TELTONIKA

TELTOHEART

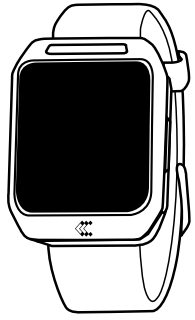
QUICK START GUIDE

THANK YOU FOR CHOOSING TELTOHEART SMART WEARABLE

CONTENTS OF THE BOX

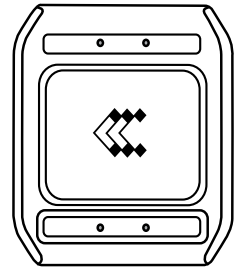
1x TeltoHeart

Heart monitoring bracelet.



1x Charging dock

USB-C charging dock that charges via USB connector via 5Vdc.

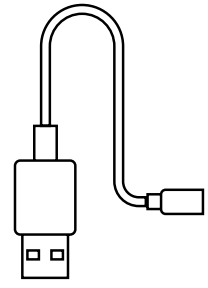


1x Short user instructions*

Short instructions providing essential knowledge.

1x USB-A to USB-C cable*

Cable for connection to charging dock.

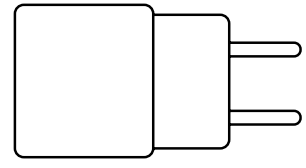


1x Quick start guide

User instructions with easy to understand illustrations.

1x USB-A charger*

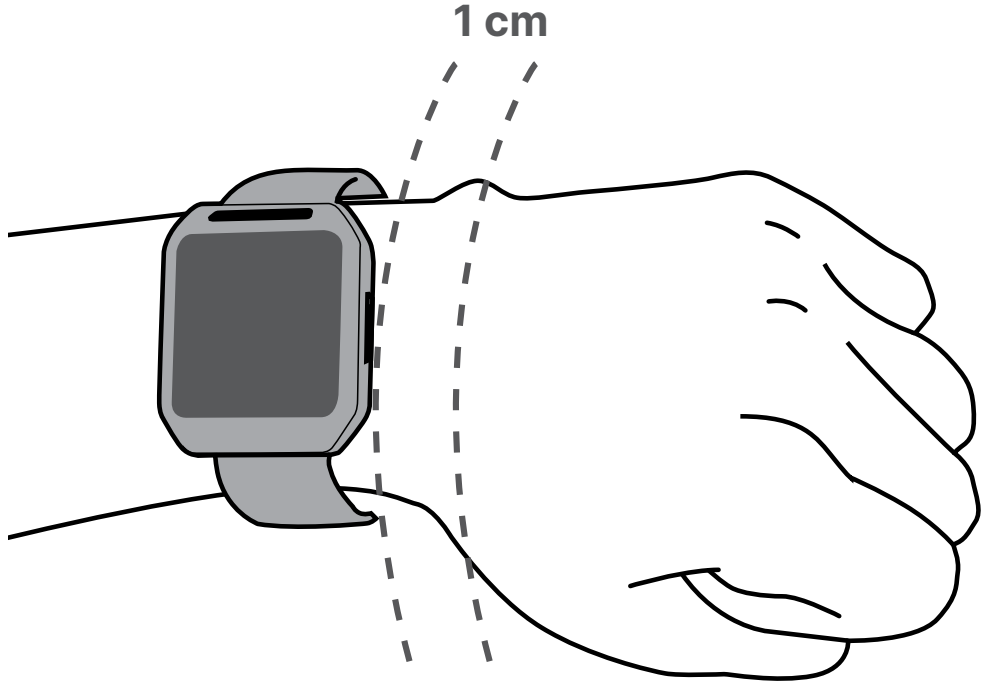
Wall charger.



* Items marked with an asterisk (*) depend on the ordered complectation.

HOW TO WEAR TELTOHEART

Secure TeltoHeart around your **left hand** lower arm, 1 cm above your wrist bone, as illustrated. Avoid fastening it too tightly or too loosely.

