

# Dendrometer DRL26C and DRL26D

Battery replacement – update Sep. 2022



*EMS Brno, September 2022*

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# Notice:

Generally, the following operation can be done (gently) even without removing the sensor from its original position on tree trunk.

We recommend to use screwdriver HITACHI DB3DL2 or another, where is possible to set the moment of force 0.7 Nm. Possible to get screwdriver from EMS Brno.

Note: Models DRL26A, B require different battery replacement procedure. Do not mistake.

# Related tools and accessories:

## Optional accessories:



Battery



Desiccant bag



Screwdriver PH 1



Support for  
dendrometer



WAGO tool  
(for WAGO 2060  
terminals)



Tweezers



IrDA/USB cable



Screwdriver  
HITACHI DB3DL2

# Sensor opening

Screw out all six screws tightening the white plastic lid.

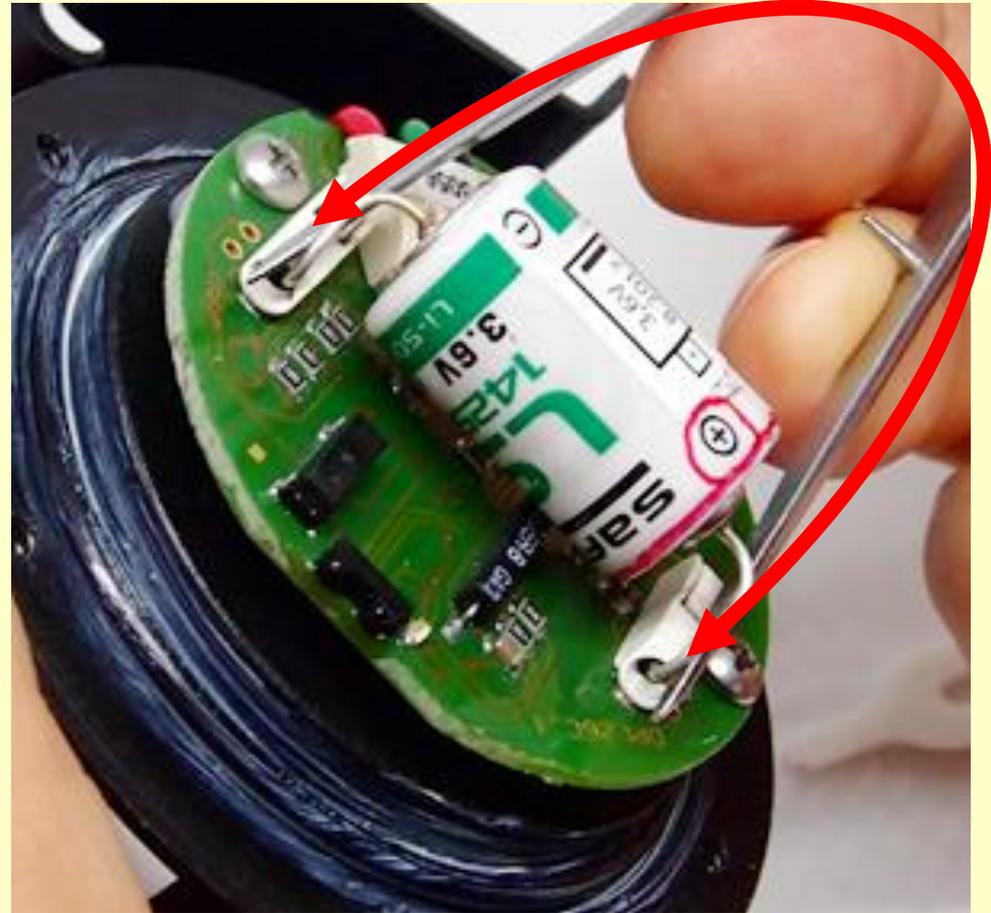


For more comfortable work use the dendrometer support.

