


Battery replacement

A guide for battery replacement in ComAp controllers

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1 Document information

1.1 About this guide

The aim of this guide is to show how to replace the battery in ComAp controllers. You can replace the battery by yourself, but ComAp would not be responsible for the controller damage caused by battery replacement. It is strongly recommended to send a unit for battery replacement to ComAp.

Controller battery is used for power supply of a module which is responsible for controller RTC (Real Time Clock). If battery is flat, real time and some statistics data are lost. Controller firmware and configuration (binary inputs setting, PLC configuration etc.) are not affected, but setting of some setpoints (e.g. Controller address, RS232 mode) may be changed and it might make controller unable to operate.

1.2 Clarification of Notation

Note: This type of paragraph calls the reader's attention to a notice or related theme.

IMPORTANT: This type of paragraph highlights a procedure, adjustment etc., which can cause a damage or improper function of the equipment if not performed correctly and may not be clear at first sight.

WARNING: This type of paragraph highlights a procedure, adjustment etc., which can cause a damage or improper function of the equipment if not performed correctly and may not be clear at first sight.

Example: This type of paragraph contains information that is used to illustrate how a specific function works.

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Security Risk Disclaimer

Pay attention to the following recommendations and measures to increase the level of security of ComAp products and services.

Please note that possible cyber-attacks cannot be fully avoided by the below mentioned recommendations and set of measures already performed by ComAp, but by following them the cyber-attacks can be considerably reduced and thereby to reduce the risk of damage. ComAp does not take any responsibility for the actions of persons responsible for cyber-attacks, nor for any damage caused by the cyber-attack. However, ComAp is prepared to provide technical support to resolve problems arising from such actions, including but not limited to restoring settings prior to the cyber-attacks, backing up data, recommending other preventive measures against any further attacks.

Warning: Some forms of technical support may be provided against payment. There is no legal or factual entitlement for technical services provided in connection to resolving problems arising from cyber-attack or other unauthorized accesses to ComAp's Products or Services.

General security recommendations and set of measures

1. Production mode
 - Disable production mode BEFORE the controller is put into regular operation.
2. User accounts
 - Change password for the existing default administrator account or replace that account with a completely new one BEFORE the controller is put into regular operation mode.
 - Do not leave PC tools (e.g. InteliConfig) unattended while a user, especially administrator, is logged in.
3. AirGate Key
 - Change the AirGate Key BEFORE the device is connected to the network.
 - Use a secure AirGate Key – preferably a random string of 8 characters containing lowercase, uppercase letters and digits.
 - Use a different AirGate Key for each device.
4. MODBUS/TCP
 - The MODBUS/TCP protocol (port TCP/502) is an instrumentation protocol designed to exchange data between locally connected devices like sensors, I/O modules, controllers etc. By its nature it does not contain any kind of security – neither encryption nor authentication. Thus it is intended to be used only in closed private network infrastructures.
 - Avoid using MODBUS/TCP in unprotected networks (e.g. Internet).
5. SNMP
 - The SNMP protocol (port UDP/161) version 1 and version 2 are not encrypted. They are intended to be used only in closed private network infrastructures.
 - Avoid using SNMP v1 and v2 in unprotected networks (e.g. Internet).

2 BaseBox based controllers

> InteliGen NT BaseBox	> InteliMains NTC BaseBox
> InteliGen NTC BaseBox	> InteliMains GSC
> InteliGen NT BaseBox 400Hz	> InteliSys NTC BaseBox
> InteliGen NTC BaseBox 400Hz	> InteliSys GSC-C
> InteliGen GSC	> InteliSys Gas
> InteliGen GSC-C	> InteliSys NTC Hybrid
> InteliMains NT BaseBox	> InteliDrive BaseBox

2.1 Battery type

For all mentioned controllers ComAp recommends to use a battery specified on the [website](#) in the battery replacement section.

The battery should be inserted in the slot with the showing label on top. This means that label of the battery will be visible from above as shown in the picture below. Battery polarity should be checked (using voltmeter).

