

11/9/2021 11:35

MEASURE AGAIN

Check before measurement

Medical information

Signs of Atrial

Fibrillation

 Follow the measurement instructions carefully.

Remove protective casing. If you use thick and soft casing for your smartphone it may effect on the signal.

 Remove thick clothing from your upper body.

My physiology Heart rate Respiration 81 bpm 17 /min Physiology is not part of the CardioSignal's intended use and should not use for medical

Cardiogram

Medical information Signs of Atrial Fibrillation

15.32 🗸

-1 × =

There have been irregularities in your heart rate several times in a row

11/9/2021 15:32

We recommend that you consult your doctor after having several consecutive atrial fibrillations detections or if you feel unwell.

MEASURE AGAIN

My physiology Heart rate Respiration 73 born 28 /min

Physiology is not part of the CardioSignal's intended use and should not use for medical purposes.





11/11/2021 14:37



INSTRUCTIONS FOR THE CARDIOSIGNAL SMARTPHONE APPLICATION



Updated on 19 November 2021. – ©Precordior Ltd. 2017–2021. All rights reserved.

Physiology

3.

In the Physiology section of the My Progress view the average heart rate, heart rate variability (HRV) and respiration are displayed. Of these, HRV is shown only if no signs of atrial fibrillation were detected in the measurement. The manufacturer claims no responsibility for the correctness of these results. Touching any of these will provide additional information. If any of the Physiology values displays N/A as a value, it was not possible to calculate the value in consideration. This could be due to poor sensor data quality or poor positioning of the phone during the measurement. (**©** 15)

Cardiogram

Cardiogram displays a visualization of the heart signal during the measurement. Touching the arrow on the top right corner of the cardiogram card opens more detailed view of the cardiogram. The cardiogram can be scrolled horizontally on both the card and the cardiogram view. (**@** 16)

Please note that the cardiogram is not an ECG curve, because the method used by the application is based upon motion sensors.

Physiology & Cardiogram

- \rightarrow Check heart rate, HRV and respiration rate
- \rightarrow View cardiogram graph
- $\rightarrow\,$ Touch for further information



CARDIOSIGNAL by Precordior *



Unsuccessful measurement (examples)

4.00

17

11/9/2021 11:34

Medical information

failed

Measurement

We found the phone's position to be

upright during the measurement. Try

to repeat the measurement by placing the phone as horizontal as possible. Revise the measurement instructions if necessary.

MEASURE AGAIN

DELETE

12.44-4

<



→ Take a new measurement

3.

The images show some examples of unsuccessful measurements. Please note that there can be more error situations than those presented in the images.

UNSUCCESSFUL MEASUREMENT

If the measurement is unsuccessful, repeat the procedure (@ 17-19). Check the measurement instructions to ensure

that you have performed the measurement according to the instructions. An unsuccessful measurement can be caused by several different reasons:

18

al 30 📼

11/9/2021 12:43

Medical information

failed

necessary.

Measurement

We did not detect a cardiac signal.

Make sure you place the phone on

MEASURE AGAIN

DELETE

your chest to make the measurement. Revise the measurement instructions if 11.32 4

420

11/9/2021 11:32

Medical information

failed

necessary.

Measurement

We found the phone moving during the measurement. Movement during measurement influences the measurement result significantly. Repeat the measurement and revise the measurement instructions if

MEASURE AGAIN

DELETE

• You have moved your phone during the measurement. If the phone de-

tects excessive movement during the measurement, the measurement will be interrupted as unsuccessful.

- The measurement data cannot be interpreted. The data produced by the motion sensors is unreadable for some reason. In this case, the data is not analyzed and the measurement is declared unsuccessful.
- The phone was in the wrong position during measurement. The phone must be in the most horizontal position possible.

• The measurement has been performed, for example, from a table and the heart signal was not detected.

- Your heart rate is outside the 30-160 beats per minute range. You can measure your heart rate in some other way (for example, taking your pulse by hand) in order to ensure that this is not the reason.
- Reboot your phone. Some phone models are reported to provide erroneous sensor data but rebooting the phone fixes the problem.
- If the measurement fails repeatedly, you can contact Precordior Ltd's customer service by e-mail at support@cardiosignal. com

or by calling +358(0)10 202 1200.

