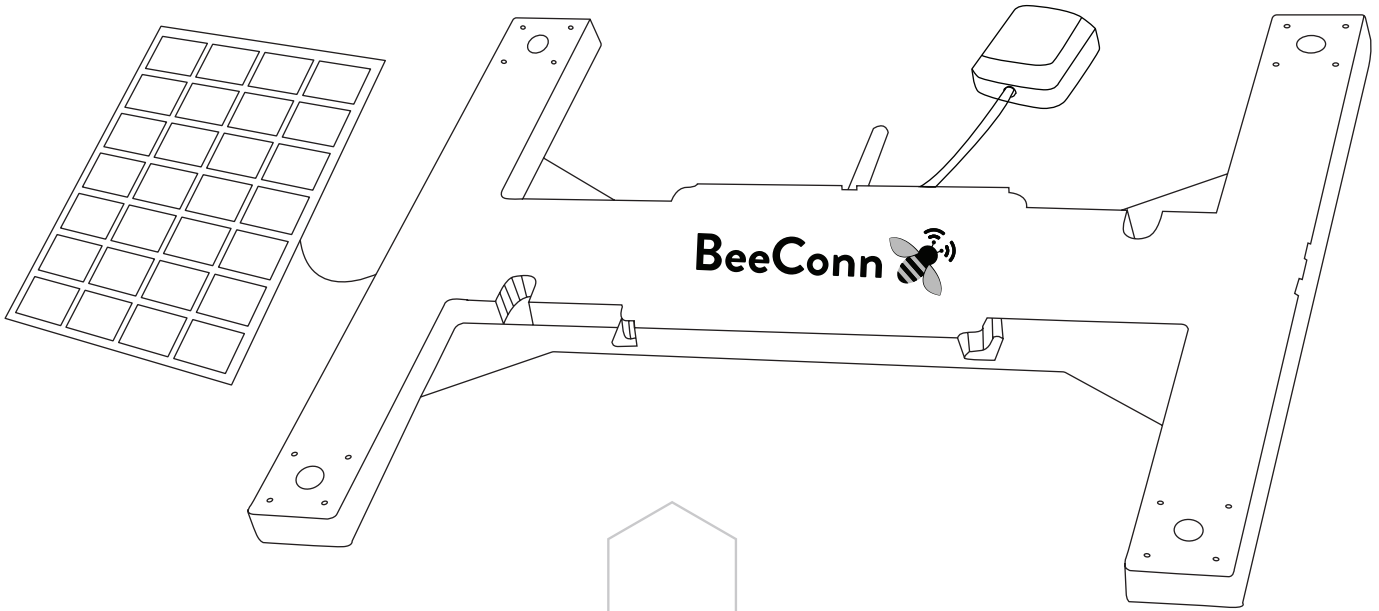
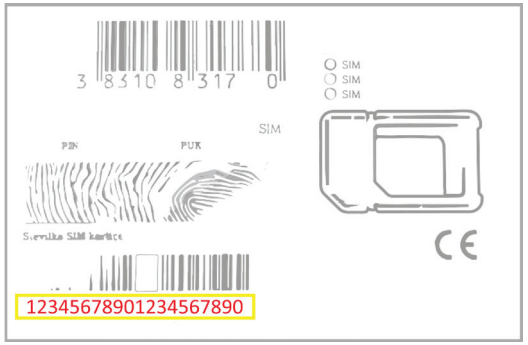
BeeConn Lite GPS User manual

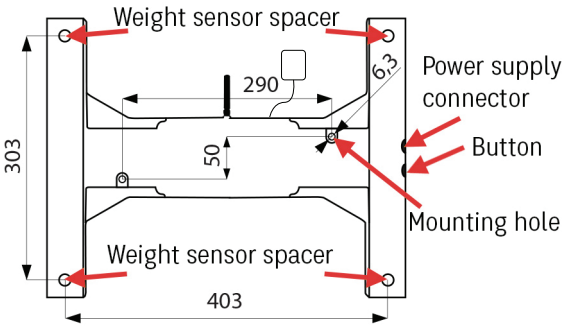


Thank you for purchasing BeeConn Lite! Please follow the steps below to set up and use your device.

