



# FOX ESS LV54 High-Performance Scalable Low-Voltage Battery Storage Modules Installation Guide

[Home](#) » [FOX-ESS](#) » FOX ESS LV54 High-Performance Scalable Low-Voltage Battery Storage Modules Installation Guide 

FOX ESS LV54 High-Performance Scalable Low-Voltage  
Battery Storage Modules Installation Guide

## LV54 quick Installation guide

### Contents

- 1 1. Tools Required
- 2 2. Packing List
- 3 3. Battery Terminals
- 4 4. Installation Steps
- 5 5. Wiring Steps
- 6 6. System Start Up
- 7 Documents / Resources
  - 7.1 References
- 8 Related Posts

## 1. Tools Required

The following tools will be required to install the battery.



Screw driver



Crimping modular



Safety shoes



Safety gloves



Safety goggles



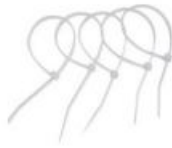
Plier



Spanner



Multimeter



Ribbon



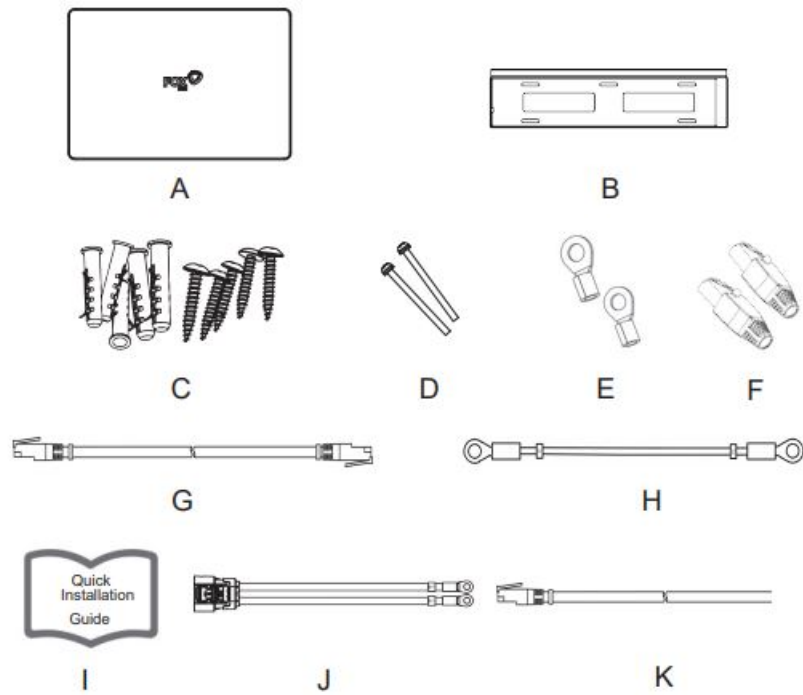
Electric Drill



Track Level Bar

## 2. Packing List

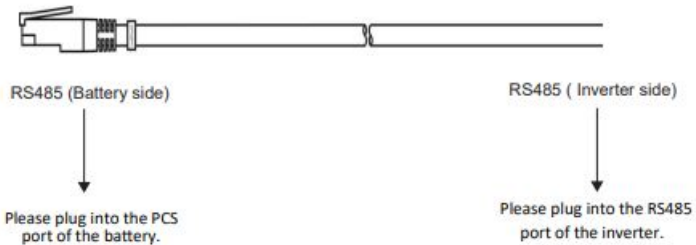
Please check if following items are including with the package:



Object	Quantity	Description	
A	1	Battery	In the Battery Package
B	1	Bracket	
C	5+5	Expansion Tubes& Expansion Screws	
D	4	Set screw	
E	2	Earth Terminal	
F	2	Plug (to short pin1 and pin6)	
G	1	Communication Network Cable(3m)	
H	1	Ground Wire(3m)	
I	1	Quick Installation Guide	
J	1	Power Line (3m)	
K	1+1	Communication Network Cable (3m) (Inverter to Battery) (RS485&CAN)	

K: In order to match different inverters, two kinds of communication cables (RS485 & CAN) are provided with the package. The battery side plug is already crimped, the inverter side please refer to inverter's manual for the pin definition.

