

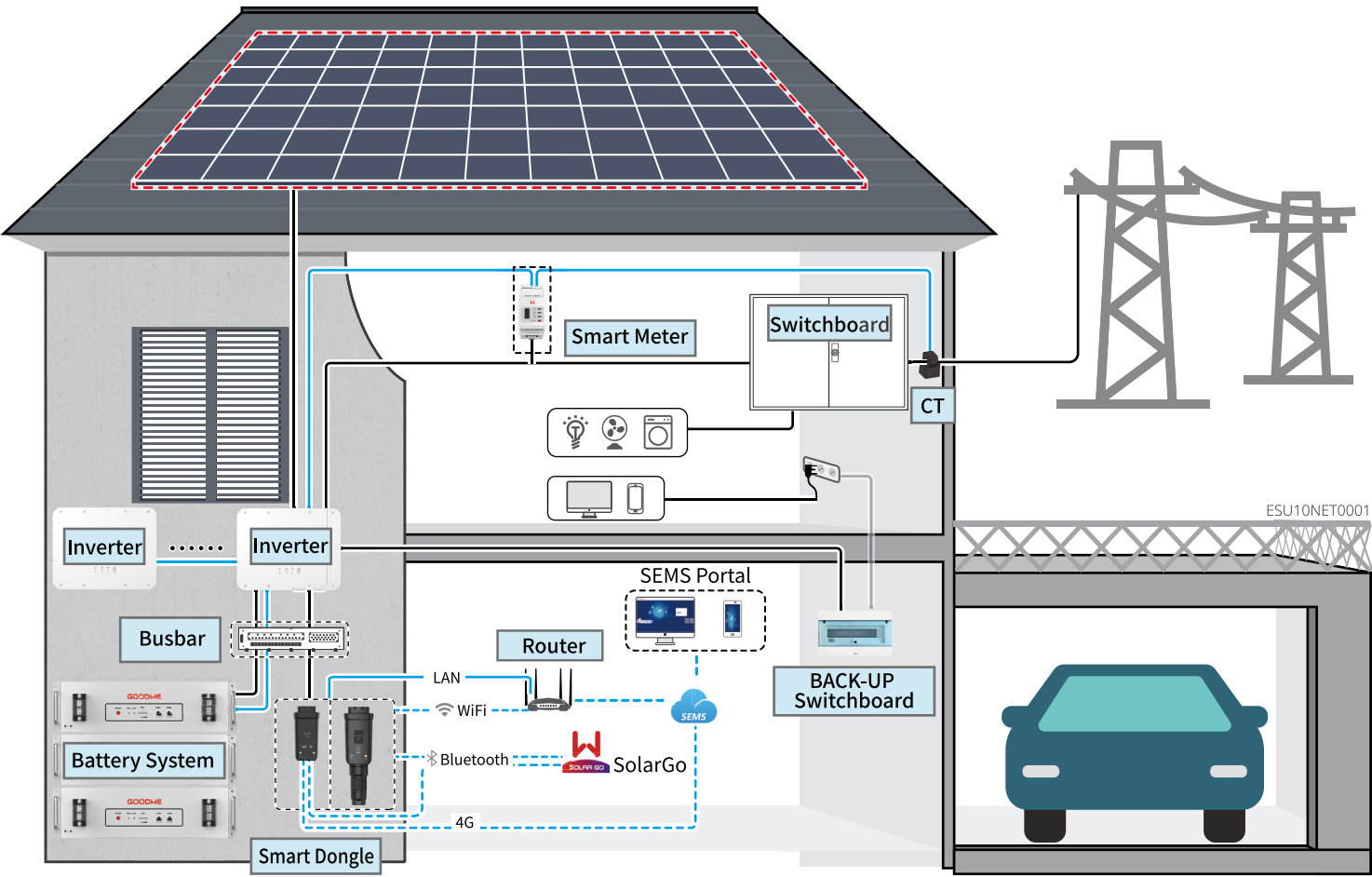
ES Uniq 8.0-12kW Residential Smart Inverter Solutions Guide

V1.4-2025-04-22

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.

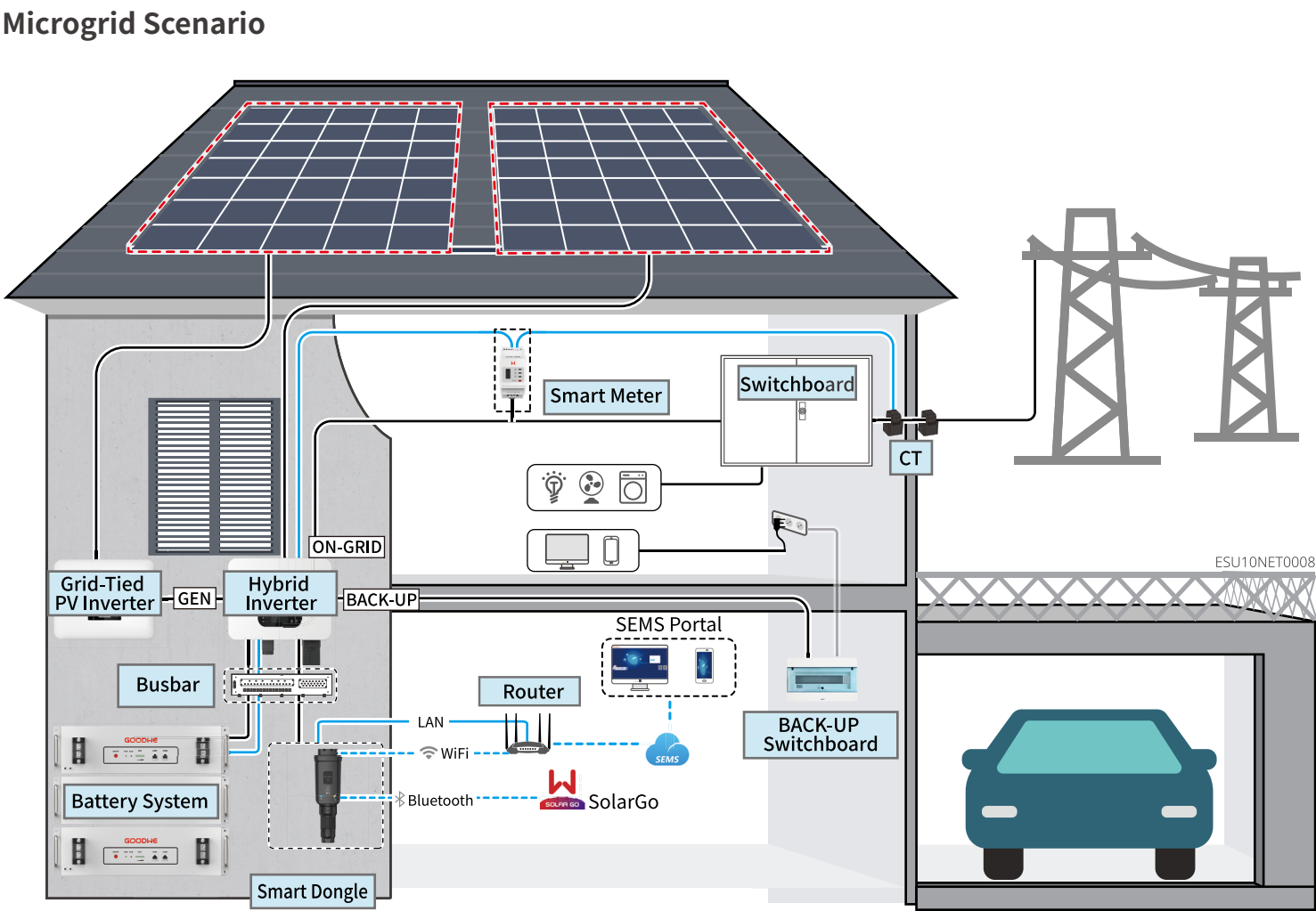
Scenario



Device	Model	Description
Inverter	GW8000-ES-C10	<ul style="list-style-type: none"><li>When only one inverter is used in the system, it is supported to connect generator.</li><li>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.</li><li>Requirements for parallel:</li><li>The software version of all inverters in the system is the same.</li><li>The ARM software version of the inverter is 08(415) and above.</li><li>The DSP software version of the inverter is 00(2525) and above.</li></ul>
	GW10K-ES-C10	
	GW12K-ES-C10	

Device	Model	Description
Battery system	LX A5.0-10	Battery of different models cannot be mix used.
	LX A5.0-30	<ul style="list-style-type: none"><li>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.</li><li>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.</li></ul>
	LX U5.4-L	The maximum charging and discharging current of a single battery is 50A; a maximum of 6 batteries can be connected in parallel in one system.
	LX U5.4-20	
	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.
	Lead-acid Battery	<ul style="list-style-type: none"><li>Supports connection to lead-acid batteries of AGM, GEL, and Flooded types.</li><li>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.</li></ul>
Busbar	BCB-11-WW-0 BCB-22-WW-0 BCB-32-WW-0 BCB-33-WW-0 (Purchase from GoodWe)	<ul style="list-style-type: none"><li>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.</li><li>BCB-11-WW-0:<ul style="list-style-type: none"><li>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.</li></ul></li><li>BCB-22-WW-0:<ul style="list-style-type: none"><li>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.</li><li>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.</li></ul></li><li>BCB-32-WW-0:<ul style="list-style-type: none"><li>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.</li><li>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.</li><li>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.</li></ul></li><li>BCB-32-WW-0:<ul style="list-style-type: none"><li>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.</li></ul></li><li>Others: Please prepare busbar based on actual system power and current.</li></ul>

Device	Model	Description
Smart Meter	<ul style="list-style-type: none"> <li>Built-in Smart Meter (Standard)</li> <li>GMK110 (optional)</li> <li>GM330 (purchase from GoodWe)</li> </ul>	<ul style="list-style-type: none"> <li>Built-in Smart Meter: When the number of parallel inverters is <math>\leq 2</math> and the length of CT cable is <math>\leq 10</math> meters, the built-in meter can be used. Built-in smart meter: 10-meter wire CT, default CT ratio: 120A/40mA</li> <li>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.</li> <li>CM330: Supports purchasing from GOODWE or third-party, CT ratio requirement: nA/5A <ul style="list-style-type: none"> <li>nA: CT primary input current, n ranges from 200 to 5000.</li> <li>5A: CT Secondary input current.</li> </ul> </li> </ul>
Smart Dongle	<ul style="list-style-type: none"> <li>WiFi/LAN Kit-20 (Standard)</li> <li>4G Kit-CN-G20 (Only for China)</li> <li>4G Kit-CN-G21 (Only for China)</li> <li>Ezlink3000 (purchase from GoodWe)</li> </ul>	<ul style="list-style-type: none"> <li>Please use the WiFi/LAN Kit-20, 4G Kit-CN-G20, 4G Kit-CN-G21 modules in single inverter system.</li> <li>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.</li> </ul>
Heavy Load	-	Supports SG Ready, large load specification requirements: <ol style="list-style-type: none"> <li>Large load total power &lt; GEN port maximum output power</li> <li>Large load power + BACK-UP power &lt; AC maximum input power (grid)</li> </ol>
Generator	-	Generator rated voltage meets inverter GEN port rated voltage



Device	Model	Description
Inverter	GW8000-ES-C10 GW10K-ES-C10 GW12K-ES-C10	<ul style="list-style-type: none"> <li>In the microgrid system, parallelization is not supported by the inverter, and only a single inverter can be supported to use in the system.</li> <li>Requirements for parallel:</li> <li>The ARM software version of the inverter is 13(456) and above.</li> <li>The DSP software version of the inverter is 03(11) and above.</li> </ul>

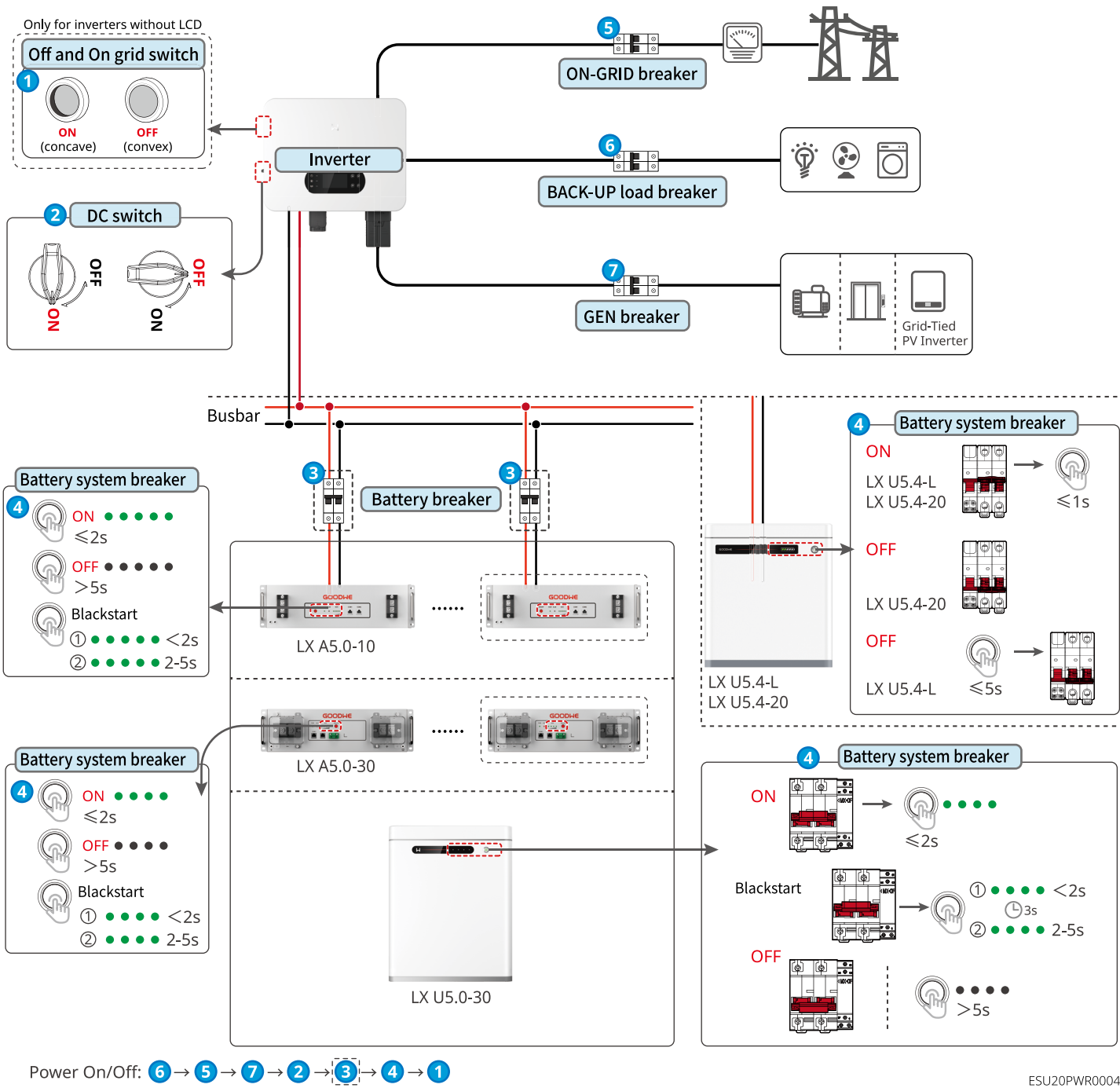


Device	Model	Description
Battery system	LX A5.0-10	Battery of different models cannot be mix used.
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Busbar	BCB-11-WW-0 BCB-22-WW-0 BCB-32-WW-0 BCB-33-WW-0 (Purchase from GoodWe)	<ul style="list-style-type: none"> <li>Please select the busbar according to the charging/discharging capacity of the inverter, the load size, and the charging/discharging capacity of the battery in the system.</li> <li>BCB-11-WW-0: <ul style="list-style-type: none"> <li>» 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.</li> </ul> </li> <li>BCB-22-WW-0: <ul style="list-style-type: none"> <li>» 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.</li> <li>» 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.</li> </ul> </li> <li>BCB-32-WW-0: <ul style="list-style-type: none"> <li>» 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.</li> <li>» 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.</li> <li>» 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.</li> </ul> </li> <li>BCB-32-WW-0: <ul style="list-style-type: none"> <li>» 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.</li> </ul> </li> <li>Others: Please prepare busbar based on actual system power and current.</li> </ul>

