



solplanet ASW015 Three Phase Hybrid Installation Guide

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solplanet ASW015 Three Phase Hybrid



Product Information

Specifications

- Product Type: Transformerless Hybrid Inverter
- MPP Trackers: Four
- Battery Inputs: One or Two
- Intended Use: Indoor and Outdoor Applications
- Protection Class for PV Modules: Class II (IEC 61730, application class A)
- Backup Function: Yes
- Grid Compatibility: Three-phase current

General Information

This quick installation guide should be read together with the user manual. In case of doubt and uncertainties, the content in the user manual takes precedence over the content in this guide.

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

Safety

Intended use

- The product is a transformerless hybrid inverter with four MPP trackers and one or two battery inputs that feeds the direct current of the PV array into the connected battery or converts it to grid-compliant three-phase current and then feeds it into onsite loads and the utility grid.
- The product has a backup function that can continue to supply selected circuits with power from the battery or

PV array 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).
- 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.
- 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 this guide, the user manual and with the locally applicable standards and directives. Any other application may cause personal injury or damage to property.
- The product must only be operated in connection with an intrinsically safe lithium-ion 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.
- 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.

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 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, an electric arc may expose the user to electric shock and burns.

- Do not touch non-insulated cable ends.
- Do not touch the DC conductors without isolating all sources of energy.
- 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

Regardless of the AC breaker and the PV switch of the inverter being switched off or disconnected, the parts of the system may still be live when the battery is providing power during 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.

- Ensure the battery is not fully discharged before commissioning the system.
- Contact the battery manufacturer before proceeding 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.
- Handle PV module cables only by its 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 risk of fatal electric shock from measuring device damage caused by 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 equal to or higher than the voltage rating of the product.

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 incorrectly handled 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.

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 become 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 in the country of installation.



CE marking

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



Certification mark

The product has been tested by TUV and received 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.

