



GEOSATIS

Bracelet V6 and beacon
User guide

Confidential

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1 GENERALITIES

1.1 Scope of the documentation

The documentation provides the necessary information for appropriate use of the product. It informs the user to ensure efficient execution of the installation, operation or maintenance procedures.

The content of this document is based on the information available at the time of publication. The original version of the document was written in English.

For safety and environmental protection reasons, the safety instructions given in this documentation must be strictly followed.

1.2 Manufacturer identifier, product

Manufacturer

Geosatis SA
Rue Saint-Hubert 7
CH-2340 Le Noirmont
Switzerland

Technical support

support@geo-satis.com
+41 32 552 04 80

1.3 Copyright

© 2019 Geosatis SA. All rights reserved.

1.4 Limitation of liability

Geosatis SA products benefit, under specific conditions, from a manufacturer warranty that may be invoked by Geosatis SA's direct customers. Users should contact Geosatis SA for applicable conditions and in case of a potential warranty claim.

Any warranty provided by Geosatis SA regarding the product will become invalid in case of:

- improper installation, improper programming, improper use, improper operation and/or maintenance leading to any kind of product damages;

- improper or unauthorized intervention on the controller or components;
- incorrect, improper or wrong connection/assembly of systems or products with this product and vice versa.

Geosatis SA shall not accept any liability for any loss or damage to profits, revenues, use, production, or contracts, or for any indirect, special or consequential loss or damage whatsoever.

The device must be scrapped in accordance with directive 2012/19/EU or the environmental standards in force in the country of installation. The components included in the system must be separated and recycled in a waste recycling center that conforms with the legislation in force in the country of installation. This will help to reduce the impact on the environment, health, safety and help to promote recycling. Geosatis SA do not collect used product for recycling. Contact your local recycling center for more information.

1.5 Correct disposal of this product



2 SAFETY INFORMATIONS

2.1 All devices



Mandatory

Read this important safety informations before using the devices.

Follow the warning and caution information to prevent injury to yourself or others and to prevent damage to your devices.

- a) The term “device” refers to the product and its battery, charger and any items used with the product.



Info

FCC Part 15.

The FCC approved model meets the following requirements.

- a) This equipment complies with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. Operation is subject to the following two conditions:

- ⇒ this equipment may not cause harmful interference;
- ⇒ this equipment must accept any interference received, including interference that may cause undesired operation.

- b) However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ⇒ reorient or relocate the receiving antenna;
- ⇒ increase the separation between the equipment and receiver;
- ⇒ connect the equipment into an outlet on a circuit different from that to which the receiver is connected;
- ⇒ consult the dealer for help.



Caution - material

Risk of malfunction, discharge or damage.

- a) Disconnect the device from power sources when not use.
- b) Your device may malfunction or the battery may discharge from exposure to magnetic fields.
- c) Magnetic stripe cards, including credit cards, phone cards, passbooks, and boarding passes, may be damaged by magnetic fields.
- d) Use manufacturer-approved material. Geosatis SA cannot be responsible for the user's safety when using supplies that are not approved by Geosatis SA



Prohibition

Do not wet. Open bracelet, mobile charger, key and beacon must never come into contact with liquids !

Liquid in contact with the device can damage it, generate an alarm and presents some risk of electrocution.

- a) Do not clean with solvents or alcohol. If the device is dirty, use a damp cloth.
- b) Do not expose to corrosive gases or liquids.

Prohibition

Do not use tools.

Using tools on the device can damage it, generate an alarm and presents some risk of injuries.

- a) Do not try to disassemble, open, dismount or remove any pieces of the device.
- b) In the unlikely case where the equipment needs repair, do not try to repair the unit. Failing units shall be serviced by authorized technicians only.
- c) Do not try to change the appearance of the device.
- d) Do not attempt to open the device with any tools.
- e) Do not kick or give a deliberate blow to the device.



Prohibition

Not respecting the following can damage the device, generate an alarm and presents some risk of injuries.

- a) Do not store or use in an explosive environment, nor use near explosives.
- b) Do not transport by plane any working equipment. It is possible to use air transport if the products are properly shut down.
- c) Keep out of the reach of children.
- d) Do not place any heavy weights on the device.



Prohibition

Do not place the device near a heat source, sun, excessive light, fire, etc.

It can damage the device and generate an alarm.

2.2 Bracelet



⚠ WARNING

Risk of serious injuries due to leg, ankle or foot swelling!

The bracelet shall not be installed on people with medical conditions, including but not limited to: diabetes, injuries, infection, or any condition that can cause the leg, ankle or foot to swell.

In the case where such symptoms occur:

- a) immediately seek medical assistance;
- b) contact the officer for bracelet emergency removal as soon as possible.



⚠ WARNING

Risk of severe injuries due to electromagnetic interference.

Bracelet may interfere with medical devices.

- a) Person also using any personal medical devices (pacemaker, hearing aid, etc.) must consult the manufacturer of the personal medical device to determine if its adequately shielded from RF energy. A physician may be able to assist to obtain the information.
- b) If medical exams such as CT, MRI or radio are needed, the bracelet must first be removed.



⚠ DANGER

Risk of battery explosion due to ambient.

The device can be used in locations with an ambient temperature of:

- a) continuous (worn): -15 to +55 °C / 5 to 131 °F;
- b) short term (<30 min): -20 to +65 °C / -4 to 149 °F,
- c) charging *: 0 to +35 °C / 32 to 95 °F.

* If the ambient temperature exceeds 35° C / 95 °F while charging, the devices continue to operate but the charging process is temporarily stopped



Prohibition

Do not attempt to use force or tools to open the bracelet.

It can damage the bracelet and will generate an alarm.



Prohibition

Do not immerse an opened bracelet. It is waterproof only when it is closed.

Liquid in contact with the opened bracelet can damage it, generate an alarm and presents some risk of electrocution.

