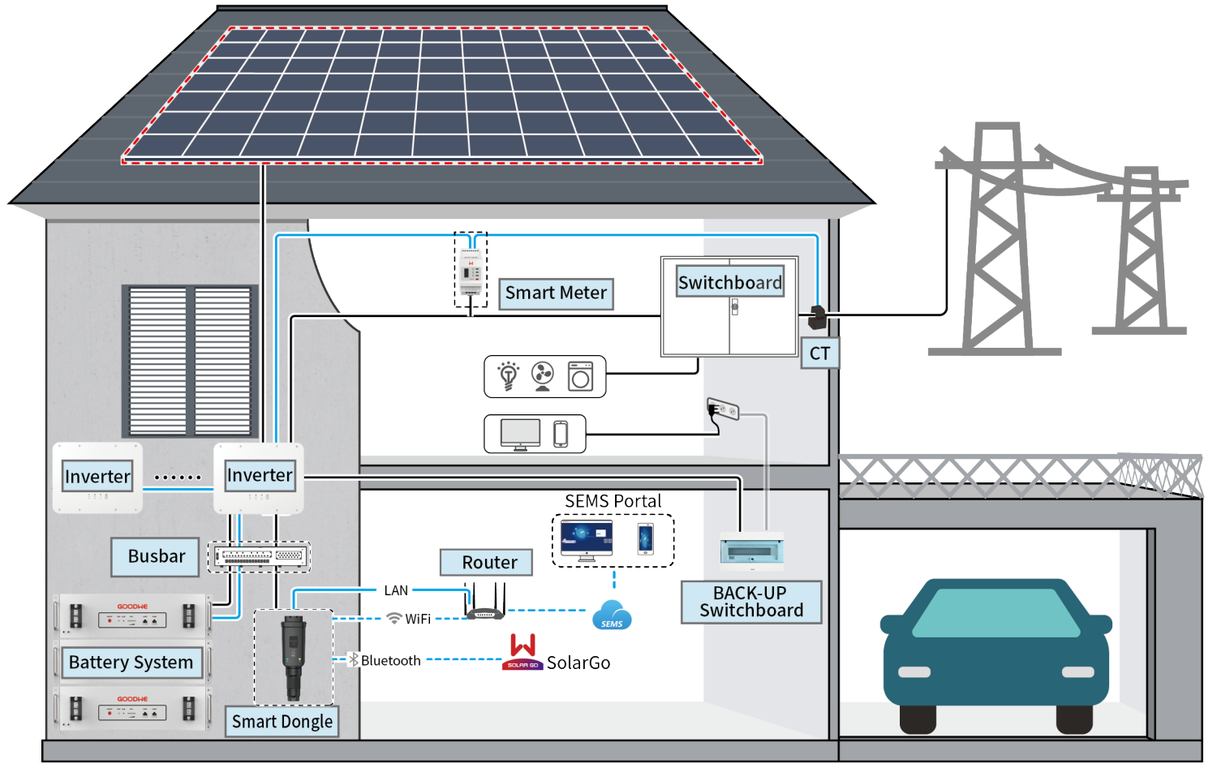
GOODWE

ES Uniq 8.0-12kW Residential Smart Inverter Solutions Guide

V1.1-2024-09-30

⚠ WARNING

The information in this quick guide is subject to change due to product updates or other reasons. This guide cannot replace the product labels or the safety precautions in the user manual unless otherwise specified. All descriptions in the manual are for guidance only.



Device	Model	Description
Inverter	GW8000-ES-C10 GW10K-ES-C10 GW12K-ES-C10	• When only one inverter is used in the system, it is supported to connect generator. • When multiple inverters are used in the system, it is not supported to connect generator; a maximum of 16 inverters are supported to form a parallel system, and the Ezlink3000 is required in the parallel system. • The complexity of the parallel system increases with the increase of the number of inverters in parallel. When the number of inverters in parallel system is ≥ 6, please contact the after-sales service to confirm the installation and application environment of the inverters to ensure stable operation of the system. Requirements for parallel system: • The software version of all inverters in the system is the same. • The ARM software version of the inverter is 08 (415) and above. • The DSP software version of the inverter is 00(2525) and above.

Device	Model	Description
Battery system	LX A5.0-10 LX A5.0-30 LX U5.4-20 LX U5.0-30	Battery of different models cannot be mix used. • LX A5.0-10: The nominal charging and discharging current of a single battery is 60A; a maximum of 15 batteries can be connected in parallel in one system. • LX A5.0-30: The nominal charging current of a single battery is 60A, and the discharging current is 100A; the maximum continuous charging current is 90A; the maximum continuous discharging current is 150A. A maximum of 30 batteries can be connected in parallel in one system. • LX U5.4-20: The maximum discharge current of a single battery is 50A; A maximum of 6 batteries can be connected in parallel in one system. • LX U5.0-30: The nominal charging current of a single battery is 60A, and the discharging current is 100A; the maximum continuous charging current is 90A; the maximum continuous discharging current is 100A. A maximum of 30 batteries can be connected in parallel in one system.
	Lead-acid Battery	• Supports connection to lead-acid batteries of AGM, GEL, and Flooded types. • The number of batteries that can be connected in series is calculated based on the voltage of lead-acid batteries, and the total voltage of batteries connected in series is not allowed to exceed 60V.
Busbar	BCB-11-WW-0 BCB-22-WW-0 BCB-32-WW-0 BCB-33-WW-0 (Purchase from GoodWe)	• When the charging and discharging current between battery and inverter is less than 160A, it supports direct connection between battery and inverter without using a busbar. For example: It supports connecting GW8000-ES-C10 to LX A5.0-30 without using a busbar. For detailed battery wiring methods, please refer to 6.6 Connecting the Battery Cable. • When the charging and discharging current between battery and inverter is ≥160A, a busbar or busbar box must be used to connect the inverter. (Current ≥ M x IBat rated. (M: The quantity of batteries connected in parallel in the system, IBat rated: The rated current of the battery). • BCB-11-WW-0: » Used with LX A5.0-10, the battery system supports a maximum working current of 360A, working power of 18kW, and can connect to a maximum of 3 inverters, and 6 batteries. • BCB-22-WW-0: » Used with LX A5.0-10, the battery system supports a maximum working current of 720A, working power of 36kW, and can connect to a maximum of 6 inverters, and 12 batteries. » Used with LX A5.0-30, the battery system supports a maximum working current of 720A, working power of 36kW, and can connect to a maximum of 6 inverters, and 6 batteries. • BCB-32-WW-0: » Used with LX A5.0-10, the battery system supports a maximum working current of 720A, working power of 36kW, and can connect to a maximum of 6 inverters, and 15 batteries. » Used with LX A5.0-30, the battery system supports a maximum working current of 720A, working power of 36kW, and can connect to a maximum of 6 inverters, and 15 batteries. » Used with LX U5.0-30, the battery system supports a maximum working current of 720A, working power of 36kW, and can connect to a maximum of 6 inverters, and 8 batteries. • BCB-32-WW-0: » Used with LX U5.0-30, the battery system supports a maximum working current of 720A, working power of 36kW, and can connect to a maximum of 6 inverters, and 15 batteries. • Others: Please prepare busbar based on actual system power and current.

