Minikins T/TH/RT/QT

Battery replacement

EMS Brno, May 2020

Michal Bellan

Notice:

Because these models have an older design, we recommend to send the sensor for battery replacement, recalibration and inspection to the manufacturer.

Important note:
Since these devices communicate by contact USB/RS232 Jack 2.5 mm cable, it is always necessary to equalize the electrical potential between computer and Minikin before starting the communication - connect the cable to the computer, then touch the body of the Minikin by the Jack connector.

or

Before communication: touch the body of the sensor by the Jack connector when cable is connected with the PC.

Only then connect the cable to the sensor.

Related tools and accessories:

Minikin T/TH/RT/QT

Battery LS14250CN
(for screw terminals)

Flat screwdriver
2.5 mm

Minikin opener

Wrench 8 mm
(if sensor is installed
in radiation shield)

Desiccant bag

Tweezers

USB/RS232 cable
Jack 2.5 mm

Sensor removal

Remove the sensor (datalogger) body from the radiation shield. For long life maximal reflection are the plates made from aluminium coated by baked varnish. The plates need relatively gently handling.

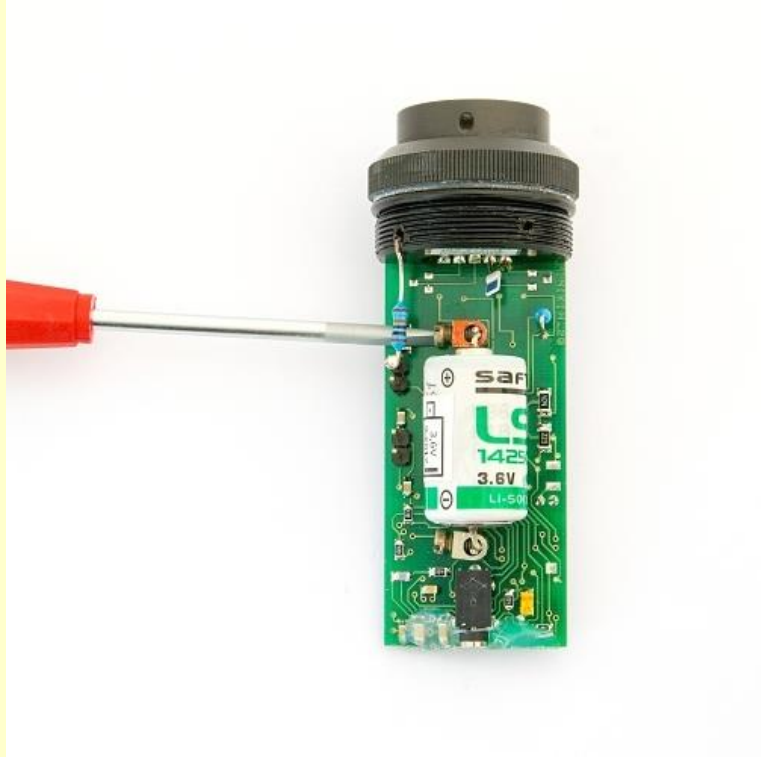
- Unscrew three nuts from the bottom of the radiation shield and remove triangle base with the sensor

