Communication HUB

LV-HUB Product Manual

Information Version: 2.1

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

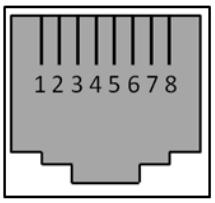
No.	Item	Parameter
1	Operating voltage range	48 Vdc
2	Communication	CAN/RS485
3	System Consumption	2W
4	Size	442*150*44mm
5	Protection degree	IP20
6	Weight	3.0kg
7	Operation Life	15 years
8	Working temperature	-20~60℃
9	Storage temperature	-40~80℃
10	CAN (Max 25 groups)	Baud rate: 500K; terminal resistance: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

3. Operation

3.1 Protocol

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

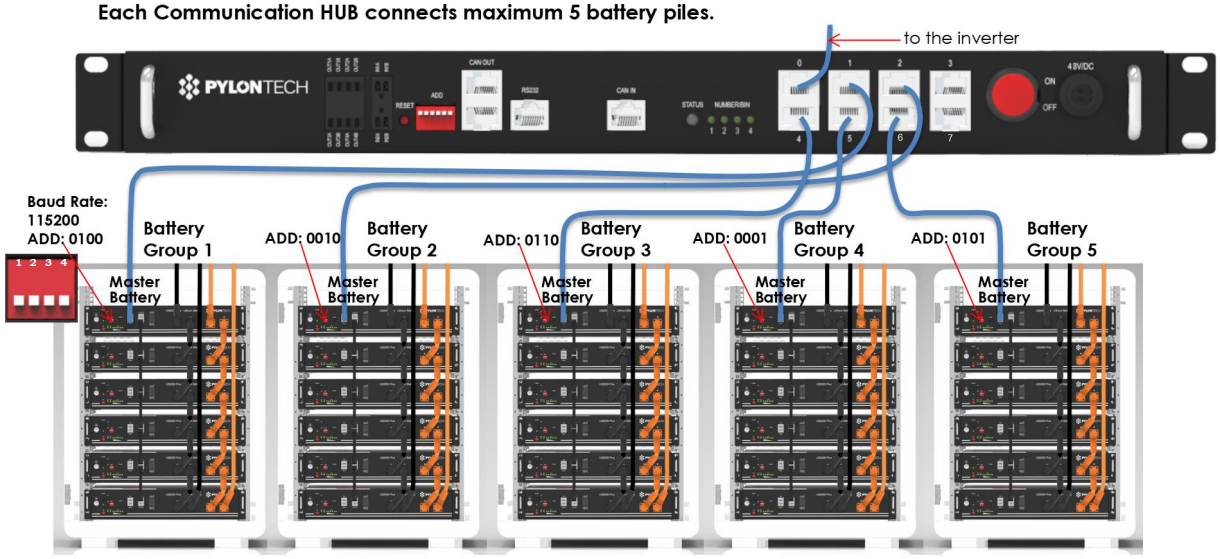
RS485: *RS485-protocol-pylon-low-voltage-V3.1-20180408* or above.

3.2 Cables Connection

3.2.1 Cables Connection for RS485

Multiple Battery Groups RS485 Communication Cable Connection

Each Communication HUB connects maximum 5 battery piles.

