

Residential Smart PV Solution Quick Guide

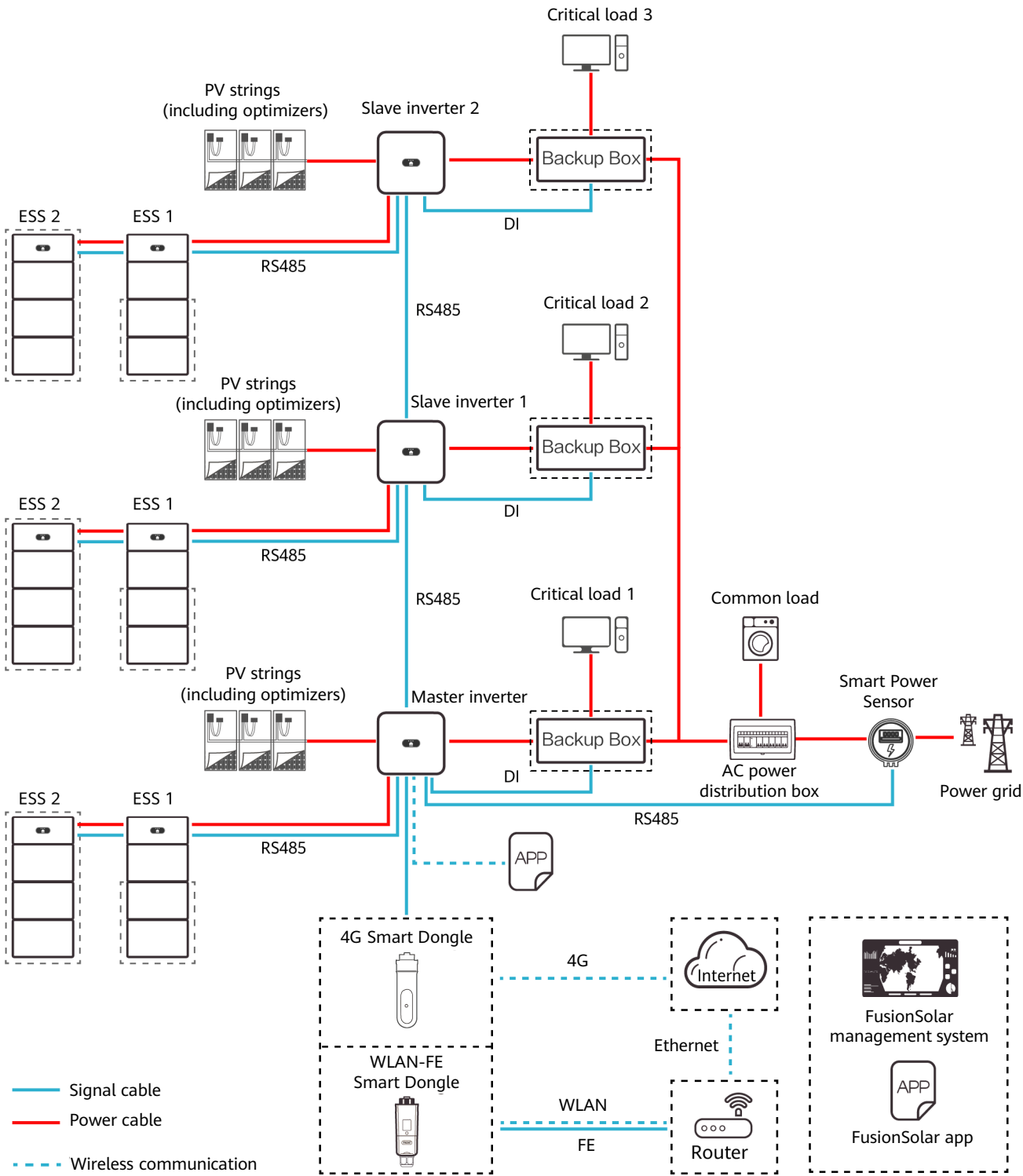
(Single-Phase PV+ESS Scenario + Smart Dongle Networking)

