

Knowledge Base

KB80 - Pylontech Firmware Upgrade

Version 1.4 Date: 25/11/2021

1. Introduction

This document describes the procedure required to upgrade firmware on Pylontech batteries using the cable and USB provided by Redback and Pylontech.

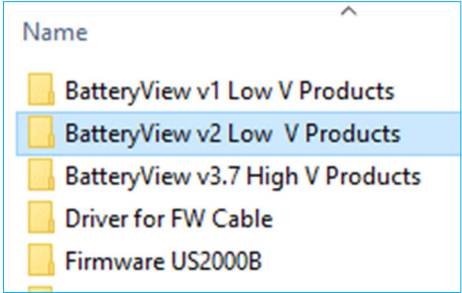
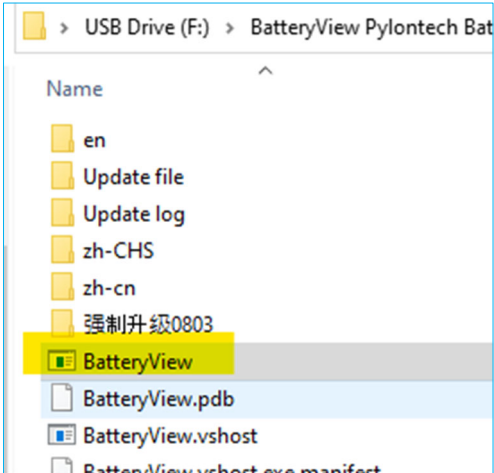
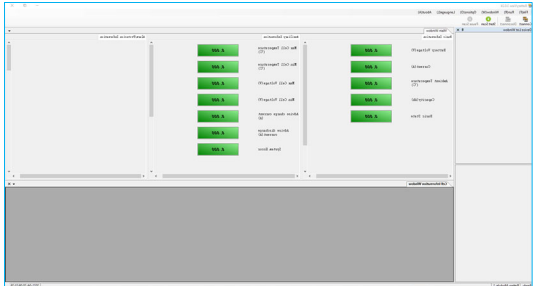
If a battery is found to be defective a claim will need to be submitted to Pylontech, refer to **Pylon Warranty Card** that was provided with the battery, or enter details in the **Battery Fault Information form** in this document

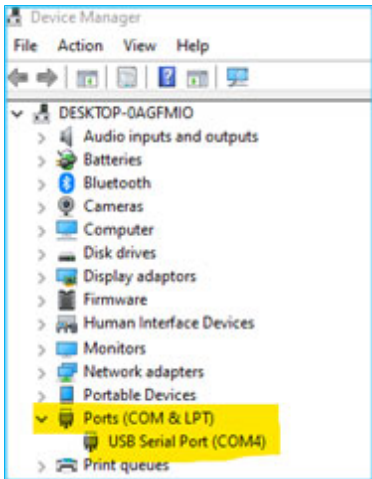
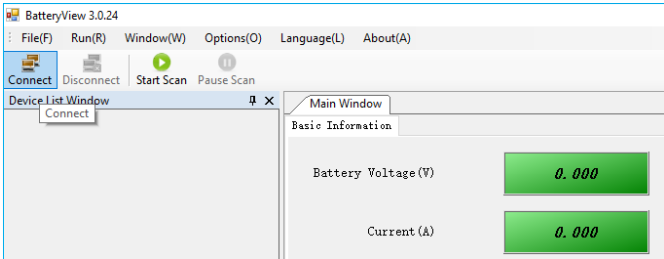
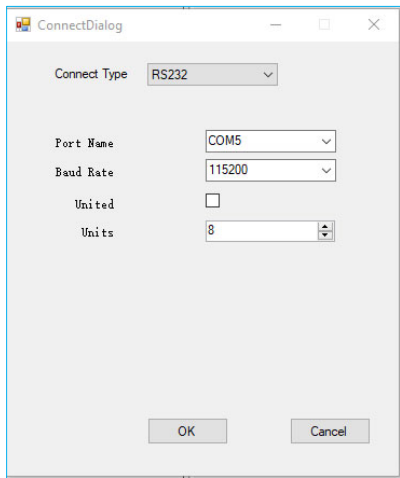
For further information refer to the Pylontech User Manual or contact: warranty@redbacktech.com