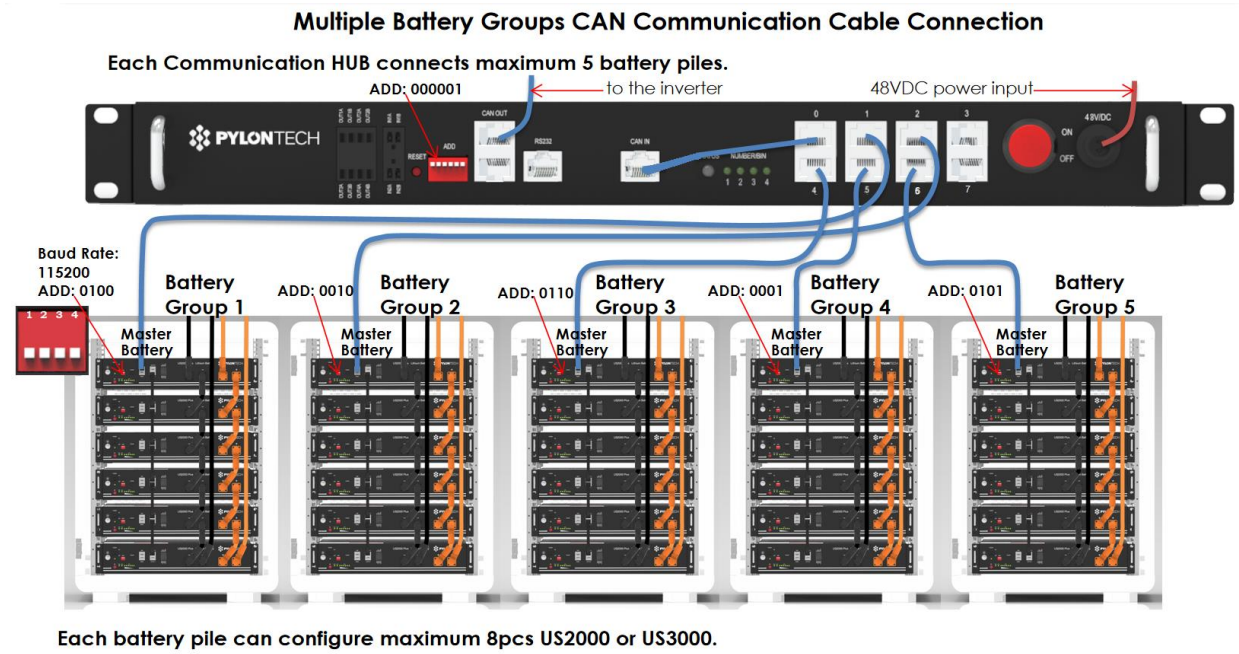


Each battery pile can configure maximum 8pcs US2000 or US3000.

- 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.

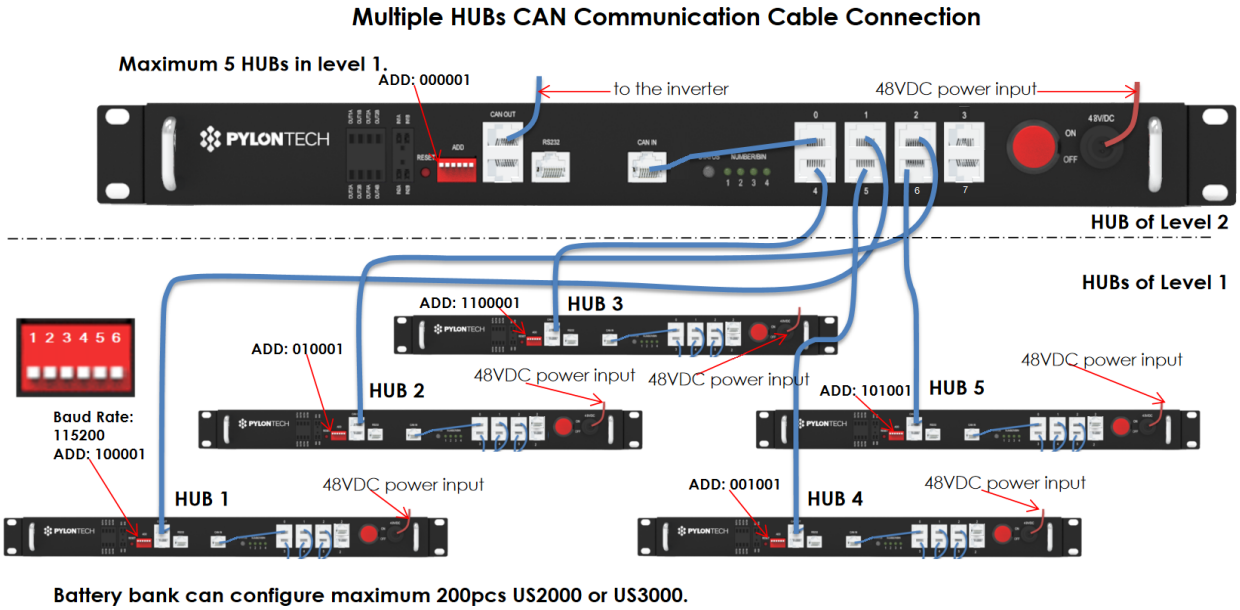
- When each battery group's current is >120A, this battery group must configure 2 pair external power cables like the diagram.
- The details of ADD Switch setting also can see the menu of battery.