CARDIOSIGNAL by Precordior ®



What to do in the following situations?

ATRIAL FIBRILLATION DETECTED

- 1. Repeat the measurement several times and ensure that you have followed the instructions in the *Things to remember when measuring atrial fibrillation* section.
- 2. Also check the quick start guide in the CardioSignal application.
- 3. If atrial fibrillation is detected in consecutive measurements, contact a doctor or your care provider.

ATRIAL FIBRILLATION DETECTED, BUT I'M SURE THAT I DON'T HAVE IT

- 1. Especially with children, young people and athletes, the heart rate can vary a lot according to respiration (sinus arrhythmia), in which case irregular respiration has more effect on the result and a normal rhythm might look irregular. Try holding your breath during the measurement (for example, for 15 seconds) to reduce the effect of respiration on irregular heart rate.
- 2. All people have extra heartbeats at some times. A small number of atrial extrasystoles (also known as premature atrial contractions, PACs) is not a problem but having a lot of them can be harmful. The application may have difficulty differentiating between a large number of atrial extrasystoles and atrial fibrillation.

THE MEASUREMENT FAILS REPEATEDLY

- 1. Ensure that you have followed the instructions presented in the *Things* to remember when measuring atrial fibrillation section.
- 2. The measurement is classified as unsuccessful if the measured heart rate is less than 30 or over 160 beats per minute. Measure your heart rate and make sure that it is between 30 and 160 beats per minute.
- 3. Reboot your phone. Some phone models are reported to provide erroneous sensor data but rebooting the phone fixes the problem.
- 4. If none of the above-mentioned instructions correct the measurement, contact Precordior Ltd's customer service by e-mail at **support@cardiosignal.com** or call +358(0)10 202 1200.

CARDIOSIGNAL by Precordior *





3.

Should I take measurement with or without protective casing and auxiliary devices?

There is no simple answer to this question as there are many different types of protective casings and auxiliary devices which are directly connected to the phone (for example zoom lenses, popsockets, tripods, selfie sticks etc.). A successful measurement resulting in reliable analysis result requires a decent mechanical connection between the phone and the chest. In general, using any auxiliary device during measurement is not recommended as it can prevent or alter the vibrations from the chest being transferred unaltered to the motion sensors of the phone. It can be beneficial to use thin protective casing to increase the friction between the chest and (slippery) back cover of the phone so that the phone does not slide or move during the measurement. On the other hand, some type of protective casings (e.g. thick and soft) can effectively corrupt tiny chest movements the app is supposed to record and analyze. Also popular wallet, or flip casing can introduce problems especially if the cover is turned under the phone during measurement.

- Remove any auxiliary device connected to the phone that prevents phone sitting flat on the chest before taking measurement.
- If you get repeatedly unsuccessful measurements, try to remove protective casing to see if that helps.
- If you get two consecutive Signs of atrial fibrillation results, repeat measurement without protective casing to check if the casing disturbs the motion signals. In case, you get the No signs of atrial fibrillation result without casing and the Signs of atrial fibrillation result with casing, you shouldn't use protective casing when taking measurements.





INTERRUPT A MEASUREMENT

A measurement can be interrupted during the measurement by touching the counter. The measurement is also interrupted if the application is moved to the background whilst measuring.

CHECK MY PROGRESS AND FEATURES

The My Progress view shows the measurement activity including reminder if a user has not taken a measurement according to recommendation. The calendar card displays the days when user has taken measurements. Tapping a highlighted day shows the activity for the specific day. More detailed view of measurement history can be opened from the calendar card by tapping the arrow icon.

The user can also see the measurement results of the previous months by touching the left arrow icon on the month selector located on top of the My Progress view.

The user can also refresh the My Progress view by pulling the view down. Sometimes refreshing is required if network connection fails and it can not load the measurement history. (
20-22)

My Progress (examples)

→ View past activity
 in calendar view
 → Tap > icon next to
 My Activity title for
 more information



Delete a measurement

The user can not delete measurements.



