EN

QUICK INSTALLATION GUIDE

SMILE-T10-HV Parallel System

01 Overview of Parallel System for Inverter Hi10

User will lose all power supply if single inverter Hi10 fails in UPS mode. To avoid this problem, we have designed a parallel system for inverter Hi10 to improve customer's experience.

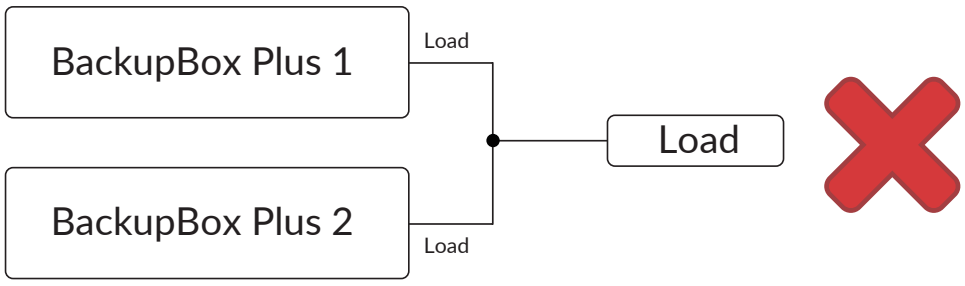
Solution 1: two inverters Hi10 and one BackupBox PLUS, up to 12 batteries (up to 6 batteries for each inverter Hi10). In UPS mode, single-phase output of each Hi10 can carry a maximum load of 3.33kW,and when the host inverter fails or the energy of its batteries runs out, the system will switch to the follow inverter to continue to supply power to the loads.

Solution 2: two inverters Hi10 and two BackupBox PLUS, up to 12 batteries (up to 6 batteries for each inverter Hi10). In UPS mode, the whole system can support a maximum load of 20kW, and single-phase output of each Hi10 can carry a maximum load of 3.33kW. Solution 2 has a stronger load capacity compared to solution 1, but its configuration and wiring are more complex. The loads need to be evenly connected to two BackupBox PLUS, and the original load wiring may need to be changed.

By the way, the parallel system only supports AlphaESS second-genneration EV Charger, specifically the SMILE-G3-EVCT11/S.

WARNING

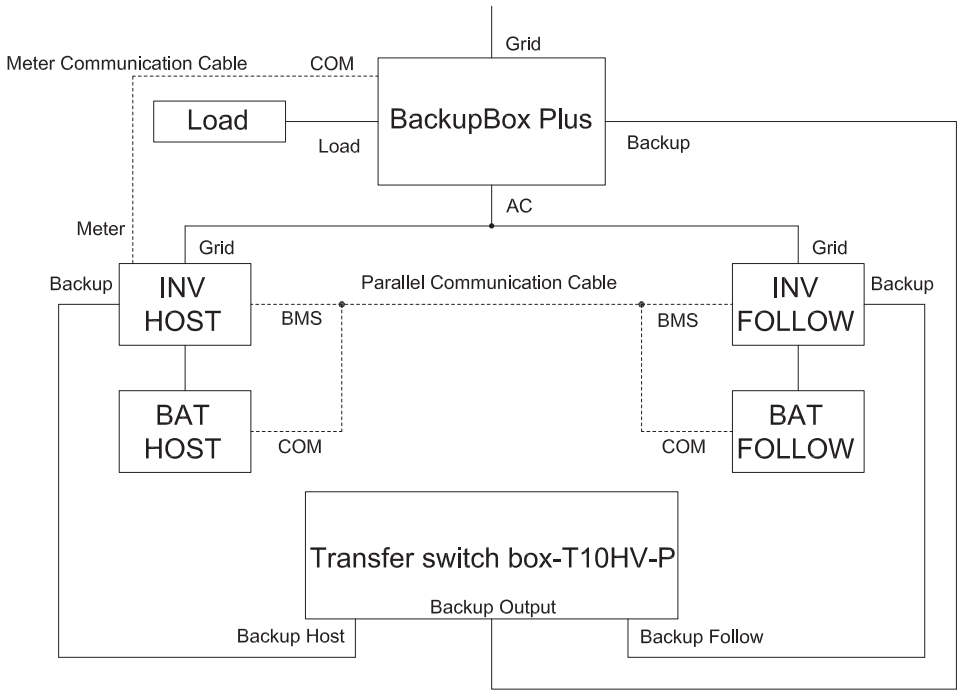
In solution2, the load terminals of two BackupBox PLUS must not be short circuited.