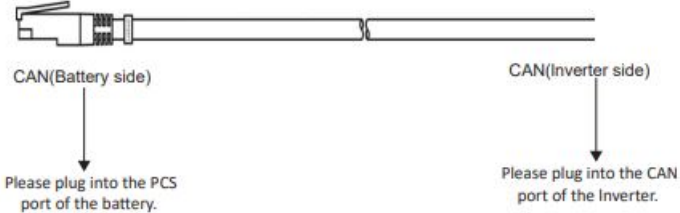
K-1



RS485 (Battery side) Pin definition:

Pin	1	2	3	4	5	6	7	8
Definition	NC	NC	RS485-B	NC	NC	NC	NC	RS485-A

K-2



CAN (Battery side) Pin definition:

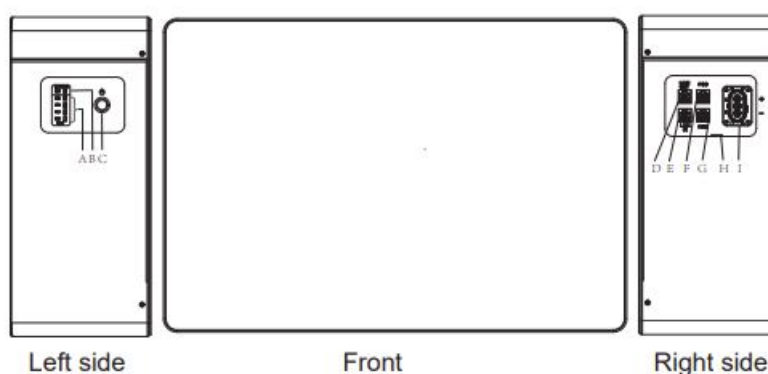
Pin	1	2	3	4	5	6	7	8
Definition	NC	NC	NC	CANL	CANH	NC	NC	NC

Note: The definition of the inverter side end plug needs to be crimped in accordance with the inverter's manual.

Note:

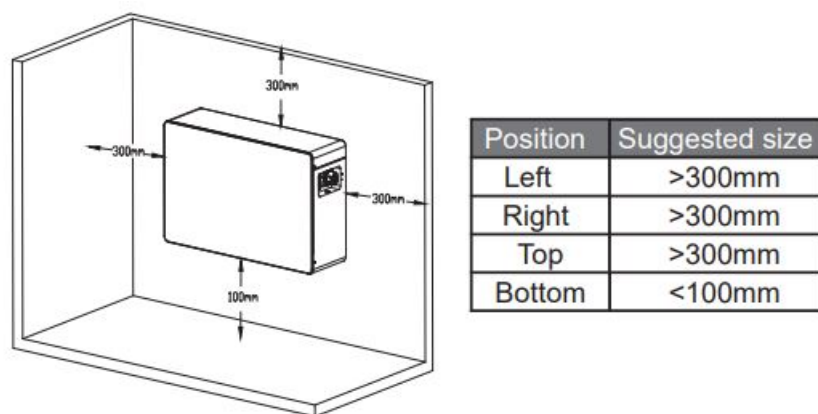
1. Use only the parts included with the battery pack to ensure proper installation. If anything is damaged or missing, contact manufacturer or your distributor.
2. Select a communication cable (CAN/RS485) based on the actual inverter interface type

### 3. Battery Terminals



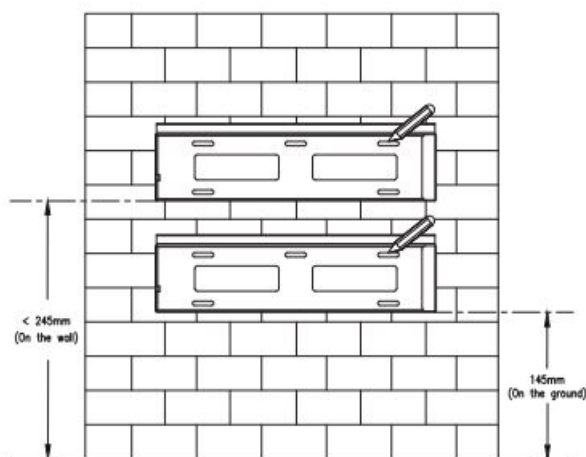
No.	Description	No.	Description
A	SOC LED	F	PCS_1
B	STATUS LED	G	PCS_2
C	POWER SWITCH	H	Ground screw
D	LINK OUT	I	POWER
E	LINK IN		

## 4. Installation Steps



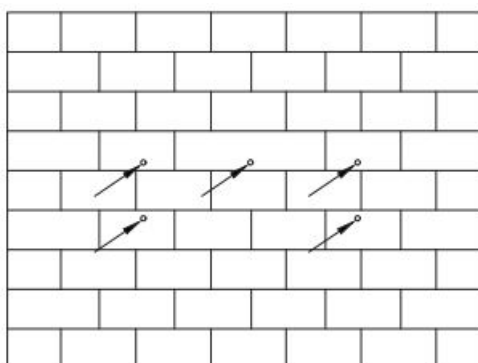
### STEP-1:

Fix the pegboard on the wall and mark the position of the five holes with a marker.