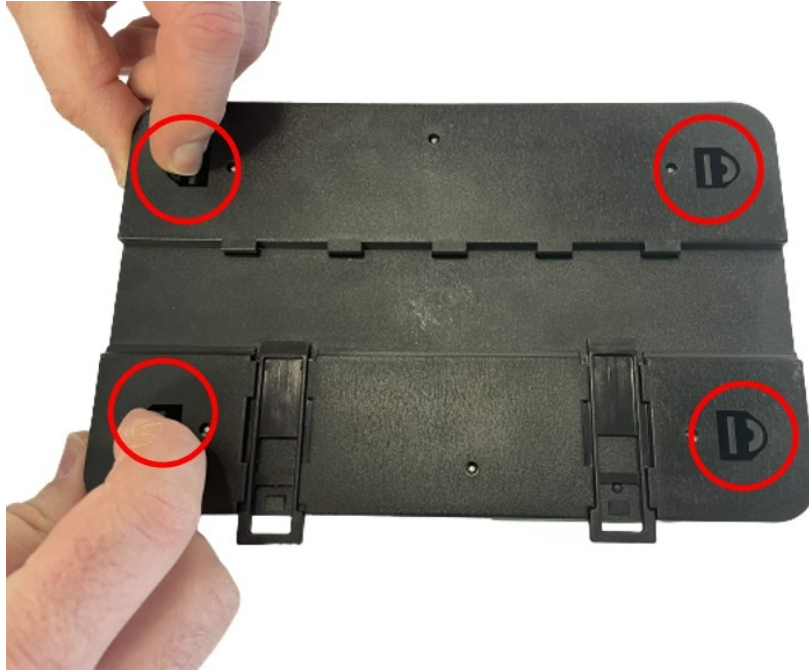


2.2 Battery replacement process

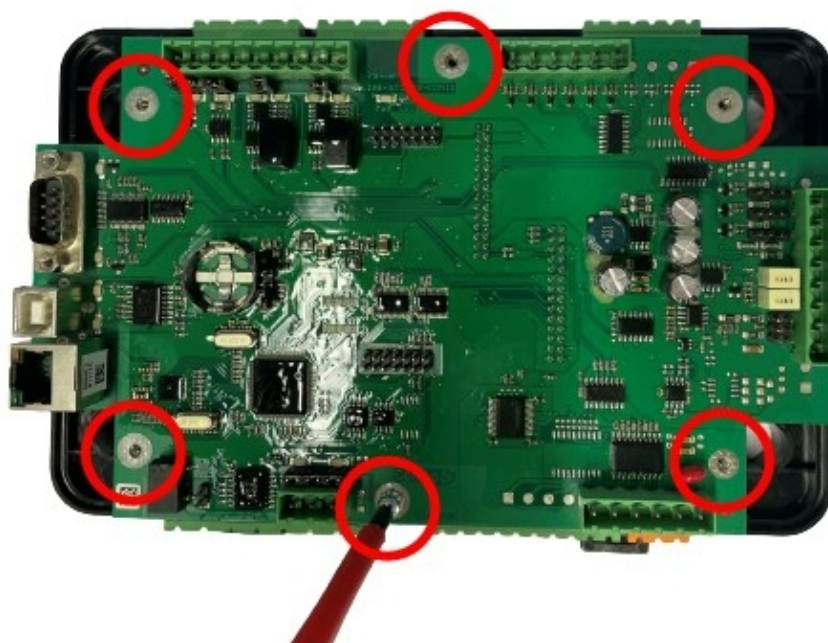
WARNING: Before you start the process of battery replacement always disconnect the controller from the power supply. After the replacement process the controller will loose its configuration of time and date and needs to be set again!

1. Download an archive from the controller and save it.
2. Disconnect power supply and pull out all the terminals from the controller.