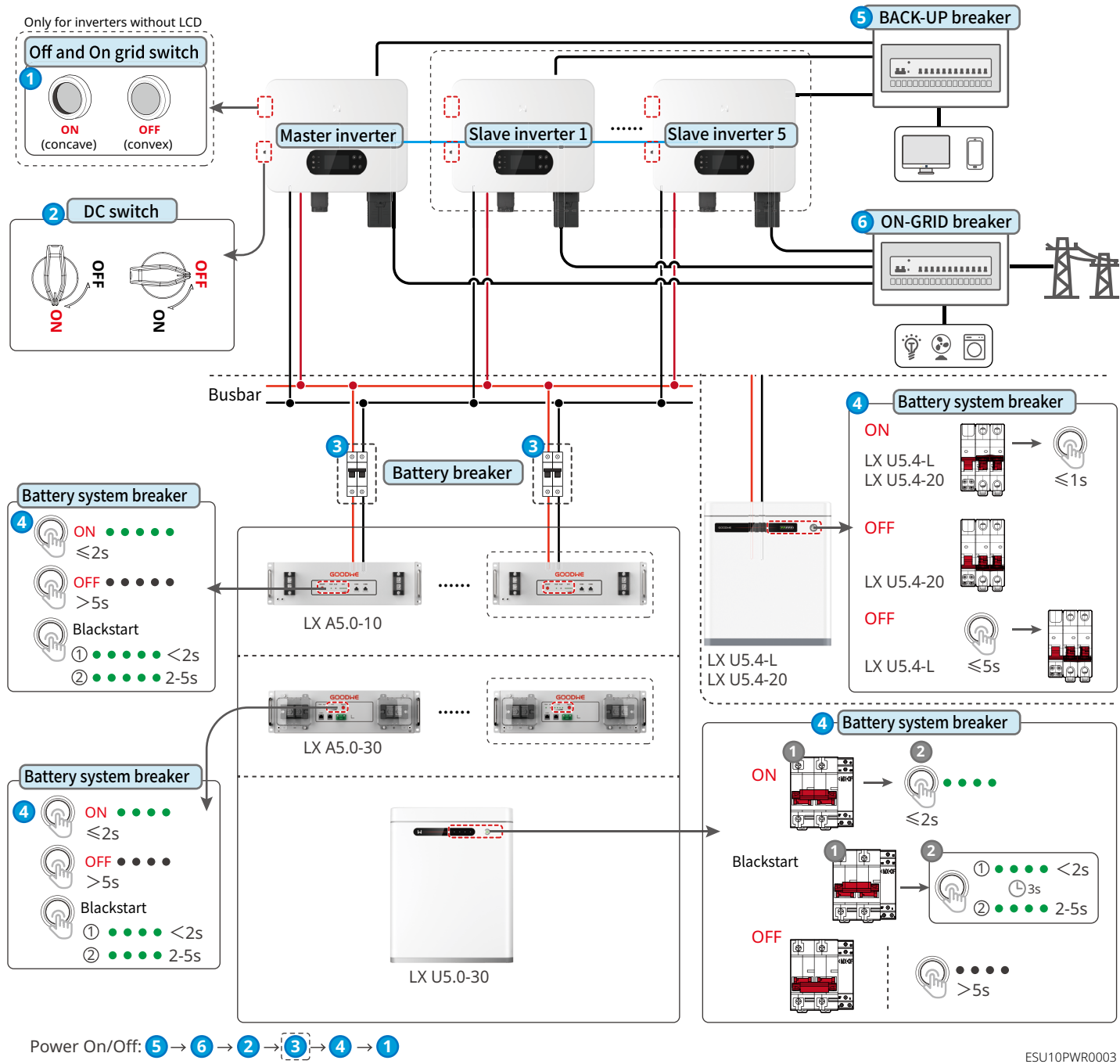
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Smart Dongle	<ul style="list-style-type: none"> <li>WiFi/LAN Kit-20 (Standard)</li> <li>4G Kit-CN-G20 (Only for China)</li> <li>4G Kit-CN-G21 (Only for China)</li> <li>Ezlink3000 (purchase from GoodWe)</li> </ul>	<ul style="list-style-type: none"> <li>Please use the WiFi/LAN Kit-20, 4G Kit-CN-G20, 4G Kit-CN-G21 modules in single inverter system.</li> </ul>
Grid-Tied PV Inverter	-	<ul style="list-style-type: none"> <li>It's recommended to use grid-tied PV inverter sold in GOODWE, and is supported to use the third-party grid-tied PV inverter.</li> <li>When the microgrid system is in grid-tied mode, if power limitation control is required, make sure: <ul style="list-style-type: none"> <li>» The hybrid inverter should be set in the grid-tied power limitation interface of the SolarGo APP, and the grid-tied inverters should be set according to the actual tools used.</li> <li>» 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.</li> </ul> </li> </ul> <p>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.</p>

02 Power On/Off

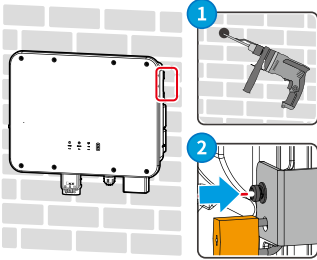
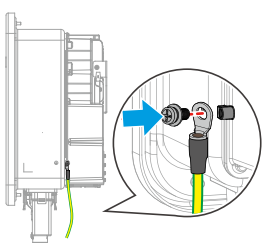
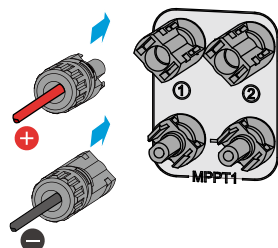
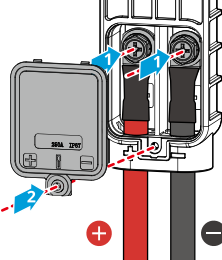
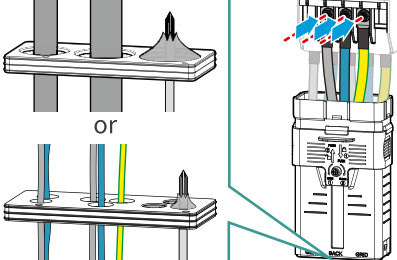
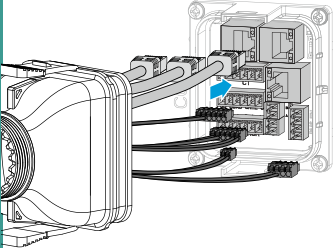


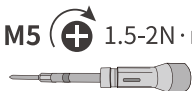

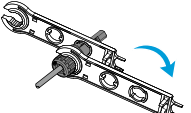

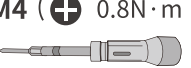

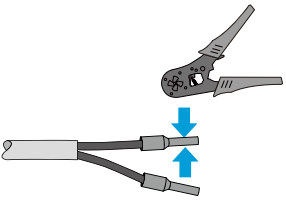
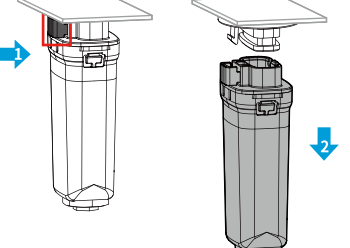
Single inverter system



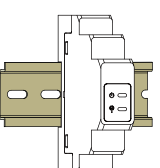
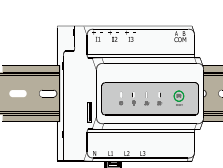
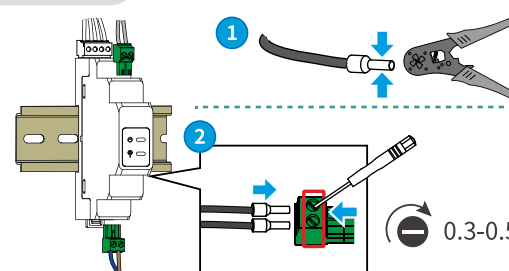
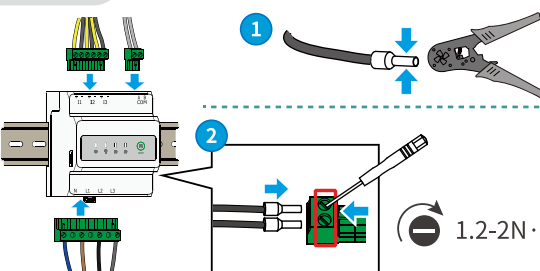
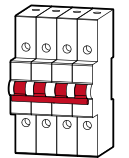


Multi-inverter system



03 Installations

Steps	1 Installation	2 PE	3 PV	4 Battery	5 AC	6 COM	7 Communication module		
Inverter							4G Kit-CN-G20 4G Kit-CN-G21	WiFi/LAN Kit-20	Ezlink3000
Tools	1 D: 80mm φ: 8mm  2 M5  1.5-2N·m	M5  1.5-2N·m	Recommend: PV-CZM-61100  	1 M10  3.9-4.1N·m 2 M4  0.8N·m	M5  1.9-2.1N·m				

Steps	1 Installation						2 PE	3 Battery		4 COM		
Battery	LX A5.0-10		LX A5.0-30		LX U5.4-L/LX U5.4-20		LXU 5.0-30	LX A5.0-10 LX A5.0-30		LX U5.4-L/LX U5.4-20	LX A5.0-10 LX A5.0-30 LXU 5.0-30	LX U5.4-L/LX U5.4-20
Tools												
	M4 1.4N·m		M6 6N·m		M4 1.4N·m		M6 6N·m	M6 6N·m		M8 12N·m	M5 4N·m	

Steps	1 Installation		2 Cable Connections		3 Power	4 Commissioning
Smart meter	GMK110	GM330	GMK110	GM330		
					 AC breaker	 SolarGo APP  SEMS Portal APP or SEMS Portal WEB

