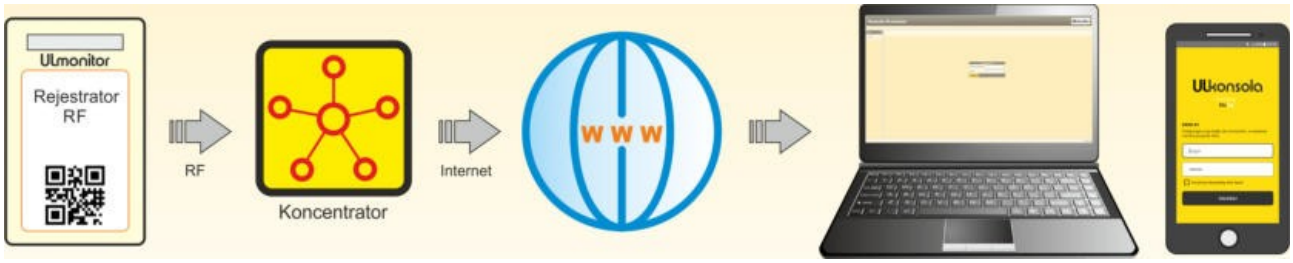
The Ulmonitor system consists of periodical recordings of temperature and humidity information into logs placed in the hives and transferring the data to a telephone or computer and optionally archiving them on the Ulmonitor console server.
The offer also includes free software: applications for the phone (*ULmonitor NFC*, *ULradio Mobile*, *ULkonsola*) and *ULradio* for the PC.

Depending on the needs, equipment and, in particular, Internet access, the system can be used at any of five levels: A, A1, A2, B, B1
A level - RF console
A1 level - GSM console
A2 level - RF local work
B level - NFC console
B1 level - NFC local work

**A level** - RF console

Equipment needed: telephone or PC ("optional" only if you want to work more comfortably at the console), constant access to 230V AC power network, radio loggers, data receiver with concentrator and antenna, permanent internet access - cable or WiFi.
The loggers have to be located in the hives, so that the distance between them and the data receiver and concentrator is up to 70 meters (depending on the type of antenna).

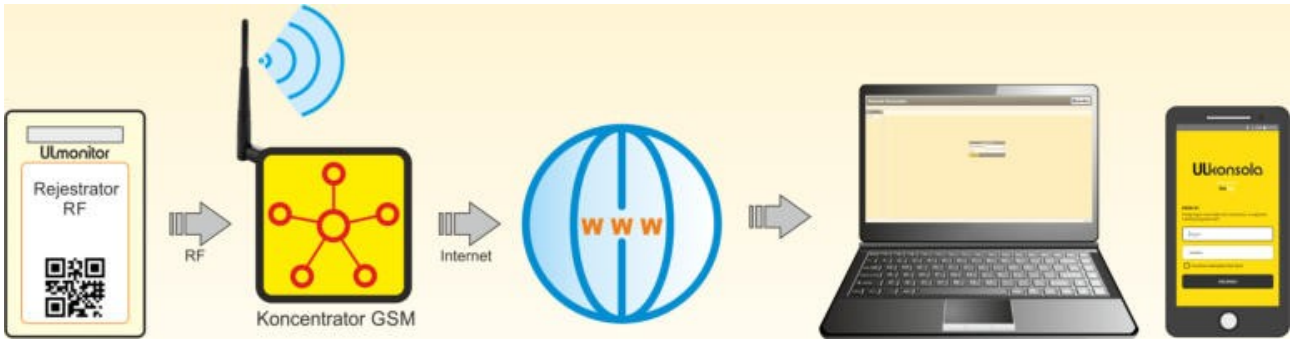



The data from the loggers is sent wirelessly to the concentrator, and then via the Internet to the user's console. Data transfer for archiving takes place automatically. After logging in, the console allows for full control over the loggers from any place and any computer or telephone. Additionally, using only the phone and the application of ULkonsola, you can easily observe the parameters on the screen of your smartphone. It is also possible to work at level B provided that the loggers are located in such in the hive, so that you can download the data by phone using NFC. In the absence of an internet connection, you can also work on levels A2 and B1 (to work on level A2 you need an additional USB data receiver for phone and ULradio Mobile application allowing only for the observation of parameters on the screen).

**A1 level** - GSM console

Required equipment: telephone or PC (optional only if we want to work more comfortably at the console), radio loggers, data receiver with concentrator and antenna with GSM modem and data transfer card, battery (optional). In this system you can monitor the apiary anywhere, within cellular network.

