Solplanet

Single phase hybrid inverter

Quick Installation Guide

ASW008K-SH/ASW010K-SH

Android

iOS

1 General Information

This quick installation guide does not replace the description in the user manual.

The contents of this guide may be updated or revised due to product development. The information in this guide is subject to change without notice. The latest version of this document and the manual for installation, commissioning, configuration and decommissioning are to be found in PDF format at www.solplanet.net.

2 Safety

2.1 Intended use

The product is a transformerless hybrid inverter with three MPP trackers and one battery connection that feeds the direct current of the PV array into the connected battery or converts it to grid-compliant single-phase current and feeds it into onsite loads and the utility grid. The product can also convert the DC current supplied by the battery into grid-compliant single-phase current. The product supports bi-directional AC power flow which allows the batteries to be charged by grid supplied AC current.

The product has a backup function that can continue to supply selected circuits with power from the battery or PV system in the event of a grid fault.

The product is intended for indoor and outdoor applications.

The product must only be connected with PV modules of protection class II (in accordance with IEC 61730, application class A). Do not connect any sources of energy other than PV modules and officially compatible batteries to the product.

PV modules with a high capacitance to ground must only be used if their coupling capacitance is less than 2 µF.

The product is not equipped with an integrated transformer and therefore has no galvanic isolation. The product must not be operated with PV modules which require functional grounding of either the positive or negative PV conductors. This can cause the product to be irreparably damaged. The product may be operated with PV modules with frames that require protective earthing.

The inverters shall not be used in multiple phase combinations.

All components must remain within their permitted operating ranges and their installation requirements at all times.

Use the product only in accordance with the information provided in the user manual and with the locally applicable standards and directives. Any other application maycause personal injury or damage to property.

- The product must only be operated in connection with an intrinsically safe lithium-ion and lead-acid battery approved by Solplanet. The entire battery voltage range must be completely within the permissible input voltage range of the product. The latest version of the Solplanet battery compatibility list can be found in PDF format at www.solplanet.net.

The product must only be used in countries for which it is approved by Solplanet and the grid operator.

Knowledge of all applicable laws, standards and directives.

Knowledge of and compliance with this document and all safety information.

The type label must be permanently attached to the product and must be in a legible condition.

This document does not replace any regional, state, provincial, federal or national laws, regulations or standards that apply to the installation, electrical safety and use of the product.

2.2 Important safety instructions

The product has been designed and tested strictly according to the international safety requirements. As with all electrical or electronical devices, there are residual risks despite careful construction. To prevent personal injury and property damage and to ensure long-term operation of the product, read this section carefully and observe all safety information at all times.

⚠ DANGER

Danger to life due to live voltage on EPS port when inverter is without load!

Even when the inverter is not connected to any load while powered on, the EPS port may still have live voltage present.

To avoid electric shock:

- Strictly follow the wiring instructions.
- Ensure all system switches are turned off and that all sources of energy are isolated during installation or removal of EPS loads.
- Use insulated tools.
- Verify that voltage is not present on the EPS port using a voltage tester or multimeter before handling the EPS port.
- Wear appropriate personal protective equipment (PPE).

⚠ DANGER

Danger to life due to high voltages of the PV array or the battery!

The DC cables connected to the battery or the PV array may be live. Touching the DC conductors or associated live components can cause lethal electric shocks. Disconnecting the DC connectors from the product under load may expose the user to an electric arc causing electric shock and burns.

- Do not touch non-insulated cable ends.
- Do not touch the DC conductors.
- Do not touch any live components of the product.
- Do not open the product.
- Observe all safety information of the battery manufacturer.
- All work on the product must only be carried out by qualified personnel who have read and fully understood all safety information contained in this document and the user manual.
- Disconnect the product from all voltage and energy sources and ensure it cannot be reconnected before working on the product.
- Wear suitable personal protective equipment for all work on the product.

⚠ DANGER

Danger to life due to electric shock when touching live components in backup mode!

Even if the AC breaker and the PV switch of the inverter are disconnected, the parts of the system may still be live when the battery is switched on due to backup mode.

- Do not open the product.
- Disconnect the product from all voltage and energy sources and ensure it can not be reconnected before working on the product.

⚠ DANGER

Danger to life due to fire or explosion when batteries are fully discharged!

A fire may occur due to incorrect charging of fully discharged batteries. This can result in death or serious injury.

- Make sure that the battery is not fully discharged before commissioning the system.
- Contact the battery manufacturer for further proceedings if the battery is fully discharged.

⚠ DANGER

Danger to life due to burns caused by electric arcs through short-circuit currents!

Short-circuit currents in the battery can cause heat accumulation and electric arcs if the battery is short circuited or wrongly installed. Heat accumulation and electric arcs may result in lethal injuries due to burns.

- Disconnect the battery from all voltages sources prior to performing any work on the battery.
- Only use properly insulated tools to prevent accidental electric shock or short circuits during installation.
- Observe all safety information of the battery manufacturer.

⚠ DANGER

Danger to life due to electric shock when touching live system components in case of a ground fault!

If a ground fault occurs, parts of the system may still be live. Touching live parts and cables may result in death or lethal injuries due to electric shock.

- Disconnect the product from voltage and energy sources and ensure it cannot be reconnected before working on the device.
- Only touch the cables of the PV modules on their insulation.
- Do not touch any parts of the substructure or frame of the PV array.
- Do not connect PV strings with ground faults to the product.

⚠ WARNING

Danger to life due to electric shock from destruction of the measuring device due to overvoltage!

Overvoltage can damage a measuring device and result in voltage being present in the enclosure of the measuring device. Touching the live enclosure of the measuring device results in death or lethal injuries due to electric shock.

- Only use measuring devices with a measurement span higher than the DC input voltage range of the devices.

⚠ CAUTION

Risk of burns due to high temperature.

Some parts of the enclosure can become hot during operation.

- During operation, do not touch any parts other than the enclosure lid of the product.

⚠ CAUTION

Risk of injury due to weight of product.

Injuries may result if the product is lifted incorrectly or dropped while being transported or mounted.

- Transport and lift the product carefully. Take the weight of the product into account.
- Wear suitable personal protective equipment for all work on the product.

2.3 Symbols on the label

	Beware of a danger zone! This symbol indicates that the product must be additionally grounded if additional grounding or equipotential bonding is required at the installation site.
	Beware of high voltage and operating current! The inverter operates at high voltage and current. Work on the inverter must only be carried out by skilled and authorized electricians.
	Beware of hot surfaces! The inverter can get hot during operation. Avoid contact during operation.

WEEE designation
Do not dispose of the product together with the household waste but in accordance with the disposal regulations for electronic waste applicable at the installation site.

CE marking
The product complies with the requirements of the applicable EU directives.

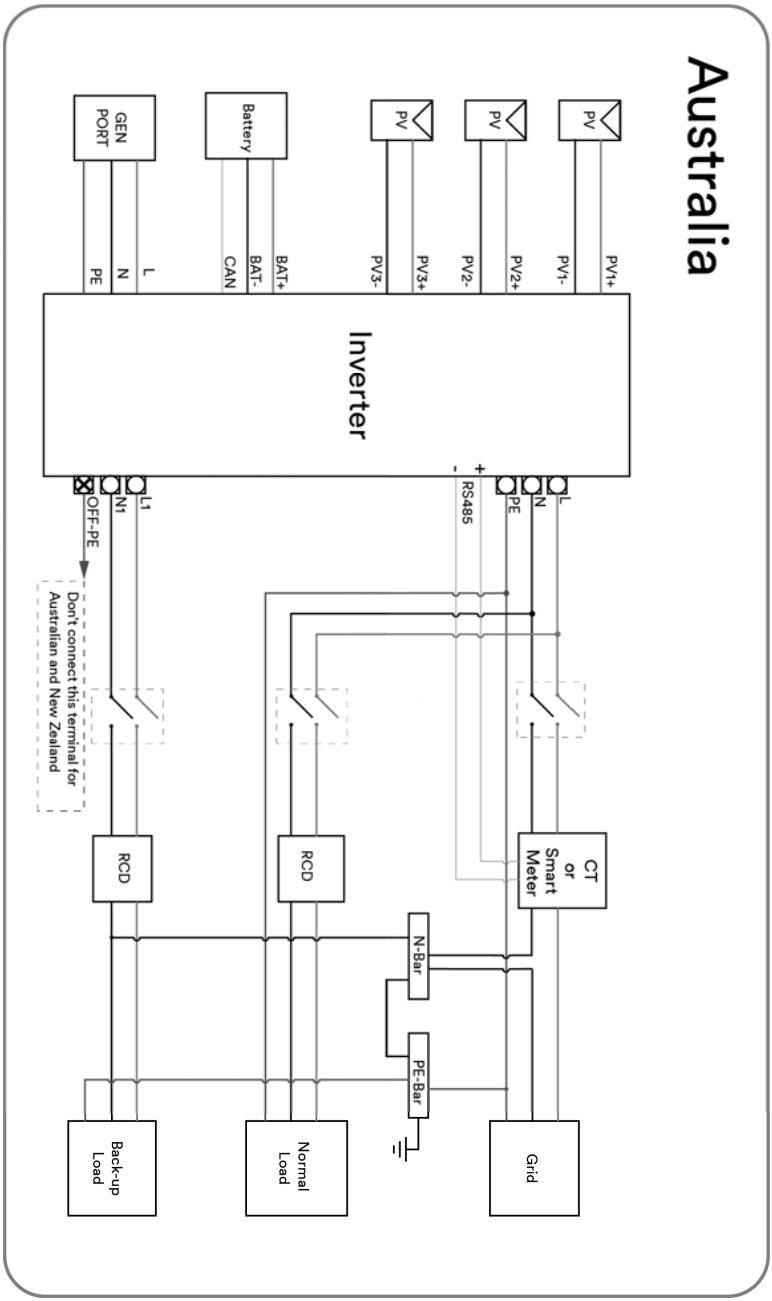
Certification mark
The product has been tested by TÜV and obtained the quality certification mark.