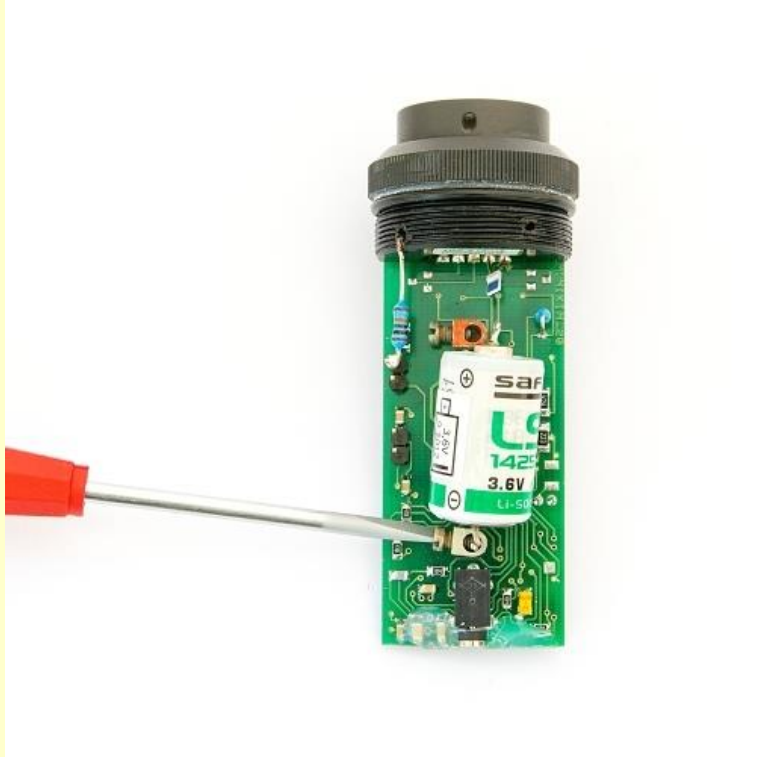
Electronics removal

- Screw out the stainless case. Use the tool as a counterbalance.
- Gently pull out the stainless case.

Battery removal

- Remember the battery polarity.
- Screw out the positive battery terminal and lift the battery wire.
- Screw out the negative terminal and remove the battery.
- Don’t forget to recycle battery.