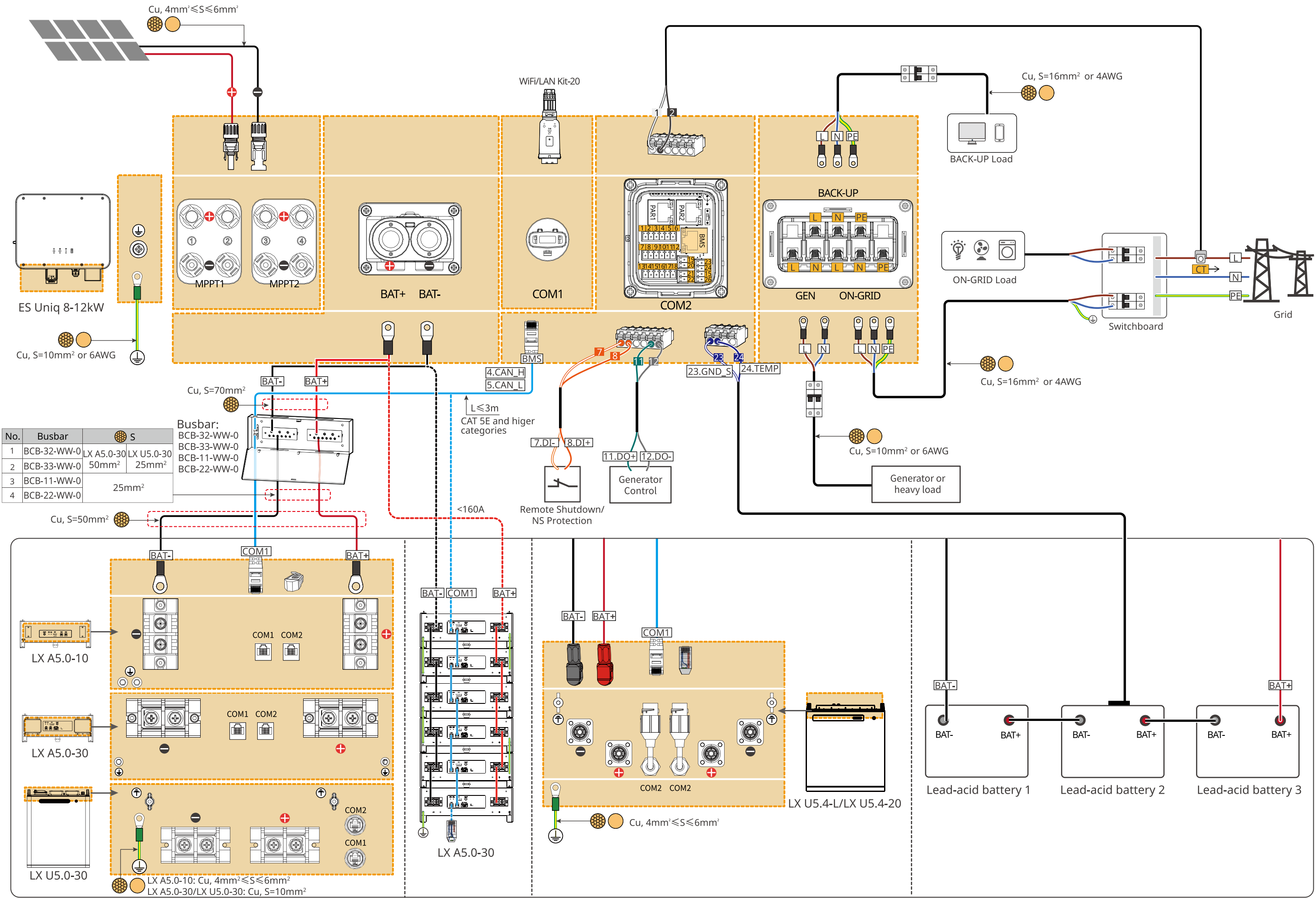


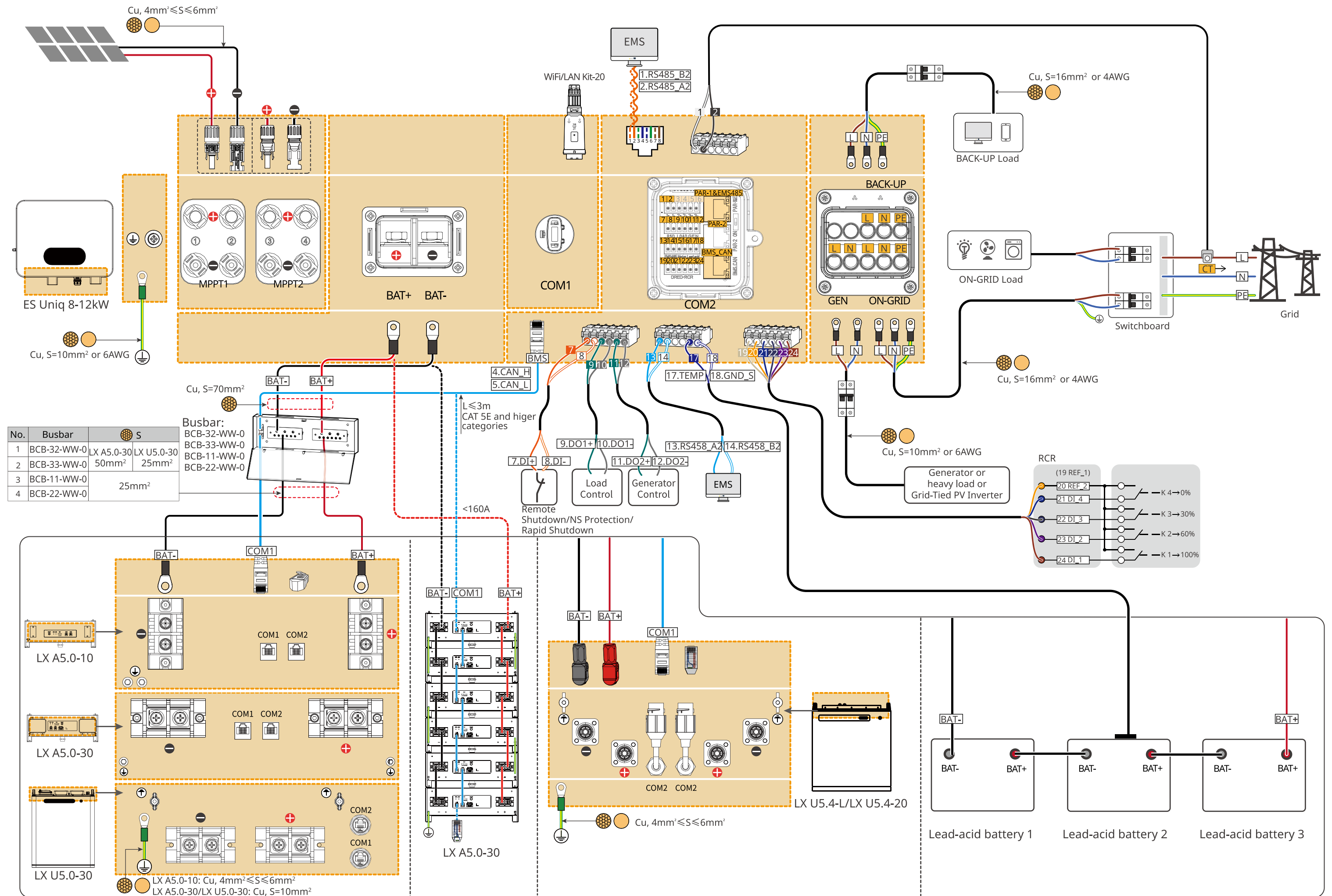
Steps	① Installation	② PE	③ PV	④ Battery	⑤ AC	⑥ COM	⑦ Communication module	
Inverter							WiFi/LAN Kit-20	Ezlink3000
Tools	① D: 80mm φ: 8mm 	M5  1.5-2N·m 	Recommend: A-2546B  Recommend: PV-CZM-61100 	① M8  5.5-6.6N·m ② 52mm 6-7N·m 	① M5  2.4-2.6N·m ② 71mm 4N·m 	② M4  1.5N·m ③ 40mm 5-6N·m 		

Steps	① Installation								② PE	③ Battery	④ COM	
Battery	LX A5.0-10	LX A5.0-30	LX U5.4-L/LX U5.4-20	LXU 5.0-30	LX A5.0-10/LX A5.0-30	LX U5.4-L/LX U5.4-20	LXU 5.0-30	LX A5.0-10/LX A5.0-30	LX U5.4-L/LX U5.4-20	LXU 5.0-30	LX A5.0-10/LX A5.0-30	LX U5.4-L/LX U5.4-20
Tools												
	M4  1.4N·m 	M6  6N·m 	M4  1.4N·m 	M6  6N·m 	② M6  6N·m ③ M4  1.4N·m 	①a D: 80mm φ: 8mm ①b D: 65mm φ: 13mm ②a ST5.5  10N·m *70 ②b M10  10N·m 	① ③ M5  2N·m 	① M5  4N·m ② M5  2N·m ③ M5  4N·m 	① M6  6N·m ② M8  12N·m 	Recommend: YQK-70 		

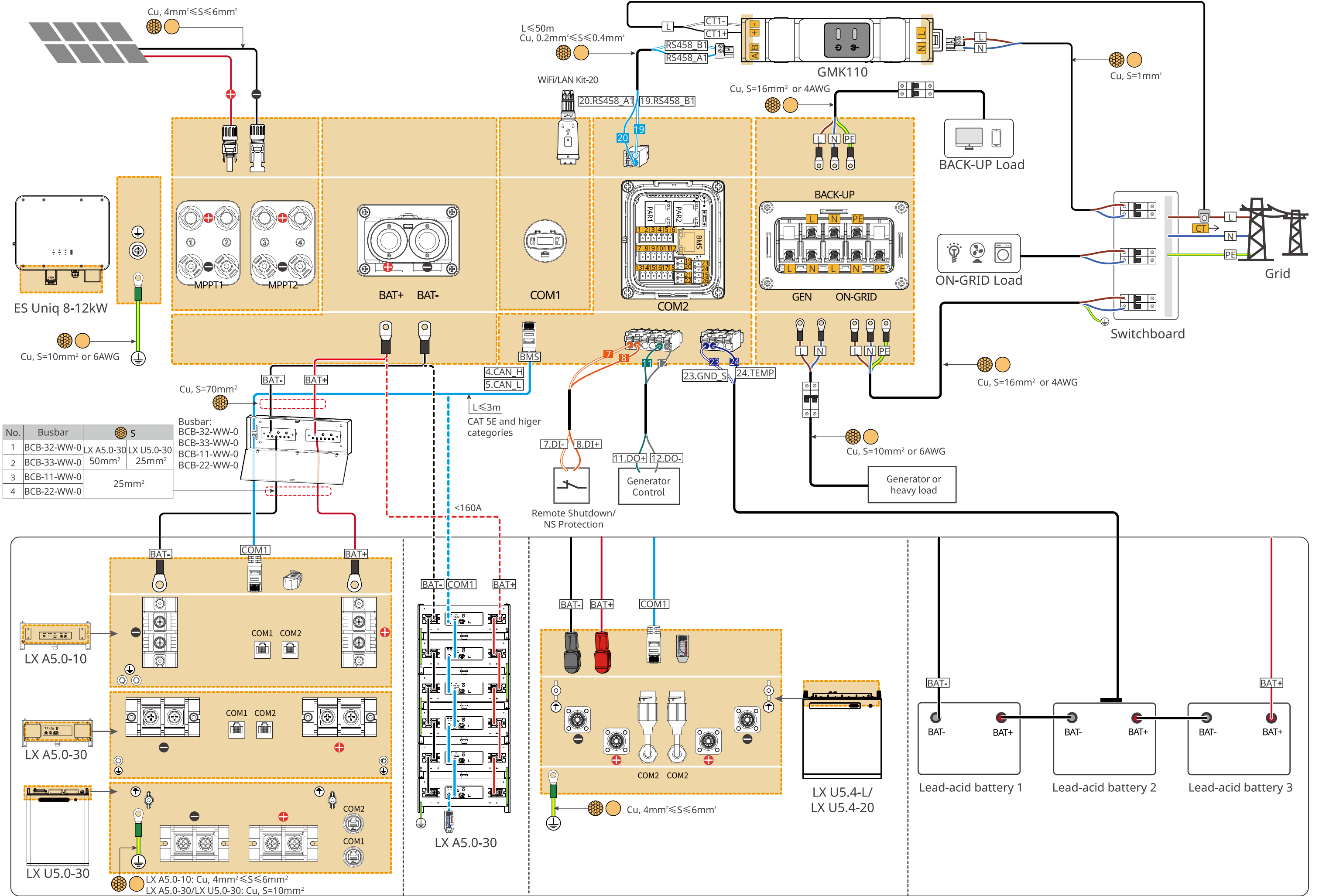
Steps	① Installation		② Cable Connections		③ Power	④ Commissioning	
Smart meter	GMK110	GM330	GMK110	GM330	AC breaker		
			① 0.3-0.5N·m ②	① 1.2-2N·m ②		SEMS Portal APP	SEMS Portal WEB

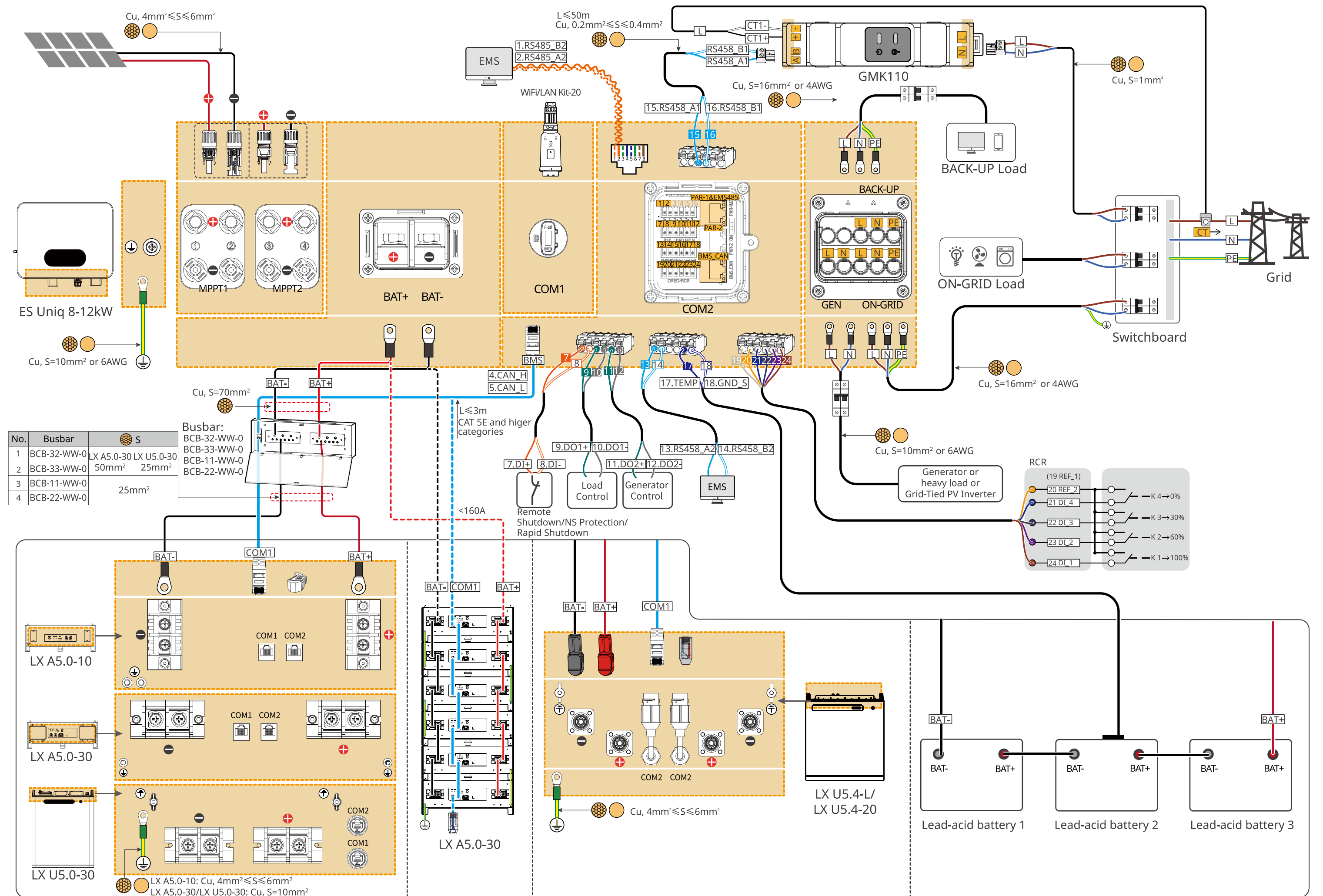
04 Wiring Diagram ES Uniq 8-12kW (single) + Lynx Home A or U or Lead-acid battery + Builit-in smart meter + WiFi/LAN Kit-20

