

# **Dendrometer DRL 26A / DRL 26B**

Battery replacement

*EMS Brno, January 2019*

# 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.

Be advised that there are more models which differ in battery terminals:

- DRL 26A,B have screw terminals
- DRL 26C has spring pressure terminals (Wago)

Both models use LS 14250 CN Battery, Single Cell, 3.6 V, 1/2AA, Lithium Thionyl Chloride, 1200 mAh with axial wires.

The main difference between those models is in the wire adjustment of batteries – see pictures.

When asking manufacturer for new batteries, please specify the model and we will adjust wires accordingly.



# Related tools and accessories:



Dendrometer  
DRL26A or DRL26B



Screwdriver  
HITACHI DB3DL2



Battery



Screwdriver



Desiccant bag



Tweezers



IrDA/USB cable

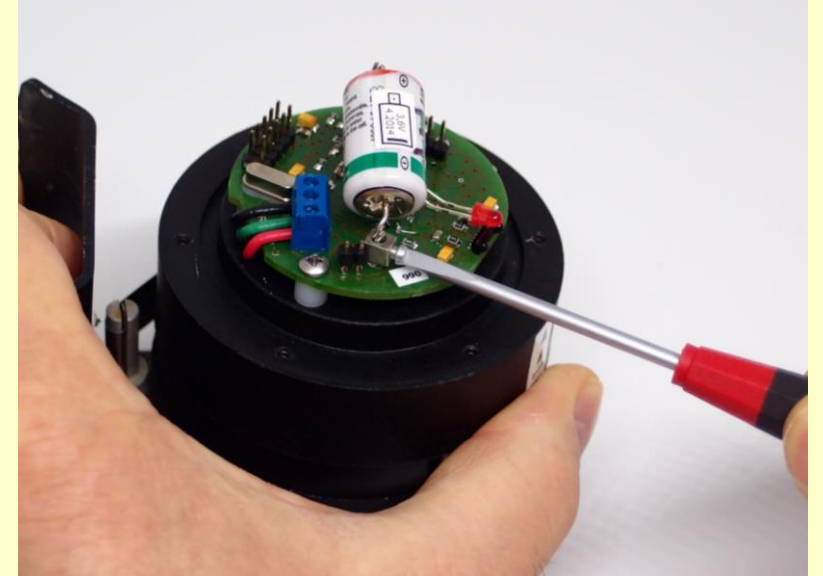
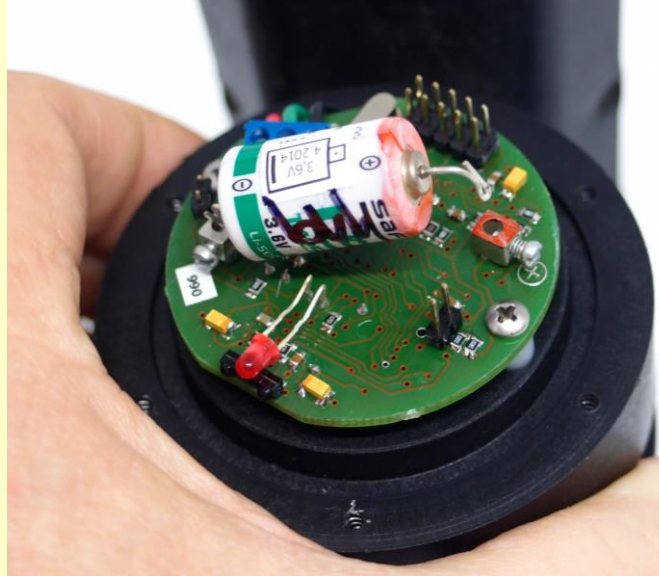
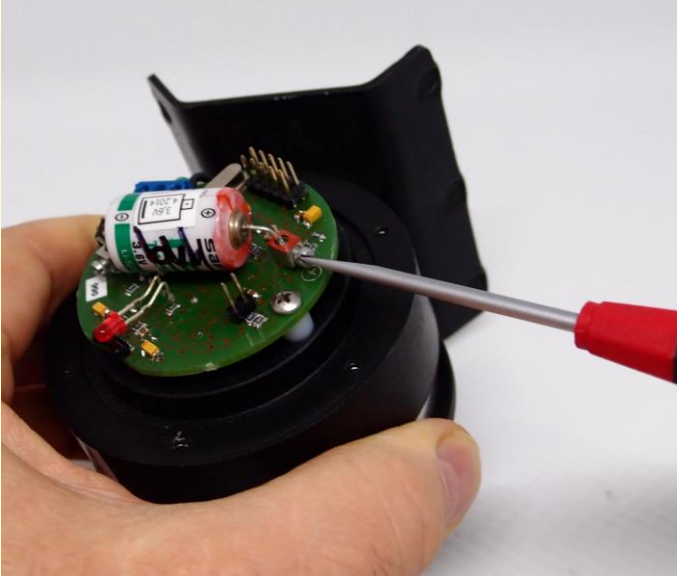
# Sensor opening

Screw out all six screws tightening the white plastic lid.