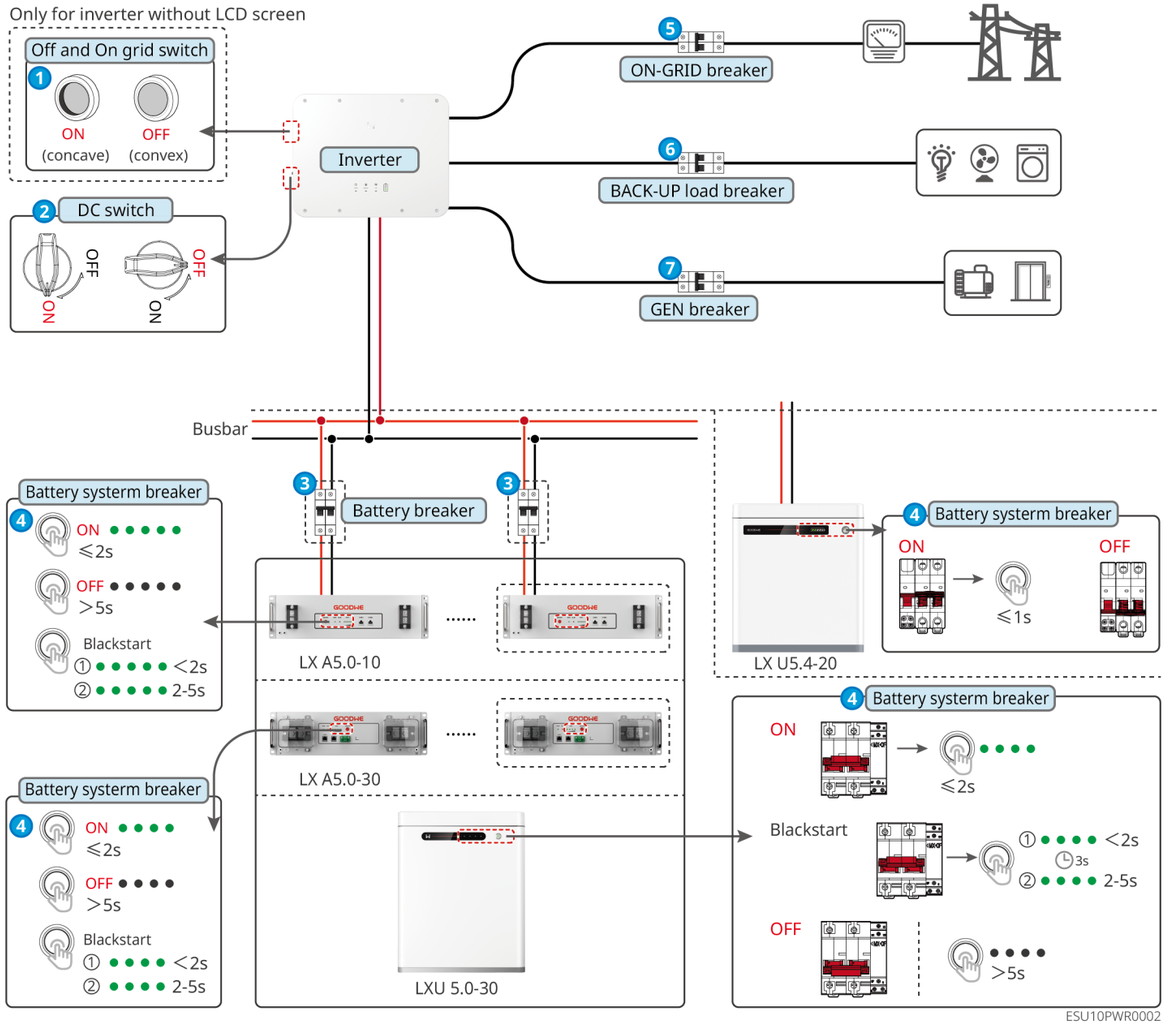
Device	Model	Description

Smart Meter	• Built-in Smart Meter (Standard)
	• GMK110 (optional)
	• GM330 (purchase from GoodWe)
		• Built-in smart meter: 10-meter wire CT, default CT ratio: 120A/40mA
		• GMK110: When the length of the built-in CT cable of the inverter is not enough for connection to the switchboard, it can be extended through an external GMK110 smart meter. CT is not supported for changing to other type, CT ratio: 120A/40mA
		• CM330: order the CT for GM330 from GoodWe or other suppliers. CT ratio: nA/5A.
		  • nA: CT primary input current, n ranges from 200 to 5000.
		  • 5A: CT Secondary input current.

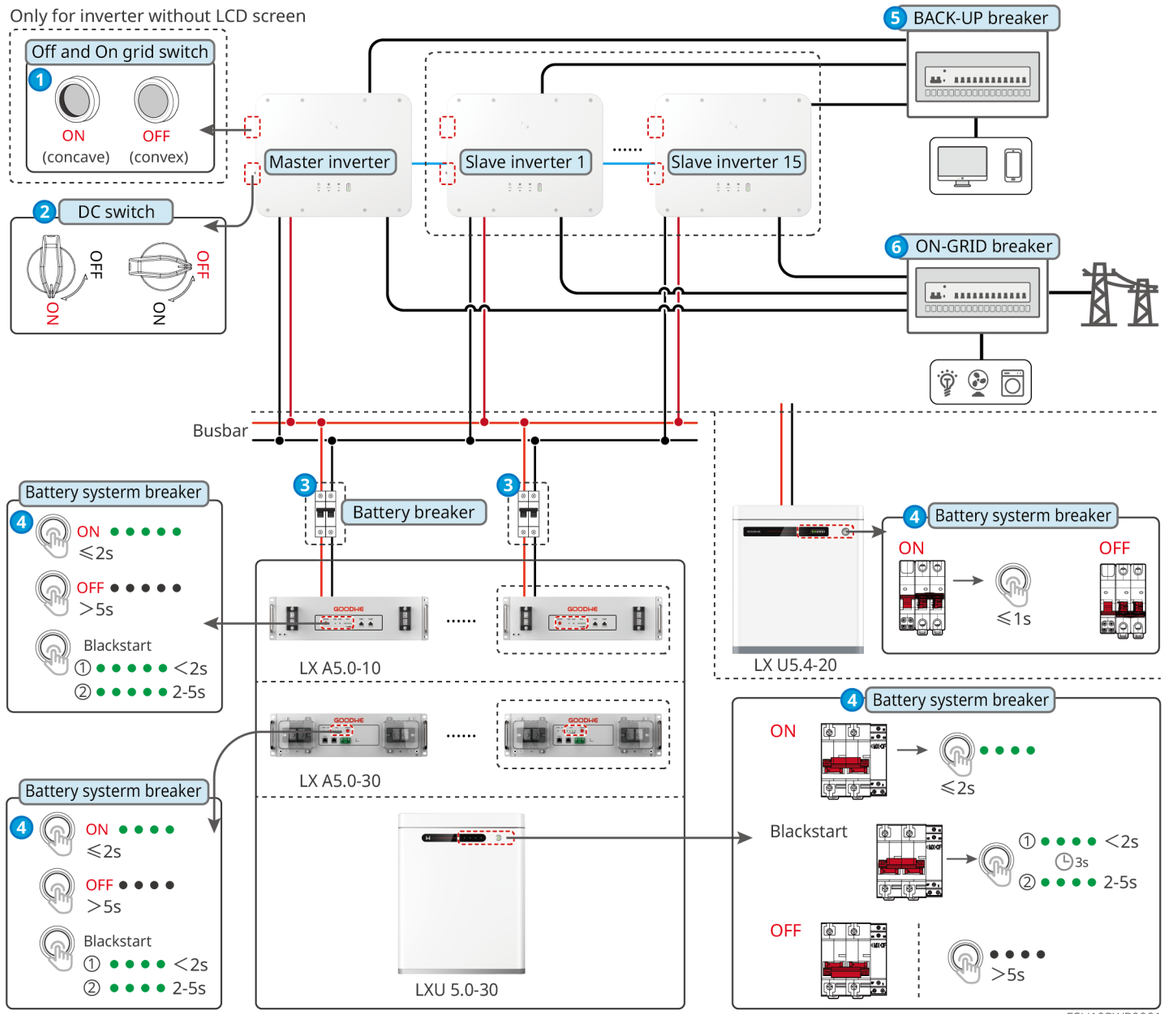
Smart Dongle	• WiFi/LAN Kit-20 (Standard) • Ezlink3000 (purchase from GoodWe)	• Please use the WiFi/LAN Kit-20 module in single inverter system. • In parallel system, the EzLink3000 must be connected to the master inverter. Do not connect any smart dongle to slave inverter. Ezlink3000 requires a firmware version of 04 or above.

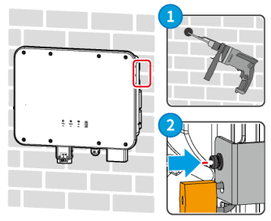
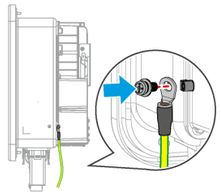
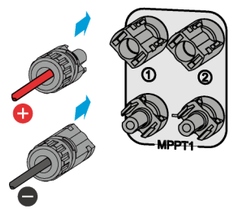
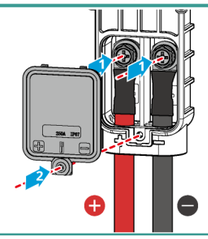
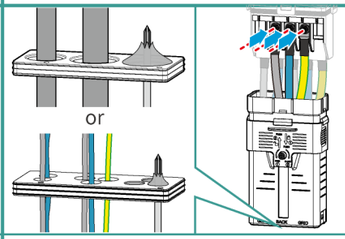
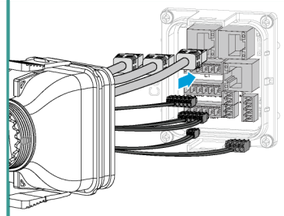
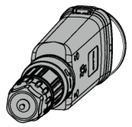
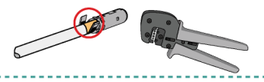
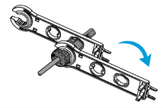
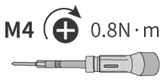
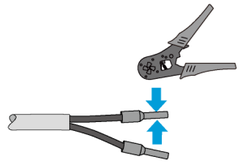
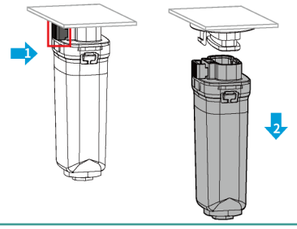
02 Power On/Off