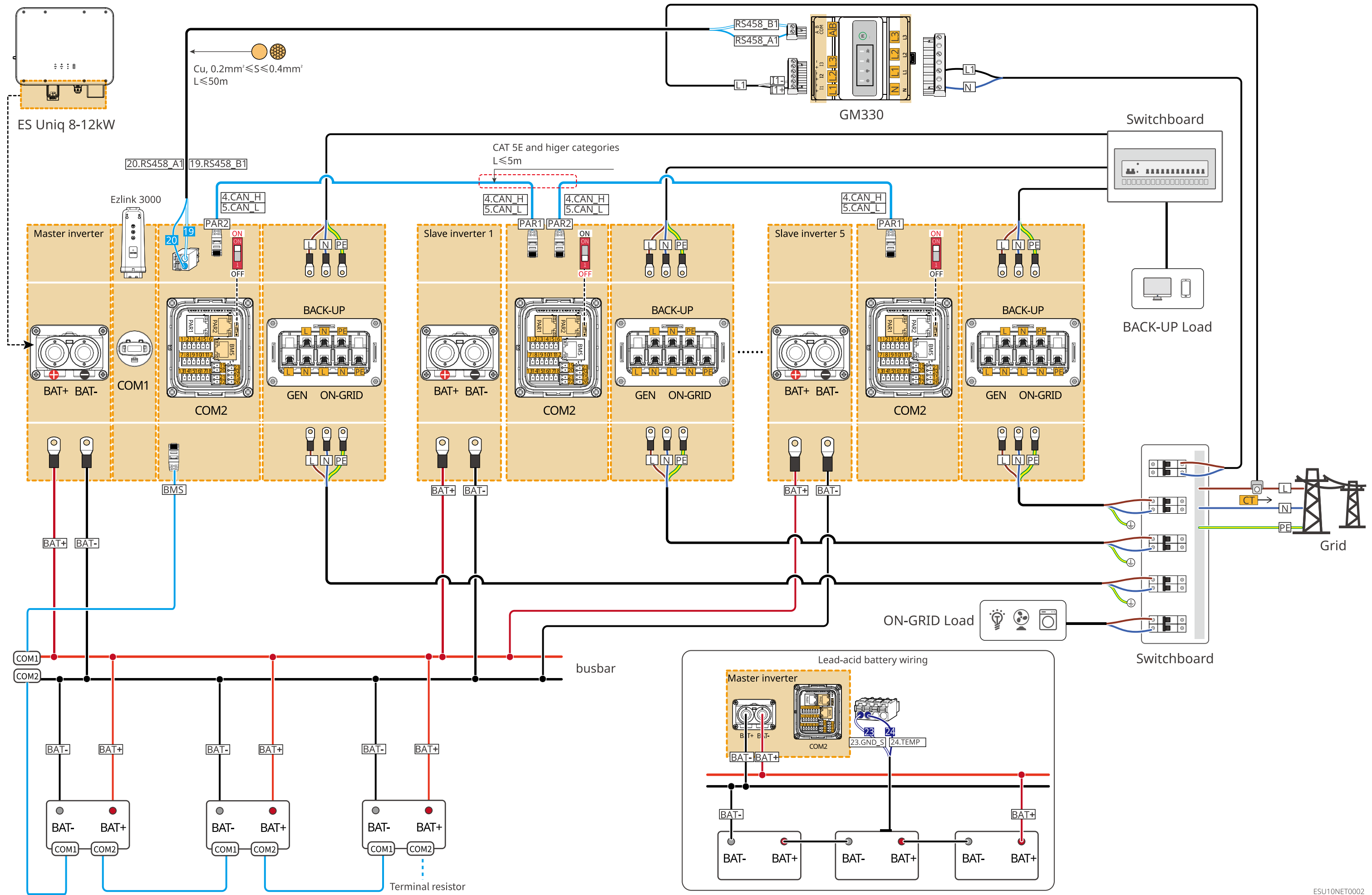






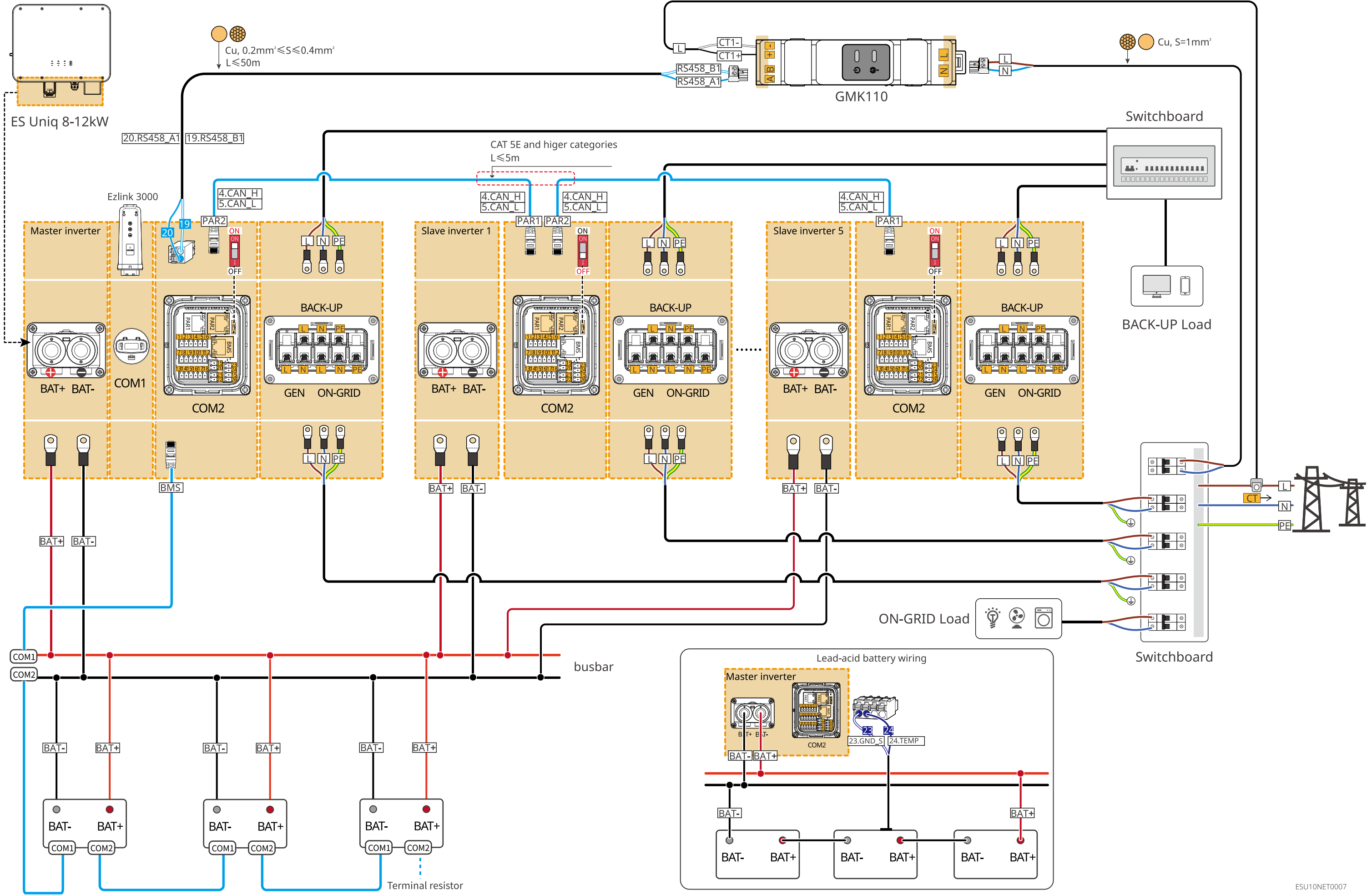








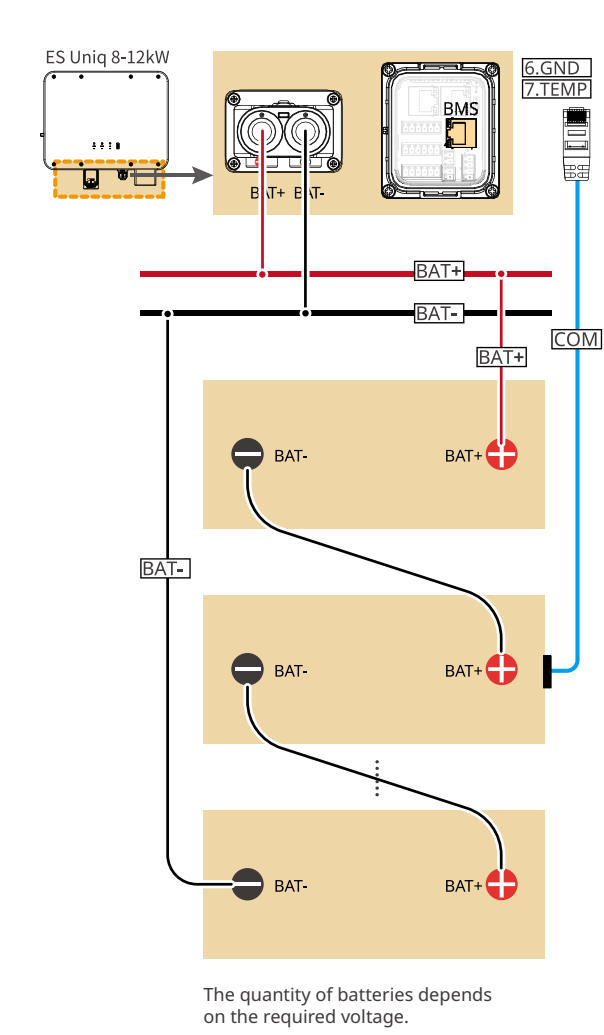
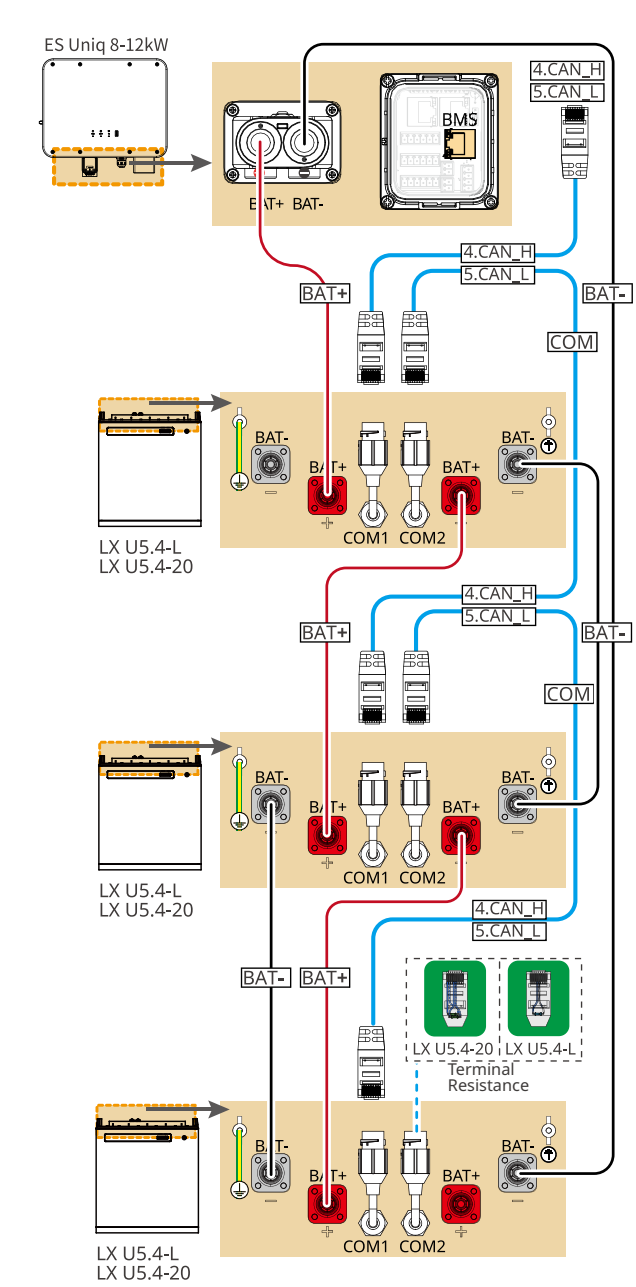
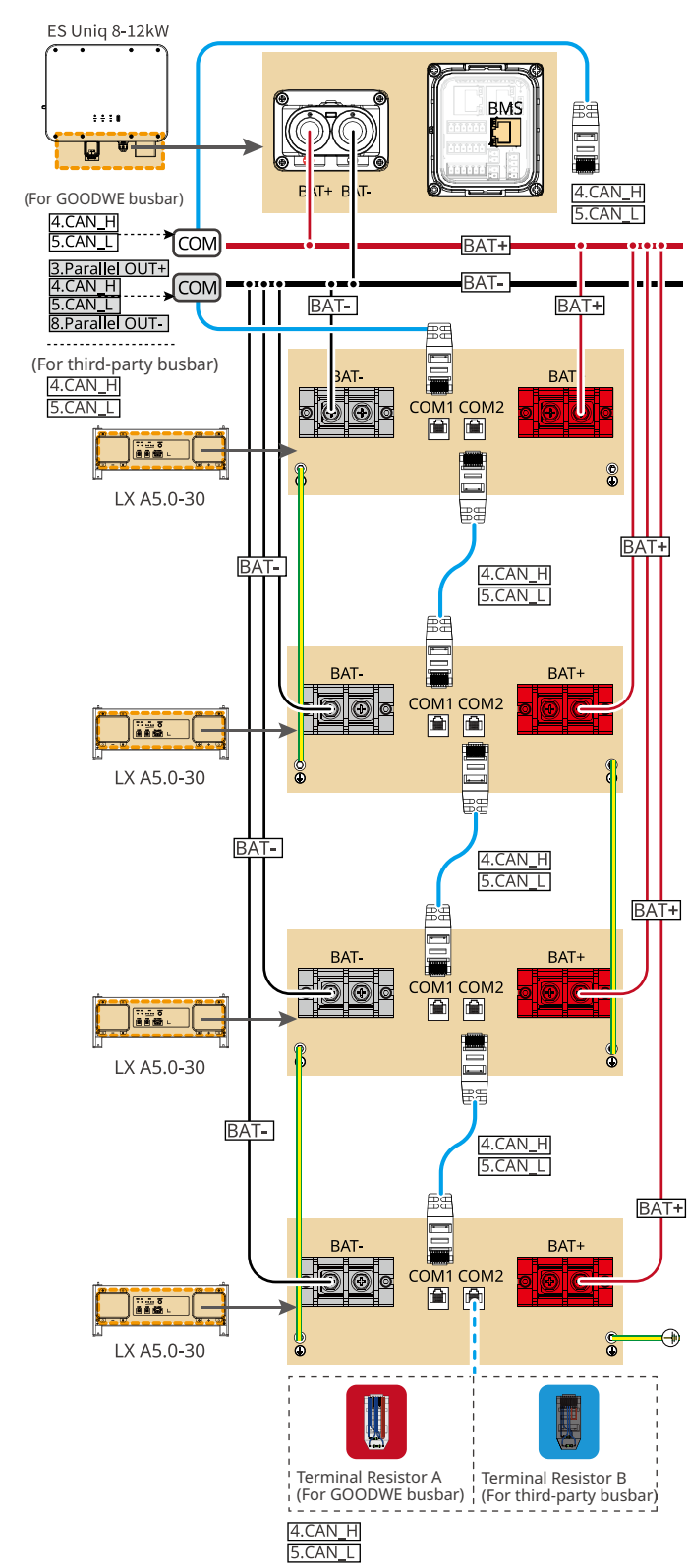
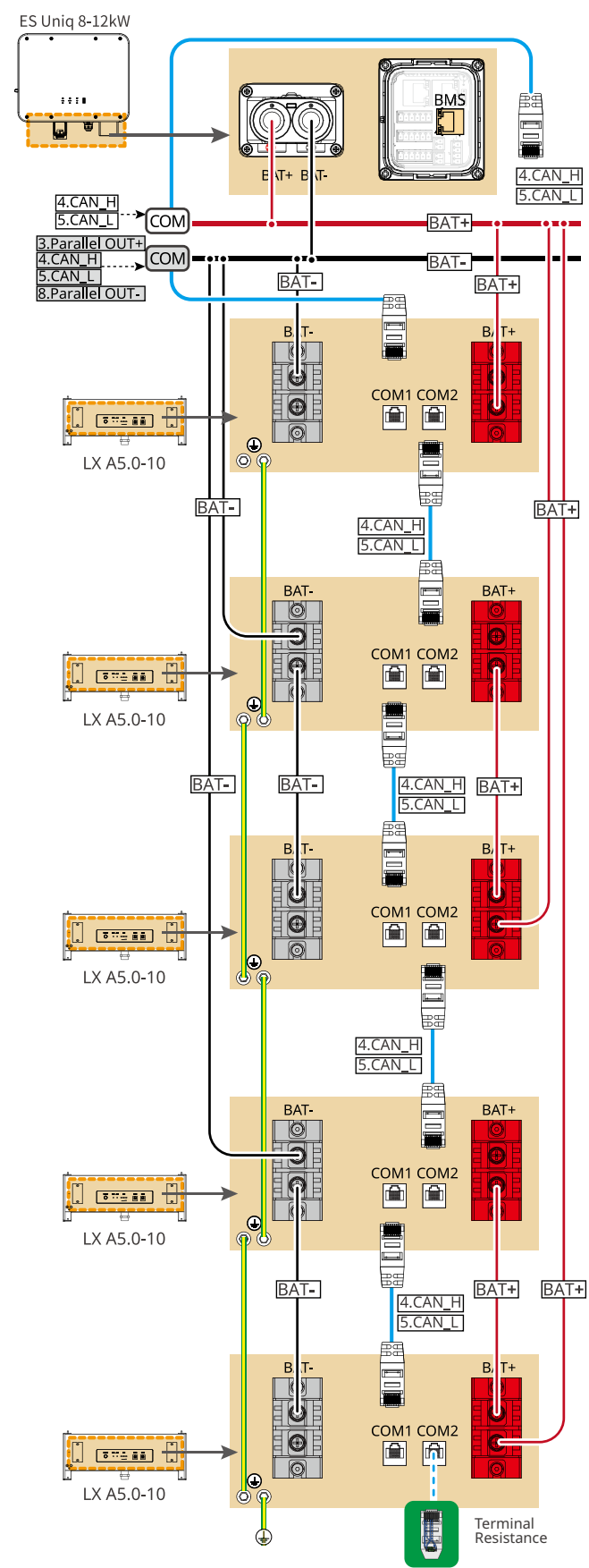