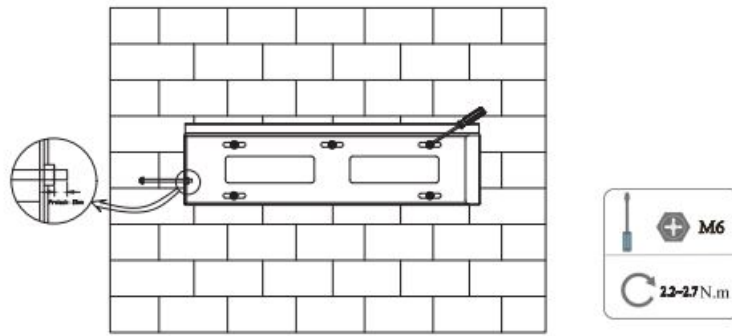
### STEP-2:

Drill holes with electric drill, make sure the holes are deep enough (at least 50mm) for installation, and then tighten the expansion tubes.



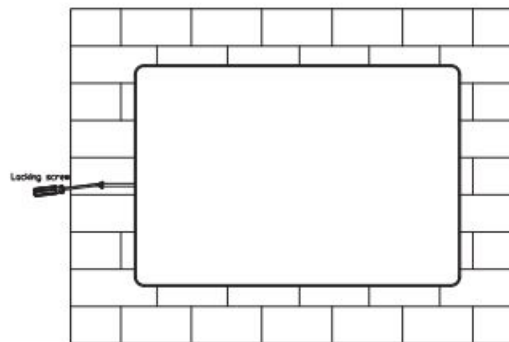
### STEP-3:

Install the expansion tube in the hole and fix the pegboard with self-tapping screws, then pre-lock the M5\*70 screws on both sides (pre-lock depth <15mm)



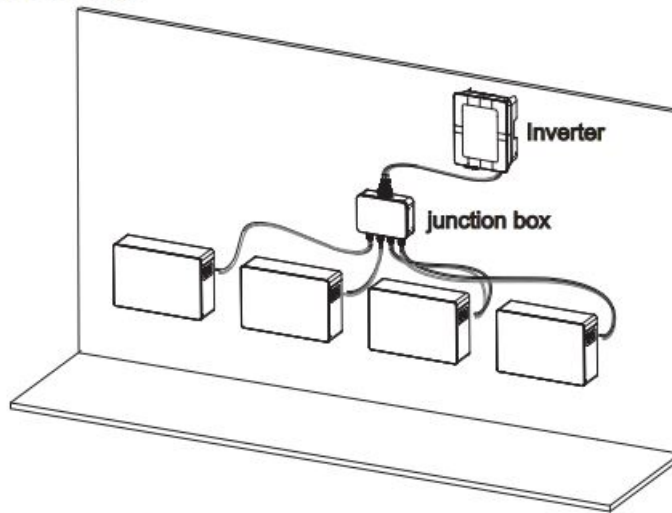
#### STEP-4:

Hang the battery over the bracket, move the battery close to it, lower the battery, and make sure the 2 mounting bars on the back are fixed well with the 2 grooves on the bracket.

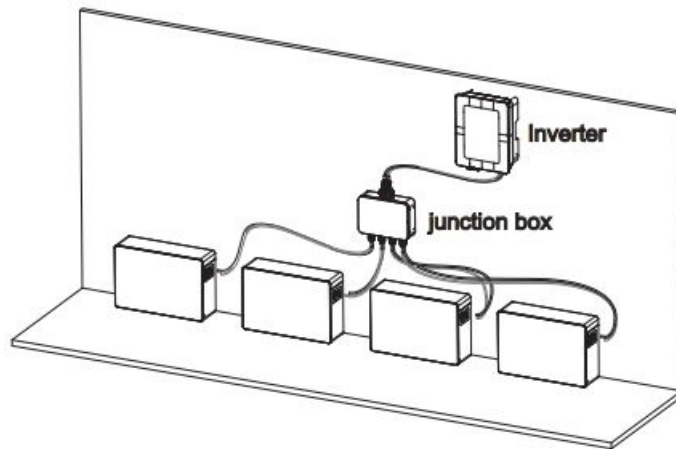


## 5. Wiring Steps

### Wall mounting:

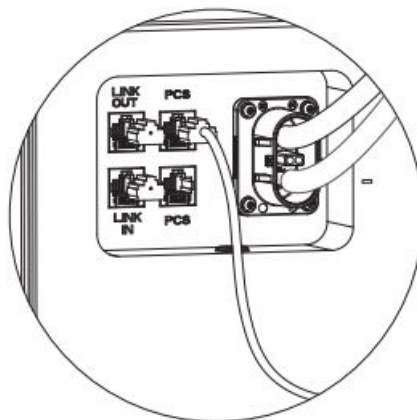


### Standing mounting:



### Stand-alone mode

STEP-1: After installing the fixed battery, measure the voltage of the positive and negative terminals of the battery with a multimeter to determine whether there is a voltage output, and if so, replace the battery.