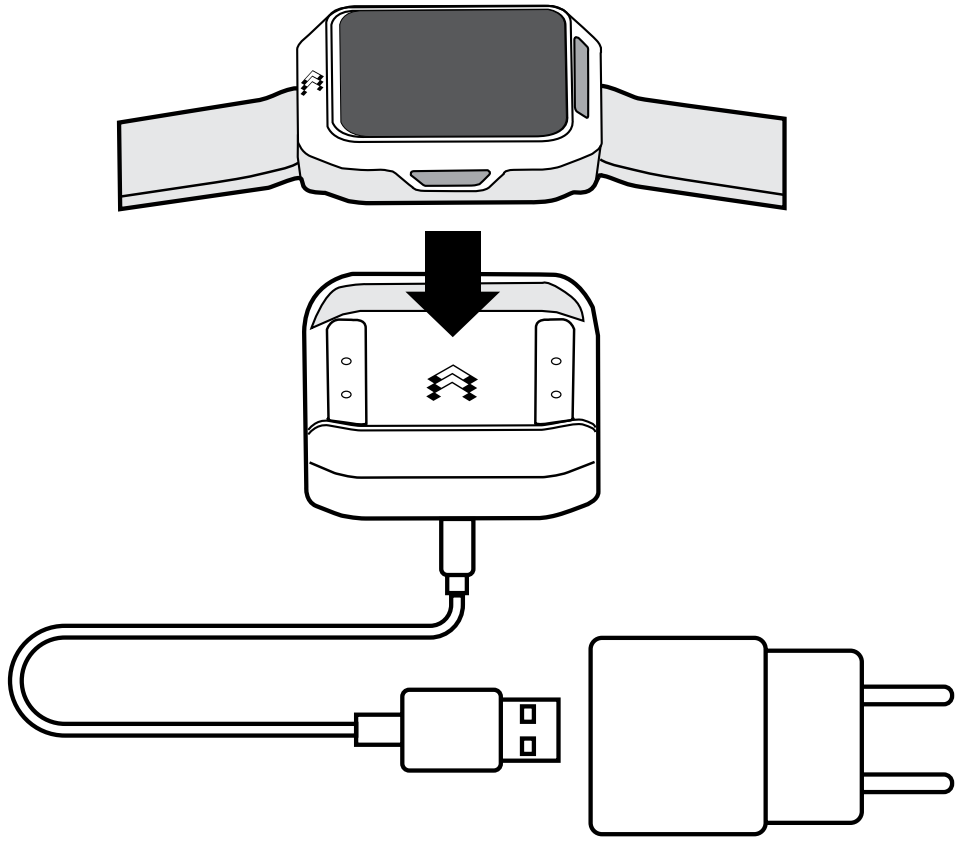


HOW TO CHARGE TELTOHEART

1. Insert cable into the charging dock.

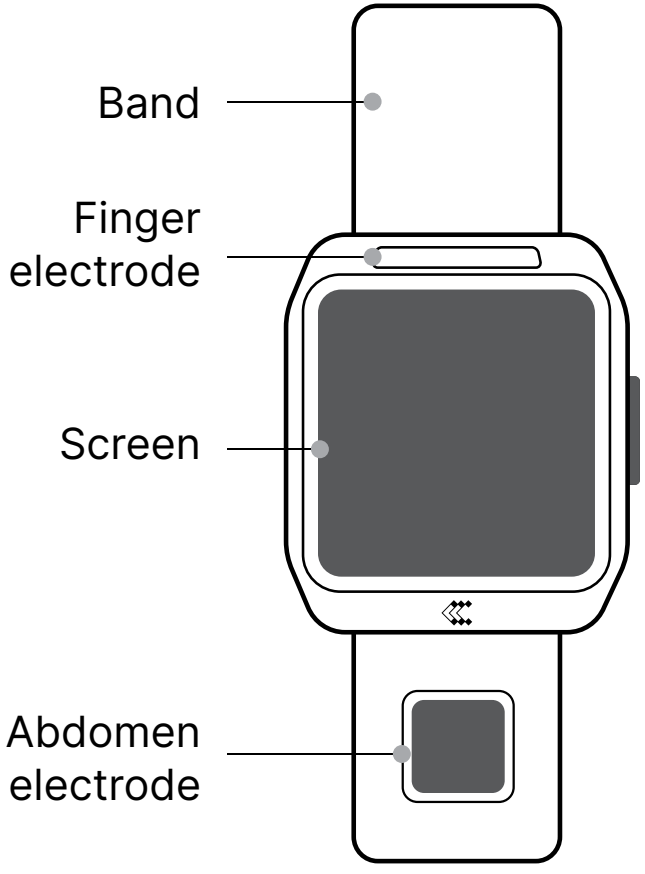
2. Place your TeltoHeart on the charging dock.

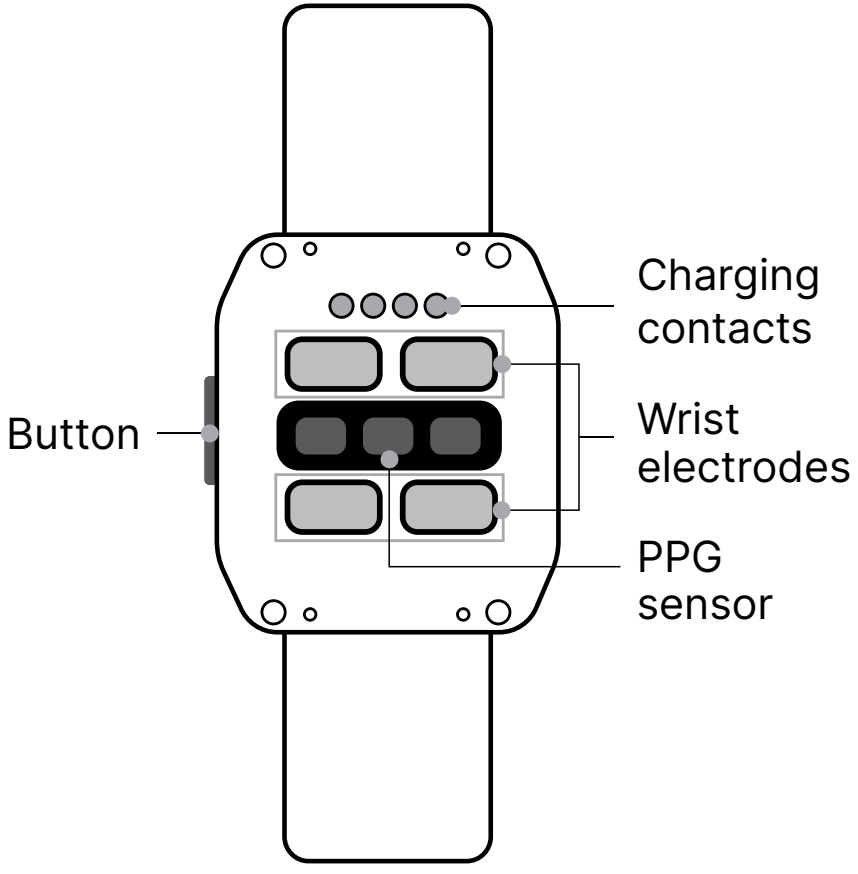
3. Insert the charging unit into the power source.



Battery life lasts approximately 24 hours.

OVERVIEW


Band
Finger electrode
Screen
Abdomen electrode


Button
Charging contacts
Wrist electrodes
PPG sensor

START USING TELTOHEART

1. To activate TeltoHeart, press and hold the button for **not less than 10 seconds** and then release it.

2. When TeltoHeart is turned on for the first time, it will prompt to download TeltoHeart mobile application.

3. You will be able to locate TeltoHeart on the TeltoHeart mobile application as its name will be displayed on TeltoHeart screen.

START USING TELTOHEART

4. Visit *telemedic.com/products/teltoheart* to download TeltoHeart application or scan the QR code below. Alternatively, you can explore the iOS app store or Google play store and search for TeltoHeart application by Teltonika Telemedic.

Note: Please be aware that if your mobile operating system is older than the version described in the guide, the app may not be visible.

