GOODWE

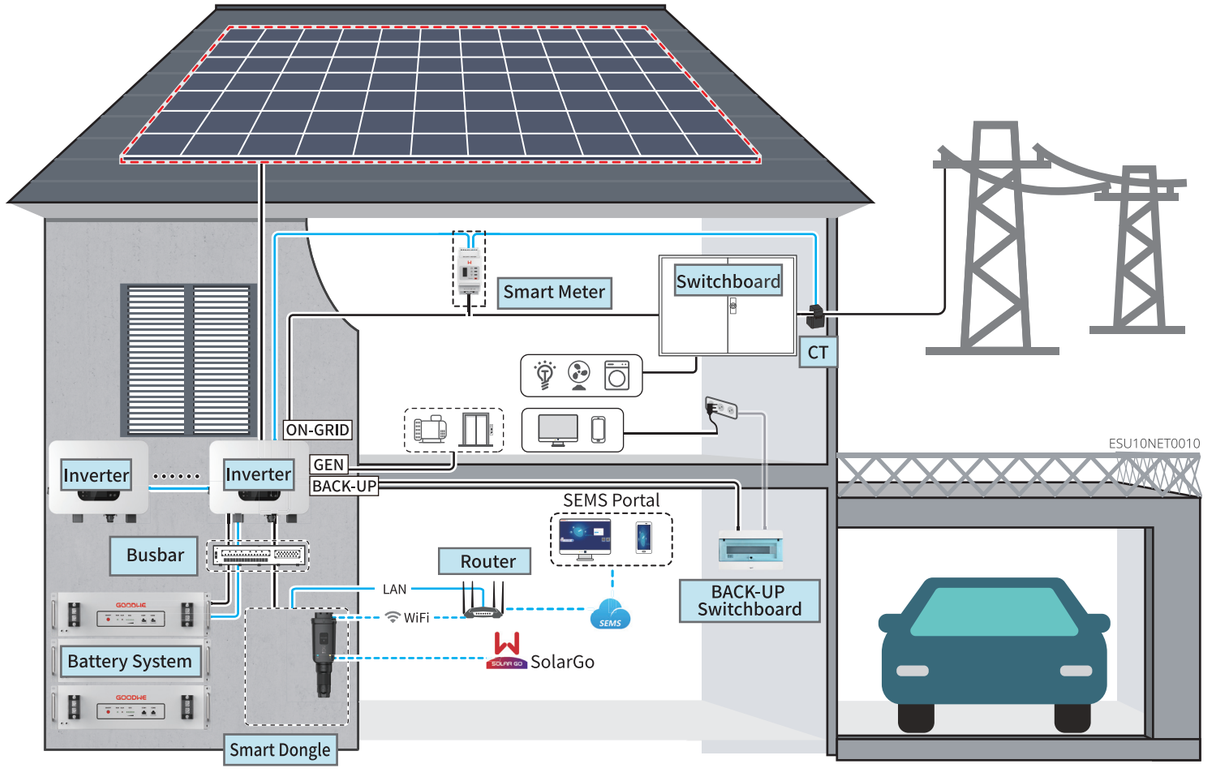
ES Uniq 3.0-6.0kW Residential Smart Inverter Solutions Guide

V1.1-2025-09-09

⚠ 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.

Scenario



Device	Model	Description

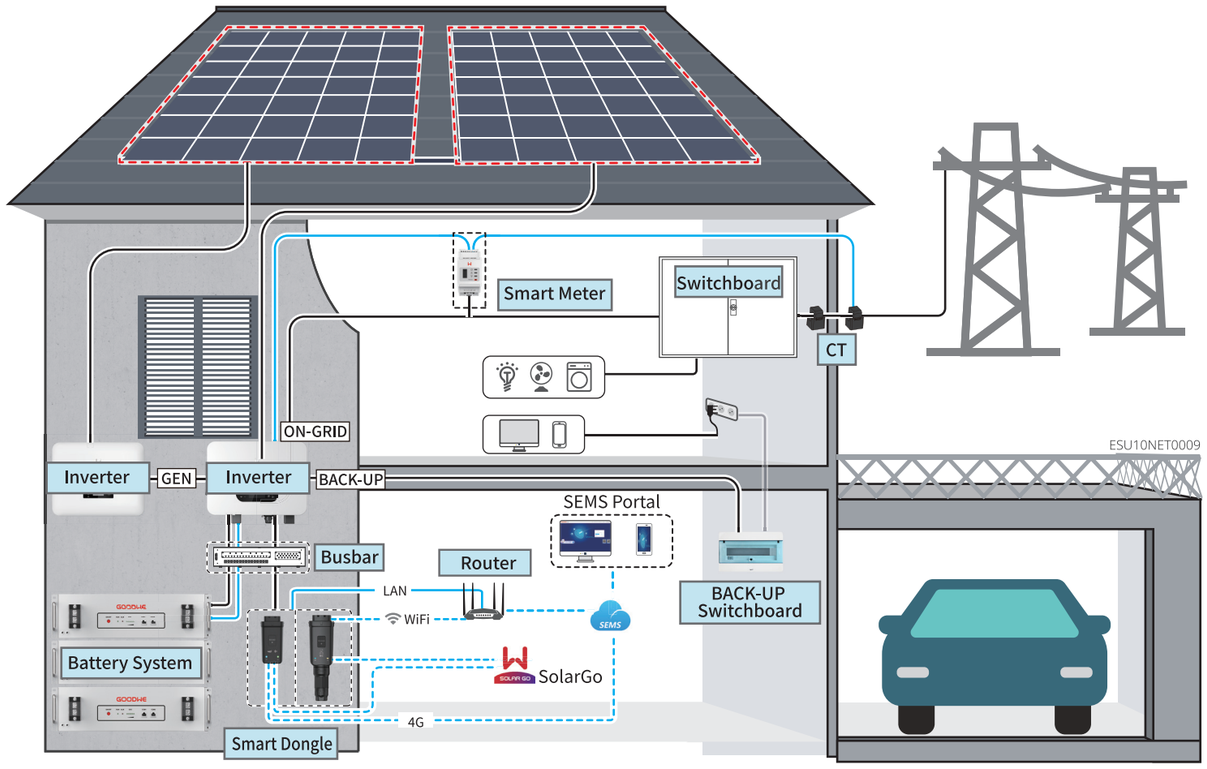
Inverter	GW3000-ES-C10
	GW3000-ES-C11
	GW3600-ES-C10
	GW5000-ES-C10
	GW6000-ES-C10
		• When only one inverter is used in the system, it is supported to connect generator.
		• When multiple inverters are used in the system, it is not supported to connect generator or large loads; a maximum of 6 inverters are supported to form a parallel system, and the Ezlink3000 is required in the parallel system.
		• Requirements for parallel:
		  • The software version of all inverters in the system is the same.
		  • The ARM software version of the inverter is 12.451 and above.
		  • The DSP software version of the inverter is 0.1313 and above.
		• Compatible with GW14.3-BAT-LV-G10 batteries, which must meet the following version requirements:
		  • The ARM software version of the inverter is 14.470 and above.
		  • The DSP software version of the inverter is 1.408 and above.

Battery system	LX A5.0-10	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 nominal discharging current is 100A; the maximum charging current is 90A; the maximum discharging current is 150A. A maximum of 30 batteries can be connected in parallel in one system.
	LX A5.0-30	
	LX U5.0-30	The nominal charging current of a single battery is 60A; and the nominal discharging current is 100A; the maximum charging current is 90A; the maximum discharging current is 100A. A maximum of 30 batteries can be connected in parallel in one system.
	GW14.3-BAT-LV-G10	The rated charge/discharge current for a single battery is 140A; the maximum charge current is 224A; the maximum discharge current is 260A, and the system supports up to 16 batteries in parallel.
	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.

Device	Model	Description
Busbar	BCB-11-WW-0 BCB-22-WW-0 BCB-32-WW-0 BCB-33-WW-0 (Purchase from GoodWe)	• Please select the busbar according to the charging/discharging capacity of the inverter, the load size, and the charging/discharging capacity of the battery in the system. • 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. » Used with GW14.3-BAT-LV-G10, the battery system supports a maximum working current of 720A, working power of 36kW, and can be connected to a maximum of 6 inverters, and 15 batteries. • BCB-33-WW-0: » Used with LX U5.0-30, the battery system supports a maximum working current of 720A, working power of 36kW, and can be connected to a maximum of 6 inverters, and 15 batteries. When the number of batteries exceeds 8, two 600A fuses need to be connected in parallel. • Others: Please prepare busbar based on actual system power and current.
Smart Meter	• Built-in Smart Meter (Standard) • GMK110 (optional) • GM330 (purchase from GoodWe)	• Built-in Smart Meter: When the number of parallel inverters is ≤2 and the length of CT cable is ≤10 meters, the built-in meter can be used. 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, please connect an external GMK110 smart meter. CT is not supported for changing to other type, CT ratio: 120A/40mA. • CM330: Supports purchasing from GOODWE or third-party, CT ratio requirement: 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) • 4G Kit-CN-G20 (Only for China) • 4G Kit-CN-G21 (Only for China) • Ezlink3000 (purchase from GoodWe)	• Please use the WiFi/LAN Kit-20, 4G Kit-CN-G20, 4G Kit-CN-G21 modules 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 05 or above.

Device	Model	Description
Heavy Load	-	Supports SG Ready, large load specification requirements: 1. Large load total power < GEN port maximum output power 2. Large load power + BACK-UP power < AC maximum input power (grid)
Generator	-	Generator rated voltage meets inverter GEN port rated voltage

Microgrid Scenario



Device	Model	Description

Inverter	GW3000-ES-C10
	GW3000-ES-C11
	GW3600-ES-C10
	GW5000-ES-C10
	GW6000-ES-C10
		• In the microgrid system, parallelization is not supported by the inverter, and only a single inverter can be supported to use in the system.
		• Requirements for parallel:
		  • The ARM software version of the inverter is 12.451 and above.
		  • The DSP software version of the inverter is 0.1313and above.

Battery system	LX A5.0-10	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 nominal discharging current is 100A; the maximum charging current is 90A; the maximum discharging current is 150A. A maximum of 30 batteries can be connected in parallel in one system.
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	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.

