Careium 500

User Guide

04/20/2023

Table of Contents

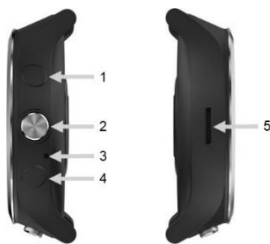# 1 About the Careium 500

1.1 At a glance

The device features an analog watch with an integrated digital display for showing notifications and accessing the watch menu. On the back of the device you find the charging contacts.

1. CROWN button
- Digital display
- SOS button
- Charging pins

Below the CROWN is the microphone, and on the left side is the speaker.

1. UP button
2. CROWN button
3. Microphone
4. DOWN button
5. Speaker

Four buttons, three on the right-hand side of the device and one below the bezel, provide easy access to features and emergency functions.

The UP and DOWN buttons are not mechanical like the CROWN and SOS buttons. Use the UP and DOWN buttons with a firm tap like on a touchscreen device.

- [UP] – Scroll up / reject incoming call
- [CROWN] – Enter menu / accept change / end call
- [DOWN] – Scroll down / reject incoming call
- [SOS] – Make emergency call

1.2 What's in the box

In addition to the Careium 500 watch, you get charging dock (with built-in beacon), power cable and charger.

Charging dock
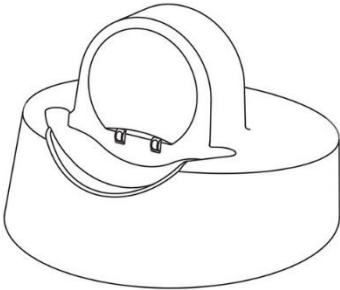
Power cable

Charger

Replacement straps and additional beacons are available as accessories.

1.3 Installing and charging

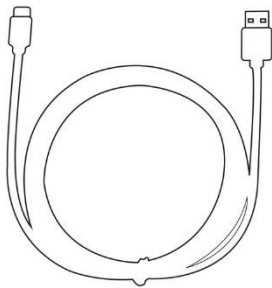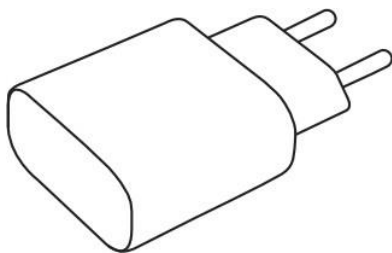Before wearing the Careium 500 for the fist time, you need to install the charging dock and fully charge the watch.

- Place the charging dock on a flat surface near a wall outlet.
- We recommend installing the dock in a central room and verify that there is coverage in the whole apartment/house.
- Connect the charging dock and charger with the power cable.
- Plug the charger into the wall outlet.
- Place the watch on its side, with buttons facing up, onto the charging dock. The watch beeps to indicate charging started.

The first charge and initial setup may take several minutes, or up to one hour in some cases. The watch needs to establish the mobile network connection and complete the setup. Please do not remove the watch from the charging dock during this period. When the watch setup is complete, the watch hands move to the correct time and the watch beeps.

The watch displays "Setting up, please wait" during the initial charge and setup. You can press the CROWN to check the network connection status during this time. If there is no network connection, try moving the watch and dock to another location.

When the watch is charging, the digital display shows the battery level. After the watch is fully charged and the display shows 100%, you can take it out of the dock and put it on.

Normally the watch comes fully configured, so this is all you need to do to take it into use.
However, if you have received a watch that is not yet configured, the digital display shows SETUP while charging. In this case, you need to set up and activate the watch.

1.4 Wearing the watch

The Careium 500 is designed to be worn 24/7 as a wristwatch and activity tracker. The device is splash-proof but should not be worn while swimming or exposed to extreme temperatures and humidity, such as in a sauna. The watch should be worn snugly on the wrist slightly above the wrist bone.

2 Get to know your Careium 500

The Careium 500 features built-in GPS, mobile network antenna (and SIM card) and an accelerometer for motion detection.