3. Remove the cover of the controller.

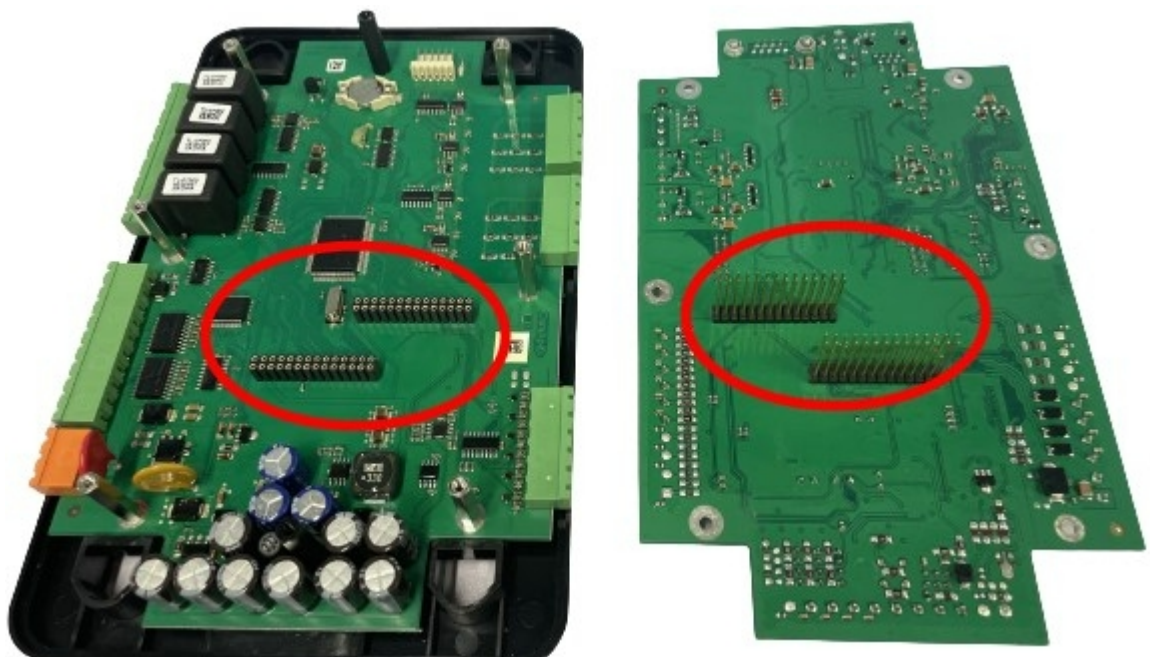
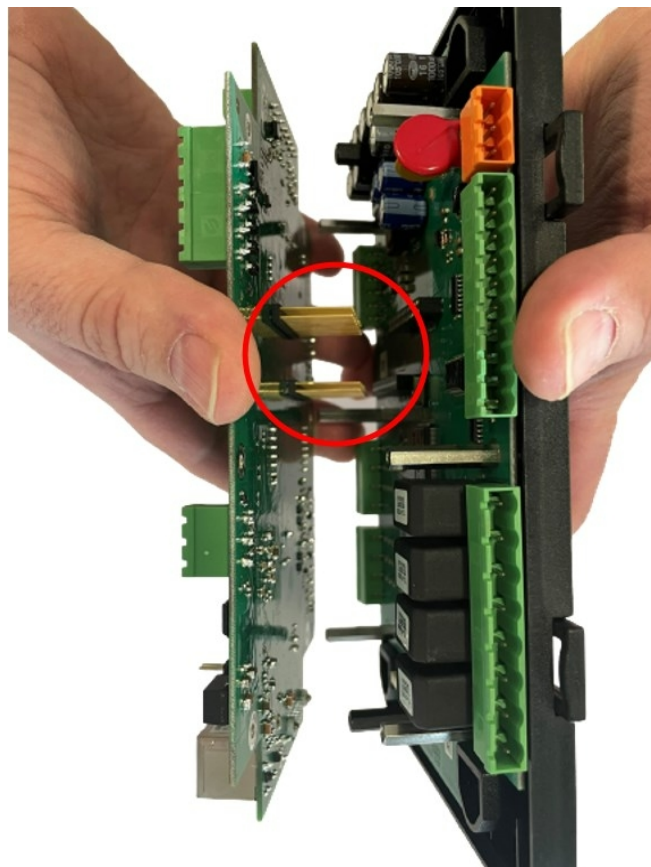