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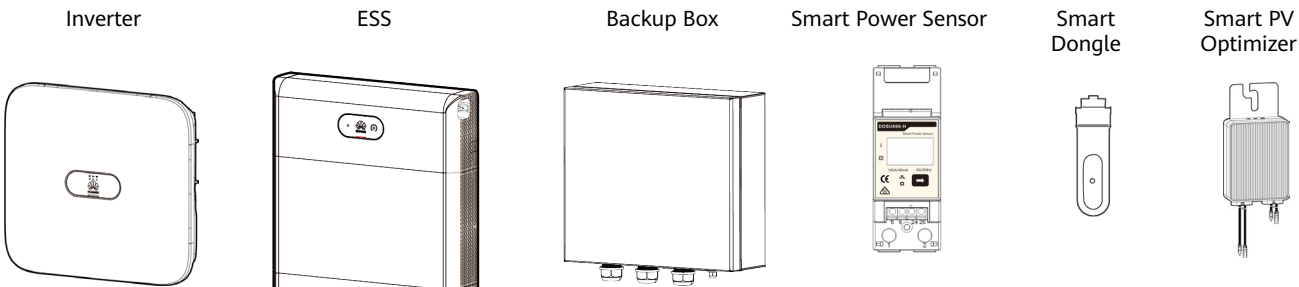
Networking



- NOTE**
- The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.
 - For details about the solution components, installation, and cable connections, see the corresponding user manuals and quick guides.
 - The cable colors involved in this document are for reference only. Select cables in accordance with local cable specifications.

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Product Overview



Component	Model		Description
Inverter (master and slave)	SUN2000-(2KTL-6KTL) -L1 SUN2000-(8K, 10K)-LC0 SUN2000-(8K, 10K)-LC0-ZH SUN2000-(3K-6K)-LB0 SUN5000-(3K, 6K)-LB0		• A maximum of three inverters can be cascaded. • L1/LC0/LB0 inverters can be cascaded. • SUN5000 inverters cannot be cascaded with SUN2000 inverters. • Optimizers must be configured for all PV modules connected to a SUN5000 inverter. Otherwise, the inverter cannot be started.
Energy storage system (ESS)	LUNA2000-(5-30)-S0 LUNA2000-S1		• If there is only one ESS, it must be connected to the master inverter. • Each inverter can connect to a maximum of two ESSs, each L1 can connect to a maximum of one ESS. • The LUNA2000-(5-30)-S0 and LUNA2000-S1 cannot connect to the same inverter in a parallel system. • If inverters are cascaded, the LUNA2000-(5-30)-S0 and LUNA2000-S1 cannot connect to different inverters.
Backup Box	Backup Box-B0		• AC input voltage range: 198–253 V • If there is only one Backup Box, it must be connected to the master inverter. • The SUN2000-(8K, 10K)-LC0, SUN2000-(8K, 10K)-LC0-ZH cannot be connected to the Backup Box.
Smart Power Sensor	Single-Phase: DDSU666-H YDS70-C16 DDSU71 DDSU1079-CT	Three-Phase: DTSU666-H DTSU71 DHSU1079-CT	• The Smart Power Sensor must be connected to the master inverter. • It connects to the inverter over RS485 for output power management and power limiting. • Only L1 supports the three-phase smart power sensor.
Smart Dongle	SDongleA-03(4G) SDongleB-06(4G) SDongleA-05(WLAN-FE)		• The Smart Dongle must be connected to the master inverter. • It connects to the management system and performs power scheduling. • The SDongleA-03 (4G) is compatible only with the SUN2000-(2KTL-6KTL)-L1.
Optimizer	For details about the optimizer supported by the inverter, see: • SUN2000 Smart PV Optimizer User Manual • MERC-600W-PA0 Smart PV Optimizer User Manual		