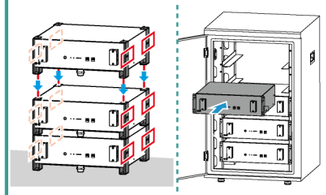
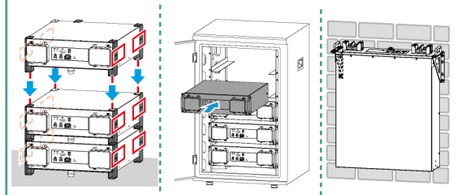
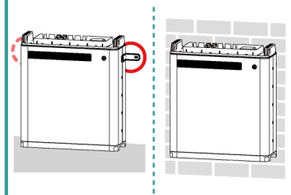
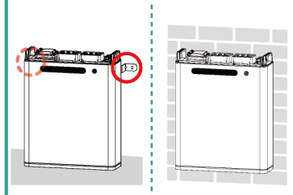
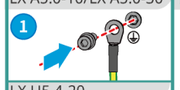
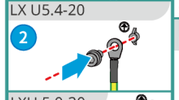
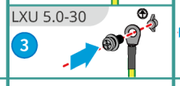
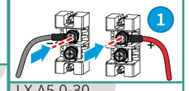
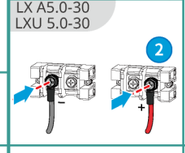
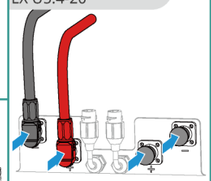
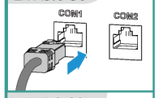
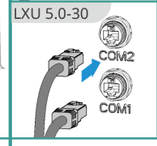
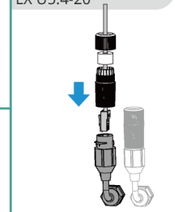
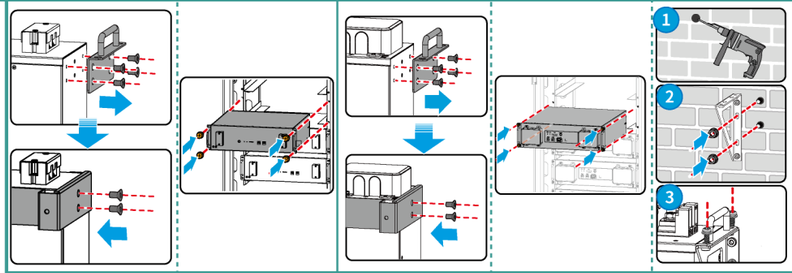
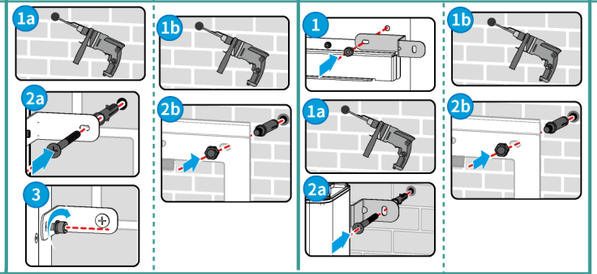
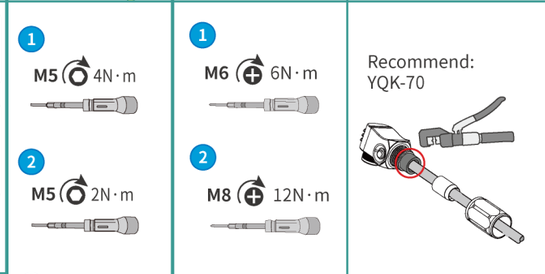
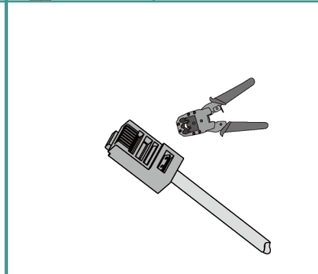
Single inverter system

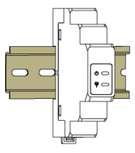


Multi-inverter system

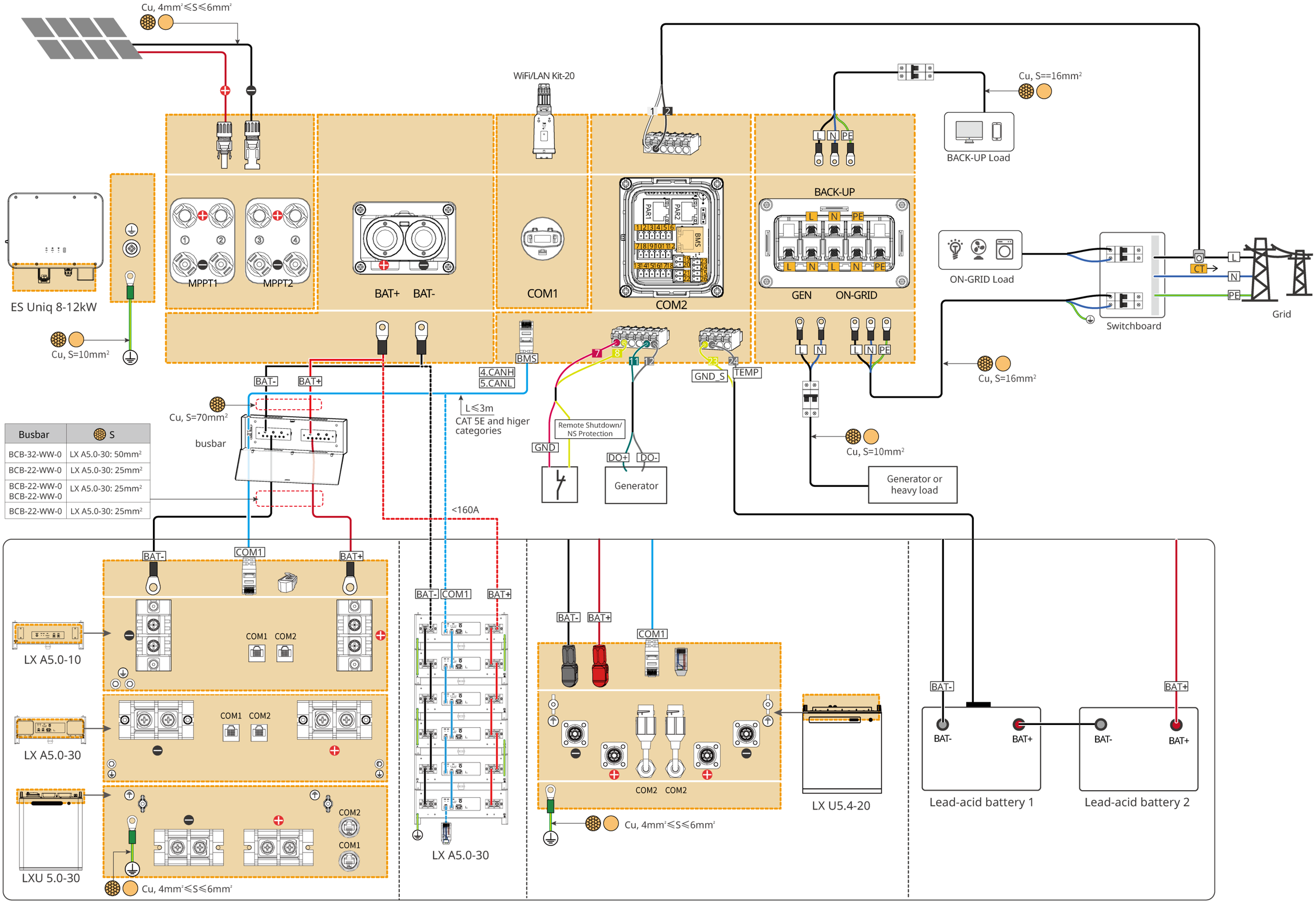


Steps	❶ Installation	❷ PE	❸ PV	❹ Battery	❺ AC	❻ COM	❼ Communication module
Inverter							WiFi/LAN Kit-20  Ezlink3000 
Tools	❶ D: 80mm ϕ: 8mm  ❷ M5 1.5-2N·m 	M5 1.5-2N·m 	Recommend: PV-CZM-61100  	❶ M10 3.9-4.1N·m  ❷ M4 0.8N·m 	M5 1.9-2.1N·m 		

Steps	❶ Installation	❷ PE	❸ Battery	❹ COM
Battery	LX A5.0-10  LX A5.0-30  LX U5.4-20  LXU 5.0-30 	LX A5.0-10/LX A5.0-30  LX U5.4-20  LXU 5.0-30 	LX A5.0-10  LX A5.0-30 LXU 5.0-30  LX U5.4-20 	LX A5.0-10 LX A5.0-30  LXU 5.0-30  LX U5.4-20 
Tools	 M4 1.4N·m M6 6N·m M4 1.4N·m M6 6N·m ❶ D: 80mm ϕ: 8mm ❷ M6 6N·m ❸ M4 1.4N·m  ❶a D: 80mm ϕ: 8mm ❶b D: 65mm ϕ: 13mm ❷a ST5.5 *70 10N·m ❷b M10 10N·m ❶ ❸ M5 2N·m  ❶ M5 4N·m ❷ M5 2N·m ❸ M5 4N·m ❶ M6 6N·m ❷ M8 12N·m Recommend: YQK-70 