Download from Apple Store

Download from Play Store

Scan the QR code to download TeltoHeart mobile application

START USING TELTOHEART

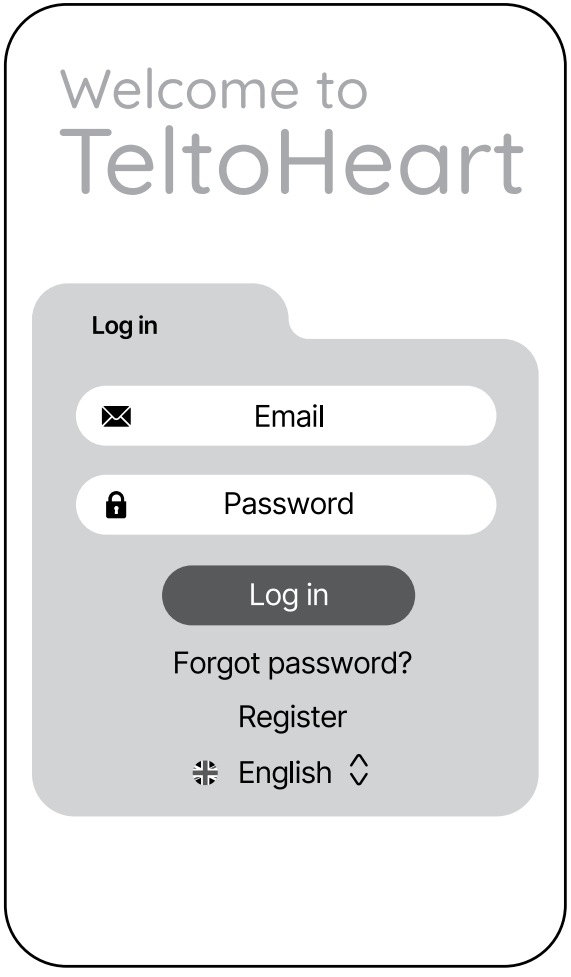
5. After installing the app, tap icon to open the app.

Click on „Register“ and fill in the registration form. You will receive a temporary password in your email after registering.

OR

If you have purchased the device from a healthcare provider, you should have received a temporary password in your email.

Use your login ID and password to log in to the mobile application on your phone.

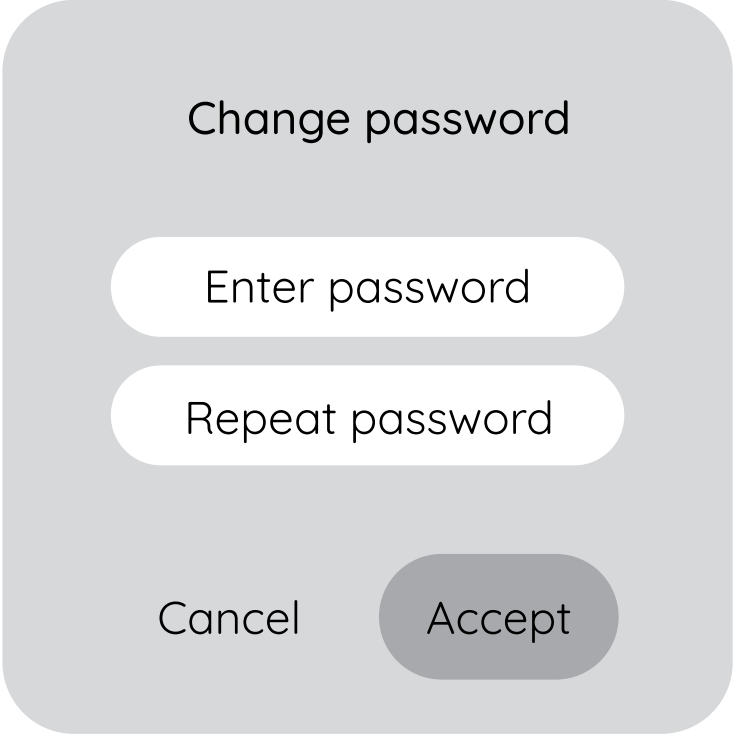


START USING TELTOHEART

6. TeltoHeart mobile application will prompt you to change the default password to a personal preferred password of your choice.

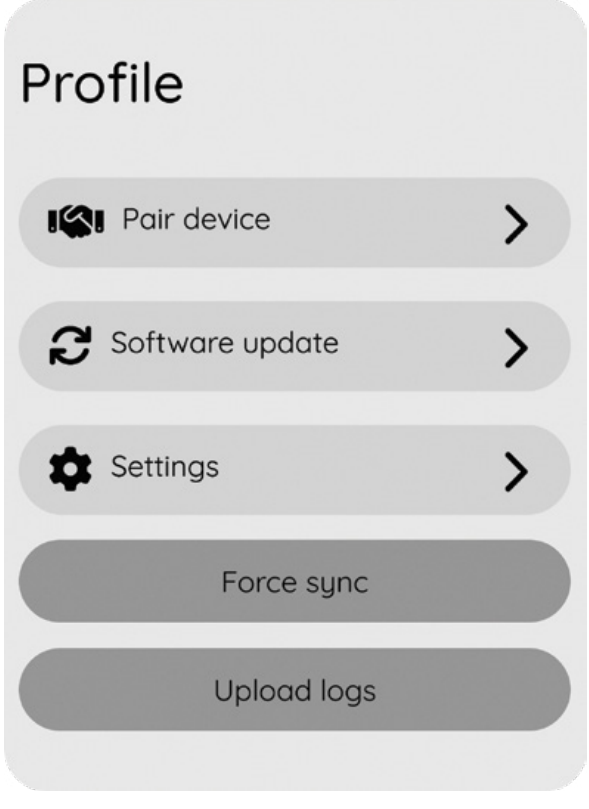
7. Once you have successfully changed your password, the next step is to review and accept the Terms and Conditions. You will be prompted to acknowledge and agree to the **Terms and Conditions** before proceeding.