# 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) in order to resetting the battery life counter!



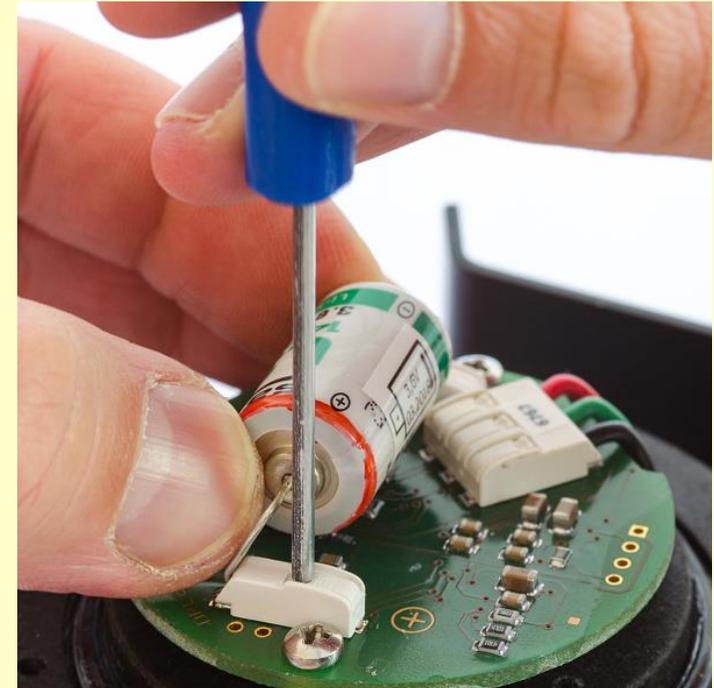
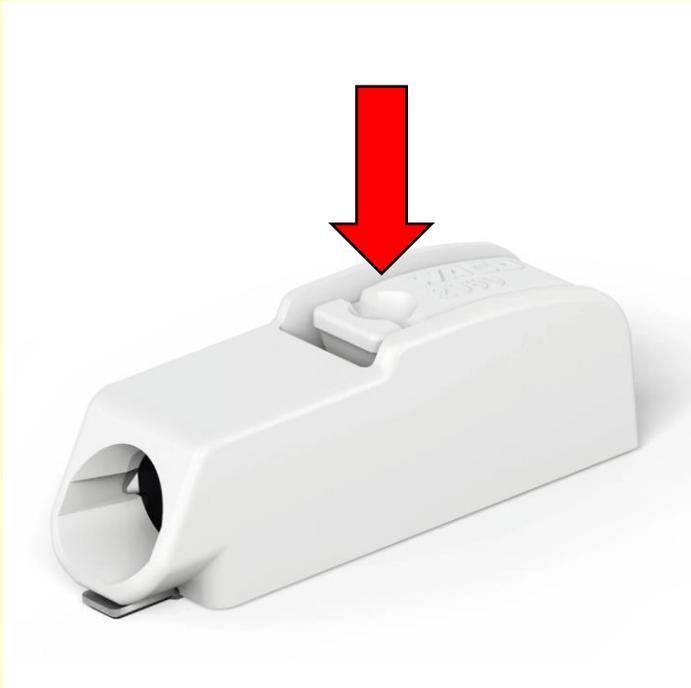
# Battery removal

- Release the positive battery terminal and remove the battery wire:
  - insert the end of the WAGO tool into the circular depression in WAGO 2060 terminal
  - lightly press **perpendicularly** on a push-button and remove the wire
- Release the negative battery terminal in the same way as positive terminal and remove the battery.
- Don't forget to recycle battery.