02 Parallel Wiring Schematic Diagram

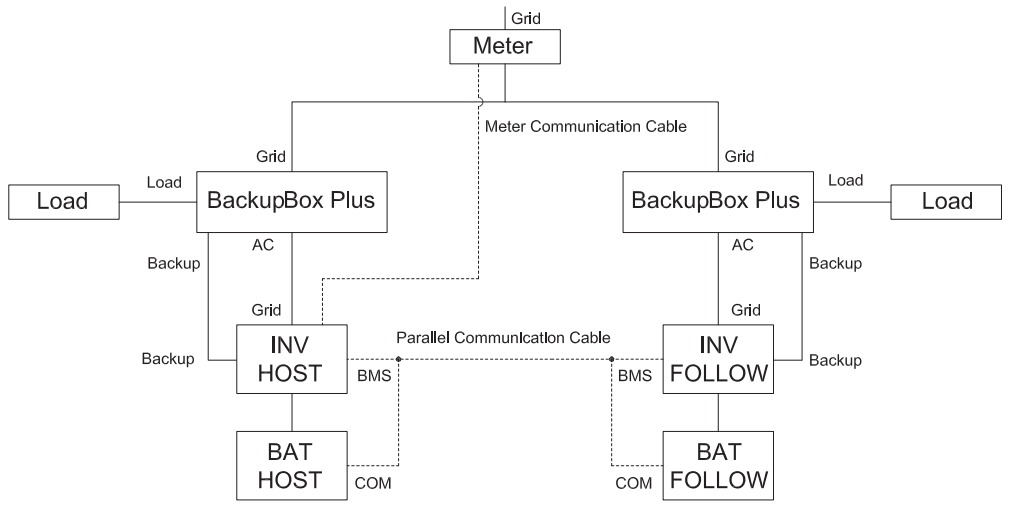
2.1 Solution 1- Parallel System with Transfer switch box-T10HV-P

Please refer to SMILE-T10-HV System Wiring Diagram with Transfer switch box-T10HV-P for detail wiring.



2.2 Solution 2 - Parallel System with two BackupBox Plus

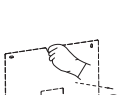
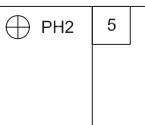
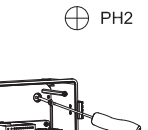
Please refer to SMILE-T10-HV System Wiring Diagram with two BackupBox Plus for detail wiring.



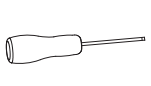
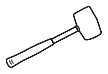
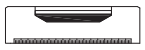
03 Introduction of Parallel Structure

3.1 Solution 1 - Parallel System with Transfer switch box-T10HV-P

3.1.1 Scope Of Delivery

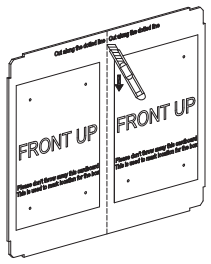
						
Transfer switch box-T10HV-P (x1)	Wall Anchor (x4)	M4 Terminal (For PE) (x5)	LT60012 Terminal (For Terminal Block) (x10)	DBV 5.5-14 Terminal (For Backup Output) (x6)	Parallel Communication Cable (x1)	Locating Cardboard (x2)

3.1.2 Installation Tools

 PH2x150mm	 Hammer Drill Ø10	 Rubber Hammer	 Marker	 Spirit Level	Knife

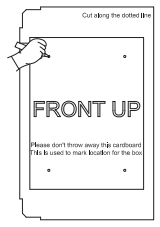
3.1.3 Mouting

1



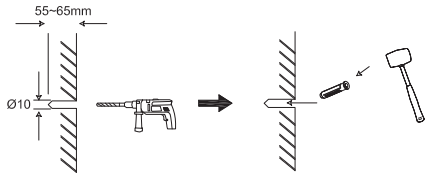
Split in two along the dotted line of the locating cardboard

2



Put the locating cardboard（any half that's been cut off） on the wall horizontally and mark the drilling locations(4x).

3

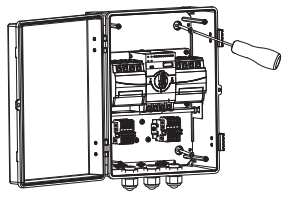


Drill holes with the hammer drill and fit the expansion tube into the hole

4 PH2

① Open the cover of the box.
② Loosen the screws holding the protective plate.
③ Take out the protective plate.