- a) Do not expose the open bracelet to any other form of liquid.
- b) Avoid frequent exposure to saltwater.



⚠ DANGER

Risk of electrocution when using the mobile charger and the key.

- a) Never use damaged power cables.
- b) Do not cut the power cables.
- c) Avoid contact between the device and any form of liquid.
- d) Charge the mobile charger and the key only with the supplied cables.
- e) Do not touch the mobile charger and the key with wet hands.

2.3 Mobile charger and key



⚠ DANGER

Risk of electrocution when using the mobile charger and the key.

- a) Never use damaged power cables.
- b) Do not cut the power cables.
- c) Avoid contact between the device and any form of liquid.
- d) Charge the mobile charger and the key only with the supplied cables.
- e) Do not touch the mobile charger and the key with wet hands.



⚠ DANGER

Risk of battery explosion due to ambient.

The device can be used in locations with an ambient temperature of:

- a) continuous: -15 to +55 °C / 5 to 131 °F;
- b) short term (<30 min): -20 to +65°C / -4 to 140 °F;
- c) charging *: 0 to +35 °C / 32 to 95 °F.

* If the ambient temperature exceeds 35° C / 95 °F while charging, the devices continue to operate but the charging process is temporarily stopped



Prohibition

Do not immerse. The beacon is only water splash-proof.

Liquid in contact with the device can damage it, generate an alarm and presents some risk of electrocution.

- a) Do not expose the device to any other form of liquid.
- b) Avoid frequent exposure to saltwater.

3 LEGAL NOTICE AND CERTIFICATIONS

Bracelets certifications

There are two ways to reach device's details through the Geopolis platform.

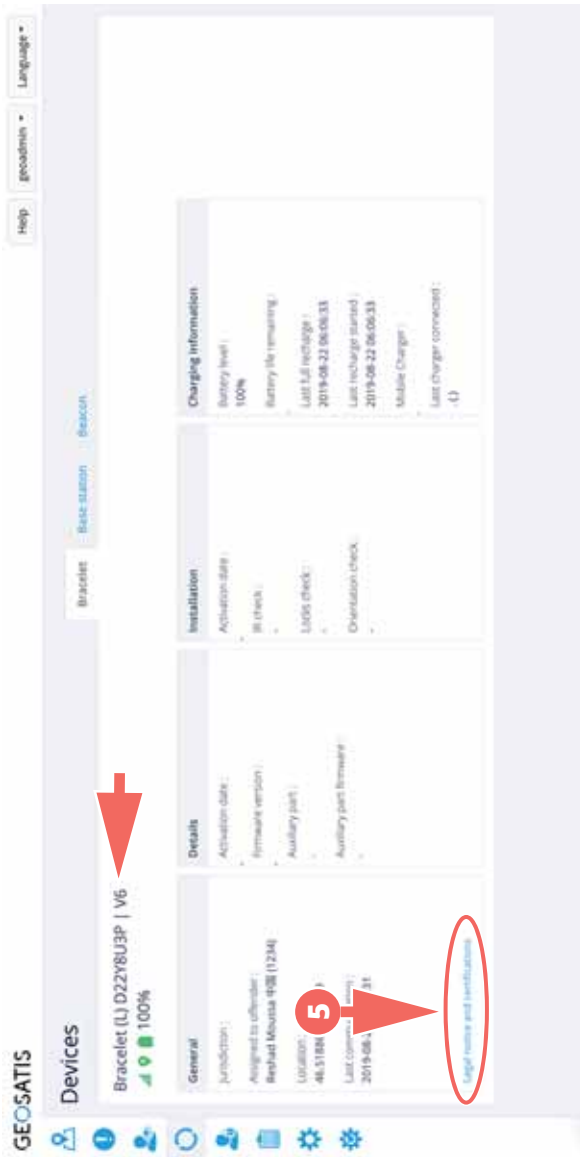
First alternative

- 1 Login on GMS.



A new screen appears with the information about the chosen device.

5 Click on "Legal notice and certifications".



6 The pop up displays available device's certifications and legal notices.



Second alternative

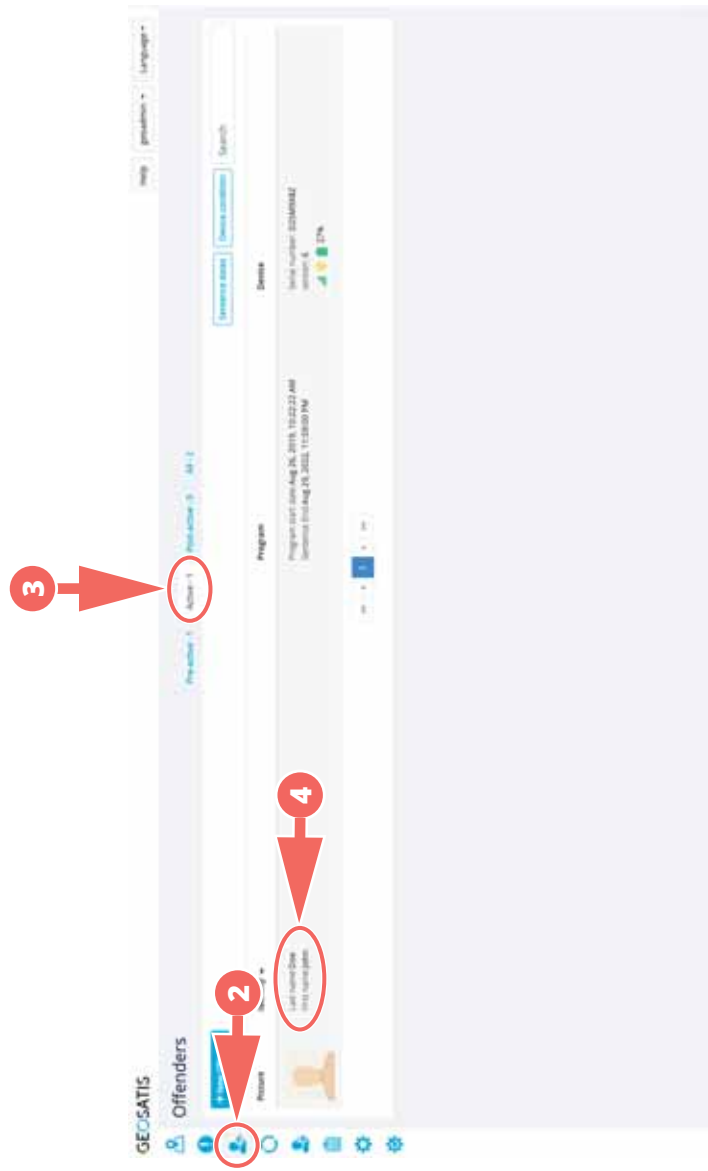
1 Login on GMS.