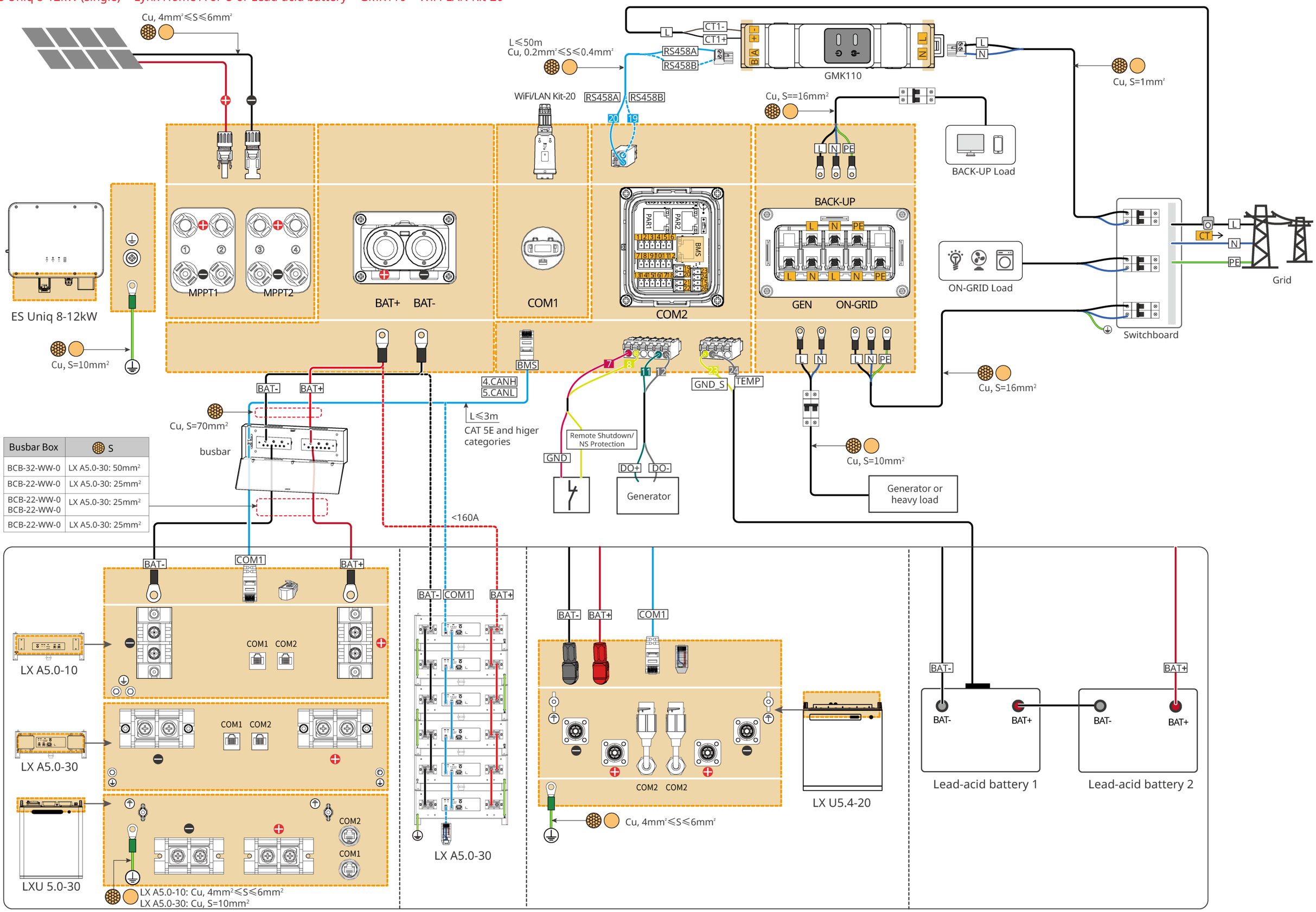
Steps	❶ Installation	❷ Cable Connections	❸ Power	❹ Commissioning
Smart meter	GMK110  GM330	GMK110 0.3-0.5N·m GM330 1.2-2N·m	AC breaker	SolarGo APP SEMS Portal APP or SEMS Portal WEB

04 Wiring Diagram ES Uniq 8-12kW (single) + Lynx Home A or U or Lead-acid battery + Builit-in smart meter + WiFi/LAN Kit-20



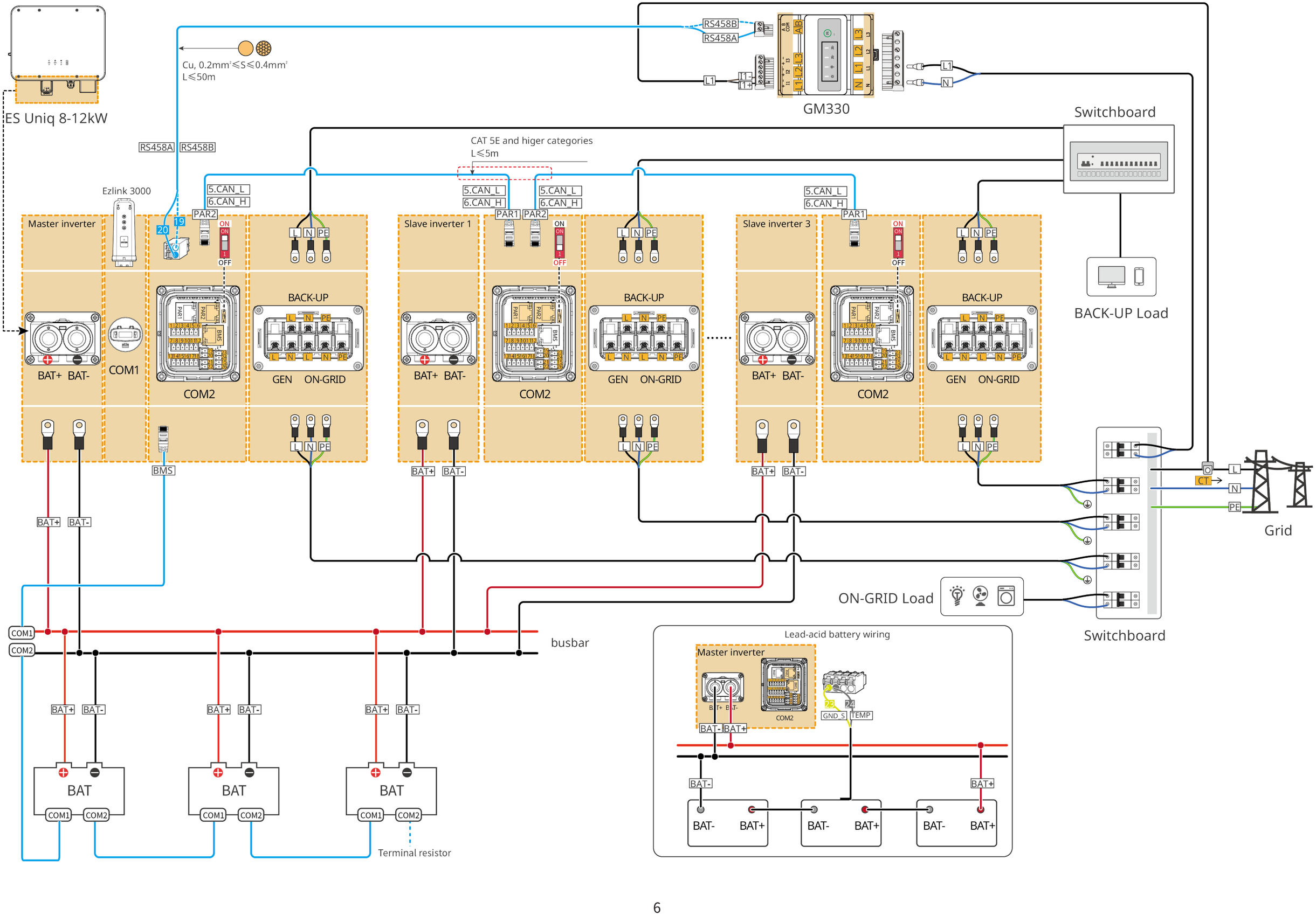
Busbar	S
BCB-32-WW-0	LX A5.0-30: 50mm²
BCB-22-WW-0	LX A5.0-30: 25mm²
BCB-22-WW-0 BCB-22-WW-0	LX A5.0-30: 25mm²
BCB-22-WW-0	LX A5.0-30: 25mm²

ES Uniq 8-12kW (single) + Lynx Home A or U or Lead-acid battery + GMK110 + WiFi-LAN Kit-20



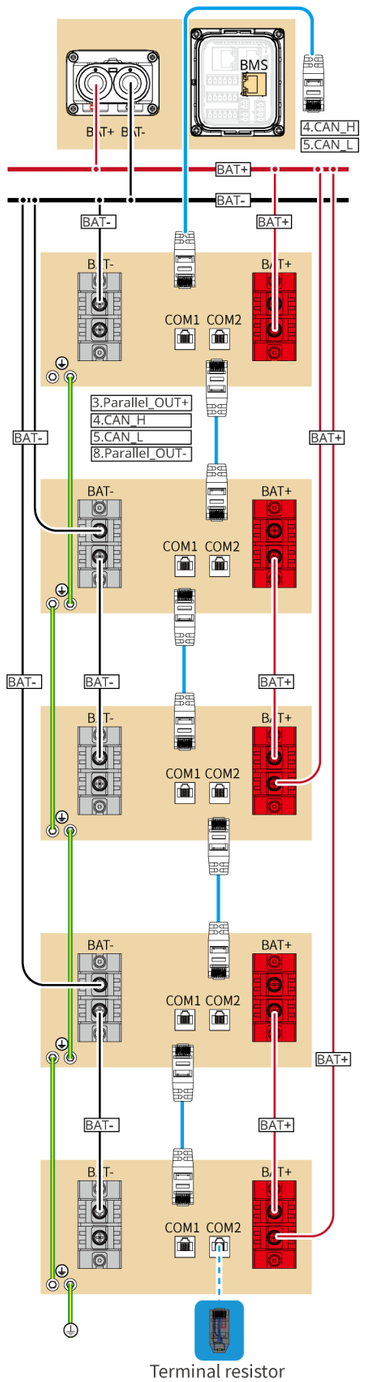
Busbar Box	S
BCB-32-WW-0	LX A5.0-30: 50mm²
BCB-22-WW-0	LX A5.0-30: 25mm²
BCB-22-WW-0 BCB-22-WW-0	LX A5.0-30: 25mm²
BCB-22-WW-0	LX A5.0-30: 25mm²

ES Uniq 8-12kW (parallel connected) + Lynx Home A or Lead-acid battery + GM330 + Ezlink3000



Battery System Wiring Diagram

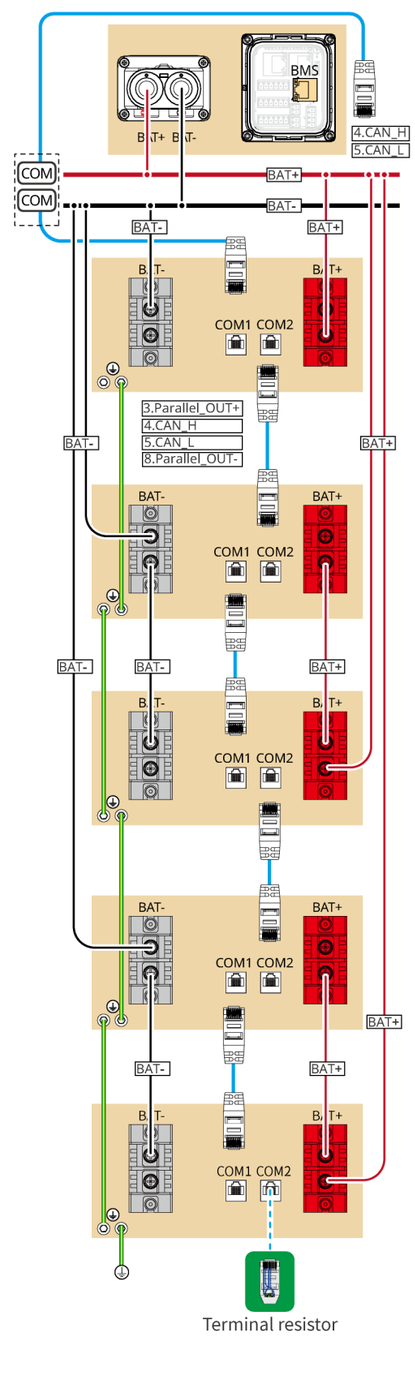
Third-party busbar



The wiring methods are the same when using third-party busbars for LX A5.0-10 and LX A5.0-30, taking LX A5.0-10 as an example here.

