



# Pylon Technologies Co., Ltd.

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## Communication HUB

## LV-HUB Product Manual

Information Version: 2.1

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This manual introduces LV-Hub from Pylontech. LV-Hub is a communication hub for US2000/US3000 Lithium-Ion Phosphate Battery storage system. Please read this manual before you install the battery and follow the instruction carefully during the installation process.

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## 1. Introduction

LV-Hub is the CAN/RS485 communication hub for multiple 48V battery groups in parallel connection.

**Fit Description:** US2000 / US3000 / Phantom-SA / US1800.


## 2. LV-Hub-A



No.	Item	Parameter
1	Operating voltage range	48 Vdc
2	Communication	CAN/RS485
3	System Consumption	2W
4	Size	442*150*44mm
5	Protection degree	IP20
6	Weight	3.0kg
7	Operation Life	15 years
8	Working temperature	-20~60°C
9	Storage temperature	-40~80°C
10	CAN (Max 25 groups)	Baud rate: 500K; terminal resistance: 0/120Ω
11	RS485 (Max 5 groups)	Baud rate:9600/115200

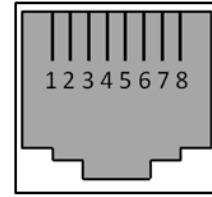
## 2.1 Ports:



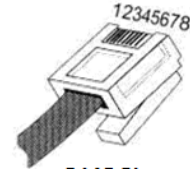
No.	Part	Silk-screen	Function
1	Dry signal		Function reserve
2	Reset Switch Button	RESET	Press 2 seconds and then system will restart.
3	Dip switch	1 - 6	Dip 6: Up: CAN OUT terminal resistance 120Ω Down: 0Ω
4	RJ45	CAN OUT	CAN output port (only upper port is for using);
5	RJ45	RS232	Debug
6	RJ45	CAN IN	Connect to port 0 (only for CAN communication);
7	LED	STATUS	Please see 2.3.
8	LED	NUMBER/BIN 1-4	Shows linked in battery group quantity with binary code. Please see 2.3.
9~16	RJ45	0; 1; 2; 3; 4; 5; 6; 7.	Only uses 0~5. Please see 3.2.
17	Switch	ON/OFF	Turns the LV-HUB ON/OFF.
18	48VDC input	48V DC	Power supply: take 48VDC power from outside (from AC/DC adaptor). 

## 2.2 Definition of RJ45 Port Pin

No.	CAN OUT	RS485	RS232 Pin
1	---	---	---
2	GND	---	---
3	---	---	TX
4	CANH	---	---
5	CANL	---	---
6	---	GND	RX
7	---	RS485A	---
8	---	RS485B	GND



RJ45 Port



RJ45 Plug

## 2.3 LED Indicators Instructions

Status				<ul style="list-style-type: none"> <li>● Only the HUB is turned ON, it lights once.</li> <li>● No battery connected or at least one group is off line.</li> <li>● When battery group is reduced it will alarm (in red), but when battery group is added in it will no alarm.</li> </ul>
1	2	3	4	Green flash; connected battery groups number
●				1 group
	●			2 groups
●	●			3 groups
		●		4 groups
●		●		5 groups
	●	●		6 groups
●	●	●		7 groups