2 Click on the  icon.

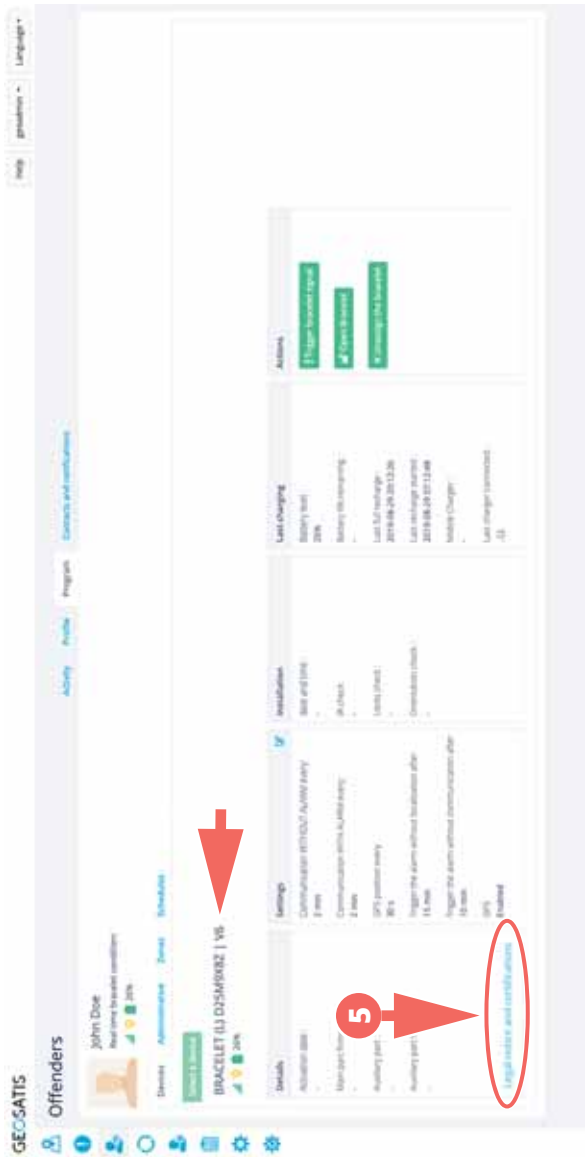
3 Select the “Pre-active”, “Active”, “Post-active” or “All” tab.

4 Choose the offender in the list.



A new screen appears with the information about the offender's devices.

5 Click on "Legal notice and certifications".

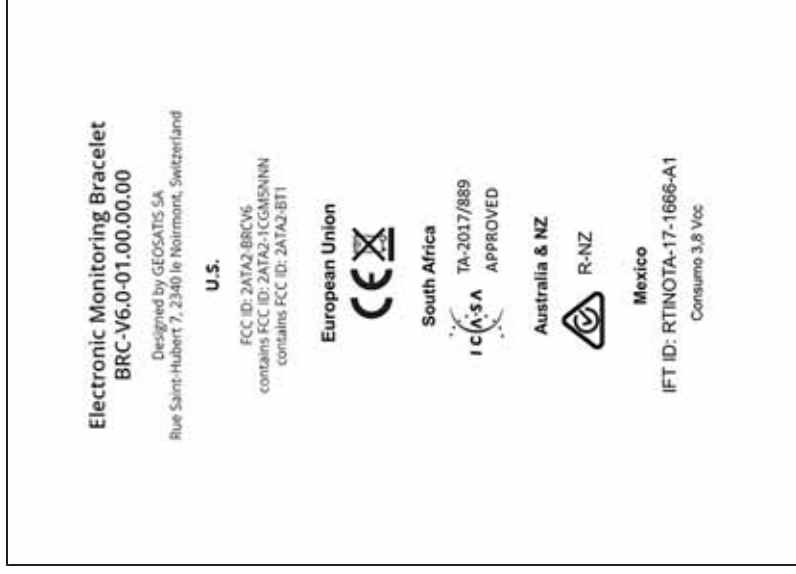


6 The pop up displays available device's certifications and legal notices.



Exemple of certifications and legal notices

Please note that certifications may vary depending on the country.



Batteries

The batteries are certified IEC-62133 and UN38.3 (transport of batteries).

Adaptors

Manufacturer: CUI Inc.

Manufacturer reference: SMI5-5-V-I38.

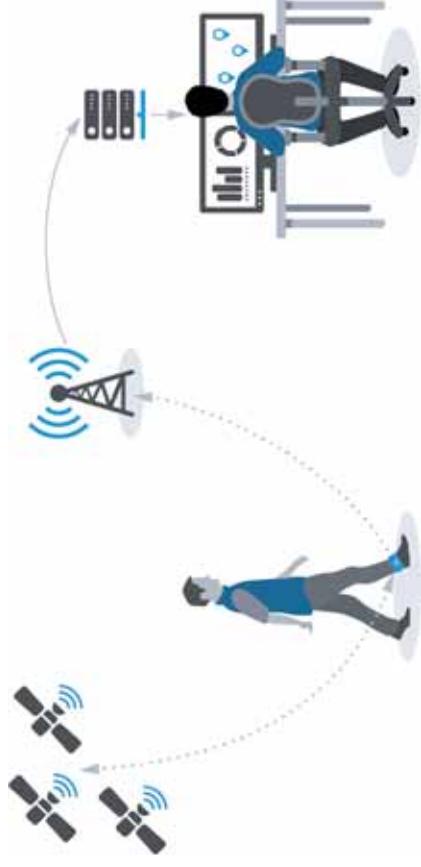
Specification: Output 5VDC 5W / Input 90-264 Vac.