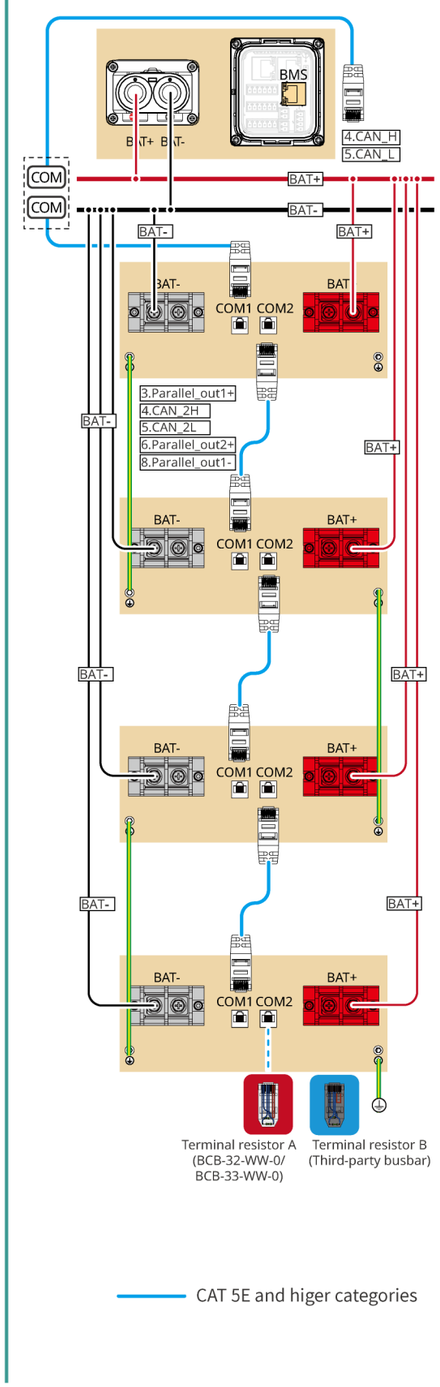
BCB-11-WW-0
BCB-22-WW-0

LX A5.0-10



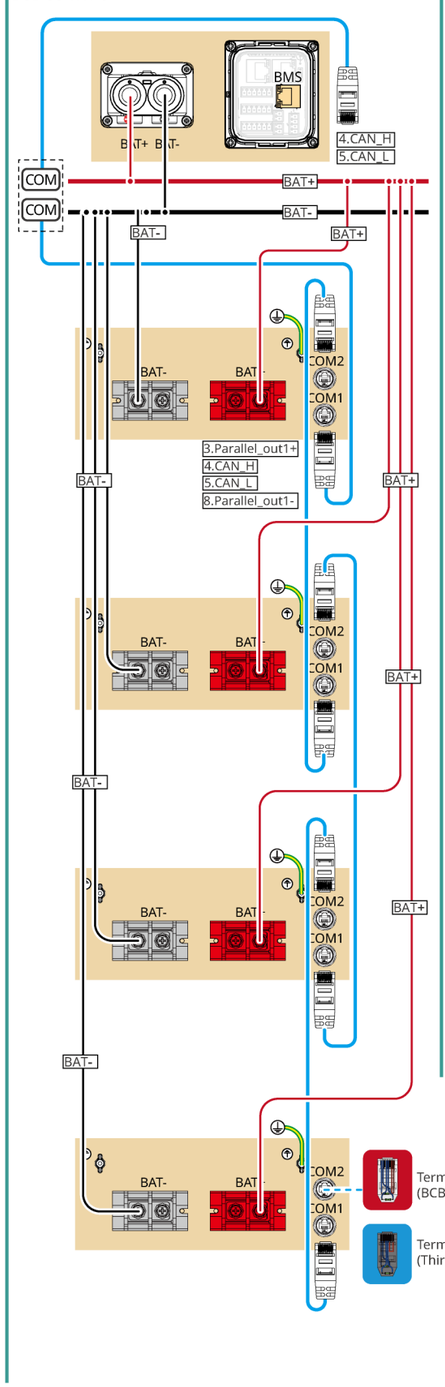
BCB-32-WW-0

LX A5.0-30

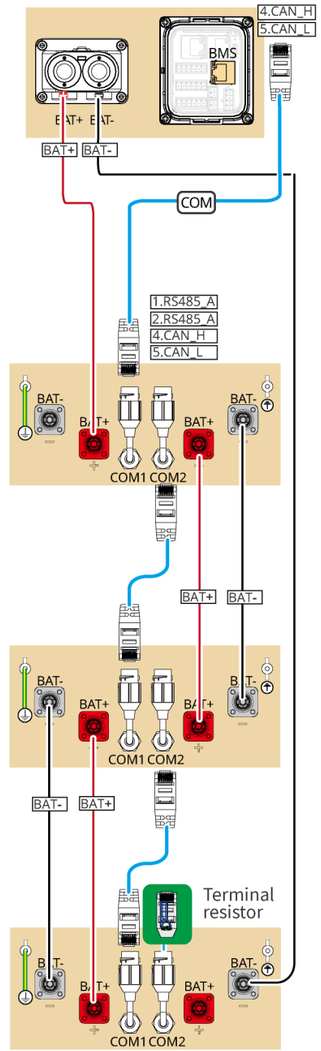


BCB-32-WW-0
BCB-33-WW-0

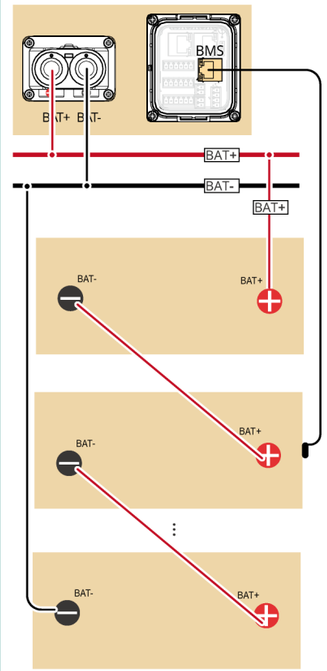
LX U5.0-30



LX U5.4-20



Lead-acid battery



The quantity of batteries depends on the required voltage.

05 Equipment Commissioning

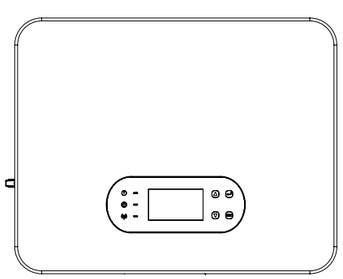
SolarGo app

SEMS Portal app

In parallel scenarios, the software version of SolarGo app should be 5.4.0 or above.
Follow the prompts to connect the device.

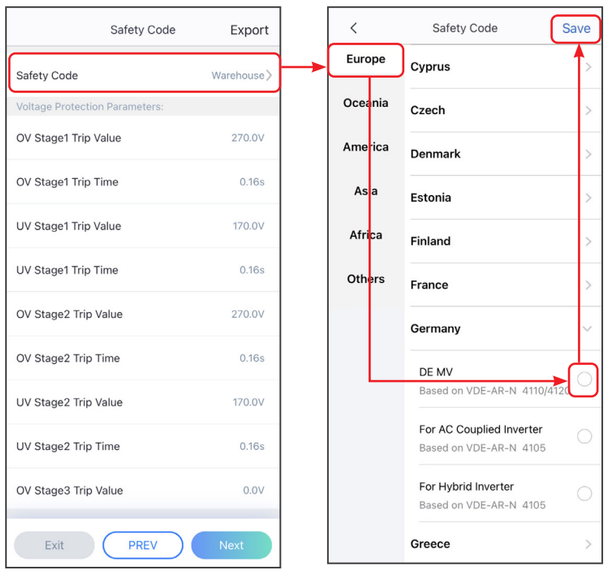
Quick Settings

Method I: Tap **Home** > **Settings** > **Quick Settings** to complete quick settings step by step.
Installer password: goodwe2010
Method II: Using LCD screen to finish quick settings. Click on the screen or use buttons to operate.
> **Quick Setting**，follow the prompts to complete inverter settings.

