MERLIN Battery Replacement

1. INTRODUCTION

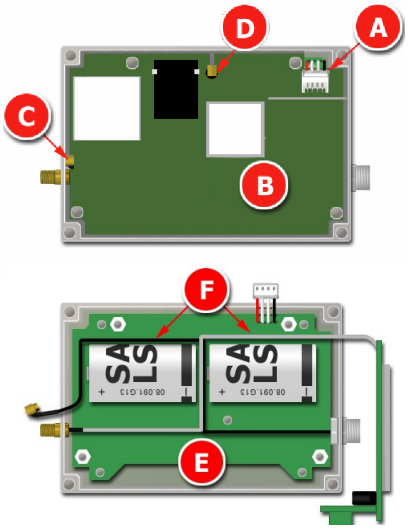
The batteries fitted to a MERLIN are of a specific type, construction and chemistry. The batteries are supplied pre-fitted to a PCB. Replacement battery PCBs can readily be obtained from Abriox. When changing the batteries you must observe ESD precautions - that means you must be connected to electrical ground e.g. via ESD wrist strap.

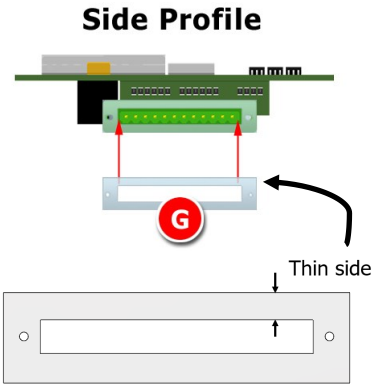
2. TOOLS REQUIRED

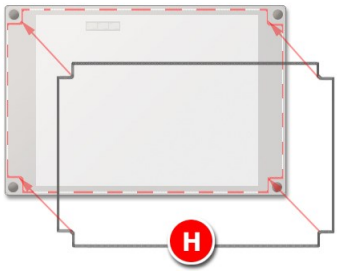
You will need the following tools: Cell/Mobile phone, ESD wrist strap, PZ1 torque driver, PH2 and a medium flat screwdriver.

3. INSTRUCTIONS

1) Unplug the green connector block from the side of the MERLIN unit.
2) Remove the lid by unscrewing the four (PH2) screws.
3) Carefully unplug the white power connector (A) from the batteries to the main board (B). This can be quite stiff.
4) With the aid of a medium flat-blade screwdriver, carefully prise the gold antenna connector (C) and (D) (Model dependant). You may find this can be quite hard to detach but it will pop out when enough force is applied.
5) Undo the four (PZ1) screws securing the main board.
6) Undo the two (PZ1) screws on the side of the unit (securing the green connector).
7) Carefully lift and manoeuvre the main board out and place to one side (depending on the MERLIN model, it may be possible to completely remove the main board or it may remain attached to the secondary antenna cable on the enclosure).
8) Note the position of the antenna cables around the batteries. Undo the four (PZ1) screws holding the battery board.
9) Remove the battery board (E) and replace with new one. Where there are antenna cables for GSM or GPS route them carefully (**as fitted before** or as shown (F)). Refit the screws and tighten.
10) Replace the gasket (G) on the green connector. **Note the correct gasket orientation is with the thin side above the connector:**
11) Refit the main board ensuring the white battery connector and gold antenna connector are in the correct position, ready to be connected.
12) Reconnect the gold antenna(s) connector to the PCB (it will click into position).
13) Insert and tighten to **0.15Nm** the two screws to the green connector on the side of the unit then insert and tighten the four screws on the main board.
14) Reconnect the white power connector to the main board.
15) Remove the old gasket from the lid and discard. Fit the new lid gasket (H).
16) Fit lid and tighten screws to **1Nm**.
17) Reconnect the green connector block.
18) PTO for specific commands for redeployment.







Batteries in this product should not be disposed of with household waste. You should contact your local authority or distributor for details of the collection and recycling schemes available.

4. REDEPLOYMENT

4.1 Re-install the MERLIN at the Same Location (Battery Change On Site)

1) Ensure the MERLIN is reset and awake by swiping a magnet past it
2) Send the MERLIN `CMD:SYNCTIME` to set its date and time*
3) Normal operation is resumed
4) Record the date of the battery change and enter this into CPSM/iCPSM as soon as practicable**

NOTE:

*If the MERLIN has been turned off with a `CMD:UNITOFF` send the MERLIN `CMD:INSTALL` you will get a message to say the unit is already installed but this does ensure the MERLIN clock is set and CPSM/iCPSM is aware the unit is active and should report in.

**It is vital the battery change date is recorded in CPSM/iCPSM in order for the system to accurately reflect the new battery values.

4.2 To Install the MERLIN at a New Location

1) Ensure the MERLIN is reset and awake by swiping a magnet past it
2) Send the MERLIN `CMD:INSTALL PIPE:PIPELINE NAME LOC:LOCATION NAME`
3) Record the date of the battery change and enter this into CPSM/iCPSM as soon as practicable*
4) Finish installation by configuring the alarm thresholds in CPSM/iCPSM**

NOTE:

*It is vital the battery change date is recorded in CPSM/iCPSM in order for the system to accurately reflect the new battery values

The alarm thresholds **MUST be resent to the unit from CPSM/iCPSM after the `CMD:INSTALL`

4.3 To Replace an Existing MERLIN

1) Ensure the MERLIN is reset and awake by swiping a magnet past it
2) Send the MERLIN `CMD:REPLACE PIPE:MATCHING PIPELINE NAME OF THE ORIGINAL UNIT LOC:MATCHING LOCATION NAME OF THE ORIGINAL UNIT`*
3) Record the date of the battery change and enter this into CPSM/iCPSM as soon as practicable**
4) Finish installation by resending the alarm thresholds from CPSM/iCPSM***

NOTE:

*The **PIPE** and **LOC** names **MUST** match the original names **EXACTLY** or it will be installed as a new location

**It is vital the battery change date is recorded in CPSM/iCPSM in order for the system to accurately reflect the new battery values

***The alarm thresholds **MUST** be resent to the unit from CPSM/iCPSM after the `CMD:INSTALL`