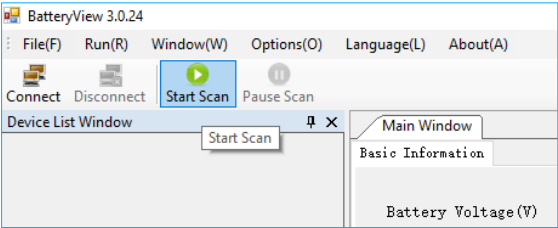
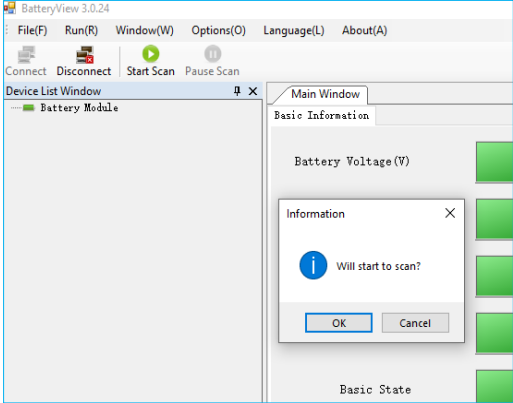
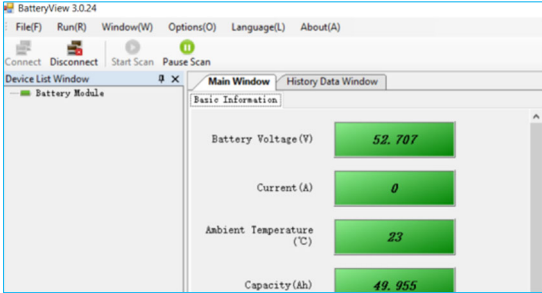
2. Audience

This document is for use by Redback installers or Redback technical staff. It is not recommended for homeowner use.

3. Firmware Update Procedure

Step	Procedure	Image/Comment
1.	To start the BatteryView software 1. Insert USB drive into your computer. 2. Open folder to view contents (may occur automatically). 3. Double-click BatteryView Pylontech Battery.	
2.	Double-click the BatteryView application. Battery view will open in a new window. Note: You may be asked to Run/Install the file. Agree and continue. You may need to double-click the application again to proceed.	 

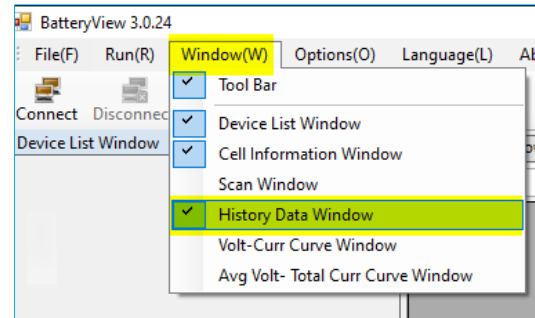
Step	Procedure	Image/Comment
3.	Install firmware cable 1. Insert USB plug into your computer 2. Insert RS232 plug into the battery Console port Note: Batteries may be connected to an operating inverter or connected to an external charger.	 
4.	Identify the comm's port to be used at step 6 1. Open Device Manager on your computer 2. Expand the Ports listing 3. Note the USB Serial Port in use e.g. COM4 4. Close Device Manager Note: Windows 10 operating system users may need to update the USB driver so it can detect the driver of the USB-RS232 Converter cable If you need to download the driver for the FW cable see additional document and driver folder on USB	
5.	Open communication settings 1. Return to BatteryView. 2. Select Connect. The Communications window will open.	
6.	Select communications settings 1. Select Port Name: as identified in step 4. 2. Select Baudrate: 115200 3. Select OK. 4. If the battery is connected correctly the BatteryView 'Connect' symbol greys out and the 'Disconnect' symbol becomes active. 5. A window will pop up with the port name and baud rate.	

Step	Procedure	Image/Comment
7.	When connected batteryview will ask if you want to start scan.	
	1. Press ok and start scan, this will load the data from the battery for analysis.	
	2. If the battery does not automatically scan, press Start Scan.	
	3. Once scan is complete you will see battery data appear in the main window on the right of the split screen.	
	4. Disconnect will now be highlighted.	
	5. We now need to collect the historical battery event data which is needed to support a potential warranty claim.	