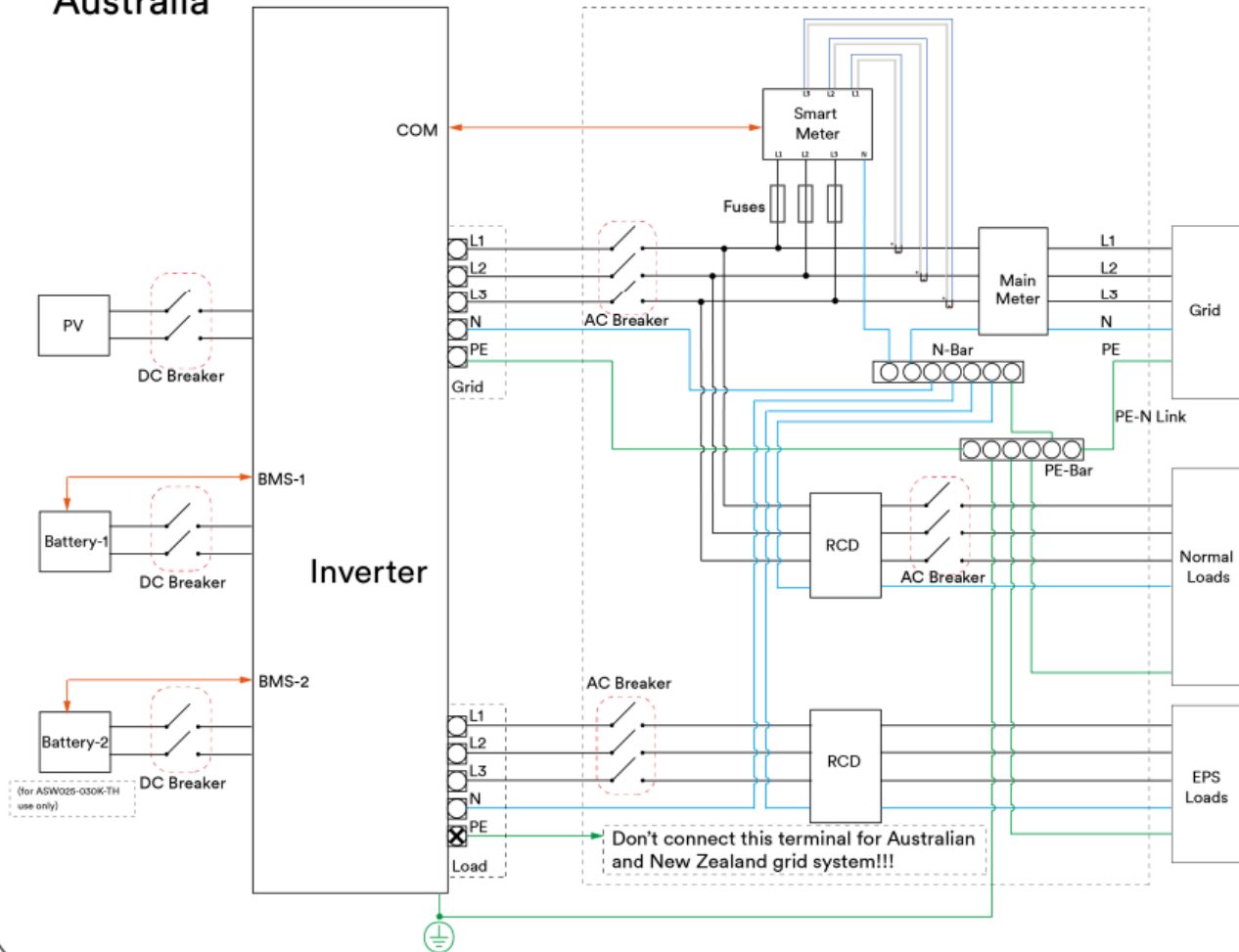


Observe the documentation

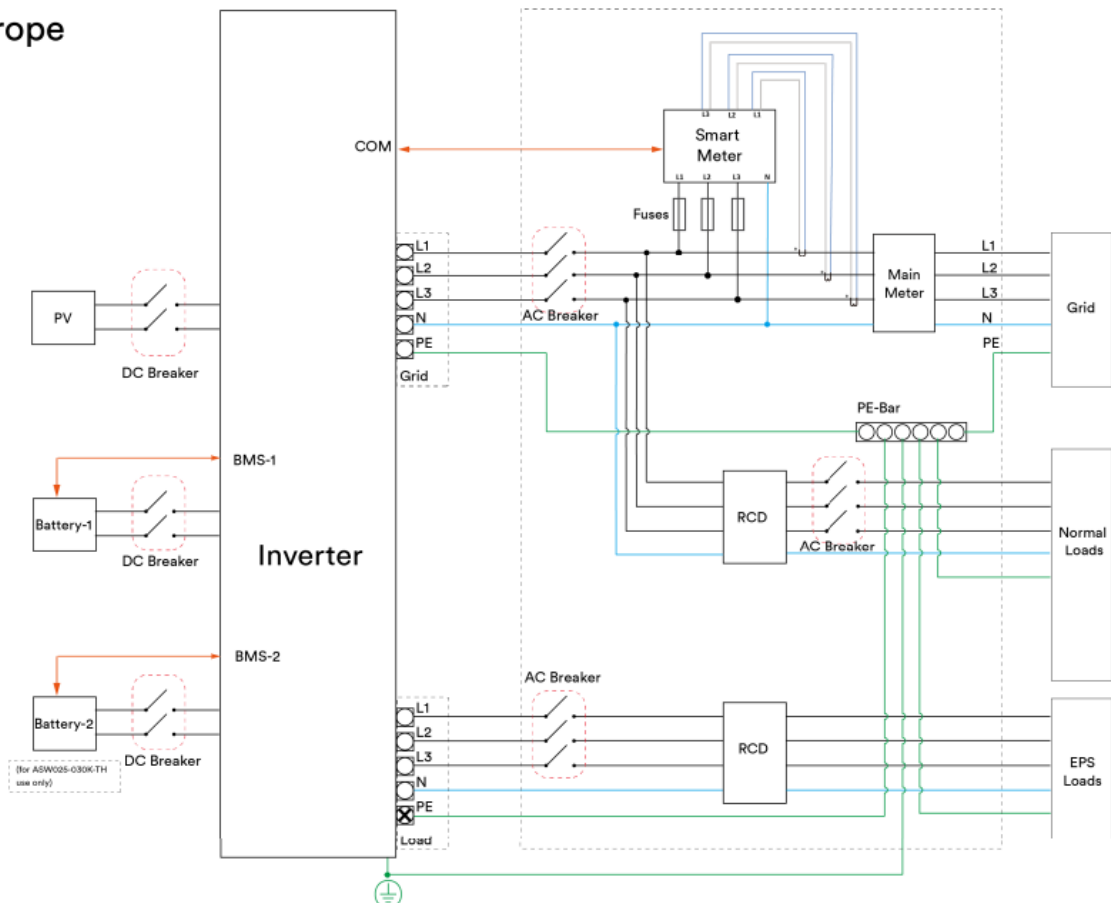
Observe all documentation supplied with the product.

System Wiring Diagram

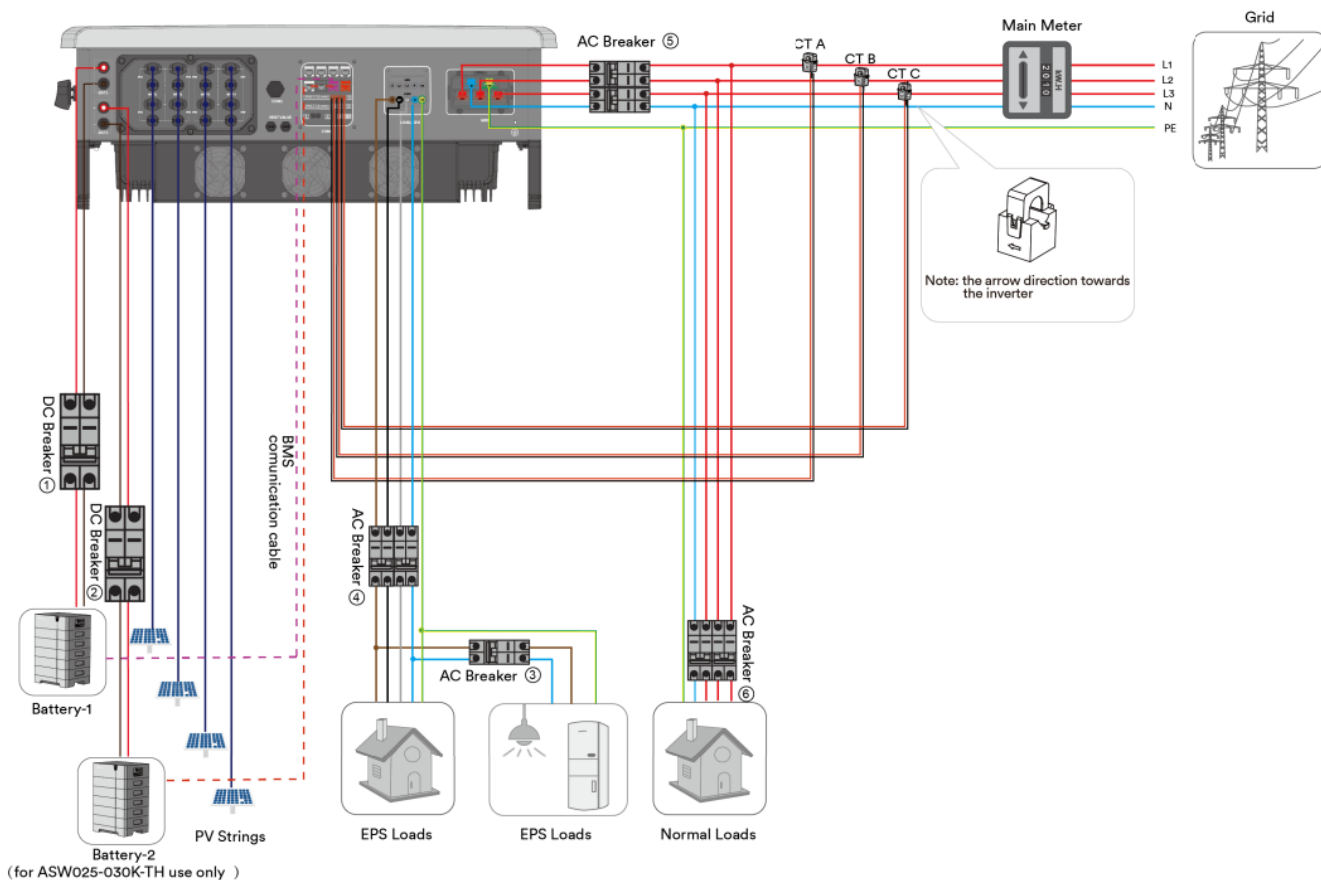
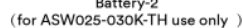
Australia