NOTE

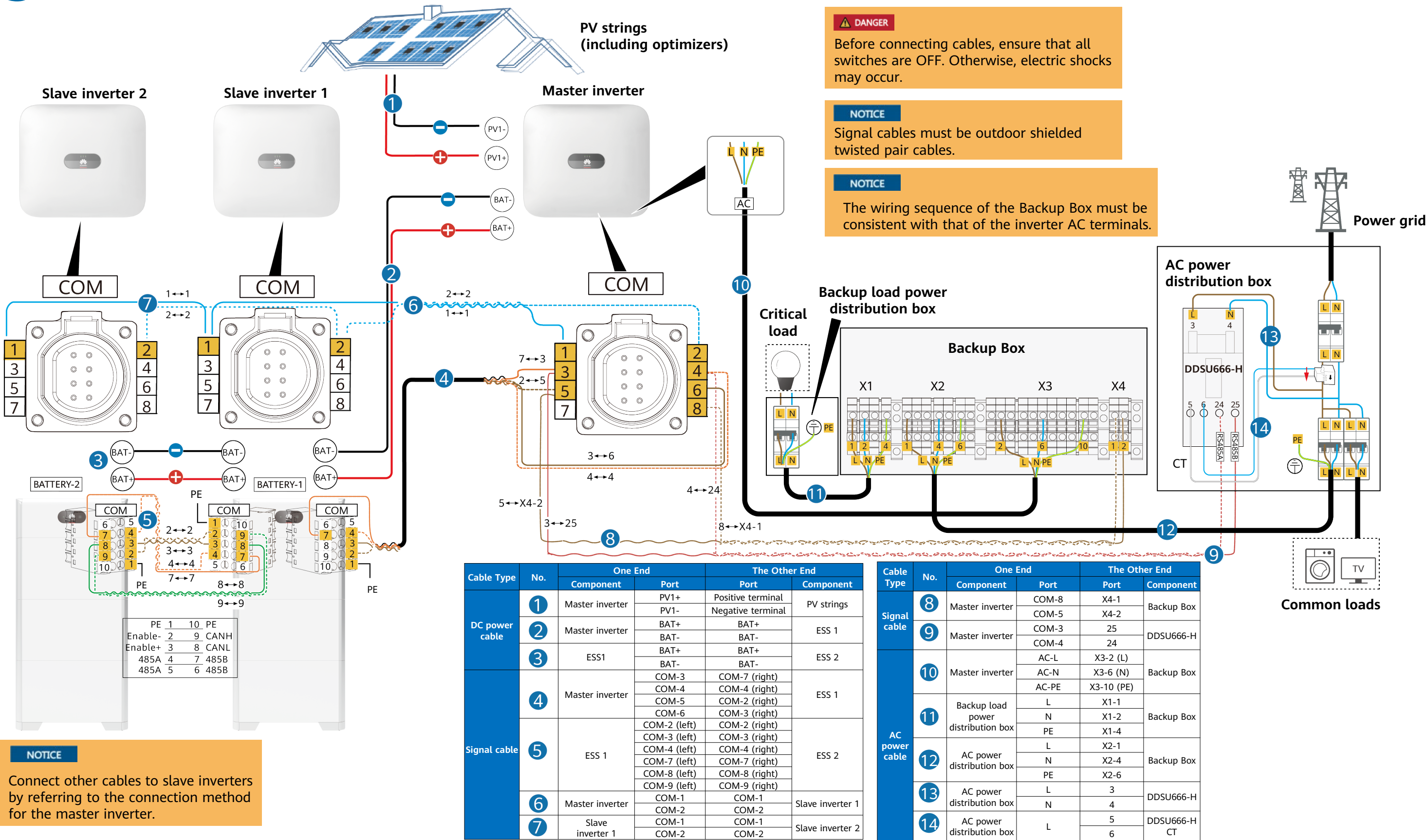
In the Smart Dongle networking scenario, a maximum of three inverters and six ESSs can be connected.