5 PH2



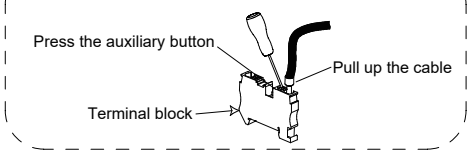
Fit the box on the wall with expansion screws

3.1.4 Electrical Connection

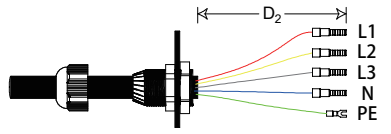
a.Make sure that the protective plate is removed.
b.Unscrew the swivel nuts of the cable glands.

Code	Torque Value	Tool	Position	Quantity
1	1.6Nm	PH2x150mm	PE	3
2	2.0Nm	PH2x150mm	Backup Output	4
3	1.6Nm	PH2x150mm	The cable cover	4
4	Insert the terminal of the cable directly into the terminal block.		Backup Host Backup Follow	8

Note:Method of removing the cable(Code 4)



Code	Description	Value
A,C	Cable external diameter	Ø13~Ø18mm
L1,L2,L3,N,PE	Copper conductor cross-section	6mm²
D_1	Sheath stripping length	100~120mm



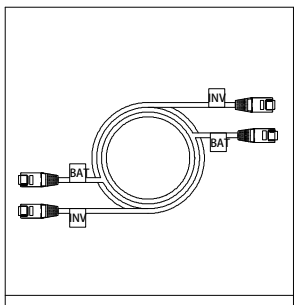
Code	Description	Value
B	Cable external diameter	Ø13~Ø18mm
L1,L2,L3,N,PE	Copper conductor cross-section	6mm²
D_2	Sheath stripping length	150~170mm

Prepare the cables and crimp the contacts.
If using fine stranded wire,fit L1,L2.L3,N and PE with bootlace ferrules.

① Route the cables into the housing through the cable glands.
② Connect the three PE cable first.
③ Insert the eight conductors into the connnection terminals accordingly.
④ Tighten the four screws on the connection terminals using the specified torque and tools.
⑤ Secure the protective plate and the cover of the box.

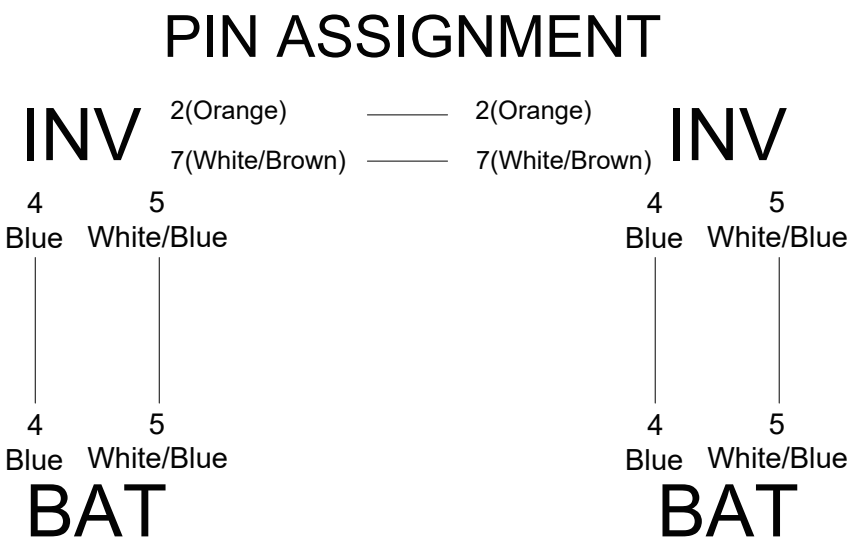
3.2 Solution 2 - Parallel System with two BackupBox Plus

3.2.1 Scope Of Delivery



Parallel Communication Cable (x1)

3.3 The pin assignment of Parallel Communication Cable (Communication cable of solution 1 is the same as solution 2)



04 Setting Steps for Inverter Hi10 Operation in Parallel

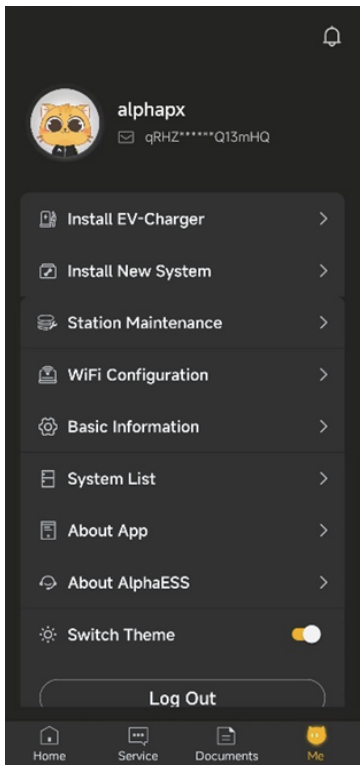
Setting Steps for Inverter Hi10 Operation in Parallel