Europe



The wiring of smart meter:



Breaker No.	ASW015K-TH	ASW020K-TH	ASW025K-TH	ASW29.9K-TH	ASW030K-TH
1	63 A/1000 V DC Breaker		63 A/1000 V DC Breaker		
2	/	/			
3	63 A/400 V AC Breaker	80 A/400 V AC Breaker	100 A/400 V AC Breaker		
4					
5					
6	Dependent on the normal loads which should be checked by an installer				

EU Declaration of Conformity

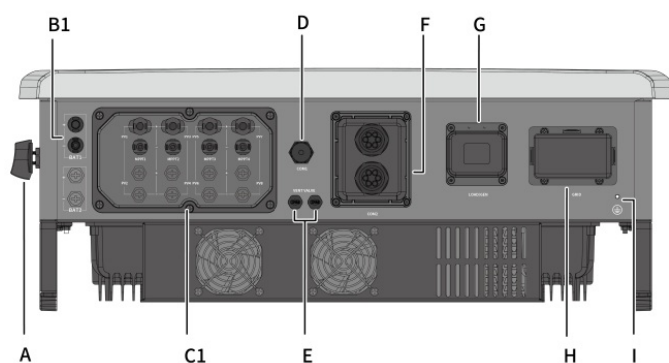
Within the scope of the EU directives

- 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)

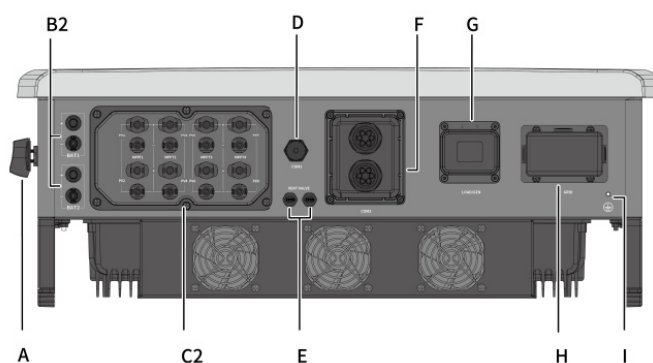


AISWEI Technology Co., Ltd. confirms herewith that the products described in this document are in compliance with the fundamental requirements and other relevant provisions of the above mentioned directives. The entire EU Declaration of Conformity can be found at www.solplanet.net.

Overview



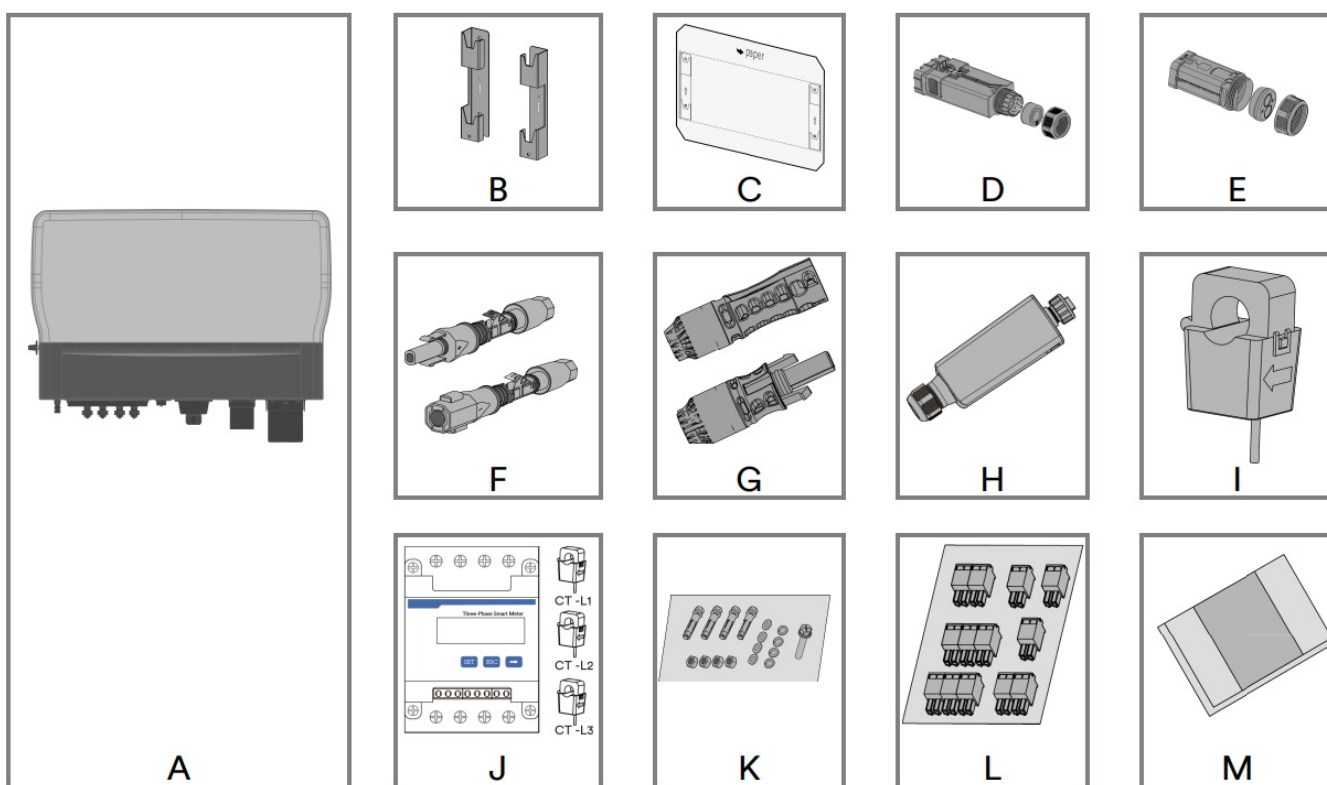
ASW015-020K-TH (left)



ASW025-030K-TH (right)

Object	Description
A	DC-Switch
B1/2	Battery Connector Ports
C1/2	PV Input
D	Ai-Dongle Port
E	Ventilation valve port
F	Communication Ports
G	Diesel Generator Connector Port (Reserved)
	EPS Load Connector Port
H	AC Connector Port
I	Additional Grounding Screw

Scope of Delivery



Object	Description	Quantity	
A	Inverter	1	
B	Mounting Bracket	1	
C	Mounting Bracket Template	1	
D	AC Connector	1	
E	Diesel Generator Connector (Reserved)	1	
	EPS Load Connector		
F	DC Connector(pair, positive & negative)	ASW015-020K-TH	4
		ASW025-030K-TH	8
G	Battery Connector(pair, positive & negative)	ASW015-020K-TH	1
		ASW025-030K-TH	2
H	Ai-Dongle	1	
I	External CT	3(optional)	
J	Smart Meter CTs included	1	
K	Fastener Package	1	
L	Communication Terminal Package	1	
M	Document package	1	

Solplanet App

Brief introduction

The Solplanet App is an Android and iOS App which is used to set up and commission the inverter and connect it to the Solplanet cloud.