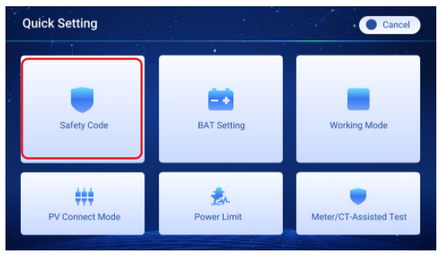


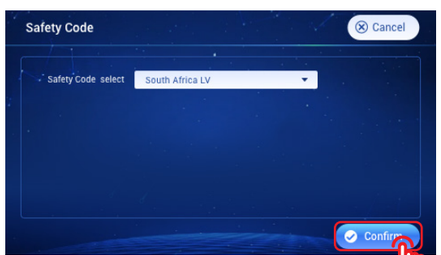
Setting Safety Code

Setting safety code via SolarGo APP

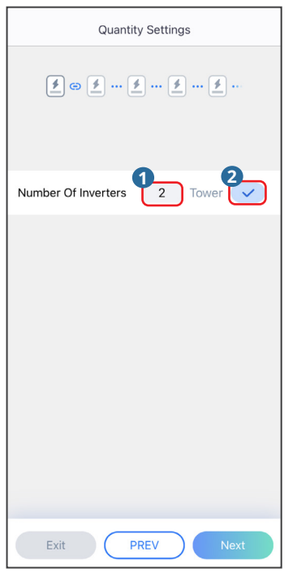


Setting safety code via LCD screen

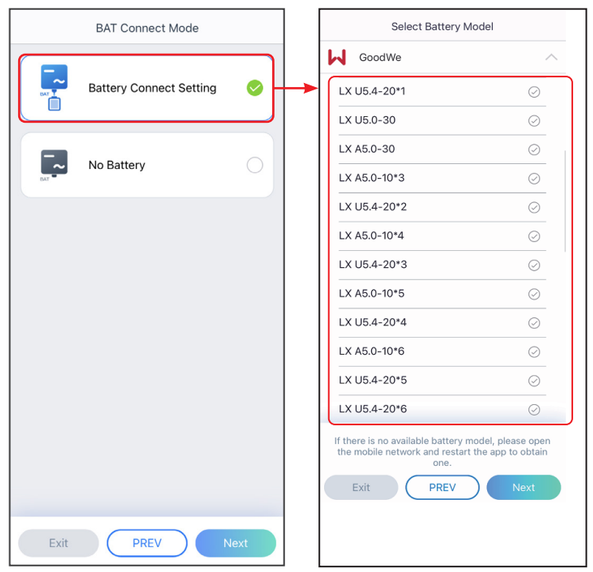




Setting Inverter Quantity (Only For Parallel Connections,APP only)

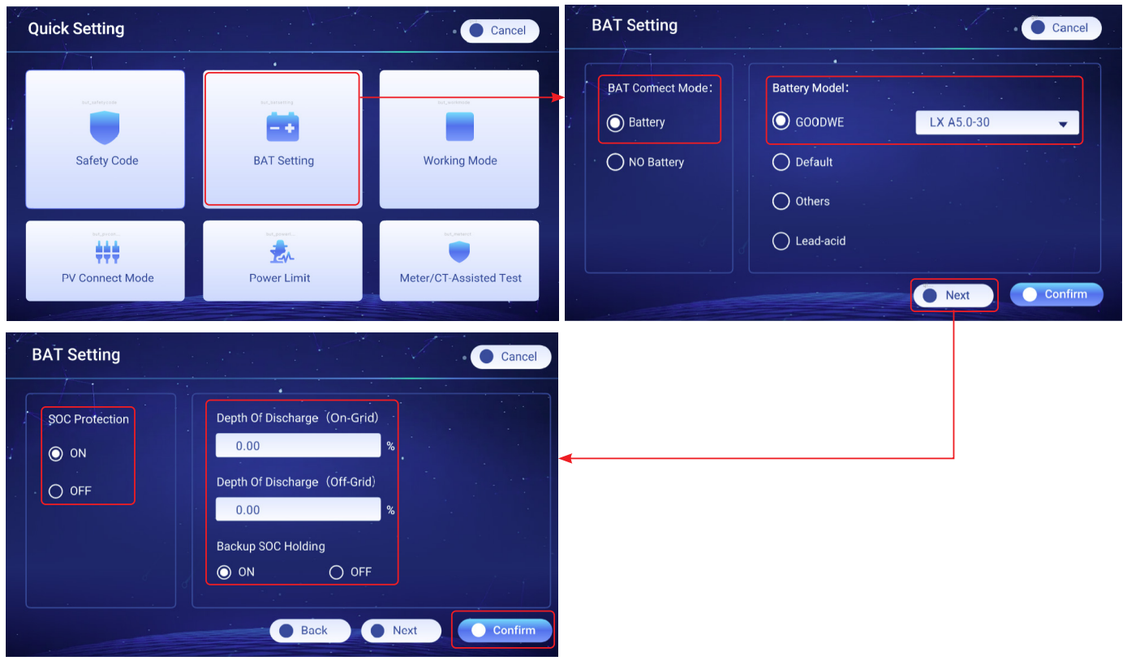


Setting the BAT Connect Mode via SolarGo APP

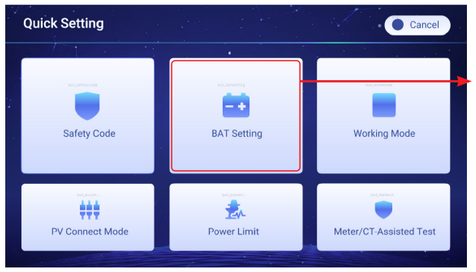


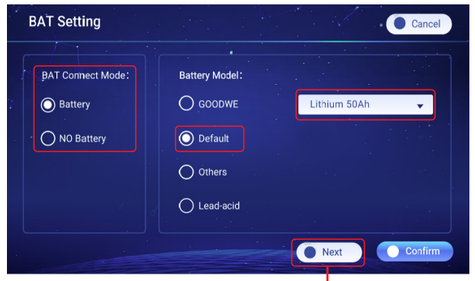
Setting BAT parameter via LCD screen

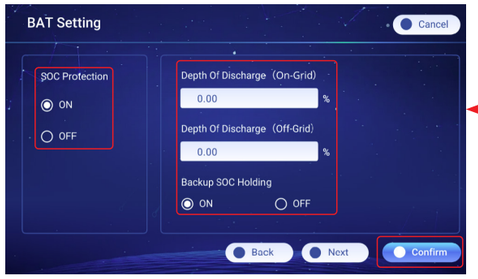
Lithium battery (GOODWE battery)



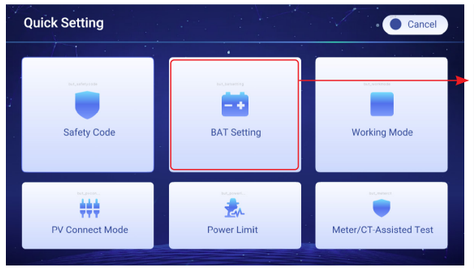
Lithium battery (Models not in the list)

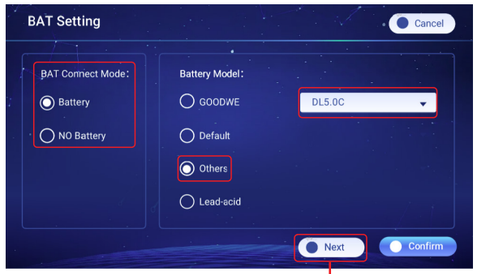




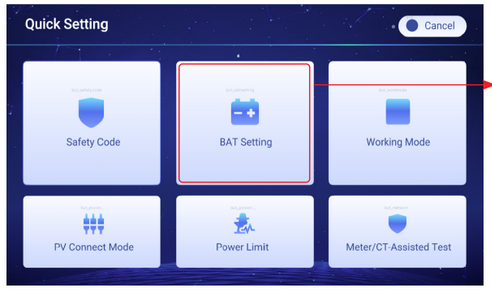


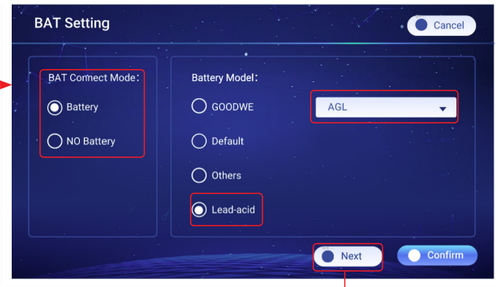
Lithium battery (Models in the list)