4. Remove six screws from the top of the PCB



5. Separate the upper and the lower part of PCBs.

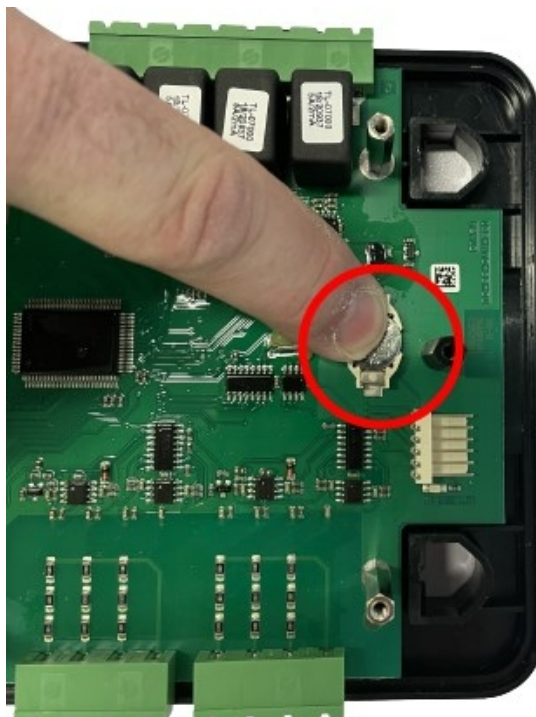
WARNING: Be extremely careful when disconnecting the pins and long solid wires in the middle. Damage to this part can destroy the entire controller.