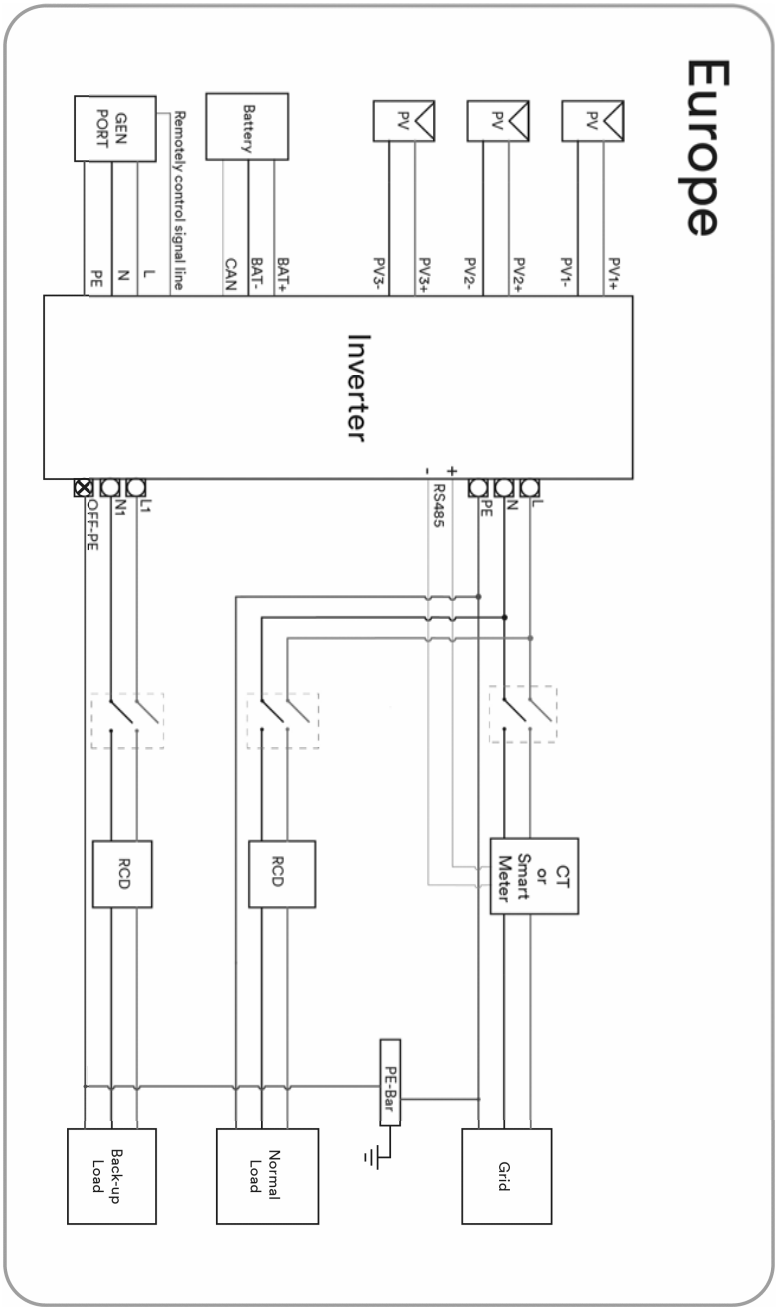
RCM (Regulatory Compliance Mark)
The product complies with the requirements of the applicable Australian standards.

Capacitor discharge
Danger to life due to high voltages in the inverter. Do not touch live parts for 5 minutes after disconnection from the power sources.

Observe the documentation
Observe all documentation supplied with the product.

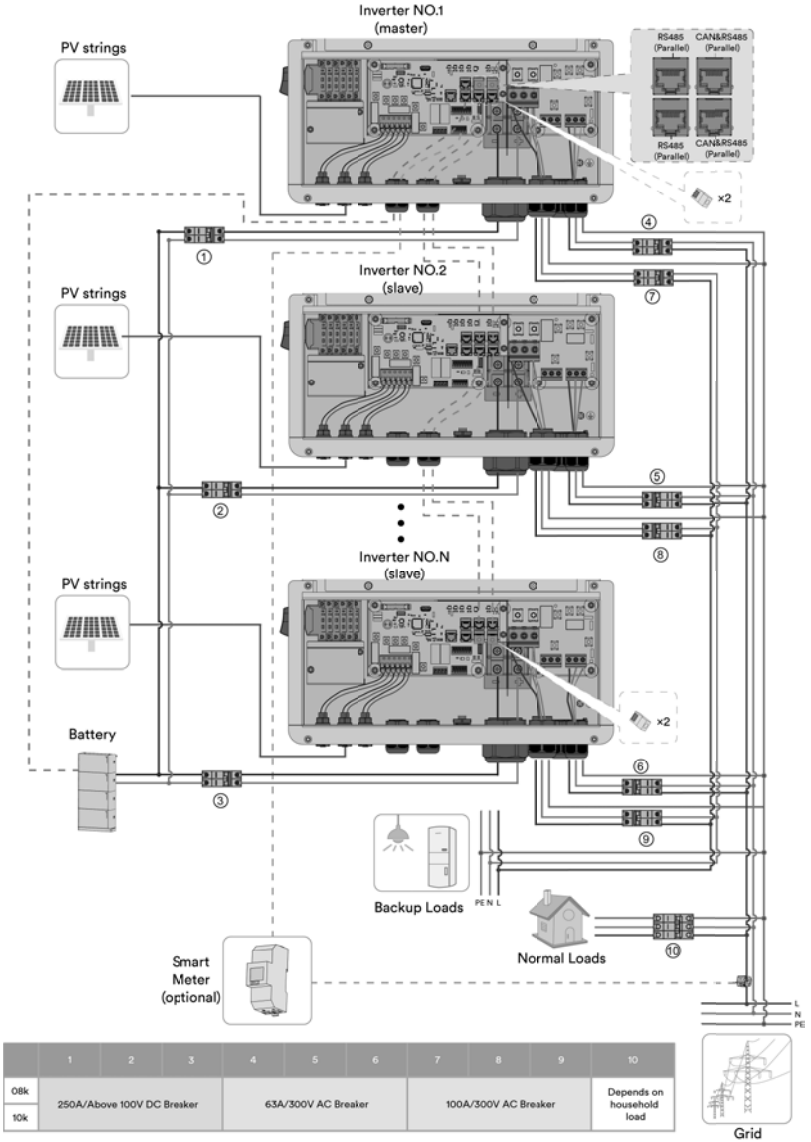
3 System Wiring Diagram




Europe
PV
PV1+
PV1-
PV2+
PV2-
PV3+
PV3-
Inverter
Battery
BAT+
BAT-
CAN
GEN PORT
Remotely control signal line
L
N
PE
RS485
CT or Smart Meter
L
N
PE
L1
N1
OFF-PE
RCD
RCD
PE-Bar
Grid
Normal Load
Back-up Load

4 Parallel System

If parallel operation is required, please contact Solplanet or installer to purchase new accessories, specified meters and CT.



	1	2	3	4	5	6	7	8	9	10
08k 10k	250A/Above 100V DC Breaker			63A/300V AC Breaker			100A/300V AC Breaker			Depends on household load

5 EU Declaration of Conformity

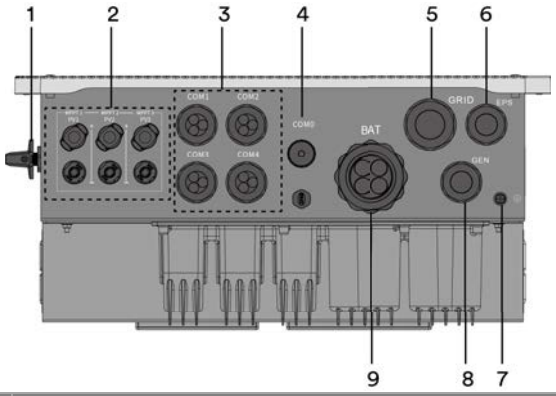
Within the scope of the EU directives

- Radio Equipment Directive 2014/53/EU
  (L 153/62-106. May 22. 2014) (RED)
- Restriction of the use of certain hazardous substances 2011/65/EU
  (L 174/88, June 8, 2011) and 2015/863/EU (L 137/10, March 31,2015) (RoHS)

AISWEI Technology Co., Ltd. confirms herewith that the products described in this document are in compliance with the fundamental requirements and other relevant provisions of the above mentioned directives. The entire EU Declaration of Conformity can be found at www.solplanet.net.

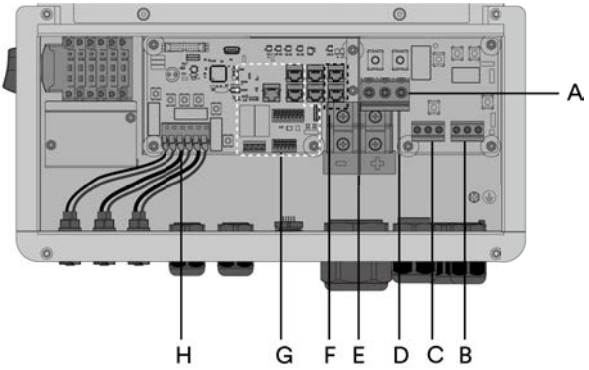
6 Overview

6.1 Bottom wiring port



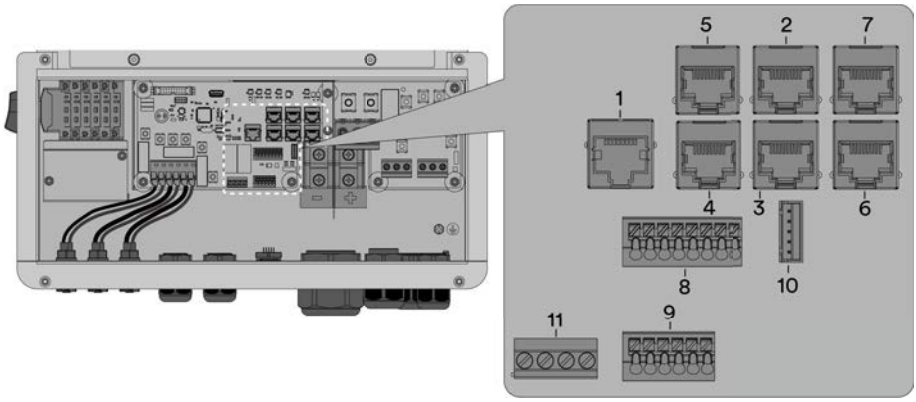
Object	Description
1	DC-switch
2	DC cable entry glands for PV string connection
3	Communication Ports (refer to 6.3 Interface Pinout Table)
4	Communication port for Ai-Dongle
5	AC cable entry gland for grid connection
6	AC cable entry gland for EPS load connection
7	Additional grounding screw
8	AC cable entry gland for generator connection
9	DC cable entry gland for battery connection

6.2 Internal wiring terminal



Object	Description
A	Terminal block for grid connection
B	Terminal block for EPS load connection
C	Terminal block for generator connection
D	Isolation sheet
E	Terminal block for battery connection
F	RJ45 ports used for parallel connection (refer to 6.3 Communication Interface)
G	Communication interface (refer to 6.3 Communication Interface)
H	Terminal block for PV string connection

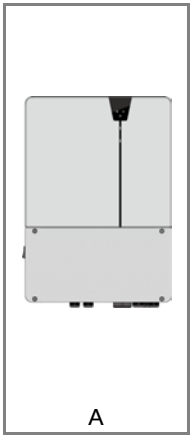
6.3 Interface Pinout Table

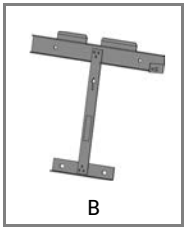


Num.	Designator	Description	Terminal	PIN definition							
				1	2	3	4	5	6	7	8
1	CN704	Ethernet	COM2	TXP	TXN	RXP	3V3	3V3	RXN	X	GND
2	CN705	RS485 (reserved)	COM2	RS485A	RS485B	GND	X	X	X	X	X
3	CN706	RS485 (reserved)	COM1	RS485A	RS485B	GND	X	X	X	X	X
4	CN707	Monitor (RS485)	COM1	RS485BA	RS485BB	GND	X	X	X	RS485A	RS485B
5	CN708	BMS	COM2	X	GND	X	CANH	CANL	X	RS485EA	RS485EB
6	CN709	CAN&RS485 (Parallel)	COM4	CANBH	CANBL	GND	GND	RS485AA	RS485AB	RS485B_IO	RS485A_IO
7	CN710	CAN&RS485 (Parallel)	COM1	CANBH	CANBL	GND	GND	RS485AA	RS485AB	RS485B_IO	RS485A_IO

Num.	Designator	Description	Terminal	PIN definition							
				1	2	3	4	5	6	7	8
8	CN701	DRM	COM3	DI_1	DI_2	DI_3	DI_4	DRM0	GND	GND	ON/OFF
9	CN702	PT100(1,2)/ CT (3,4)/ METER (5,6)	COM3	3V3	PT100_IN	CT+	CT-	RS485DA	RS485DB		
10	CN703	WIFI DONGLE	COM0	5V0	GND	GND	RS485CA	RS485CB			
11	CN711	DO1/DO2	COM4	DO2_A	DO2_B	DO1_A	DO1_B				

7 Scope of Delivery


A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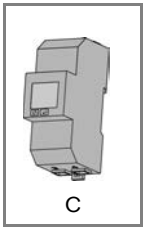
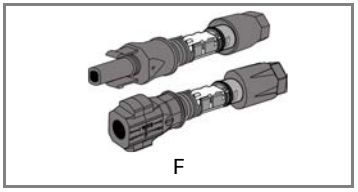

C


D


E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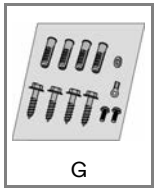
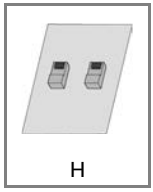

G


H

Object	Description	Quantity
A	Inverter	1
B	Wall Bracket	1
C	Smart meter	1
D	Communication device (Ai-Dongle)	1
E	Document	1
F	DC connector	3
G	Fastener package	1
H	Communication and Resistance terminal (only for parallel)	1

Please install either smart meter or CT.

