Thank you for purchasing APISAFE Beehive antitheft. This manual contains all the information needed for setting up and operating the device smoothly. Please read the instructions carefully and keep for future use.

1. Summary

Apisafe GPS Tracker is especially designed for beekeepers.

1. The device sends an alert by SMS message and informs the owner of beehive movement.
2. Therefore, the current position is continuously updated with the GPS location.

SMS messages are sent through cellular networks (GSM) and an active sim card is required.

Control of the device is attained only by the APISAFE personal remote control.

2. Apisafe Description

The device is secured with six screws on the top side. A rubber seal is inserted inside the cover for a moisture resistant design. The hole in the plastic cover is for the sound of the device buzzer.

Always use all screws in installation and ensure that the rubber seal is properly installed. **The cover must be placed with the hole aligned with the device buzzer. False installation can cause the loss of sound and the entrance of moisture.**

3. Device Setup–Initial Operation

SIM card installation

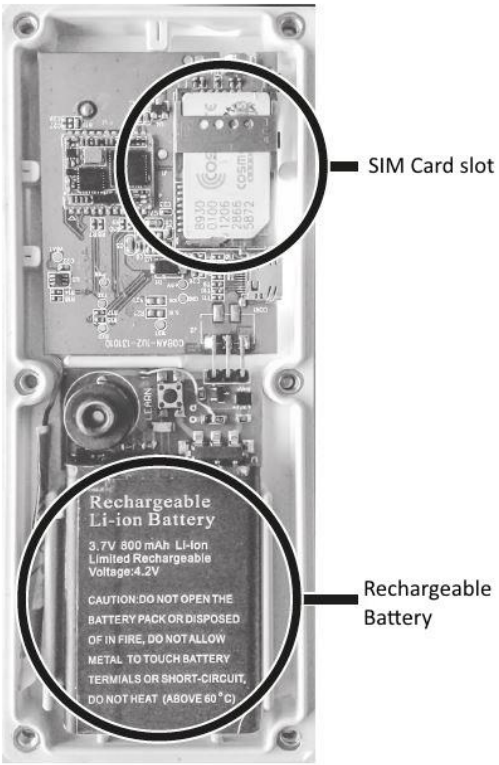
Open cover by removing the screws and place the sim card into the holder.

NOTE: Ensure that the **PIN code is disabled** and the sim card is active with a sufficient balance.

Some carrier's sim cards are automatically deactivated without a balance deposit for a year. Keep your card active.

Remote control sync

Fully charge the battery (10-12 hours for first use) and then place the battery into the device properly. You will hear a "beep" sound.



Apisafe remote control receiver activates with device movement and deactivates after 15'' of inactivity. This is to ensure the safety of the bee colony and for zero emissions.

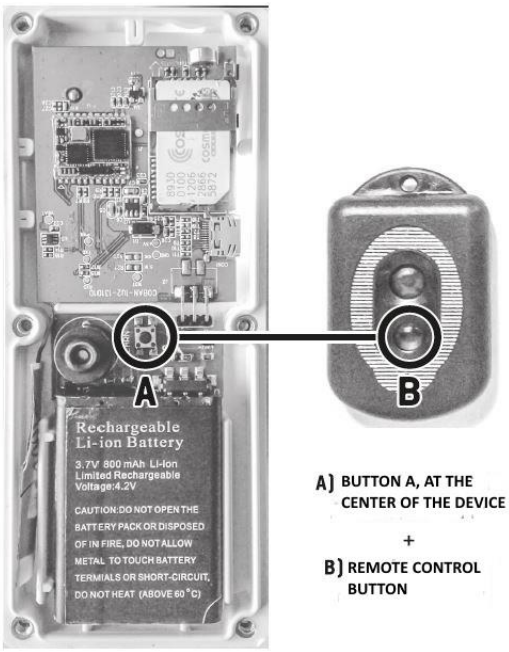
1. Move/shake the device for the receiver to activate.
2. Press and hold the LEARN button on the top of the battery.
3. While holding the LEARN button simultaneously press and hold the remote control button.
4. When the red light near the LEARN button turns on the remote control has synced successfully.