6. Remove the battery

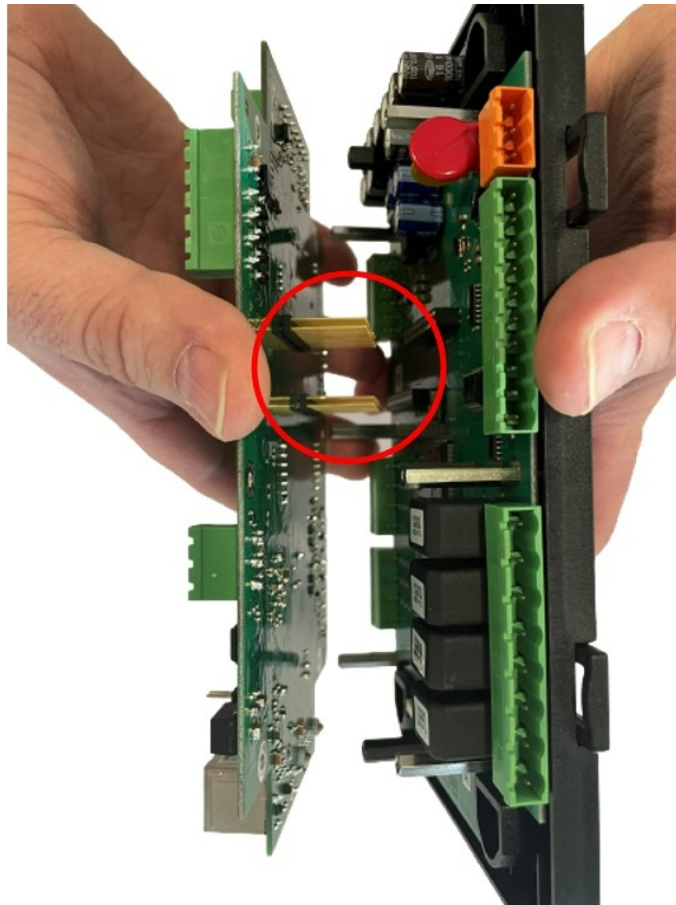


7. Install the new battery. To maintain the **correct battery polarity**, the label must be visible from the top.

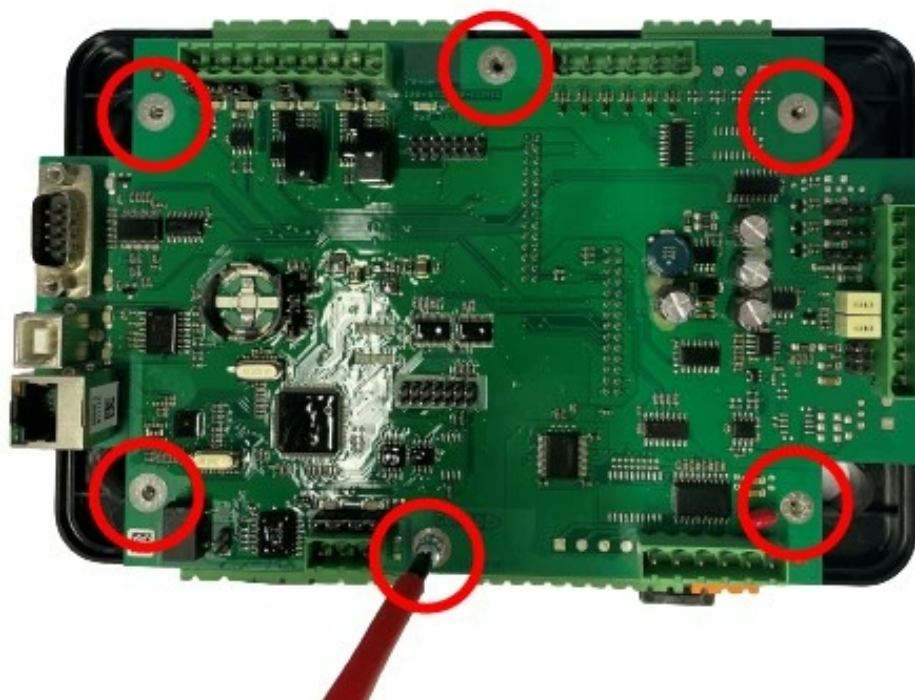


8. Reconnect the two PCBs.

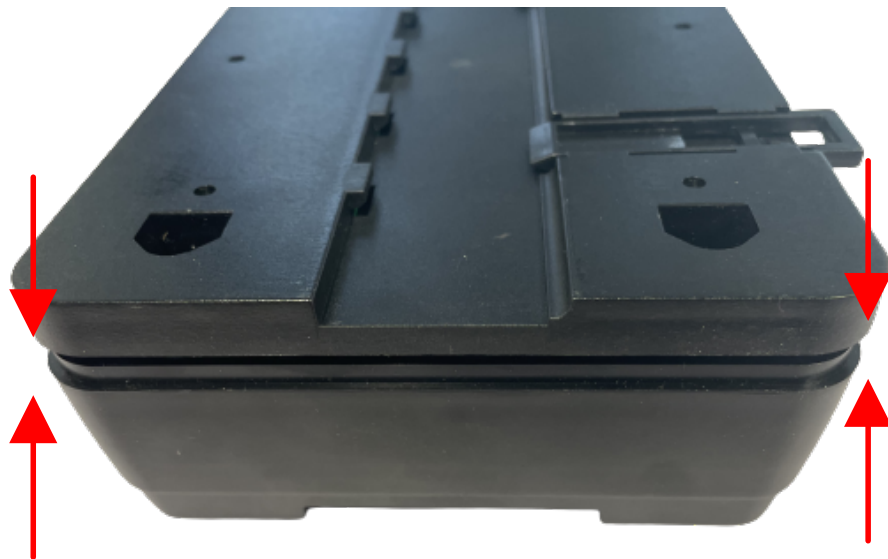
WARNING: Be extremely careful about connecting the pins and long solid wires in the middle. Damage to this part can destroy the entire controller.



9. Install the six screws and reattach the two printed circuit boards.



10. Cover the PCB with the top cover of the controller.
Push on one side first and then on the other. Listen for a **"click"** which indicates the proper connection.
The cover is **not** connected properly on the controller shown below.



11. Connect the power supply and set up the correct date and time.

3 IG/IS-NT, IG-CU and ID-DCU controllers

3.1 Battery type

For all mentioned controllers ComAp recommends to use a battery specified on the [website](#) in the battery replacement section.

Text information about battery type etc. is on positive terminal of the battery, but battery polarity should be checked anyway (using voltmeter).

3.2 Battery replacement process

WARNING: Before you start the process of battery replacement always disconnect the controller from the power supply. After the replacement process the controller will loose its configuration of time and date and needs to be set again!

1. Download an archive from the controller and save it.
2. Disconnect power supply and pull out all the terminals from the controller.
3. Remove the cover of the controller.
4. See the images below for information about the battery and PCB position in the controller. Remove both upper PCB's and lower PCB (remove upper PCB only in case of IG-CU or ID-DCU controller).