Download and install

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

Scan QR code:



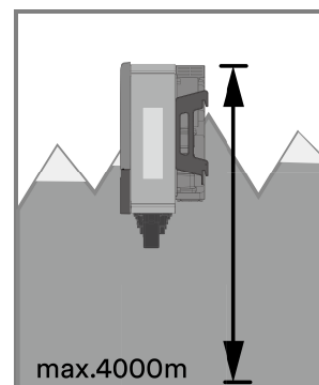
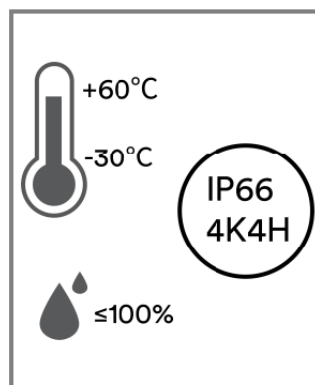
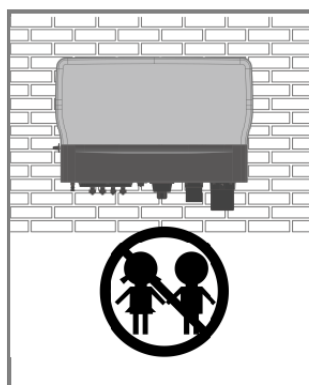
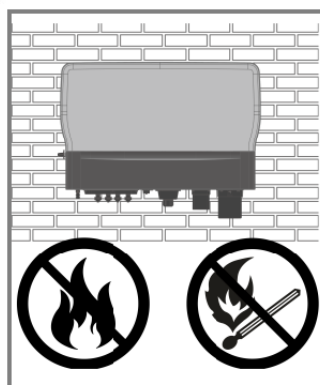
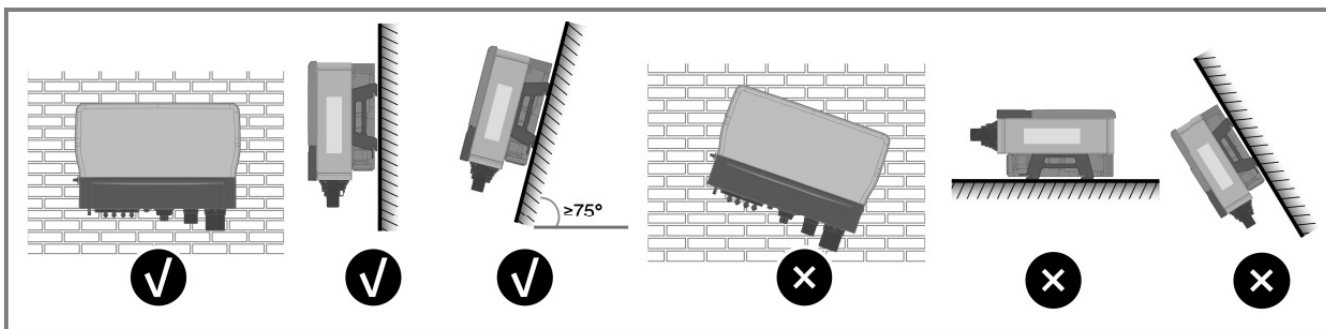
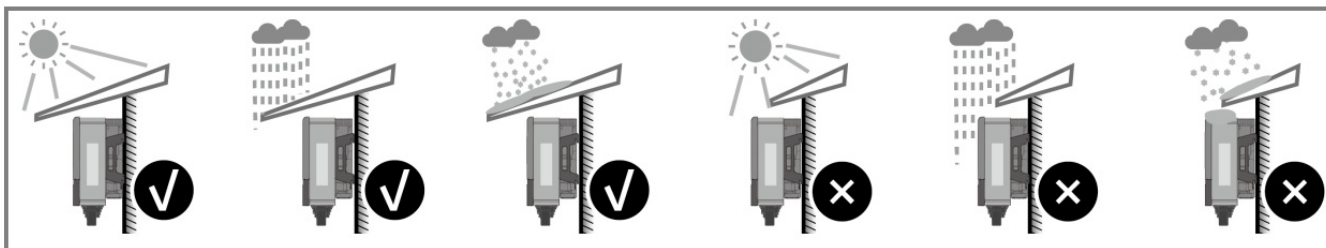
Android