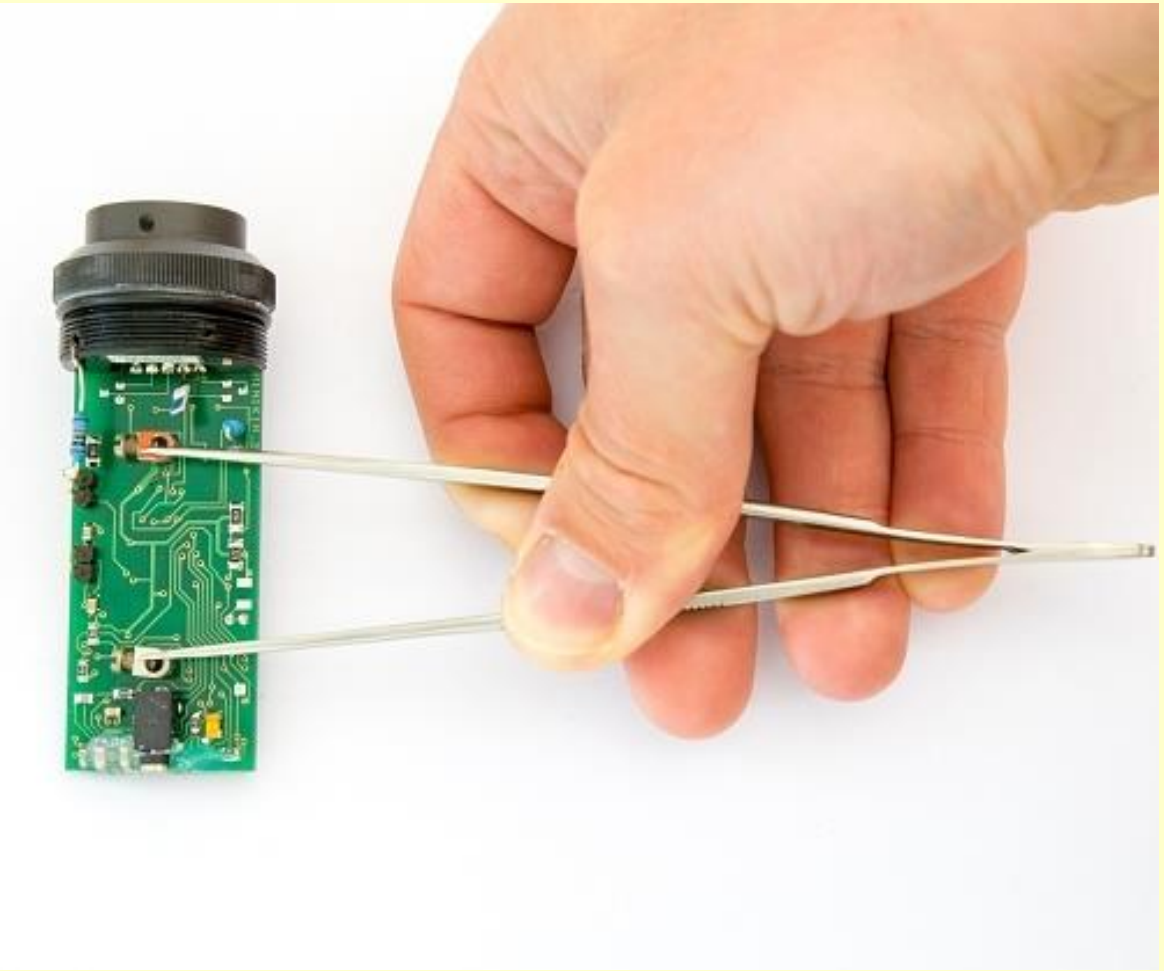


Battery reset

Important!

Short circuit thoroughly (better twice) for a few seconds the battery terminals with a metal tool (tweezer, screwdriver, knife, piece of wire) after removing the old battery in order to recharge the remaining energy in capacitors.

It is necessary for resetting the battery life counter!



Battery inserting

- Insert new battery back to terminals. Consider polarity! Screw it up firmly.

- It is good idea to write down the time stamp of battery replacement.

- Insert new desiccant bag.

Putting back together

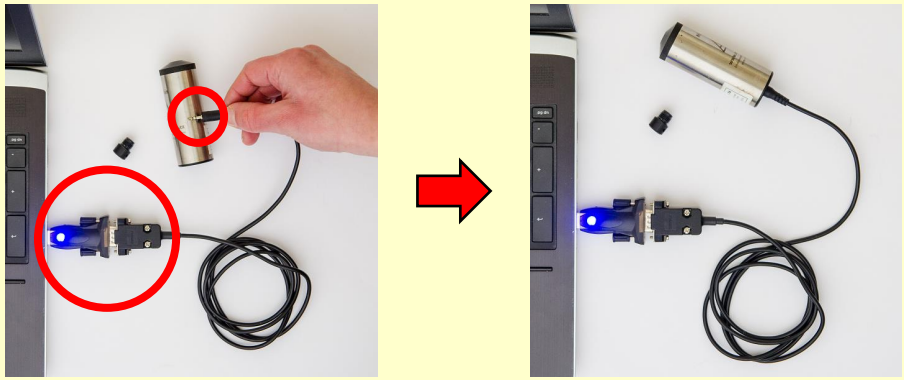
Set the stainless case back over the electronics. Screw it up gently, only by hand. Be careful not to screw “over the thread”. For tightening, use the tool the same way as earlier. Loosen up the case for a few degrees after screwing up for later easier release.

Final assembling

Put the sensor back to the radiation shield and screw up the nuts.

