Pylontech LV-Hub Quick & Simple Installation guide

For Use with US3000C / US5000B Battery Systems

USING CAN Communication

This installation guide will explain the best and most efficient setup for your Inverter / Battery Storage System that utilises the Pylontech Rack Mount Battery Series along with the Pylontech LV Hub.

The LV-Hub is compatible with the following Pylontech $LiFePO_4$ batteries - US2000, US2000C, US3000, US3000C, UP5000, US5000 and US5000B ensuring reliable communication and seamless integration in multi-string configurations.

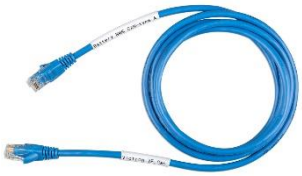
This Manual will focus on the **US3000C** and **US5000B** models only, located in the Master Instruments Catalogue.

Contents

1. Quick Introduction

The Pylontech LV-Hub supports up to **6 battery strings**, each capable of grouping up to **16 rack-mounted LiFePO$_4$ batteries** from the Pylontech UP and US series, allowing a **maximum of 96 batteries** to be integrated into a single energy storage system.

2. Cables Required

Type of Linking Cable	Purpose of the Cable
RJ45 Linking Cable (3m) w/ Silver Tag 	• 1 required between each Master Battery across system. • This accessory cable is from UP/US Cable Kit.
RJ45 Communication Cable (B3m) with Blue Tag 	• 1 required for Initial Master Battery to LV Hub. • 1 required for LV Hub to Inverter Supporting CAN Communication. • An example of this cable in use is with the NOARK EX9N Hybrid range. • This accessory cable is from UP/US Cable Kit. **YOU CANNOT USE THIS CABLE FOR CONNECTING TO VICTRON SETUP.**
RJ45 Linking Cable (0.21m) 	• One required between each battery down in vertical stack. • This accessory cable comes with the US & UP Series Pylontech Battery.
RJ45 Linking Cable (0.10 m) 	• One required to connect Port 0 to CAN-IN port on the LV Hub. • This accessory cable comes with the Pylontech LV-Hub.
VE.CAN to CAN-BUS Type A Cable 1.8M 	• 1 required for LV Hub to Victron Cerbo GX System which in turn interfaces with Victron Multiplus, SmartSolar and Orion DC Chargers. • This cable is bought separately from the Master Instruments Website. **This is mandatory when installing a Dual Pylontech-Victron System.**

