

# Hive Heart



# UK BEES

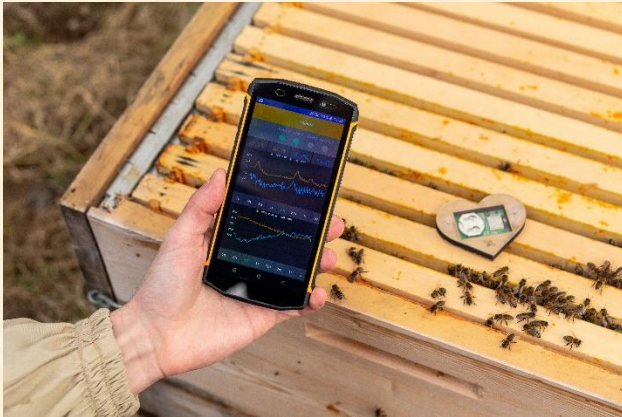
Congratulation on your purchase of The Hive Heart

The Hive Heart will monitor and report your hive environment, and is a great help to any any beekeeper by taking some of the guesswork out of managing your honeybee colony. It is compatible with all types of hive and very easy to use.

Features:

- Internal hive humidity
- Internal hive temperature
- Bee colony sound analysis
- Loss of the queen alert
- Swarming forecasts
- Excess internal humidity warning
- Data collected every 10 minutes
- On device internal memory for 2 months
- Cloud archive for 5 years of data
- Communication by smartphone via Bluetooth or by external GSM module
- Free mobile app for iPhone or Android
- Open air communication distance 100m, after insertion into the hive 5m to 50m
- Battery included
- Battery life approx. 1 year

# The Hive Heart



## INSTALLATION IN THE HIVE

- The battery for the hive heart must be a CR2032 3V. The battery cannot be recharged, so replace it when it has discharged. The battery should last approximately 1 year depending on weather conditions.
- Close the hive heart cover and place it on the frames with the electronics facing down on the frames.
- **NEVER** use the hive heart while treating bees with acids or other caustic substances, these will damage the electronics.
- **Remove the hive heart before treating with oxalic or formic acid treatments. Wait at least 7 days before replacing in the hive.**






## INSTALL MOBILE APPS

- If you DO NOT have the GSM gateway (sold separately), you will have to download TWO apps to your mobile device.
- Download the BeeHive Monitoring apps on your mobile device, either from Google Play if you have a phone or tablet with Android or from the AppStore if you have an iPhone or a tablet from Apple.

The first app is called “**Bee Hive Monitoring**” with a yellow icon 

The second app is called “**Bee Hive Monitoring Gateway**” with a green icon 

- Ensure Bluetooth and GPS on your mobile device are turned on.





# Mobile app

## Bee Hive Monitoring Gateway



The screenshot shows a mobile app interface with a green header 'Data collection'. Below it, there are several data collection entries. The first entry is for '29 Hy' with 'Received' and 'Sent' timestamps of '16/09/2024 19:01:08' and a 'Status' of 'Finished', which is circled in red. The second entry is 'Secondary - 2' with 'Received' and 'Sent' timestamps of '16/09/2024 19:01:08' and a 'Status' of '-93'. The third entry is '010 (3M) External' with 'Received' and 'Sent' timestamps of '16/09/2024 18:49:13' and a 'Status' of '-88'. The fourth entry is '003 (3M+) External' with 'Received' and 'Sent' timestamps of '16/09/2024 18:49:13' and a 'Status' of '-89'. The fifth entry is '011 (3M) External' with 'Received' and 'Sent' timestamps of '16/09/2024 18:49:13' and a 'Status' of '-88'. At the bottom of the screenshot, there is a green button labeled 'DOWNLOAD DATA' and a navigation bar with three icons: a list icon, a circle icon, and a star icon.

ID	Location	Received	Sent	Status
29	Hy	16/09/2024 19:01:08	16/09/2024 19:01:08	Finished
Secondary - 2		16/09/2024 19:01:08	16/09/2024 19:01:08	-93
010 (3M)	External	16/09/2024 18:49:13	16/09/2024 18:49:13	-88
003 (3M+)	External	16/09/2024 18:49:13	16/09/2024 18:49:13	-89
011 (3M)	External	16/09/2024 18:49:13	16/09/2024 18:49:13	-88

Use this app only when you DO NOT have a GSM Module (sold separately).