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3 Cable Connections (Single-Phase Inverter L1 + ESS S0 + Backup Box B0)



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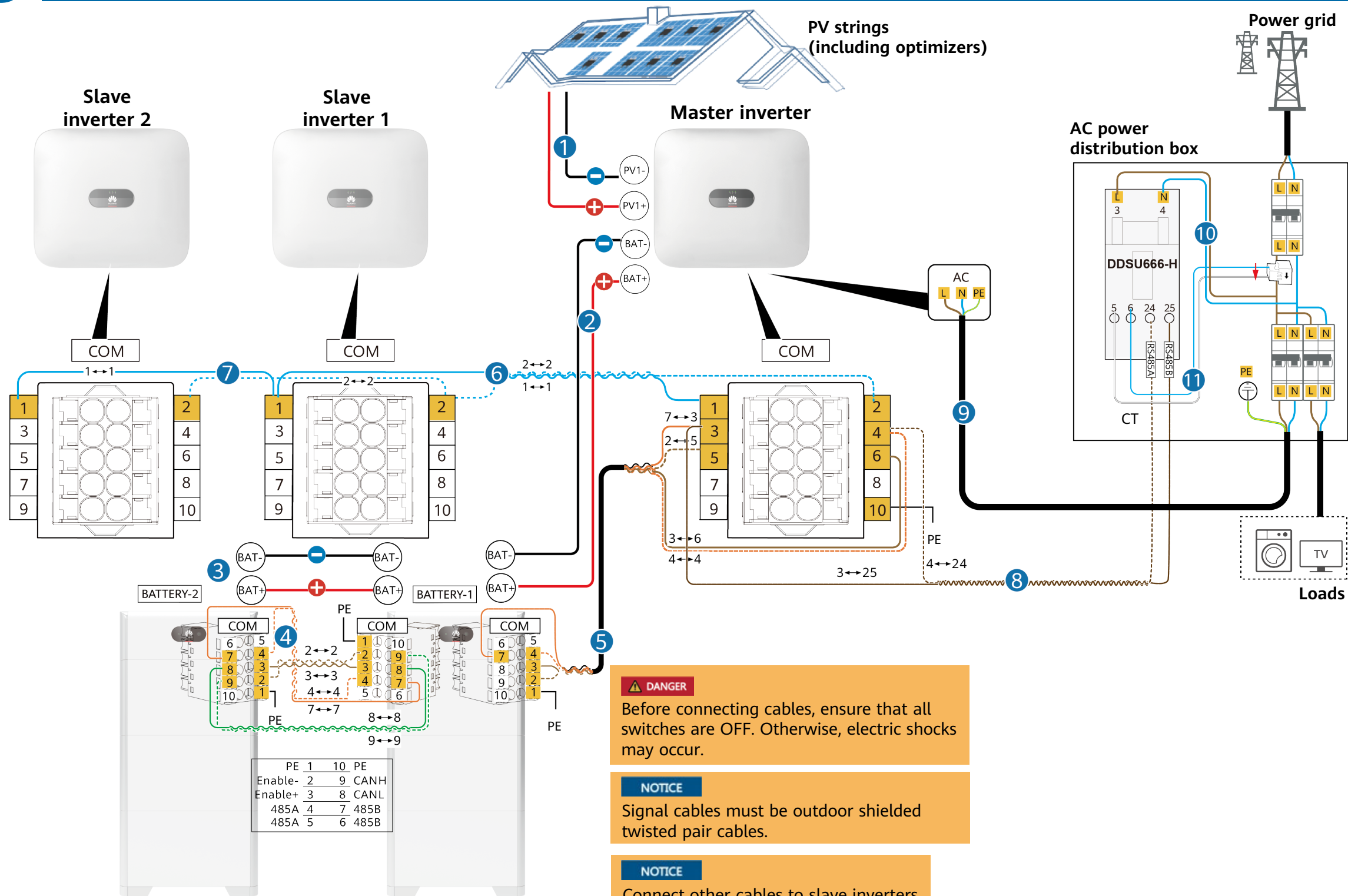


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3 Cable Connections (Single-Phase Inverter LC0 + ESS S0)



