

# ABBY

## MOBILE SOCIAL ALARM

### User guide

### English



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## 1. Safety information

- Users should pay particular attention to the potential for interference from other systems operating in the same or adjacent frequency bands.
- The Abby cannot and shall not be dismantled.
- Danger of explosion if battery is incorrectly replaced. To reduce the risk of fire or burns, do not disassemble, crush, puncture, short external contacts, expose to temperatures above 60° C (140° F), expose to extremely low air pressure or dispose of in fire or water. Recycle or dispose of used batteries according to the local regulations or reference guide supplied with your product.
- Only use the recommended power supply as stated in the section Power supply.
- The wall socket should be installed near the Careium charger equipment and should be easily accessible.
- Follow the rules and laws that apply wherever you are and always turn off the unit whenever its use is prohibited or can cause interference or hazards. Only use the unit in its normal user position. The unit should never be used at an operating temperature exceeding 40 °C or below -10 °C.

### 1.1. Battery safety



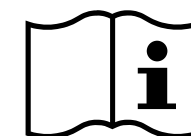
The Abby contains Lithium batteries with inherent risks if not used correctly or if damaged.

Lithium batteries can cause potential chemical burn hazards associated with ingestion. If swallowed or placed inside any part of the body, seek immediate medical attention.



Keep batteries away from children.

- Only use the charging device and cord that is designated for the product.
- Do not charge or use the device if you notice any malfunction or potential problem with the battery as odour, change in colour, too much heat, change in shape, leaking or odd noises.
- Do not disassemble, crush, puncture, or damage batteries.
- If a fire occurs: Copious amounts of cold water is an effective extinguishing medium for lithium batteries. Don't use warm or hot water. Don't use Halon type extinguishing material. You may use dry powder, sand or soil.



Consult the Material Safety Data Sheet (MSDS) for further first-aid measures, fire-fighting measures, and other safety information.



Further information available in the Environmental information section

## 2. Important information

All systems using radio and telecommunications are subject to interference beyond the user's control.

Products from Careium are designed to minimize the impact of such interference.

Nevertheless, the user must be aware that system components can be subjected to interference or other influences that may cause malfunction.

It is therefore important to regularly check that every part of the system works in all areas, especially radio communications. Contact your supplier immediately in case of any suspected malfunction.

Keep the product away from interfering devices such as radio transmitters, mobile phones, DECT-telephones or wireless headphones.

Users should pay particular attention to the risk of disruption from products which communicate using the same or adjacent frequencies.

For further information, please contact your supplier.

### 2.1. Medical units

The use of equipment that transmits radio signals, for example, mobile phones, can interfere with insufficiently protected medical equipment. Consult a doctor or the manufacturer of the equipment to determine if it has adequate protection against external radio signals, or if you have any questions. If notices have been put up at health care facilities instructing you to turn off the unit while you are there, you should comply.

Hospitals and other health care facilities sometimes use equipment that can be sensitive to external radio signals.

#### 2.1.1. Implanted medical devices.

To avoid potential interference, manufacturers of implanted medical devices recommend a minimum separation of 15 cm between a wireless device and the medical device. Persons who have such devices should:

- Always keep the wireless device more than 15 cm from the medical device.
- Should not carry the device in your breast pocket.
- Hold the wireless device to the ear opposite the medical device.

If you have any reason to suspect that interference is taking place, turn the device off immediately. If you have any questions about using your wireless device with an implanted medical device, consult your health care provider.

### 2.2. Specific Absorption Rate (SAR)

This device meets applicable international safety requirements for exposure to radio waves. Your mobile device is a radio transmitter and receiver. It is designed not to exceed the limits for exposure to radio waves (radio frequency electromagnetic fields) recommended by international guidelines from the independent scientific organization ICNIRP (International Commission of Non-Ionizing Radiation Protection). The radio wave exposure guidelines use a unit of measurement known as the Specific Absorption Rate, or SAR.

The SAR limit for mobile devices is 2 W/kg averaged over 10 grams of tissue and includes a substantial safety margin designed to assure the safety of all persons, regardless of age and health. Tests for SAR are conducted using standard operating positions with the device transmitting at its highest certified power level in all tested frequency bands. The highest SAR values under the ICNIRP guidelines for this device model are:

Body SAR: 1.605 W/kg

During normal use, the SAR values for this device are usually well below the values stated above. This is because, for purposes of system efficiency and to minimize interference on the network, the output power of your mobile device.

is automatically decreased when full power is not needed for the call. The lower the power output of the device, the lower its SAR value.