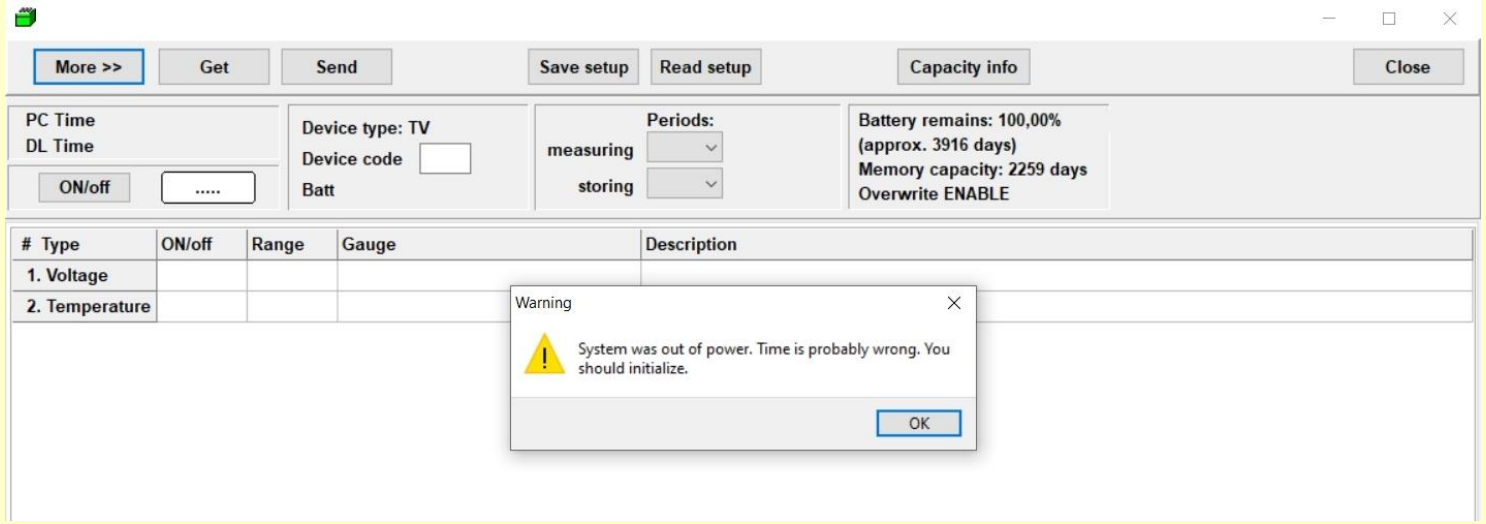
Sensor initialization

Connect the USB/RS232 cable Jack 2.5 mm to the computer – remember to equalize the electrical potential between computer and Minikin before starting the communication.
Then connect the sensor.



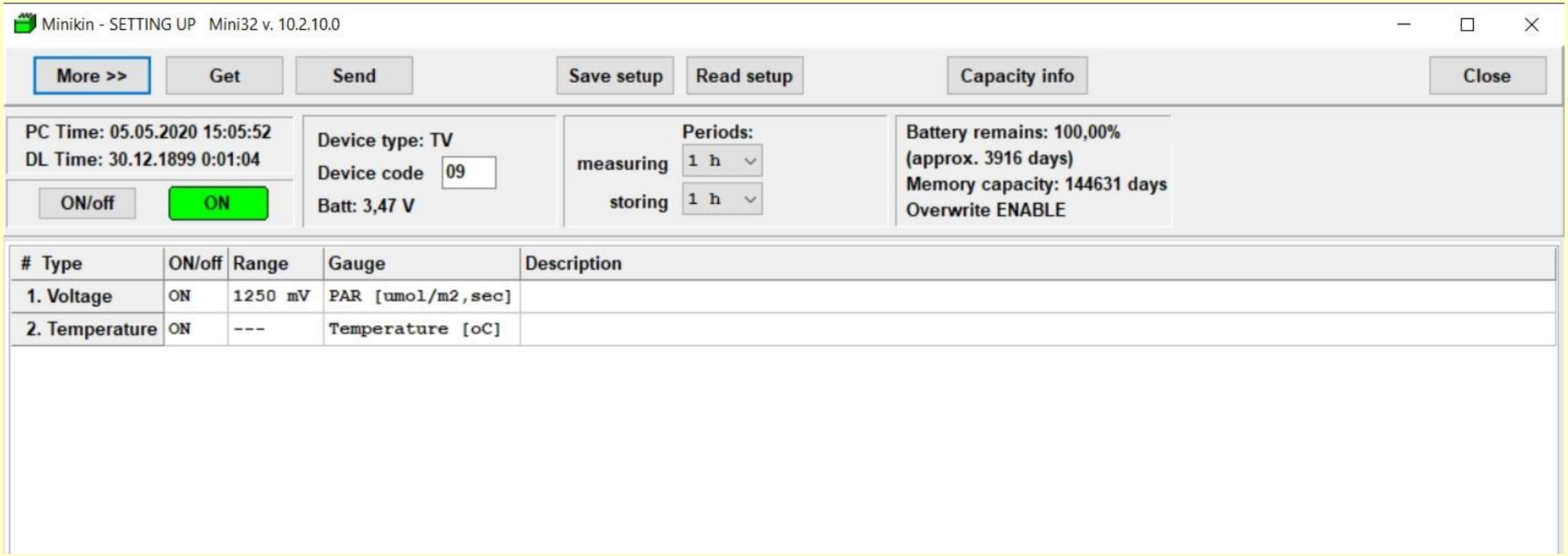
Run Mini32 software and click on the “Configuration” button.