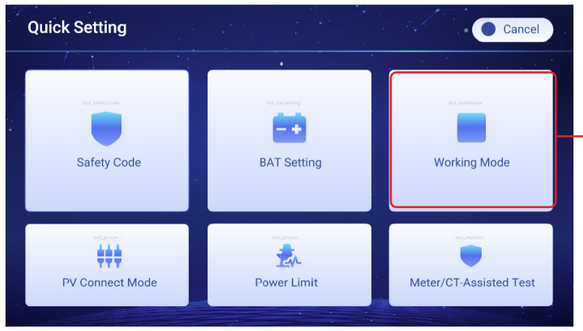
Lead-acid battery

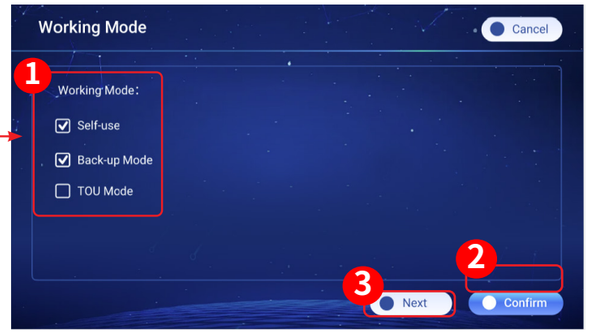


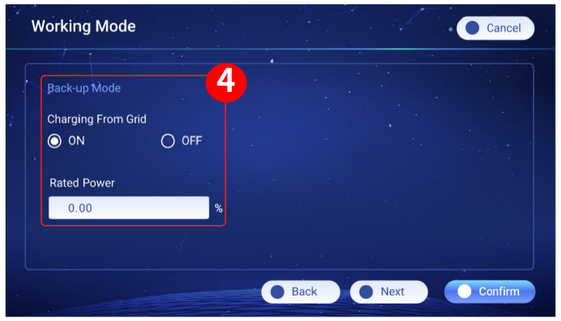


Setting working mode via LCD screen

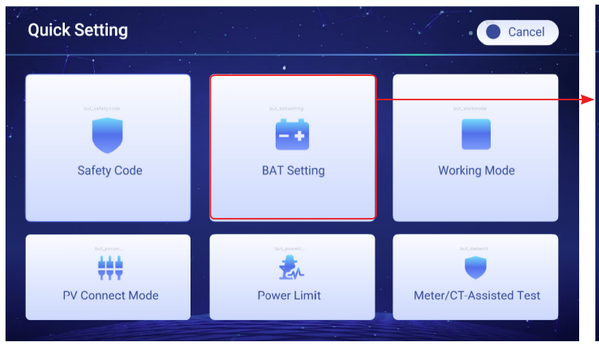
Back-up Mode

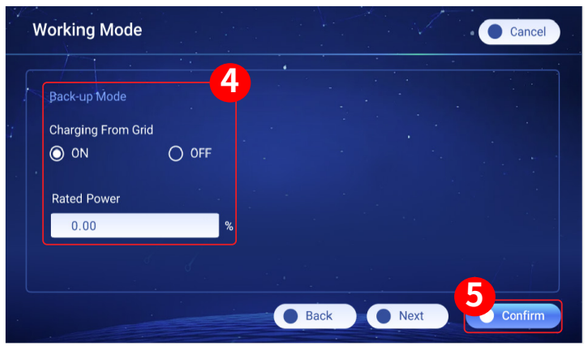


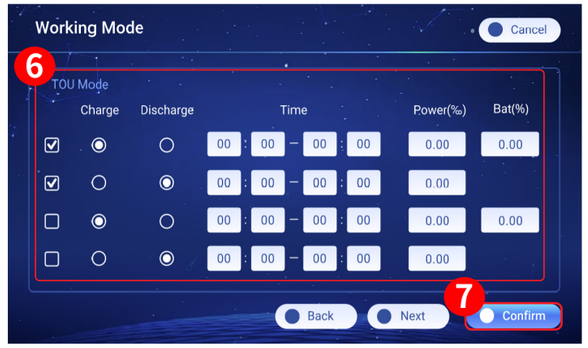




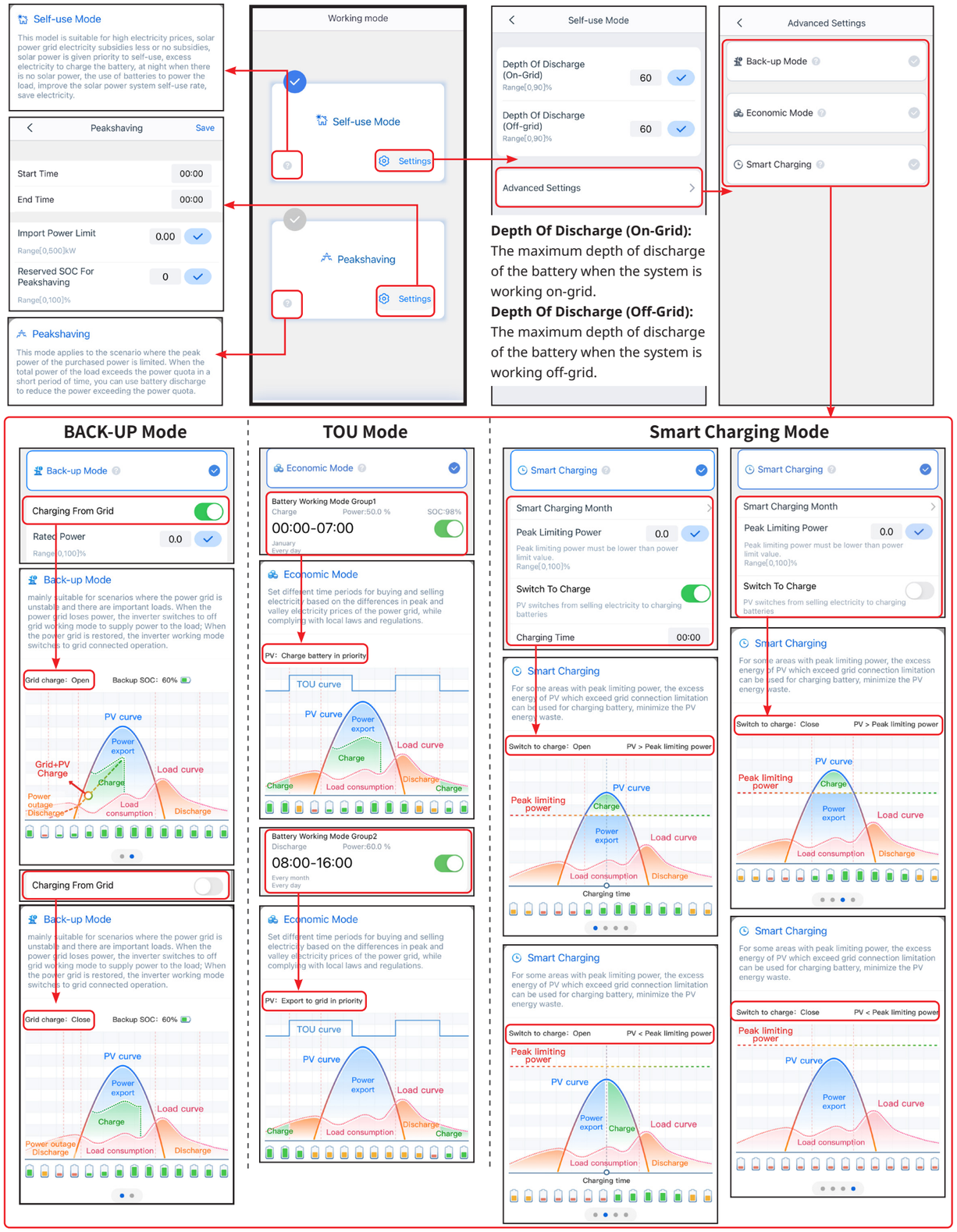
TOU Mode







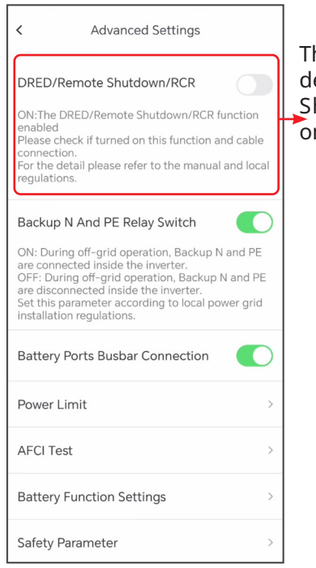
Setting working mode via SolarGo APP



Setting the Advanced Parameters

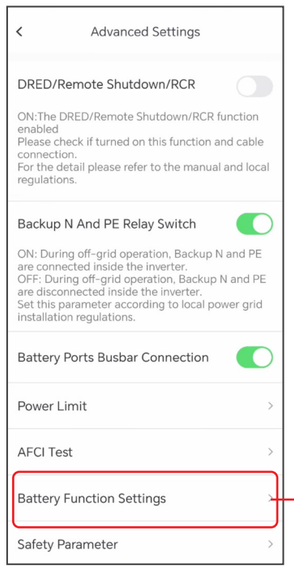
Tap **Home** > **Settings** > **Advanced Settings** to set the following functions.

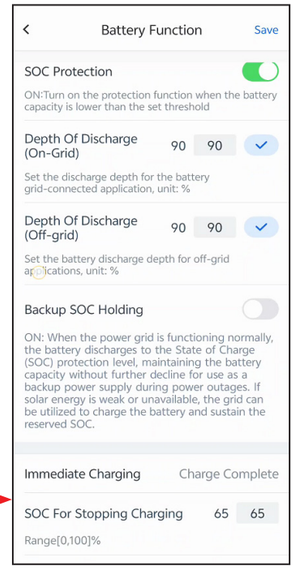
Setting DRED/Remote Shutdown/RCR



This function is disabled by default. To use the Remote Shutdown function, turn on this switch.

Setting Battery Functions

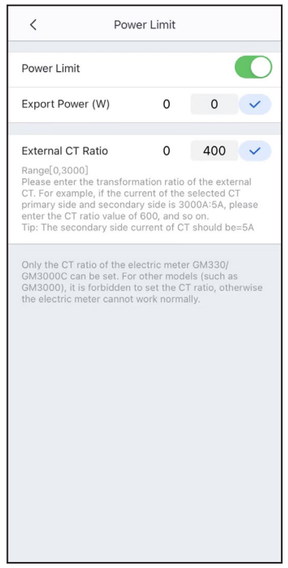




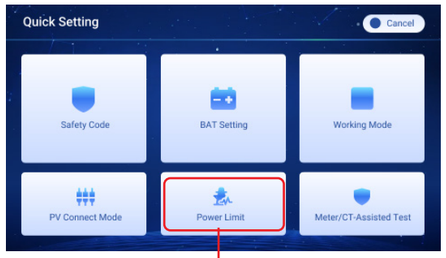
Through battery function settings, you can set parameters for battery connected in the system.