Now, your apisafe remote control is synchronized with your apisafe unit and is ready to operate.

To synchronize more remote controls with your unit (e.g. for coworkers) repeat the steps above. Each unit can synced with up to 20 different apisafe remote controls.

NOTE: Remote controls have two buttons. You can synchronize one or both. Only matched buttons will operate with your device.

Only your personal remote control can operate with your units.



Arm/Disarm Mode

By pressing the remote control button the device mode is changed from armed to disarmed and vice versa.

Armed(Standby mode) – Double “beep”:

After installing the device in the hive and the hive in the apiary, press the remote control button until you hear a double “beep”. Apisafe is now armed and ready for theft detection. In this mode, you will be alerted by SMS and given GPS location if the device is moved.

Disarmed (Transfer/Inspection mode) – Single “beep”:

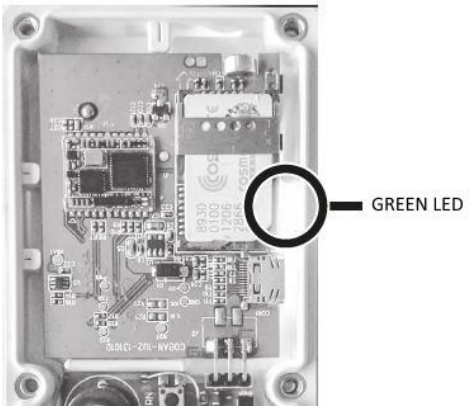
Move/shake the hive for the receiver to activate, press the remote control button to disarm the device. When disarmed, motion alert, GPS and cellular is disabled and user avoids false alerts and battery consumption. Apisafe disarm is signaled by a single “beep” after pressing the remote control. After completing beehives transfer or inspection, press remote control to arm APISAFE again.

When APISAFE is disarmed and the beehive is transferred, a shorter “beep” will sound to remind you that the device is disarmed. When armed the theft device is totally silent.

NOTE: Always make sure that you have heard the single or double “beep” clearly. In case of doubt, arm/disarm again until you hear the proper sound. **If you do not hear the beep it may be because the idle time has passed and the remote receiver is disabled. Move/shake the hive and retry.**

Device Settings

Complete device setup outdoors and not inside a building.



1. Arm APISAFE. (Double “beep”)
2. After at least 30 seconds, move/shake the device until the green light near the sim card blinks. (The green light will blink as long as the sim card is active and the pin code is disabled.)
3. Send a text message to the device with the following: **begin123456**.
4. You will receive a reply **begin ok!**
5. To authorize device administrator phone number, send the following message: **admin123456** and the cell phone number where the device will send alerts and reply to position requests. For example: “**admin123456 6912345678**” authorizes as administrator the following number: 6912345678. (Be sure to put a space between admin123456 and cell phone number.)
6. Reply **admin ok!** Will be received from the unit.

Device setup is completed and APISAFE IS READY FOR USE!
Therefore, in the event of a theft, the device will send an alert to the authorized cell phone number and will reply to requests from this cell phone number only.

More commands:

In case you want to change the administrator number send:

1. **noadmin123456** with the cell phone number you want to delete (**with a space)**. For example: “**noadmin123456 6912345678**”
2. Then, send **admin123456,** space, and the new cell phone number. For example: “**admin123456 6922334466**”**.** The new administrator number is 6922334466. Then, you should receive **admin ok!**

The default password is: **123456.**
If you would like to change the password:

1. Send sms: **password123456,** space, and the new password. For example: “**password123456 654321**”**.** The new password is now 654321. The password must contain exactly 6 arithmetical digits.
2. You should receive «**password OK**»

NOTE: If the new password is lost, the operation of the device will no longer be possible.

After changing the password, you must use the new password in all commands where a password is required.