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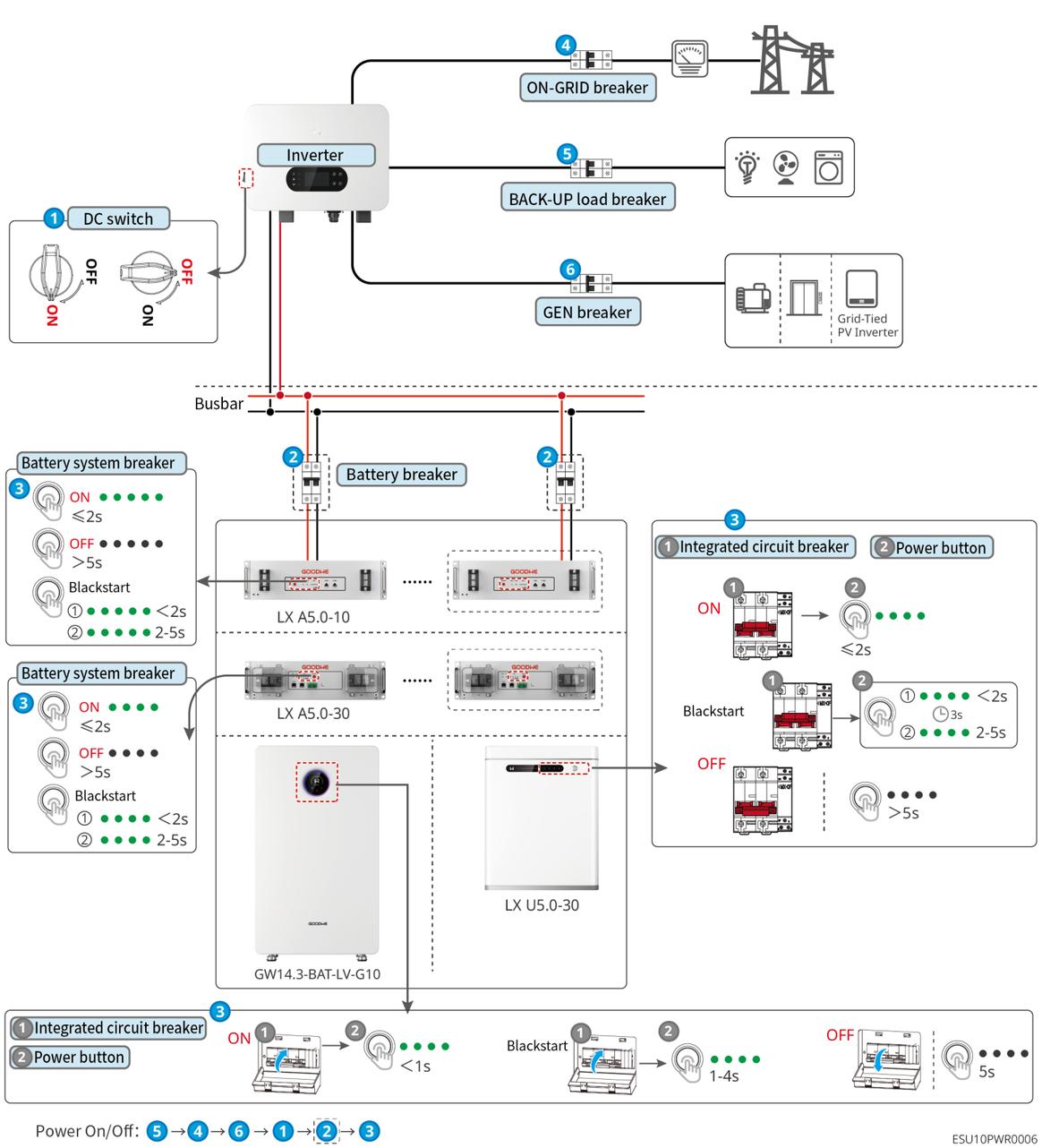
Smart Meter	• Built-in Smart Meter (Standard) • GMK110 (optional) • GM330 (purchase from GoodWe)	• Built-in Smart Meter: When the number of parallel inverters is ≤2 and the length of CT cable is ≤10 meters, the built-in meter can be used. Built-in smart meter: 10-meter wire CT, default CT ratio: 120A/40mA • GMK110: When the length of the built-in CT cable of the inverter is not enough for connection to the switchboard, please connect an external GMK110 smart meter. CT is not supported for changing to other type, CT ratio: 120A/40mA. • CM330: Supports purchasing from GOODWE or third-party, CT ratio requirement: nA/5A • nA: CT primary input current, n ranges from 200 to 5000. • 5A: CT Secondary input current.

Device	Model	Description
Smart Dongle	• WiFi/LAN Kit-20 (Standard) • 4G Kit-CN-G20 (Only for China) • 4G Kit-CN-G21 (Only for China) • Ezlink3000 (purchase from GoodWe)	• Please use the WiFi/LAN Kit-20, 4G Kit-CN-G20, 4G Kit-CN-G21 modules in single inverter system.
Grid-Tied PV Inverter	-	• It's recommended to use grid-tied PV inverter sold in GOODWE, and is supported to use the third-party grid-tied PV inverter. • When the microgrid system is in grid-tied mode, if power limitation control is required, make sure: » The hybrid inverter should be set in the grid-tied power limitationinterface of the SolarGo APP, and the grid-tied invertershould be set according to the actual tools used. » In order to ensure that the grid-tied inverters can continue to generate power, the output power of the hybrid inverters must be adjusted in the microgrid mode interface of the SolarGo APP. Note: The output power control precision of different grid-tied inverters varies. Please set the grid-tied power limit control parameter value according to the actual situation.

02 Power On/Off

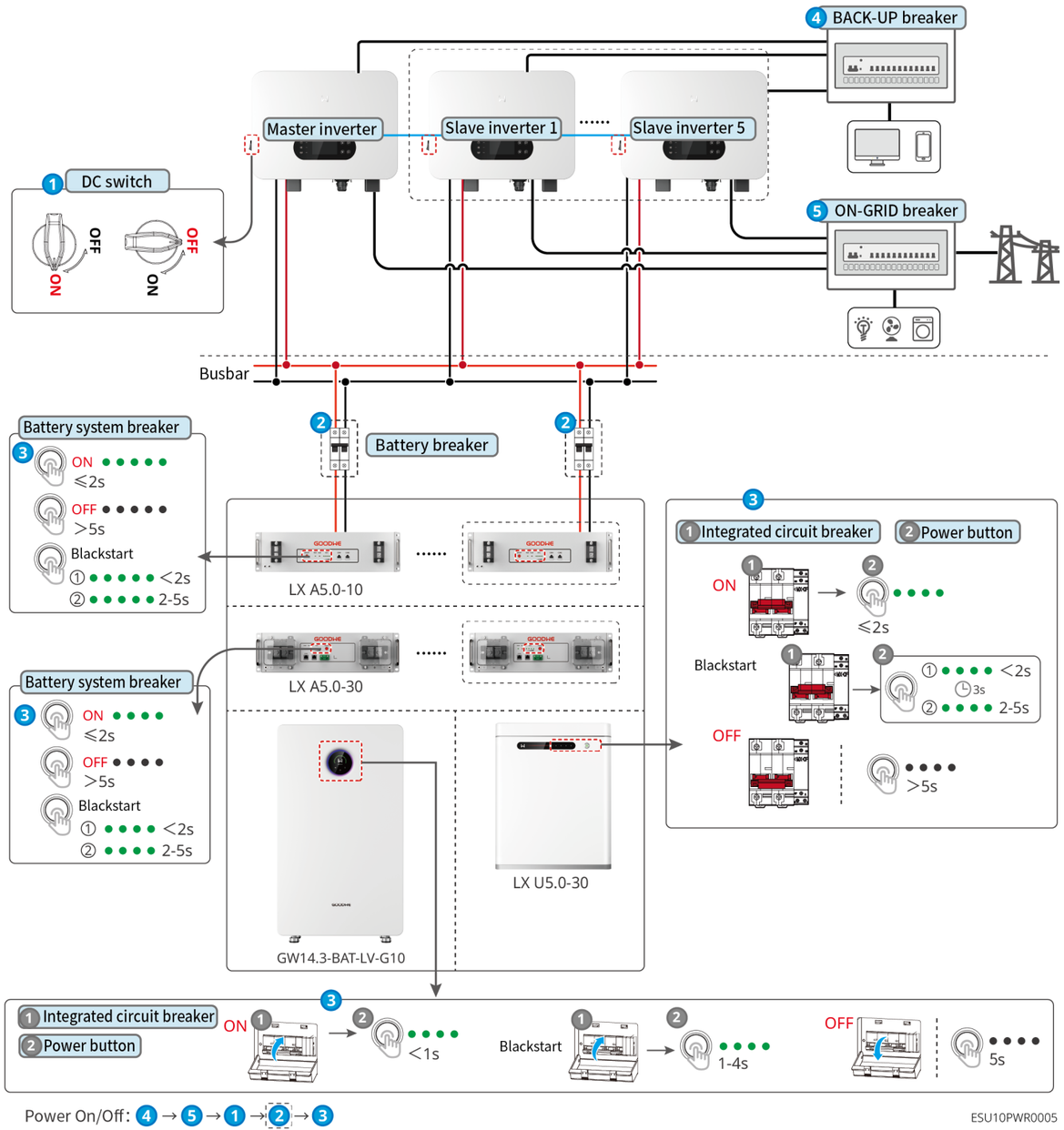
Single inverter system



Power On/Off: 5 → 4 → 6 → 1 → 2 → 3

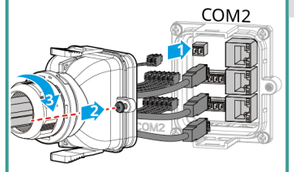
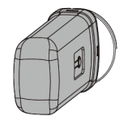
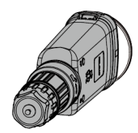
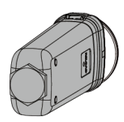
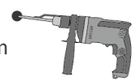
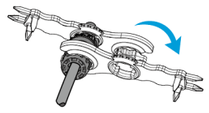
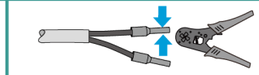
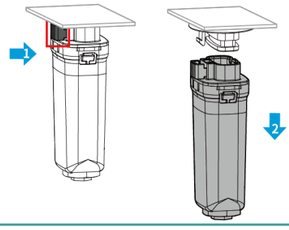
ESU10PWR0006

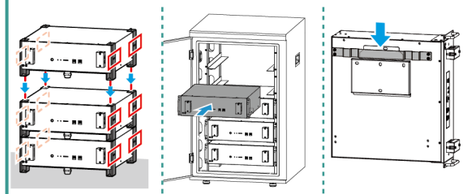
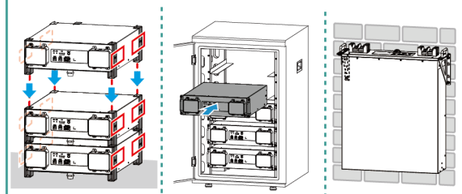
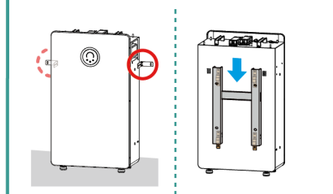
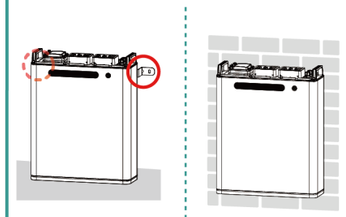
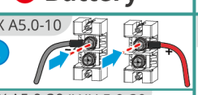
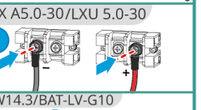
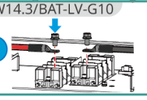
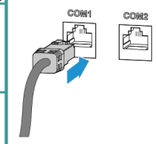
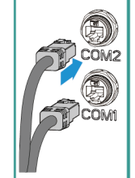
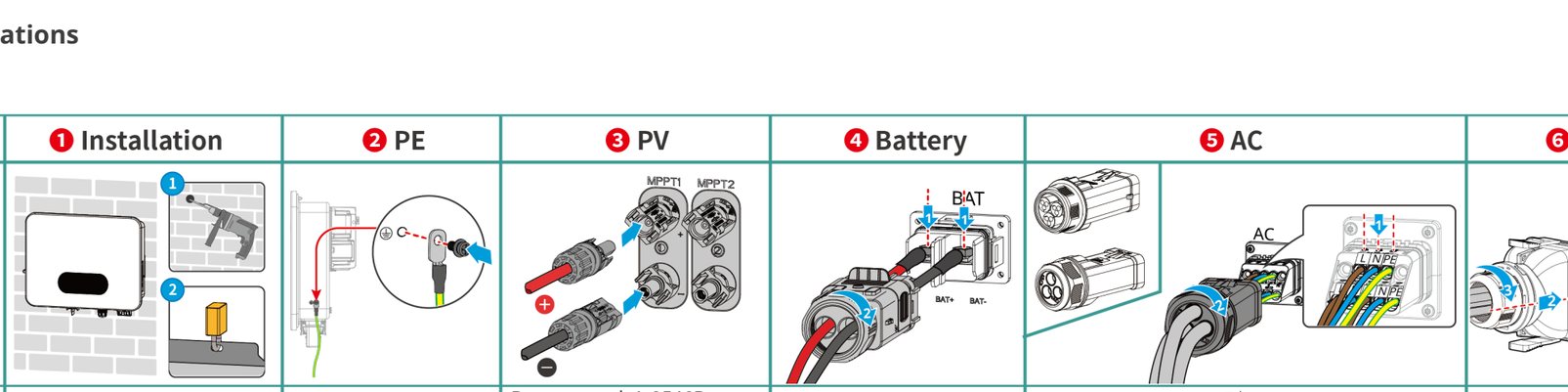
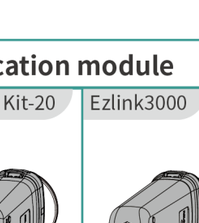
Multi-inverter system