8 Solplanet App

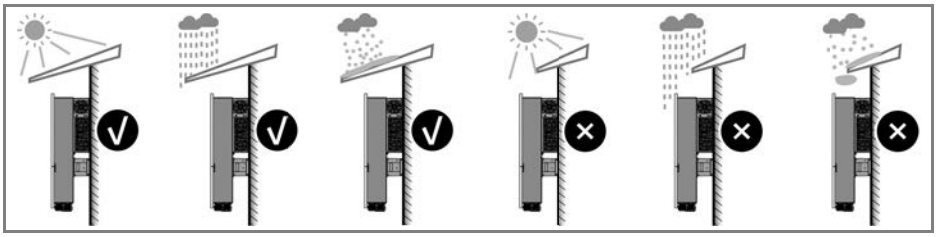
8.1 Brief introduction

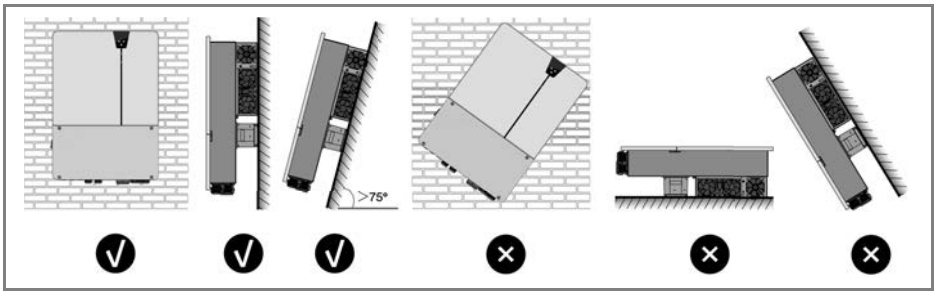
Solplanet App is an Android and iOS App which can establish communication connection to the inverter via the included communication device for remote and near-end initial setup and maintenance on the inverter.

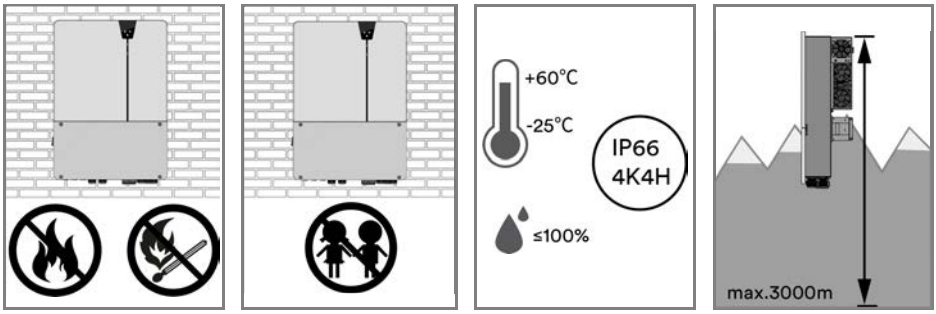
8.2 Download and install

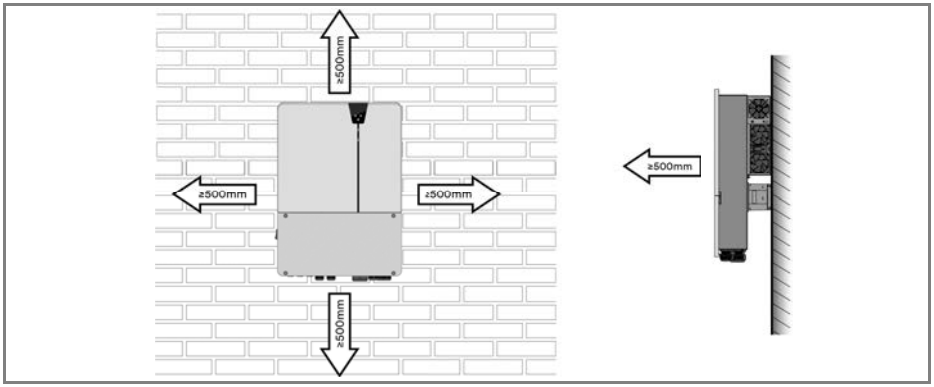
Scan the following QR code which directs to Google Playstore or Apple App Store, download and install the Solplanet App according to the prompt information.