## 3. Package content

- Abby
- Charging cradle/Beacon
- Power supply
- Lanyard
- Quick start guide

## 4. Description

Abby is a home emergency call device for more independent living/mobility, used by those in need of care or the person in need of care in their living environment. There are no known or existing contraindications.

Abby is a small and convenient home emergency call system, consisting of the home emergency call device and a mobile alarm transmitter (Enzo handheld transmitter, please note Enzo is optional in most markets), with GPS tracking and voice functionality, that improves security not only at home but wherever the user goes. It can be easily carried anywhere, in a jacket or trouser pocket, or worn around the neck as a pendant, and is also waterproof (IP67).

When the emergency call button on the device or the handheld transmitter is pressed, an alarm is sent to the emergency call center via the cellular network. A built-in hands-free system allows for voice communication with trained staff at the center immediately after the alarm is received, even if you are not near the home emergency call device.

The home emergency call device is assigned a subscriber ID for automatic identification.

It also has a self-test function that automatically performs a self-test at least three times a week. This checks technical functions and parameters, as well as the radio connection, GSM signal strength, battery life, and the ability to make an emergency call.

Abby supports various Careium accessories using the 869 MHz protocol. For example, an Enzo alarm trigger can be used to trigger an alarm/emergency call at a certain distance from the main product. GPS, Wi-Fi, and beacon tracking not only track the user's location, but also provide advanced location data and enable geofence. At the same time, energy-saving technology ensures long battery life.

A mobile emergency call system makes it easier for seniors to maintain an active lifestyle. The alarm is set up to be forwarded to an emergency call center, a family member, or caregivers. The service can be configured as a mobile emergency call system or a GPS tracking alarm.

A mobile emergency call system gives seniors more confidence to stay or become active and supports them in moving outside of their living area confidently and safely.

## 5. Alarms

### 5.1. Emergency alarm

This alarm is triggered via the SOS button on the front of the device or a remote alarm trigger. Three short presses in a row, or a long 3s press will activate the alarm on Abby. A single press activates the remote alarm trigger.

### 5.2. Fall alarm

The fall algorithm built into the device can have two levels of sensitivity, high or normal.

In the event of the device registering a fall, then it will check for motion or steps for a period of 30s after the fall occurred. If motion or steps are recorded within this period, then the device will cancel the fall alarm. This sequence is silent, and the user will not know that the device has registered a fall, and thereafter canceled it.

In the event of the device registering a fall, the user will be alerted with a beep every second for the coming 30s. During these 30s the fall alarm can be canceled by the user with a press on the side button.

Note! A false alarm is cancelled if there is movement detected after the fall. If the device is placed on a hard surface, such as a table, and then not moved, it may generate a false alarm.

### 5.3. Geo-Fence alarm

Two types of Geo-fence alarms can be set in the Abby. The fence shall be defined so that the target, such as a house, lake etc., is in the middle of the fence. The radius of the fence shall not be less than 100m.

- Geo-Fence alarm IN.
- If the device enters inside this fence the alarm will be triggered
- Up to three Geo-fences IN zones can be set up.
- Geo-Fence Out
- If the device goes outside of this fence the alarm will be sent
- The Beacon needs to be inside this fence.
- One Geo-Fence OUT zone can be set up.

### 5.4. Home / Away alarm

The unit can be set up to send alarm when the user leaves or enter the beacon range. Make sure that the beacon/cradle is positioned in the centre of the building and have proper coverage to avoid false alerts.

### 5.5. Technical alarms

- Power on
- Power off alarm
- Low battery alarm
- Critical low battery alarm (EOL alarm)
- Battery full alarm
- Test transmission alarms
- Accessory battery low alarm

## 6. Positioning

The device position can be determined in 4 separate ways. GPS, Wi-Fi, LBS and via Beacon. When in movement the unit will determine position every 80 seconds or 3 minutes depending on movement speed.