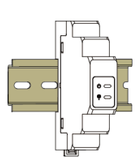
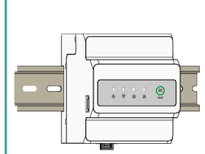
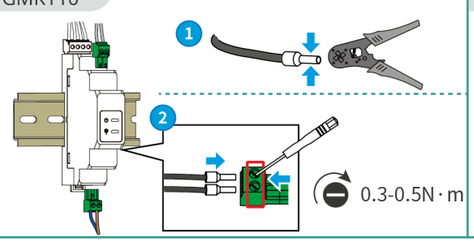
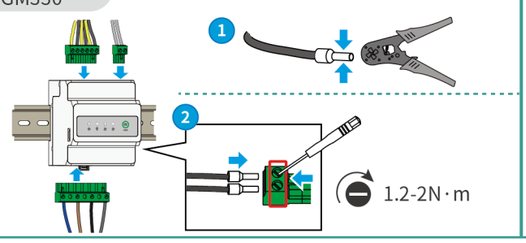
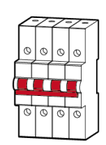


Power On/Off: 4 → 5 → 1 → 2 → 3

ESU10PWR0005

Steps	❶ Installation	❷ PE	❸ PV	❹ Battery	❺ AC	❻ COM	❼ Communication module
Inverter							4G Kit-CN-G20 4G Kit-CN-G21  WiFi/LAN Kit-20  Ezlink3000 
Tools	❶ D: 80mm ϕ: 8mm 	M5 1.5-2N·m 	Recommend: A-2546B  	❶ M8 5N·m  ❷ 52mm 6-7N·m 	❶ M5 1.5-2N·m ❷ 65mm 10N·m 	 ❷ M4 1.5N·m  ❸ 40mm 5-6N·m 	

Steps	❶ Installation	❷ PE	❸ Battery	❹ COM
Battery	LX A5.0-10  LX A5.0-30  GW14.3-BAT-LV-G10  LXU 5.0-30 	LX A5.0-10 LX A5.0-30 ❶ LXU 5.0-30 ❷ GW14.3-BAT-LV-G10 ❸	LX A5.0-10 ❶  LX A5.0-30/LXU 5.0-30 ❷  GW14.3/BAT-LV-G10 ❸ 	LX A5.0-10/LX A5.0-30 GW14.3-BAT-LV-G10  LXU 5.0-30 
Tools	 M4 1.4N·m M6 6N·m ❷ M6 6N·m ❸ M5 4N·m M4 1.4N·m M6 6N·m ❷ M6 6N·m ❸ M4 1.4N·m ❶ M5 4N·m ❸ ST5.5 4N·m ❷ M10 15N·m ❸ M5 4N·m ❶ ❷ ❸ 1a D: 80mm ϕ: 8mm 1b D: 65mm ϕ: 13mm 2a ST5.5 *70 10N·m 2b M10 10N·m ❶ M5 2N·m	❶ M5 4N·m ❷ M5 4N·m ❸ M5 4N·m	❶ M6 6N·m ❷ M8 12N·m ❸ M10 15N·m	

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

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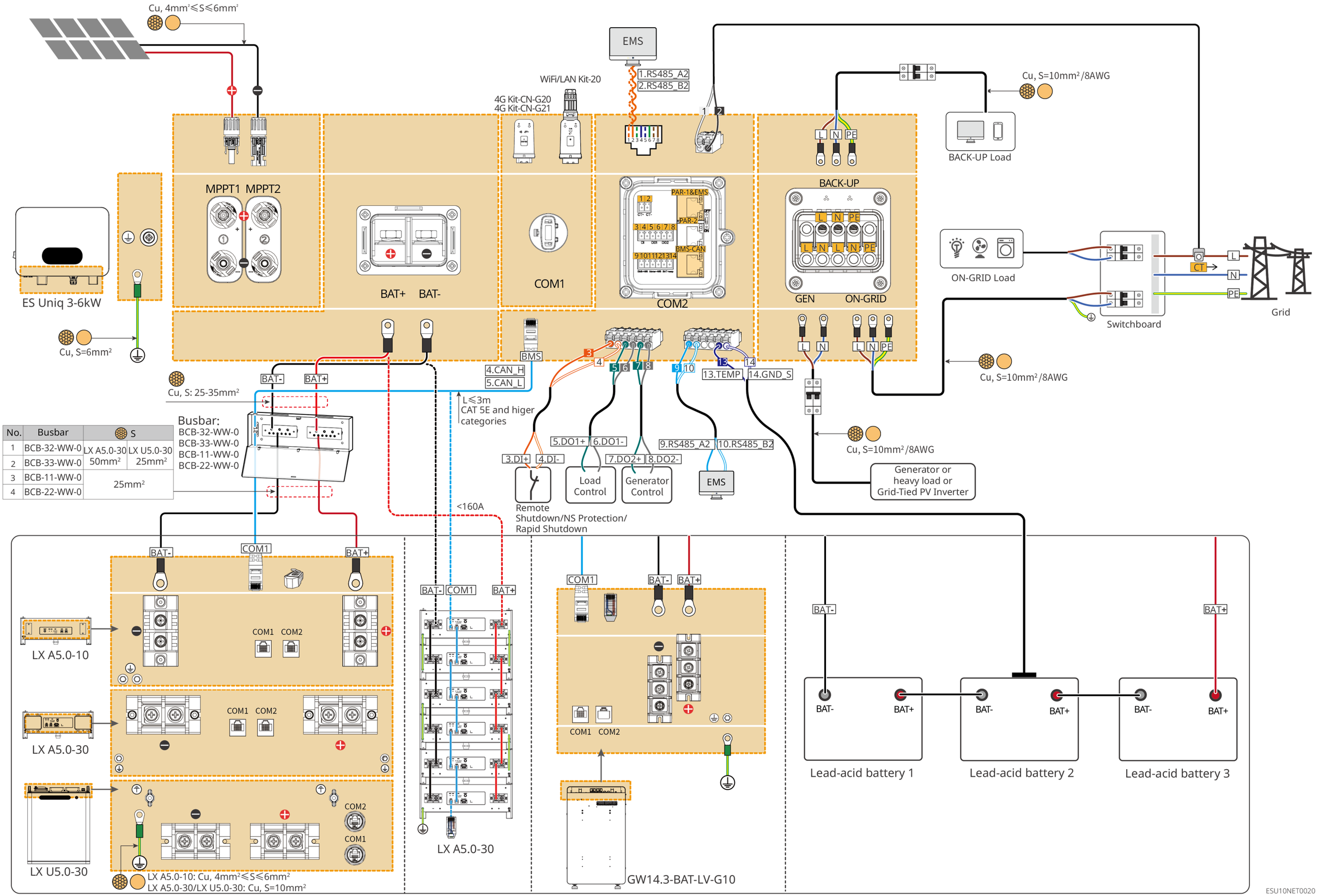
04 Wiring Diagram ES Uniq 3.0-6.0kW (single) + Lynx Home A or U or Lead-acid battery + Builit-in smart meter + WiFi/LAN Kit-20



No.	Busbar	S	
1	BCB-32-WW-0	LX A5.0-30 50mm²	LX U5.0-30 25mm²
2	BCB-33-WW-0		
3	BCB-11-WW-0	25mm²	
4	BCB-22-WW-0		