Confirm some possible error messages until you reach “More>>” window.



Sensor initialization

The screen may display strange values, or it will probably look like this:



Sensor initialization

Push “HCM” for downloading and saving the whole memory content to file for later decoding.
Since the filename does include (possibly wrong) device code, rename the file for later identification. Add also the new extension “.HEX” (Example: mydevice_0812.hcm.hex).

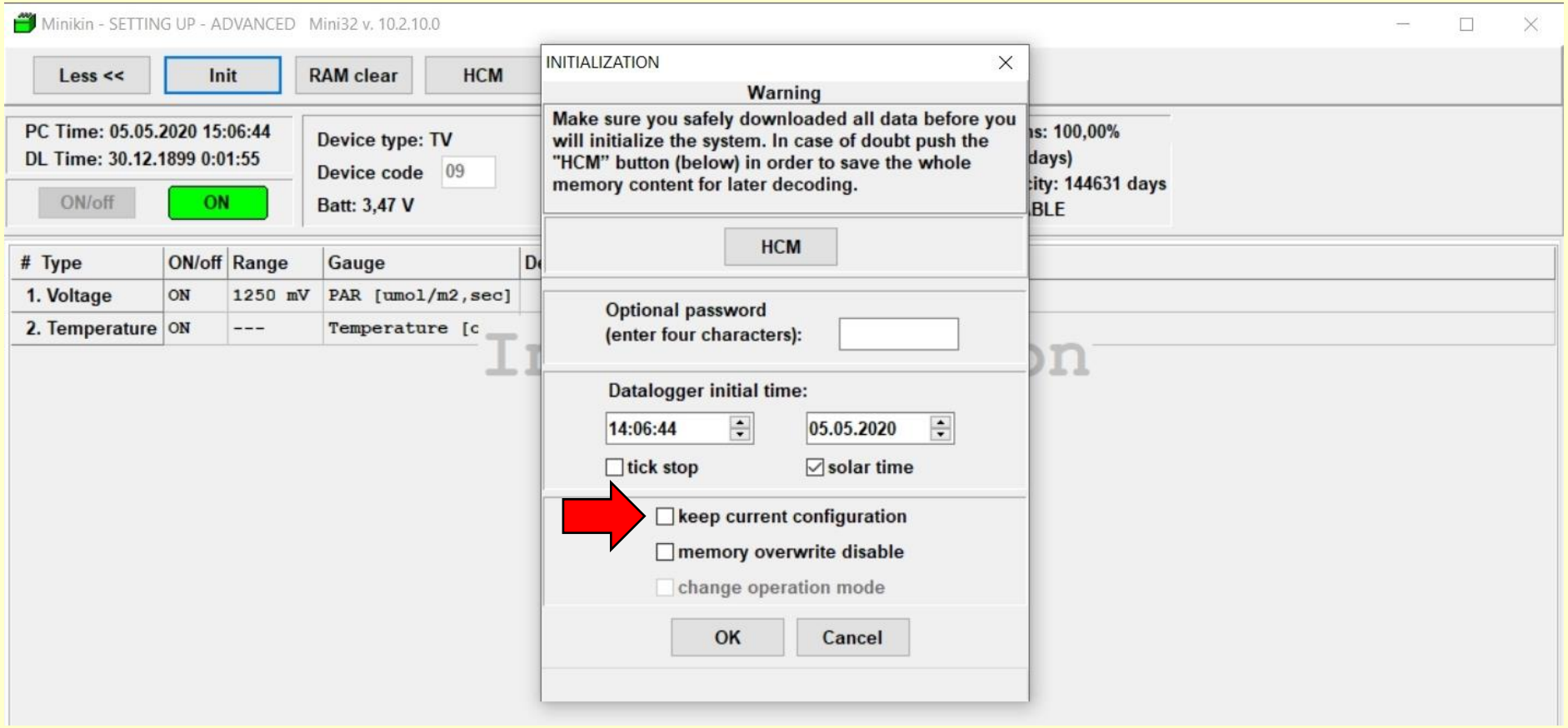
Try to convert this file by Mini32 as a standard HEX file.