## **WARNING**

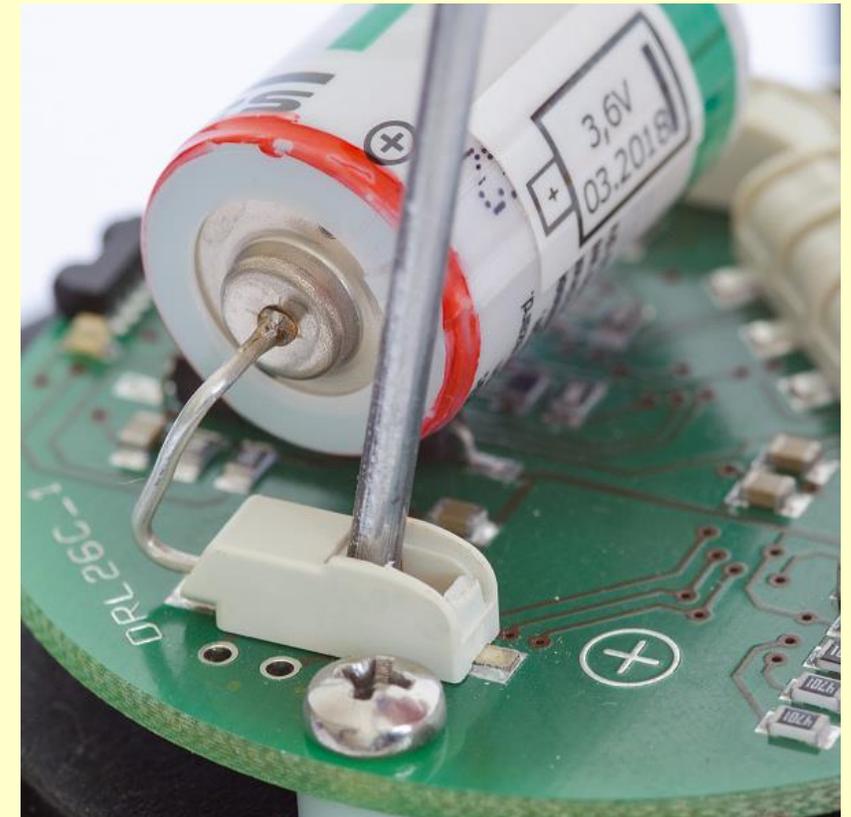
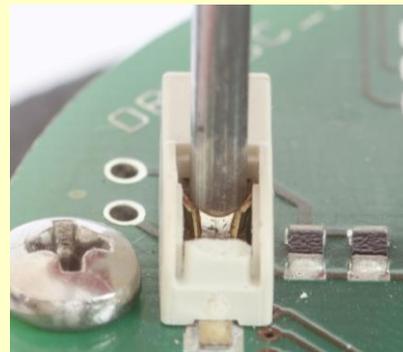
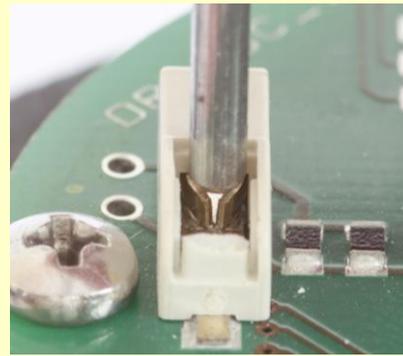
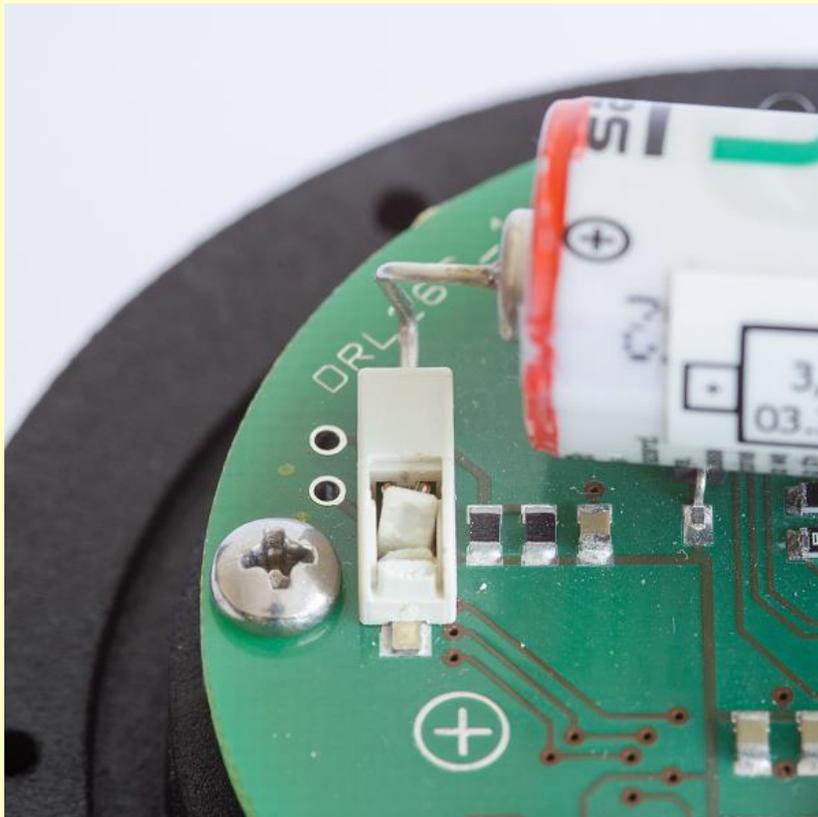
the plastic part is extremely fragile. Make sure to use appropriate tool!



