Minikins T/TH/RT/QT Battery replacement

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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.



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:



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.





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.

PC Time DL Time ON/off		De De Ba	vice type: TV vice code	measuring storing	Periods:	Battery remains: (approx. 3916 da Memory capacity Overwrite ENAB	: 100,00% ays) y: 2259 days LE	
# Type	ON/off	Range	Gauge		Description			
1. Voltage								
z. remperature	1			System v should in	vas out of power. Time i nitialize.	s probably wrong. You		

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

🎒 Minikin - SETTIN	G UP M	ini32 v. 10.2.1	0.0					-	- 🗆 X
More >>	G	et	Send	Save setup	Read setup		Capacity info		Close
PC Time: 05.05.1 DL Time: 30.12.1 ON/off	2020 15 1899 0:0	:05:52)1:04	Device type: TV Device code 09 Batt: 3,47 V	measuring storing	Periods: 1 h ~ 1 h ~	Batte (app Mem Over	ery remains: 100,00% prox. 3916 days) prory capacity: 144631 days rwrite ENABLE		
# Type	ON/off	Range	Gauge	Description					
1. Voltage	ON	1250 mV	PAR [umol/m2,sec]						
2. Temperature	ON		Temperature [oC]						

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.

- 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"

🎒 Minikin - SETTIN	g up - A	DVANCED I	Mini32 v. 10.2.10.0			- 🗆 ×
Less <<	In	it	RAM clear	НСМ	INITIALIZATION × Warning	
PC Time: 05.05. DL Time: 30.12. ON/off	2020 15 1899 0:0 ON	:06:44 11:55	Device type: T Device code Batt: 3,47 V	V 09	Make sure you safely downloaded all data before you will initialize the system. In case of doubt push the "HCM" button (below) in order to save the whole memory content for later decoding.	ıs: 100,00% days) :ity: 144631 days BLE
# Type	ON/off	Range	Gauge	[НСМ	
1. Voltage 2. Temperature	ON ON	1250 mV 	PAR [umol/n Temperature	n2, sec] e [c T	Optional password (enter four characters): Datalogger initial time: 14:06:44	

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

🎒 Minikin - SETTIN	G UP M	ini32 v. 10.2.1	10.0				- 🗆 X
More >>	G	et	Send	Save setup	Read setup	Capacity info	Close
PC Time: 05.05. DL Time: 05.05. ON/off	2020 15: 2020 14: off	:08:15 08:14	Device type: TV Device code XY Batt: 3,45 V	measuring storing	Periods: 1 h ~ 1 h ~	Battery remains: 99,99% (approx. 4132 days) Memory capacity: 3276 days Overwrite ENABLE	
# Type	ON/off	Range	Gauge	Description			
1. Voltage	off	1250 mV	Voltage				
2. Temperature	off		Temperature [oC]				

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.

Actual values		Regular reading el. values		PrgmCalc	Close
PC Time: 05.0 DL Time: 05.0	05.2020 15:13:06 05.2020 14:13:05 ON	Device type: TV Device code: QT Batt: 3,47 V	Periods measurir storir	: ng 1 h / warm-up 0 s ng 1 h	Battery remains: 99,99% (approx. 3915 days) Memory capacity: 564 day Overwrite ENABLE
# Type	No. Gauge	Electrical	Physical	Description	
. Voltage PAR [umol/m2, sec		0,349031	57,5902		
2. Temperature	Temperature [oC]	1102,73	26,3889		

Good luck!