3.Operation

3.1 Protocol

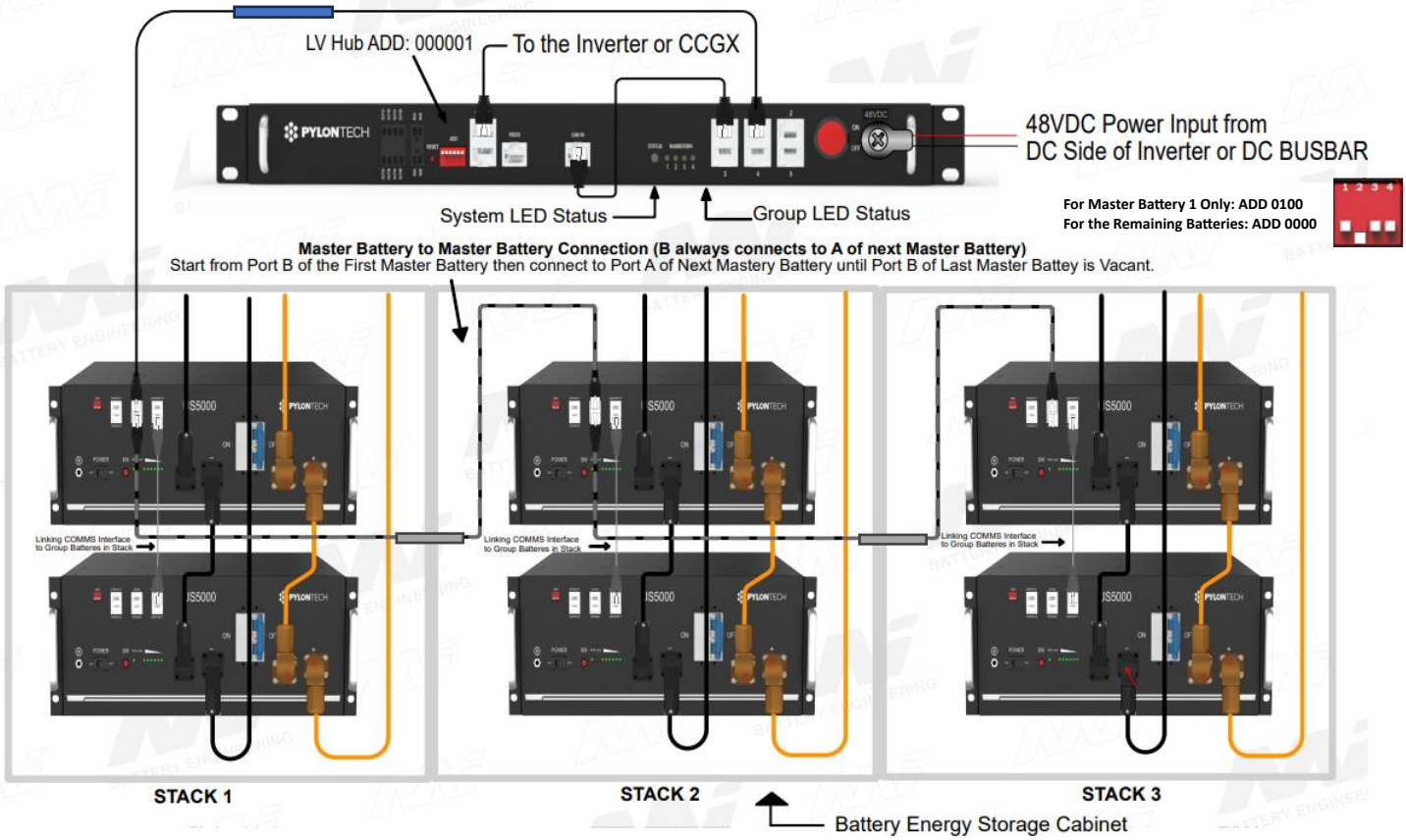
• CAN • RS485

3.2 Cables Connections for US3000C/US5000B under CANBUS

3.2.1 Quick & Simple Connection Setup - Check cable tags: Silver / Blue / No tag on Cables in Below Diagram

This is a connection setup using the Pylontech LV Hub with US series batteries (US3000C or US5000B) from the Master Instruments catalogue. In this configuration, we are using 3 groups of batteries, each consisting of 2 stacked units, giving a total capacity of 6 × 4. 8 kWh = 28.8kWh**.**

3.2.2 Step-By-Step Procedure



1. **Be aware that the LV Hub can manage up to 6 battery groups**, with **16 batteries max per group**, using CAN.
2. **Connect the master battery (Stack 1, Port A)** to **Port 1 on the LV Hub** (recommended for easier system management).
    - You must use the linking cable with blue-tag for this.

3. **Use the short linking cable (0.10m)** provided in the LV Hub box **to connect the LV Hub's CAN IN port to Port 0.**
    - This enables communication with **Victron Cerbo GX** or **NOARK Inverter** (via CAN).
    - Check Section 2 (Cable Required) for correct cabling for the CAN-OUT Port to external CAN-BUS devices.
4. **Make sure the CAN OUT** from LV Hub goes to the correct **COM port** on your external device (Cerbo GX, Inverter, etc).
5. For **multi-stack systems**, use **silver-tagged COMMS cable** to link master batteries horizontally.
    - Connect **Port B** of one master battery to **Port A** of the next in a **B → A → B → A** daisy-chain.
    - Repeat this pattern until the **last master battery**, whose **Port B remains unconnected**.
    - You will need **(n – 1) silver-tagged cables**, where **n** is the number of master batteries.
6. For **vertical battery stacks**, use a **0.21m linking COMMS cable (included with the US Series Pylontech Batteries** to connect **Link Port 1** of the upper battery to **Link Port 0** of the battery directly below it. This ensures batteries in the stack talk to each other.
    - You need **(n – 1)** cables per stack (n = number of batteries in a stack).
    - Continue this linking sequence until Link Port 1 on the bottom battery is left unconnected.
7. Example Shown Above:
    - If you have 3 stacks of 2 batteries each:
      → 1 COMMS cable w/no tag to link batteries vertically per stack.
      → 2 COMMS cable w/silver tag to link master batteries horizontally across the system.
8. **Set all battery DIP switches to 0000** before powering on.
9. **Power ON batteries** using their switches. Then press the **red button** on each unit.
    - For **US5000B models**, also turn on the **MCBs**.
10. The **main master battery** from the first stack will **beep 3 times** once initialised.

11. Set DIP switches:
    - **Only Master Battery 1 (Stack 1)**: 0100
    - **LV Hub**: 000001
    - **All remaining batteries**: 0000
12. **Connect LV Hub to stable 48V DC power**, then press the red button to power it on.
    - **Status Green LED = ON**
    - You should see **Group LEDs** showing active stacks and hear a **beep**.
    - This table below explains what the LED indications mean for Status & Group.

Status				
			●	Only the HUB is turned ON, it lights once.
			●	No battery connected or at least one group is off line. When battery group is reduced it will alarm (in red), but when battery group is added in it will no alarm.
1	2	3	4	Green flash; connected battery groups number
●				1 group
	●			2 groups
●	●			3 groups
		●		4 groups
●		●		5 groups
	●	●		6 groups
●	●	●		7 groups

13. On your **monitoring system** (Victron Cerbo GX, NOARK inverter, etc.), check that the number of **detected batteries matches** your setup.