If you doubt about the decoded file, send the original (“HEX” or “HCM”) file to manufacturer for decoding. The best together with and older HEX or DCV file if they are available.

Sensor initialization

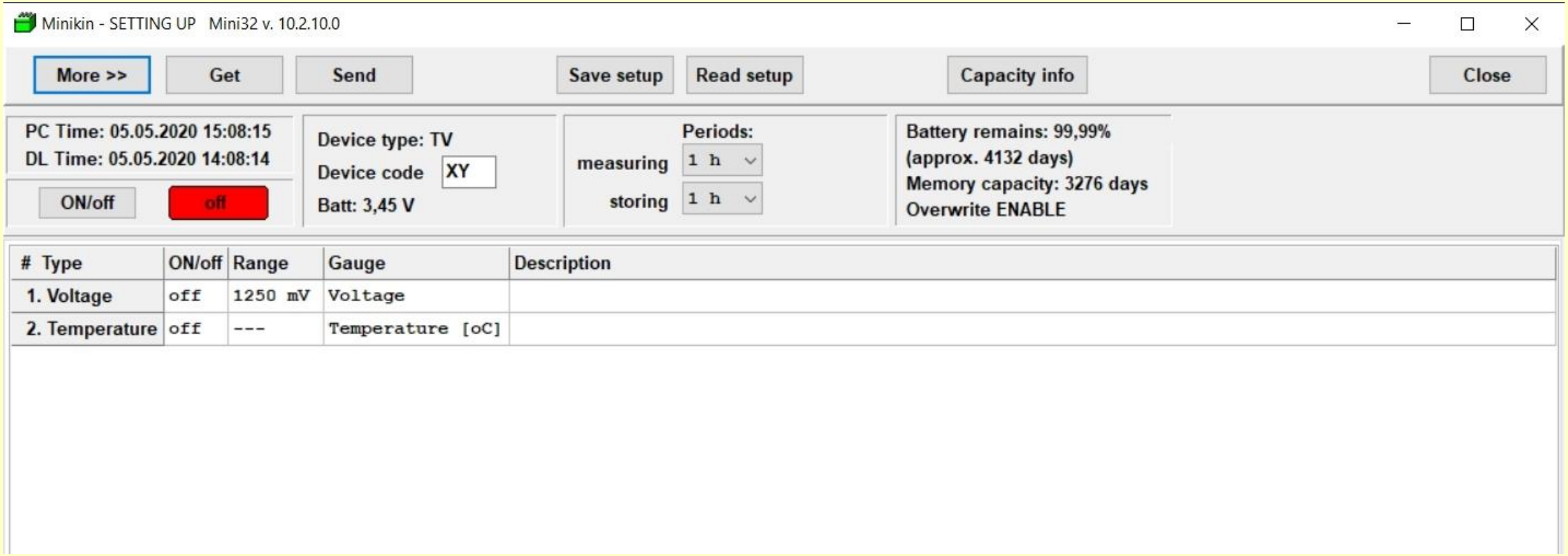
- Push “Init” button to reset the data logging system. This is absolutely necessary for the next proper operation.