If static or in range of a registered beacon the unit will not determine position

Definition of static is 7 minutes without movement. Movement is determined by the accelerometer in the device.

Satellite positioning has the highest priority. Accuracy is often about 10-100m.

Wi-Fi position is determined by 2 or more mac addresses obtained from surrounding Wi-Fi networks. Accuracy is often about 10-100m.

LBS station position is determined by connected base station. The accuracy is low and should more be considered an indication of location.

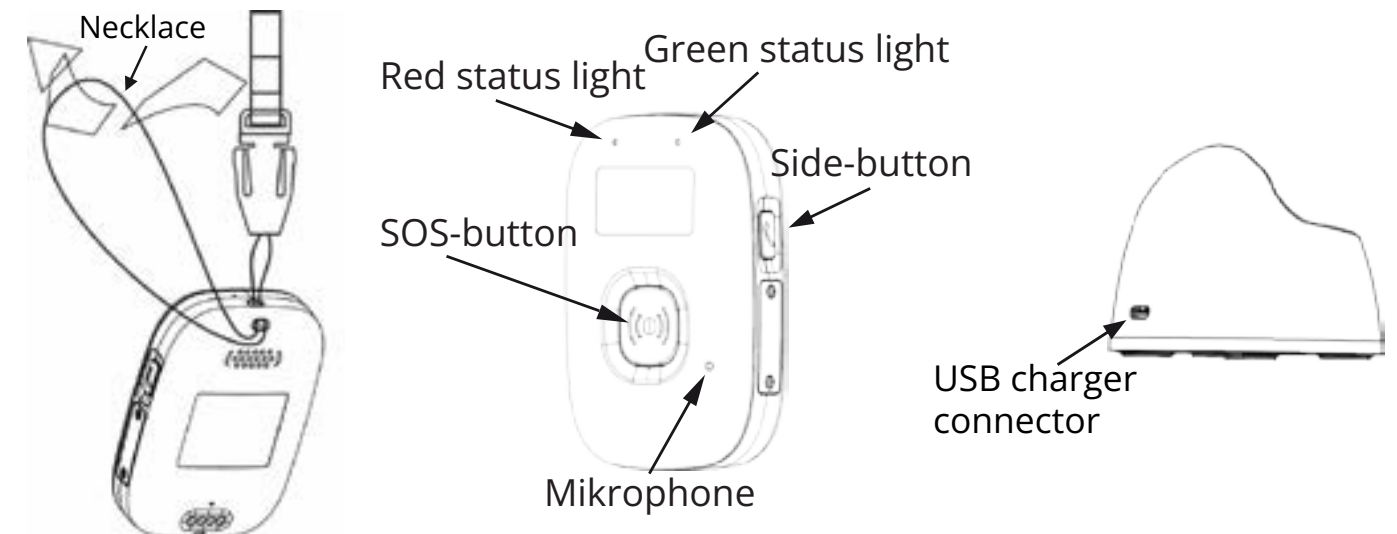
Beacon. If there is a registered beacon within range, the system will use the registered position as location.

**Important:** Do not move the beacon/cradle to a new location without having the address adjusted in the administration system. If so, the position information displayed in case of an alarm may be wrong.

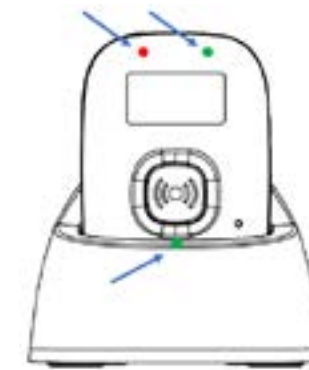
## 7. Sending a contact message

The device can send a request for contact to users connected through the i-care plus application. The message is sent by pressing the side button on the device. A sound and a vibration are played to confirm that the message will be sent.

## 8. Abby and docking station, back, front and side view



Each indicator can light only have one color, but it can have different blinking patterns depending on status. Example with all three indicators activated.