3.2.2 Cables Connection for CAN (single HUB)



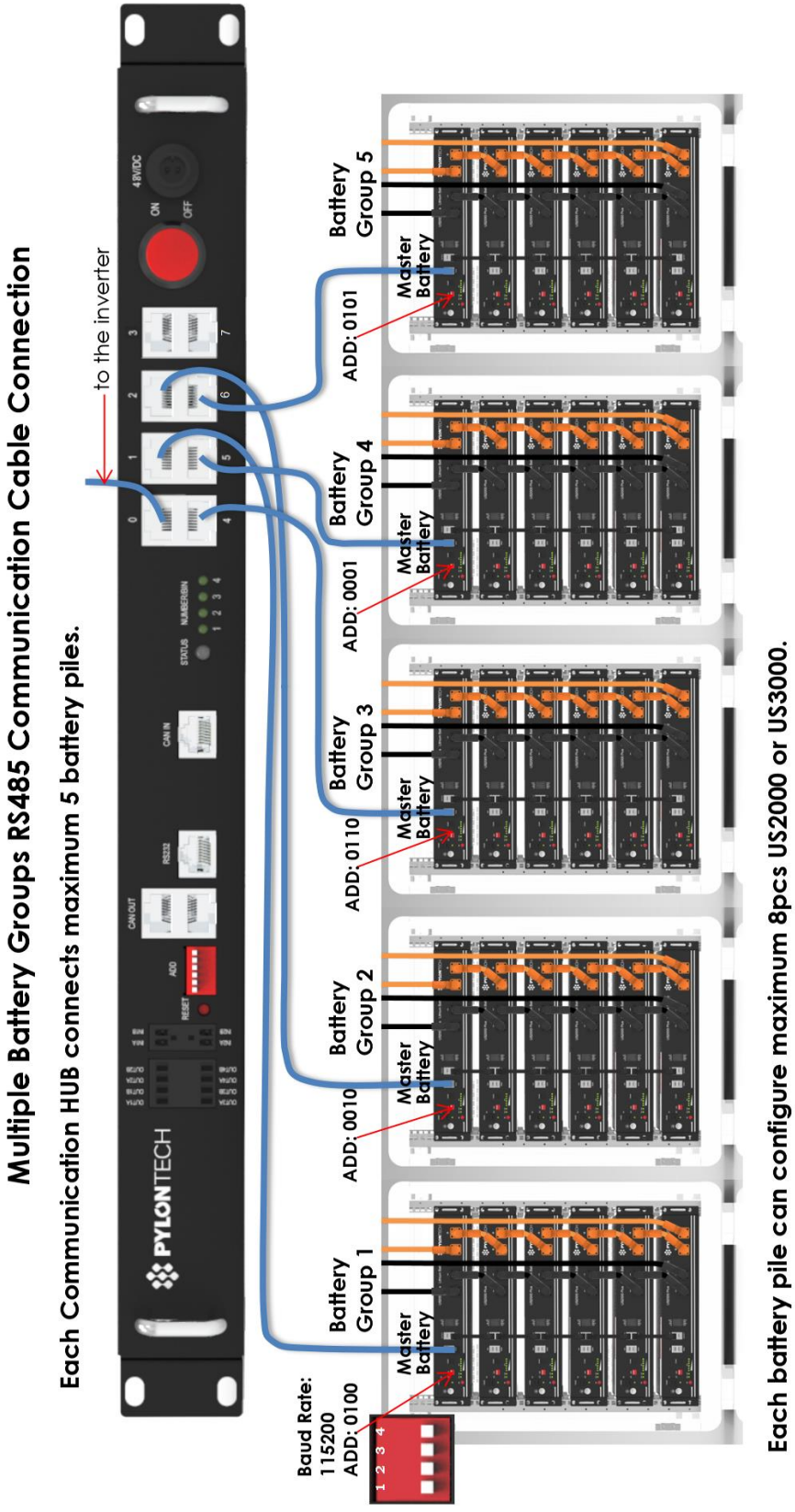
- Each battery group can configure maximum 8pcs US2000B Plus or 8pcs US3000.
- LV-Hub-A configures maximum 5 group batteries.
- When each battery group's current is >120A, this battery group must configure 2 pair external power cables like the diagram.
- The details of ADD Switch setting also can see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