Cable Type	No.	One End		The Other End	
		Component	Port	Port	Component
DC power cable	1	Master inverter	PV1+	Positive terminal	PV strings
			PV1-	Negative terminal	
	2	Master inverter	BAT+	BAT+	ESS 1
	3	ESS 1	BAT+	BAT+	ESS 2
			BAT-	BAT-	
	4	ESS 1	COM-2 (left)	COM-2 (right)	ESS 2
Signal cable			COM-3 (left)	COM-3 (right)	
			COM-4 (left)	COM-4 (right)	
			COM-7 (left)	COM-7 (right)	
	5	Master inverter	COM-3	COM-7 (right)	ESS 1
			COM-4	COM-4 (right)	
			COM-5	COM-2 (right)	

Cable Type	No.	One End		The Other End	
		Component	Port	Port	Component
Signal cable	6	Slave inverter 1	COM-1	COM-1	Slave inverter 2
			COM-2	COM-2	
	7	Master inverter	COM-1	COM-1	Slave inverter 1
	8	Master inverter	COM-2	COM-2	
			COM-3	25	DDSU666-H
			COM-4	24	

Cable Type	No.	One End		The Other End	
		Component	Port	Port	Component
AC power cable	9	Master inverter	AC-L	L	AC power Power distribution box
			AC-N	N	
			AC-PE	PE	
	10	AC power distribution box	L	3	DDSU666-H
			N	4	
	11	AC power distribution box	L	5	DDSU666-H
				6	

⚠ DANGER
Before connecting cables, ensure that all switches are OFF. Otherwise, electric shocks may occur.

NOTICE
Signal cables must be outdoor shielded twisted pair cables.

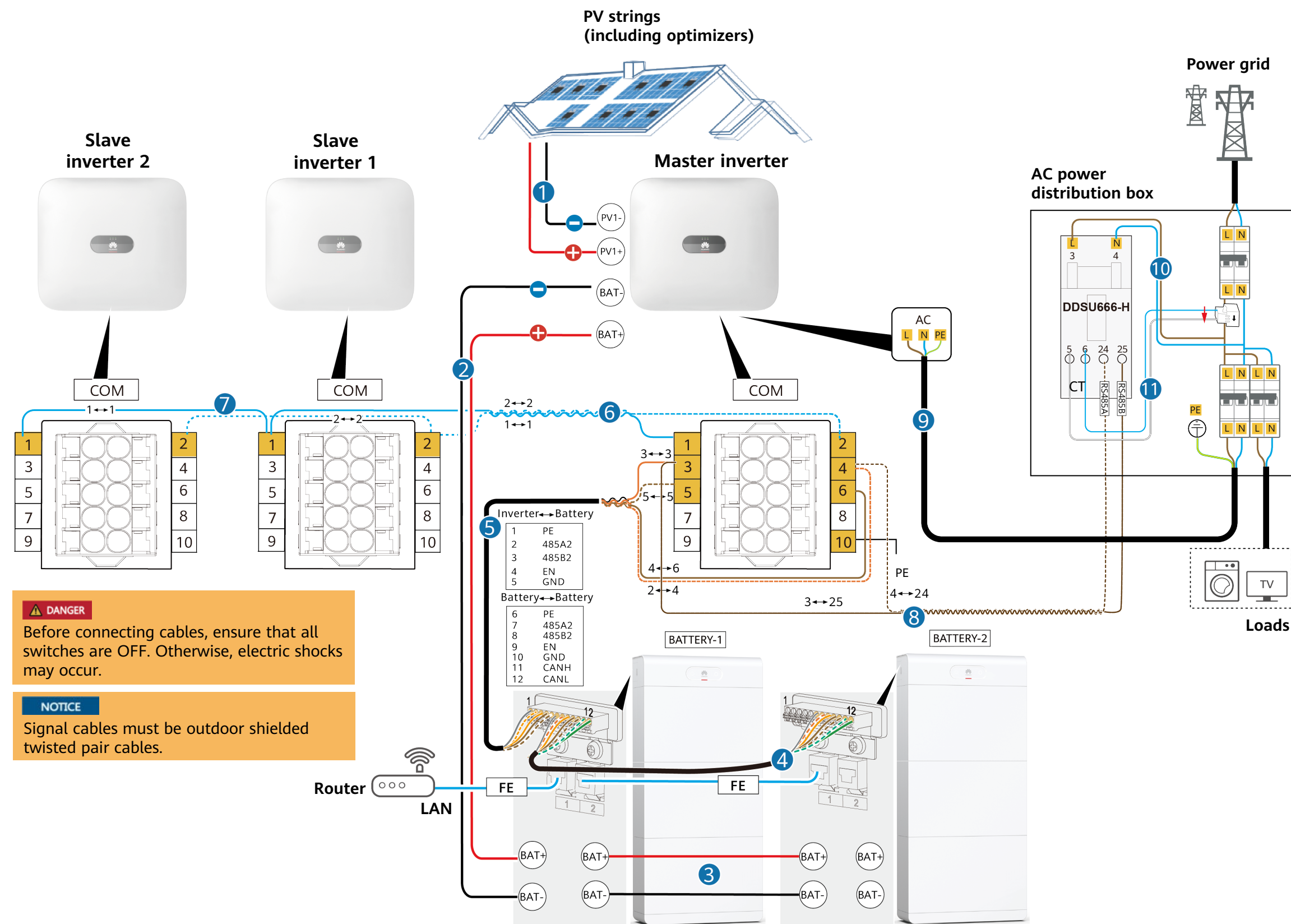
NOTICE
Connect other cables to slave inverters by referring to the connection method for the master inverter.

