



PYTES 1uHUB Quick Guide

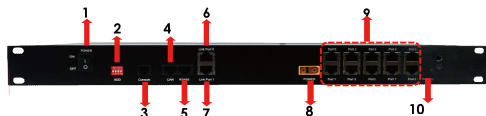


1. Introduction

PYTES 1uHub is to achieve the function of parallel communication between multiple clusters of batteries and inverter.

It matches with batteries from PYTES, not with batteries of other brands.

2. Panel Schematic

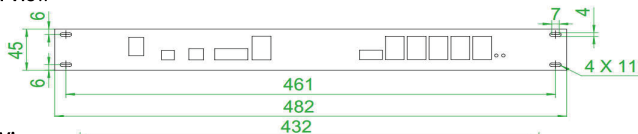


No.	Name	Label	Function
1	Power Button	Power ON/OFF	Turn on/off 1uHub
2	DIP Switch	Add	Communication protocol address with PCS. 4 DIPs
3	RS232 Port	Console	Local Communication to PC. RS232 Protocol. RJ45 Port
4	CAN Port	CAN	Output Battery information. CAN Protocol. RJ45 Port
5	RS485 Port	RS485	Output Battery information. RS485 Protocol. RJ45 Port
6	Cascade Communication Port	Link Port 0	Link Port 0: to Connect to Port 0 of Interface
7	Cascade Communication Port	Link Port 1	Link Port 1: Reserved
8	48V DC IN	Power	XT90 Port
9	Interface	Port0 ~ Port9	RJ45 Port Port0: Reserved to Connect to Link Port 0 Port1~Port9: Communication with Master Battery of each Clusters.
10	Indicator Lights	RUN/Alarm	Green indicator: it will flash when power on Red indicator: it will be on when system alarm

3. Technical Specs

Nominated Operation Voltage	:48Vdc
Communication	:CAN/RS485/RS232
Consumption Power	:2W
Protection Rate	:IP20
Dimensions(W*D*H)	:482*250*45mm / 19*9.84*1.77"
Weight	:2.2kg / 4.85lbs
Operation Temperature	: -20°C~60°C / -4°F~140°F

Front View



Top View



4. Packing List

No.	Item	Quantity	Remarks
1	1uHub	1pc	
2	Screws	4pcs	fix 1uHub to Rack
3	Screw Nuts	4pcs	fix 1uHub to Rack
4	Power Cable	1pc	XT90/SC6-8 Lug
5	220mm Communication Cable	1pc	CAT6. Connect Port 0 to Link Port 0
6	1500mm Communication Cable	1pc	CAT6. Pin 3-4(Labeled BATT),4-5(Labeled HUB) Hub to Inverter
7	RJ45 Connector	2pcs	Spare pieces
8	User Manual	1pc	

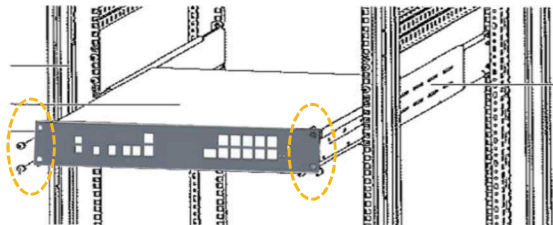
5. Installation

Before installation, check whether **all** the items are complete according to Packing List. Make sure that the inverter, battery and HUB are powered off.

5.1 Rack installation

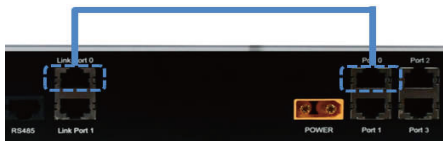
Place the 1uHub on the rack guide rail and push the 1uHub as far as it will go.

Fix the 1uHub to rack by 4 screws and screws nuts provided in the package.



5.2 Cable Connection

1. Connect Port 0 to Link Port 0 on 1uHub with the 220mm Communication Cable.



2. Connect the batteries into a group/Cluster *.

Link one battery Port 0 to the other battery Port 1 one by one.

Leave the Port 0 of master battery empty.



E-Box 48100R A & E-Box 48100R B
up to 8pcs parallel each group

E-Box 48100R C MCU1.0
up to 8pcs parallel each group
Firmware 1.5.30.C8.T6 & previous versions

E-Box 48100R C MCU2.0
up to 16pcs parallel each group



V5° / V5° α

*Supports to up to 16pcs parallel each Group.

3. Define battery groups sequence by setting DIP switch of each master battery.

DIP for Battery Group Address			
Group 1		Group 5	
Group 2		Group 6	
Group 3		Group 7	
Group 4		Group 8	

* White Bar indicates the DIP position

If the DIP switch of your battery is 4-digit, please only set the first 4 DIPs and the firmware upgrade needs to be performed

4. Connect Master Batteries from each group to TuHub with standard pin communication cables. The cable goes from CAN port of each master battery to Port 1~Port 9 on TuHub.



to Master Battery of each Group

5. According to inverter communication protocol, connect inverter to TuHub, CAN or RS485 port with custom pin communication cable.

*a 3-4/4-5 cable is included in TuHub package.

BATT Labeled end to TuHub, HUB labeled end to Inverter.



to Inverter

Pin Number	TuHub RS485	TuHub CAN	Deye Sol-Ark	Voltronic	Alswei Hoymiles Senergy	Afore	SMA	Livoltek
1	RS485B		RS485B					H
2			RS485A					L
3	RS485A	H	GND	RS485B				
4		L	H		H	H	H	
5			L	RS485A	L	L	L	
6	GND		GND					
7			RS485A					
8			RS485B					
Pin Number	Luxpower	SRNE	Growatt	Goodwe	Victron	MUST	Solis	Megarevo
1	RS485B							
2	RS485A							
3								
4	H		H	H			H	H
5	L		L	L			L	L
6						L		
7		RS485A			H	H		
8		RS485B			L			

* TuHub to Inverter Communication Pin Numbers.

6. Set DIP Switch on 1uHub according to inverter brand.

DIP on 1uHub - PCS Communication Protocol Address					
Victron		Deye Solark		Afore	
Voltronc Phocos Epever		Studer		SRNE INHENERGY	
Goodwe		Aiswei (Solplanet)		SMA	
Growatt		Luxpower		Megarevo	
Solis		MUST			

* White Bar indicates the DIP position

7. Connect power cable XT90 terminal to 1uHub DC input, the other end SC6-8 to main power with a 48V transformer.

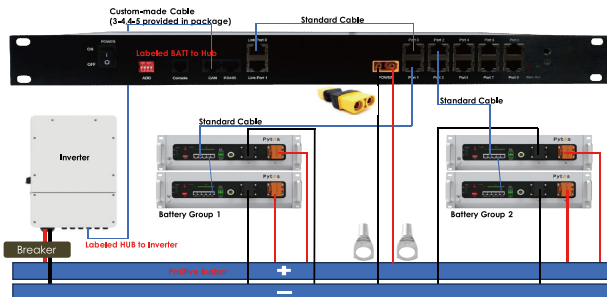
1uHub can also be powered by your 48V battery by connecting the SC6-8 end of the power cable to battery external interface.

6. Operation

Switch on the batteries, 1uHub and inverter.

The green indicator light will be on, which indicates 1uHub is running normally.

7. System Diagram



Warranty Card

Name	
Installation Date	
Installation Address	
Battery Model	
Inverter Model	
Email	



Shanghai PYTES Energy Co.,Ltd

Address: No. 3492 Jinqian Road, Fengxian DST, Shanghai China 201406

Tel: +86 21 57475852

Website: www.pytesgroup.com

Email: ess_support@pytesgroup.com