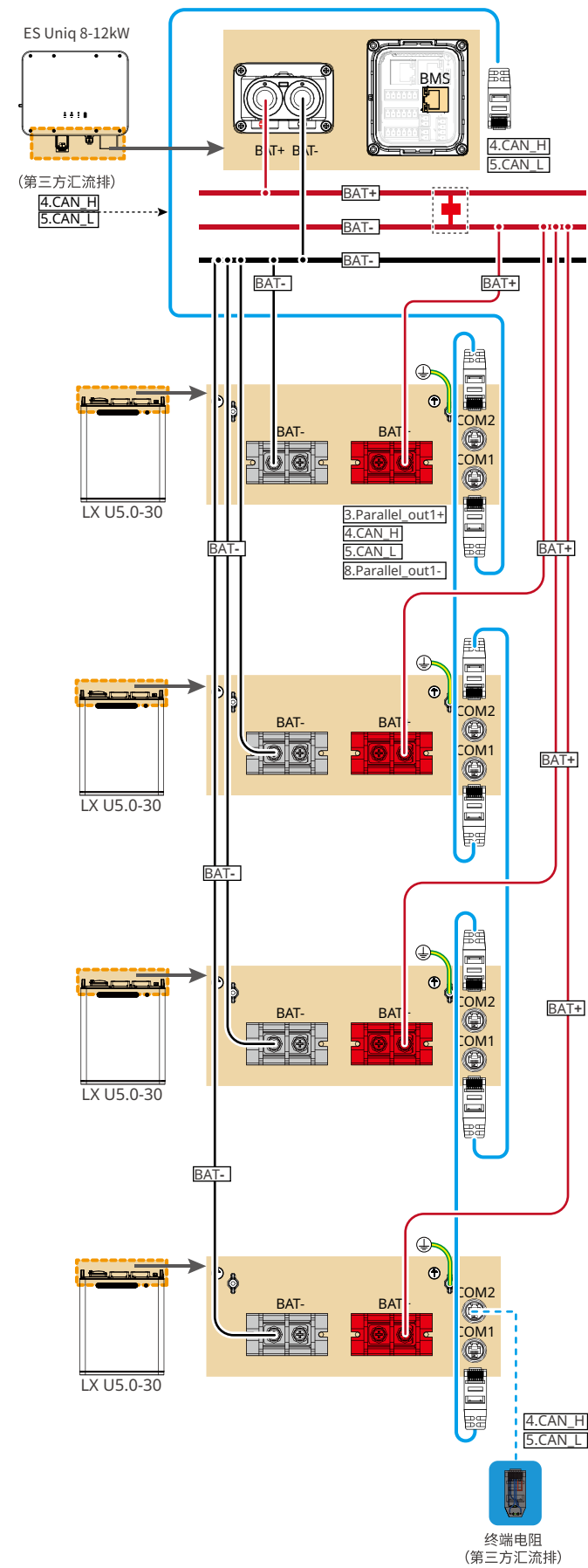
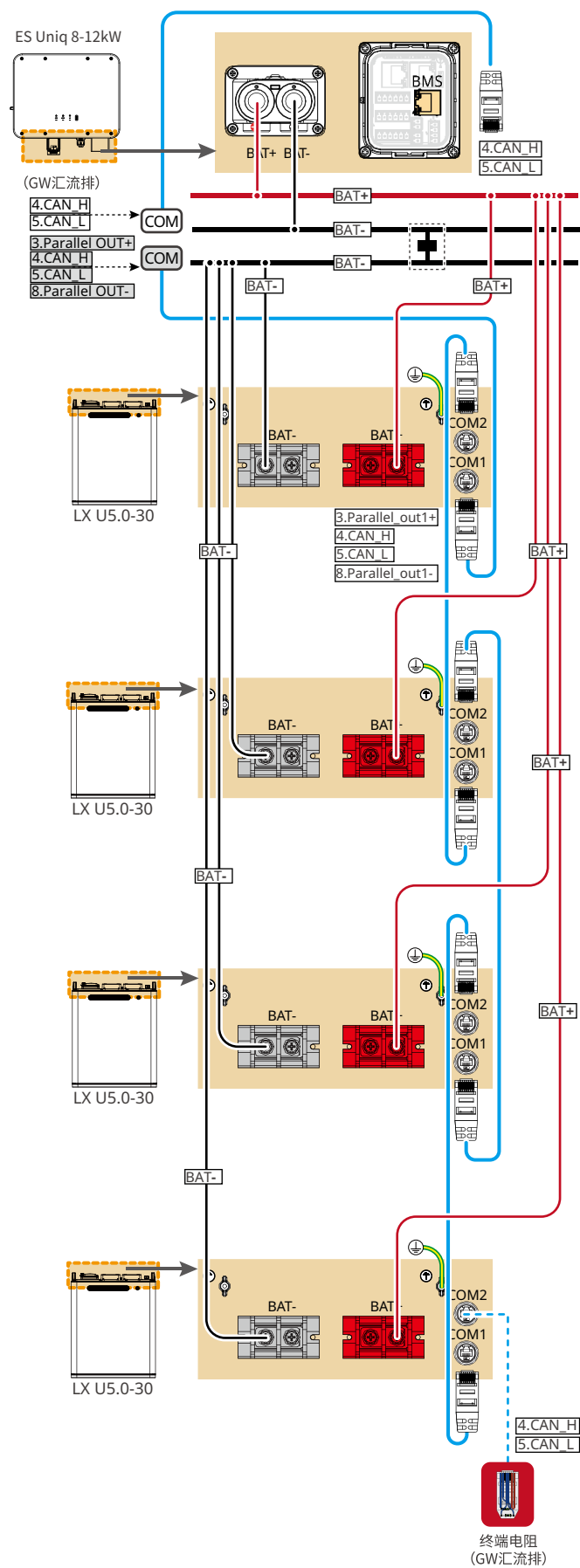
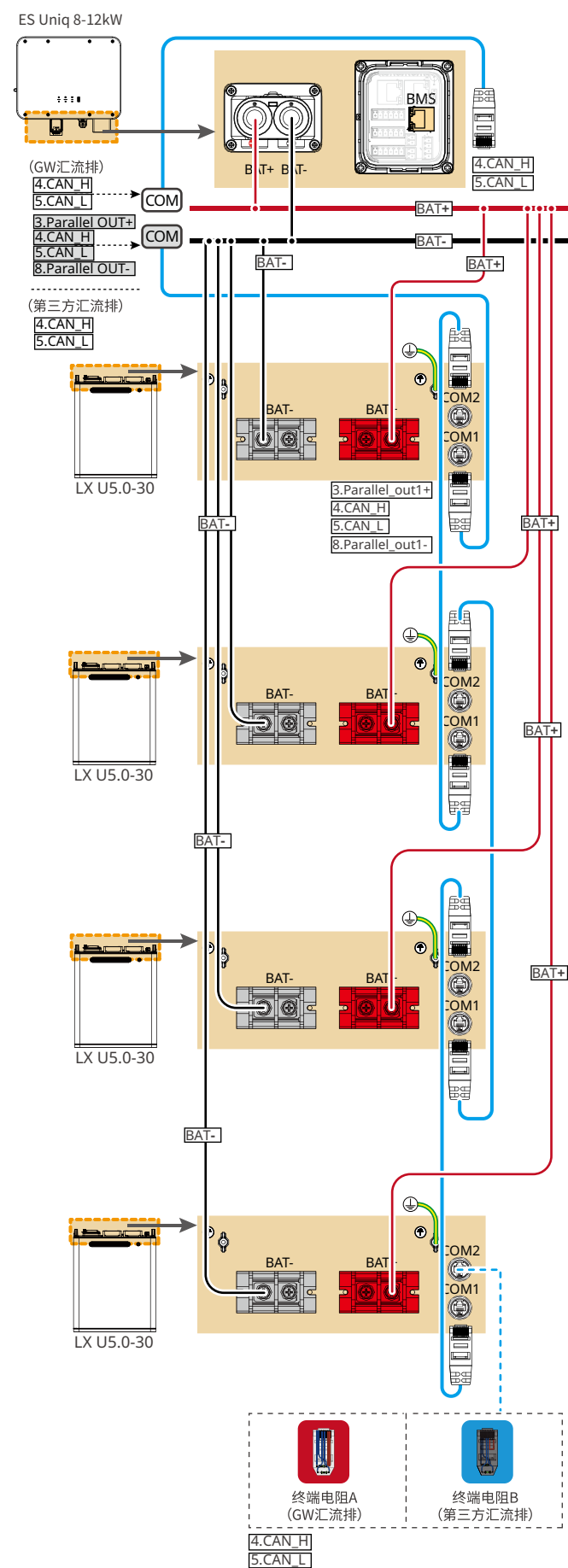






Battery System Wiring Diagram

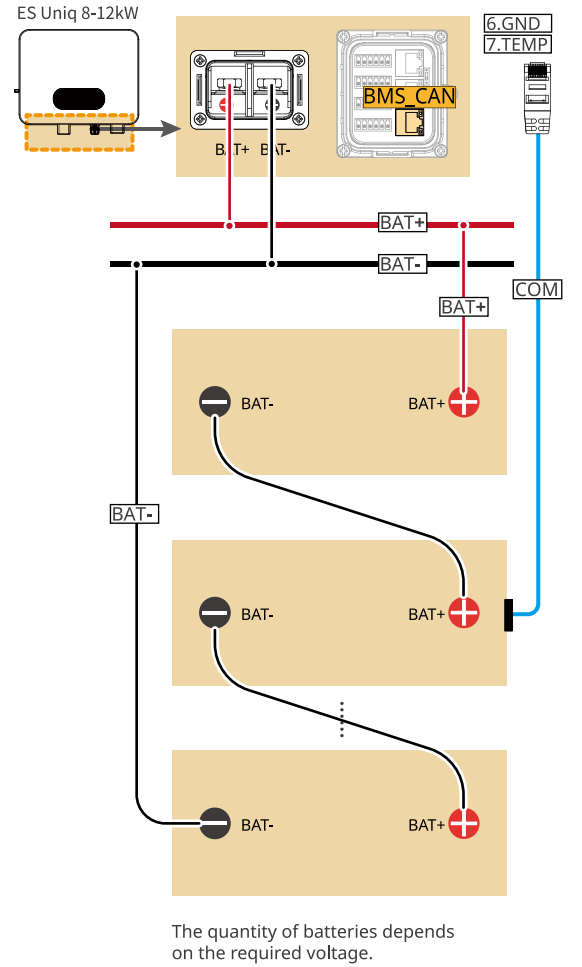
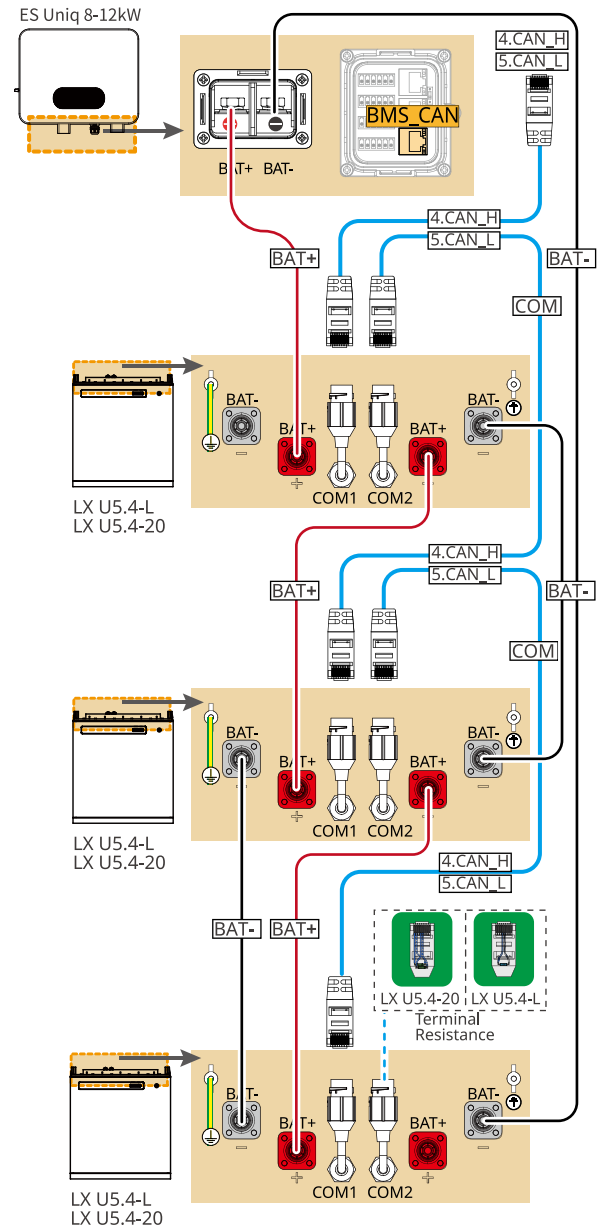
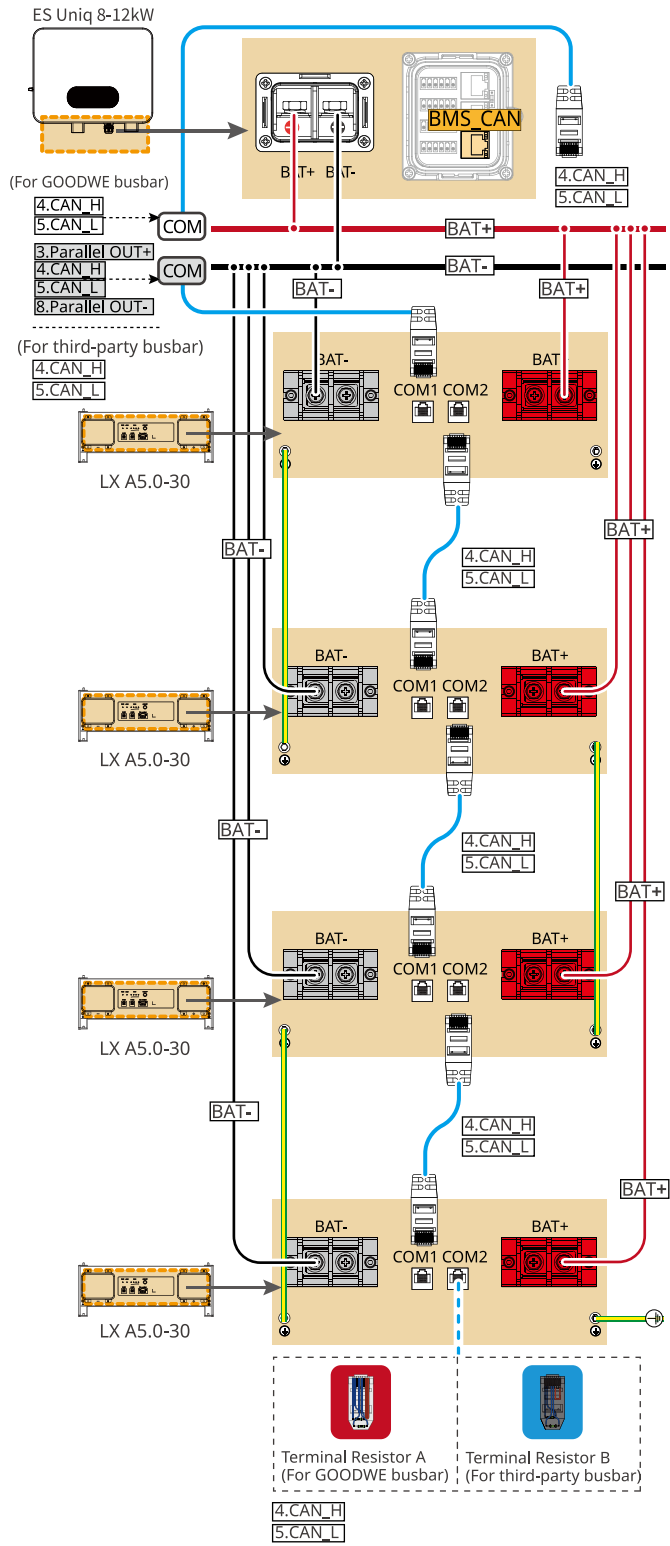
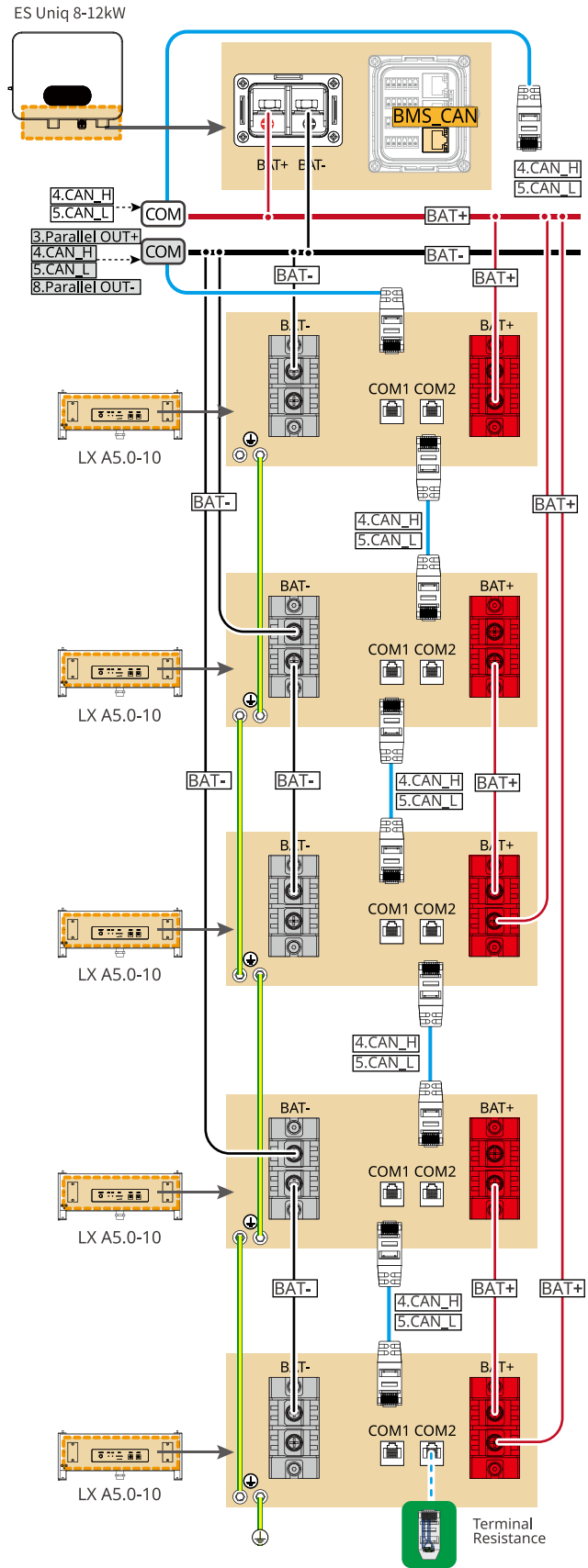