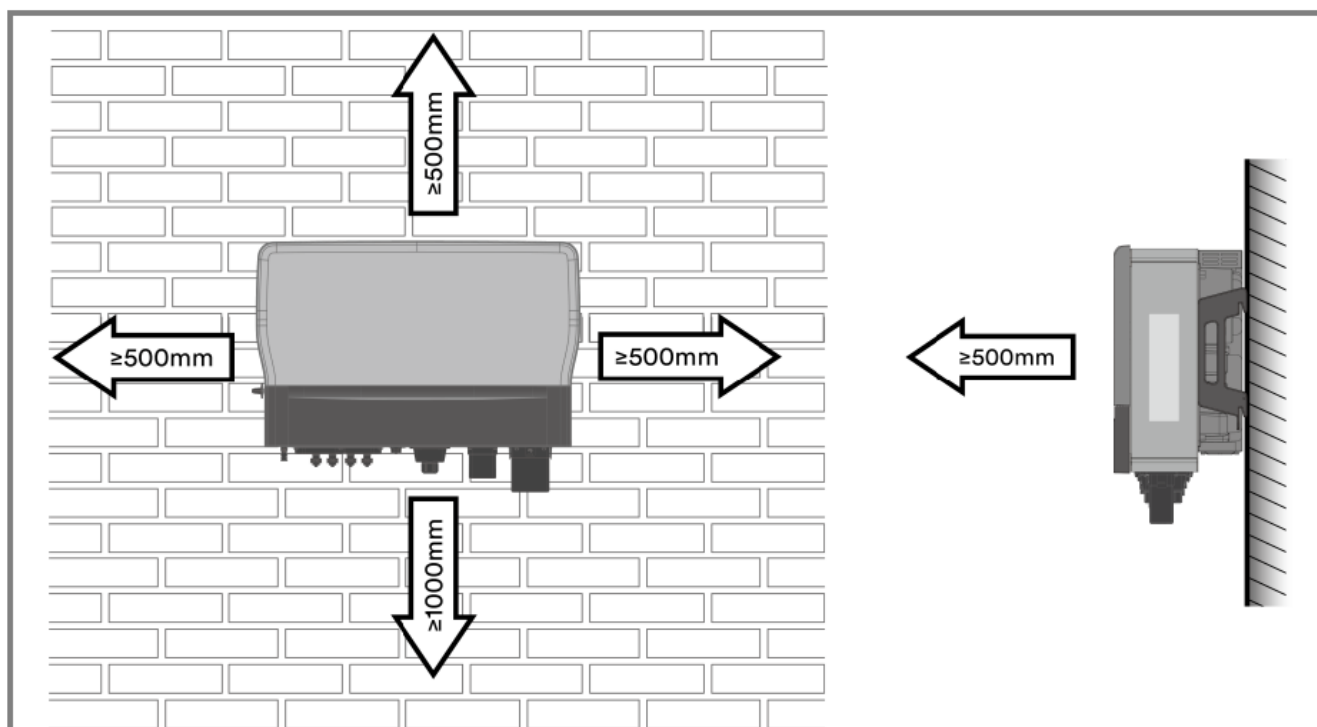
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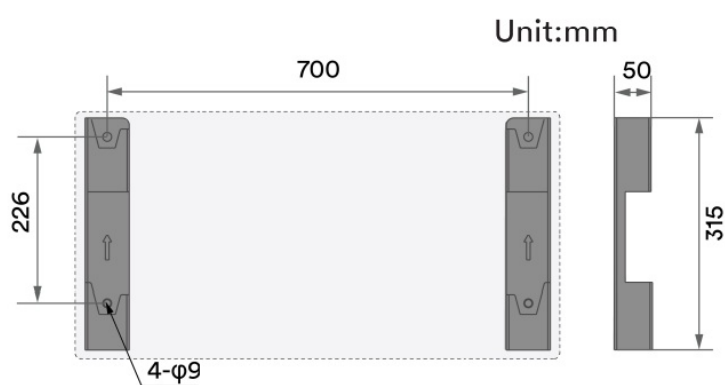
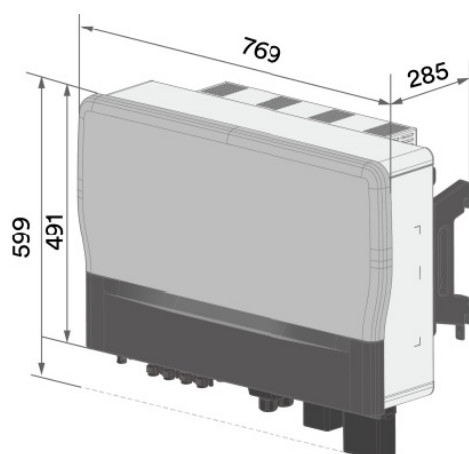
iOS

Mounting Environment

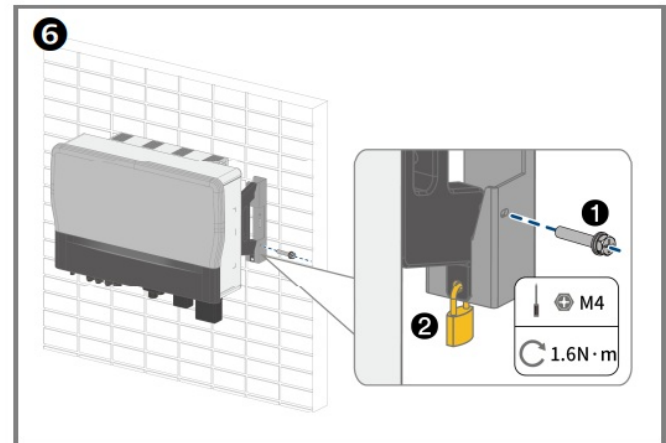
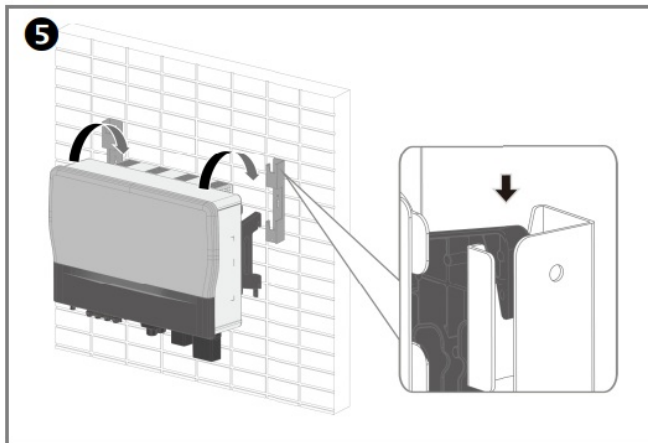
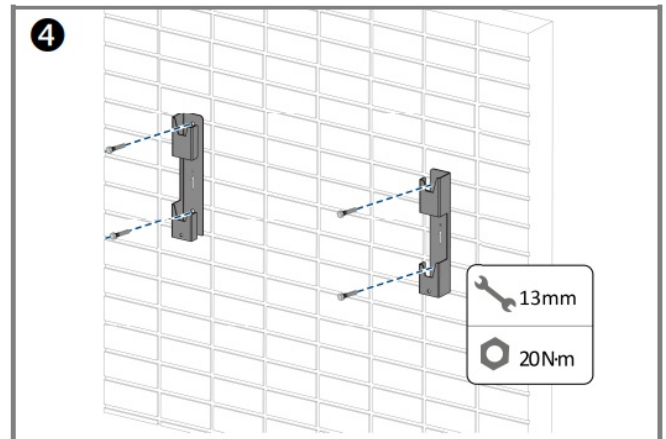
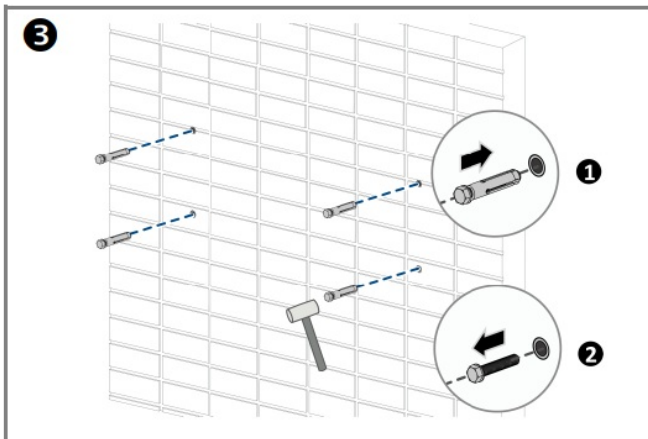
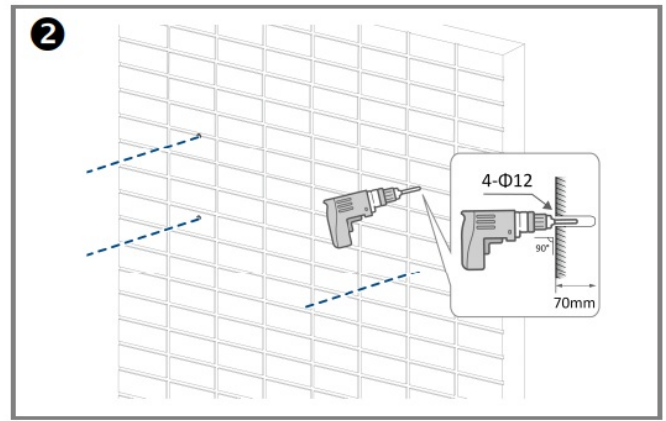
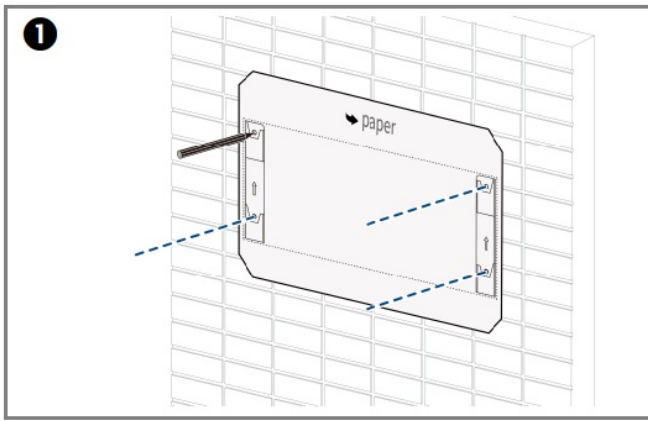