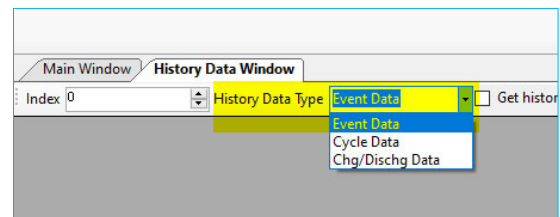
Step	Procedure	Image/Comment
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8. **Download battery historical event data.**

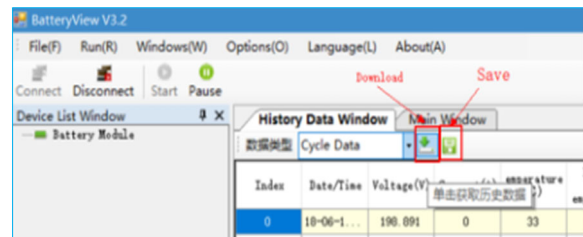
6. Select the history data window from the Window option.



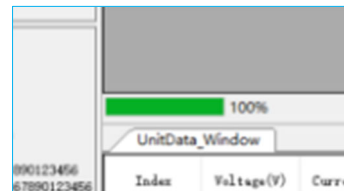
7. This will open the history data window, where you can select cycle data or event data from the drop down box



8. Then press the download button,

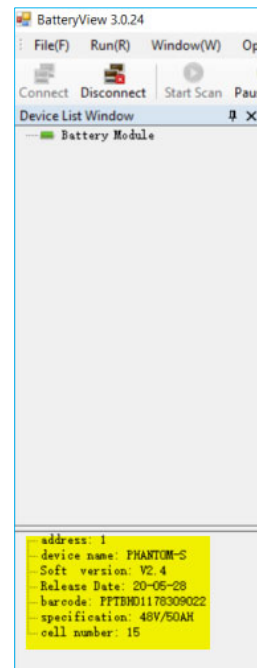


9. Wait for the data to download 100%.
10. Then save to desired local folder,
11. Using SN or your own unique file name

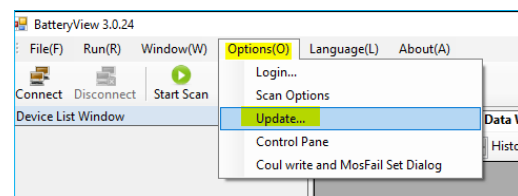


9. **Confirm firmware and/or Reflash the firmware.**

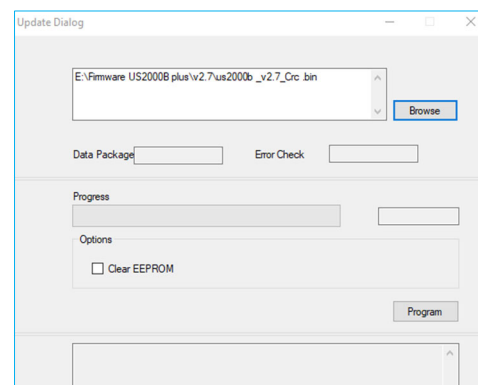
1. The batteryview program has a split screen, on the left side you will see the battery details in the lower screen.
2. In this example the FW version is v2.4



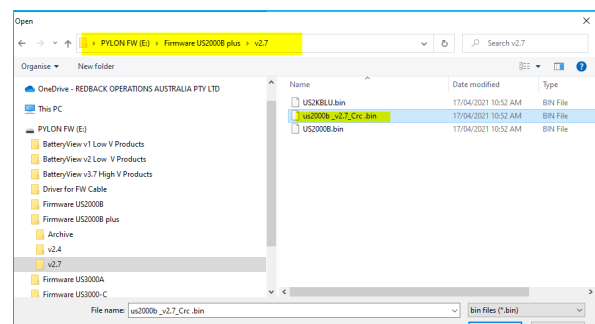
3. To upgrade the firmware, go to Options – Update.



4. An update dialog window pops up, (this is where you select the FW file you want to write to the battery, select the file from the USB or directory where you saved the files.