2.1 Speaker and microphone

On the left side of the watch is a powerful speaker. The speaker volume can be easily adjusted using the Careium 500 portal. During calls, we recommend keeping the watch around 25 cm away from your mouth.

The microphone is a small hole located on the right side of the watch below the CROWN button.

2.2 Audio, LED and vibration

The Careium 500 uses sounds, an LED and vibration for important notifications. Some features also include audio prompts where the watch speaks instructions or status information to help guide the watch user.

The LED is just below the number '6' at the bottom of the display. It is used to indicate battery level and charging status:
- Battery low warning: slow blinking red light
- Battery low alarm: fast blinking red light
- Battery charging: constant red light
- Battery full: constant green light

Vibrations act as emphasis for notification tones. However, if the watch is in silent mode, only vibrations are used.

2.3 Display icons

The watch uses a range of icons to indicate status, activity and other information to help inform and guide the watch wearer.

The display icons are explained in the table below.

Icon	Name	Meaning
🔋	Battery	Indicates battery level or charging status
🏠	Home beacon	Watch is connected to a beacon
📍	Tracking	Location tracking is active
➕	Emergency tracking	Emergency tracking has been activated
📞	Call	Voice call in progress; also shown in front of names in contact list
✖	Cancel call	Call canceled or otherwise interrupted
⬍	Data transfer	Watch is uploading or downloading data of the mobile network
📶	Mobile network	Indicates mobile network signal strength; more bars mean stronger signal
📵	No mobile network	No mobile network connection is available
✈	Flight mode	Flight mode is active and network connection is not possible
🔇	Silent mode	Silent mode is active and no alarm or ring tones are allowed
🔊	Normal mode	Normal mode is active with alarms and ring tones allowed

Icon	Name	Meaning
▶	Select	Press to select
✔	Selected	Menu item is selected and active
✕	Cancel	Cancel alarm
🚶	Man down	Fall detection alarm has triggered
Names	Names menu	Contact list of numbers that can be called from the watch
Mode	Mode menu	Watch mode options

2.4 Watch modes

The watch uses modes to control notifications and radio transmission. The following modes are available (depending on profile and authorization level):

- **Normal**: this is the default mode; all enabled features and notifications are available
- **Flight**: this mode deactivates Bluetooth, GPS and mobile network connectivity
- **Silent**: this mode deactivates alarm tones as well as ring tones when making or receiving calls; vibration remains active
- **Stealth**: this mode is like normal mode, but SOS call and message sounds and audio prompts are replaced by vibrations (see below for details)

SOS call in stealth mode

With SOS calls, the audio is completely muted and replaced with vibrations. The digital display also does not react to SOS calls. The following vibration sequences are used instead of sounds or audio prompts:

- 1x vibration when SOS call initiates
- 2x vibration when SOS call connects to the mobile network (receiver's phone starts to ring)
- 1x vibration when SOS call ends normally
- 4x vibration when SOS call fails (for any reason)

2.5 Watch profiles

Watch user profiles are collections of settings that determine, for example, button behavior and whether or not a particular feature is enabled. The profiles are designed to make the watch as easy to use as possible based on the assistee's capacity. See the Careium 500 portal manual for more information.

3 Emergency calls

The watch uses mobile network connectivity for making and receiving calls. These can be normal phone calls or special emergency calls. The emergency call can also be initiated with a digital message to an alarm receiving center (ARC) using Careium 500 APIs (SCAIP, TS 50134-9 or M2M).

Emergency calls (SOS calls) are designated *help requests* and follow a specific procedure to maximize call success. The watch needs to be configured to send alarms to an ARC.

To make an emergency call:

1. Press the SOS button until the watch indicates with a tone and/or vibration that the help request is activated.

   The watch display shows an SOS animation.
2. Wait for the call to be answered.
3. Press and hold CROWN to end or cancel the call.

If the watch is setup to initiate alarm calls to regular phone numers and not to an ARC the watch attempts to call persons in the Name list who are designated to receive help request calls as defined in the Careium 500 portal. If the first helper does not answer, the watch calls the next designated helper in the list and continues this until someone answers the call.