# Battery removal

- Notice the battery polarity.
- Screw out the positive battery terminal and lift up the battery wire.
- Screw out the negative terminal and remove the battery.





# Battery preparation

Adjust battery wires according to following pictures:



# Battery counter reset

Short circuit the battery terminals. It will reset the battery life counter. Tweezers is the ideal tool for this.

Note that the battery counter can be reset also from Mini32 (Configuration>More>Batt. reset)





# Battery inserting

Insert new battery to the terminals.

Consider polarity.

Screw it up firmly.

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



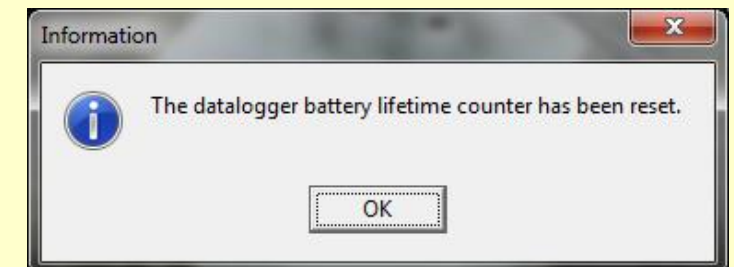
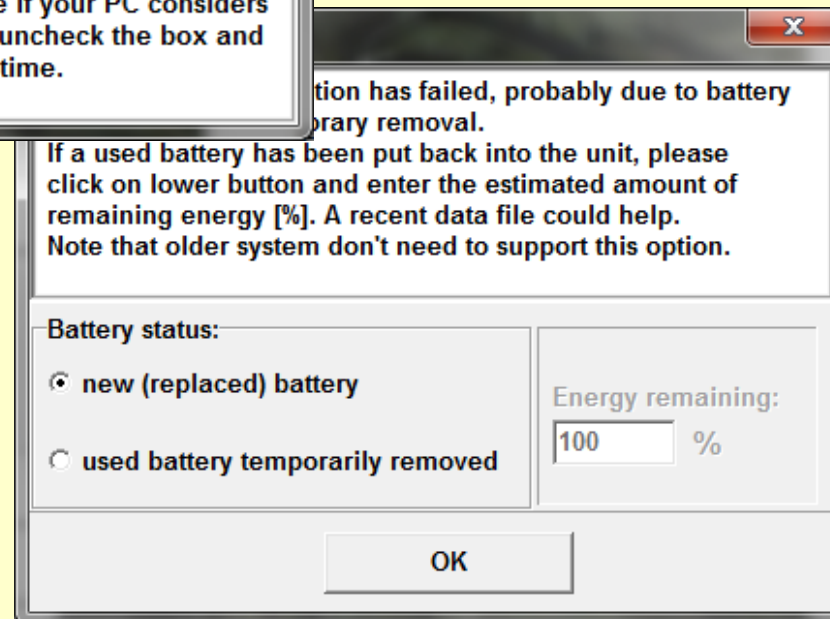
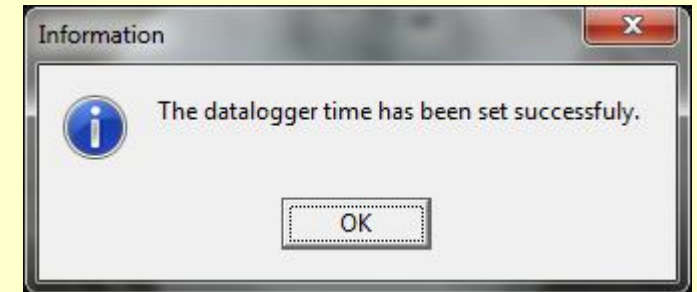
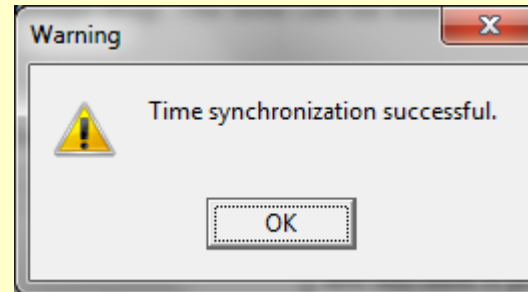
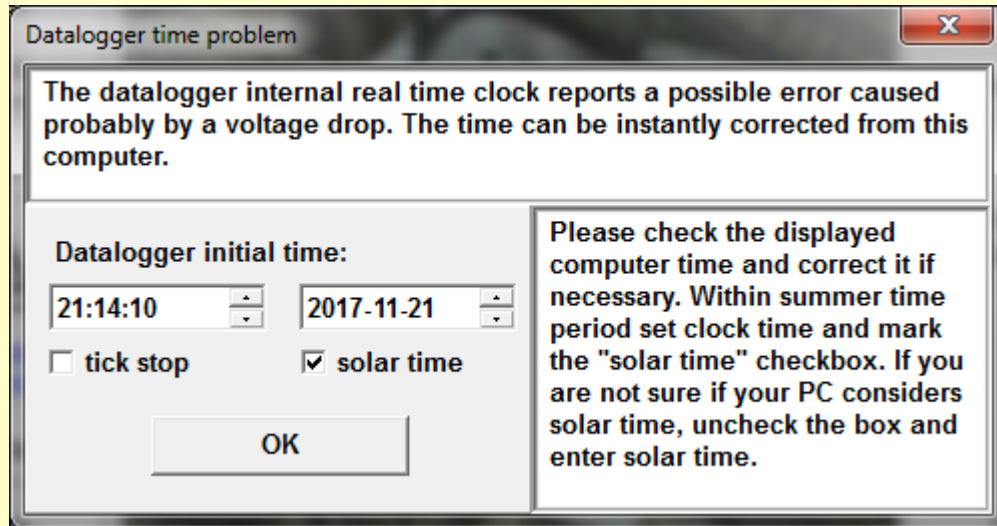
# Sensor closing