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ESU10NET0006

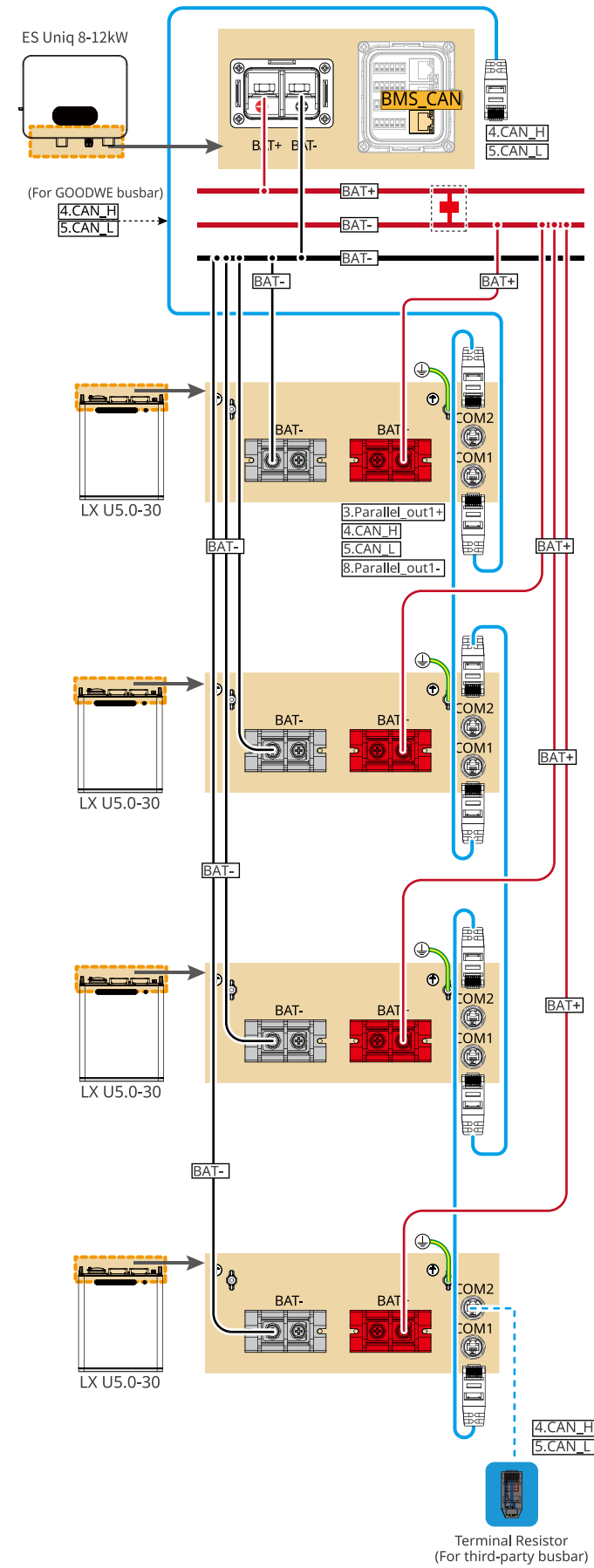
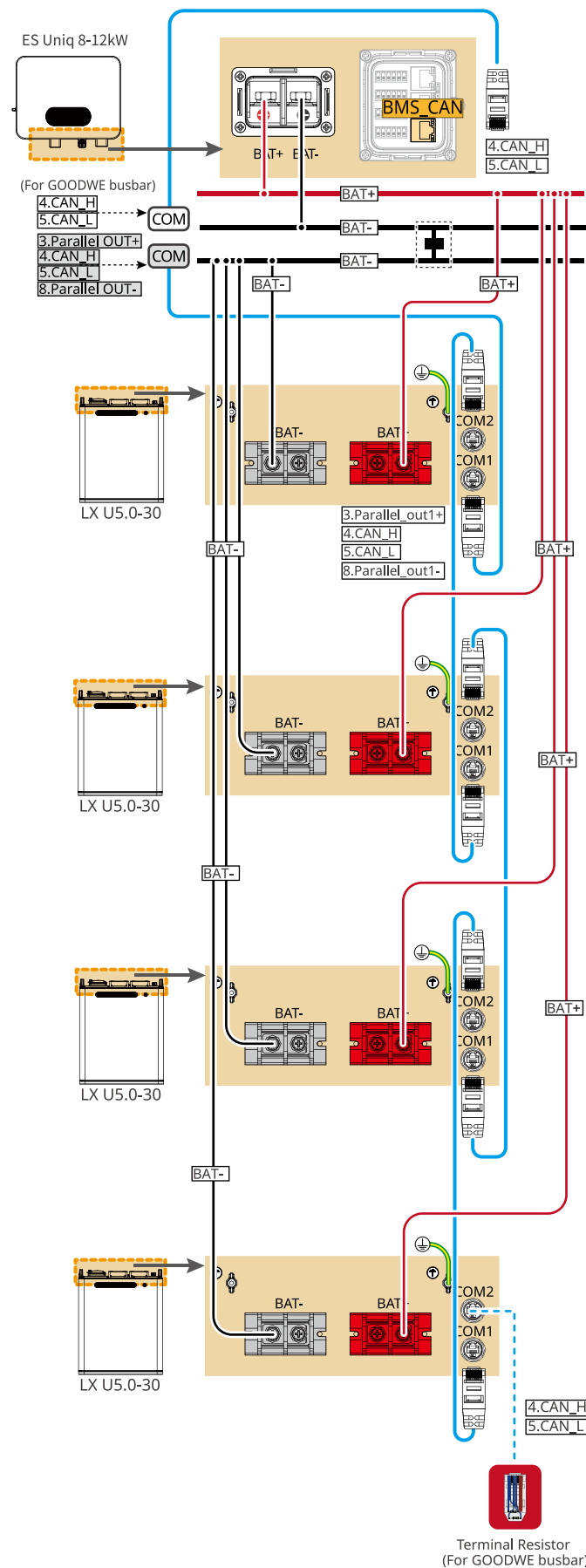
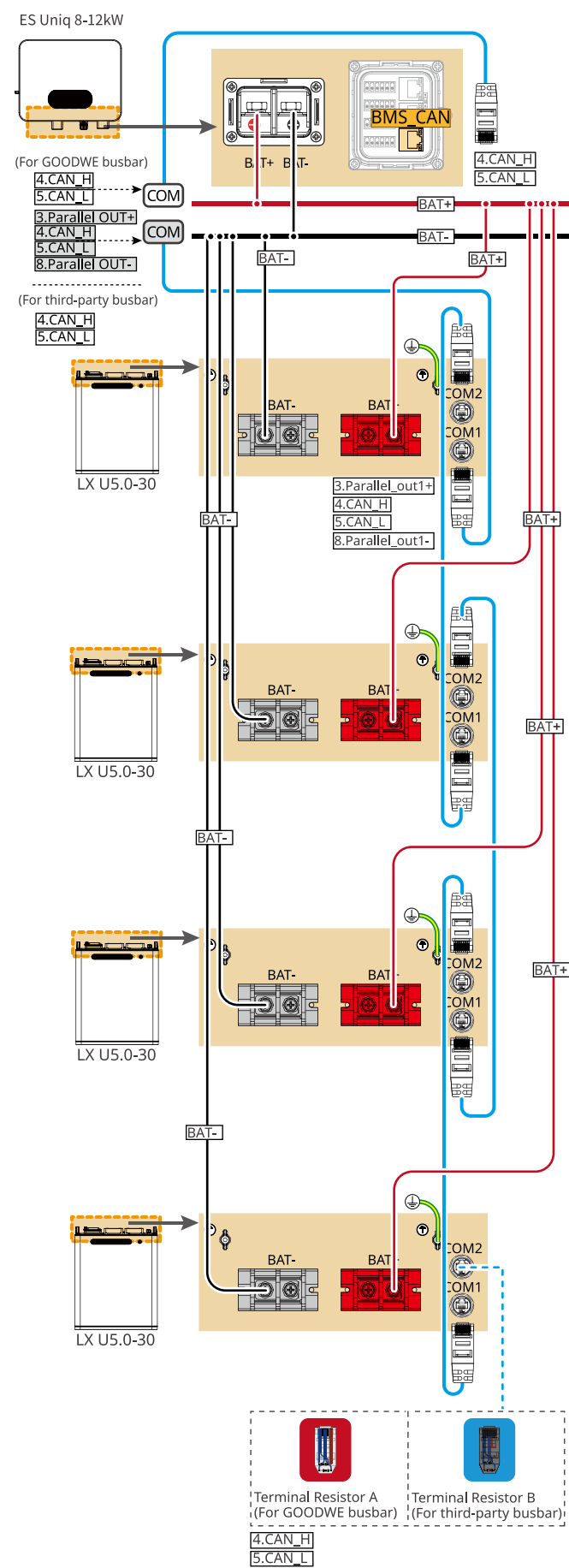
## Battery System Wiring Diagram



The quantity of batteries depends on the required voltage.

CAT 5E and higher categories

ESU10NET0015



— CAT 5E and higher categories

ESU10NET0016



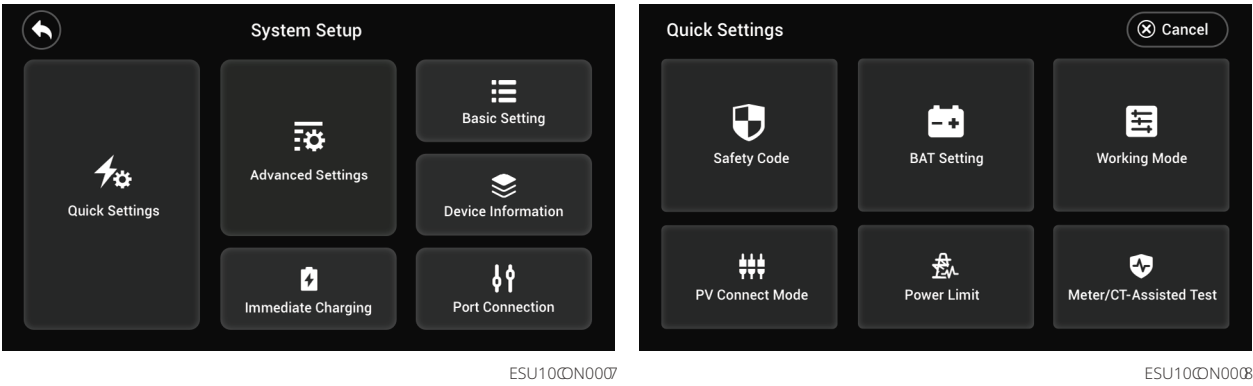
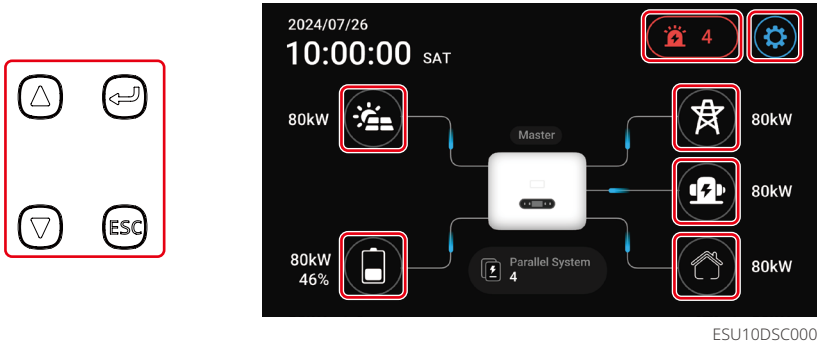
05 Equipment Commissioning