4 INTRODUCTION: MONITORING MODULES

4.1 Outdoor GPS mode

When the offender is outside, positioning is done using GPS and communication is done using mobile phone network.

This mode is used for prohibition or assignment to a perimeter when offender is outside.



4.2 Indoor LBS mode

When the offender is inside, positioning is done using LBS only (no GPS) and communication is done using mobile phone network.

This mode is used for prohibition or assignment to a perimeter when offender is inside



4.3 Indoor beacon mode

When the offender is inside, in order to know if the offender is in proximity with the beacon, the bracelet checks for the beacon presence and communicates using the mobile network that the beacon is detected. This mode is used for assignment to residence.



4.4 Monitoring modules

For offender perfect oversight, three different monitoring modules have been defined:

The goal is to ensure that the offender is:
All modules are depending on a predefined time schedule

Assignment to residence



at home

Assignment to a perimeter



in a specific area.

Prohibition of perimeter



not entering a specific area.

4.5 Zone violation

The "Zone approach" alarm is triggered when the offender is located **within the buffer zone**. If he keeps progressing in the same direction and **enters the exclusion zone**, the "Zone violation" alarm is triggered.



Buffer zone.

Zone violation: Medium.

2 LEDs blinking + 2 short vibrations every 10 seconds during 1 minute.

Optional

Buzzer : 2 short beeps every 10 seconds during 1 minute.



Exclusion zone.

Zone violation: High.

3 LEDs blinking + 3 short vibrations every 10 seconds during 1 minute.

Optional

Buzzer : 3 long beeps every 10 seconds during 1 minute.



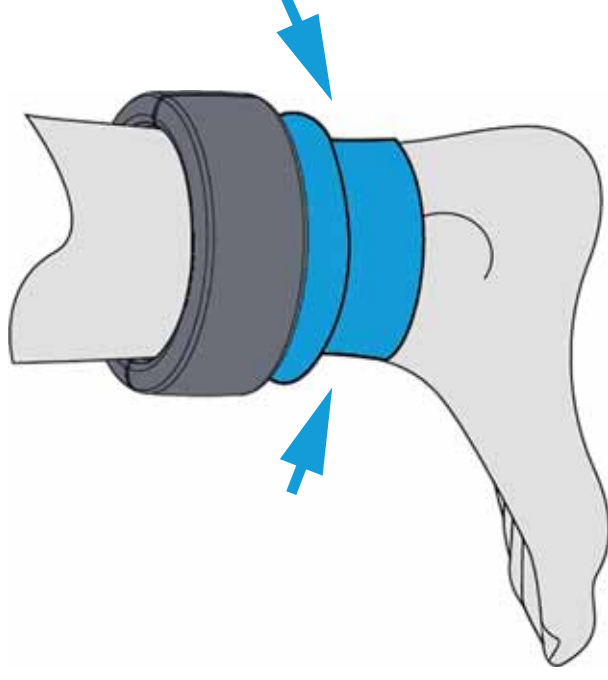
5 DEVICES

5.1 Comfort element

The comfort element is provided with the bracelet and should be worn on the ankle as shown in the illustration.

The comfort element is strapped around the ankle, it does not slide down and it supports the bracelet to prevent the bracelet from irritating the ankle joint.

The comfort element can be provided in extra small and regular sizes.



5.2 Ankle bracelet

The bracelet is made of two parts:

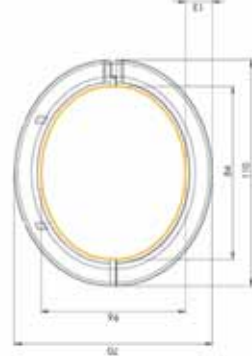
- the main part or active part;
- the auxiliary part or battery part.



The bracelet is actually available in three sizes:

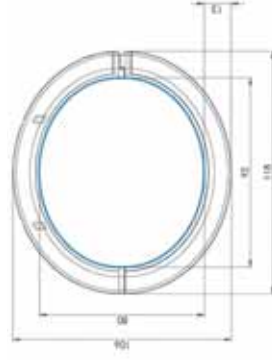
Small

Yellow tubes
Inner perimeter
244 mm / 9.61"



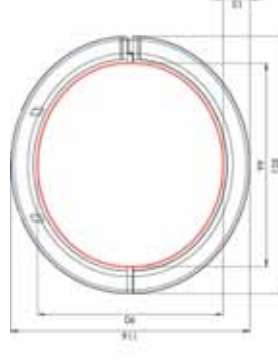
Medium

Blue tubes
Inner perimeter
272 mm / 10.71"



Large

Red tubes
Inner perimeter
299 mm / 11.77"



Bracelet's height is the same for all sizes: 44 mm.

5.3 Mobile charger

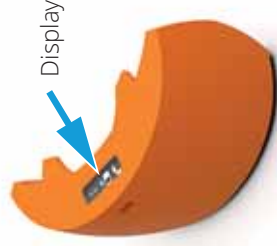
A standard micro-USB cable is provided to recharge the mobile charger.

If necessary, another standard cable (for example from a mobile phone) can be used.



5.4 Key

This key sends a secure command to the bracelet to open it. It takes the form of a special mobile charger.



5.5 Beacon

The beacon is placed at the property where the offender spends most of his time and checks for his presence.