INSTRUCTIONS FOR THE CARDIOSIGNAL SMARTPHONE APPLICATION



Updated on 19 November 2021. – ©Precordior Ltd. 2017–2021. All rights reserved.

SETTINGS

The settings for the CardioSignal application are opened from the <u>Settings</u> option in the navigation menu at the bottom of the application. (@ 23)

User profile

4.

The user profile settings can be opened directly by touching the user profile in the application menu and selecting user ID in the **Profile** section. You can change a password, delete a user or log out in the user profile settings. (
 23)

Change password

In order to change a password, you first need to log out (@ 25), select Sign in and the Don't remember your password option. (@ 3)

Delete account

To delete the account, contact support@cardiosignal.com to request account removal.

After a user account has been deleted, the measurement data can no longer be restored and all unique identifiers associated with

Settings / User profile / Sign out / Language



the measurement data will be deleted. Precordior Ltd will save the measurement data after the user account has been deleted and it can use (anonymized) measurement data





4.

for service development and research work.

Health survey

The user can trigger a health survey from the settings or from the My Progress view if it promotes the survey to the user. (
 23)

Log out

The user can log out of the application with the Sign out button. The user will be asked to confirm the log out action prior to logging out. (@ 25)

Language

The language of the CardioSignal application can be changed by selecting the Language option. The application will display the language options and the language that is currently in use. After a change in language, the application will display the measurement start-up view. (@ 23,26)

Sounds

The **Sounds** setting specifies whether sound signals are used during the measurement. The Sounds setting can be turned on or turned off. (**@** 23-24)

Vibration

The Vibration setting specifies whether vibration is used when starting, interrupting or ending a measurement. The vibration setting can be turned on or turned off. (
23-24)

Feedback

The Feedback feature opens the default e-mail program from which the user can send feedback to the user support address support@cardiosignal.com provided by Precordior Ltd. (@ 23-24)

Terms of Use

The Terms of Use section opens the Terms of Use for the CardioSignal application. (@ 24)

Privacy Notice

The Privacy Policy section opens the Privacy Notice for the CardioSignal application. (@ 24)

Open source components





PRIVACY PROTECTION AND USER DATA

5.

Learn more about the privacy notice for the application at

► https://service.precordior.com/ legal/en/privacy-policy.html

DATA SECURITY

Personal data is collected for the purpose of providing CardioSignal service for you. Precordior processes personal data in accordance with the provisions of the general data protection regulation (GDPR). Please refer the Privacy Notice for more information.

CardioSignal utilizes commonly used and proven encryption methods. All of the data that CardioSignal sends to Precordior's cloud service is transferred over an encrypted connection and saved in an encrypted database. The servers used to produce the database and service are connected to a private network that cannot be directly accessed from the internet. Back-up copies of the data are taken on a daily basis. No measurement data is saved in the mobile devices (iOS and Android) The CardioSignal user account is personal, and therefore it is important for the account holder to prevent any external parties from gaining access to a device on which the CardioSignal application is installed. CardioSignal user IDs must never be shared with external parties, and the application must always be installed from the official Apple App Store or Google Play stores. For example, there is no guarantee that the application will function properly if it is installed on a Jailbroken or rooted device or on an emulator. The user must ensure that the iOS or Android operating system is updated to a compatible operating system version, which you can check in the Supported operating systems, devices and other requirements section.





MANUFACTURER INFORMATION

MANUFACTURER INFORMATION



5.

Precordior Ltd Aurakatu 6 20100 Turku, Finland Company registration number 2800927-7 Contact us:

+358 102 021 200

Notified body: Eurofins Expert Services Oy

CE 0537

support@cardiosignal.com

PRECORDIOR IN BRIEF

Precordior Ltd. provides unique cardiac monitoring solutions based upon the user's chest motion. CardioSignal[™] is our CE IIa class medical device for detection of atrial fibrillation, which works on most modern smartphones without any additional add-on devices. Precordior's technology is based upon comprehensive scientific research in Finland in 2012–2021 and has been validated with clinical trials. At Precordior, we strive to provide reliable and user-friendly heart monitoring solutions to smartphone users worldwide.



CARDIOSIGNAL by Precordior ®

