

ProBee - how to use Sigfox hive scale

The hive scale is a device consisting of two skids and a plastic box with electronics. The installation consists of placing the skids under the hive so that the spacers, visible at the edges of the skids, are seated at the bottom. The electronics box is connected through two connectors; their order is not important. The box and connectors are waterproof, but not designed for permanent sinking in water, so it is not recommended to place them directly on the ground, where there is a risk of rain puddle, but better at least on some raised underlayment. It is not possible to precisely determine the signal quality of a Sigfox network in particular area, it is necessary to test it directly at the place of apiary. If the signal is sufficient and the scale starts transmitting continuously, there is no need to do anything else. If there are transmission disruptions, try to place the box higher and the connectors downward for better antenna gain. It is advisable to avoid the presence of larger metal surfaces (sheet metal roofs, dense metal structures, screens, etc.) that significantly deteriorate the signal. Even though it is very improbable, there exist places without Sigfox signal. In such cases, the scale cannot be used.

The scale is powered by 4 AAA batteries. They should live for about 1 year. We recommend using lithium batteries that have the longest durability and are resistant to low temperature. The ProBee system itself monitors the level of the batteries and sends the user an alert when the change of batteries is required (before the first change of batteries, it is advisable to contact the Provider to get the instructions for changing).

The power supply is provided by 4 AAA batteries, which last about 1 year. We recommend using lithium batteries that have the longest durability and low temperature resistance. The ProBee system itself monitors the discharge of the batteries and prompts the user to replace them (if you haven't done so yet, ask us how to do this simply).

The scale has no switch, the electrical module transmits data continuously and shows correct values only after the skids are connected. Hive weight measurements are taken every hour in idle mode. When the weight suddenly changes by more than 5kg, the scale starts transmitting every 10 minutes during the next hour. In addition to the weight, temperature measurement is also integrated in the electronics box and transmitted. All values are automatically sent to the internet server www.probee.cz, where the scale is assigned to the user's account.

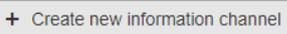
The only step that the user has to take is to match the scale to a specific hive in the Sensors section (in the Tools/Sensors menu). It is done by clicking on the pencil icon  in the first column and selecting the appropriate hive from the list of hives in the Hives column.

After matching the scale to the hive, wait until the scale sends at least one value (max. in 1 hour) and then the last measured value is displayed in the list of hives in the temperature column (in the Hives menu, after selecting an apiary). After clicking on the icon with the value, the temperature trend in the form of graph appears (min. 2 hours after matching). The history is also available in the form of table, after clicking on the icon  in the list of sensors.

The course of measured temperature can be monitored after clicking on the big button



below the name of an apiary.

ProBee can announce critical weight values using so called Info channels. First, it is necessary to create the Info channel in the Tools/Info channels. After clicking on , fill in a Channel name (e.g. "My phone" or "My phone and email"), email address, and/or phone number

and tick where to send the messages (whether to the specified email, phone, or both). Then match a particular sensor with the channel in the Sensors section (Tools/Sensors). After clicking on the pencil icon  in the first column, click on the appropriate box in the column Channel for alert and choose the Info channel. Multiple sensors can be set to the same Info channel or vice versa one sensor to multiple Info channels.

When the weight suddenly changes by more than 10kg, ProBee immediately takes a snapshot from all possible cameras on the apiary.