IG/IS-NT

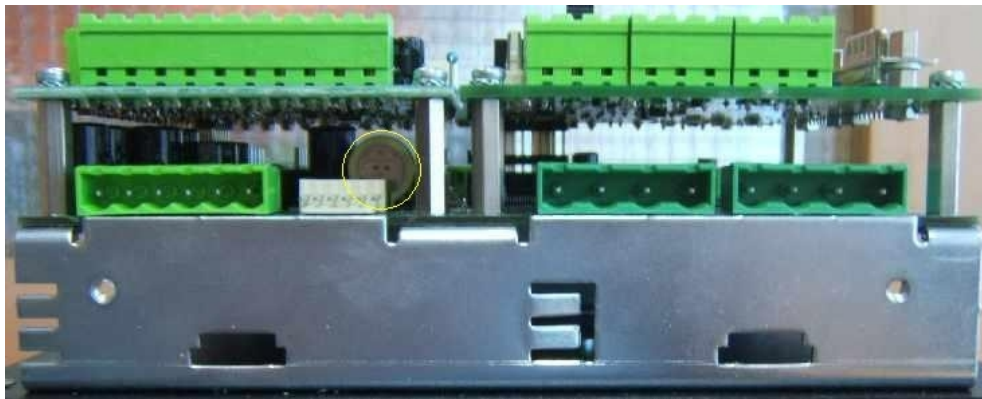


Image 3.1 IG/IS-NT: Battery position in the controller



Image 3.2 IG/IS-NT: Battery position on the PCB

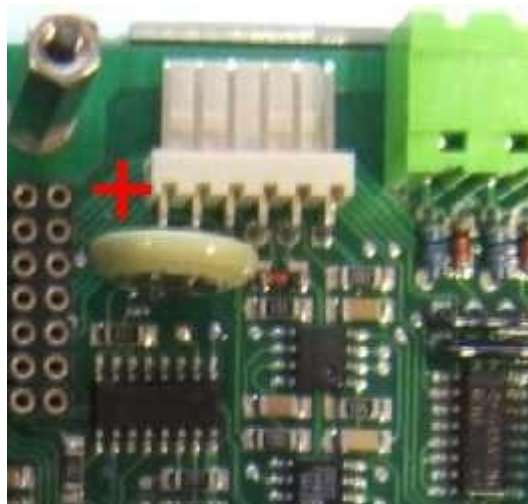


Image 3.3 IG/IS-NT: Battery position on the PCB

IG-CU

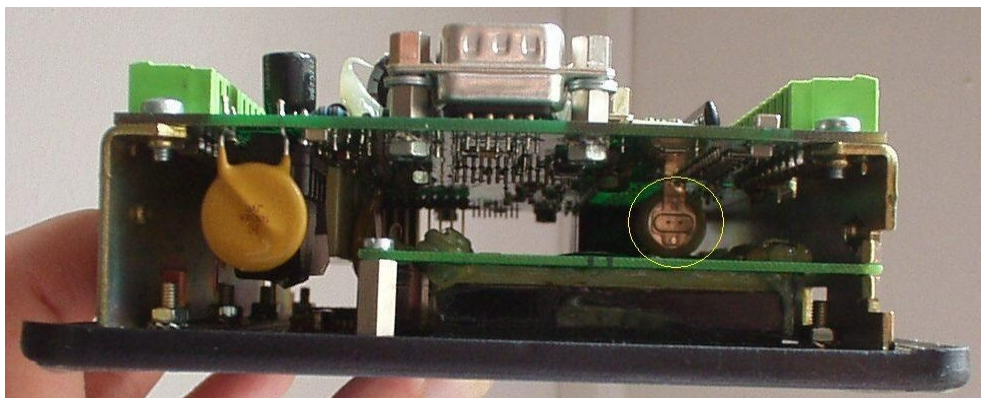


Image 3.4 IG-CU: Battery position in the controller



Image 3.5 IG-CU: Battery position on the PCB



Image 3.6 IG/IS-NT: Battery position on the PCB

ID-DCU

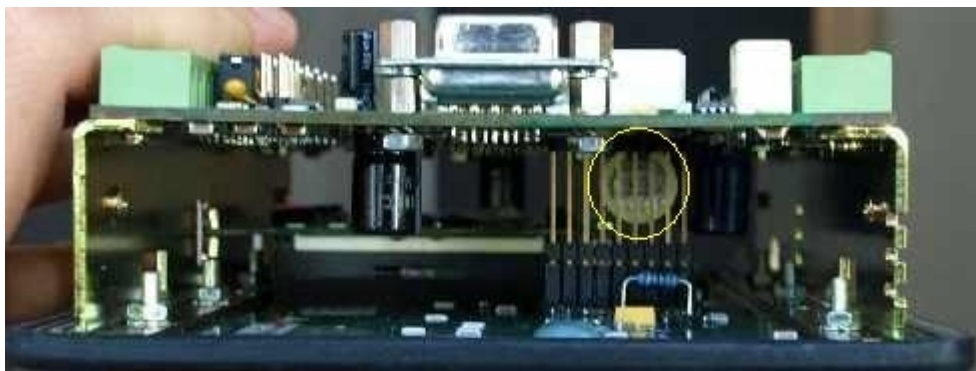


Image 3.7 ID-DCU: Battery position in the controller



Image 3.8 ID-DCU: Battery position on the PCB

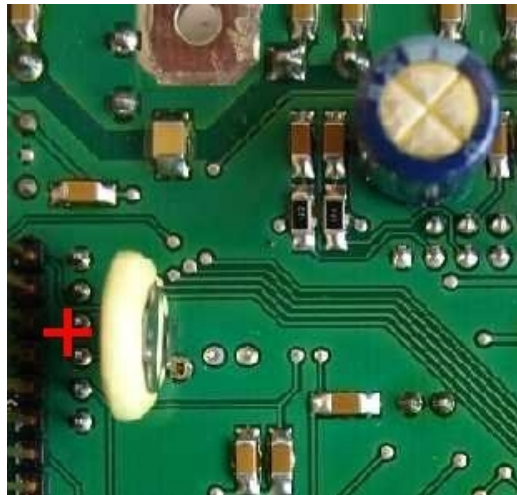


Image 3.9 IG-CU: Battery position on the PCB

5. Solder the old battery out.
6. Solder the new battery on according to the picture IG/IS-NT: Battery polarity.
7. Assemble the controller and switch it on.
8. Upload the saved archive to the controller .
9. Install the six screws and reattach the two printed circuit boards.
10. Set the controller statistics according to the saved archive and set correct the time and date.

4 IS-CU controller

4.1 Battery type

For all mentioned controllers ComAp recommends to use a battery specified on the [website](#) in the battery replacement section.

Text information about battery type etc. is on positive terminal of the battery, but battery polarity should be checked anyway (using voltmeter).

4.2 Battery replacement process

WARNING: Before you start the process of battery replacement always disconnect the controller from the power supply. After the replacement process the controller will loose its configuration of time and date and needs to be set again!

Battery in the IS-CU controller may be placed at two positions. Controllers are produced with battery placed at the position **BT1** (soldered on the controller PCB) and it is recommended to use position **BT2** for battery exchange. See image **IS-CU: Battery polarity and jumper placing**.