# Battery removal – broken terminal

If you accidentally broke the push-button of WAGO terminal:

- remove the broken remains
- use the same WAGO tool for opening the clamping jaws
- slightly more force is required for opening (compared to a functional, not broken terminal)





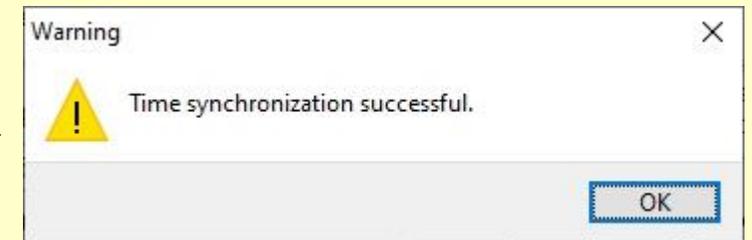
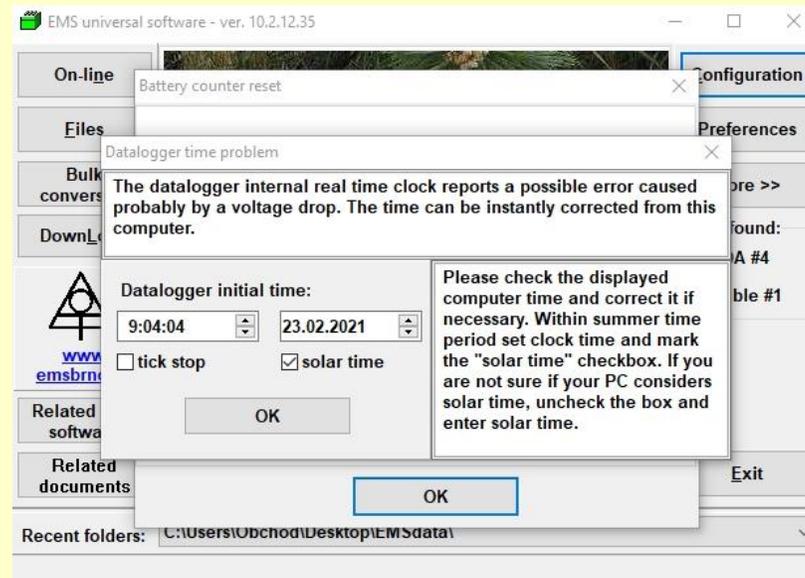
# Sensor closing

- Put the metal ring over the lid and place the lid on the sensor. Make sure to turn the lid such a way that the center of the label “IrDA access point and magnetic activation area” is located above the red LED on the PC board.
- It is good idea to tight screws few times jumping over neighbors – see sequence in picture. Use screwdriver HITACHI DB3DL2 with clutch dial set at 5 (0.7 Nm moment of force).