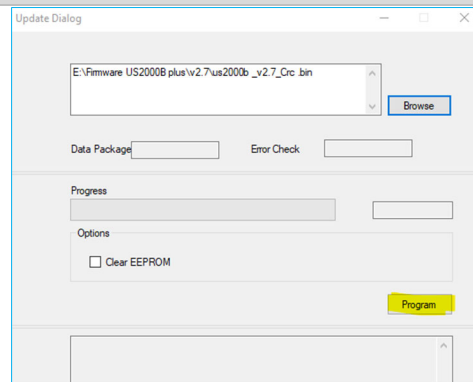
5. Select Browse and choose the file from appropriate directory.
6. Opening the file selects it in the dialog window.



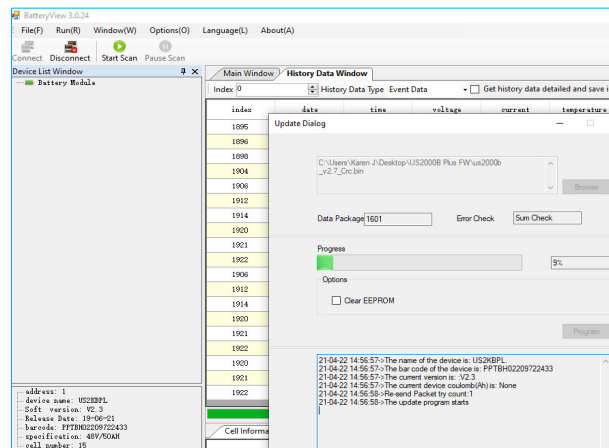
Step Procedure

Image/Comment

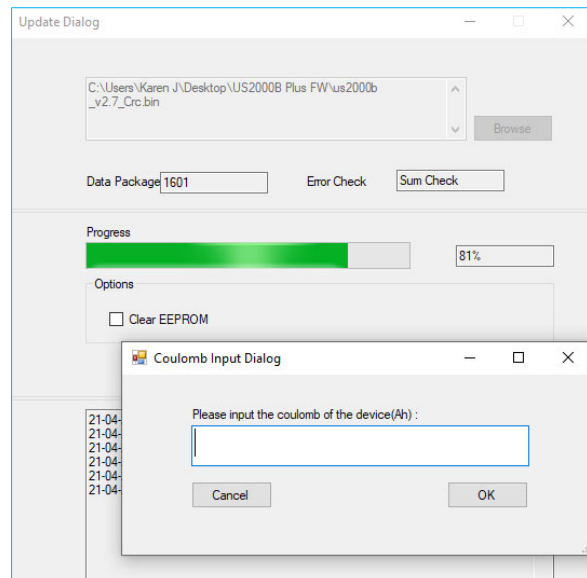
7. Click program to commence the FW update.

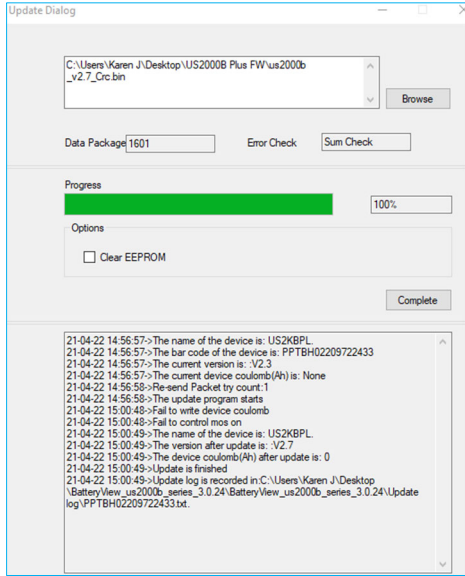
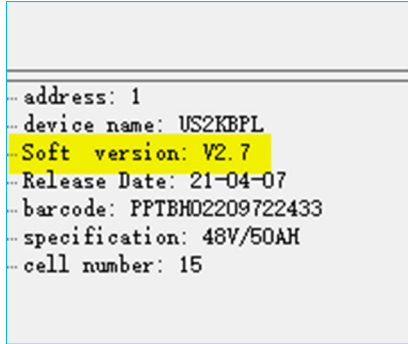


8. The file will transmit, the progress bar will indicate the % of status.



9. When progress is about 80% the update will pause – and a pop up window appears where you need to enter Battery coulomb value in Ah of.
10. Depending on the battery you are updating – enter the details specific for the model.
11. If you are not sure – check the battery details in the left window
12. US2000 are 50 AH
13. US3000 are 74 AH



Step	Procedure	Image/Comment
10.	The Reflash process is completed when: 1. the status bar reaches 100%, and 2. the serial number appears in the text box, and 3. the Complete button appears.	 Note that the NEW battery details automatically update in the left lower screen. 
11.	Reflash remaining batteries 1. Repeat steps as required. 1. When complete, close the BatteryView app and remove the firmware cable.	