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3 Cable Connections (Single-Phase Inverter LC0 + ESS S1)



DANGER

Before connecting cables, ensure that all switches are OFF. Otherwise, electric shocks may occur.

NOTICE

Signal cables must be outdoor shielded twisted pair cables.

Cable Type	No.	One End		The Other End	
		Component	Port	Port	Component
DC power cable	1	Master inverter	PV1+	Positive terminal	PV strings
			PV1-	Negative terminal	
	2	Master inverter	BAT+	BAT+	ESS 1
Signal cable	3	ESS 1	BAT+	BAT+	ESS 2
			BAT-	BAT-	
	4	ESS 1	COM-7	COM-7	
			COM-8	COM-8	
			COM-9	COM-9	
			COM-10	COM-10	
	5	Master inverter	COM-3	COM-3	ESS 1
			COM-4	COM-2	
			COM-5	COM-5	

Cable Type	No.	One End		The Other End	
		Component	Port	Port	Component
Signal cable	6	Slave inverter 1	COM-1	COM-1	Slave inverter 2
	7	Master inverter	COM-1	COM-1	Slave inverter 1
	8	Master inverter	COM-3	25	DDSU666-H

Cable Type	No.	One End		The Other End	
		Component	Port	Port	Component
AC power cable	9	Master inverter	AC-L	L	AC power distribution box
			AC-N	N	
	10	AC power distribution box	L	3	DDSU666-H
			N	4	DDSU666-H CT
	11	AC power distribution box	L	5	