4. Basic Operation

Basic device operation is presented below with a completed use case scenario. **A simulation after setting up the device is suggested, in order to fully understand the device operation, before being used in the apiary**. **Complete the process outdoors.**

Simulating installation in the apiary:

1. Insert a fully charged battery.
2. Put the cover properly into place using all 6 screws.
3. Mount the device in your preferred place on or in the hive.
4. Press the remote control until you hear the double beep and arm the device.
5. Device is armed and in standby mode.

(If you didn't hear the double beep, the receiver is probably disabled. Move/shake hive and repeat.)

Theft simulation

6. Wait at least 30 seconds.
   (Device ignores all movement for 30 seconds after it is armed to avoid false alarms.)
7. Take the hive from its initial position and move it to another area. Movement duration must be at least 10 seconds.
   -The device ignores very short duration or low intensity movements to avoid false alarms due to wind, earthquakes etc. Besides, a real theft and transfer take much more time than 10-15 seconds and the motion is much stronger.
8. Device passes into theft mode and the following message is received:

   Motion
   Lac:XX XXX
   T:
   Last:
   T:XX:XX
   http://maps.google.com/maps.....
   bat: 100%

   This message with "MOTION" in the beginning, informs that the hive is moving. The message may even contain the last known coordinates from the last time it was active. But, the **FIRST ALERT MESSAGE DOES NOT CONTAIL CURRENT COORDINATES.**

   IMPORTANT: This is not a fault or malfunction! The device is designed **to inform the owner instantly for hive movement even before GPS location tracking,** which may require up to 2 minutes. With this feature you will be informed on hive movement even if for some reason GPS coverage is not available.

9. After waiting for 2-3 minutes for GPS to lock the current position **we make a missed call to the device**. Soon after, a message is received as follows:

Lat: 23.445678	Coordinates
Lon: 25.778999	
Speed: 40.35	Speed
T: 13/12/15 20:40	Year/Month/Day Time
Bat: 75%	Battery
http://maps.google.com/maps	GoogleMaps direct link

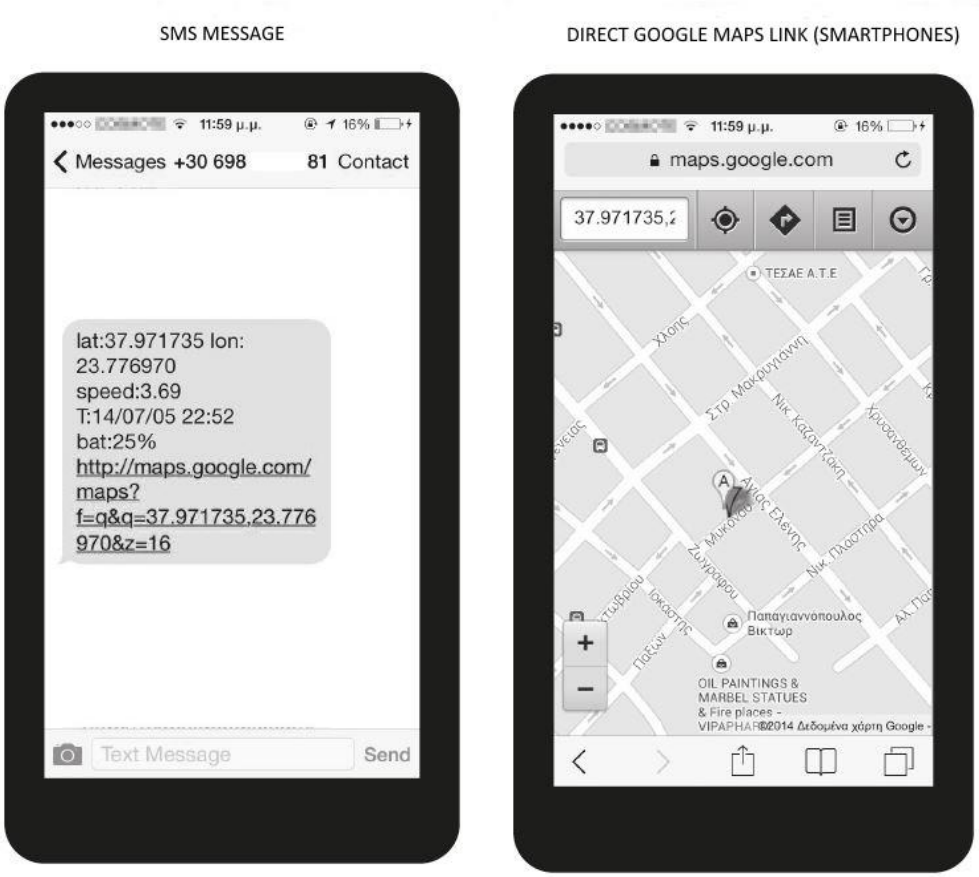
You now have the real time beehive position and you can follow its route.