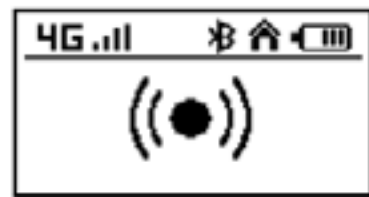


## 9. Button, display, LED, sound, and vibration chart

### 9.1. Display

- Network type
- Network signal strength
- Bluetooth active
- Home beacon in range
- Battery status
- Time
- Step counter





Alarm in progress



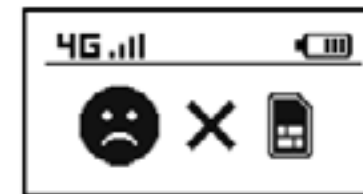
Message sent



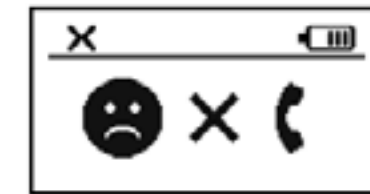
Fully charged battery



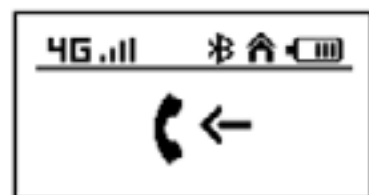
Battery low



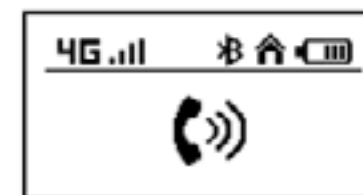
SIM error



No network connection



Incoming call



Outgoing call

## 9.2. Menu system

**This section contains information and functions intended for professionals, not consumers.**

The menu system enables the following functions.

- Pairing of social alarm accessories
- QR code for pairing to i-care plus application (not yet supported in I-care plus)
- Power on/off
- Pairing of Bluetooth accessory (not yet supported)
- Settings
  - Sound volume
  - Alarm volume

To enter the menu system, press side & SOS buttons simultaneously for 3 seconds.

When in the menu system

- Use the side button to scroll down.
- Use SOS button to confirm/enter.

The unit will exit the menu system automatically after 10 seconds if there is no activity.