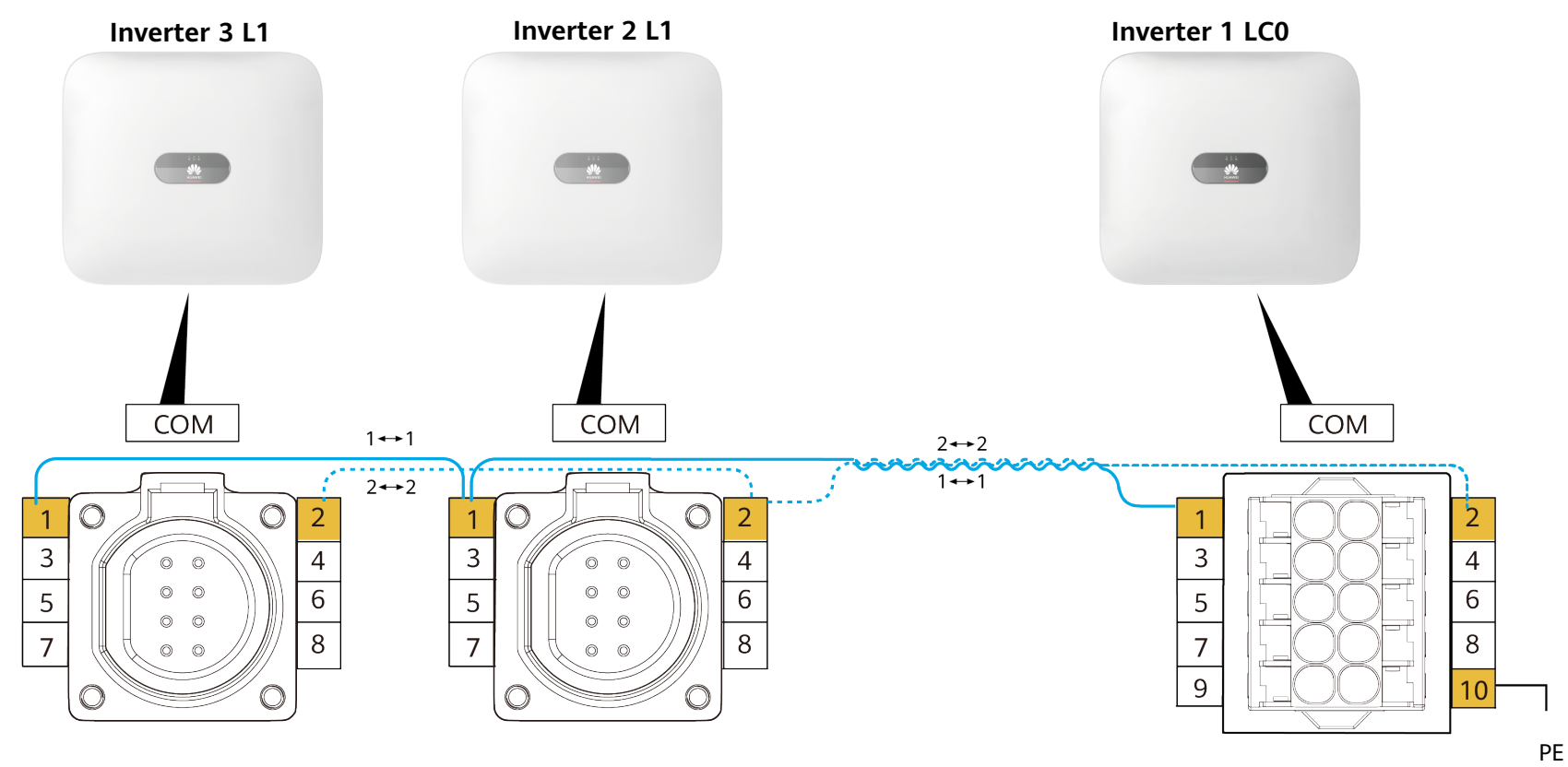
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3 Cable Connections (Single-Phase Inverter LC0/L1 Cascading)

NOTE
The following figure shows the signal cable cascading of LC0/L1 single-phase inverters. For the complete networking wiring diagram, refer to the preceding cable connection diagrams.



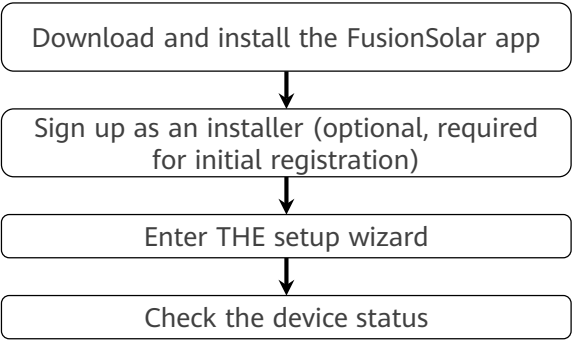
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4 System Commissioning

App-based Deployment Procedure



Downloading and Installing the FusionSolar App

- Search for FusionSolar in the app store to download the app.
- Scan the QR code below to download the app.



FusionSolar

Commissioning Instructions

For details about installer registration, setup wizard, and common parameter settings, see the [FusionSolar App Quick Guide \(Smart Dongle Networking & Inverter Direct Connection\)](#).



Scan for instructions