3.2.3 Cables Connection for CAN (multi HUB)

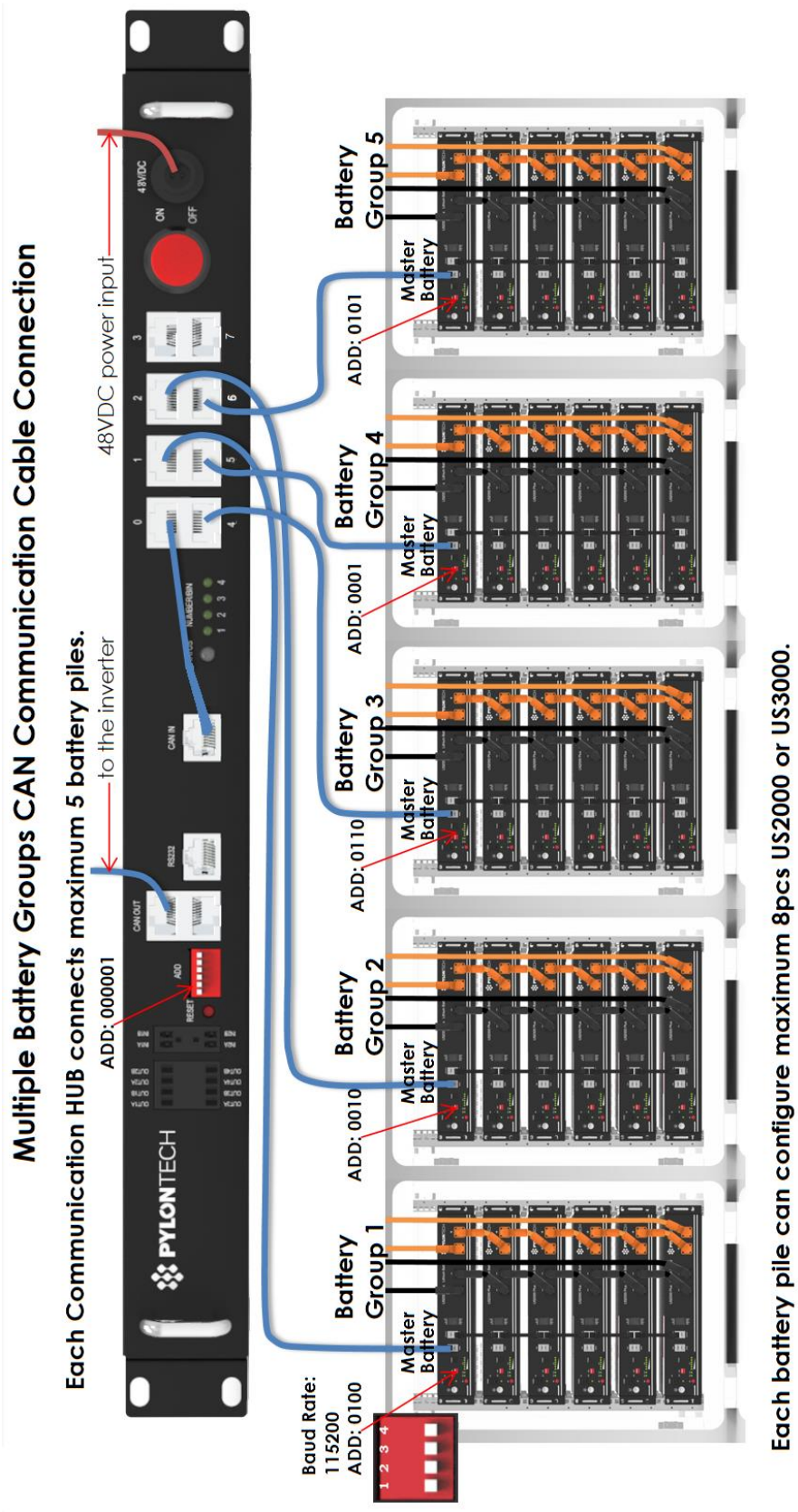
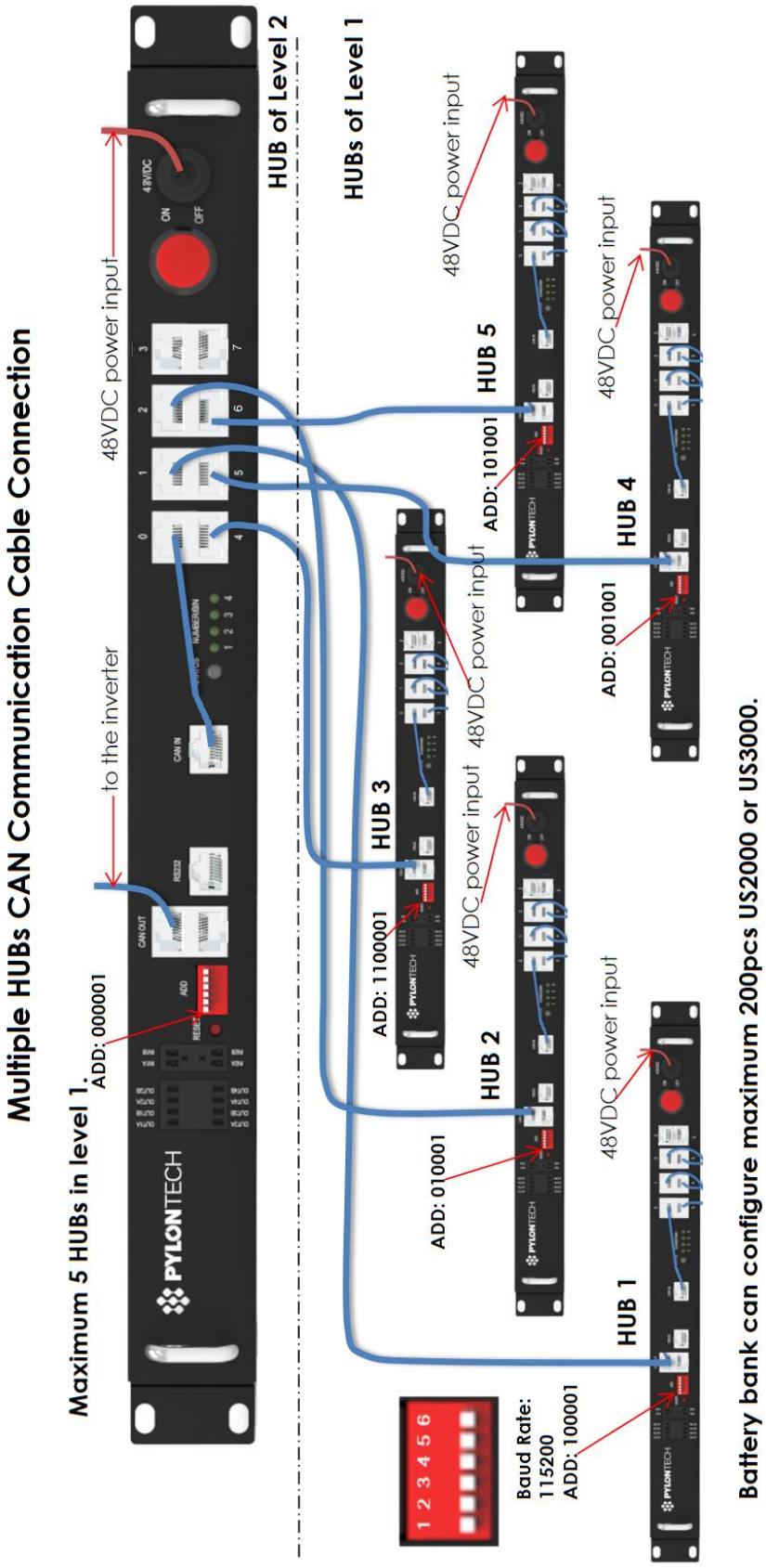


Battery bank can configure maximum 200pcs US2000 or US3000.

Annex 1: Cables Connection for RS485



Annex 2: Cables Connection for CAN



Annex 3: Cables Connection for CAN (multi HUB)