9 Mounting Environment

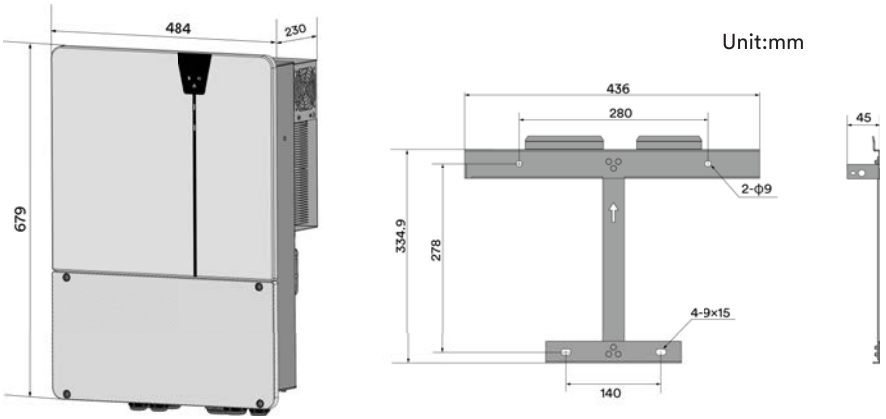




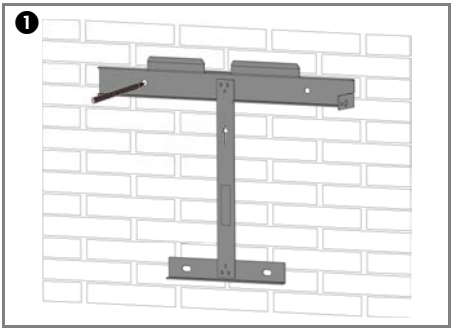


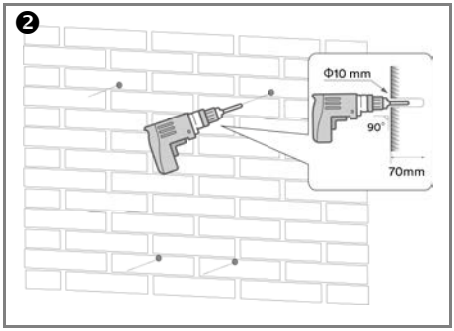


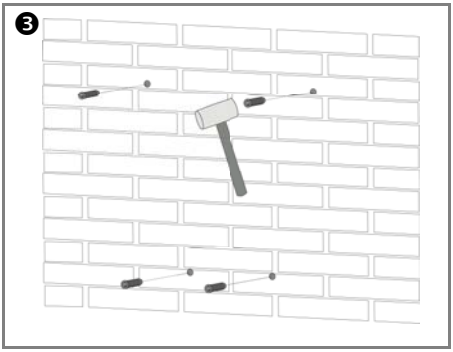
10 Dimensions

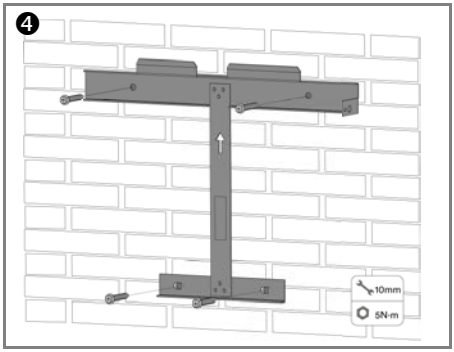


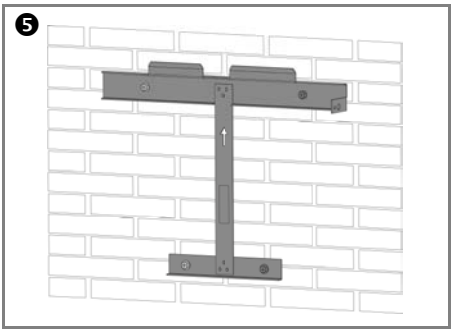
11 Mounting

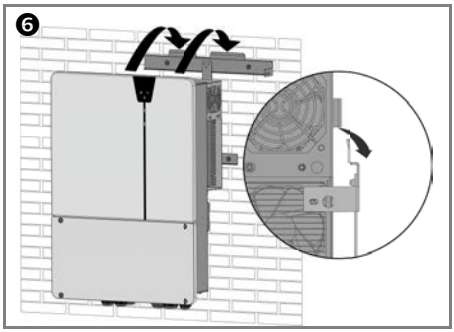


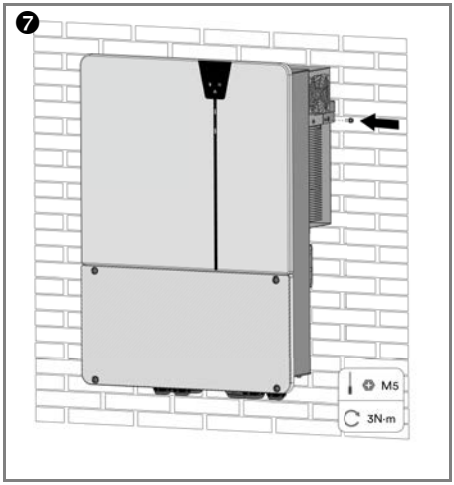


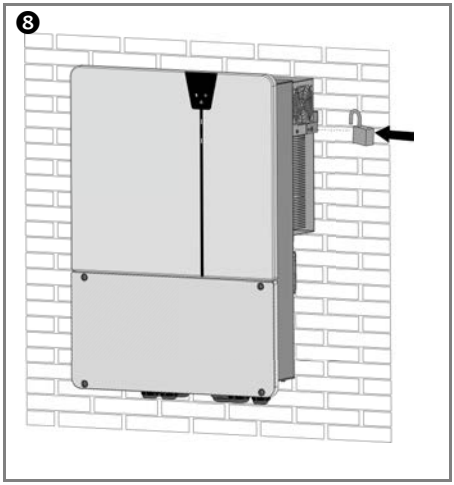




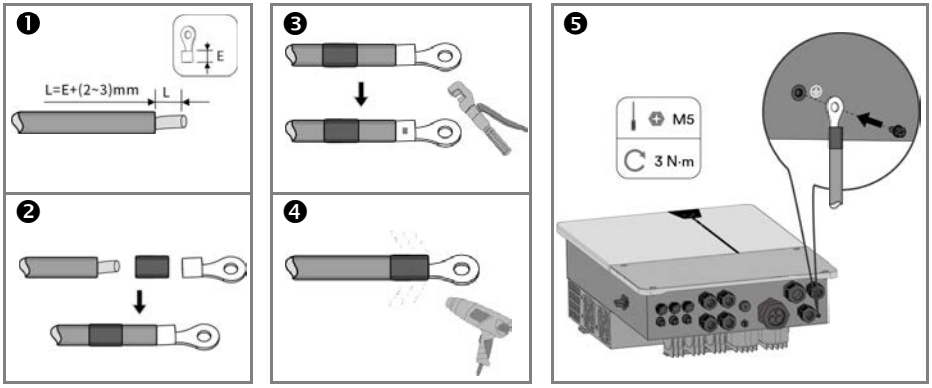




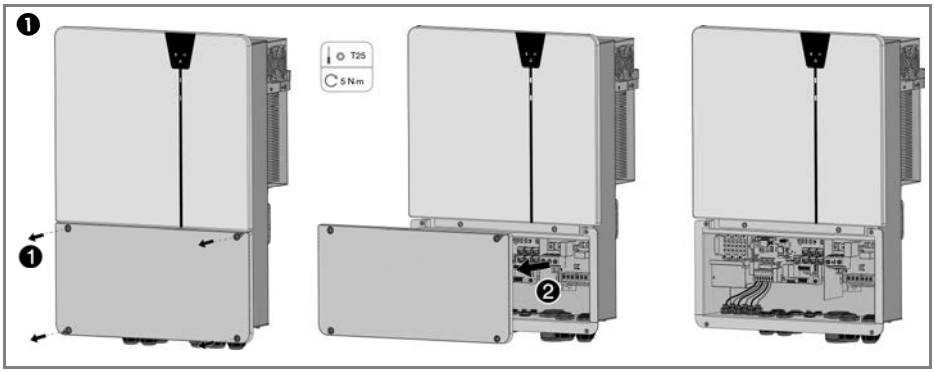


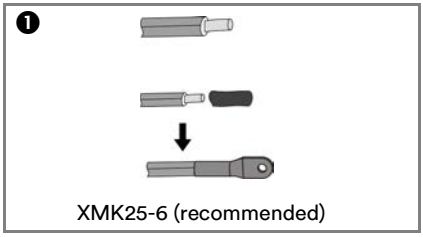


12 Second Protective Grounding

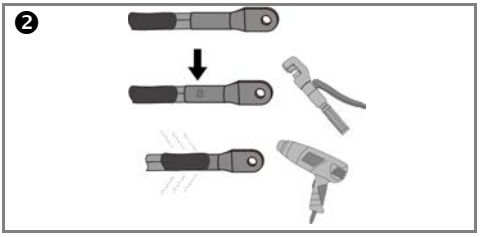


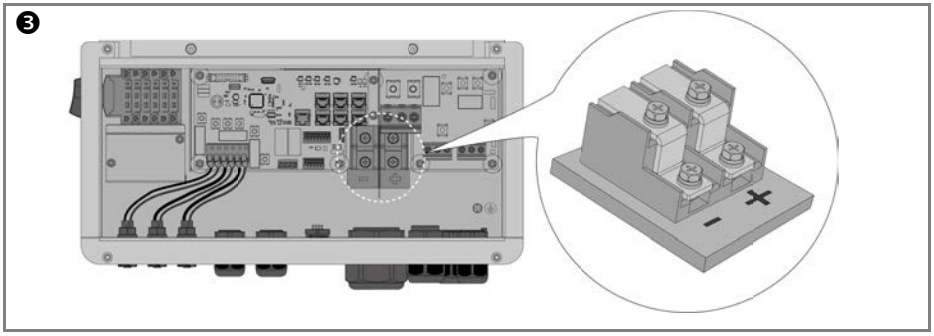
13 Battery Connection

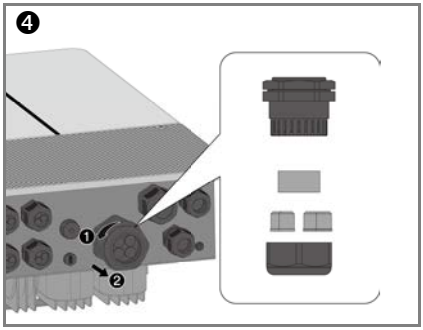


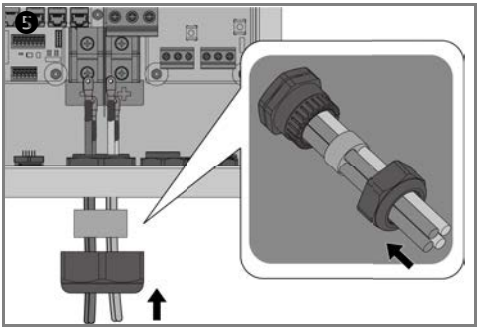


XMK25-6 (recommended)









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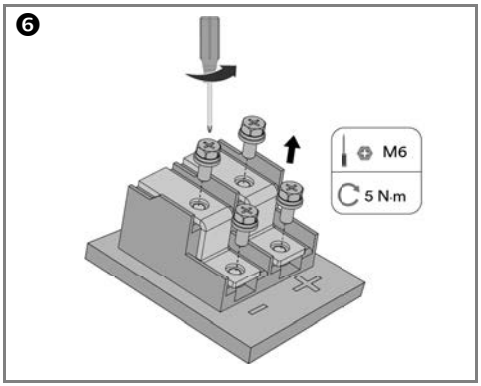

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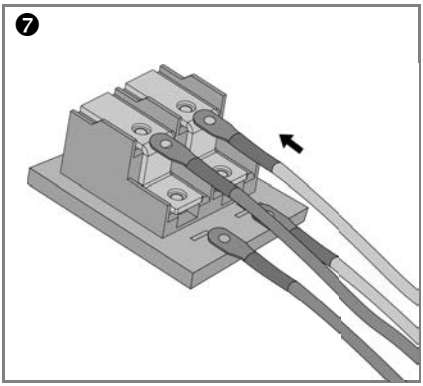

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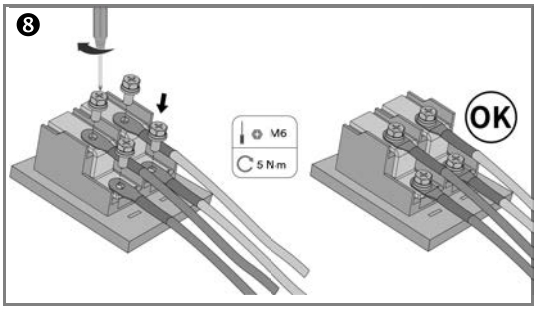
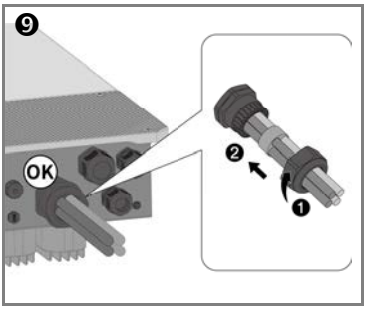


❾



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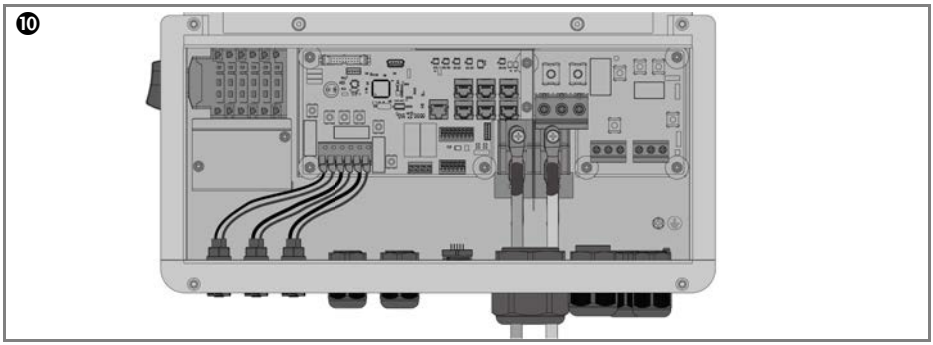
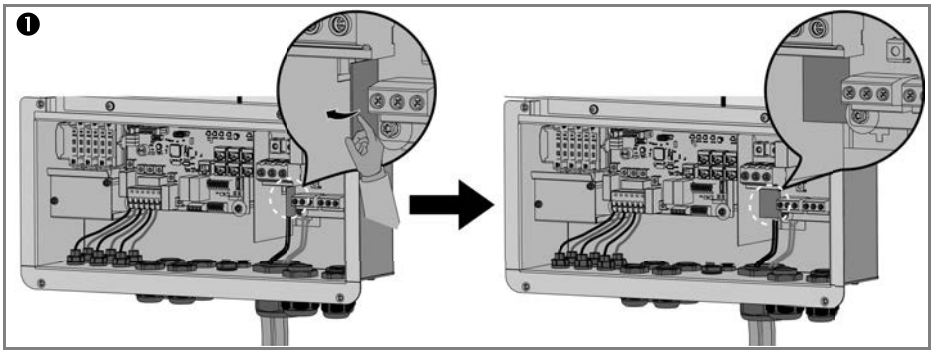
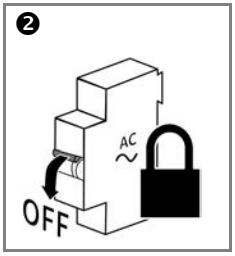
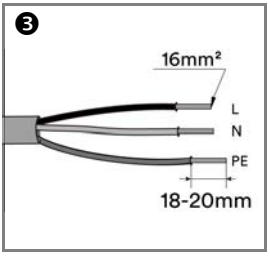
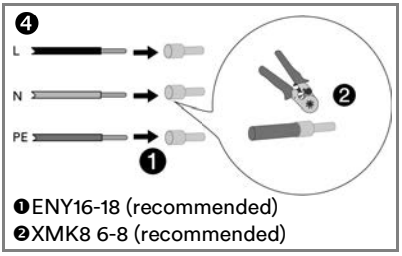