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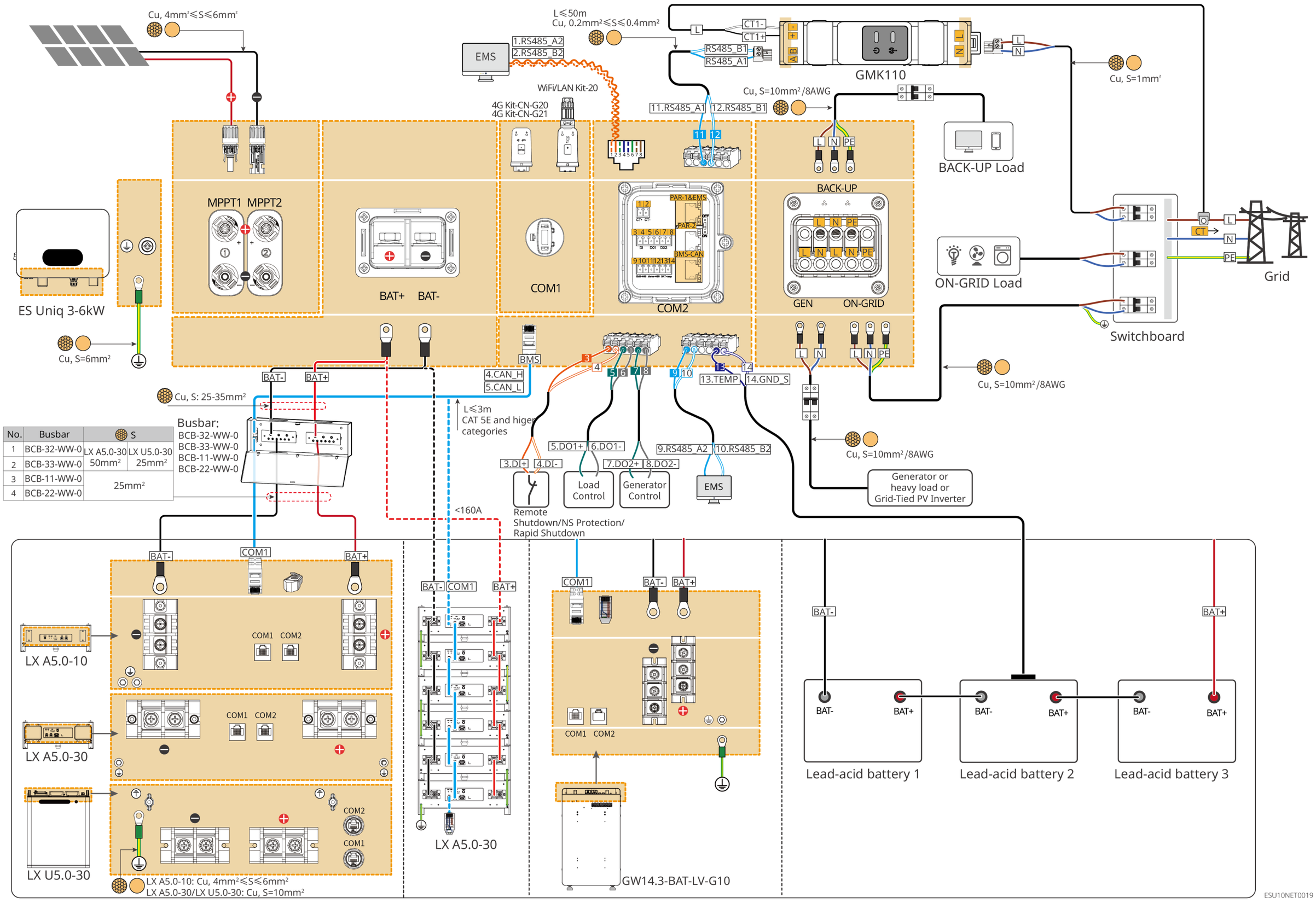
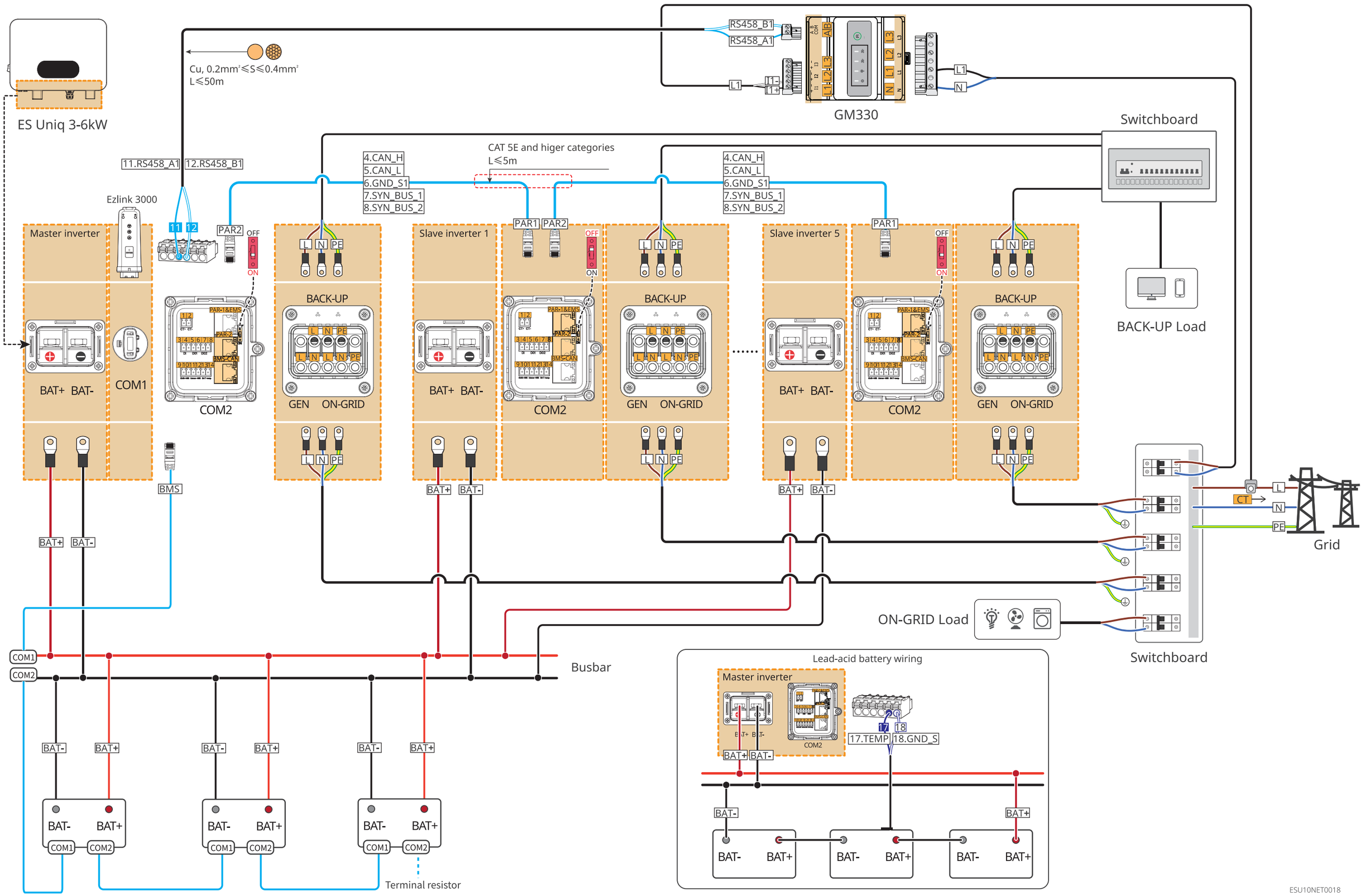
ES Uniq 3.0-6.0kW (single) + Lynx Home A or U or Lead-acid battery + GMK110 + WiFi-LAN Kit-20

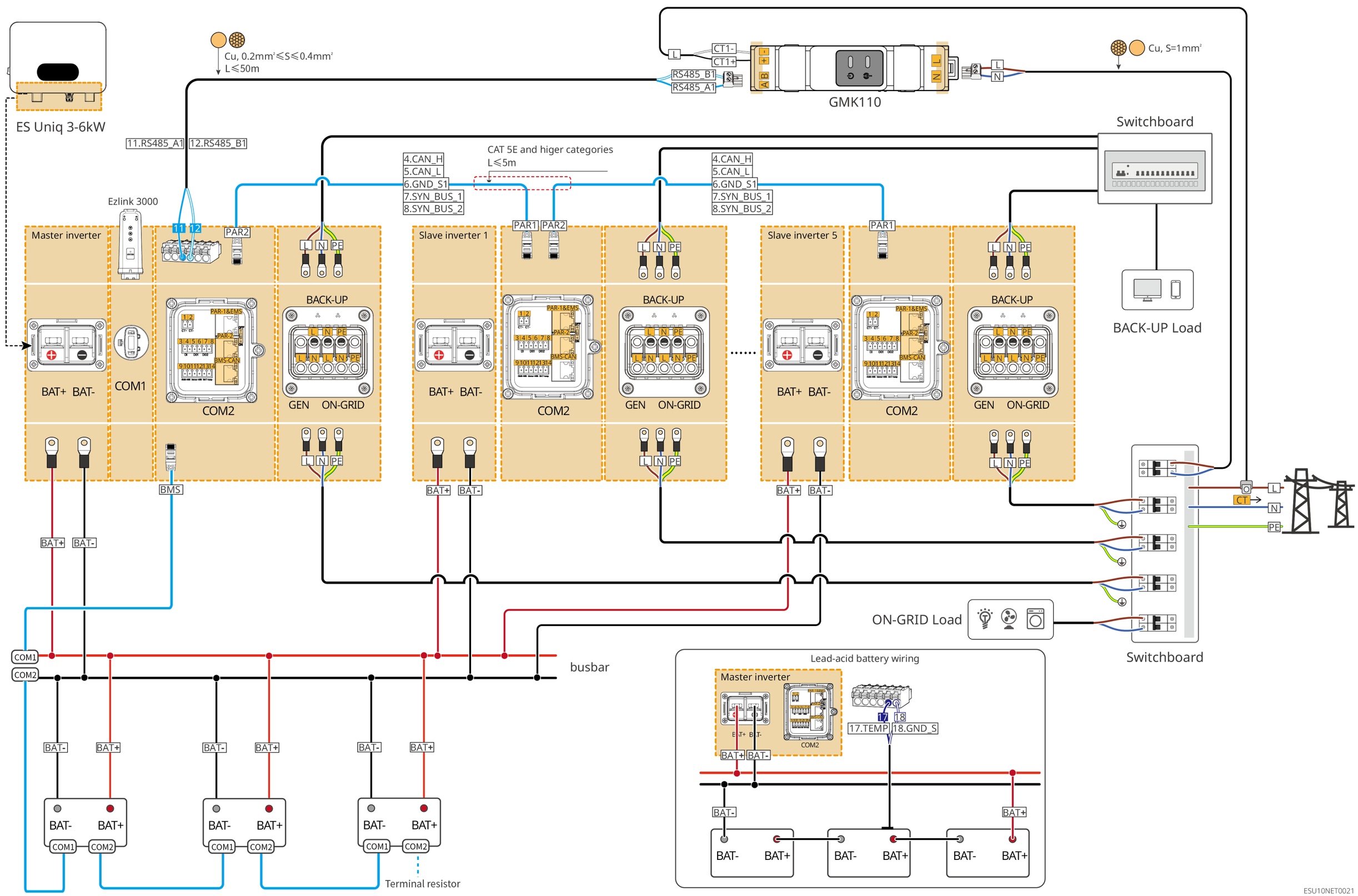


No.	Busbar	S	
1	BCB-32-WW-0	LX A5.0-30 50mm²	LX U5.0-30 25mm²
2	BCB-33-WW-0		
3	BCB-11-WW-0	25mm²	
4	BCB-22-WW-0		

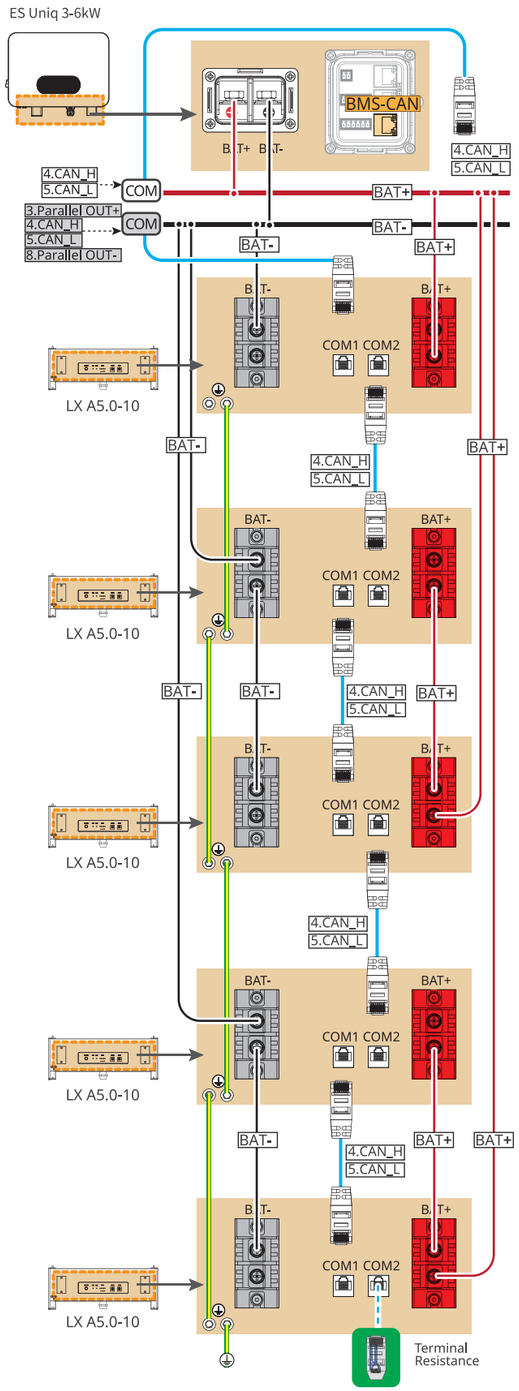
ES Uniq 3.0-6.0kW (parallel connected) + GM330 + Ezlink3000