4 Location tracking and reporting

Careium watches are designed to track and report the wearer's location using a combination of GPS, Bluetooth and mobile network technology.

4.1 Indoor tracking

The location of the watch wearer can be determined if home beacons have been installed. Beacons are small Bluetooth radio transmitters that can be used to define the wearer's home or living space.

Once installed and paired with the watch, the watch uses the Bluetooth radio signals of beacons to report whether the watch wearer is at 'home'. An alarm can be set to indicate when the watch wearer leaves the home beacon range.

The beacons and Careium 500 portal can also be configured to report in which room the wearer is and how much time has been spent in each room over the course of a specified time period.

Beacon configuration and indoor tracking are defined in the Careium 500 portal.

4.2 Outdoor tracking

Outdoor tracking can be manually or automatically activated depending on the watch and Careium 500 service configuration.

The watch uses GPS and mobile network cell information to track and report the watch wearer's location while outside. Depending on how the watch and Careium 500 service have been configured, the watch can report location with specific events, such as making an emergency call, or report location at regular intervals, from a few seconds (emergency tracking) to several minutes.

All tracking and reporting related settings are configured in the Careium 500 portal.

While GPS can provide very accurate information and is the preferred method used by the watch, there are several factors that can limit the accuracy of GPS-based location information.

To report location with good accuracy, the watch needs to acquire signals from GPS

satellites (the more the better). This is called getting a GPS 'fix,' and it takes a lot of battery power. The watch cannot spend too much time looking for GPS signals but tries repeatedly before giving up.

If there are no strong GPS signals, or only a few satellites visible to the watch GPS antenna, the fix may be poor and the location information inaccurate. The location can be wildly inaccurate under certain conditions, but the watch and the Careium 500 service filter out obvious errors, like a location change that would mean the wearer is moving at impossibly high speed.

First and foremost, it is important to understand that the signals from GPS satellites are not particularly strong. The watch cannot acquire any satellites fixes indoors, for example. While outside, the surrounding environment can also significantly reduce GPS signal quality. Bad weather, tall building, trees and mountains can limit or completely obstruct GPS signal reception.

If after several tries the watch still cannot get a GPS fix, the next source of location information is used, namely, mobile network cells. The location of the last network cell accessed by the watch may be quite far off, however. Network cells vary in size and density depending on the region and population. For this reason, the Careium 500 service uses a series of checks and advanced analytics to determine if the network cell information is in fact the best available location information of the watch wearer if GPS is not available.

5 Fall and no movement

5.1 Fall detection

The watch automatically detects if the wearer has stumbled or otherwise experienced an unusually strong impact and sends a 'man down' alarm in the Careium 500 portal. The alarm can be configured in the Careium 500 portal to prompt a call, message or other notification to caregivers.

Fall detection is off by default in the watch and needs to be enabled through the Careium 500 portal.

If the man down alarm is activated, you have a few seconds to cancel the alarm before it is sent to the Careium 500 portal.

To cancel the man down alarm:
1. When the display shows the man down icon, press the CROWN button before the status bar fills the display.

2. The display switches to the man down cancel view.
3. Press and hold the CROWN button until the status bar fills the display.

When the man down alarm is canceled or when it is sent, the alarm trigger is locked for 15 minutes. This prevents needing to cancel the alarm multiple times when if you are doing a repetitive high impact action (like using a hammer). Putting the watch in the charging dock releases the man down alarm lock.

5.2 No movement

The "no movement" reminder is used to remind watch wearers to avoid long sedentary periods, or to remind them to put the watch on. It is also used as a potential health alarm if the wearer remains inactive even after getting the reminder to move.

The watch makes a loud sound and vibrates after a certain amount of time with no detectable movement. This reminder is disabled automatically during night. The sound and vibration are repeated a few times at one-minute intervals until movement detected. If no movement is detected despite the repeated reminders, the watch sends a "no movement" alarm to the Careium 500 portal.