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

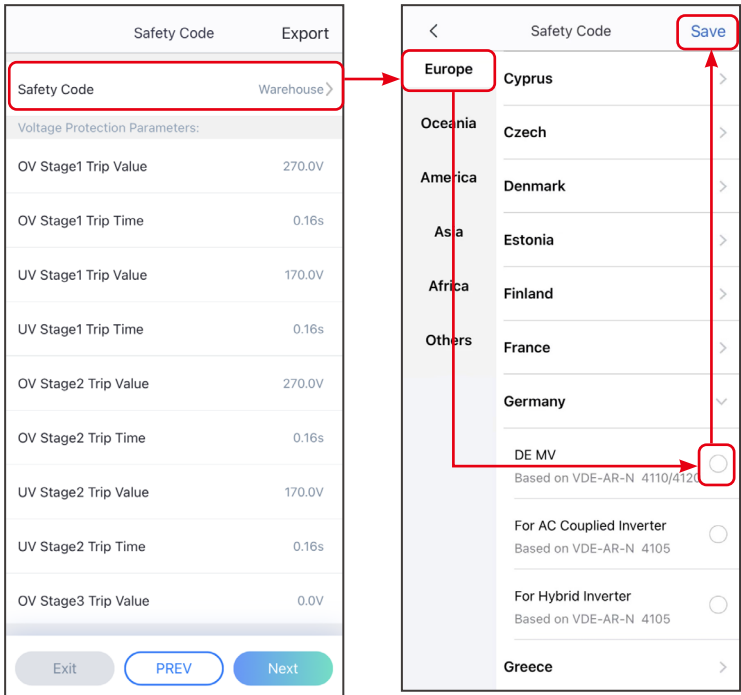
Quick Settings

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

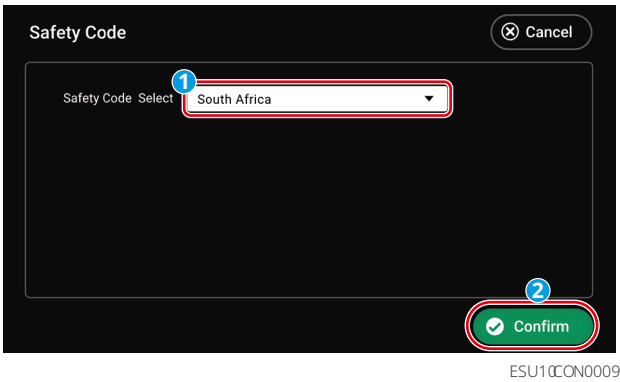


Setting Safety Code

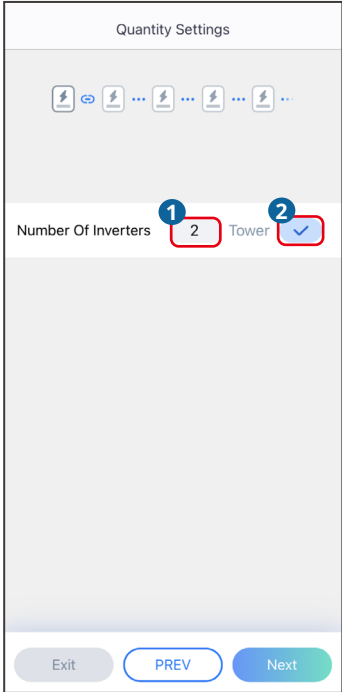
Setting safety code via SolarGo APP



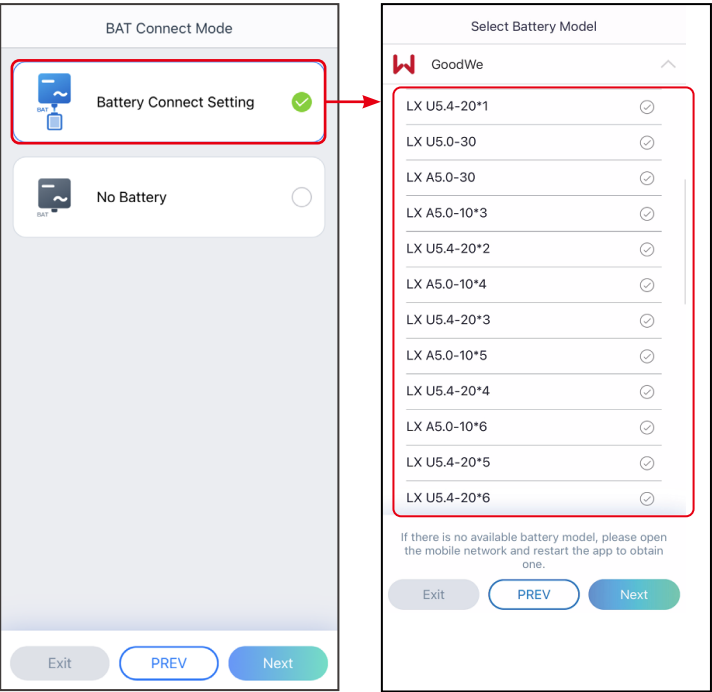
Setting safety code via LCD screen



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

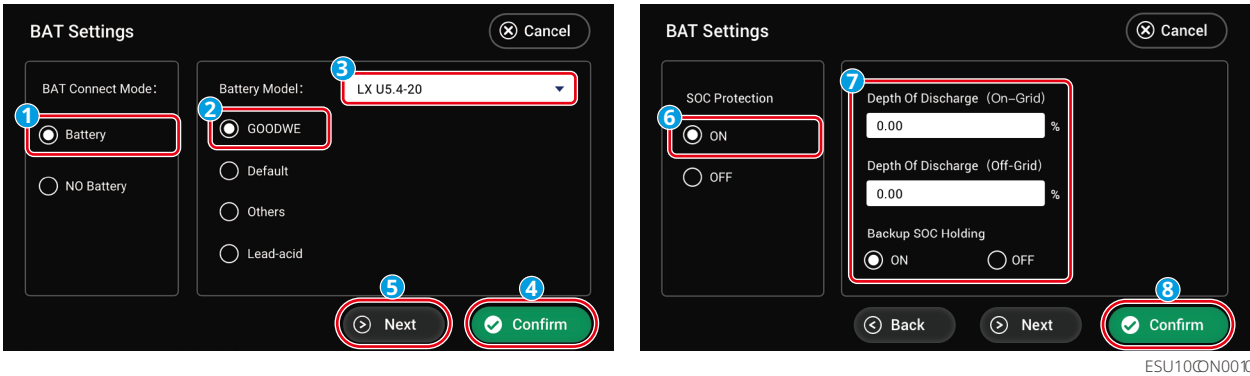


Setting the BAT Connect Mode via SolarGo APP

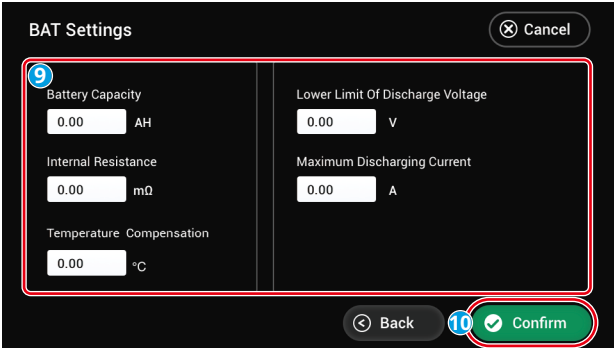
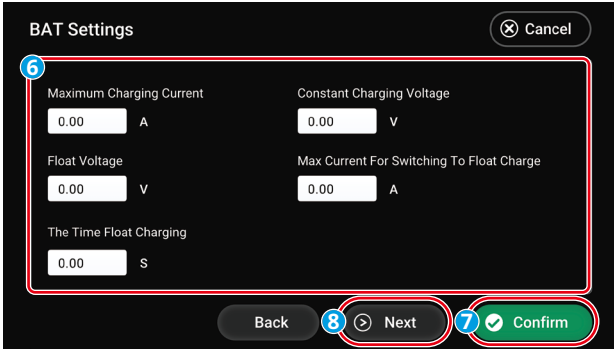
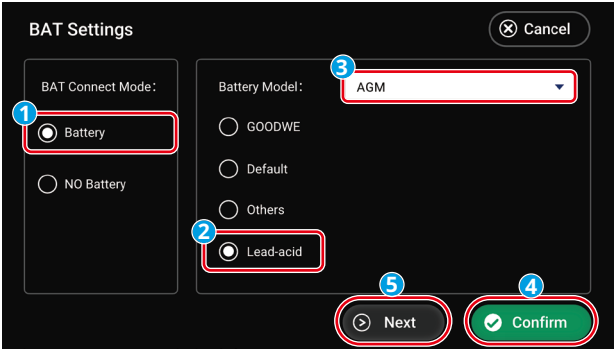


Setting BAT parameter via LCD screen

Lithium battery



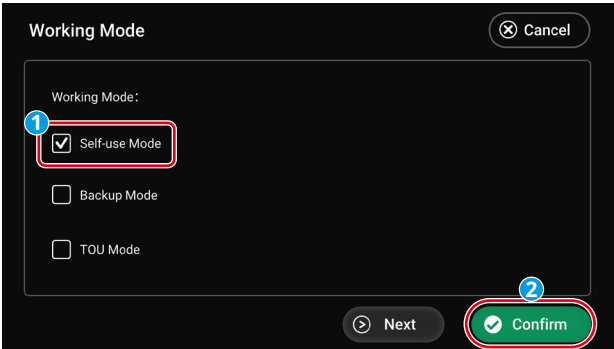
Lead-acid battery



ESU10CN0011

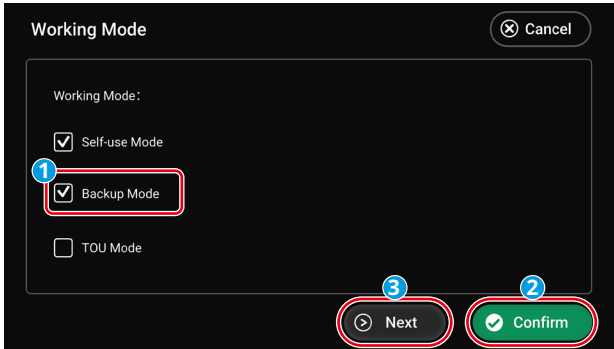
Setting working mode via LCD screen

Self-use Mode



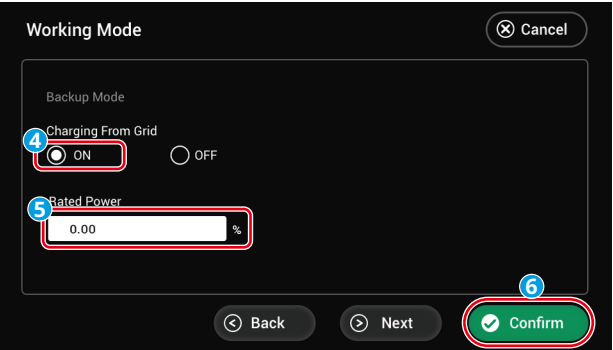
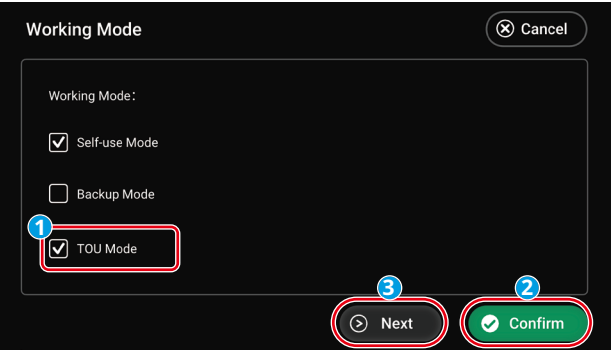
ESU10CN0012

Back-up Mode

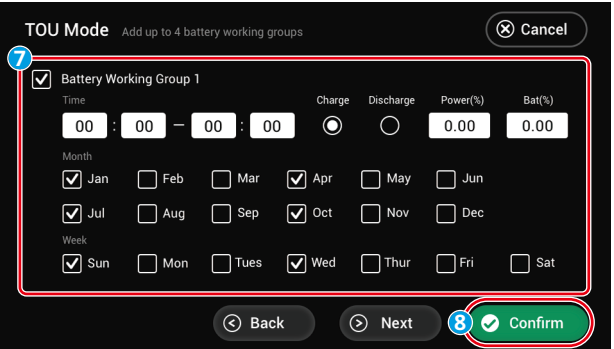


ESU10CN0013

TOU Mode



ESU10CN0014



Setting working mode via SolarGo APP

Self-use Mode

This model is suitable for high electricity prices, solar power grid electricity subsidies less or no subsidies, solar power is given priority to self-use, excess electricity to charge the battery, at night when there is no solar power, the use of batteries to power the load, improve the solar power system self-use rate, save electricity.

Peakshaving

This mode applies to the scenario where the peak power of the purchased power is limited. When the total power of the load exceeds the power quota in a short period of time, you can use battery discharge to reduce the power exceeding the power quota.

Working mode

Self-use Mode

Peakshaving

Self-use Mode

Depth Of Discharge (On-Grid) 60  
Range[0,90]%

Depth Of Discharge (Off-grid) 60  
Range[0,90]%

Advanced Settings

Advanced Settings

Back-up Mode

Economic Mode

Smart Charging

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

Advanced Settings

DRED/Remote Shutdown/RCR

ON:The DRED/Remote Shutdown/RCR function enabled  
Please check if turned on this function and cable connection.  
For the detail please refer to the manual and local regulations.

Backup N And PE Relay Switch

ON: During off-grid operation, Backup N and PE are connected inside the inverter.  
OFF: During off-grid operation, Backup N and PE are disconnected inside the inverter.  
Set this parameter according to local power grid installation regulations.

Battery Ports Busbar Connection

Power Limit

AFCI Test

Battery Function Settings

Safety Parameter

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

Setting Battery Functions

Advanced Settings

DRED/Remote Shutdown/RCR

ON:The DRED/Remote Shutdown/RCR function enabled  
Please check if turned on this function and cable connection.  
For the detail please refer to the manual and local regulations.

Backup N And PE Relay Switch

ON: During off-grid operation, Backup N and PE are connected inside the inverter.  
OFF: During off-grid operation, Backup N and PE are disconnected inside the inverter.  
Set this parameter according to local power grid installation regulations.

Battery Ports Busbar Connection

Power Limit

AFCI Test

Battery Function Settings

Safety Parameter

Battery Function

SOC Protection

ON:Turn on the protection function when the battery capacity is lower than the set threshold

Depth Of Discharge (On-Grid)

90 90

Set the discharge depth for the battery grid-connected application, unit: %

Depth Of Discharge (Off-grid)

90 90

Set the battery discharge depth for off-grid applications, unit: %

Backup SOC Holding

ON: When the power grid is functioning normally, the battery discharges to the State of Charge (SOC) protection level, maintaining the battery capacity without further decline for use as a backup power supply during power outages. If solar energy is weak or unavailable, the grid can be utilized to charge the battery and sustain the reserved SOC.

