

Knowledge Base

KB83 – Pylontech LV-Battery Charging using A-BF Charger

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1. Introduction

This document describes the charging procedure required for Pylontech Low Voltage batteries that are completely discharged or are suspected of being faulty. The procedure requires a specialized battery charger which may be borrowed from Redback on an 'as' required basis.

If the battery is found to be defective a claim will need to be submitted to Pylontech, including a **completed Pylontech Warranty Card** or the **Battery Fault Information Form** at the end of this document.

For further information refer to the PylonTech User Manual or contact: customersupport@redbacktech.com

2. Warnings



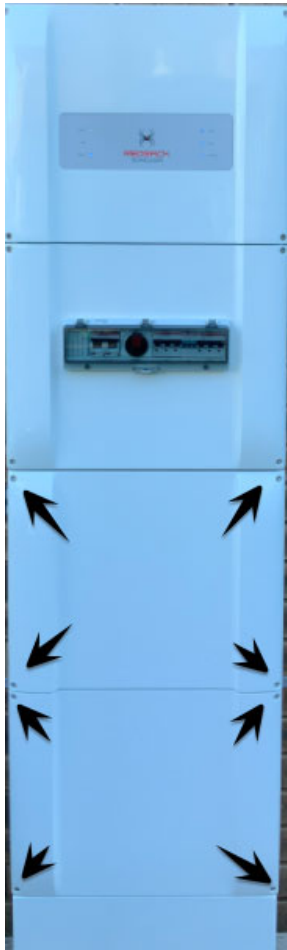
Precautions are required using the HV Charger to charge batteries.

- Charge rate is adjustable however charge at lowest current rate possible to prevent overcharge and swelling
- Check the voltage of each battery before you start charging.
- When battery voltage reaches 48v, stop charging and start charging the next battery.
- Reinstall Batteries to system and complete charging from PV to top end balance the batteries

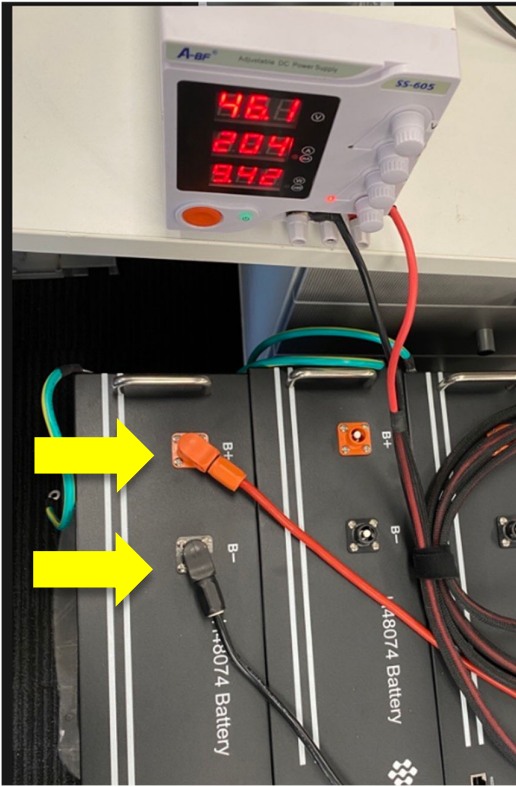
3. Audience

This document is for use by Redback Installers or Redback Technical staff. It is not for homeowner use.

4. Charging procedure

Step	Procedure	Image/Comment
1.	The batteries will need to be removed from site and charged at installer workshop due to the length of time the batteries may take to charge. The charge time per battery will vary depending on the initial state of charge and may take several hours. Ensure the Battery breaker in the inverter and the battery breaker on the cabinet are switched to the off position and confirm the bypass switch is in the up position. Remove the battery cabinet covers and take a photo or short video of the way all the cables are connected for ease of use during re-installation. *****IMPORTANT NOTES***** Note: ONLY ONE BATTERY CAN BE CHARGED AT A TIME Do NOT charge the battery at any higher rate as this can cause the battery cells to become swollen and will upset the balance process. As Pylontech can download operational data from each battery. They will be able to determine if the batteries have been overcharged and could elect to void warranty if a battery is deemed to be faulty. Do NOT leave the battery on the charge overnight.	

Step	Procedure	Image/Comment
2.	Once you have the batteries back at your workshop Make sure the battery charger is set at the correct voltage and current as per the steps below BEFORE connecting to the battery. Charge Rate should be as below , Charge voltage 48.0 Volts charge current 400 milliamps (0.4 amps). Charge battery until voltage reaches 48v as indicated on the charger screen. The charging may take several hours to reach 48v on each battery. But once it reaches 48V, stop and move to next battery. The idea is for each battery to be same before adding back to inverter to complete charging. The batteries should complete top end balancing when connected back to inverter.	Button functionality  The diagram shows the Pylontech A-BF Linear DC power supply SS-605. It features a digital display showing 30.0V, 0.00A, and 0.00W. Controls include a power switch, output ON/OFF button, and various adjustment knobs for voltage and current. Outputs include negative, positive, and grounding terminals.
3.	Setting the Charger – First use Make sure power cables are not yet connected to the battery Switch the charger on by pressing the power switch. (Large Orange button) Turn BOTH top voltage knobs anti clockwise to zero Turn BOTH lower current knobs anti clockwise to zero Tune the voltage to desired setting and “fine” tune as necessary Tune the current to desired setting and “fine” tune as necessary In this example it is set at 48.0 V / 5.0 amps For first use set as 400 milliamps ENSURE VOLTAGE DOES NOT EXCEED 48V You can only charge one battery at a time, advised by Pylontech, as they are not BMS controlled.	 The photo shows the Pylontech A-BF Linear DC power supply SS-605 with the digital display set to 48.0V, 5.00A, and 0.00W. The power switch is visible at the bottom left.

Step	Procedure	Image/Comment
4.	Connect the positive and negative cables from the charger to the battery. Step 1 charge voltage set 48.0v charge current 400mA Charge the battery until the voltage on display reaches 48v as indicated on the charger screen. The battery will charge at a constant current until it reaches 48v and balances. Press the small output on/off button (green) to stop the charger and Repeat Steps for additional batteries.	
5.	When all batteries reach 48v reinstall onto system to charge from PV. Redback will need to be contacted at this stage to complete the charging process.	

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.

6. Revisions

Version	Detail	Author	Date
1.0	First published version	Karen Jones Carruthers	8/12/2022
1.1	Changed filename to A-BF Charger	Adam Shipway	13/09/2024
Document owner	Karen Jones Carruthers		
Contributors	Karen Jones Carruthers		
Approved by	Adrian Knack		
Filename	Pylontech LV-Battery Charging using HV-Charger V1.0		
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