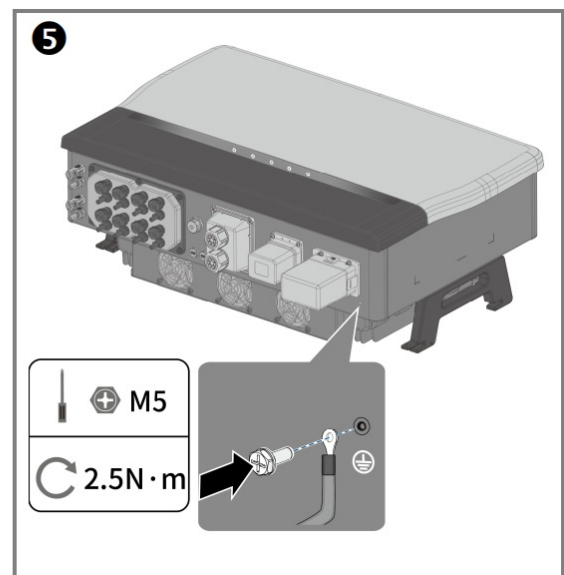
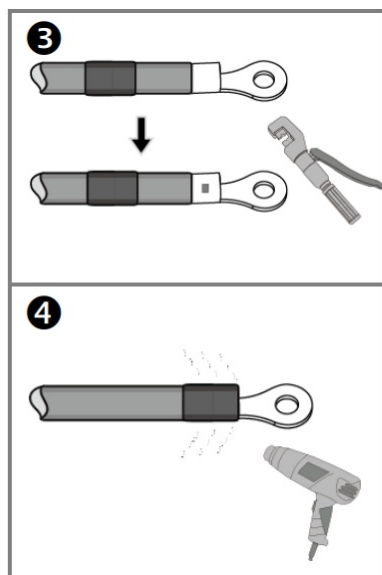
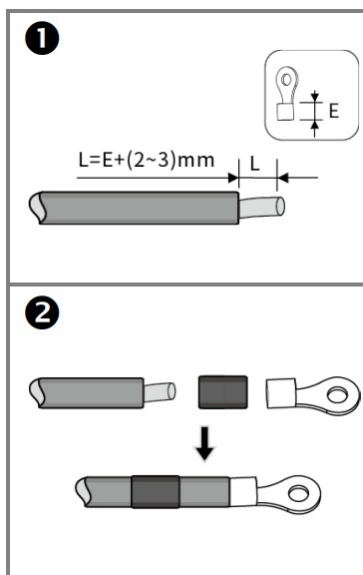
Dimensions