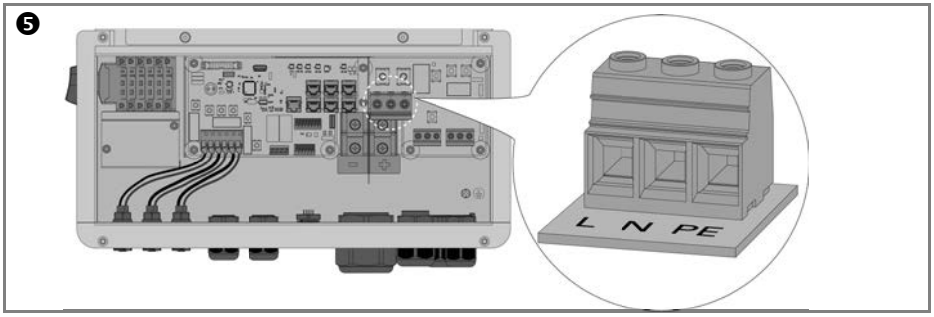
14 Grid Connection

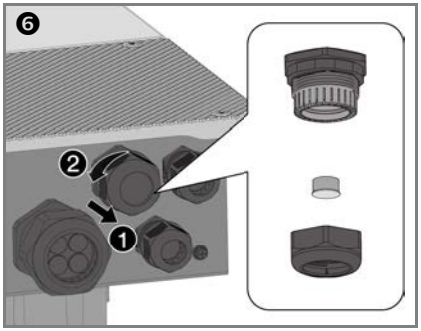


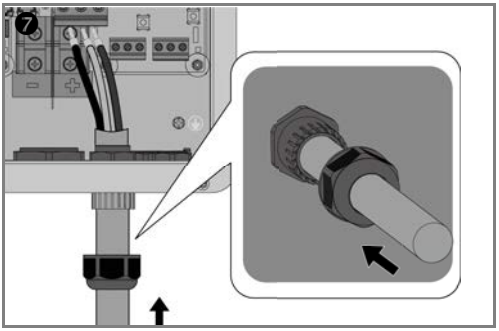


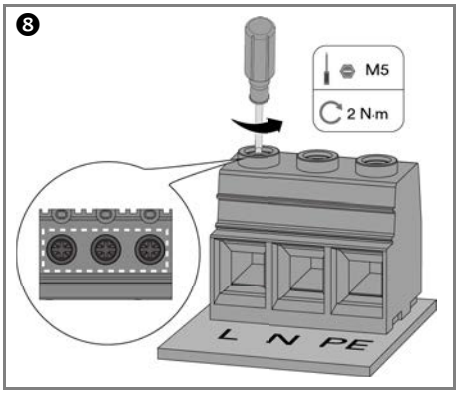








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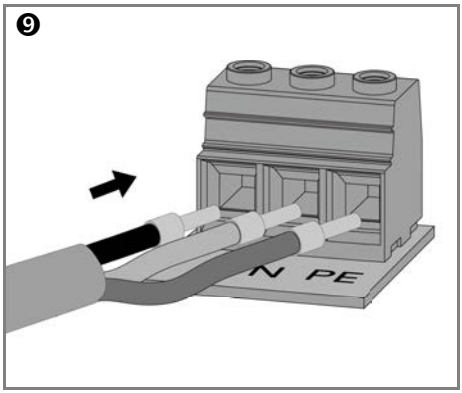
M5
2 N·m
L N PE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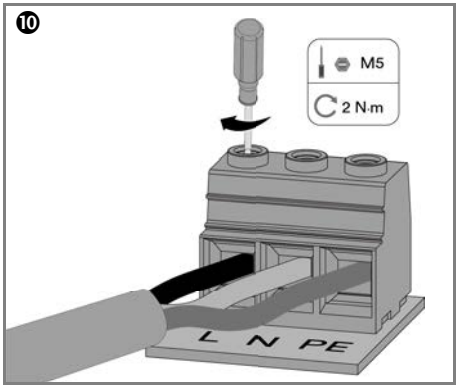
N PE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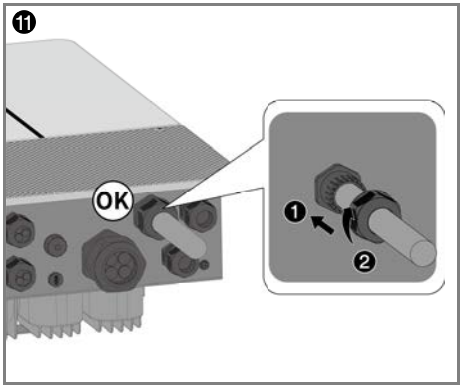
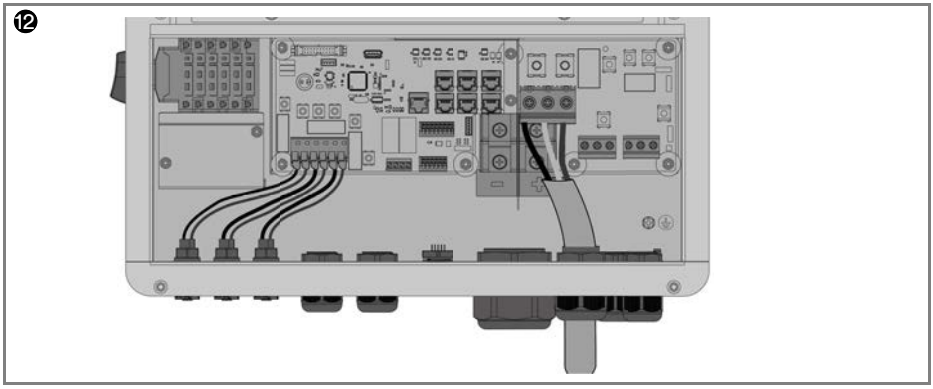
M5
2 N·m
L N PE


11
OK
1
2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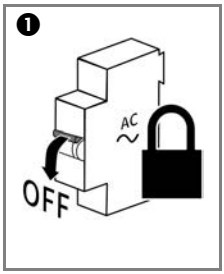
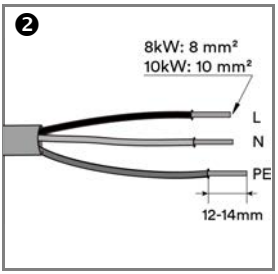
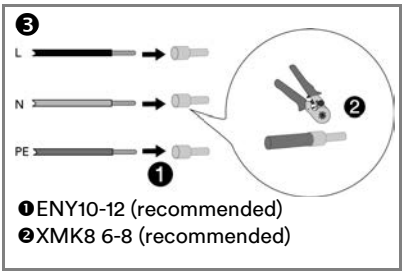
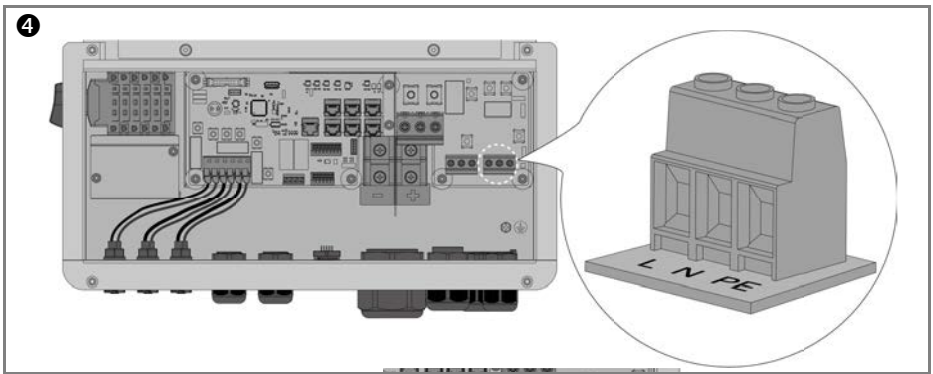
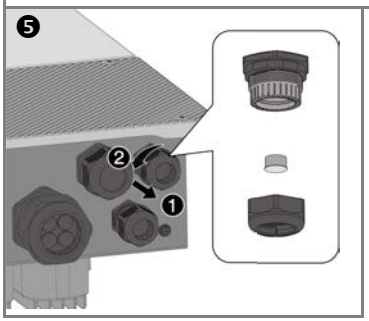
15 EPS Load Connection