# Time synchronization

- Run Mini32, connect the IrDA/USB cable to the PC and click on the "Configuration" button. Activate IR connection with magnet if the red LED below the lid is off.
- Use the IrDA/USB cable holder for comfortable operation.
- Set datalogger time and press "OK"



# Battery counter reset

Check the battery status and press "OK"

Battery counter reset

Battery status information has failed, probably due to battery replacement or temporary removal.  
If a used battery has been put back into the unit, please click on lower button and enter the estimated amount of remaining energy [%]. A recent data file could help.  
Note that older system don't need to support this option.

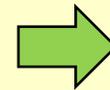
Battery status:

new (replaced) battery

used battery temporarily removed

Energy remaining: 100 %

OK



Information

 The datalogger battery lifetime counter has been reset.

OK

# Battery counter reset

When the battery short circuit has been omitted (the battery counter reset dialog was not called automatically by software), you must reset the battery counter manually:

Configuration > More > Batt. reset.

MicroLog - SETTING UP - ADVANCED Mini32 v. 10.2.17.0

Less << Init RAM clear HCM Password Set time **Batt. reset**

PC Time: 04.03.2022 7:45:04  
DL Time: 04.03.2022 7:45:03

ON/off **ON**

Device type: DRL26D  
Device code: 85  
Batt: 3,38 V

Periods:  
measuring: 1 h  
storing: 1 h

**Battery remains: 10%**  
(approx. 191 days)  
Memory capacity: 2259 days  
Overwrite ENABLE

#	Type	ON/off	Range	Gauge	Description
1.	Ratio	ON	---	Increment [mm]	
2.	Temperature	ON	---	Temperature [oC]	

# Sensor configuration

- The datalogger keeps current configuration even after battery replacement
- Nevertheless, check the setup for sure

The screenshot shows the MicroLog software interface for setting up a Mini32 datalogger. The window title is "MicroLog - SETTING UP Mini32 v. 10.2.12.35". At the top, there are buttons for "More >>", "Get", "Send", "Save setup", "Read setup", "Capacity info", and "Close".

Key configuration details include:

- PC Time: 23.02.2021 9:44:59
- DL Time: 23.02.2021 9:44:59
- Device type: DRL26C
- Device code: 35
- Batt: 3,44 V
- measuring period: 1 h
- storing period: 1 h
- Battery remains: 100% (approx. 1895 days)
- Memory capacity: 1129 days
- Overwrite ENABLE

Red arrows point to the "ON" button, the device code field, the measuring and storing period dropdowns, and the "ON" entries in the sensor table.

#	Type	ON/off	Range	Gauge	Description
1.	Ratio	ON	---	Increment [mm]	
2.	Temperature	ON	---	Temperature [oC]	

# 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.

The screenshot shows the 'MicroLog - DATA HANDLING Mini32 v. 10.2.12.35' window. At the top, there are buttons for 'Actual values', 'Regular reading', and 'Close'. A checkbox for 'el. values' is present and unchecked. A 'PrgmCalc' button is also visible. Below these buttons, the interface is divided into several sections:

- Time and DL:** PC Time: 23.02.2021 9:23:26, DL Time: 23.02.2021 9:23:25. A green 'ON' button is located below this section.
- Device Information:** Device type: DRL26C, Device code: 35, Batt: 3,4 V.
- Periods:** measuring 1 h / warm-up 0 s, storing 1 h.
- Battery and Memory:** Battery remains: 99% (approx. 1895 days), Memory capacity: 1129 days, Overwrite ENABLE.

At the bottom, there is a table with the following data:

#	Type	No. Gauge	Electrical	Physical	Description
1.	Ratio	Increment [mm]	0,000518807	0,0329235	
2.	Temperature	Temperature [oC]	22,9688	22,9688	

**Good luck!**