Mounting



Secondary Protective Grounding



AC Connection

1

2

3

Wire diameter D	Seal accessory
16~22mm	1+2+3
22~28mm	2+3
28~35mm	3

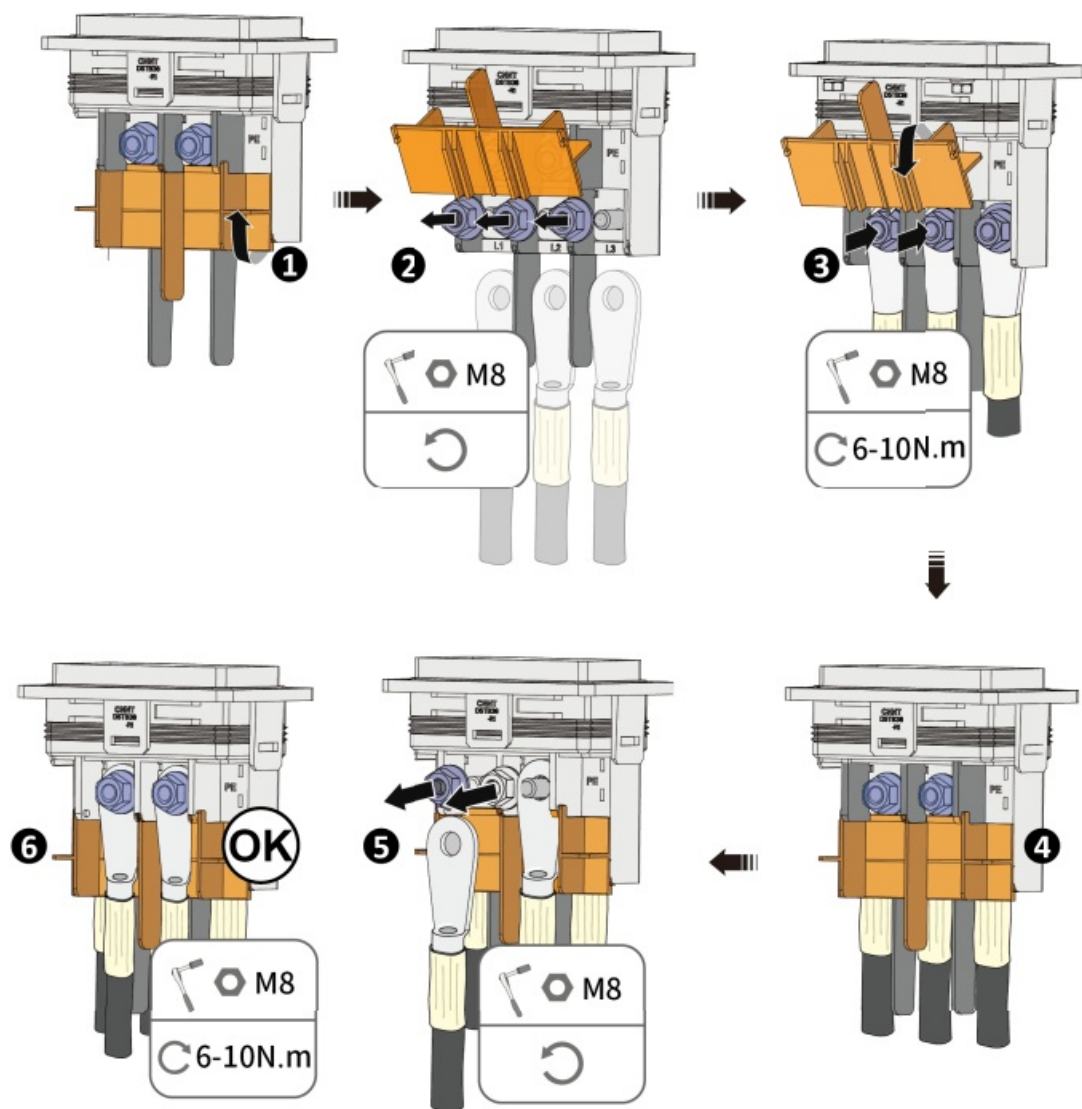
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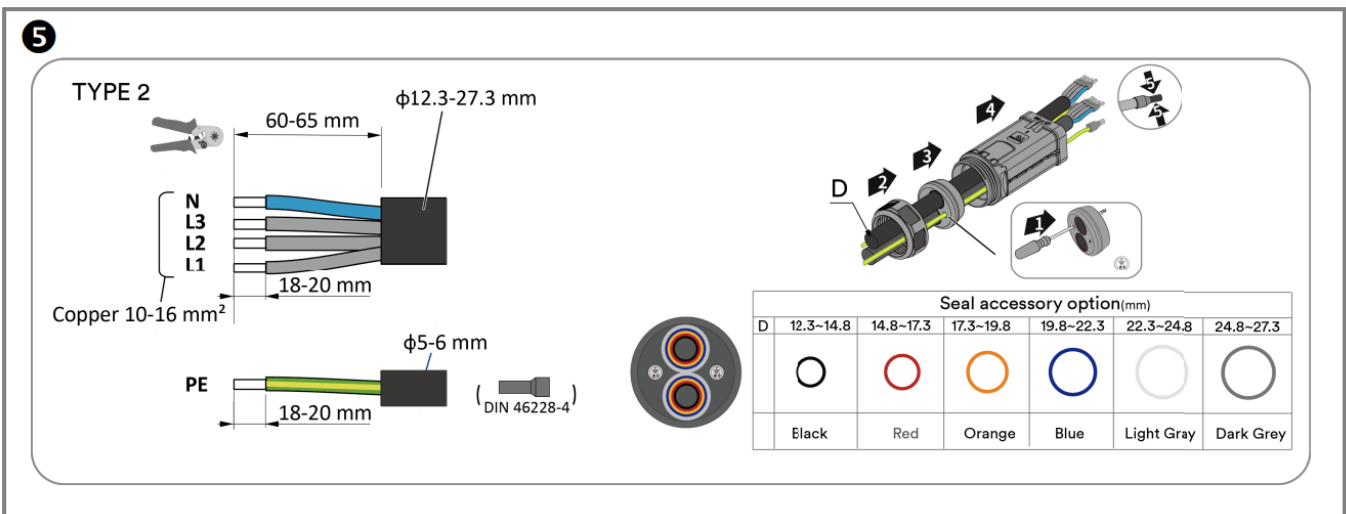