8. Once signed-in, TeltoHeart mobile application will ask for Bluetooth permissions. Tap **Allow** to let the application use Bluetooth connection.

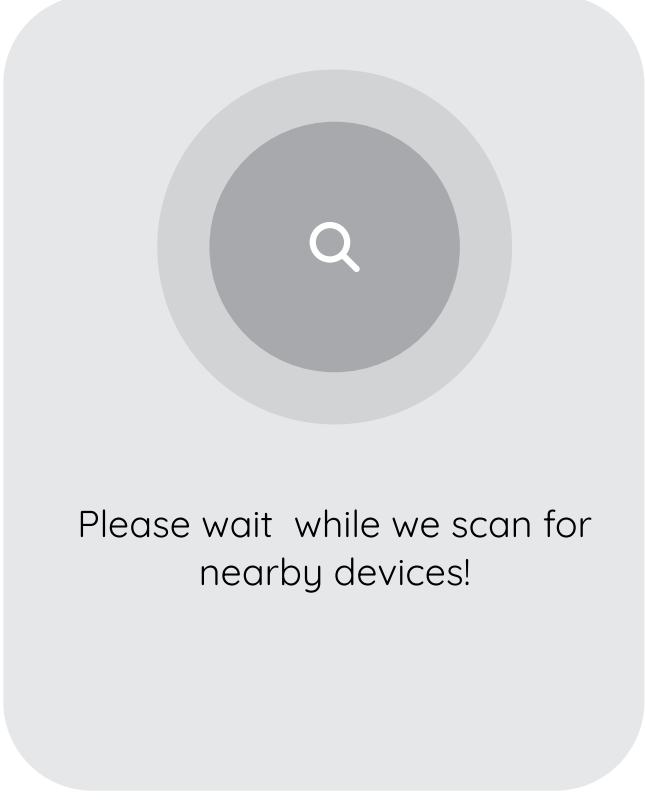


HOW TO PAIR TELTOHEART WITH TELTOHEART MOBILE APPLICATION

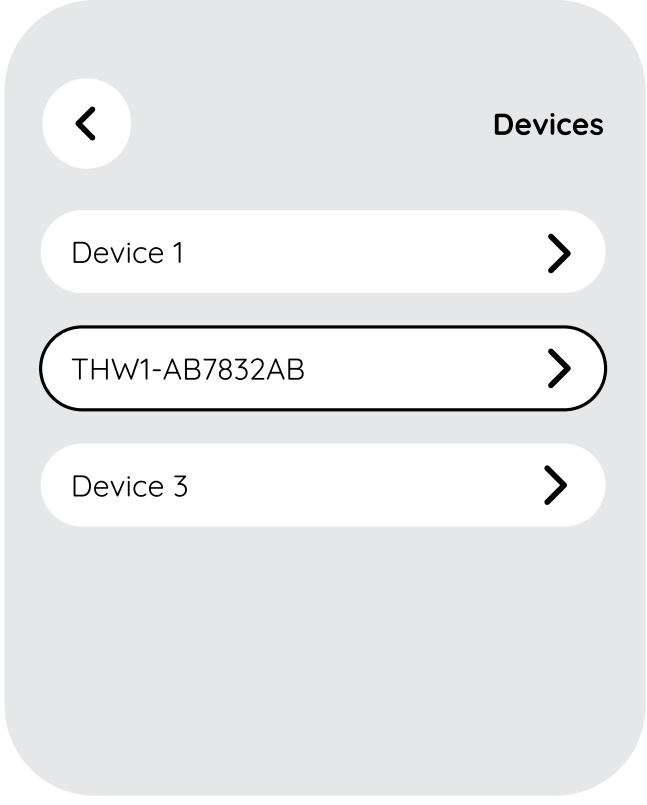
1. Tap **Pair device** to proceed with the pairing process.



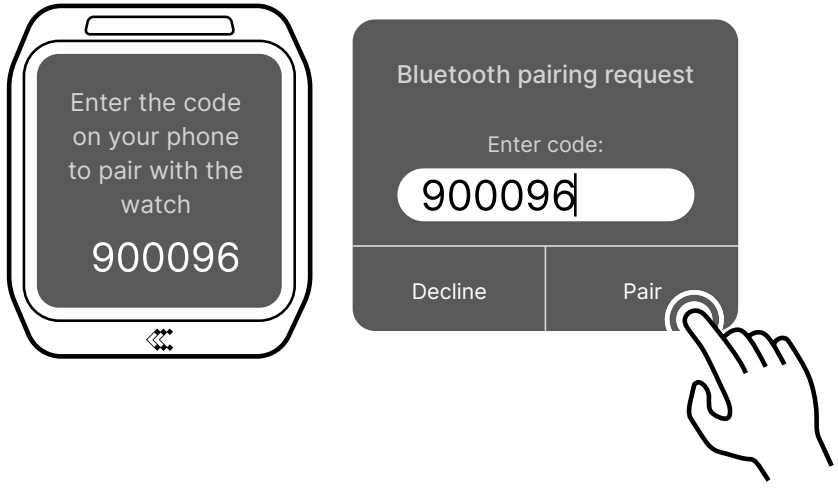
2. TeltoHeart mobile application will initiate a search of nearby devices.



3. Select your smart wearable by tapping on it.



4. TeltoHeart will notify you of an incoming pair request.

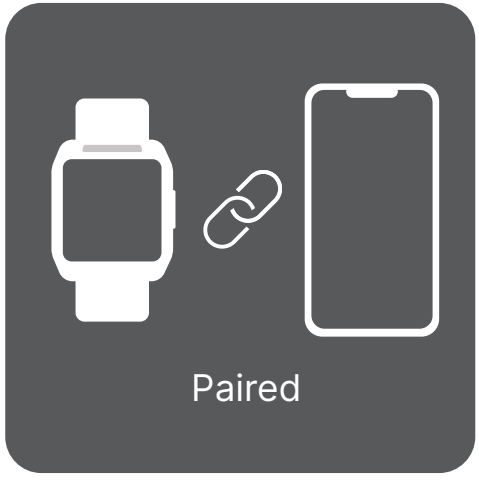


START USING TELTOHEART

5. When prompted, enter TeltoHeart pass key into the TeltoHeart mobile application.

6. TeltoHeart will notify you about a successful pair with TeltoHeart mobile application.

7. Make sure TeltoHeart mobile application is always running in the background, otherwise the data transfer to TeltoCare will not be available.