1. Download an archive from the controller and save it.
2. Disconnect power supply and pull out all the terminals from the controller.
3. Remove the cover of the controller.
4. See the images below for information about the battery and jumper position on the controller. Place the battery to the battery holder, positive terminal facing upwards (it is not necessary to remove battery **BT1**).



Image 3.10 IS-CU: Battery position on the PCB

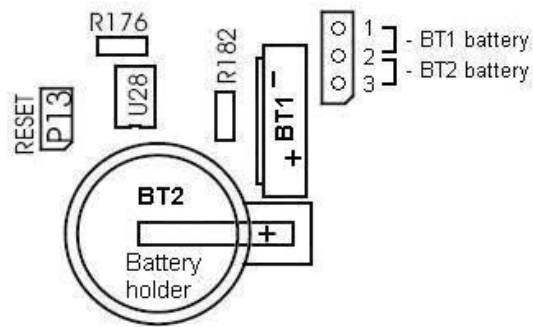


Image 3.11 IS-CU: Battery polarity and jumper placing

5. Remove a jumper from terminals 1 and 2
6. Place the jumper on terminals 2 and 3.
7. Assemble the controller and switch it on.
8. Upload the saved archive to the controller .
9. Set controller statistics according to the saved archive and set the correct time and date.

5 IL-NT, IC-NT and ID-Lite controllers

5.1 Battery type

For all mentioned controllers ComAp recommends to use a battery specified on the [website](#) in the battery replacement section.

Text information about battery type etc. is on positive terminal of the battery, but battery polarity should be checked anyway (using voltmeter).

5.2 Battery replacement process

WARNING: Before you start the process of battery replacement always disconnect the controller from the power supply. After the replacement process the controller will loose its configuration of time and date and needs to be set again!

Replace the battery, if the alarm **Low BackupBatt** occurs.s

1. Download an archive from the controller and save it.
2. Disconnect power supply and pull out all the terminals from the controller.
3. Remove the rear cover using a flat screwdriver or another suitable tool.



Image 3.12 Removing the rear cover

4. Remove all plug-in modules

5. The battery is located in a holder on the circuit board. Remove the old battery with a small sharp screwdriver and insert the new battery into the holder.