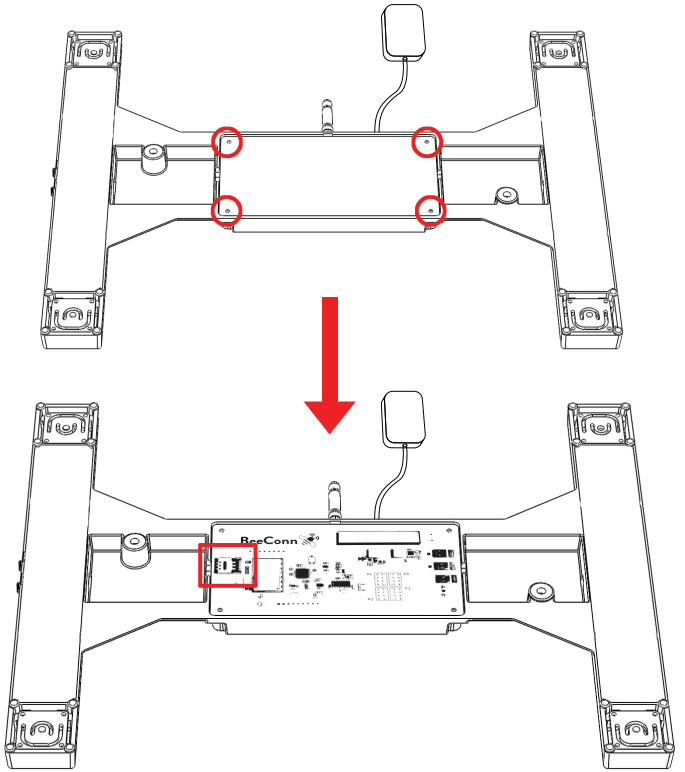
Pictures



Picture 1



Picture 3

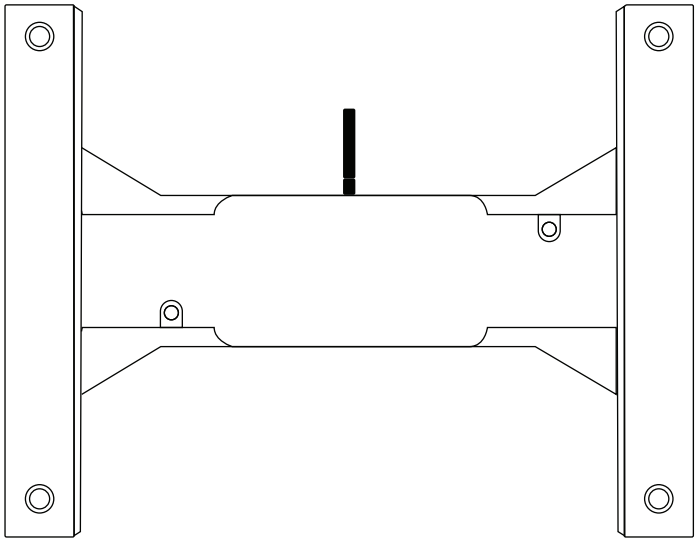


Picture 2

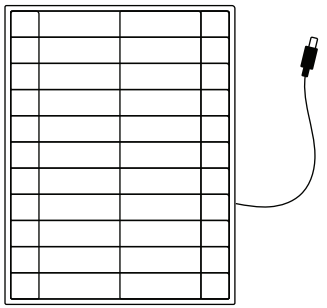
What's included in the package:

1. Scale 2. Solar panel 3. USB charger 4. GPS antennae 5. SIM card information

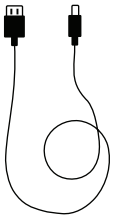
1. Scale

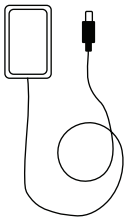


2. Solar panel

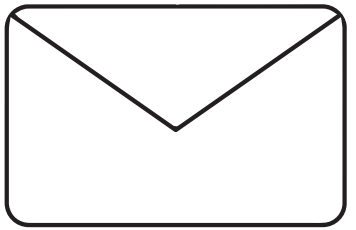


3. USB charging cable





4. GPS antennae



5. SIM card information

SIM Card activation

In order to use the BeeConn Lite GPS you need to have an active SIM card. To purchase a BeeConn SIM card subscription go to BeeConn web shop or contact our team at info@beeconn.net. Please have the SIM card number (20 digit number) ready for activation, you can find it on the card in the envelope (picture 1). After activation you will receive the phone number which is used to configure the scale.

If you want to use your own SIM card you can install one by removing the cover on the bottom of the scale and replace the BeeConn SIM card with your own (picture 2). SIM card needs to be unlocked and without PIN. For activation of your SIM card refer to provider of the selected SIM card.

Charging the BeeConn Lite GPS scale

The BeeConn Lite GPS scale is powered with an internal energy storage capacitor and with small solar panel that is included in the package. Internal energy storage of the scale can power up the scale up to 5 days without any sunlight. In case of energy loss, the scale will resume working once the solar panel start producing energy again. Alternatively, the scale can be powered by the provided USB cable from any USB power source. For first time use it is recommended that the scale is powered with included USB cable for about 15 minutes from any USB power source to secure enough power for initial configuration of the scale.