Note: To ensure uninterrupted data transfer from your TeltoHeart to TeltoCare platform, it is important to keep TeltoHeart mobile application running in the background at all times. If you close the app, the data transfer to TeltoCare will not be available.

RECORDING AN ECG

Before you start

- To measure and record physiological parameters, TeltoHeart utilizes photoplethysmography (PPG) and electrocardiogram (ECG).
- To transmit ECG data, ensure that TeltoHeart and TeltoHeart mobile application are pairing with iOS 14 or later / Android 10 or later.
- To activate the ECG function, simply open the ECG function in TeltoHeart.

Setup

- Push the side button once to open up a menu.
- Tap the ECG function icon on your TeltoHeart.
- Follow instructions on screen.
- OR swipe up on the main screen and tap **START ECG**.

RECORDING AN ECG

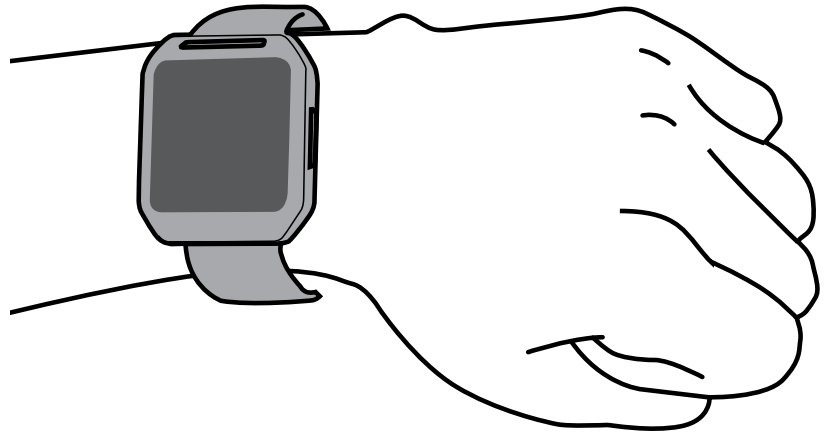
How to ensure good ECG recording

- Stay calm during the ECG measurement and do not move
- Make sure the electrodes are not dirty. Dirt or sweat can interfere with ECG readings. Regularly clean the sensors and the area around them with a soft, dry cloth.
- Excessive hair on the wrist or abdomen can interfere with the optical sensors. Make sure that the skin under the device is free of obstructions for accurate readings.
- If you have higher levels of melanin in your body, this can sometimes affect the accuracy of certain types of sensors, including sensors used for ECG monitoring.
- Water and sweat can lead to poor ECG recording.

RECORDING AN ECG

How to take ECG recording

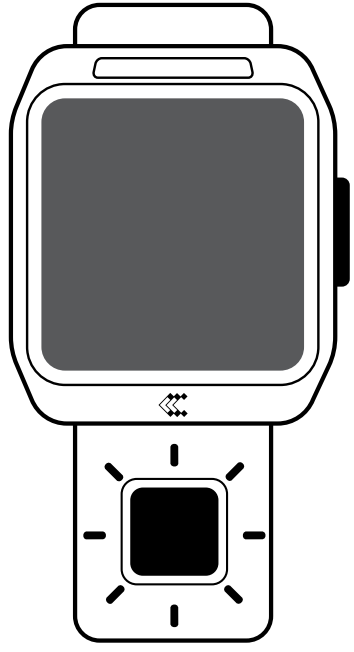
1. Follow the instructions on screen and tap **NEXT**.
2. Please sit down and make sure TeltoHeart is on your left wrist and strapped tightly but comfortably.