Immediate Charging

Charge Complete

SOC For Stopping Charging

65 65

Range[0,100]%

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

BACK-UP Mode

Back-up Mode

Charging From Grid

Ratec Power 0.0

Grid charge: Open

Backup SOC: 60%

Grid charge: Close

Backup SOC: 60%

TOU Mode

Economic Mode

Battery Working Mode Group1

Charge Power:50.0 % SOC:98%

00:00-07:00

PV: Charge battery in priority

Battery Working Mode Group2

Discharge Power:60.0 %

08:00-16:00

PV: Export to grid in priority

Smart Charging Mode

Smart Charging

Smart Charging Month

Peak Limiting Power 0.0

Switch To Charge

Charging Time 00:00

Switch to charge: Open

Switch to charge: Close

Smart Charging

Smart Charging Month

Peak Limiting Power 0.0

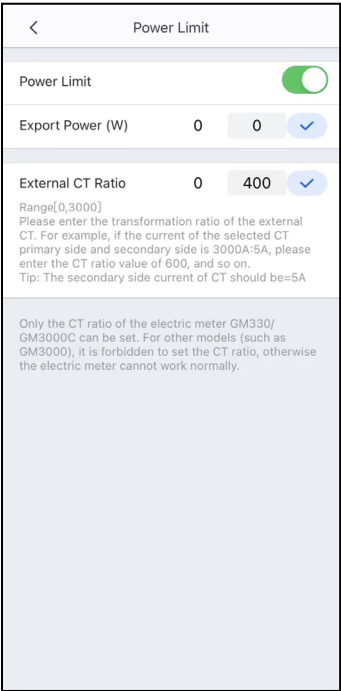
Switch To Charge

Switch to charge: Close

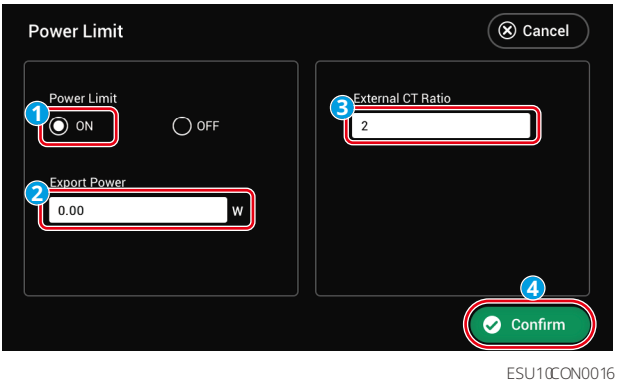
Switch to charge: Open

Setting Power Limit

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

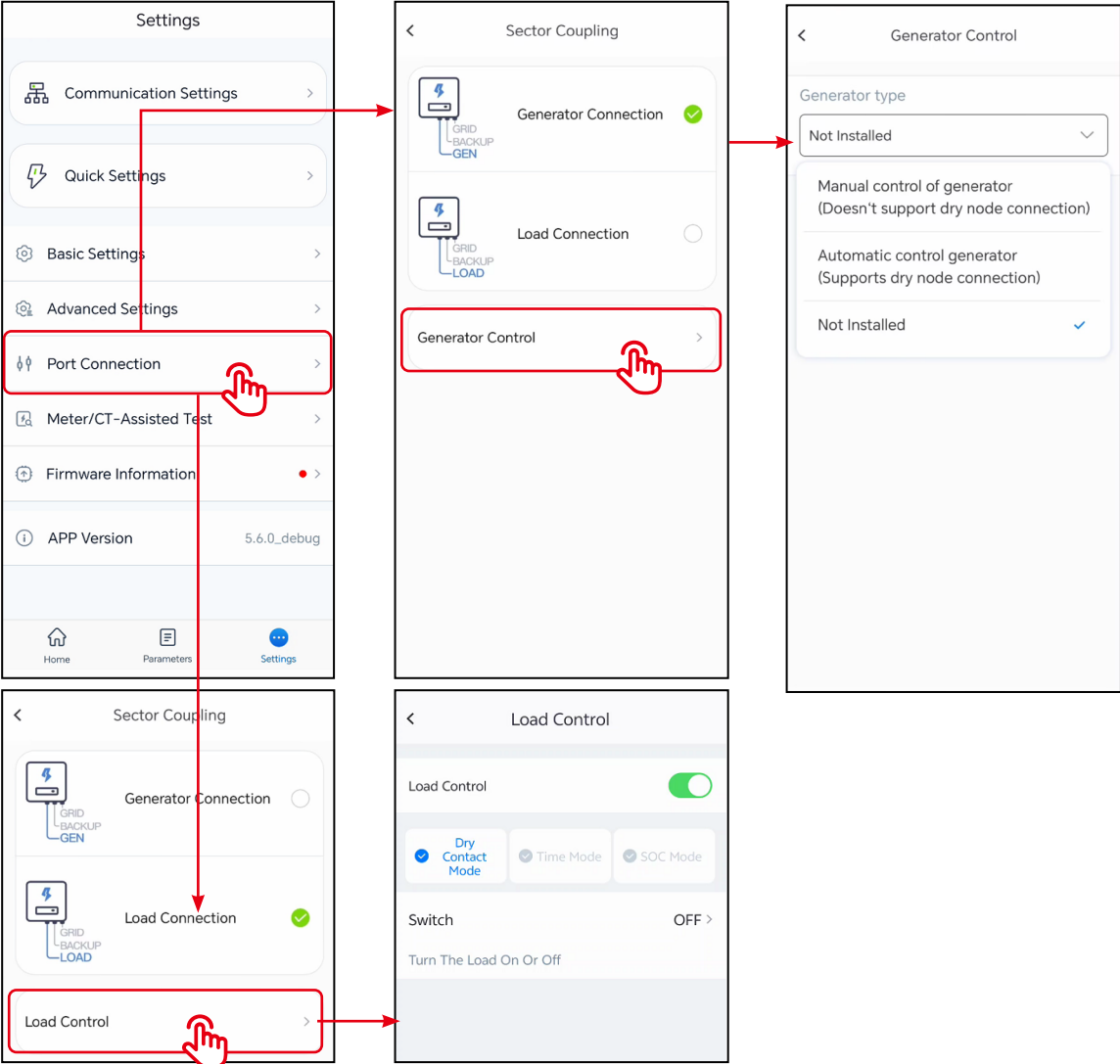


Setting power limit via LCD screen



Setting GEN port

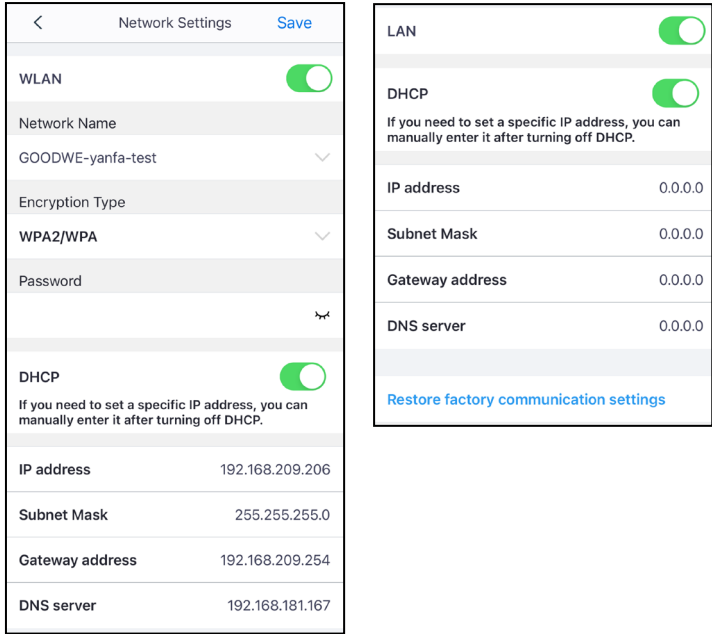
Tap **Home > Settings > Quick Settings** to set parameters for generator or load.



Configuring the Network

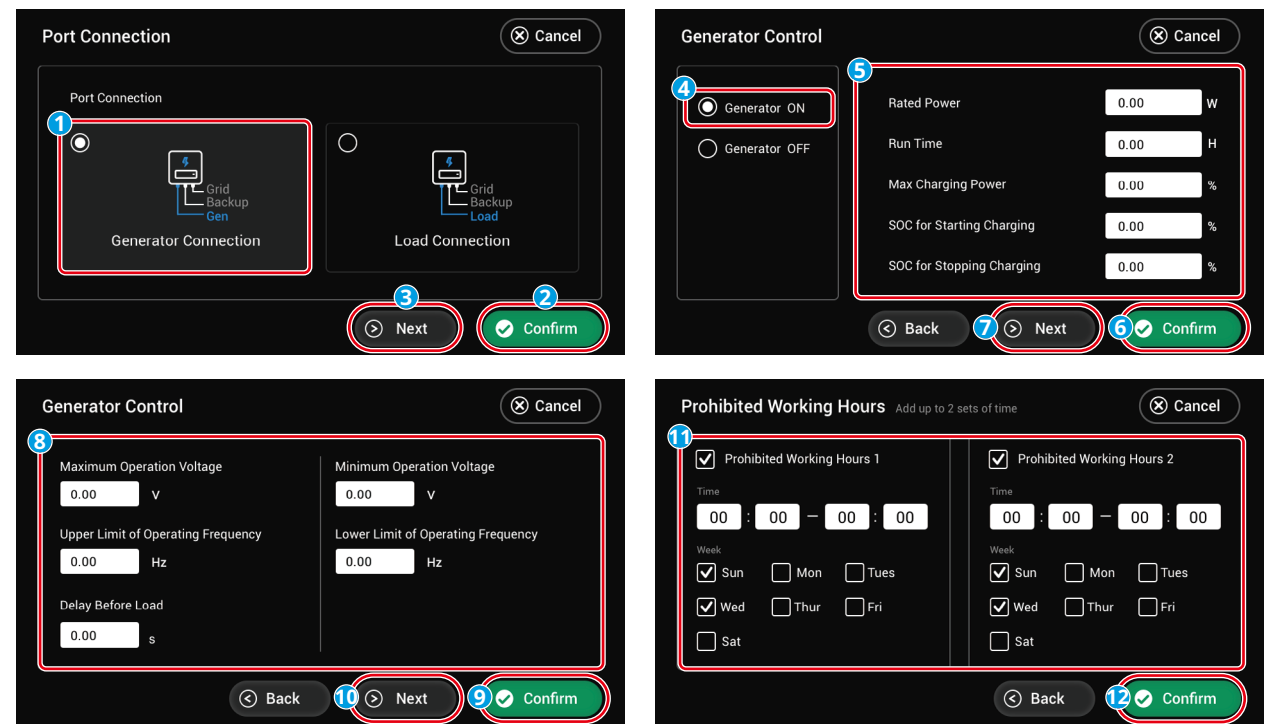
Tap **Home > Settings > Communication Setting** to set network parameters.

WiFi/LAN Kit-20



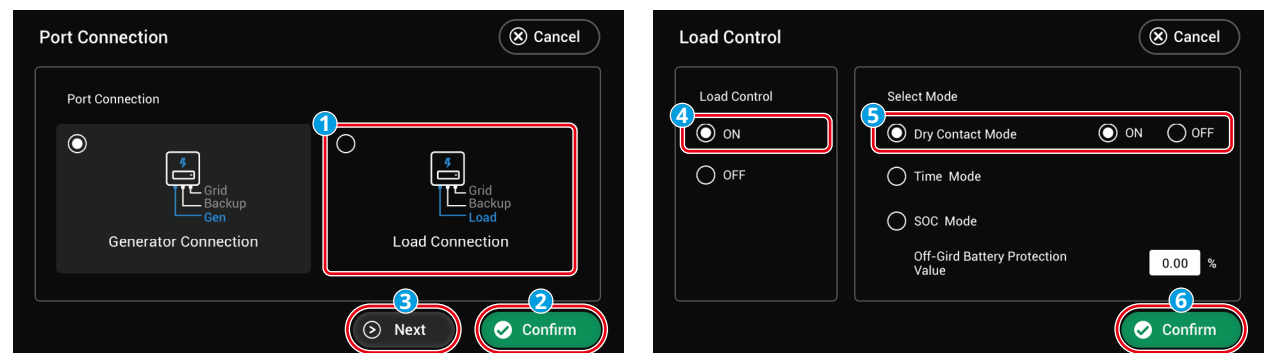


Settings generator parameters via LCD screen



ESU10DN0022

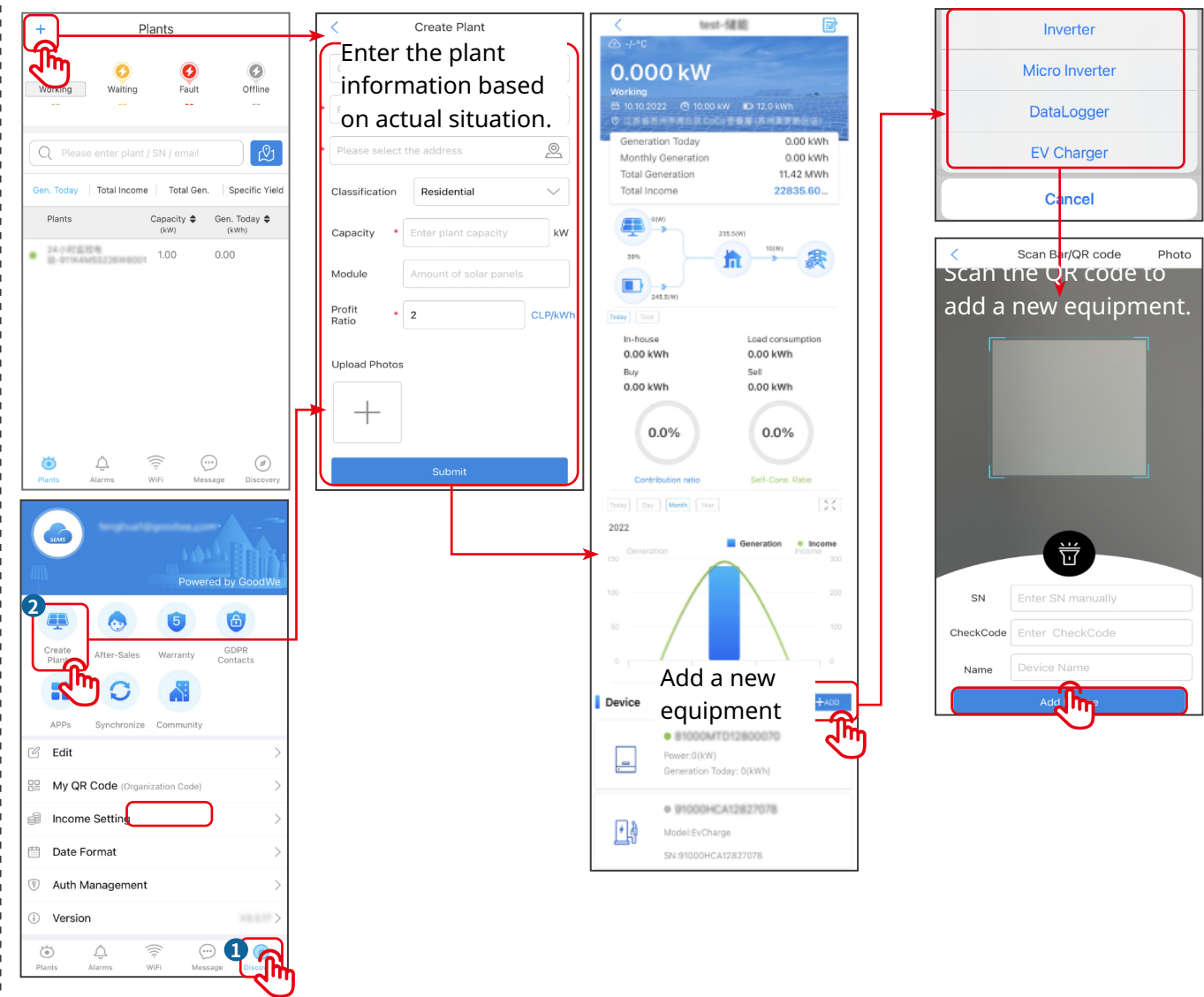
Settings Load Control via LCD screen



ESU10DN0023

### Creating a Power Plant

Create power plants and add equipments via SEMS Portal app.



Create power plants and add equipments via SEMS+ app.