## 3. Operation

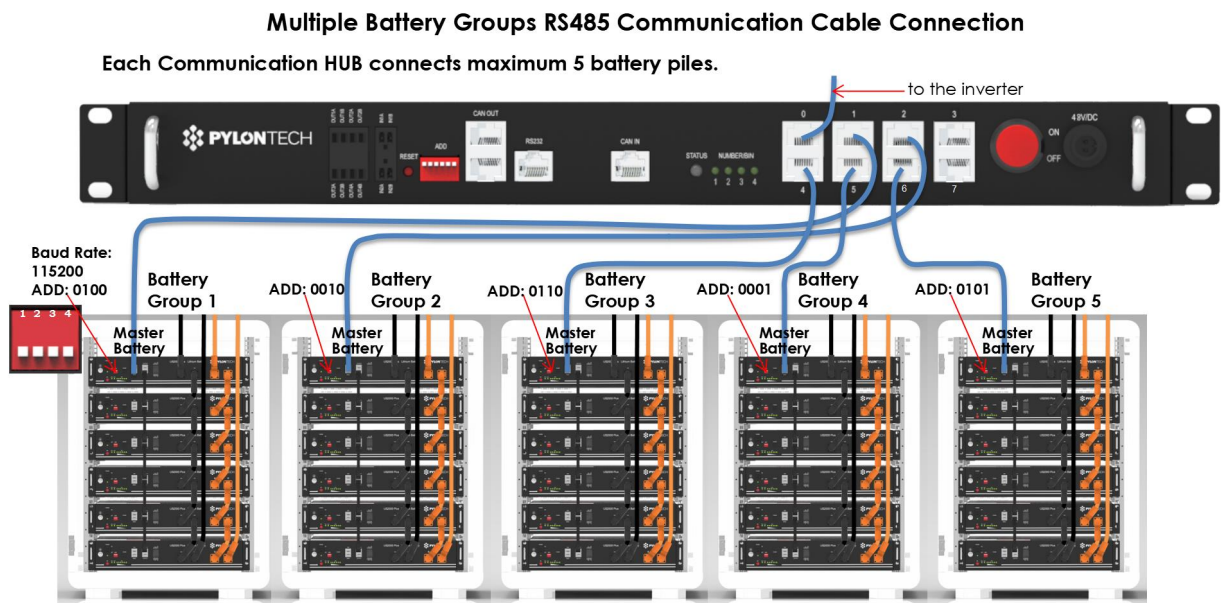
### 3.1 Protocol

**CAN:** *CAN-Bus-protocol-PYLON-low-voltage-V1.2-20180408* or above.

**RS485:** *RS485-protocol-pylon-low-voltage-V3.1-20180408* or above.

### 3.2 Cables Connection

#### 3.2.1 Cables Connection for RS485



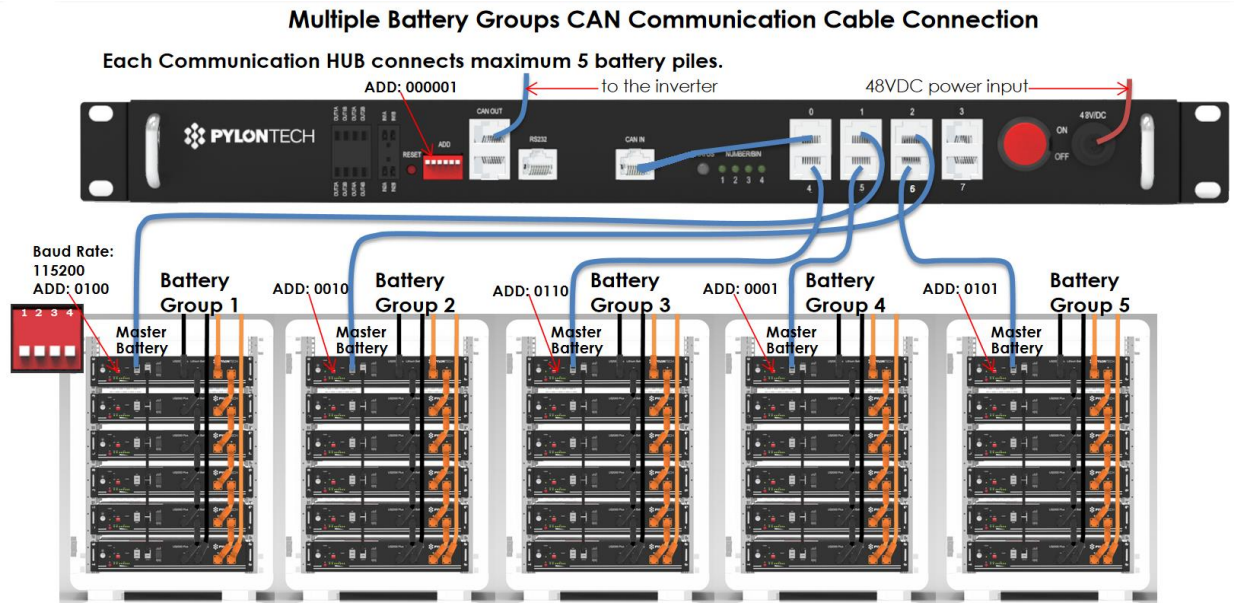
Each battery pile can configure maximum 8pcs US2000 or US3000.

- Each battery group can configure maximum 8pcs US2000B Plus or 8pcs US3000.
- LV-Hub-A configures maximum 5 group batteries.
- RS485 communication needn't additional cable and power just a simple hub is enough.



- When each battery group's current is  $>120A$ , this battery group must configure 2 pair external power cables like the diagram.
- The details of ADD Switch setting also can see the menu of battery.