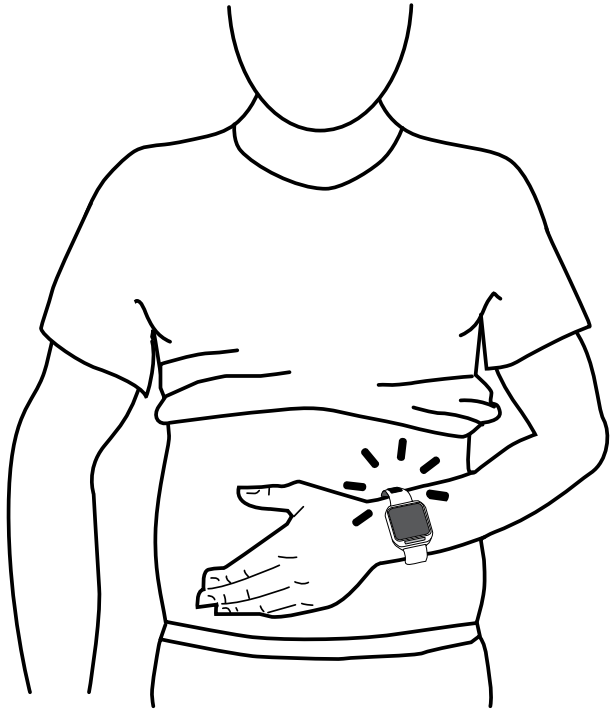


RECORDING AN ECG

How to take ECG recording

3. Place and hold the abdomen electrode on the left abdomen side in the level of the belly button.

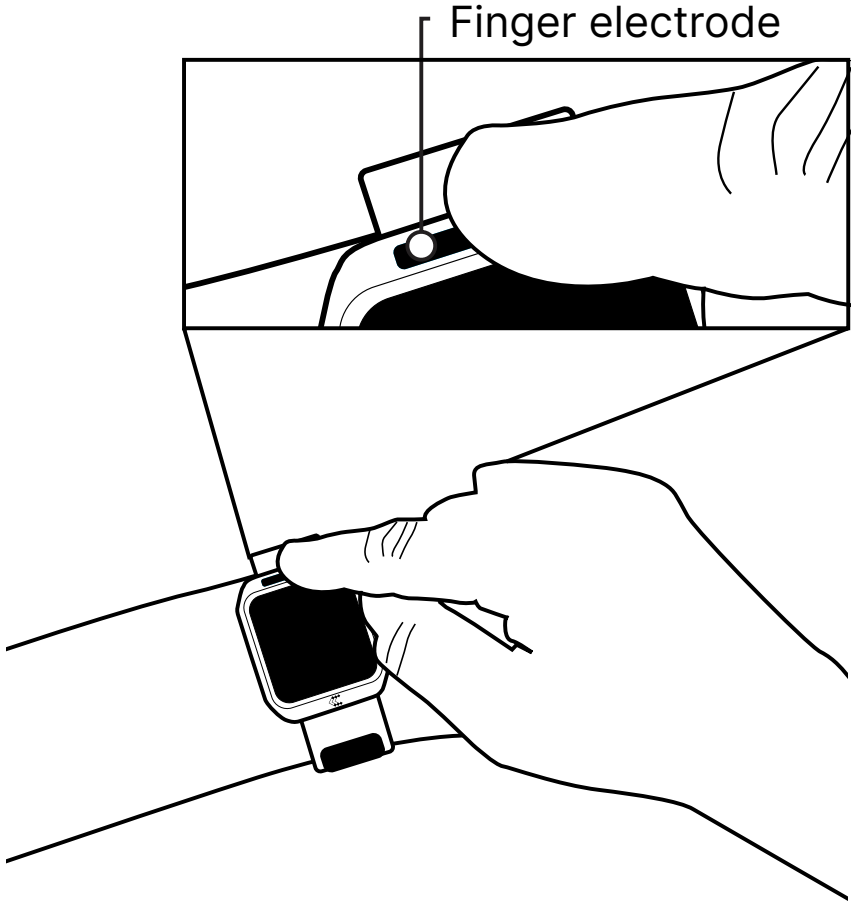




RECORDING AN ECG

How to take ECG recording

4. While holding the abdomen electrode on the left abdomen side in the level of the belly button, put your right hand finger on the finger electrode above the screen.



RECORDING AN ECG

How to take ECG recording

5. Select **Tap to Record** and during the countdown, perform the actions described above. Do not forget to keep your right hand finger on the finger electrode and remain still during recording.

Note: Please keep the TeltoHeart mobile application running in the background to allow measurement data transfer.

6. The recording lasts for 60 seconds.

7. Once the recording is finished, you will see the message **Recording completed** displayed on the TeltoHeart screen.

Note: ECG recordings cannot be performed if battery charge is less than 10%.

Note: TeltoHeart can hold a maximum of 10 ECG records in its internal memory to prevent data loss.

RECORDING AN ECG

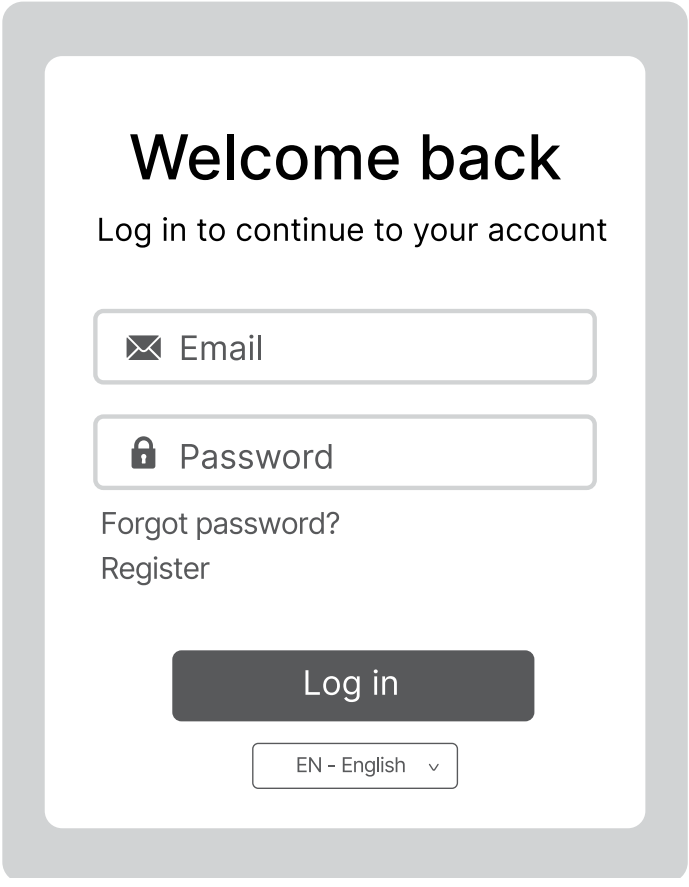
How to view ECG data in TeltoCare

1. Open a web browser and go to URL *teltocare.com*

2. Enter your login details.

   Note: TeltoHeart mobile application and TeltoCare share the same login credentials.