Both the reminder and alarm parameters are configurable. Please contact Careium Support for assistance.

No movement detection is off by default in the watch and needs to be enabled through the Careium 500 portal.

6 Product safety and care

Please follow these guidelines. Failure to do so might lead to a potential health risk or product malfunction.

6.1 Watch care and handling

Handle the watch with care and keep it clean. Avoid exposing the watch to extreme heat, cold or humidity. Do not bump or drop the watch.

Use a soft dry or damp cloth to clean the watch. If you have a leather strap, avoid getting the strap wet. Also keep the microphone and speaker openings clear of dust and debris. However, do not use pointed objects or pressured air to clean openings as these may damage the watch.

Do not use solvents to clean the watch. Isopropyl alcohol (IPA) and other chemicals can damage materials and dissolve essential elements used to construct the watch.

6.2 Medical devices

Keep Careium watches and beacons a safe distance from medical devices such as pacemakers. Based on current US FDA recommendations, for example, you should keep watches and beacons at least 15 cm (6 in) away from medical devices. Please consult with your physician to ensure safe operating conditions.

6.3 Location accuracy

Location information may not be always available or error free. Availability and accuracy of location information are dependent on several factors beyond the control of Careium, such as mobile network service availability. Please note that GPS/GLONASS performance may be reduced or blocked in certain environments, including indoors, around tall buildings, as well as in densely forested areas. The beacon signal range may vary significantly depending on indoor structures and materials.

6.4 ISED

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with ISED license-exempt RSS(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."

Specific Absorption Rate

This device complies with the ISED RF exposure limits and has been evaluated in compliance with portable exposure condition.

The exposure standard for wireless mobile phones employs a unit of measurement known as the Specific Absorption Rate, or SAR.

This device has been shown to be capable of compliance for localized SAR for uncontrolled environment/general population exposure limits specified in ANSI/IEEE Std. C95.1-1992 and has been tested in accordance with the measurement procedures specified in ISED RSS-102 and IEEE Std. 1528-2013.

The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health. The standard incorporates a substantial margin of safety to give additional protection for the public and to account for any variations.

There is no limitation as to which distance can be used from the human body.

This Class B digital apparatus complies with Canadian ICES-003.

6.5 EULA

All software and documentation developed by Careium are property of Careium Sweden AB or its licensors.

Careium grants the end user a non-exclusive limited license to use the software solely in conjunction with Careium devices and services. Ownership of the software is not sold, transferred or otherwise conveyed by this grant. The license grant is subject to the timely and full payment of all fees payable by the end user from time to time.

The end user may not (i) modify, (ii) reverse engineer, or (iii) for the purpose of reverse engineering, disassemble, de-compile or trace the execution of software or any portion of it.

This license grant is valid throughout the useful life of the Careium device or service. Validity can be terminated by transferring your rights to the device to a third party in writing.

Failure to comply with any of these terms and conditions will terminate the license forthwith.

This license is governed by the laws of Sweden. When applicable, the foregoing applies to statutory consumer rights.

Careium and its third-party suppliers and licensors retain all rights, title and interest in and to the software. To the extent that the software contains material or code of a third party, such third parties shall be beneficiaries of these terms.

6.6 Electronic waste

This trash bin symbol on the back of the device indicates that it should not be treated

as ordinary waste. Please bring it to an approved collection point for the recycling of electrical equipment. Please do not try to remove the internal battery. The batteries must be removed only by an approved service partner or by a waste treatment facility. The proper recycling of the device will help to conserve natural resources.

6.7 Copyright

Transmittal, reproduction, dissemination and/or editing of this document as well as utilization of its contents and communication thereof to others without express authorization are prohibited. Offenders will be held liable for payment of damages. All rights created by patent grant or registration of a utility model or design patent are reserved. Copyright © 2023, Careium Sweden AB.

7.9.1 Trademarks

Careium is a registered trademark of Careium Sweden AB. All registered trademarks or trademarks mentioned in this document are property of their respective owners.