### 3.2.2 Cables Connection for CAN (single HUB)

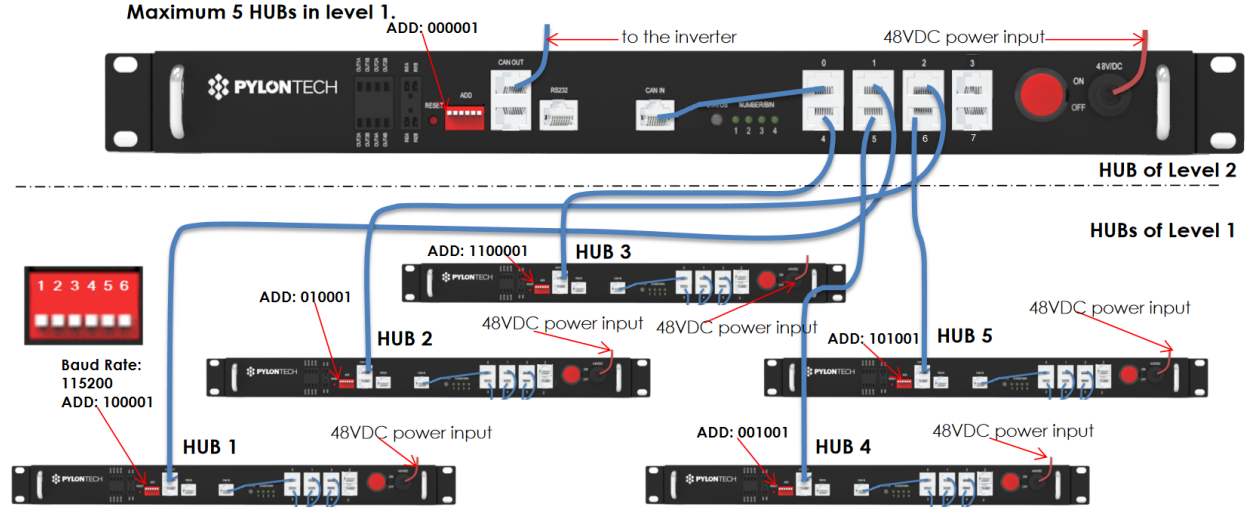


Each battery pile can configure maximum 8pcs US2000 or US3000.

- Each battery group can configure maximum 8pcs US2000B Plus or 8pcs US3000.
- LV-Hub-A configures maximum 5 group batteries.
- When each battery group's current is  $>120A$ , this battery group must configure 2 pair external power cables like the diagram.
- The details of ADD Switch setting also can see the menu of battery.

## 3.2.3 Cables Connection for CAN (multi HUB)

### Multiple HUBs CAN Communication Cable Connection



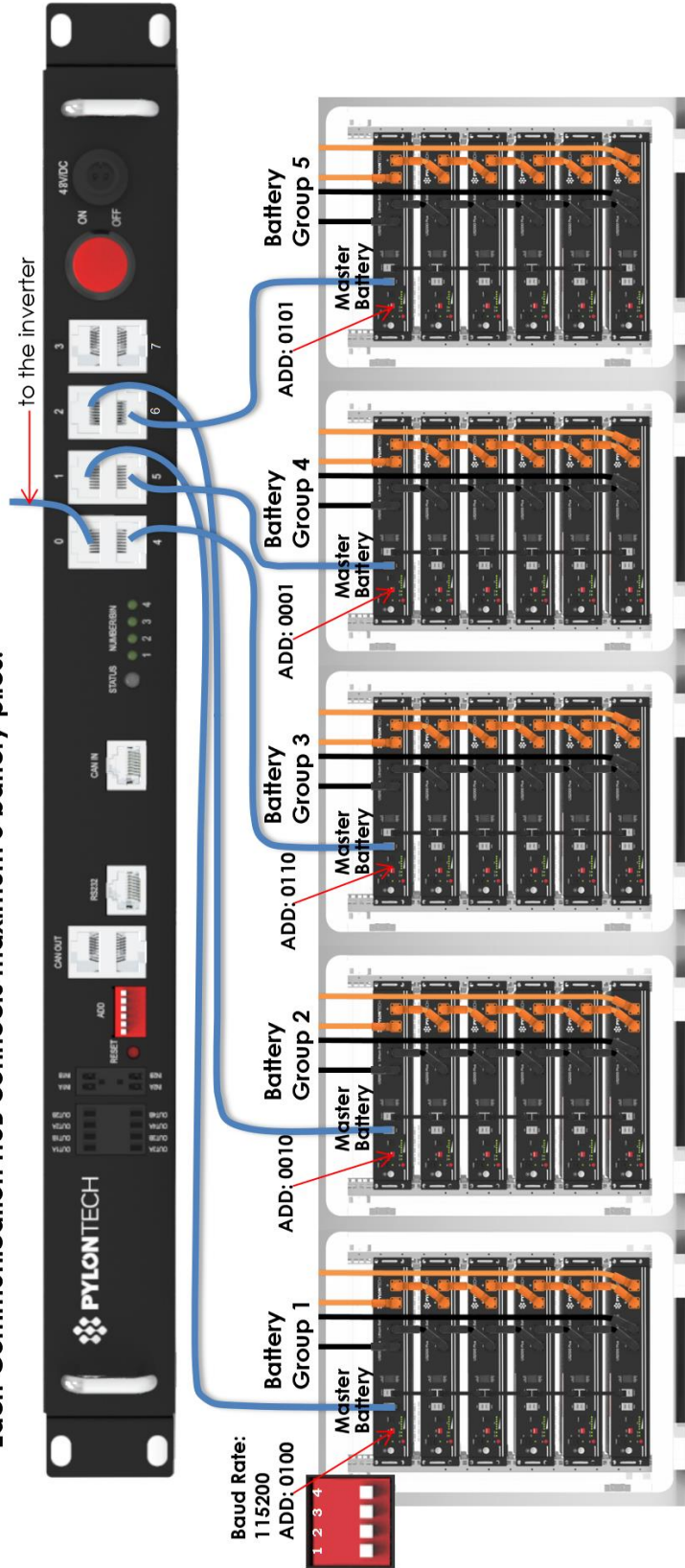
Battery bank can configure maximum 200pcs US2000 or US3000.