NOTE: If message starts with **Last:** it means that the device has not acquired current coordinates yet. We wait for 2-3 minutes and make a call to the unit again.

If the time zone is wrong, it can be changed with the following message:
"**time zone123456 X**" changes the time zone. Where 123456 is the password set (if it has not been changed) and X is the time zone. (ex. "time zone123456 3" is GMT+3 Zone while "time zone123456 -3" is GMT-3)

How to Locate:

1. **If you have a smartphone with internet, just tap on google maps link and position will be shown on google maps.**



2. Put coordinates in any car GPS device or other device with maps installed.
3. Put coordinates in Google Maps by visiting www.google.com/maps and typing the coordinates as you receive them with a space between. (ex.: 23.986374 34.356834)
4. By visiting our website www.apisafe.com and choosing **locate** from menu bar.
5. Put coordinates in the program "GPS Tracker" which you can find on the CD-ROM provided. Installation and user guide are also in the CD-ROM.

If you are on the move trying to find the hives and do not have a smartphone with internet, make sure that you have someone with internet access available, to inform you on the coordinates so you know position and route.

❓ If for any reason GPS Coverage is not available, have I definitely lost my beehives?

When and if the device does not send current coordinates due to GPS Signal loss, an sms message is received which contains a field called **Lac**: . It is useful for location through cellular network towers. Accuracy is less accurate (500 – 1000 m) than GPS (5-10 m), so using this method is only suggested when there are no GPS coordinates received after many requests. Put the LAC field in the program found in the CD-ROM, in manual track taband the approximate area is shown. Detailed instructions on using this feature are on the CD-ROM provided.

How to receive updated coordinates:

You can receive current coordinates by sms by making a missed called to the unit and then receive the updated message.

You have just completed a hive theft scenario with APISFE installed.

10. For safety and legal purposes always.

Transfer/Inspection simulation

In normal conditions, after step 5 above, the owner arms the device and leaves the apiary. Meanwhile, no theft event happens and owner returns after some weeks for hive inspection or transfer to another apiary. (It's supposed that interval is less than 4-5 months that device requires battery change).

When returning, in order to avoid false alarms while moving the hives you must follow the steps below:

1. After moving/shaking the hive in order for the remote receiver to activate, press the control button and disarm apisafe.
2. After completing inspection or transportation, put the hive in the final position.
3. Next, press remote control button **until receiving double "beep"** which signals that APISAFE is armed and ready for theft detection.

If you didn't hear the double beep, the receiver is probably disabled. Move/shake hive and repeat.

5. Battery life – Device maintenance

Battery

Initially each battery must be charged to full capacity for 10-12 hours.

Next full charge cycles last 5 hours.

In standby mode (armed – no theft event) battery autonomy is up to 5 months. The battery level will be sufficient enough for an event of theft even the last day of the 5 month period.

Extreme weather conditions (moisture, temperature etc) combined with long intervals of standby mode cause faster battery discharge. In such occasions, we suggest to change the battery sooner, to ensure device reliability.

In general, when possible, ensure battery change on time. Battery changes every 3-4 months assures smooth operation and stronger battery life.