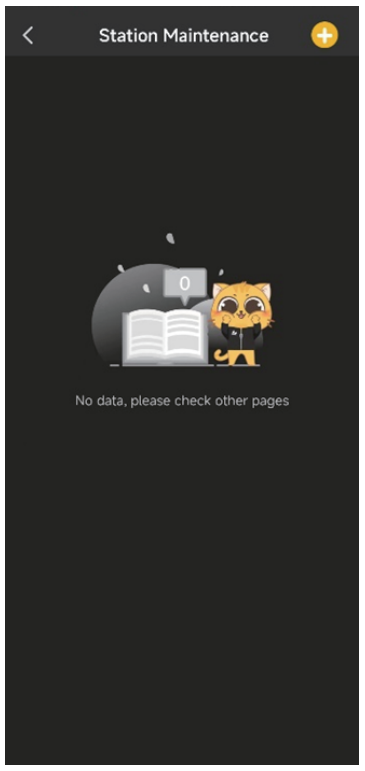
1. Confirm that the system wiring has completed, switch off the PV switch and battery circuit breakers, only switch on the grid circuit breaker of the inverter, and confirm that the inverter enters waiting mode.
2. Contact AlphaESS service to upgrade firmware.

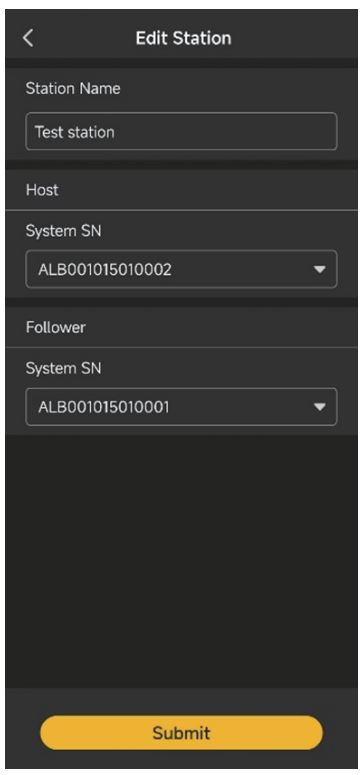
NOTE

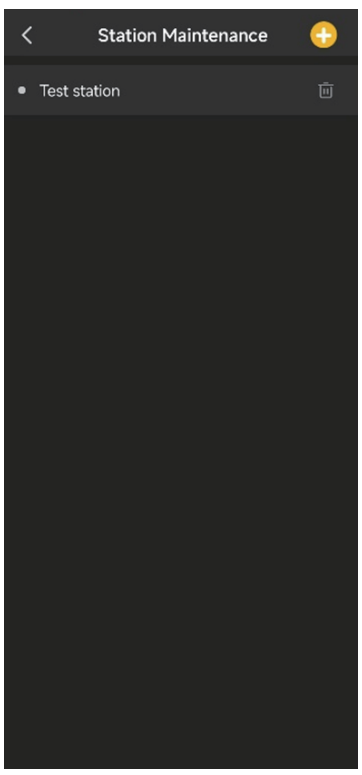
When carrying out parallel setup, please ensure that there is qualified person next to the system.

3. Provide parallel system information to AlphaESS for parallel setup. If you want to set it up yourself, please refer to the following steps:
3.1. Please click "Me" on the APP at the bottom right of the page and then click "Station Maintenance".
3.2. Click the “+” in the upper right corner, input the station name and master-slave inverter SN, and then click “submit” to complete.
3.3. Then you can see the corresponding power station information in "Station Maintenance" page.









4. Switch on the battery circuit breakers of the battery.
Press the battery power buttons. For more than one battery installed, please press all power buttons within 30 seconds.
5. Switch on the battery circuit breaker of the inverter;
6. Switch on the PV switch of the inverter, Switch on the backup circuit breaker (if any) and AC circuit breaker of the PV-inverter (if any).

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