- **Uncheck** the check box “keep current configuration”



Sensor initialization

- After the system confirms that the initialization is completed, the logger will have the factory setting:



Sensor set up

Push “Less<<” button to get the previous screen and reconfigure the logger. You can do it manually or to take the setting from an older HEX or DCV file (push “Read setup” and find a relevant file).

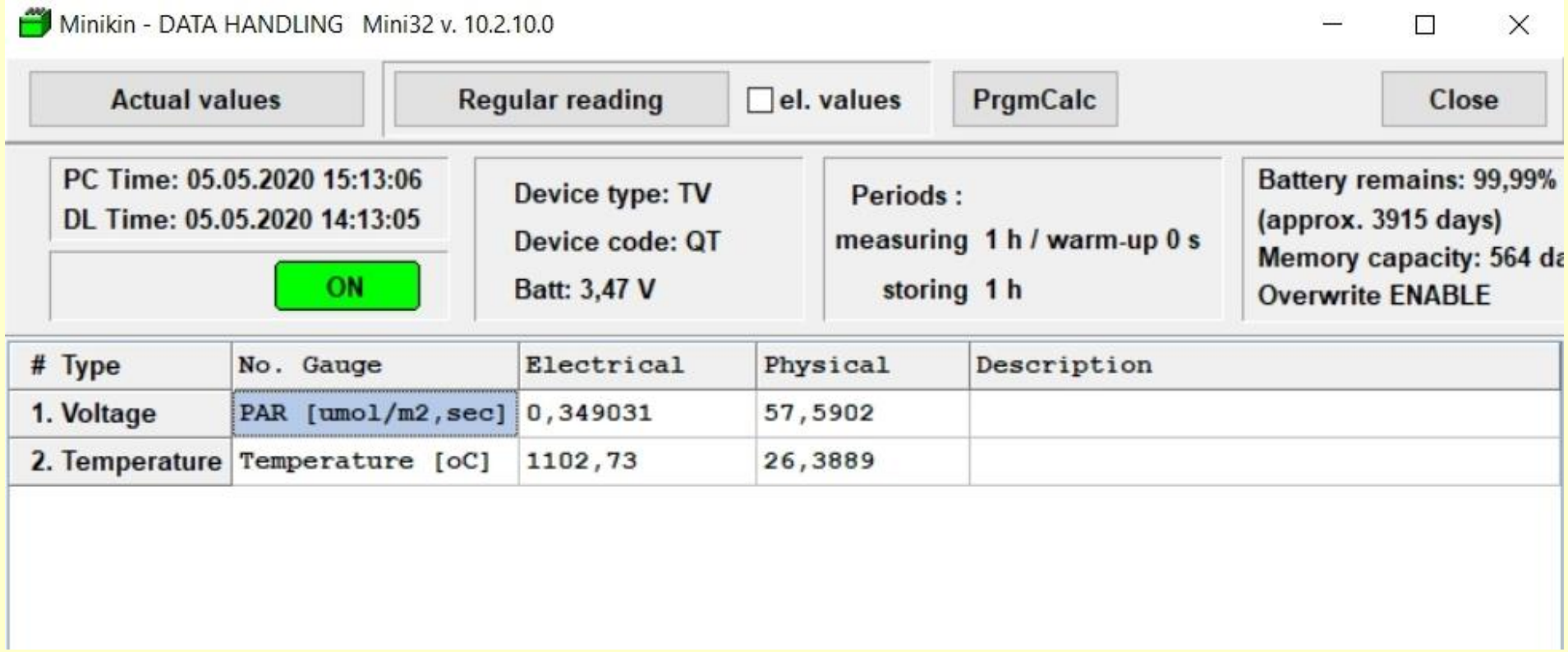
Push “Send” button to send the configuration to the sensor/datalogger.

As a last step, close “Configuration” and open “On-line”. Run “Actual values” and check the measured value.

Refer to Mini32 user’s manual for necessary details.

Final check

Go to back to Mini32 main screen and push “On-line” button. Check the actual values and all status information. You might also download data in order to be sure that there has nothing happened with memory structure.



Good luck!