Setting up the BeeConn Lite GPS scale

BeeConn Lite GPS scale must be placed on an even, horizontal hard surface in such a way that the weighing sensor spacers are turned upwards, and the button and power supply connector are accessible when the hive is placed on top of the scale. The scale has two holes with a 6.3 mm diameter that can be used for attaching the scale to the surface (picture 3).

Place the beehive on the installed scale and make sure that the bottom of the beehive is standing only on the weighing sensor spacers. To ensure proper weight measurements, the bottom of the beehive must not touch any other part of the scale and the beehive should not lean on any other object surrounding the beehive. In case of hives that do not have a suitable flat bottom, or the flat surface does not touch the weighing sensor spacers only, you need an interface plate or two crossbars to be put in between the scale and the hive. Interface plate can be purchased on the BeeConn web shop or by contacting our team at info@beeconn.net.

Plug in the solar panel cable and put the solar panel on a sun exposed place (i.e. on top of the beehive).

Connect the GPS antennae by screwing it to the open slot next to the GSM antennae. The GSM antennae is already connected and is located on the housing. The GPS antennae is connected to housing via a cable and must be placed either on the top of the beehive or on the side of the beehive, but not bellow the beehive.

Configuring the scale

Once the scale is powered up and correctly set up it can be configured for measurements. To configure the scale follow the steps bellow:

1. Hold button on the scale for around 8 seconds to initiate configuration mode. Light on the button will start blinking green.
2. Send pin number to device (default 1234)

user SMS	scale return SMS
PIN XXXX	PIN entry successful, welcome!

3. Change PIN. For security reasons it is recommended that you set up your own PIN for the scale. The set up PIN has to be saved safely to prevent unwanted contacts changing the scale settings. Without the PIN only the owner of the scale (Contact 1) can change the scale settings. If the PIN is lost and the owner phone number can't be used, the scale can only be unlocked by the manufacturer.

user SMS	scale return SMS
Set pin XXXX	New PIN: XXXX

4. Set your phone as contacts which will receive the automatic SMS with measurements by sending the SMS with command Owner. This will set up your number as Contact 1. There can be up to 3 contacts' total. See additional settings for setting Contact 2 and Contact 3.

user SMS	scale return SMS
Owner	My contacts: +XXXXXXXXXX

5. Set times at which the scale will perform the measurement. The scale can perform up to 3 measurements at full hour per day. In example at 9:00, 15:00 and 21:00 – in this case the configuration SMS should be Set meastime 09,15,21.

user SMS	scale return SMS
Set meastime HH,HH,HH	Measurement at HH, HH, HH

6. Enable GPS movement detection. By default, GPS movement detection is disabled. You can enable it by sending SMS with command Set mov 1. To disable it you can send SMS with command Set mov 0.

user SMS	scale return SMS
Set mov 1	Movement detection enabled!
Set mov 0	Movement detection disabled!

7. Configuration is done. To exit configuration mode, send one more SMS to finish configuration and put the scale in operation.

user SMS	scale return SMS
Exit	Exiting! Starting normal mode...

8. Scale is configured and will perform the measurement at designated times. You will start receiving SMS with the data after every measurement to delegated mobile phone numbers.

scale measurement SMS
Hello! Your BeeConn Lite GPS data: Weight: 51.38kg, Diff.: +0.38kg Temp: 23.10*C; Moist: 63.15% Status: OK Have a nice day! :)

Location features

When GPS movement detection is enabled, you will receive an SMS with a notification:

scale SMS
Scale is moving!

If the location changes by more than 300m the scale will send SMS with location periodically. Every full hour the scale will send a new location as LAT, LON coordinates. LAT represents the latitude value, LON is the longitude value and X sat/s is the number of satellites the scale is connected to (higher the number, more precise the location). You can enter the LAT, LON coordinates into most map applications and the location will be displayed on the map.

scale SMS
LAT, LON X sat/s moving

Once the scale stops moving you will receive its final location.

scale SMS
LAT, LON X sat/s stopped

You can always check the location of the scale manually as well the number of satellites the scale is connected to by entering following SMS commands, Get loc for current location and Get sat for the number of connected satellites. The scale must be in configuration mode to be able to receive these user SMS (see additional settings on how to enable configuration mode).

user SMS	scale return SMS
Get loc	LAT, LON X sat/s
Get sat	X GNSS satellite/s in view

Additional settings

To initiate configuration of the scale start configuration mode. Hold button on the scale for 5s to initiate configuration. After 5s press of the button the light on the button will start blinking green and the owner of the scale (Contact 1) will automatically receive the following SMS:

scale SMS
Hello! Scale is ready to configure

If one of the other contacts will initiate the configuration mode, then the contact will need to send SMS with your PIN number: PIN XXXX. In this case the owner (Contact 1) will receive an SMS informing him who has initiated configuration mode.