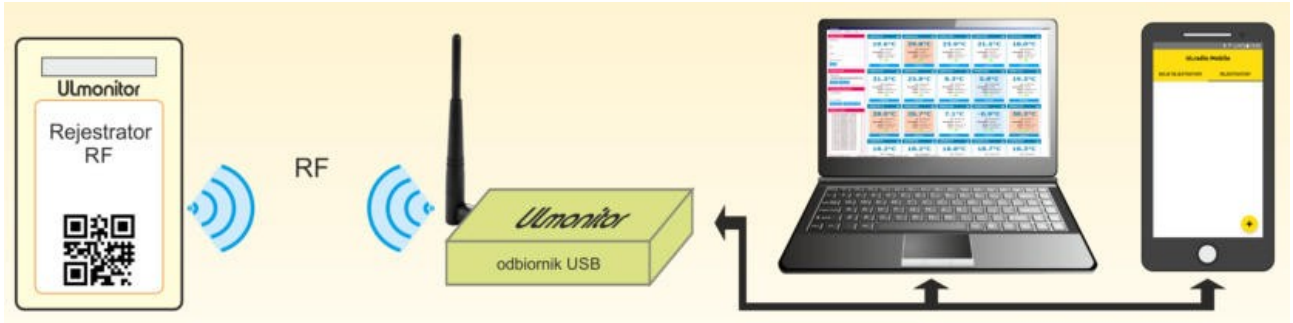
In the absence of a power network, a rechargeable battery is needed to supply the accumulator. The loggers have to be located in the hives, so that the distance between them and the data receiver and concentrator is up to 70 meters (depending on the type of antenna).




The data from the loggers are sent wirelessly to the concentrator, and then via the GSM modem to the internet and further to the user's console. Data transfer for archiving takes place automatically. After logging in, the console allows full control over the loggers from any place and any computer or telephone. Additionally, using only the phone and the application of ULkonsola, you can easily observe the parameters on the smartphone screen in an easy and legible way. It is also possible to work at level B provided that the loggers are located in the right place in the hive, so that you can download the data with your phone
You can also work at levels A2 and B1 (for work at level A2 you need an additional USB data receiver for your phone and ULradio Mobile application allowing only for the observation of parameters on the screen).

**A2 level**

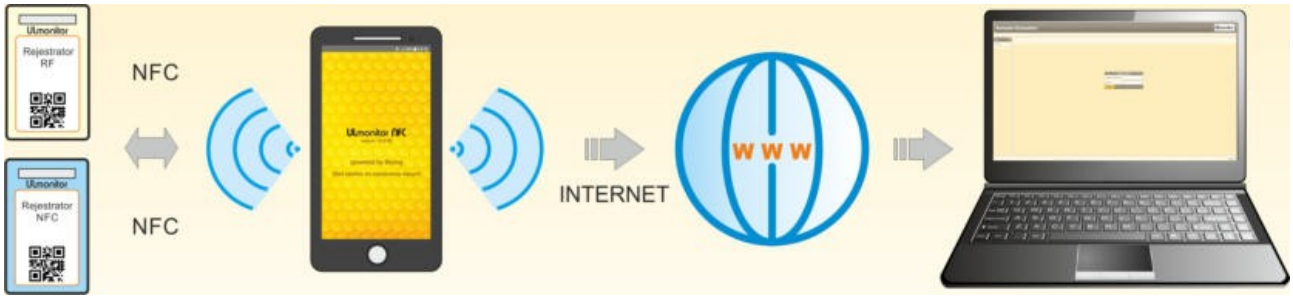
Required equipment: a smartphone or PC, radio loggers and a radio data receiver. You do not need internet access! The loggers can be placed in hives at any time, so that the distance between them and the data receiver (inserted into the phone socket or optionally in to the USB port on a PC) is up to 70 meters (depending on the antenna type in the data receiver) .




The collection of data from loggers is carried out by radio. Using the ULradio Mobile application for smartphones or (optionally) the ULradio program for a PC, the parameters are observed directly on the screen, but without the possibility of recording or archiving. It is also possible to work at B1 level provided that the loggers are placed in a right place in the hive so that the data can be downloaded contactlessly via NFC.

**B Level** - NFC console

Required equipment: the phone with NFC function and internet packet, radio or NFC loggers, PC (optional, only if we want to work more comfortably at the console). Loggers should be placed in the hives in such a way that it is possible to download data with your phone through NFC, without removing the inner cover. Then, by using the application of ULmonitor NFC, you can view the parameters directly on the screen, save them in the phone's memory (pdf report) or forward them to the ULmonitor console.
Transferring data for archiving is done manually via the Internet (enabled "mobile data" or WiFi).




In order to continue the data recording (with 10-minute recording periods), readings should be taken at least once a month. After logging in, the console allows full control over the loggers from any place and any computer or telephone. If you do not have access to the internet, it is possible to work on level B1. If you have radio loggers in addition to NFC loggers, you can also read them on A2 level (you need an additional USB data receiver for your phone plus the ULradio Mobile application).

**B1 level**

Equipment needed: telephone with NFC function and NFC or radio loggers. You do not need internet access!
The Loggers should be placed in the hives in such a way that it is possible to download data with your phone through NFC, without removing the inner cover. Then, by using the application of ULmonitor NFC, you can view the parameters directly on the screen and save them in the phone's memory as pdf.
In order to continue the data recording (with 10-minute recording periods), readings should be made at least once a month.
If the user, in addition to the NFC loggers, also has radio loggers, he can use them at A2 level (an additional USB data receiver for the telephone is needed as well as the ULradio Mobile application).