Ensure you are within 50 metres of the hive when running this app.

This app acts as a GSM Gateway and will download data from the hive heart ready for you to see your data in the Bee Hive Monitoring app (yellow).

Place your mobile device within a couple of metres of the hive to initially locate the hive heart, then start the app.

Upon starting the app, wait a few minutes for all devices to change to "Ready." If this does not happen, move closer to the hive containing the hive heart and swipe down to refresh the app.

You will see the status of the hive heart device change as follows when downloading the data:

Searching ....  
Found ....  
Ready .....  
Connecting .....  
Discovery .....  
Collecting .....  
Finished

After the process is Finished, you will see the Received and Sent statuses change to the current date and time.

You can now close this app and proceed to read your hive data by opening the yellow Beehive Monitoring app.

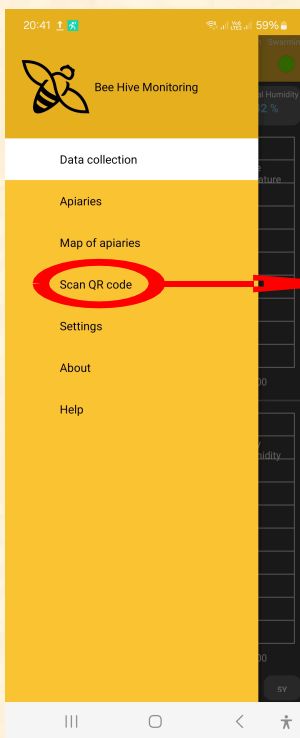


# Using the Mobile app

## Bee Hive Monitoring



- If you DO NOT have a GSM module, each time you visit the hive containing the Hive Heart, you will need to run the green gateway app to upload new data from the Hive Heart to the Cloud Server where your data will be saved.
- Once this is complete, you can view the data using the yellow app.
- The hive heart will read data within the hive every 10 minutes and store the data on its internal memory. Running the gateway app will upload the data from the internal memory to the cloud server.



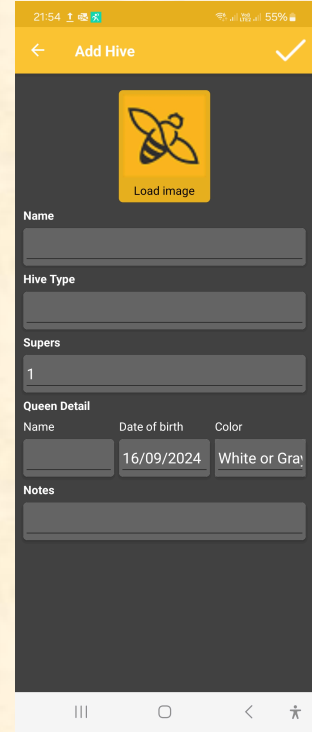
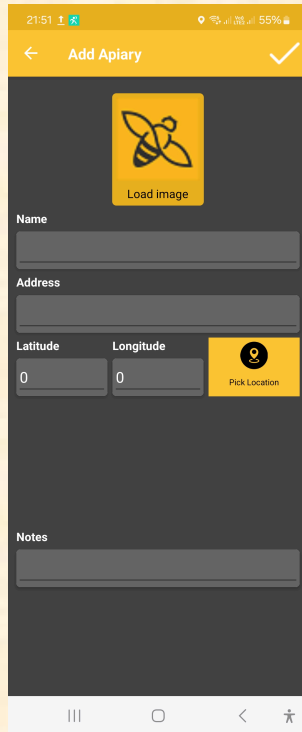
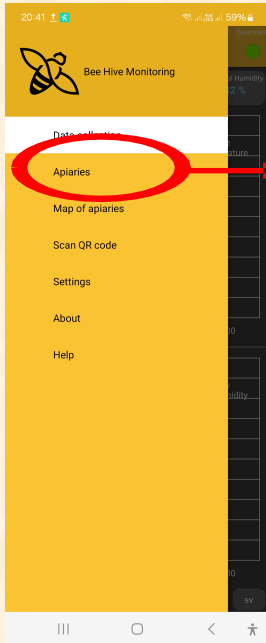
From the Menu select Scan QR Code and scan this code into the app. This will initiate the app ready to collect your data.