STEP-2: Plug the 2 plugs (to short pin1 and pin6) into the parallel communication interface LINK IN and LINK OUT of the battery respectively.

### STEP-3:

Connect the BAT+ and BAT- of the battery to the corresponding positive and negative terminals of the inverter; connect one of the communication interface PCS of the battery to the interface of the communication between the inverter and the battery; connect the ground wire.

### Parallel mode

STEP-1: After installing the fixed battery, measure the voltage of the positive and negative terminals of the battery with a Multimeter to determine whether there is a voltage output, and if so, replace the battery.

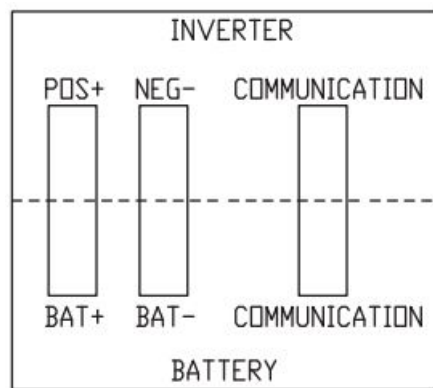
STEP-2: To connect the parallel communication cable between the batteries, the LINK IN of the Master battery, i.e. the first machine, needs to be plugged in with a plug (to short pin1 and pin6), the LINK OUT interface uses a parallel communication cable (pin to pin network cable) to the LINK IN interface of the next battery, and so on, and the last LINK OUT interface is plugged in with a plug (to short pin1 and pin6).

Note: Parallel mode supports up to 4 batteries in parallel.

#### STEP-3:

Connect the BAT+ and BAT- of the battery to the input of the junction box (not included in the package), and then connect the output of the junction box to the inverter; connect one of the communication interface PCS of the Master battery to the interface of the communication between the inverter and the battery. Connect the ground wire of each battery.

Note: the length of the power line needs to be the same when in parallel mode



#### Lead-acid function

In the above two modes, when operating according to the corresponding steps, the communication harness between the battery and the inverter is not connected, and the battery enters the lead-acid function by default; Both stand-alone mode and parallel mode have lead-acid function.

When the battery uses the lead-acid function, the matching inverter needs to be set to lead-acid mode as well, and the following parameters need to be set on the inverter:

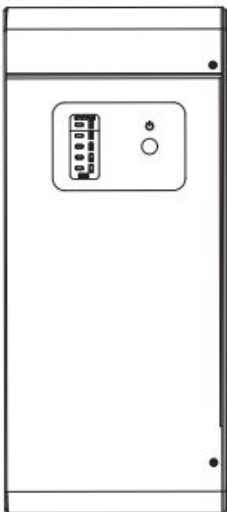
Battery capacity (Ah)	104
Charging voltage (V)	57.0
Charging protection voltage (V)	57.6
Float voltage (V)	53.0
Maximum charging current (A)	50
Discharge cut-off voltage (V)	51.0
Maximum discharge current (A)	100
Forced charging voltage (V)	50.0
Battery internal resistance (mΩ)	15

Note: Under the lead-acid function, the battery does not communicate with the inverter, and the inverter will not display the SOC information of the battery.

## 6. System Start Up



Press and hold the Power button for more than 2s, the battery light will flash once, then the LED will light up in turn, and when the top most running light flashes fast for about 10 times, it means that the system parallel programming is successful and the battery is running normally.



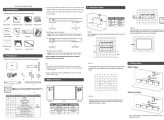
Please scan the QR Code and follow the steps below to download our latest mul-language User Manual/Quick Installaon Guide: Scan the QR Code Select your Language Choose to download User Manual or Quick Installing Guide Download



[https://www.foxesscloud.com/document/fox/doc.html?  
series=lv52\\_2](https://www.foxesscloud.com/document/fox/doc.html?series=lv52_2)

Note: Different model of batteries cannot be mixed in one system, any further questions related to the battery versions please contact our technical team at [service@fox-ess.com](mailto:service@fox-ess.com).

**Documents / Resources**

	<p><a href="#">FOX ESS LV54 High-Performance Scalable Low-Voltage Battery Storage Modules</a> [pdf] Installation Guide</p> <p>LV54 High-Performance Scalable Low-Voltage Battery Storage Modules, LV54, High-Performance Scalable Low-Voltage Battery Storage Modules, Scalable Low-Voltage Battery Storage Modules, Low-Voltage Battery Storage Modules, Battery Storage Modules, Storage Modules, Modules</p>
---	---

## References

-  [ESS | K-12 Education Staffing & Management Solution](#)

Manuals+.