6 INSTALLATION

6.1 Define the right size

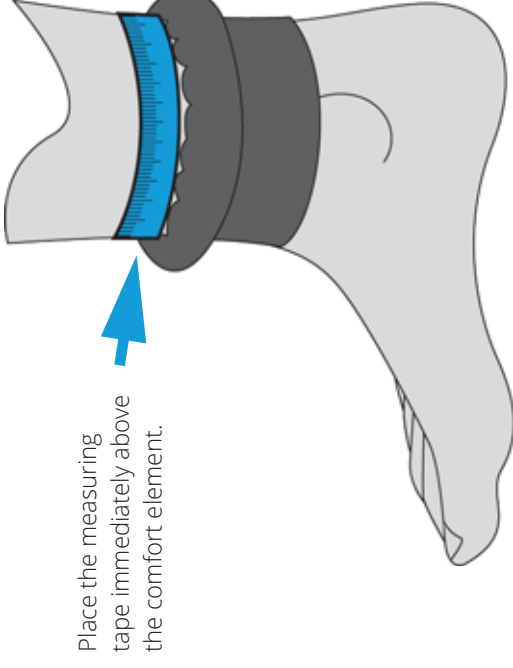
Strap the comfort element around the ankle.

Choose the right size (see the informations in the chapter **Ankle bracelet** [► 24]).

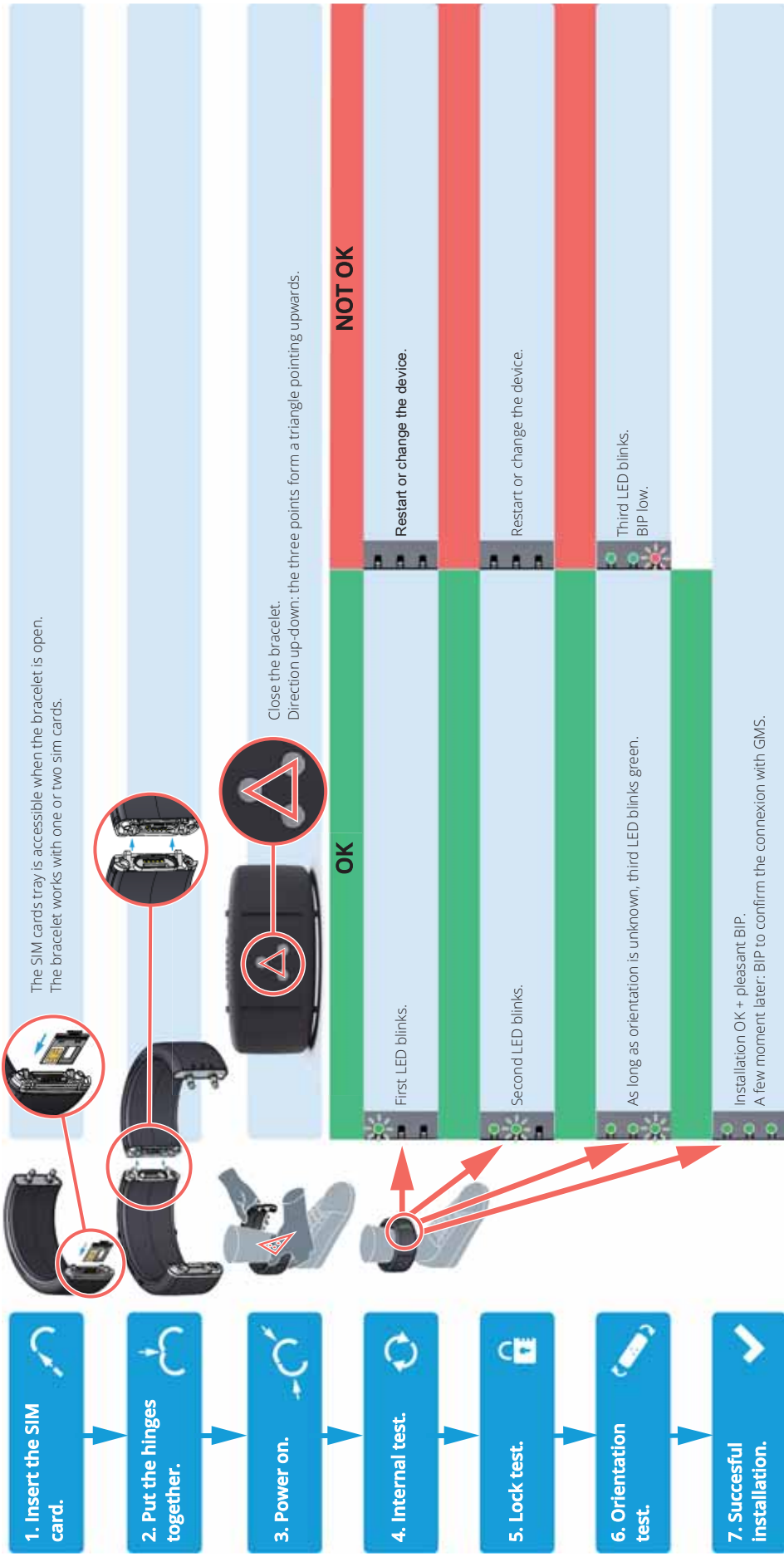
These values are purely indicative.

The best way to know if the bracelet is not too tight, is to ask the wearer to place his little finger between the leg and the bracelet. If the finger does not fit, the bracelet is too tight. The wearer is the only one to know if the bracelet fits or not. If he does not feel comfortable, another size should be used.

Of course, the bracelet needs to be tight enough to be unremovable as long as it is closed.



6.2 Install the bracelet



6.3 Inform the offender



Mandatory

Give the “User guide for offender” and check it with the offender.