You only need to initiate the app once, unless you uninstall the app from your device. If you have to re-install the app for whatever reason, please keep this QR code safe, so that you can re-initialize. Your data will remain safe on the cloud server.

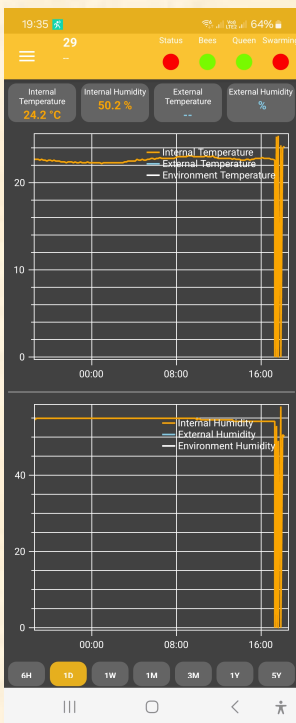




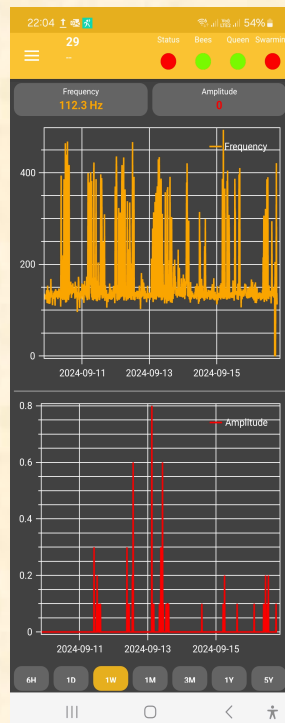
From the Menu select Apiaries. Here you can name and locate your apiaries as well as entering information about the hives within each apiary.



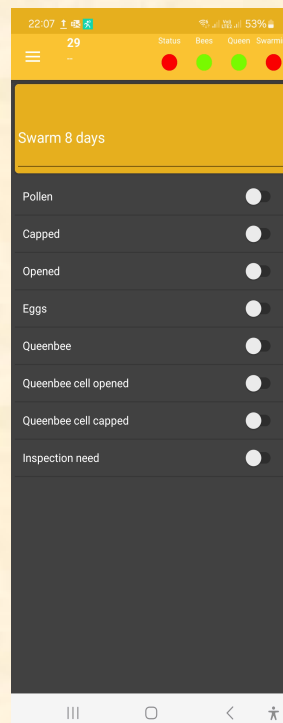
- Select Data collection from the Menu. Navigation through the app is done by swiping screens left or right.



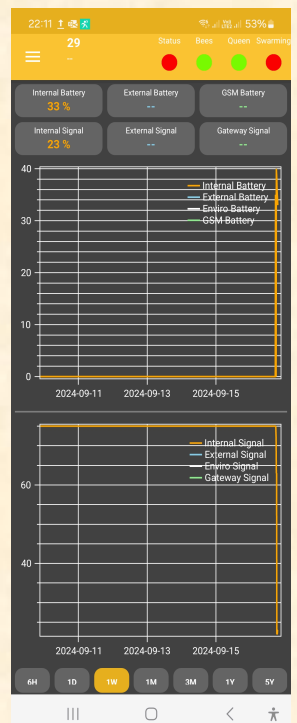
Temp & Humidity



Frequency & Amplitude



Status

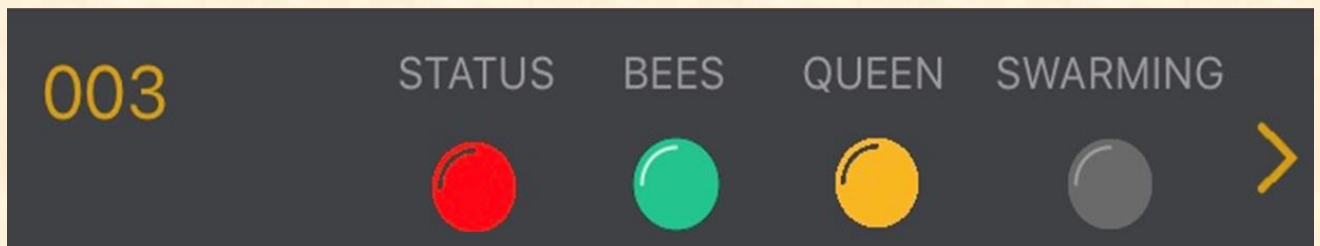


Battery

# Status and Reporting



- Red:** Major issue requires immediate action  
**Green:** Everything is OK  
**Yellow:** Small issue - investigate  
**Grey:** Insufficient data



## STATUS:

- Indicates the overall state of the colony and the hive heart technology. If anything changes the status buttons change colour. e.g. Problem with the colony, swarming preparations, low battery etc. You can find details on the Status screen of the app.