After that the scale will wait up to 3 min for an SMS from the user. Scale will only respond to user SMS while configuration mode is initiated. In configuration mode any of the configuration commands can be performed (PIN change, setting contacts, setting measurement times, GPS movement detection, location settings...).

Adding more contacts

While first configuring the contact the owner is set as Contact 1. There can be up to 3 contacts' total. To add Contact 2 or/and Contact 3 input the mobile phone number, which can receive SMS in international format, in example Set contact 2 +38612345678 for contact 2 and same for contact 3.

user SMS	scale return SMS
Set contact 2 +YYYYYYYYYY	My contacts: Contact 1: +XXXXXXXXXX Contact 2: YYYYYYYYYY Contact 3:
Set contact 3 +ZZZZZZZZZZ	My contacts: Contact 1: +XXXXXXXXXX Contact 2: YYYYYYYYYY Contact 3: ZZZZZZZZZZ

Clearing/replacing contacts.

In case you want to replace contact, send command of the contact with new number and the contact will be replaced. In case you want to delete contact, send command of that particular contact without the phone number and the contact will be deleted.
Example of clearing contact 2:

user SMS	**scale return SMS**
Set contact 2	My contacts: Contact 1: +XXXXXXXXXXX Contact 2: Contact 3: ZZZZZZZZZZZ

Reviewing contacts

In case you want to see your s contact:

user SMS	**scale return SMS**
Get contacts	My contacts: Contact 1: +XXXXXXXXXXX Contact 2: YYYYYYYYYY Contact 3: ZZZZZZZZZZ

Reviewing measurement times

In case you want to see the set-up measurement times.

user SMS	**scale return SMS**
Get meastime	Measurement at HH, HH, HH

Quick measurement

BeeConn Lite GPS can perform a measurement upon request while in configuration mode.

user SMS	scale return SMS
Measure	Hello! Your BeeConn Lite GPS data: Weight: 51.38kg, Diff.: +0.38kg Temp: 23.10*C; Moist: 63.15% Status: OK Have a nice day! :)

Stop measurements

In case you want to stop receiving measurements for a while (i.e. if the beehive is empty or in winter...).

user SMS	scale return SMS
Set mess	Measurement at 0, 0, 0

Syncing date and time

In case the scale is sending measurement at wrong time you can first check the current date and time of the scale and then ask the scale to synchronize the time from the network. To get the current date and time of the scale send SMS with command Get datetime

user SMS	scale return SMS
Get datetime	Time is: HH:MM DD.MM.YYYY

To request syncing of date and time send SMS with command Sync datetime

user SMS	scale return SMS
Sync datetime	Time is: HH:MM DD.MM.YYYY

Setting tare

You can set weight of the scale to zero. In this case the current weight on the scale will be shown as zero kg. To do so, send the SMS command Set tare.

user SMS	**scale return SMS**
Set tare	Set tare OK

Calibration reset

In case you want to reset the tare back to factory calibration send the SMS command Reset Calibration.

user SMS	**scale return SMS**
Reset Calibration	Factory Reset done

Troubleshooting

Problem	Solution
Scale doesn't send SMS	Scale is not configured properly – follow configuration steps. Scale may be out of power – one time issue could be do to long period of bad weather; repeating issue check the placement of the solar panel. Scale will resume normal operating mode once there will be enough power
Scale sends unrealistic measurements	Check the scale set up, hive must not touch the housing of the scale. It should only be on the weighing sensors spacers. Check that the hive doesn't touch any object next or above the hive.
Scale sends SMS: Wrong command.	The sent SMS to the scale was not formatted correctly. Please review the command and spelling.
Scale sends SMS: Device reset! Automatic date/time synch failed. Please set new date/time.	Automatic time acquisition from the network failed. Reply with SMS stating the current date and time in following format: HH:MM DD.MM.YYYY
Loc unknown	The location of the scale is not known. Either there are no satellites available or the antennae is not connected.
LAT, LON X sat/s Tampering! +XXXXXXXXXXX	A user with the displayed phone number is trying to configure the scale on the sent location.
Loc unknown! Tampering! +XXXXXXXXXXX	A user with the displayed phone number is trying to configure the scale but the location is not known.
Scale sends: Wrong PIN. Two attempts left.	Wrong PIN was sent to the scale and unlocking was not successful. There are 3 attempts for correct PIN. If the third PIN entry fails the scale will lock itself for 24 hrs for the user sending the wrong PIN. Owner is still able to configure the scale.
Scale sends status NOK, xxxx	0001 – low power 0002 – large temperature change 0004 – large moisture change 0008 – large weight change 0009 – low power and large weight change

BeeConn

Manufacturer information

Manufacturer:

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For more information and customer support,
contact the BeeConn website or send an email to help@beeconn.si.