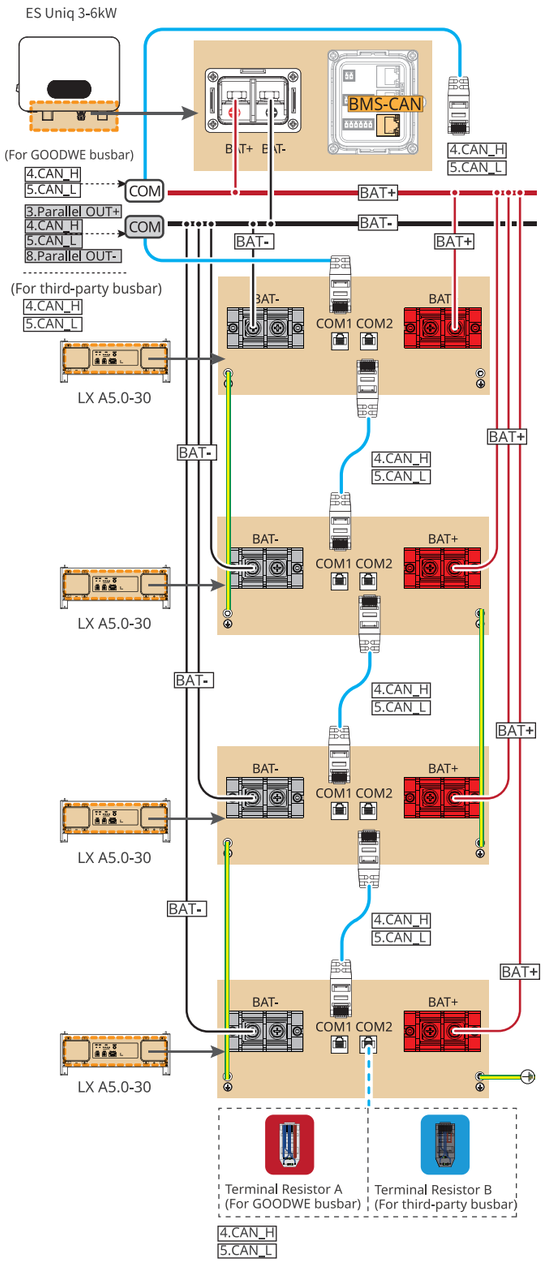


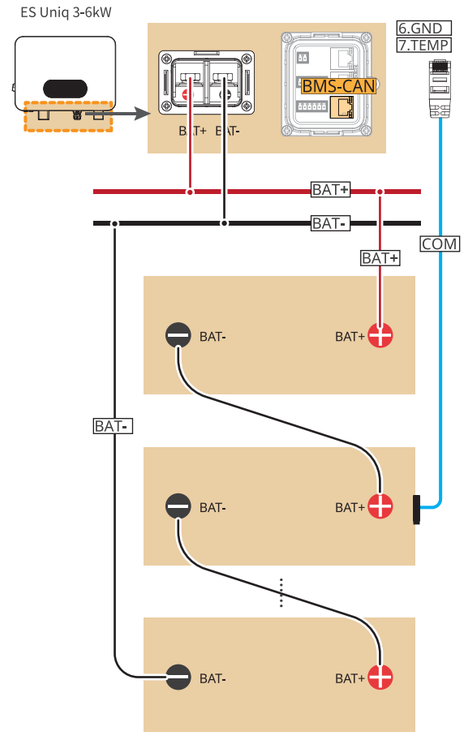
ES Uniq 3.0-6.0kW (parallel connected) + GMK110 + Ezlink3000



Battery System Wiring Diagram



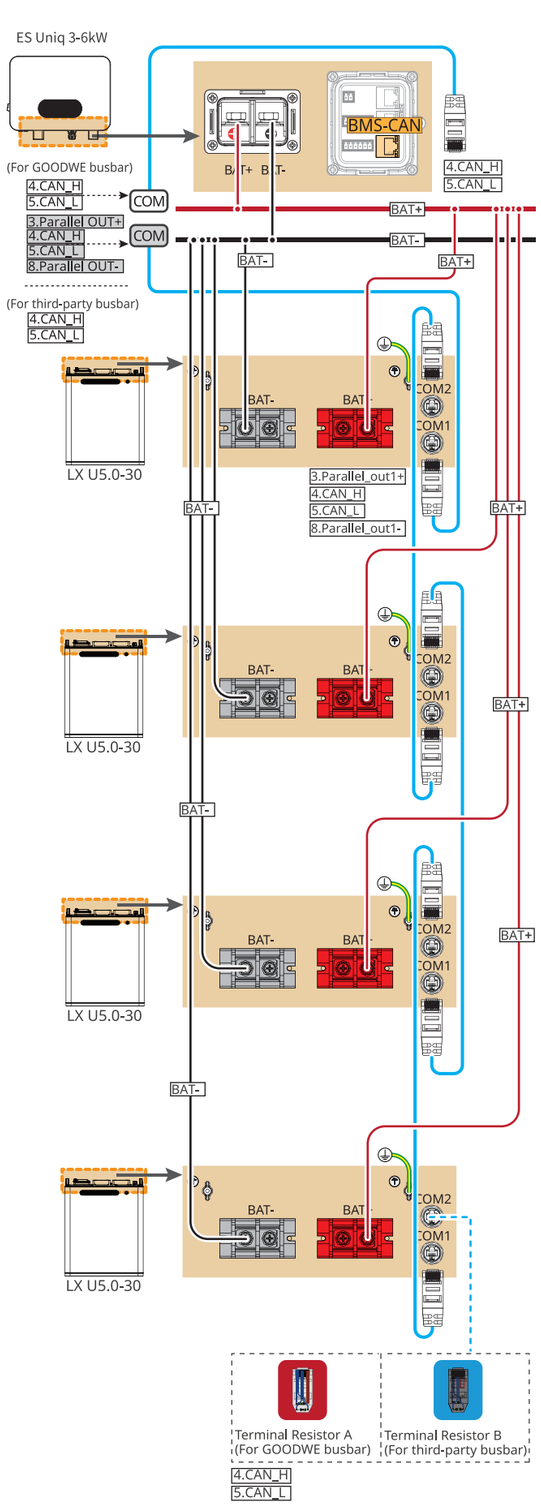


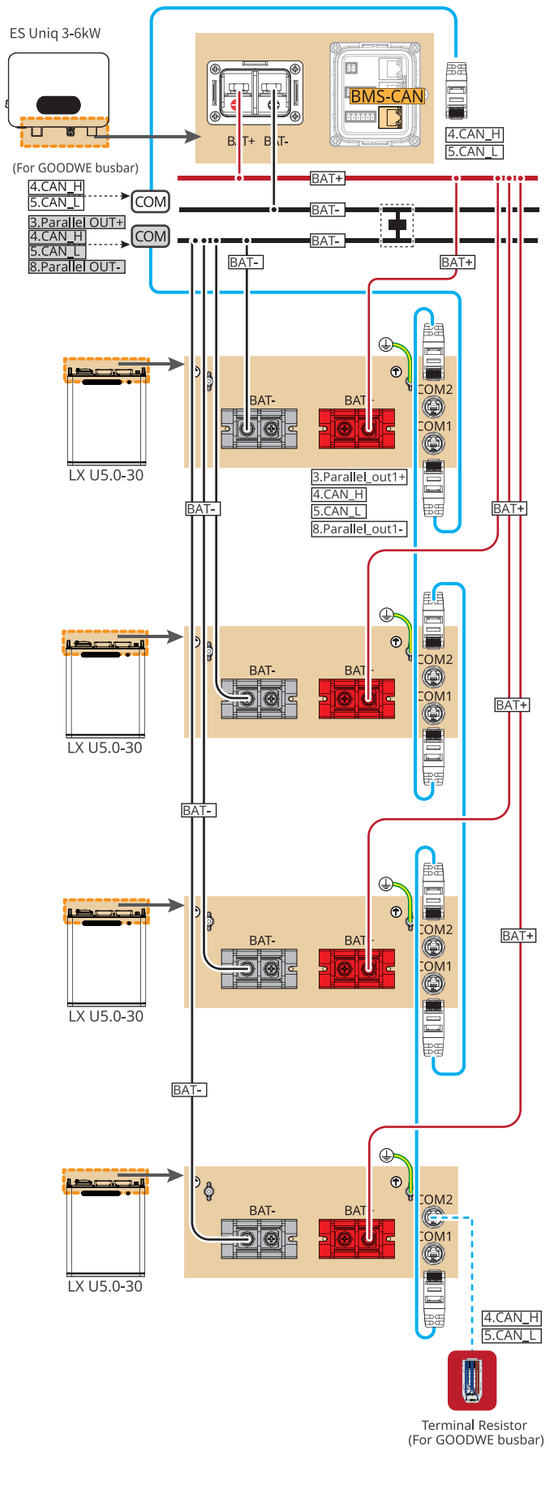


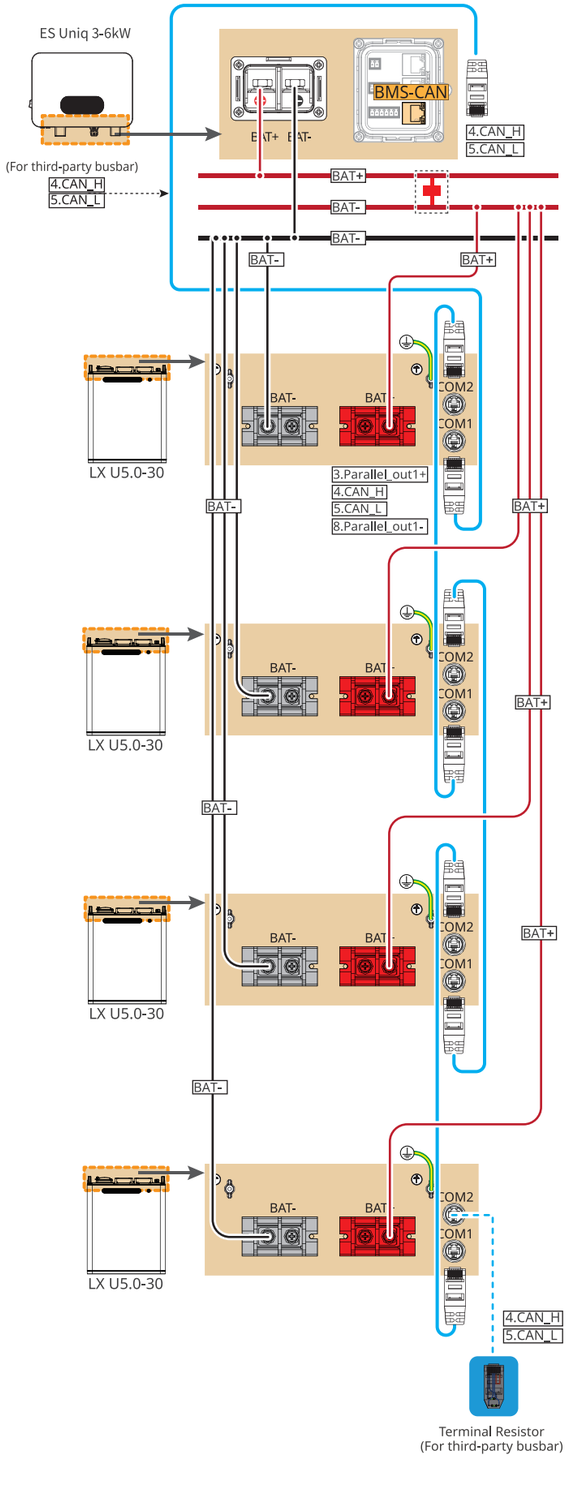
The quantity of batteries depends on the required voltage.