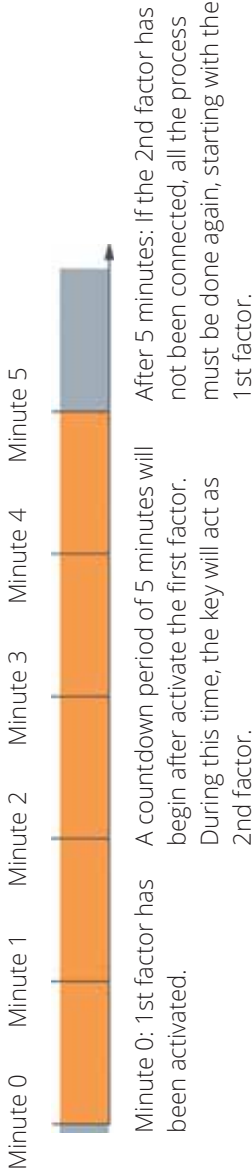
Inform the offender about:

- a) officer's emergency phone number(s);
- b) all safety messages (danger, warning, info, prohibition, mandatory, etc...) listed in the manual;
- c) offender's exclusion/inclusion zone(s), buffer zone(s) and schedules;
- d) zone violation and uncharging the bracelet consequences;
- e) bracelet's alarm signals;
- f) not to move the beacon or base station;
- g) not to try to open the bracelet in any case;
- h) officer's emergency phone number(s);
- i) how to charge and clean, the devices.

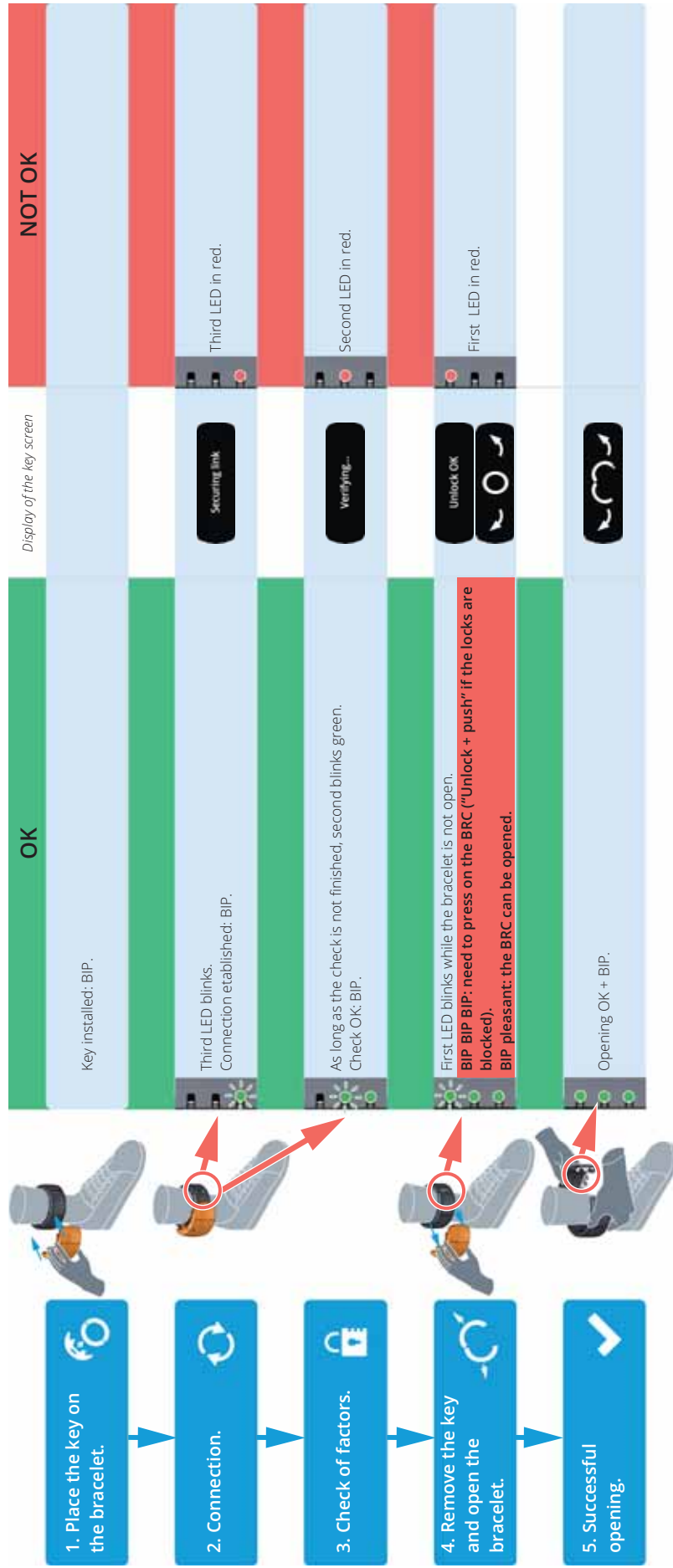
6.4 Open the bracelet

The bracelet can be opened in two distinct ways:

- by using the monitoring platform Geopolis;
- by using a key (see **Open the bracelet with the key** [▶ 30]).



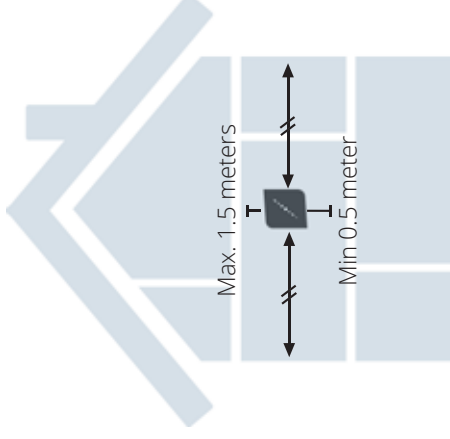
6.5 Open the bracelet with the key



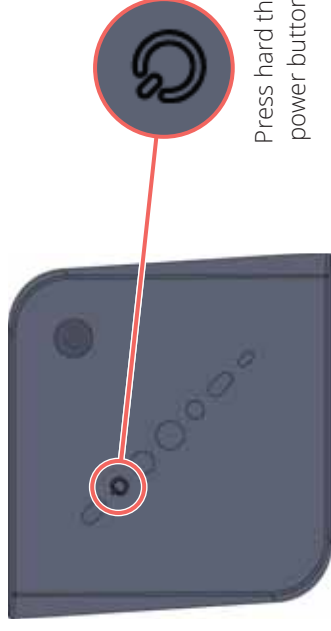
6.6 Beacon

Choose the right place:

- the beacon must be placed at the property where the offender spends most of his time, usually their residence. Choose a location where the beacon cannot be accidentally moved, ideally located in the most center room of the property and placed within an altitude between 0.5 and 1.5 meters high.