## BEES:

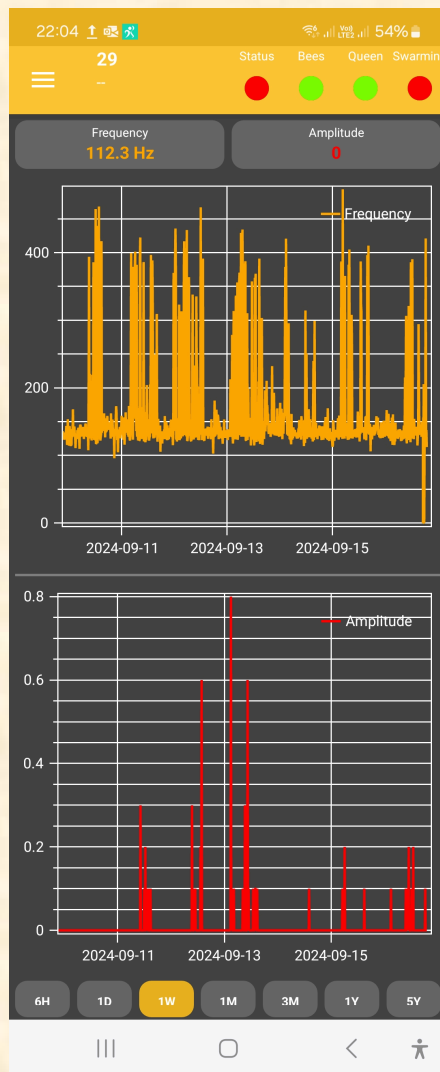
- Indicates low or high, unusual or critical values of internal temperature and humidity. Details on the Status screen of the app.

## QUEEN:

- Based on analysis of sound frequencies within the hive can indicate problems with the queen. Details on the Status screen of the app.

## SWARMING:

- Based on sound frequency analysis, this indicates different stages of swarming preparation. Red indicates there is a high risk of an imminent swarm. Yellow means bees are making preparations to swarm. Details on the Status screen of the app.



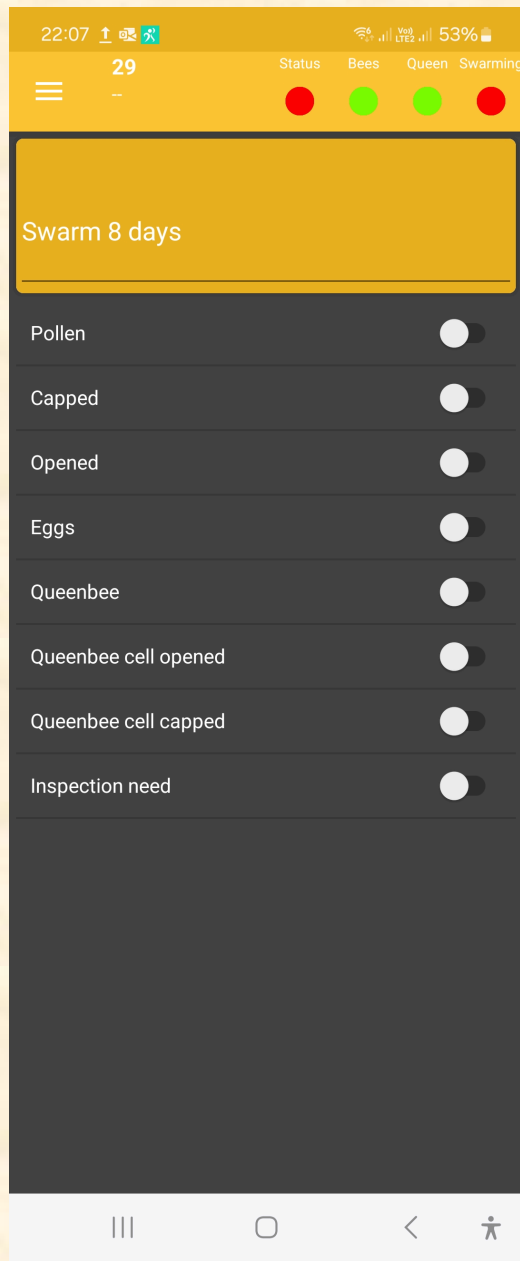
## FREQUENCY:

Bees communicate by buzzing, mainly by changing the frequency. From this change, we can identify a missing queen (bees cry). Also, we can determine when they are ready for swarming. The standard frequency of a bee colony is 200 Hz. If they are ready for swarming they change to 240Hz. In swarming mood it is around 270Hz and by 300Hz you only have a short period until they swarm (dependent on weather).

## AMPLITUDE:

The overall noise (loudness) of the colony. From this number, we can monitor the activity of the colony and it's excitement from different events (healing, nectar harvesting or intruder attack i.e Wasps, hornets etc...). The range starts at singles in the winter through tenths up to hundreds with a strong bee colony in the summer.



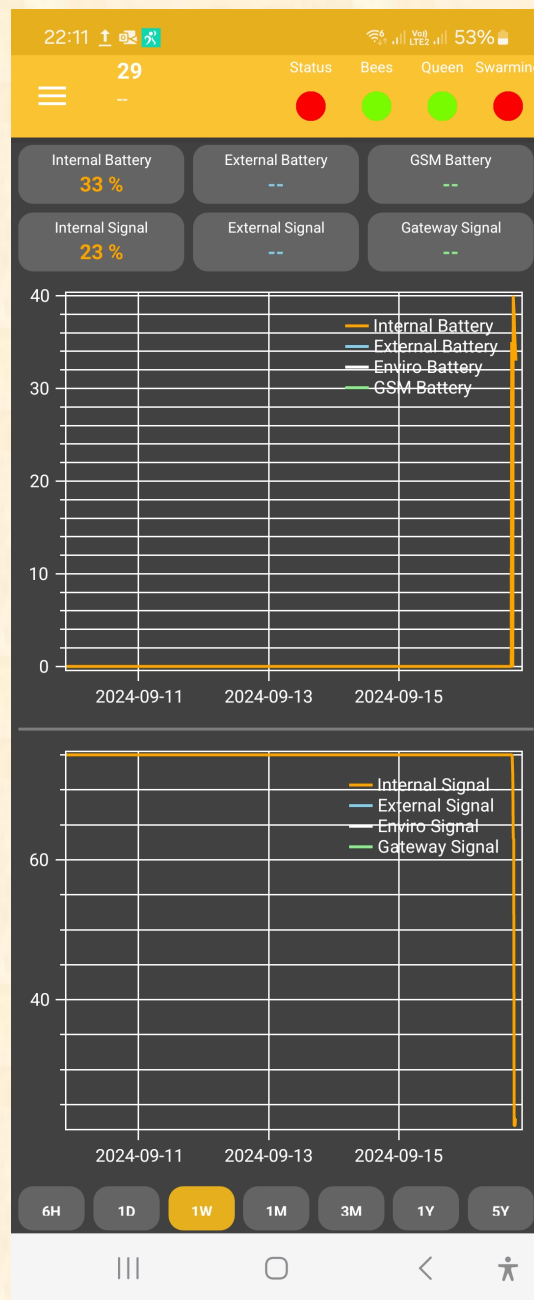


## **YELLOW MESSAGE ARRAY:**

In this field, you will see text information, explaining red and yellow status button alerts and informing you about other anomalies.

## **SWITCHES:**

You can save your hive observations by using these switches. For example: Do the bees have pollen frames, do they have capped brood, open brood, fresh eggs, is the hive queen right, are queen cells present and the status of any present queen cells.



## BATTERY STATUS:

The hive heart battery voltage range is from 2.5V to 3.5V. The battery lasts for approx. one year and then needs changing as it is not possible to recharge. Please replace with battery CR 2032.

## SIGNAL STRENGTH:

The device signal should be in the range from 0 to -90. The closer to 0 the stronger the signal is from the hive heart.

# Support



For all enquiries regarding your purchase, please contact UK Bees  
[support@ukbees.uk](mailto:support@ukbees.uk).

Manufacturers details: Bee hive monitoring s.r.o.

Nová cesta 44

925 23 Jelka

Slovak Republic

Company ID: 52287939