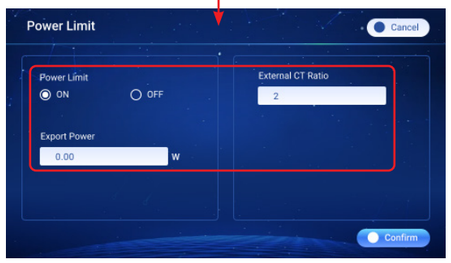
Setting Power Limit

Tap **Home** > **Settings** > **Advanced Settings** to set the following functions.



Setting power limit via LCD screen

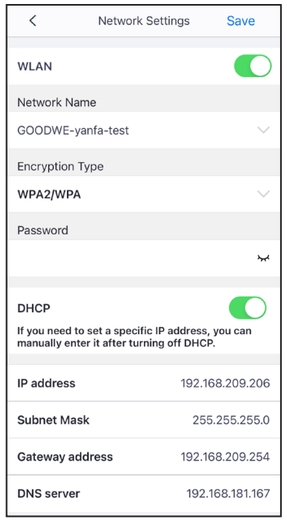


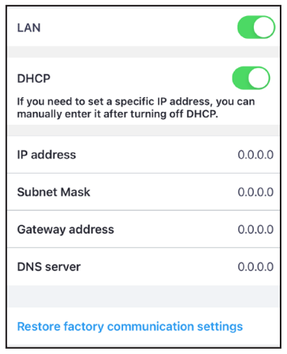


Configuring the Network

Tap **Home** > **Settings** > **Communication Setting** to set network parameters.

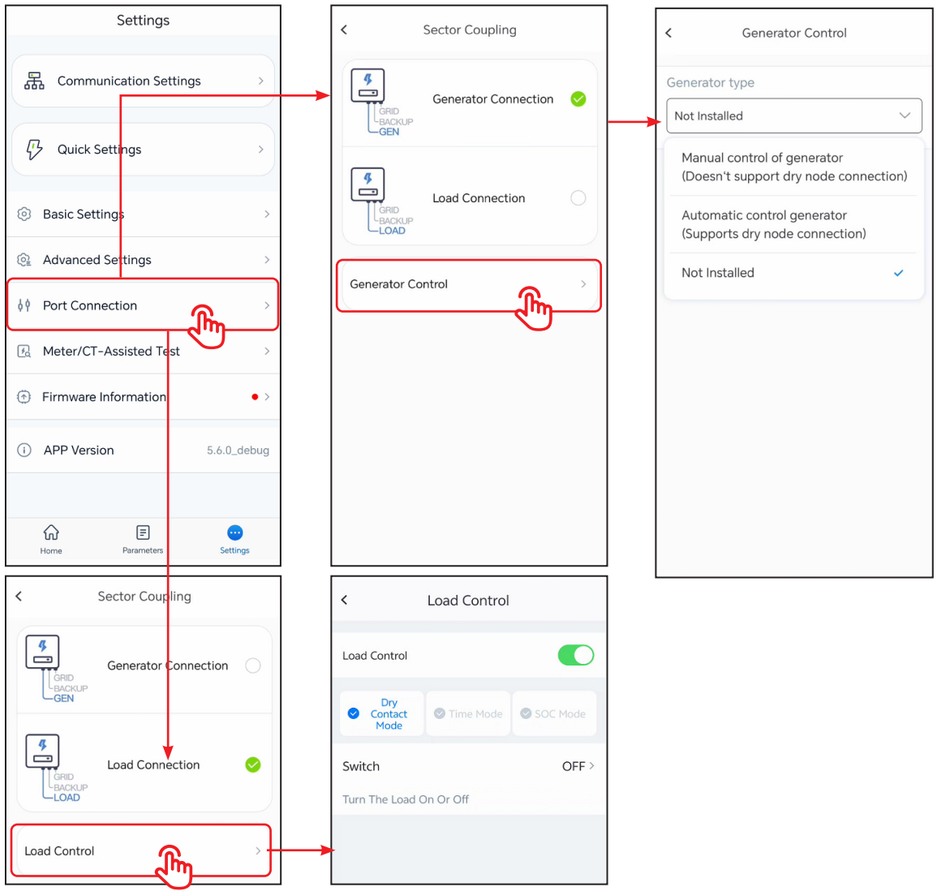
WiFi/LAN Kit-20



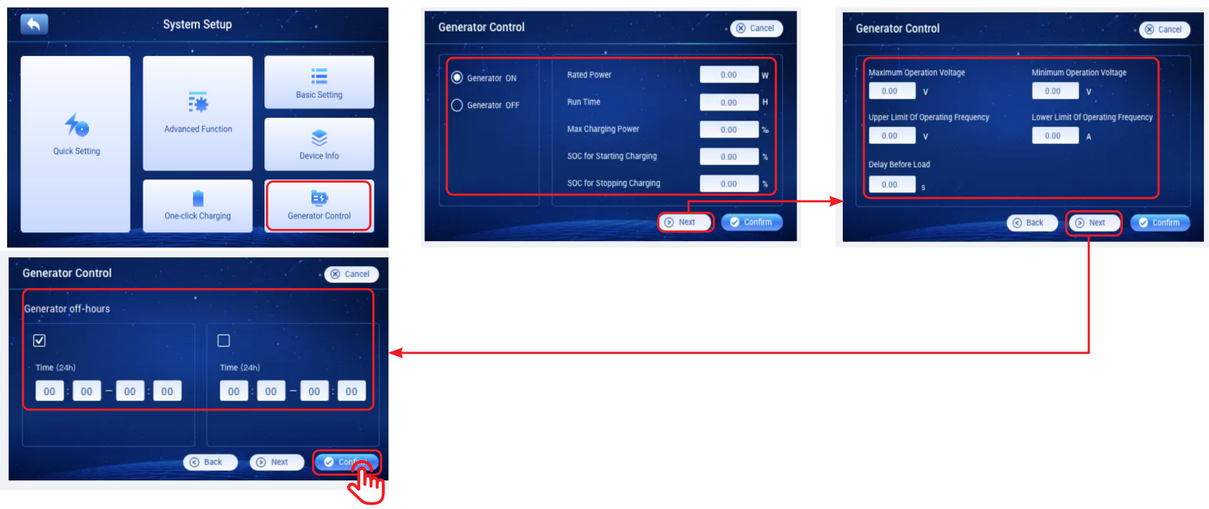


Setting GEN port

Tap **Home** > **Settings** > **Quick Settings** to set parameters for generator or load.

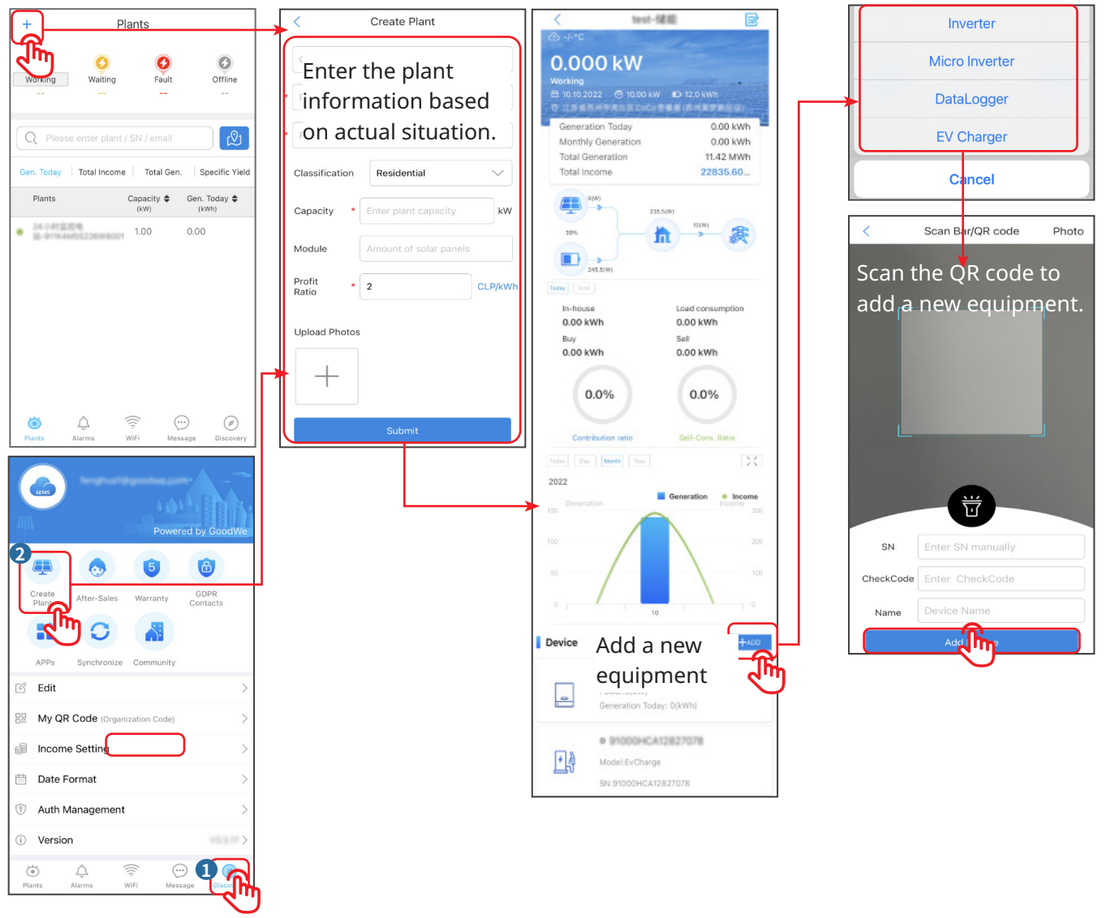


Settings generator parameters via LCD screen



Creating a Power Plant

Create power plants and add equipments via SEMS Portal app.



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