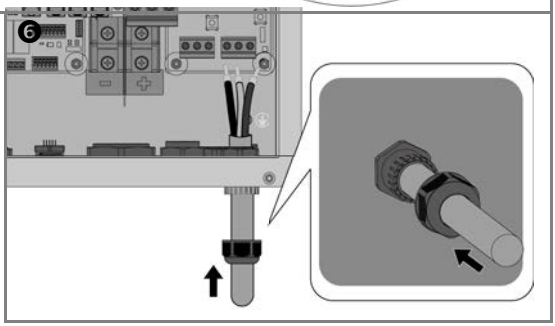


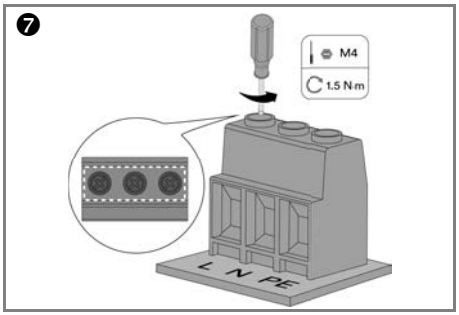


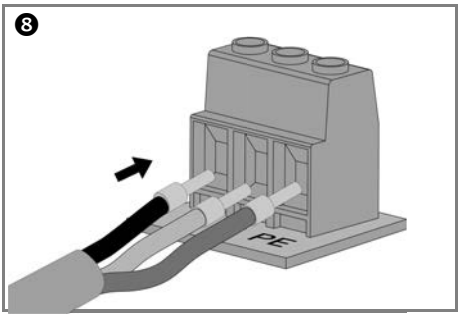


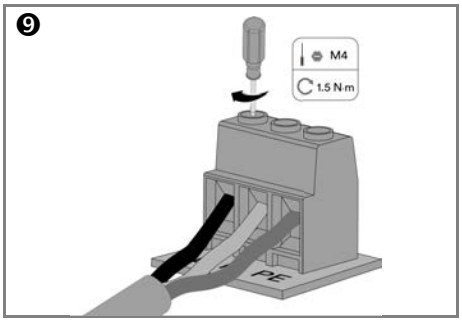


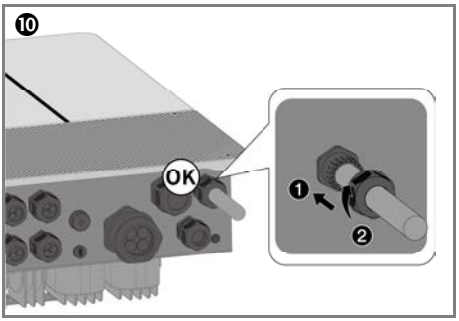


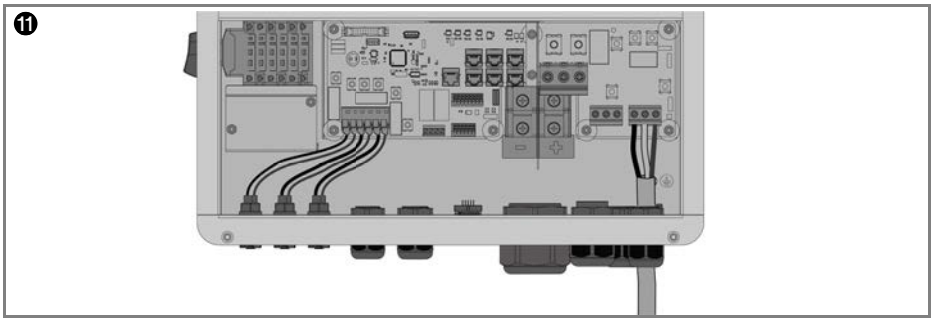




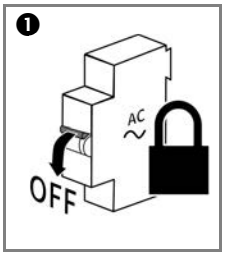


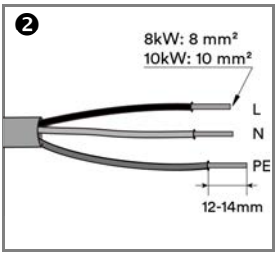


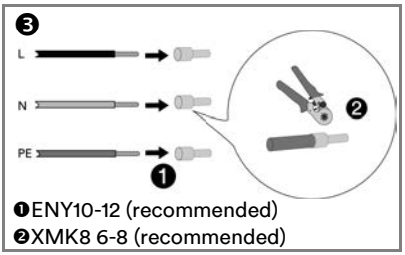


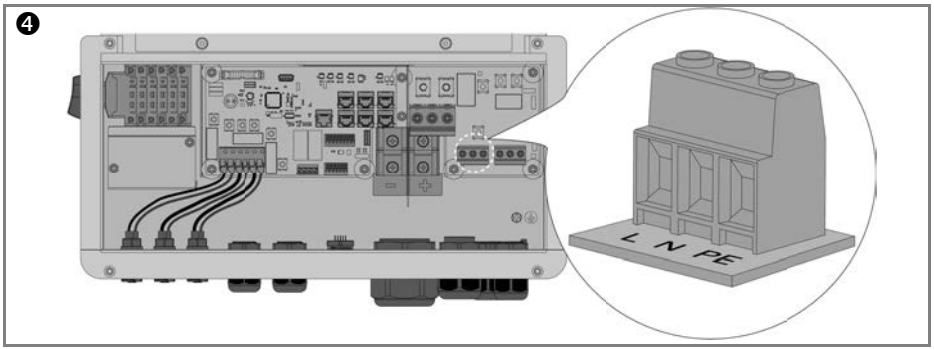


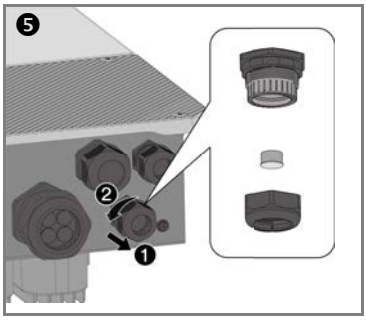
16 Generator Connection







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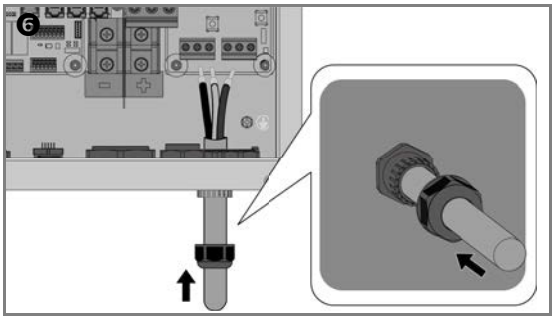
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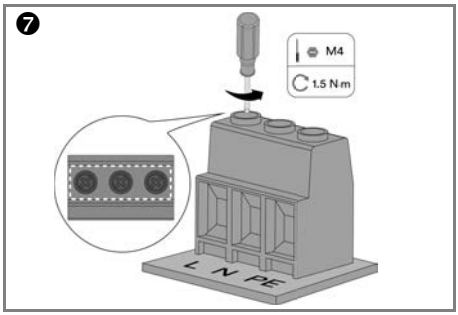
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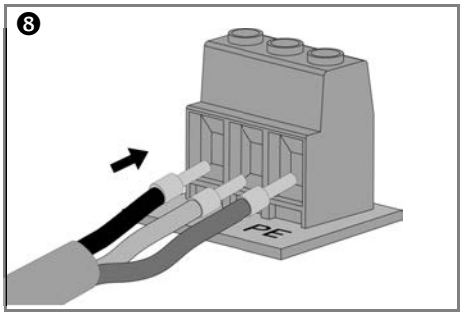
M4
1.5 N·m
L N PE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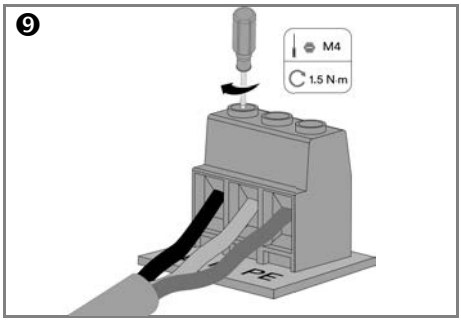
PE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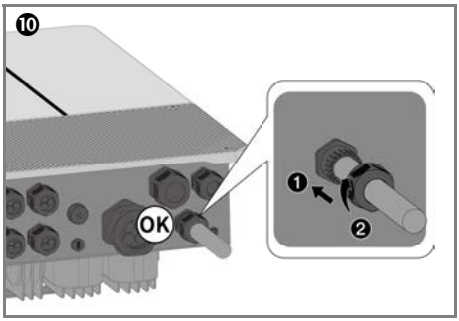
M4
1.5 N·m
PE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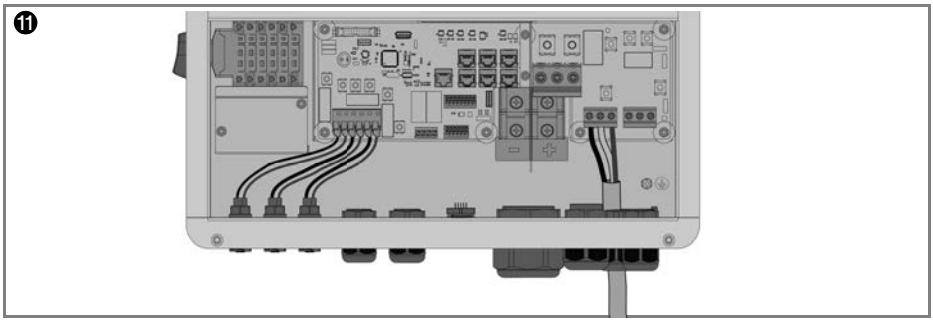
OK
1
2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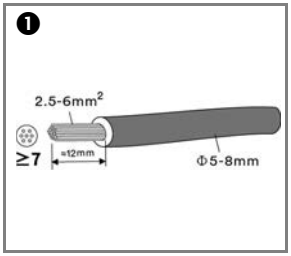
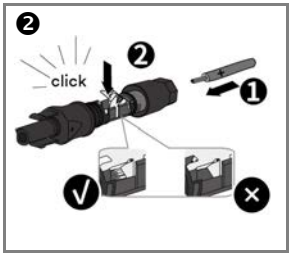
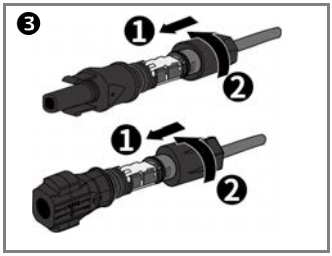
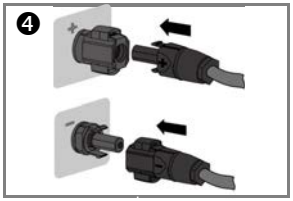
17 DC Connection