CAT 5E and higer categories

ESU10NET0022

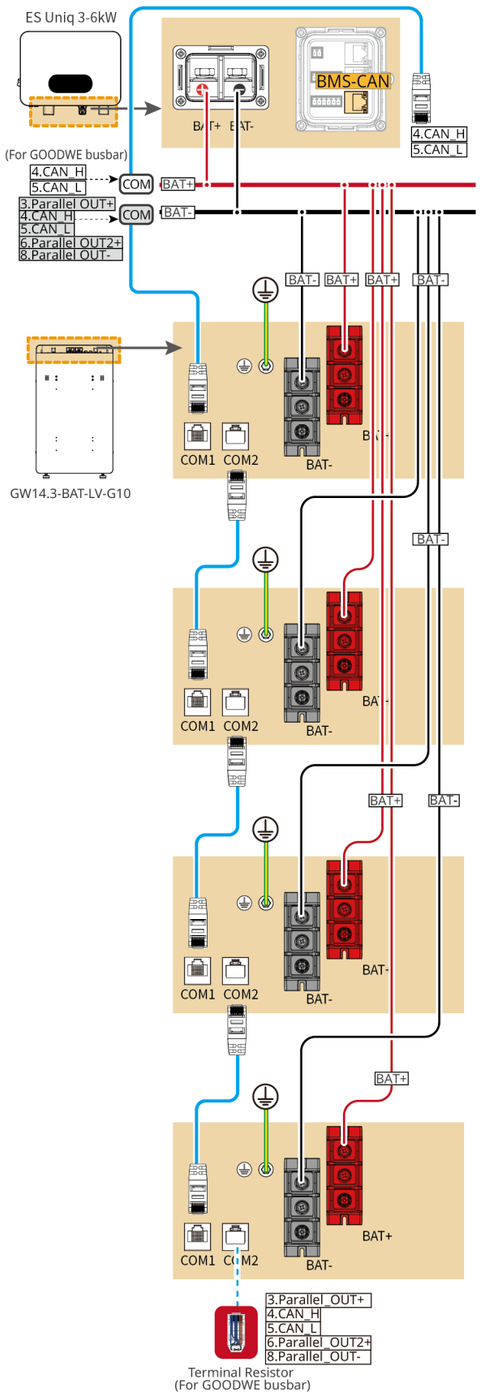


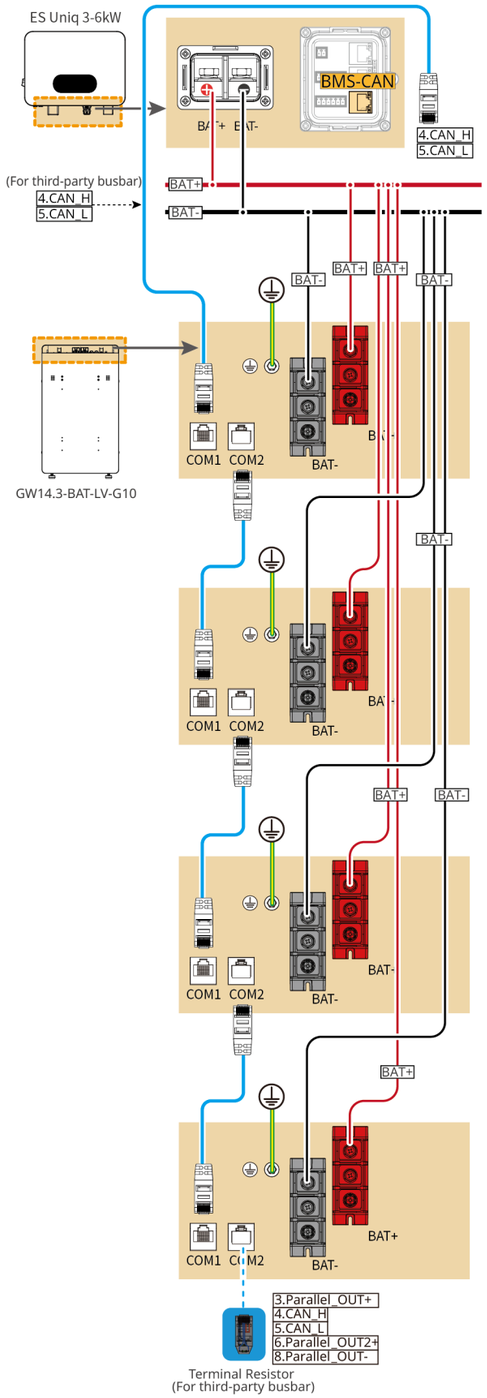


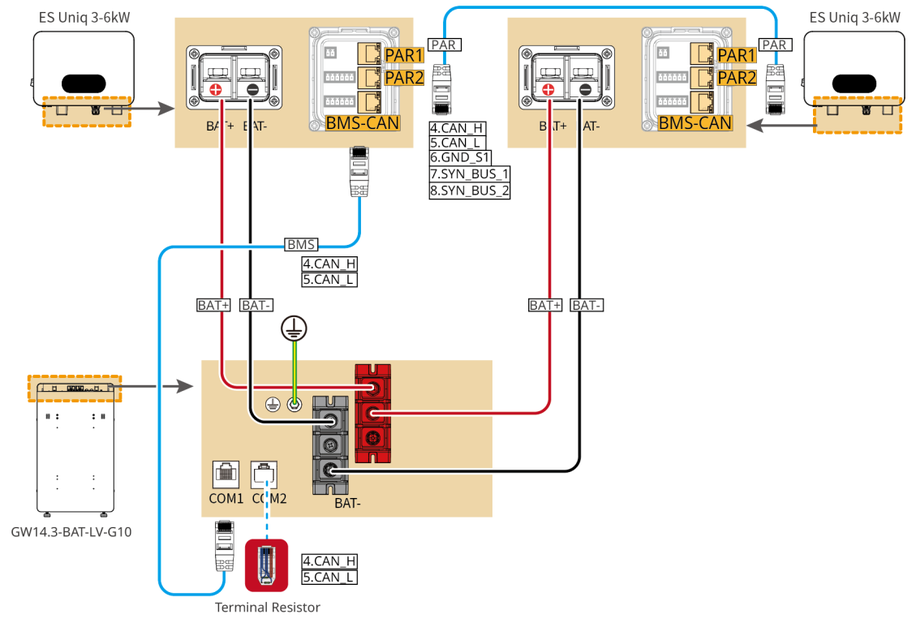


CAT 5E and higer categories

ESU10NET0023







ESU10NET0026

05 Equipment Commissioning

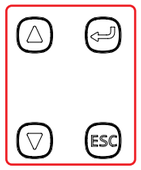
SolarGo app

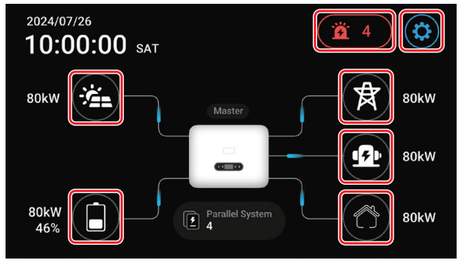
SEMS Portal app

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

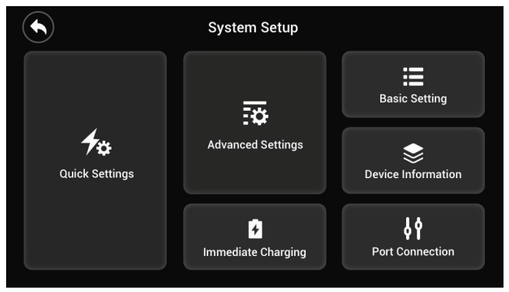
Quick Settings

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.Advanced function page initial password:1111