## 9.3. Abby, the body worn device.

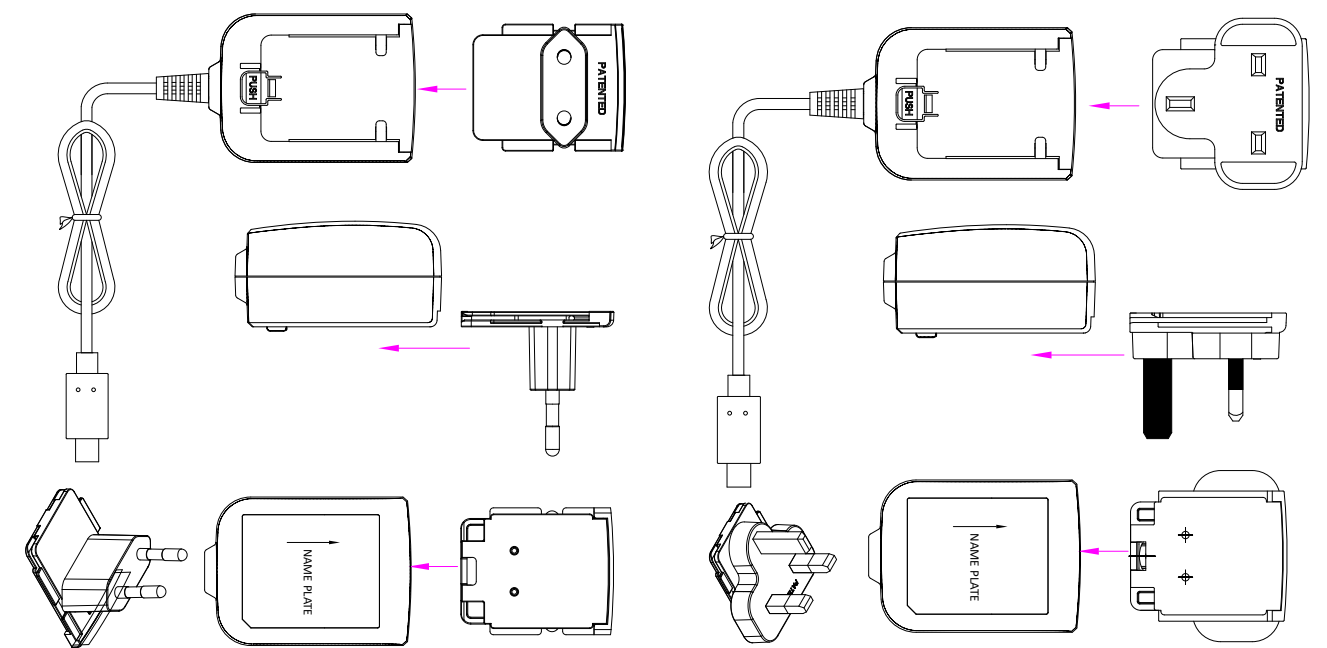
| Status/<br>Function                          | Input                                                                     | Green led                                              | Red led                           | Sound                                                                       | Vibration                                                                                            |
|----------------------------------------------|---------------------------------------------------------------------------|--------------------------------------------------------|-----------------------------------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Turn on                                      | Press side button 3s or put the Device in the charger.                    | N/A                                                    | N/A                               | N/A                                                                         | Long vibration                                                                                       |
| Idle mode                                    | N/A                                                                       | Short flash every 3s                                   | N/A                               | N/A                                                                         | N/A                                                                                                  |
| Charging                                     | N/A                                                                       | Long flash every 3s                                    | N/A                               | N/A                                                                         | N/A                                                                                                  |
| Fully charged                                | N/A                                                                       | Lit up                                                 | N/A                               | N/A                                                                         | N/A                                                                                                  |
| Alarm (no delay)                             | SOS button, press 3s, or 3 short presses                                  | Short flash until call connected                       | Short flash until call connected  | Alarm tone until receive instruction from server                            | Vibration until receive instruction from server                                                      |
| Alarm (delay period)                         | SOS button, press 3s, or 3 short presses<br>Long press side key to cancel | Short flash until call connected                       | Short flash until call connected  | Alarm tone for 30s until cancelled or until receive instruction from server | Vibration for 30s until cancelled or until receive instruction from server                           |
| Alarm ongoing                                | N/A                                                                       | Blink Green and Red Flash same time for every 1 second |                                   | N/A                                                                         | N/A                                                                                                  |
| Fall Alarm                                   | Cancel: Side button                                                       | Short flash until call connected                       | Short flash until call connected  | During cancel period, 30s: Beep 1/s. Then Alarm tone                        | During cancel period, 30s: Short vibration 0.2s, 0.6s OFF, 1.2s alternatively. Then vibration for 3s |
| Cellular network not available / Invalid SIM | N/A                                                                       | N/A                                                    | Red Short flash 0.8s in 3s        | N/A                                                                         | N/A                                                                                                  |
| Data Connection Failed                       | N/A                                                                       | N/A                                                    | Red Short flash 1.2s in 3s        | N/A                                                                         | N/A                                                                                                  |
| Low battery (<20%)                           | N/A                                                                       | Not lit                                                | Red Short flash 0.3s in 3s        | Beep + Vibration at the same time                                           |                                                                                                      |
| Incoming call                                | Answer: SOS button                                                        | N/A                                                    | N/A                               | Ring signal                                                                 | Vibration                                                                                            |
| Contact Message to App (Side button alarm)   | Long Side button in Normal state                                          | N/A                                                    | N/A                               | Short Tone When server response OK                                          | Short Vibration once                                                                                 |
| Turn on display                              | Short press Side button OR SOS button                                     | N/A                                                    | N/A                               | N/A                                                                         | N/A                                                                                                  |
| Out of battery                               | Battery <2%                                                               | N/A                                                    | Lit up until power off completely | N/A                                                                         | Long vibration 2s                                                                                    |
| No SIM                                       | SIM not recognized                                                        | N/A                                                    | Red Short flash 0.8s in 3s        | N/A                                                                         | N/A                                                                                                  |