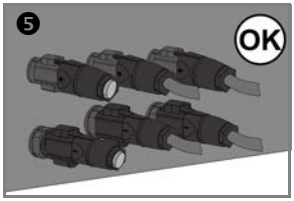
TYPE 1



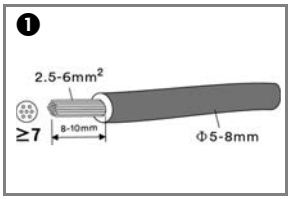


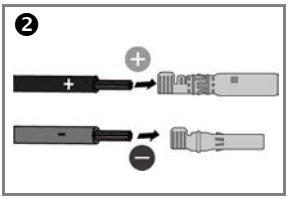


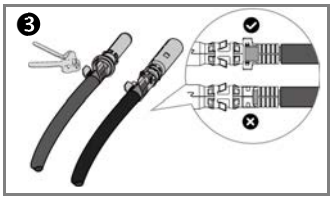


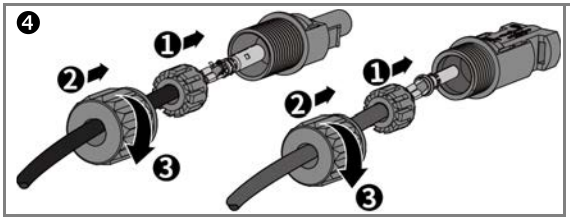


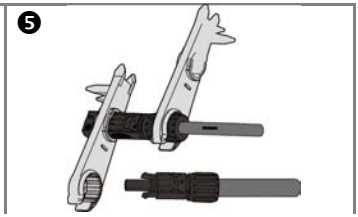
TYPE 2

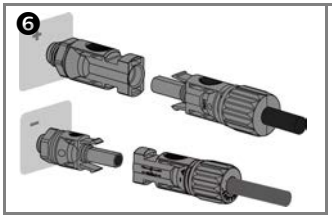


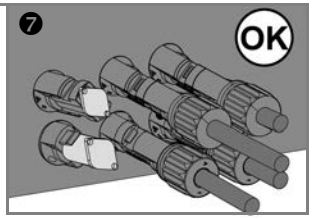






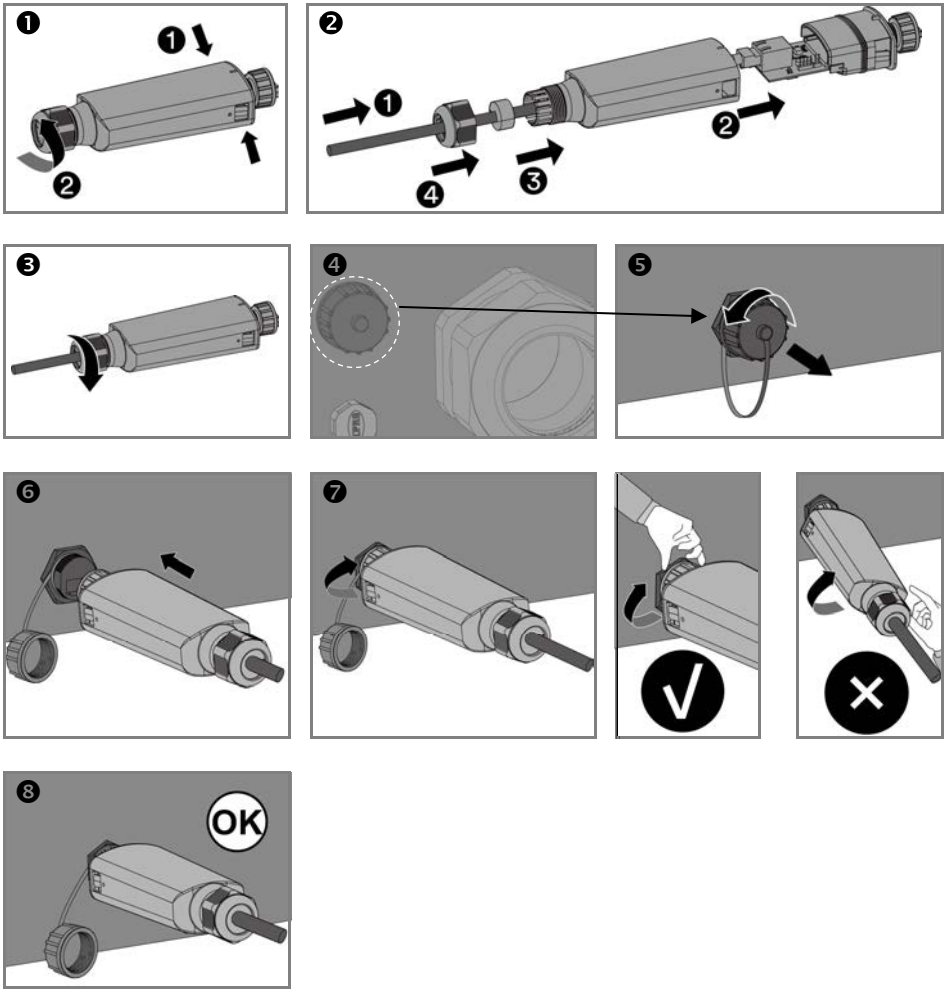






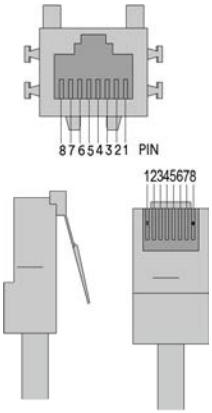
18 Communication Setup

18.1 Ai-Dongle connection



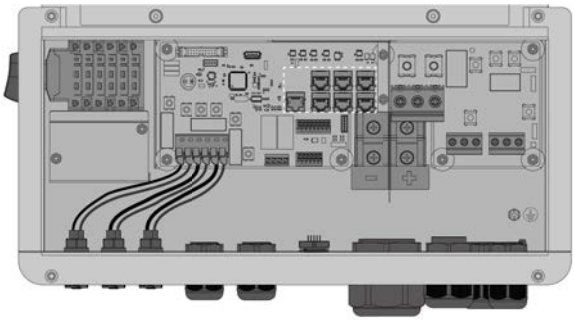
18.2 RJ45 connection

❶



Refer to 6.3
Interface Pinout Table

❷



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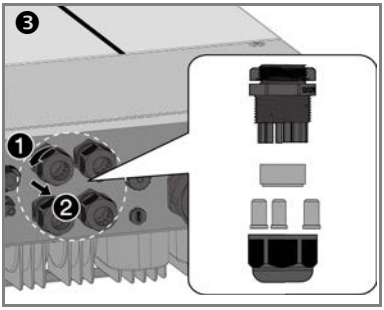

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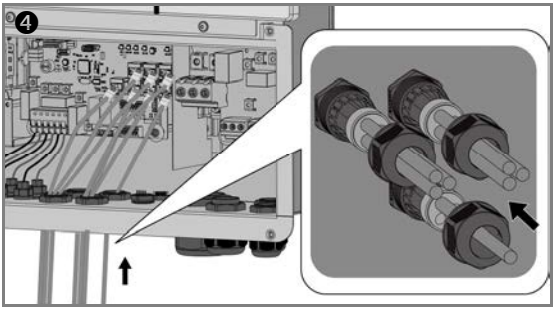

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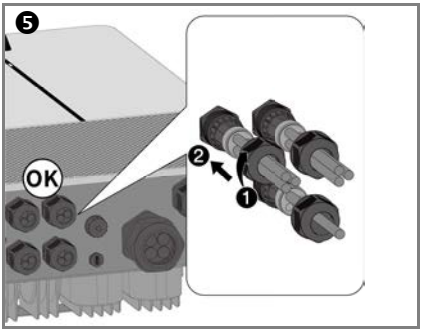

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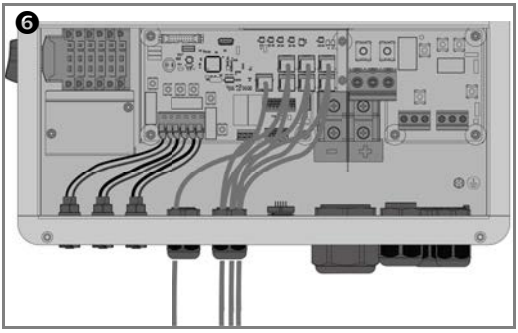
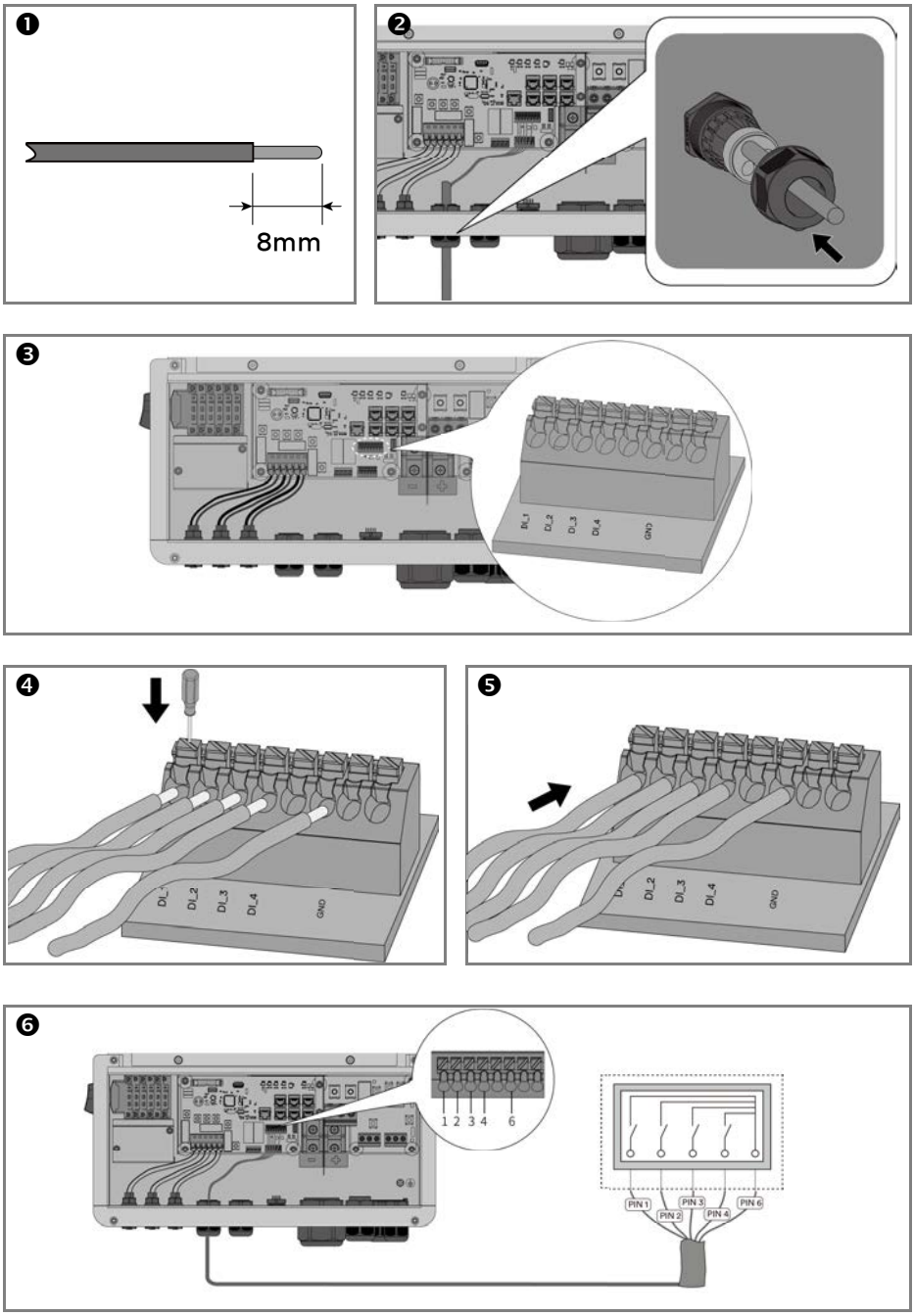
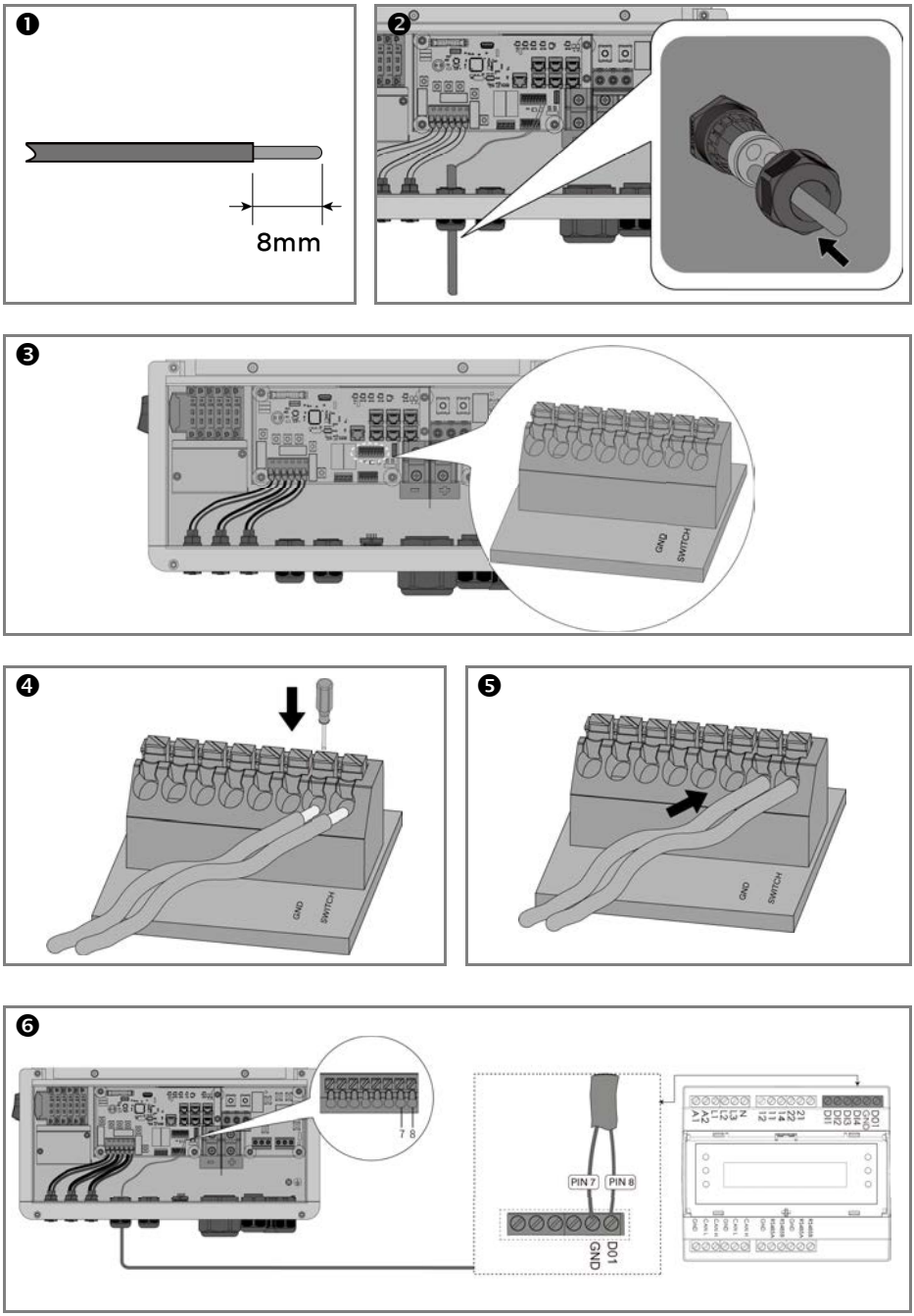