## Annex 1: Cables Connection for RS485

### Multiple Battery Groups RS485 Communication Cable Connection

Each Communication HUB connects maximum 5 battery piles.



Each battery pile can configure maximum 8pcs US2000 or US3000.

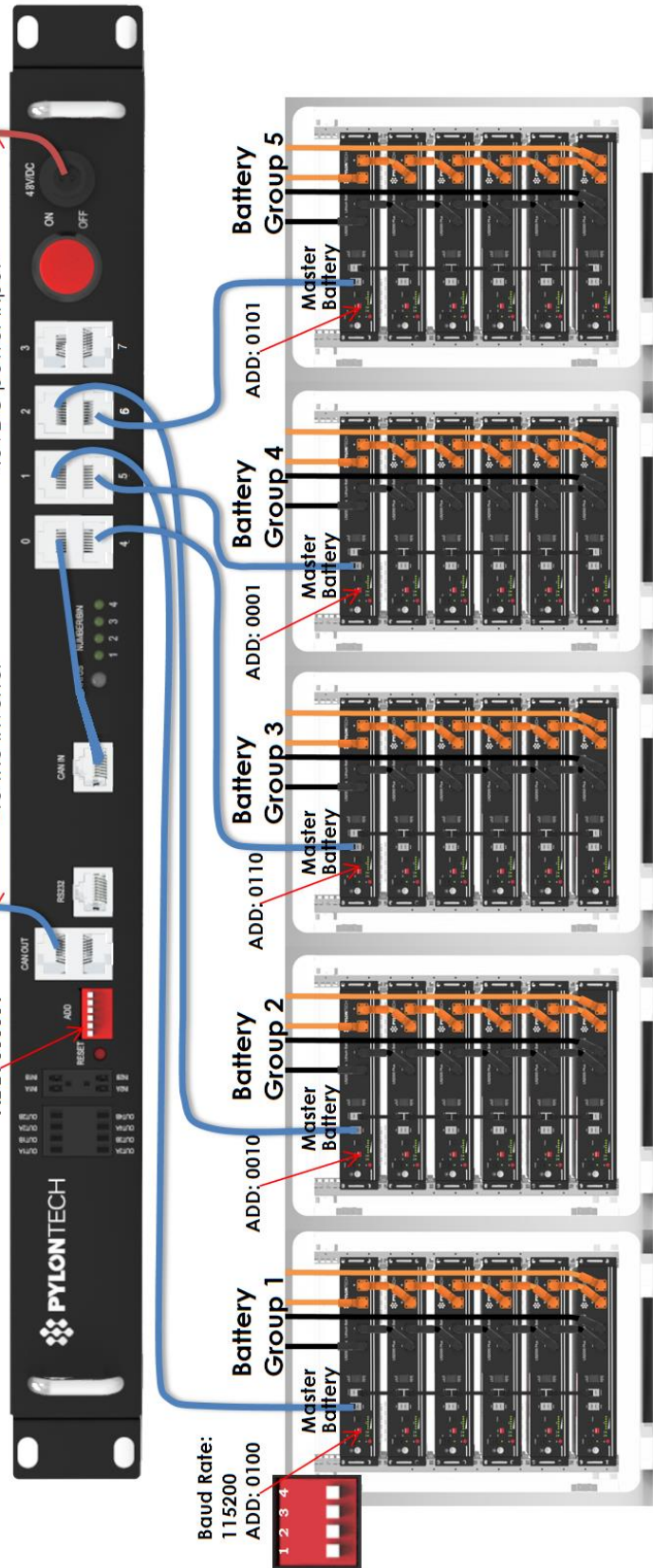
## Annex 2: Cables Connection for CAN

### Multiple Battery Groups CAN Communication Cable Connection

Each Communication HUB connects maximum 5 battery piles.