Image 3.13 Removing the rear cover

6. Put the rear cover back. Use slight pressure to lock the snaps into the housing. **Be sure that the cover is in correct position and not upside down!**
7. Plug the modules back into the slots.
8. Power the controller on, adjust date and time and check all setpoints.

6 ID-Mobile controller

6.1 Battery type

For all mentioned controllers ComAp recommends to use a battery specified on the [website](#) in the battery replacement section.

Text information about battery type etc. is on positive terminal of the battery, but battery polarity should be checked anyway (using voltmeter).

6.2 Battery replacement process

WARNING: Before you start the process of battery replacement always disconnect the controller from the power supply. After the replacement process the controller will loose its configuration of time and date and needs to be set again!

1. Download an archive from the controller and save it.
2. Disconnect power supply and pull out all the terminals from the controller.
3. Unscrew the screws and open the cover to get access to the battery.

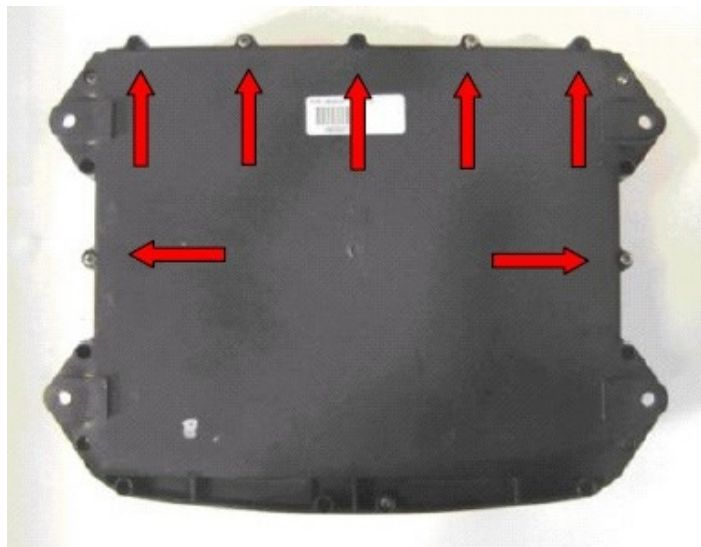


Image 3.14 Unscrewing screws

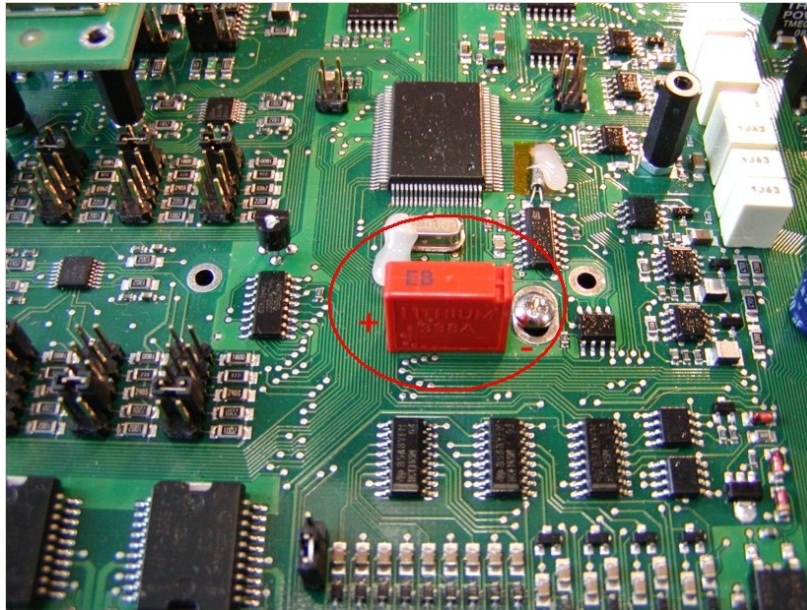


Image 3.15 Battery position on PCB and polarity

4. Solder the old battery out.
5. Solder the new battery on according to the picture Battery position on PCB and polarity
6. Place back the ID-Mobile cover - avoid antenna cables jam in between the cover and base part of ID Mobile box, close the cover, gently (max torque 1 Nm) tighten the screws.
7. Upload the saved archive to the controller.
8. Set controller statistics according to the saved archive and set correct time and date.