9.4. Abby, docking station.

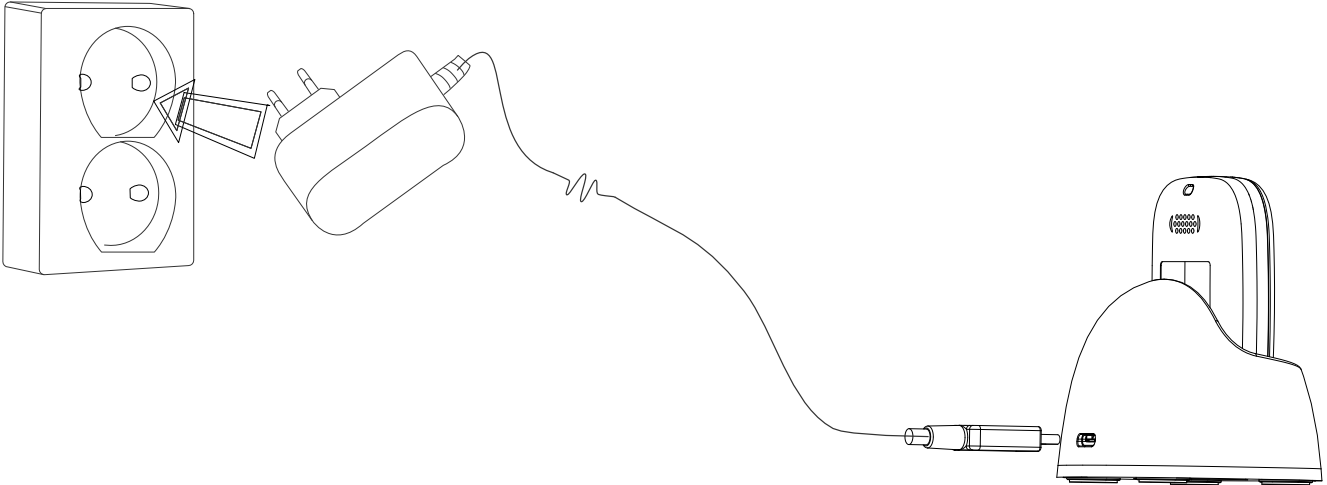
| Status/Function | Green Led |
|-----------------|-----------|
| Power connected | Flashing  |
| No power        | Off       |

10. Installation.

When first plugged in or after storage you should let the Abby charge for up to 3 hours to reach full battery capacity.  
Assembly the power adapter with correct plug



Connect the power supply to the wall socket and the USB connector to the Abby Docking station. The green Led on the docking station will be lit up and the display will show a charging symbol.



- Install the Abby into the Docking station.
- Note! The Abby will start up automatically when put into the docking station. If Abby is totally discharged this may take some minutes
- The LED will flash twice in red every few seconds until it is connected to the network. After approx. 30-60s it will start blinking green, and it is now ready to be configured in i-care-online. (Note! When fully charged the green light is lit up)

11. Radio trigger (Accessory)

The radio trigger uses two-way communication, so when Abby receives an alarm from a radio trigger, it will send a confirmation of receipt to the radio trigger. This is confirmed on the radio trigger by indicator light change from red to green. If the radio trigger does not get any confirmation, the alarm is repeated. The radio trigger can be worn using a wristband or neckband. The radio trigger is waterproof according to IP67 by an integrated gasket and can be carried in the shower and in wet environment.

12. Pairing a radio trigger

**This section contains information and functions intended for professionals, not consumers.**

1. Press side button and SOS button simultaneous for 3 seconds
  2. Press SOS button twice
  3. Press the button of the social alarm trigger.
  4. Abby will beep and confirm pairing in the display.
  5. Press SOS button to confirm.
  6. Wait 10 seconds for the unit to go back to stand-by
- Always make a test call using the radio trigger after it has been paired to confirm functionality.

13. Supported Careium radio accessories.

- Enzo
- Elliot
- Vibby
- I10 Smoke
- I10 Heat
- I10 CO

14. Maintenance

14.1. Cleaning

When cleaning the Abby including accessories and cables, use only slightly damp cloth. Do not use strong detergents or solvents when cleaning.

14.2. Unit storage guidelines

When storing the Abby for an extended period:

1. Charge Level: Ensure the battery is charged 50%-70%.
2. Power Off: Completely turn off the device.
3. Storage Conditions: Store in a cool, dry place (15°C-25°C).
4. Periodic Check: If stored for over 3 months, power on and recharge to 50%-70% every 3-6 months.

Following these steps will help preserve battery life and device performance.

15. Reinstatement

If the Abby is reinstated at a new user, it shall be reset to default settings and re-programmed according to the data and requirements of the new user.