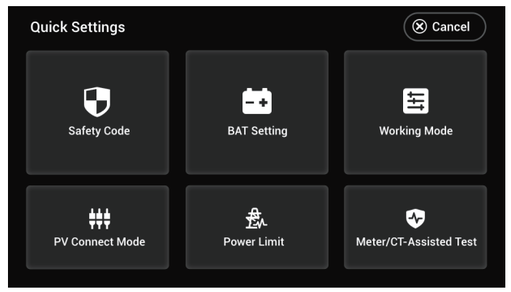




ESU10DSC0006



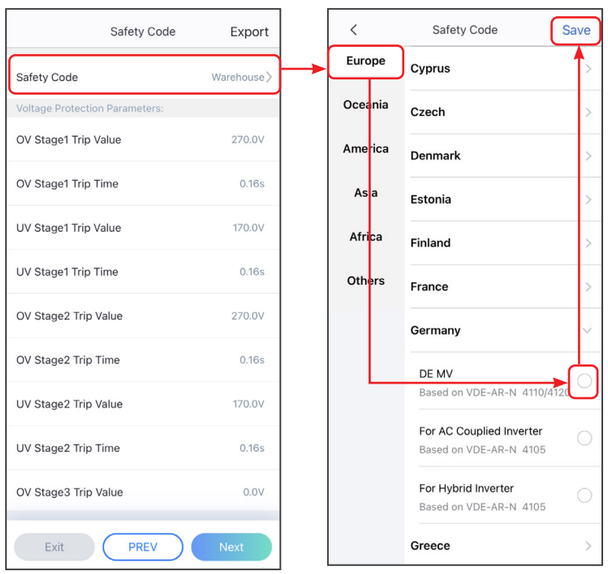
ESU10CON0007



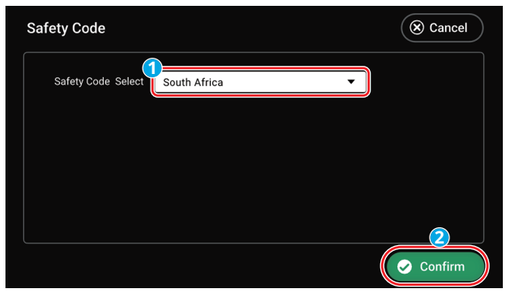
ESU10CON0008

Setting Safety Code

Setting safety code via SolarGo APP

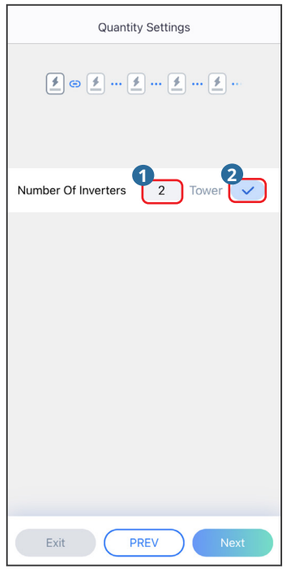


Setting safety code via LCD screen

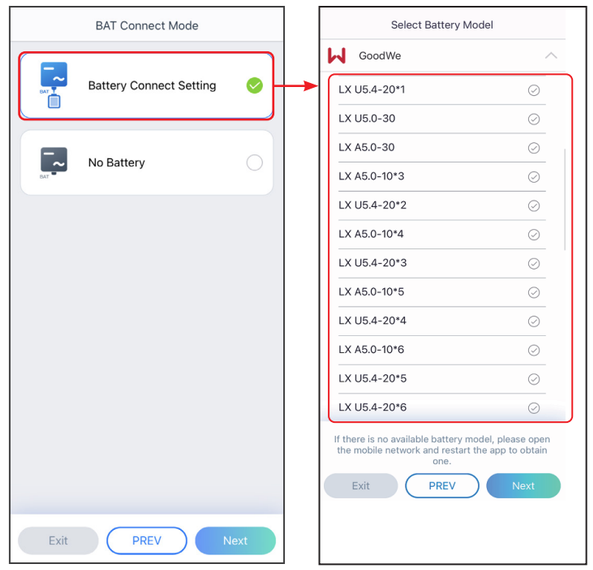


ESU10CON0009

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

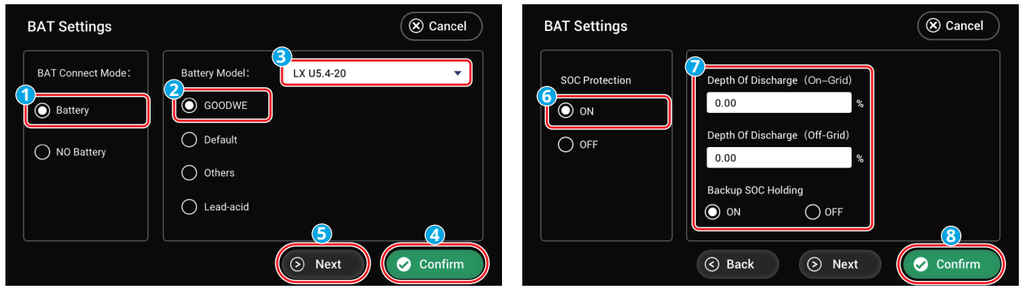


Setting the BAT Connect Mode via SolarGo APP



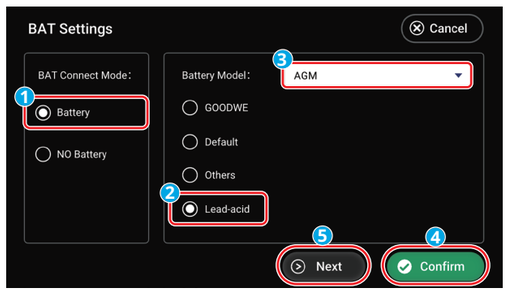
Setting BAT parameter via LCD screen

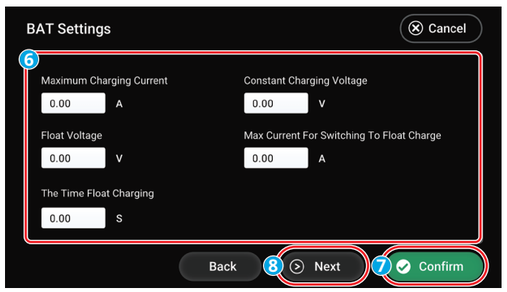
Lithium battery

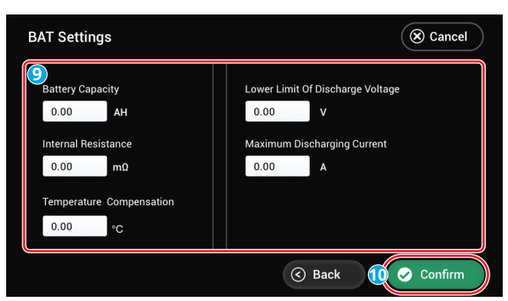


ESU10CON0010

Lead-acid battery



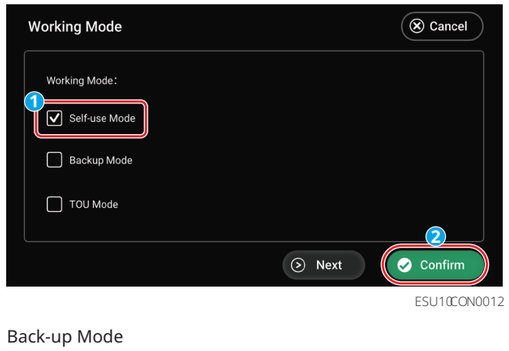




ESU10CDN0011

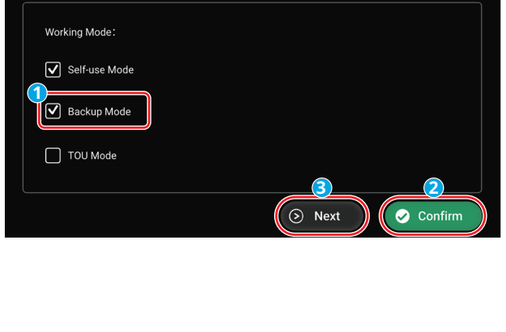
Setting working mode via LCD screen

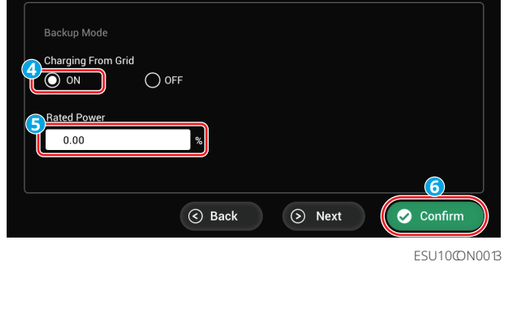
Self-use Mode



ESU10CDN0012

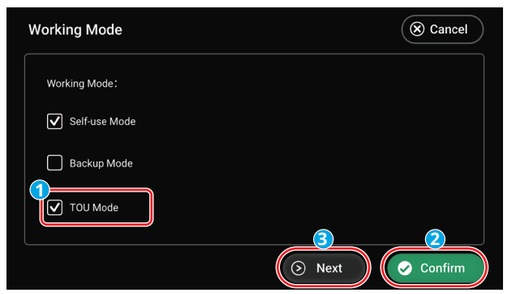
Back-up Mode

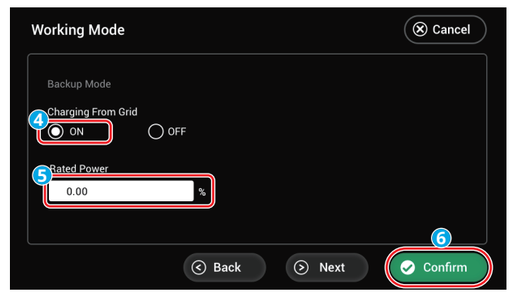


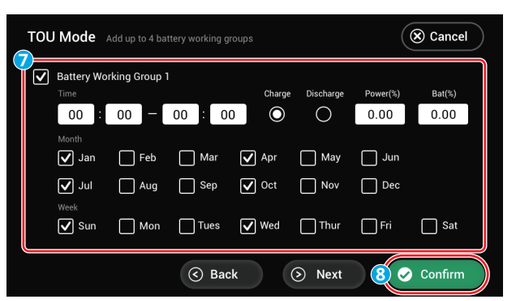


ESU10CDN0013

TOU Mode

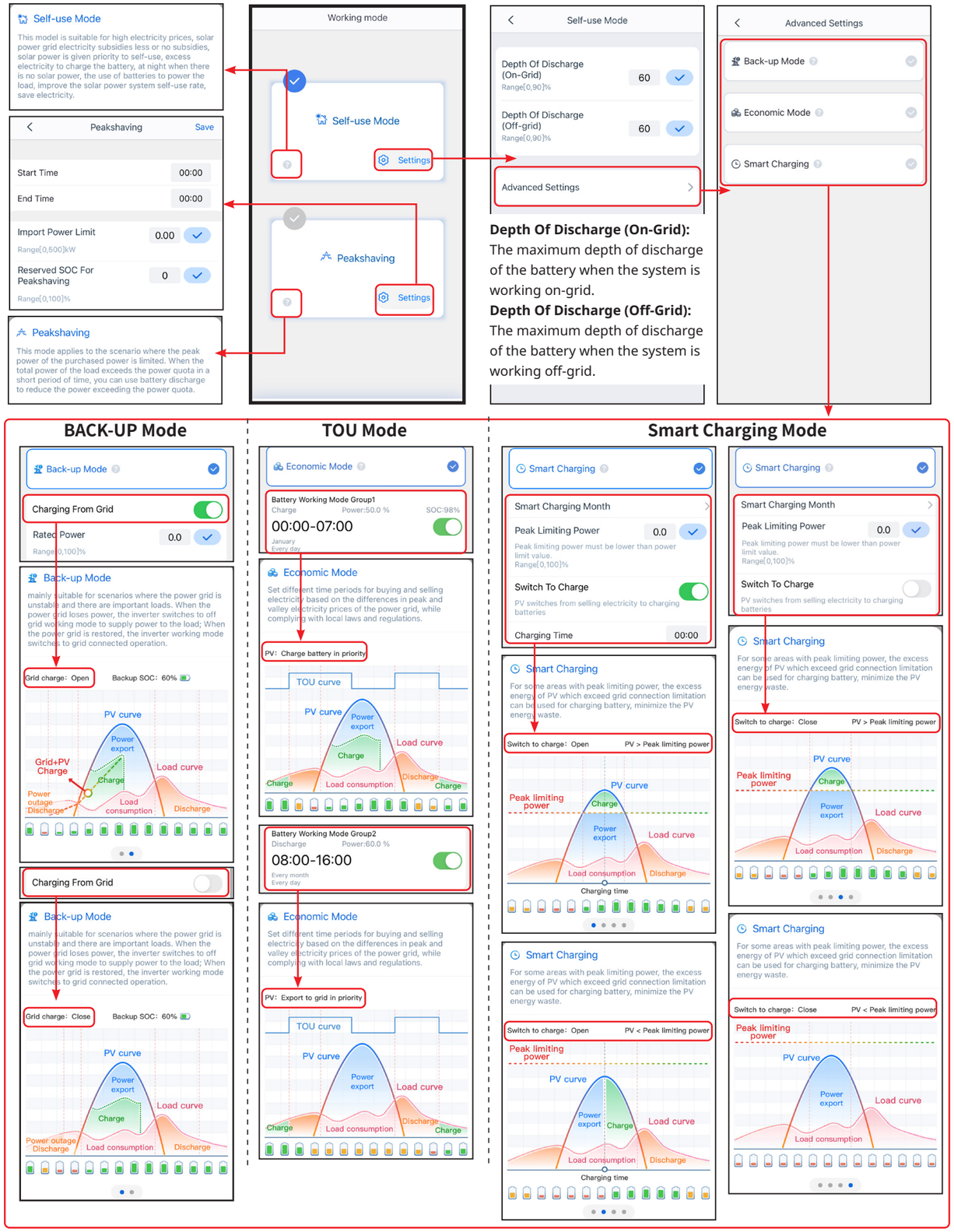






ESU10CDN0014

Setting working mode via SolarGo APP



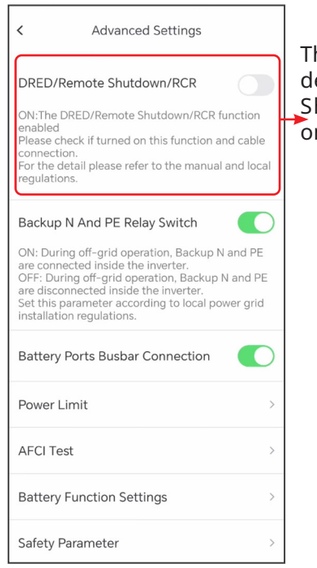
Depth Of Discharge (On-Grid): The maximum depth of discharge of the battery when the system is working on-grid.

Depth Of Discharge (Off-Grid): The maximum depth of discharge of the battery when the system is working off-grid.

Setting the Advanced Parameters

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

Setting DRED/Remote Shutdown/RCR



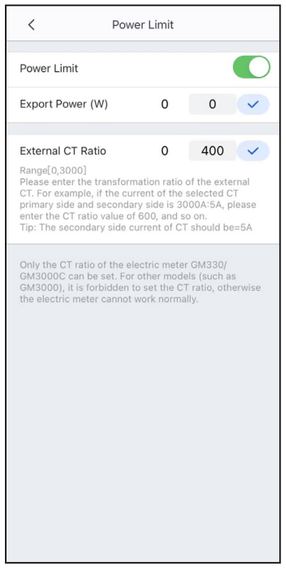
This function is disabled by default. To use the Remote Shutdown function, turn on this switch.

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.