Switch on the beacon: press the button on the top of the case (the button needs to be pressed hard, to avoid mishandling).



The beacon emits a sound when it is properly switched on. Then, the bracelet will automatically detect the presence of the beacon.



Caution - material

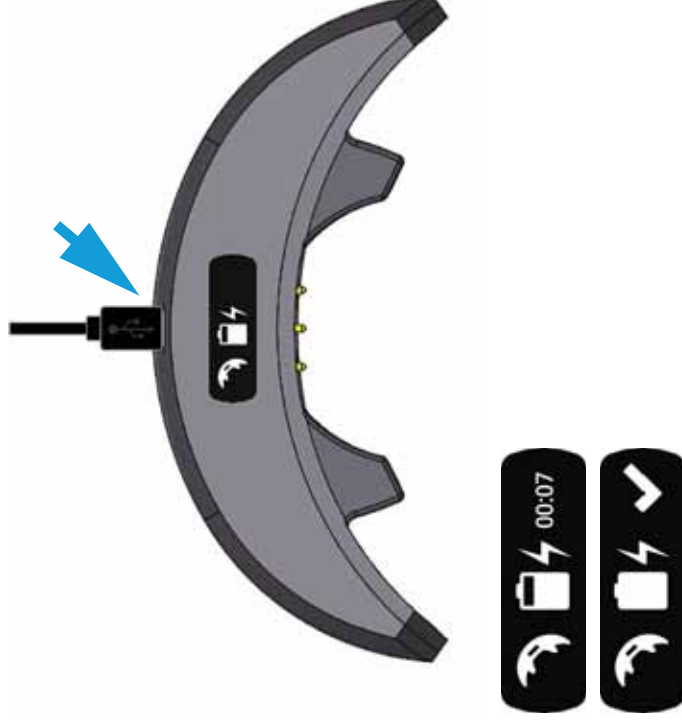
The beacon detects if it is moved.

Moving the beacon will generate an alarm.

7 RECHARGE

7.1 Mobile charger and key

Connect the micro-USB cable.



Charging in progress:

- 7 minutes left.

Charging completed:

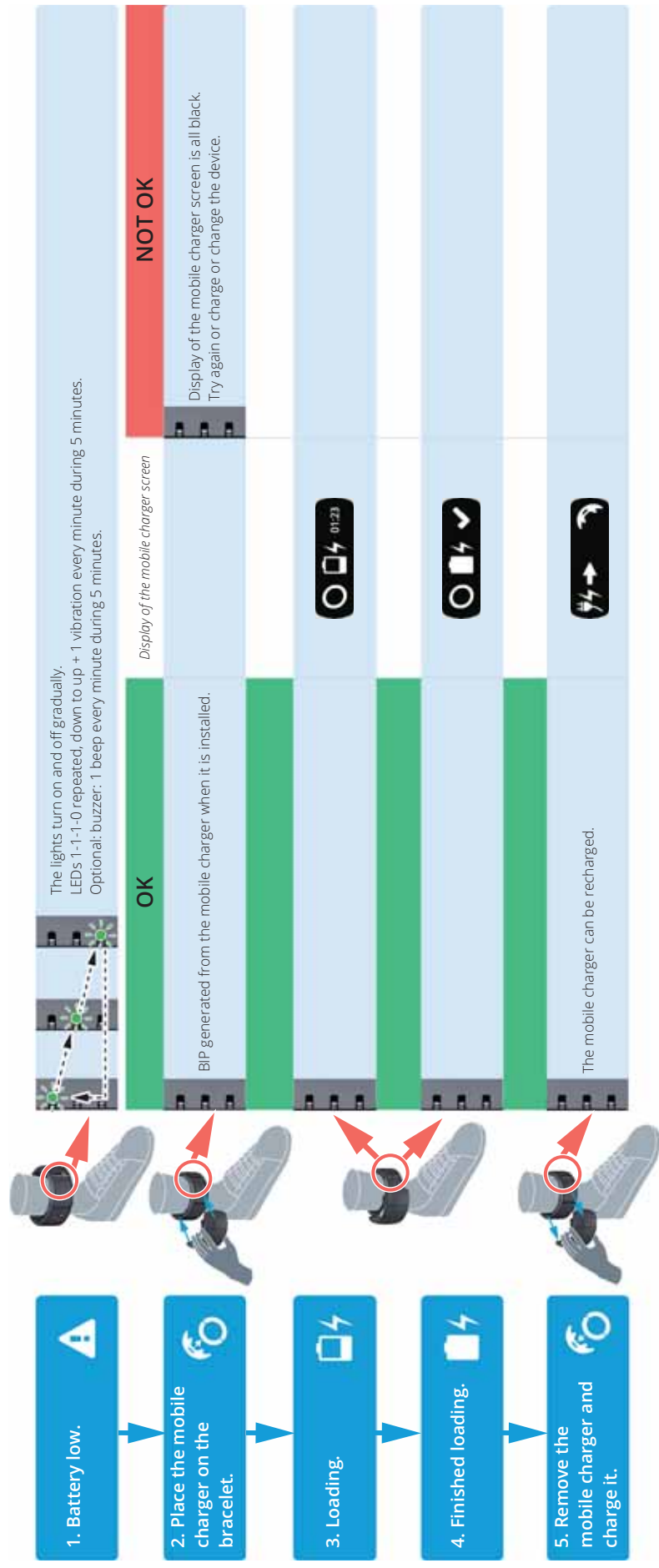
- The power supply can be disconnected.