## 16. Technical data

### 16.1. Abby, the body worn device.

Dimensions : 63 x 44 x 17 mm (L x W x H)  
Weight: 45 g  
IP-Class: IP67  
Temperature: Operating temperature -10°C to +40 °C  
Power consumption (typical):  
- Off mode: 0,8 mW  
- Call mode: 2 W  
- Networked standby: 16 mW  
Battery: Li-ION, 3.7 V, 950 mAh, 3.5 Wh  
Standby time: Depending on use case, network situation and settings. Up to 5 days  
Talk time: GSM900: 253mA, 4hours  
WCDMA: 495mA, 2hours  
LTE VoLTE: 120mA, 7hours  
Speech Codec: AMR-WB, ITU-T G.722.2  
Alarm Protocol: SCAIP, TS 50134-9 and voice call  
Radio receiver category: 1  
SIM card interface: Nano SIM

#### Cellular bands

| Technology | Band                 |
|------------|----------------------|
| GSM (2G)   | GSM-900/1800         |
| WCDMA      | B1, B8               |
| FDD        | B1/B3/B7/B8/B20/B28A |
| TDD        | 38/40/41             |

Wi-Fi: The Wi-Fi function is only used to obtain location information and does not transmit signals.

### 16.2. Charging Cradle/Beacon

Dimensions : 58 x 68 x 50 mm (L x W x H)  
Weight: 38 g  
Color: Blue  
RFID, transmitter: 866 MHz  
USB: Micro USB-C (intended for Careium certified adapters)

### 16.3. Power supply

Model (EU/UK): TPQ-236A050100VW01  
Input voltage: 100-240V  
Input AC frequency: 50-60 Hz  
Output voltage: 5,0 VDC  
Output current: 1,0 A  
Output power: 5,0 W  
Cable length: 1,5m fixed cable  
Interface: USB-C male

### 16.4. Environment

The device has IP class 67 and will withstand dust particles as well as water for up to 30 minutes.  
The Charger cradle/beacon has no IP rating, and shall be kept indoors, and in a dry environment.

## 17. Environmental information

This product complies with applicable EU- and UK regulations.

These regulations regulate the product liability for packaging, electronics and battery recycling with the purpose of increasing recycling and minimising waste.



The unit is marked with the crossed out wheeled bin logo, which indicates that it shall be handed in for recycling. The product can be returned free of charge to a recycling station that is connected, directly or via a recycling system, to Careium or to your distributor.



For detailed instructions, declarations and compliance information please check with your distributor or visit our website, [www.careium.com](http://www.careium.com). Use QR-code to reach the product information.

## 18. Accessibility

Careium is committed to ensuring accessibility compliance for users with disabilities across our product and service portfolio. This document outlines our adherence to applicable accessibility standards and the measures implemented to support inclusive usability.

### 18.1. Measures to support accessibility

Careium has a broad range of products and services to support and maintain independence. We offer solutions designed to accommodate diverse user requirements, with built-in compatibility for different assistive technologies depending on the chosen product or service. The product support services explain how to use the accessibility and compatibility features. This document is designed to fulfill accessibility requirements with optimized formatting for screen readers and text-to-speech applications.

For accessibility-related support, you can also contact Careium, your point of purchase or the organisation that supplied and installed your products.

### 18.2. Recommended reading distance

To ensure adequate legibility in accordance with the accessibility requirements and related standards, the recommended reading distance for the Abby is approximately 200mm (20 cm).

### 18.3. Feedback

We regularly check and update our products to make them even more accessible. If you have suggestions or need something that works better for you, please tell us. Your feedback is very important to us.

- Phone: +44 (0)300 333 6511
- Email: [support.care.uk@careium.com](mailto:support.care.uk@careium.com)
- Postal address: Careium UK – Product support accessibility queries - Aspinall House, Walker Office Park, Walker Rd, Guide, Blackburn, BB1 2QE, UK

## 19. Declaration of conformity

Hereby Careium Sweden AB declares that this radio equipment is in compliance with the RE Directive 2014/53/ EU as well as other applicable EU and UK regulations. The full text of the declarations of conformity is available at: [www.careium.com/dofc](http://www.careium.com/dofc)

English

abby-social-alarm-user-guide-v14-careium-en  
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