3. Click the Log in button to access your TeltoCare account.

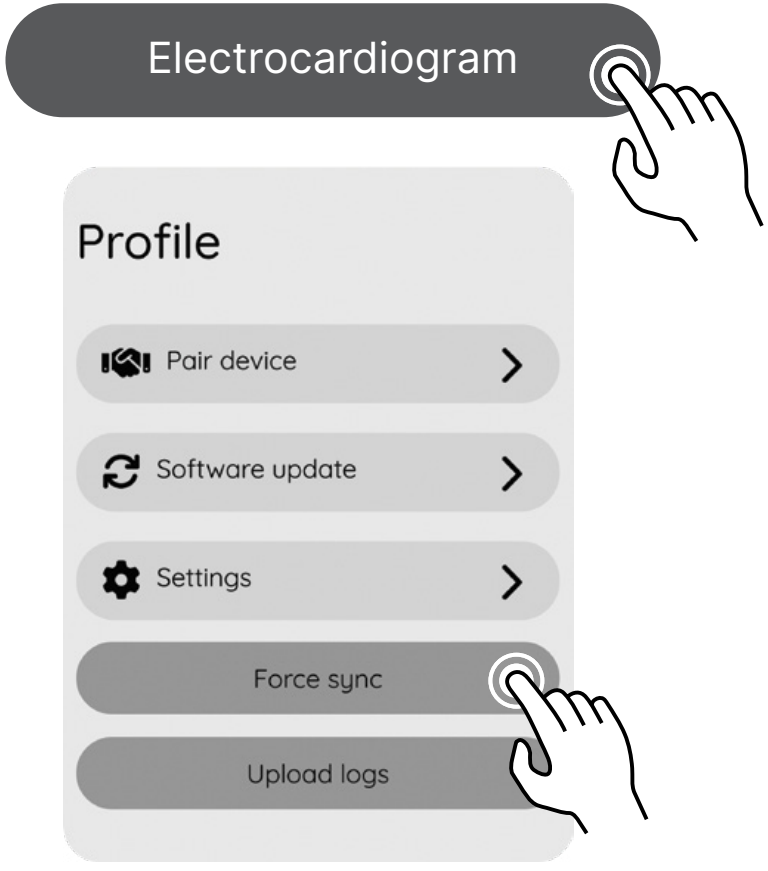


REVIEW OF THE RECORDS

How to view ECG data

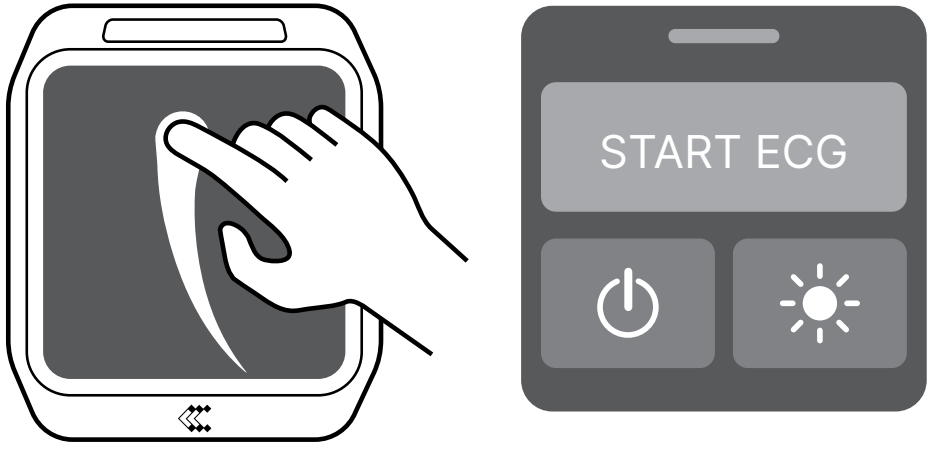
4. Click on **Electrocardiogram** section and view your electrocardiogram recordings.

5. For faster data retrieval, press **Force sync** button. This feature allows you to manually initiate a data transfer and ensure that your ECG data is sent to the TeltoCare platform.

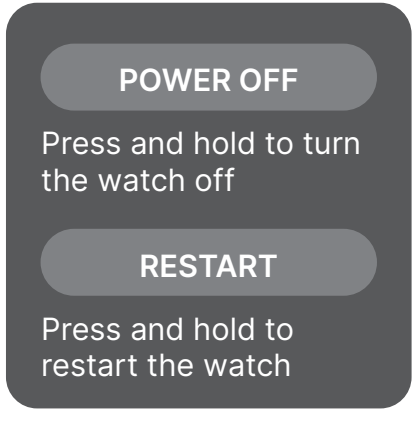


HOW TO POWER OFF TELTOHEART

In the main screen, **swipe up**, locate and tap power icon.



Press and hold **Power Off** button to turn off the device.



TECHNICAL SPECIFICATIONS

Body	
Dimensions (Width x Length x Height):	40.5 (1.6") x 47 (1.9") x 14.7 (0.6") mm
Weight:	52 g
Main CPU:	nRF5340 2x ARM Cortex M33 cores for application and network
Platform (OS):	Zephyr RTOS
Display	
Brightness:	250 NITS
Resolution:	240 × 240 px
Type:	LCD TFT
Size:	1.3“
Cover lens:	Corning gorilla glass 3
Surface hardness:	>8 H
Display area:	547.56 sq mm

Teltoheart memory	
Capacity:	128 Mb
Connectivity	
Bluetooth version:	5.3
Bluetooth radio performance	
Operating frequency:	2402 MHz – 2480 MHz
Max. output power:	3 dBm

Features

- ECG sensors for electrocardiogram
- PPG sensors for AFib detection
- Heart rate monitoring
- Low/High heart rate
- Water resistant 1 m (for 30 minutes)
- Protection level against ingress of solid objects: IP 67

TECHNICAL SPECIFICATIONS

Power supply	
Build-in rechargeable Li-Po battery (not replaceable by the user):	410 mAh, 1.56 Wh
Charging voltage:	5 V⎓
Operating voltage:	• Internal Battery 3.8 V⎓ • External power supply 5 V⎓
Max. Input current (A):	0.5 A

Sensors and components

- Accelerometer
- Gyroscope

Buttons

Side button (On/off, Restart, Back)

Straps

The wristband with an electrode is made of silicone rubber with an integrated stainless-steel electrode

Strap material:	Silicone

Available strap sizes

S (Fits on wrist 14 up to 20 cm)

M (Fits on wrist 16.5 up to 22 cm)

L (Fits on wrist 19 up to 24.5 cm)

Strap size depends on purchased set.