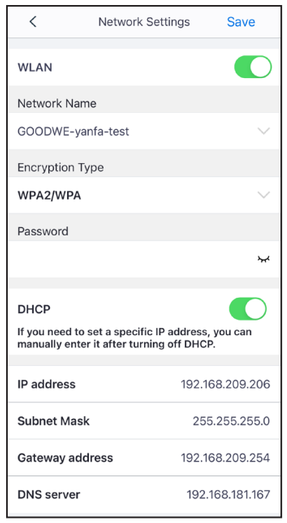
Setting power limit via LCD screen

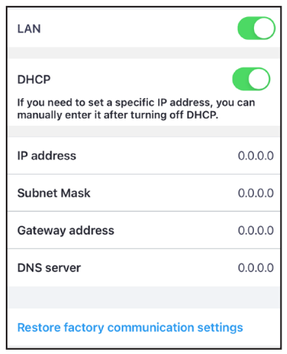
ESU10CON0016

Configuring the Network

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

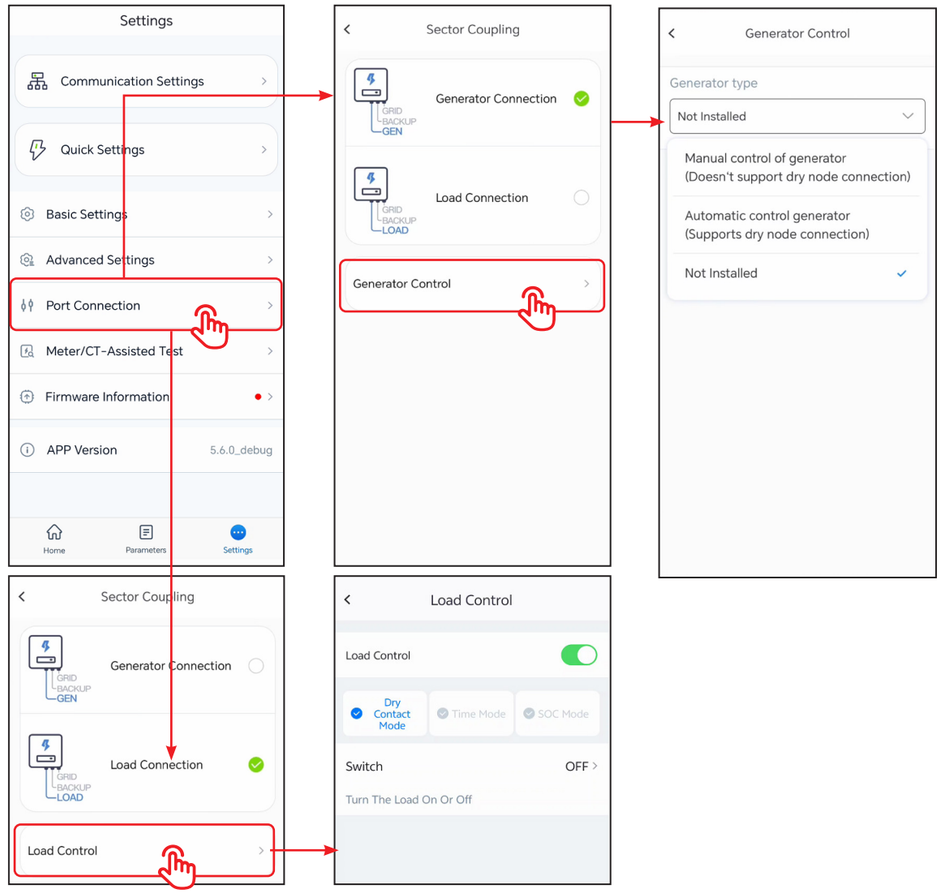
WiFi/LAN Kit-20



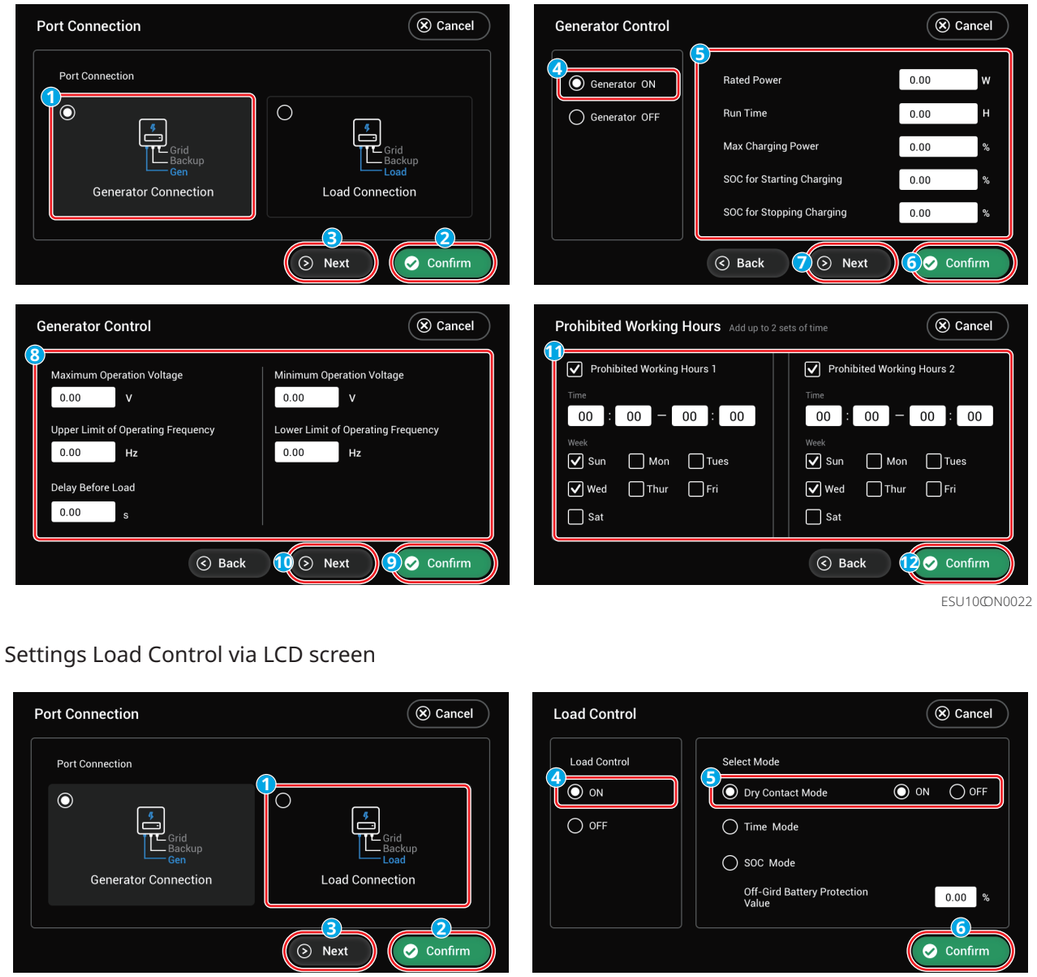


Setting GEN port

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



Settings generator parameters via LCD screen



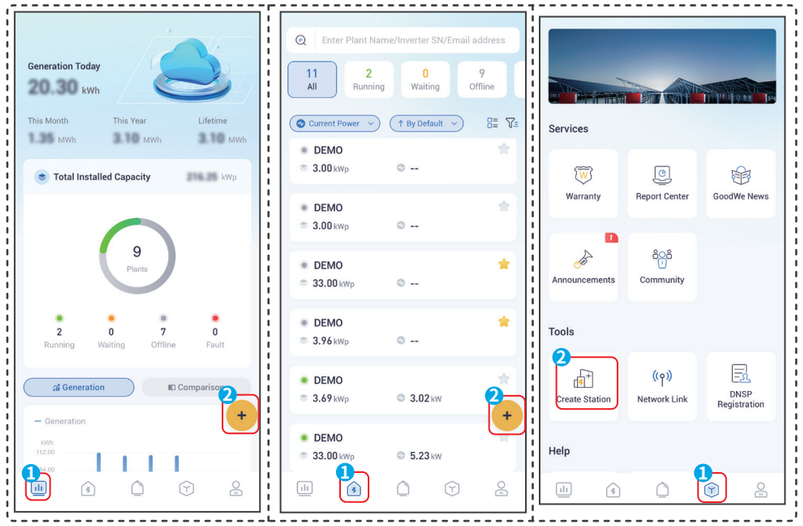
ESU10CDN0022

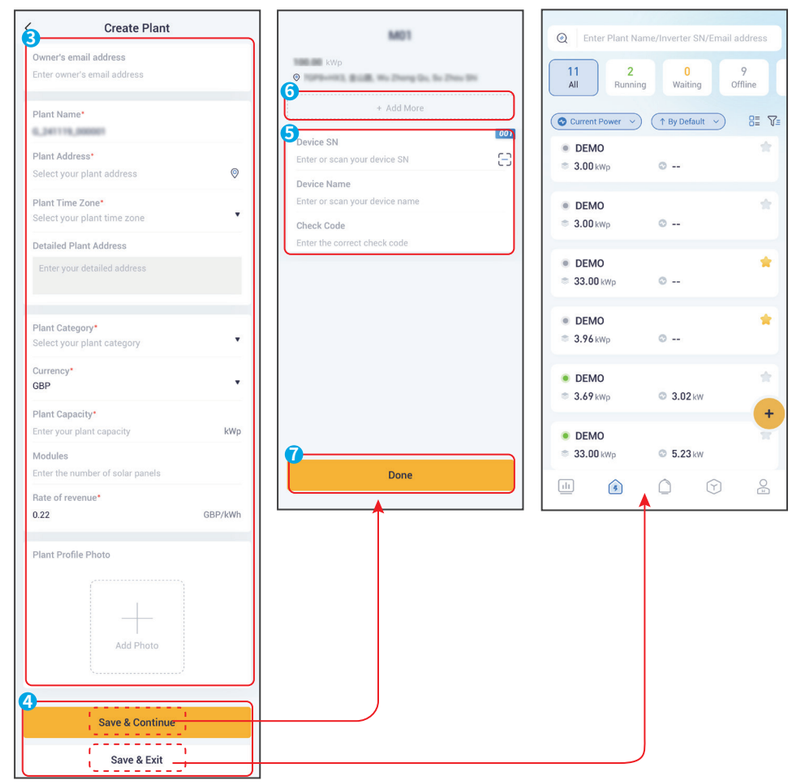
Settings Load Control via LCD screen

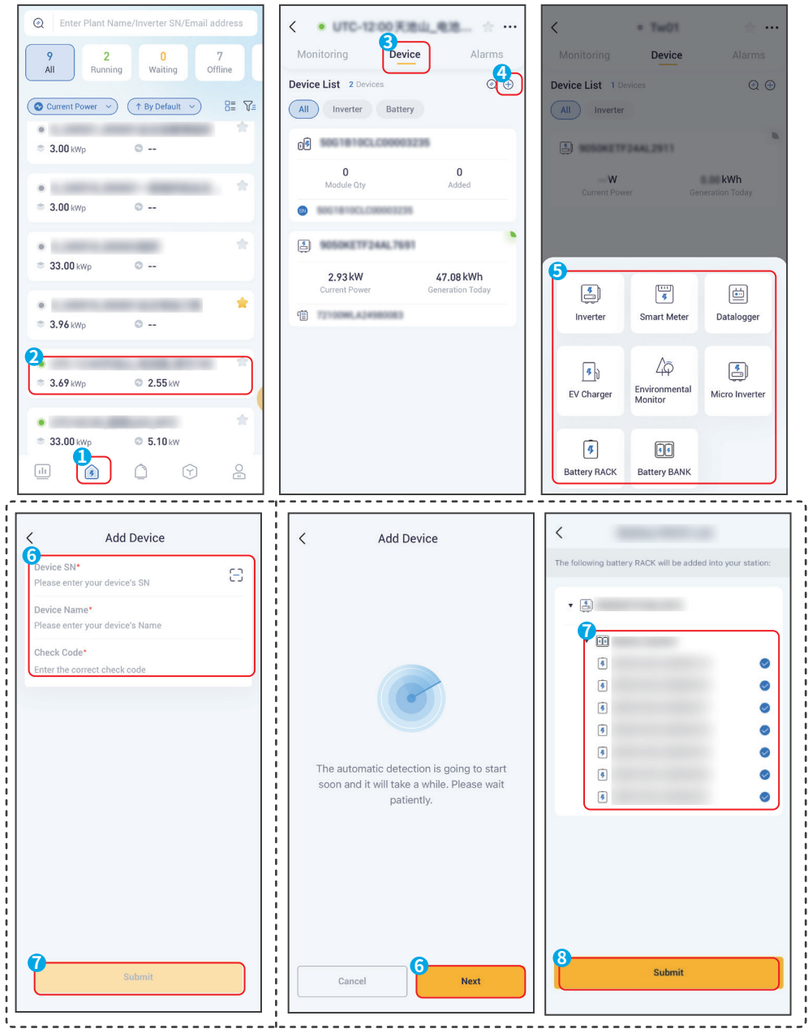
ESU10CDN0023

Creating a Power Plant

Create power plants and add equipments via SEMS+ app.







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service@goodwe.com