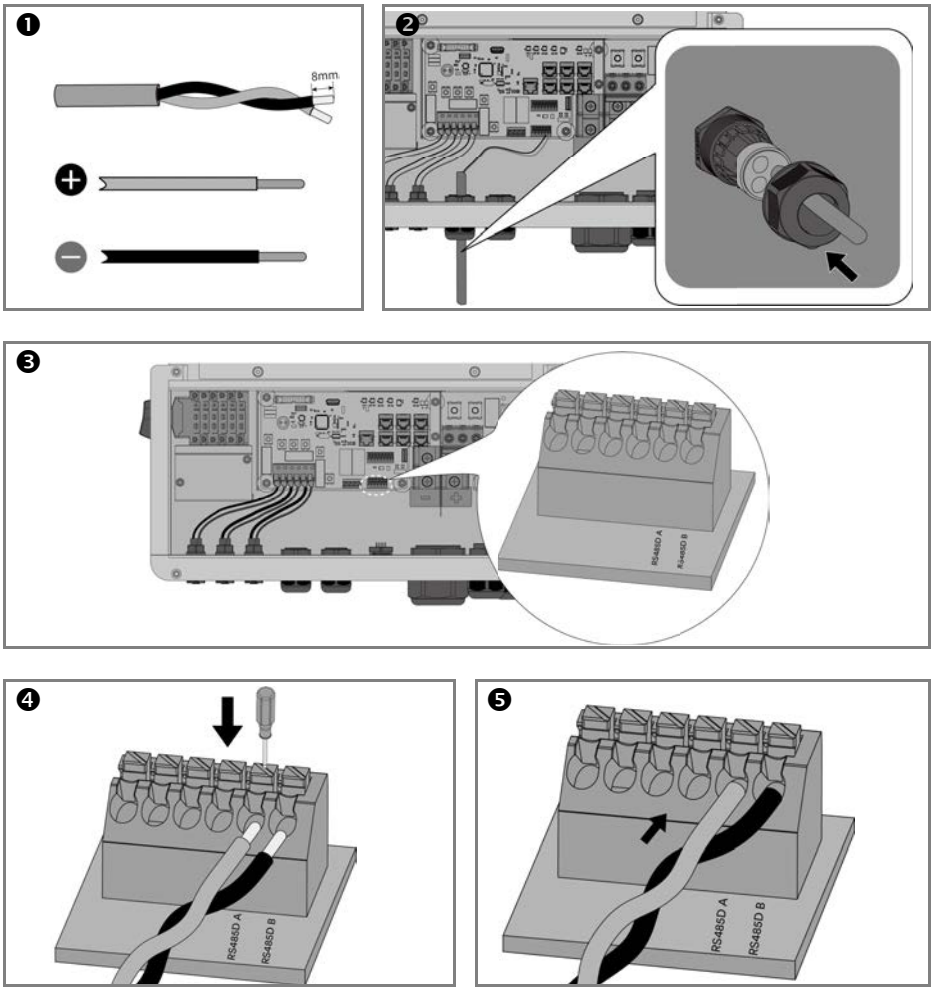
18.3 Ripple control connection

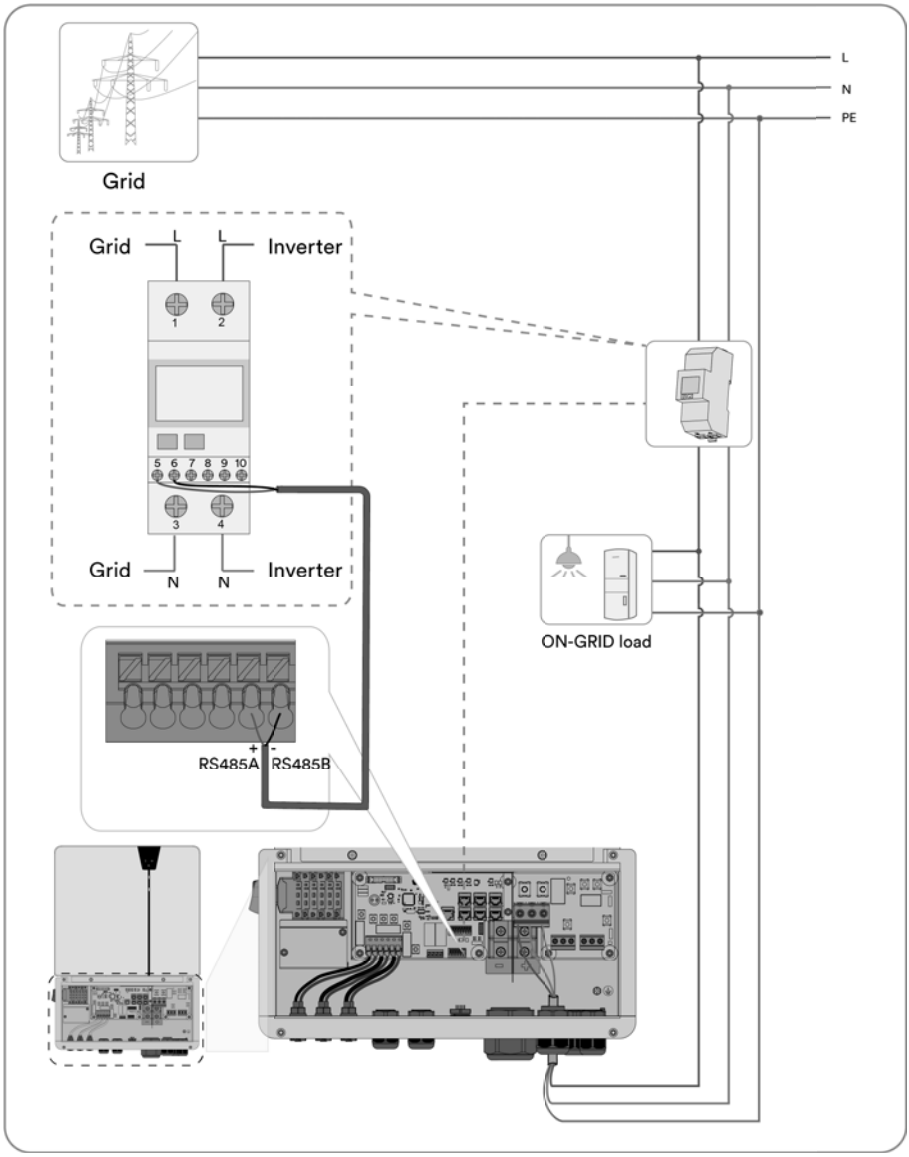


18.4 NA protection connection



18.5 Smart meter connection




L
N
PE
Grid
Grid
L
L
Inverter
1
2
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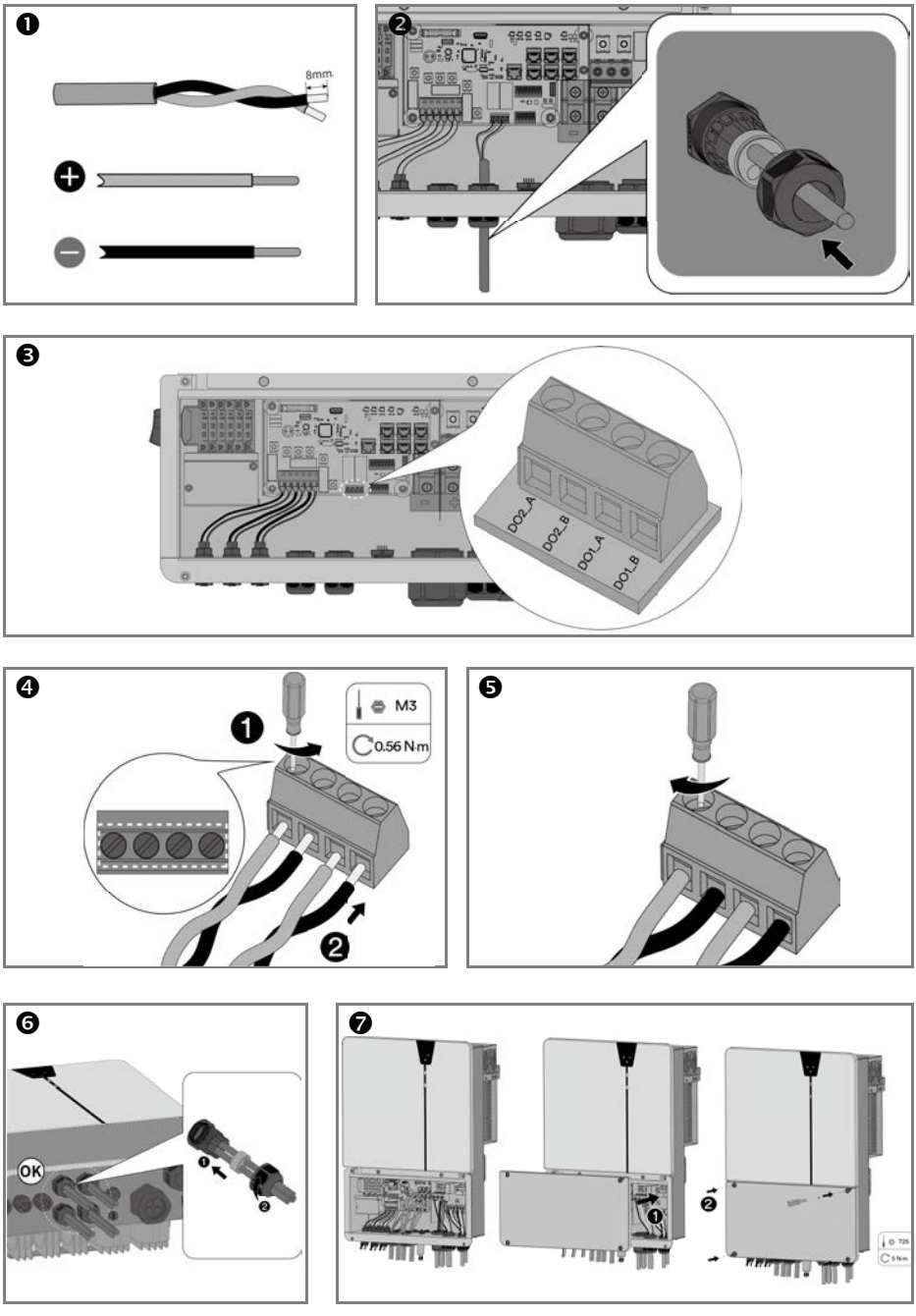
Grid
N
N
Inverter
ON-GRID load
+
-
RS485A
RS485B

18.6 DO connection



19 Contact

Please contact our Service Department if you have any technical questions about our products.

The following information is needed to provide necessary assistance:

——Inverter model

——Inverter serial number

——Photovoltaic module model

——Photovoltaic modules number and strings number connected to each MPPT

——Fault code

——Installation location

EMEA

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APAC

Service email: service.APAC@solplanet.net

LATAM

Service email: service.LATAM@solplanet.net

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