Supported peripherals

Accessories:	TeltoHeart charging dock

TECHNICAL SPECIFICATIONS

Compatibility with other manufacturer accessories:	• Any CE marked wall charger with 5 V⎓/1A output and USB type-A connector • Any CE certified USB-A to USB-C cable • Any smartphone operating on Android OS version 10 or above with Google play store service. • Any smartphone using iOS version 14 or above
COMPATIBILITY WITH MRI OR CT WAS NOT CHECKED AND USE OF DEVICE IN MRI OR CT ENVIRONMENT IS PROHIBITED	

Bluetooth compatibility:	Devices that use Bluetooth v5.0 or later in 2.4 GHz (2.402 – 2.480 GHz) band and SMP protocol are compatible with the device
Conditions for use	
Operation temperature range:	-10 ~ +40 °C
Charging temperature range:	0 ~ +45 °C
Storage temperature range:	1 Month: -20 ~ +35 °C 6 Months: -20 ~ 30 °C
Humidity limitations:	• Extreme low: 15% • Extreme high: 90%
Atmospheric pressure limitations:	• Extreme low: 700 hPa • Extreme high: 1060 hPa

CONTRAINDICATIONS

- Do NOT use the device on wounds as this may cause infection and pain. Threat the wounds first". Precaution "Wound on the site of wearing the smart wearable".
- Patients with diseases, which manifest as skin photosensitivity should not use the device.

CAUTIONS

Handling and Care:

- Do not disassemble the device.
- Follow all instructions in this manual to ensure the longest lifespan of your device and battery. Damages or poor performance caused by failure to follow warnings and instructions can void your manufacturer's warranty.

Warranty and Claims:

- Any modifications, performed by third parties, will void the warranty.
- Warranty claims may be excluded if you do not use and maintain the device as instructed or if you repair or modify the device yourself.

CAUTIONS

Connectivity and Data Management:

- ⚠ If data cannot be saved locally on your smartphone, please clear cache and try again.
- ⚠ The device requires a stable internet connection to function properly.

Environmental and Safety Precautions:

- ⚠ Avoid using TeltoHeart in sandy environments.
- ⚠ Do not submerge the device in salty water or any other electrically conductive liquid.
- ⚠ Do not use the device in MRI or CT environment.
- ⚠ Smart wearable is not intended to be used underwater.

Storage:

- ⚠ Please store the docking station in appropriate environment to avoid magnet degaussing.

Electromagnetic Fields and Ultrasound:

- ⚠ Do not use the device in presence of strong electromagnetic fields.
- ⚠ Do not use the device near ultrasound equipment.

CAUTIONS

Cleaning and Maintenance:

⚠ Ensure that the magnetic connection of the docking station is clean of metallic bodies.

Device Usage and Limitations:

⚠ The smart wearable is not supposed to be worn in situations where the smart wearable would be exposed to strong vibrations, for example while working with rammer compactors, vibrating plate compactor machines, hammer drills, etc.

⚠ Various factors, including motion, hand and finger movements, dark tattoos on the wrist, different amount of melanin in the skin, and the potential reduction in blood flow due to colder temperatures, can collectively influence the device's ability to capture high-quality recordings, potentially diminishing the effectiveness of the AFib detection algorithm.

⚠ Do not paint or put stickers on your device.

⚠ Do not cause excessive mechanical strain or shock to the device.

⚠ The device may be damaged, explode, or result in a fire if too much pressure is applied to it.

⚠ The device is not intended to be put in any bodily orifice.

⚠ The device is meant to be used by adults of age 22 or older.

⚠ Use on intact skin only.

WARNINGS

⚠ Do not use excessive force while using device. Excessive force may break or damage accessories.

⚠ Do not use the device in environment where temperature exceeds over 40°C.

Battery Safety:

⚠ If the device starts heating, stop using it immediately to prevent damage to the battery and other components.

Environmental Safety:

⚠ Do NOT use the device outside of operational temperature conditions, for example in a sauna.

User Safety:

⚠ Comply with all safety warnings and regulations regarding mobile device usage while operating the vehicle.

⚠ While driving, safely operating the vehicle is your first responsibility. Never use your mobile device while driving, if it is prohibited by law. For your safety and the safety of others, use your common sense.

Charger Safety:

⚠ USB cables shall comply according to compatibility requirements provided in instructions for use.

NOTES

Operating Temperature:

Notice: Device operating temperature is -10 to +40 degrees Celsius.

Cleaning Instructions:

Notice: Please keep the device electrodes clean for best performance.

Environmental:

Notice: ECG usage in rain or in very humid environment is not recommended.

Account and Data

Notice: TeltoHeart mobile application and TeltoCare share the same login details.

WARRANTY

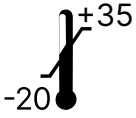
The warranty conditions and term of warranty shall apply in accordance with agreed conditions between you and your supplier.

It is important to carefully read and follow information for user (included but not limited quick start guide, technical specifications and user manual) and terms and conditions provided by the manufacturer. Failure to adhere to these guidelines may result in malfunctions or damage to the product, for which the manufacturer cannot be held responsible. It is the responsibility of the user to ensure that they fully understand and comply with the information provided by the manufacturer and terms and conditions before using the product. By doing so, users can help ensure the safe and effective use of the product and avoid any potential damage or liability.

EQUIPMENT SYMBOLS

Manufacturer
TELTONIKA TELEMEDIC UAB
Ukmergės st. 120-1,
LT-08126 Vilnius
Info@teltonika.lt
www.teltonika-telemedic.com

TELTONIKA TELEMEDIC UAB hereby declares that the device TeltoHeart is in conformity with the essential requirements and other relevant requirements of Directive 2014/53/EU

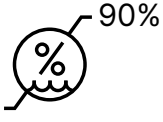


Temperature limit

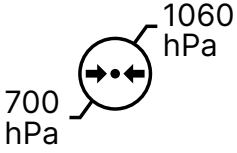
Consult instructions for use

IP67

Protection against ingress of water or particulate matter



Humidity limit



Atmospheric pressure limit

Read the instructions for use

FCC ID:
2BAIF-ECG200

Quickly access the full manual by scanning the QR code.

Scan QR code to download TeltoHeart mobile application.

Download from Apple Store

Download from Play Store

All newest certificates may be found in our Wiki:
https://wiki.teltonika-telemedic.com/view/TeltoHeart_Certification_%26_Approvals

Version: v1.0