In theft mode: Battery autonomy may vary from hours up to 2-3 days. It depends mainly on location requests received by user (missed calls) and the battery level at time of theft. Battery level is also indicated in message received. **In any occasion, search for stolen hives immediately.**

After an event of theft and full system operations (cellular, GPS active) battery must be changed with a fully charged one.

In transportation/inspection (disarm): When apisafe is disarmed and moving we often have receiver activation intervals. Battery consumption is not significant in this mode, but we suggest that **total disarm time** (intervals when apisafe is disarmed for inspection/transportation) **does not exceed 20 hours in a battery cycle** (From battery to battery change.)

Maintenance

Keep device in proper condition. Always place all screws after installation to ensure water/moisture resistance.

In case of loss of screws or plastic seal please replace with spare provided in the box. Also keep the buzzer hole clean to ensure sound. Covering it will cause lower beeper volume.

6. Installation

The device can be placed anywhere in the hive. In the box you will find Velcro tape for easier mounting/removal. Cut to preferred size and put one side on the hive (fully plastic) and the other in the same place on the device.

Placement recommendations

- Mount inside beehive: You can mount the device at the bottom or side walls of beehive.

  In this occasion, APISAFE engraved side with buzzer hole must be towards wooden wall.

- Installation on the lid: Put the device between the lid and place a new piece of wood in order for the lid to look normal. In this option, APISAFE logo and buzzer hole must be towards sky.

- Some users make custom fields inside wooden walls and then cover them. This option is totally hidden but it requires more time on installation and removal for a battery change.

Device is designed as slim as possible (12mm) for mounting with less possible effort.

- On-frame mount: Another option is mounting in a custom place on the frame.

Users decide to follow their own custom installation methods in order to ensure privacy and avoid unauthorized device discovery.

On hive installation at the apiary **make sure that beehives with apisafe device are placed at steady points** to avoid false alarms.

However, the device is designed to avoid very short movements for the same reason.

6. Warranty - Support

1-year warranty is provided with the device. The device must be in good condition without damage.

Each Apisafe has unique a serial number so a warranty card is not required. However, proof of purchase can also be used as a warranty statement.

Support

Device is designed and made in Greece. For support, you can contact APISAFE at apisafe.com or the official reseller: Arkadiki Melissokomia - Gritzalis Bros.

7. Contact Details

For support or more information you can contact us through:

- Contact form at website : www.apisafe.om
- Email at : info@apisafe.com
- Any branch of Arkadiki Melissokomia (www.arkmel.gr)

Frequently asked questions

- ? While pressing remote control button I do not hear the beep signal from the device.
- ➢ Remote control receiver, for bee colony safety and battery consumption, is disabled after 15'' seconds idle. Move/shake the hive to activate and try again.
- ? I am in doubt if I heard double/single beep and if I armed/disarmed the device.
- ➢ Retry again until you clearly hear the proper beep signal. Also, when disarmed and moving device emits a lower volume beep.
- ? I did not receive "**admin ok"** at set up or I did not receive alert when the device was moved.
- ➢ Send command again "**admin123456 XXXXXXXXXX"** (the x represents the cell phone number) with a space between admin123456 and the cell phone number and make sure you received **admin ok!** You do not need to repeat this step again. Also, make sure that your account has a sufficient balance.
- ? After moving the hive in standby mode I did not receive a message. Is this a malfunction?
- ➢ In contrast, the device ignores short and low intensity movements to avoid false alarms (due to wind, earthquake etc). At time of theft the intensity of movement and duration are much stronger, and the device will be enabled.
- ? After missed call I did not received a message OR messages received did not contain current coordinates.
- ➢ Wait a few minutes and try again. GPS location requires up to 2-3 minutes to acquire position. Also, there is **no coverage inside buildings.** In that occasion, message begins with: «**Last**» and sends last known positions before coverage loss.
- ? My hives were stolen and after many requests my account went out of balance. Is Location possibility lost?
- ➢ Absolutely not. Deposit an amount to your phone number used in Apisafe unit and continue locating. All carriers support balance top up remotely.