- 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 and go to Configuration. You will pass following windows and messages – just accept them:



# Sensor configuration

... until you get Configuration screen. Check or edit configuration a press "Send". The battery life expectancy and memory capacity will be refreshed and shown on right hand side:

The screenshot shows the 'MicroLog - SETTING UP ver. 4.4.21.22' window. At the top, there are buttons: 'More >>', 'Get', 'Send', 'Save setup', 'Read setup', 'Capacity info', and 'Close'. Below these, the 'Get' button is highlighted with a dotted border. The main area is divided into several sections. On the left, it shows 'PC Time: 2017-11-21 21:19:14' and 'DL Time: 2017-11-21 21:19:13', with an 'ON/off' button and a green 'ON' button. In the center, it displays 'Device type: DRL26A', 'Device code' (90), and 'Batt: 3.41 V'. To the right of this, under 'Periods:', there are dropdowns for 'measuring' (30 m) and 'storing' (1 h). On the far right, it shows 'Battery remains: 100% (approx. 1786 days)', 'Memory capacity: 1129 days', and 'Overwrite ENABLE'. At the bottom, there is a table with 5 columns: '#', 'Type', 'ON/off', 'Range', 'Gauge', and 'Description'.

#	Type	ON/off	Range	Gauge	Description
1.	Ratio	ON	---	Increment [mm]	Spruce #271
2.	Temperature	ON	---	Temperature [oC]	

*Note: If the battery capacity still show the value as before the battery replacement, you can correct this information in advanced "More>> Batt. Reset" option.*

# 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.

MicroLog - DATA HANDLING ver. 4.4.21.22

Buttons: **Actual values** (selected), Regular reading, ☐ el. values, PrgmCalc, Close

PC Time: 2017-11-21 21:24:32  
DL Time: 2017-11-21 21:24:31

**ON**

Device type: DRL26A  
Device code: 90  
Batt: 3.41 V

Periods :  
measuring 30 m / warm-up 0 s  
storing 1 h

Battery remains: 100%  
(approx. 1786 days)  
Memory capacity: 1129 days  
Overwrite ENABLE

#	Type	No. Gauge	Electrical	Physical	Description
1.	Ratio	Increment [mm]	0.501915	31.8515	Spruce #271
2.	Temperature	Temperature [oC]	22.7383	22.7383	



**Good luck!**