4. Battery LED indications

Name	Meaning	Image
PWR	Indicates battery is alive- the BMS has electricity but no power output yet. (below ON/OFF switch).	
RUN	Flashes to show the battery is running.	
ALM	Indicates the battery is in an Alarm state. Cease charging if the ALM remains on—there may be a BMS fault and the battery must be analysed by Redback or Pylontech, using the Pylontech BatteryView software.	
SOC	Indicate the battery State of Charge (1/6, 1/3, 1/2 etc). One flashing LED indicates the battery is charging or discharging. The LEDs de-activate when the battery is fully charged and enters Idle mode.	

5. Trouble Shooting Steps

5.1 Problem determination based on:

- 1) Whether the battery can be turned on.
- 2) If battery is turned on, check the red light is off, flashing or lighting;
- 3) If the red light is off, check whether the battery can be charged/discharged.

5.2 Preliminary determination steps:

- 1) *Battery cannot be turned on, switch on the lights are all no lighting or flashing.*

If the battery external switch is ON, the RUN light is flashing, and the external power supply voltage is 48V or more, the battery still unable to turn on, please contact distributor.

- 2) *The battery can be turned on, but red light is lighting, and cannot be charged or discharged, if the red light is lighting, that means system is abnormal, please check values as following:*

- a) Temperature: Above 50°C or under -10°C, the battery could not work.

Solution: to move battery to the normal operating temperature range between -10°C and 50°C

- b) Current: If current is larger than 100A, battery protection will turn on.

Solution: Check whether current is too large or not, if it is, to change the settings on power supply side.

- c) High Voltage: If charging voltage above 54V, battery protection will turn on.

Solution: Check whether voltage is too high or not, if it is, to change the settings on power supply side.

- d) Low Voltage: When the battery discharges to 44.5V or less, battery protection will turn on.

Solution: Charge the battery for some time, the red light will turn off.

5. Battery Fault Information Form

Use this form to collect and record battery fault information. Please collect all available information and send to Pylontech or their authorized distributor. Failure to submit relevant information may delay your warranty claim.

SYSTEM INFORMATION				
1. Distributor:				
2. System location:				
3. How many batteries in the parallel system?				
4. Date of fault:				
5. Faulty battery serial number				
6. Inverter brand and model:				
FAULT INFORMATION				
7. Fault description	8. What time of day did the faulty occur?	9. How many times did the fault occur?	10. How long had the system been used?	11. Real time battery information shown on inverter or inverter monitor system APP.
☐ Will not turn ON	☐ Morning	☐ Dead on arrival	☐ <6 months	Voltage (V):
☐ No communication	☐ Afternoon	☐ From new	☐ <1 year	Current (A):
☐ Not charging	☐ Nightfall	☐ Once or twice	☐ <3 years	SOC (%):
☐ Not discharging	☐ Midnight	☐ Three or more	☐ >3 years	Temperature (°C):
☐ ALM on	☐ Not sure	☐ Daily		
☐ Other:	☐ Other:	☐ Other		
BATTERY STATUS				
12. Battery power terminal voltage measured by multimeter/DC voltage meter:				
13. If the battery is visible, please record the Battery LED states by ticking the relevant boxes.	State	RUN (Green)	ALM (Red)	SOC LEDs (Green)
	ON	☐	☐	☐ ☐ ☐ ☐ ☐ ☐
	OFF	☐	☐	☐ ☐ ☐ ☐ ☐ ☐
	FLASHING	☐	☐	☐ ☐ ☐ ☐ ☐ ☐
OTHER SUPPORTING INFORMATION				
14. Please attach all necessary photos or videos of, for instance, battery SN label, LEDs status and front panel of whole system (battery view history logs if available) as evidence to support the claim.				
Service Manager:				
Date: Click or tap to enter a date.				