ADD: 000001 → to the inverter

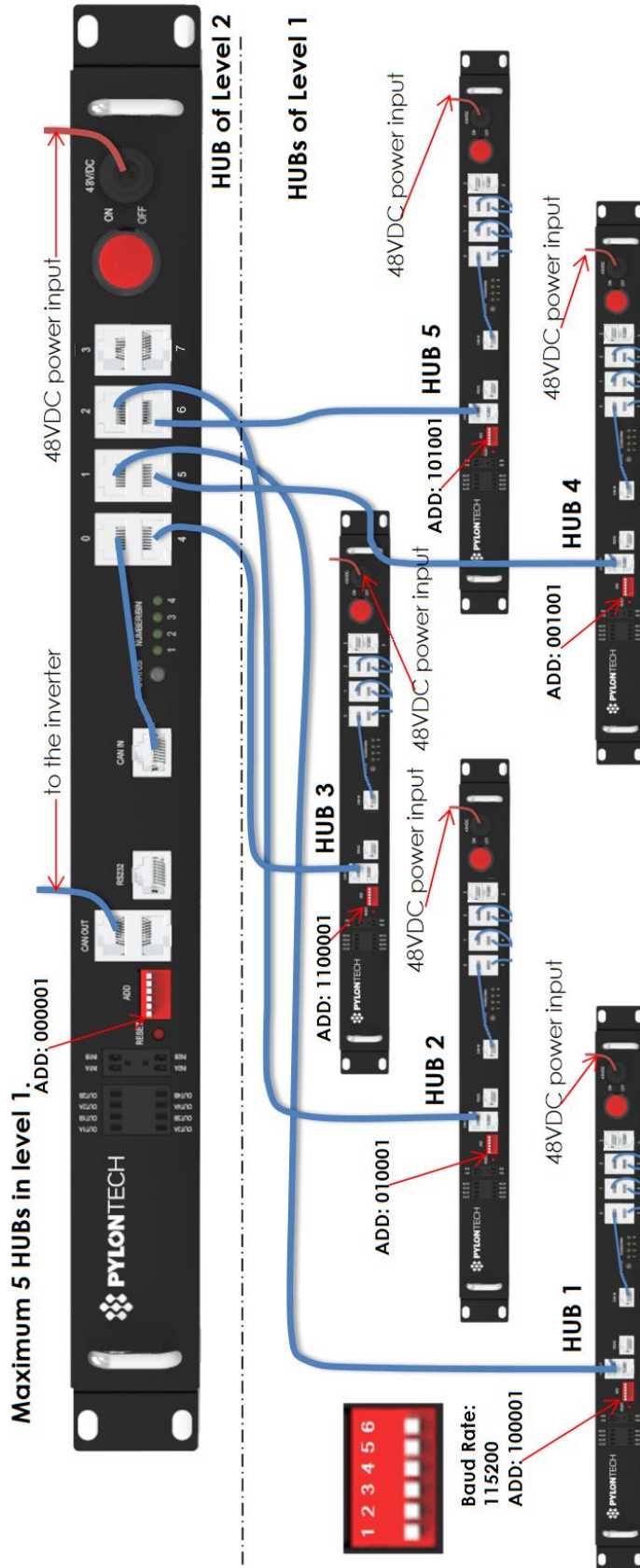
48VDC power input →



Each battery pile can configure maximum 8pcs US2000 or US3000.

## Annex 3: Cables Connection for CAN (multi HUB)

### Multiple HUBs CAN Communication Cable Connection



Battery bank can configure maximum 200pcs US2000 or US3000.



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