7.2 Bracelet

Open the jaw.

Mobile charger is ready to be placed on the bracelet.



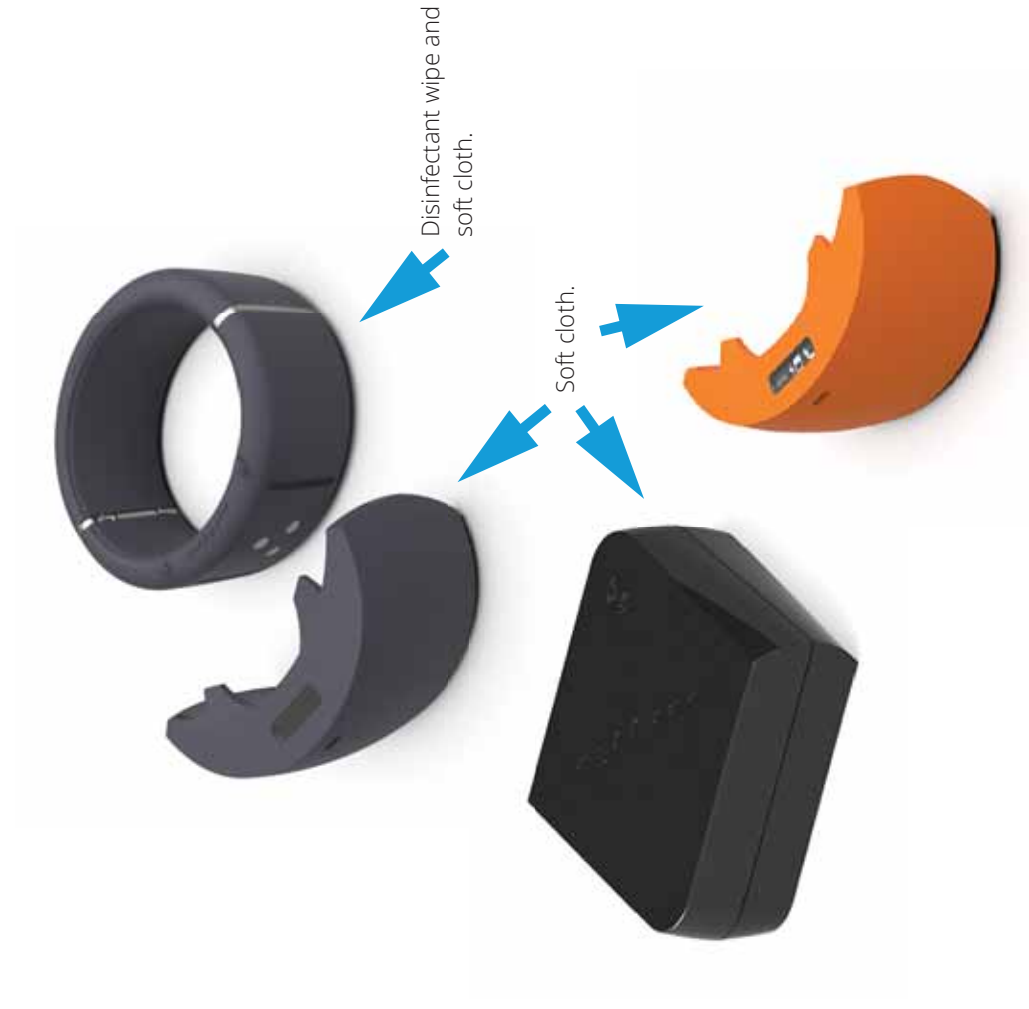


8 CLEANING

The devices can be cleaned with a soft cloth.

Electronic bracelet

It is preferable to use a disinfectant wipe (for example a hand sanitizing wipe) every two days to clean the bracelet properly. A sample is provided with the devices in the shipping box. Do not use alcohol.



9 TECHNICAL DESCRIPTION

	Bracelet	Mobile charger
Power		
Autonomy:	> 24 hours (typical configuration: GPS every 30 seconds; reporting every 2 min).	Charges one bracelet fully.
Charging time:	Empty-to-full: 90 minutes.	Base Station: 3 hours. Micro USB: 5 hours (provided power supply only).
Battery overall lifetime:	3 years in typical usage (1100 charging cycles guaranteed).	3 years in typical usage (1100 charging cycles guaranteed).
Security		
Tampering detection:	Bracelet or casing opening.	Casing opening.
Other features		
Buzzer / Vibrations:	Buzzer and vibrations.	Buzzer.
Environment - Operating		
T° (air):	Continuous (worn): -15 to +55 °C / 5 to 131 °F. Short term (<30min): -20 to +65 °C / -4 to 149 °F. Charging*: 0 to +35 °C / 32 to 95 °F.	Continuous: -15 to +55 °C / 5 to 131 °F. Short term (<30min): -20 to +60 °C / -4 to 140 °F. Charging*: 0 to +35 °C / 32 to 95 °F.
Environment – Non-operating		
T° (air):	Short term (<1 week): -20 to 65 °C / -4 to 149 °F. Storage : -10 to +30 °C / 14 to 86 °F.	Short term (<1 week): -20 to 60 °C / -4 to 140 °F. Storage : -10 to +30 °C / 14 to 86 °F.
Humidity:	5-95% relative humidity, non-condensing.	5-95% relative humidity, non-condensing.

* If the ambient temperature exceeds 35° C / 95 °F while charging, the devices continue to operate but the charging process is temporarily stopped