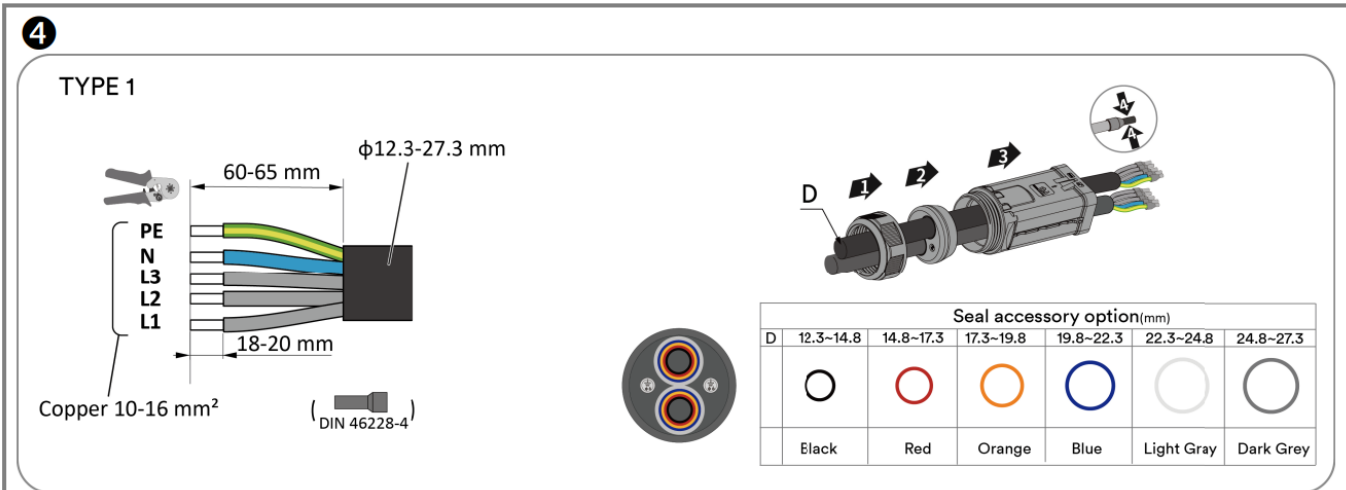
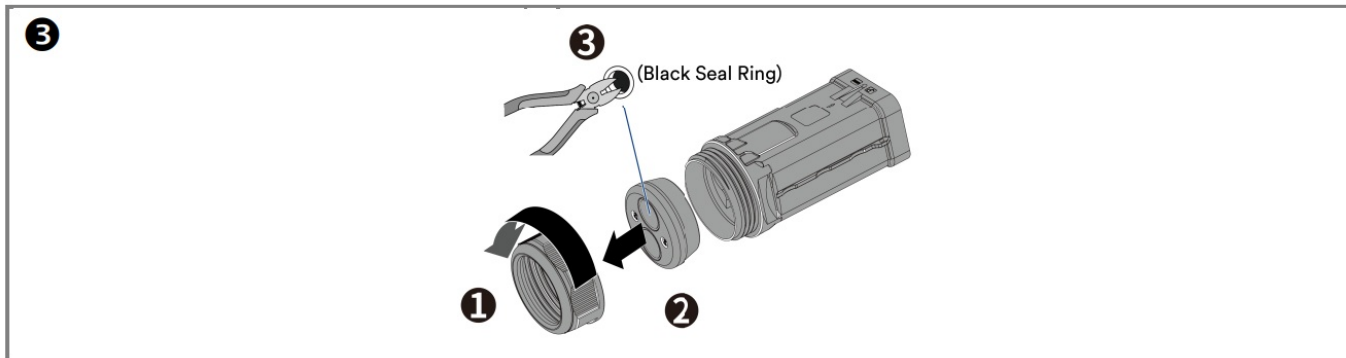
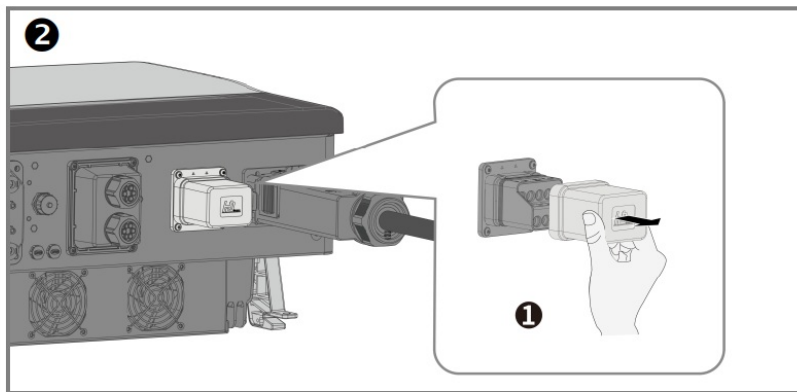
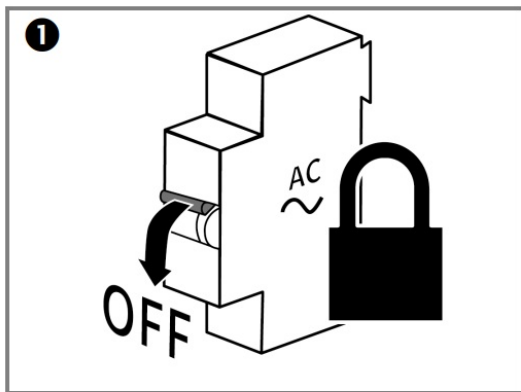
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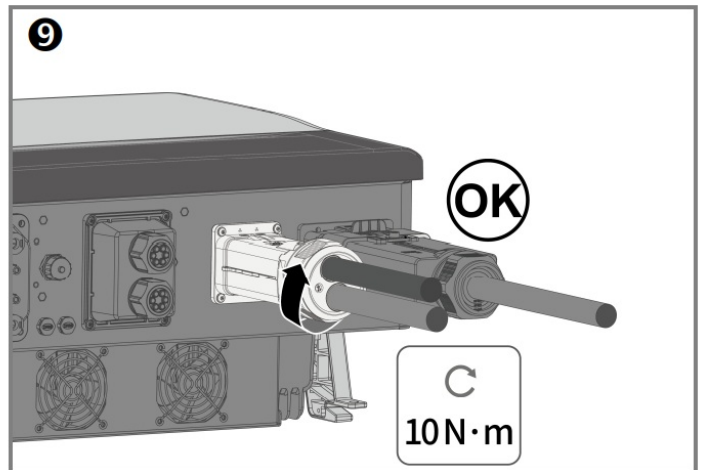
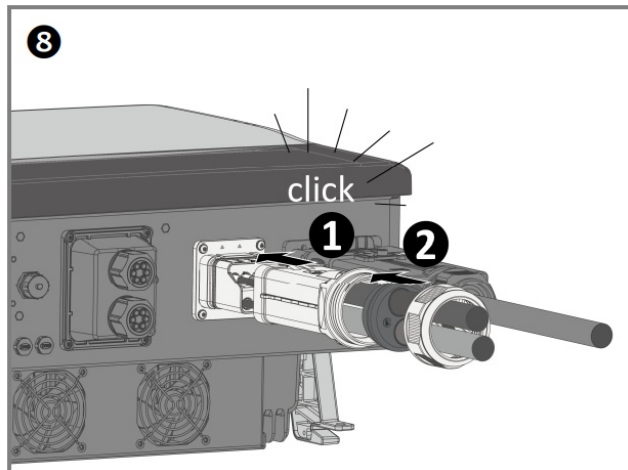
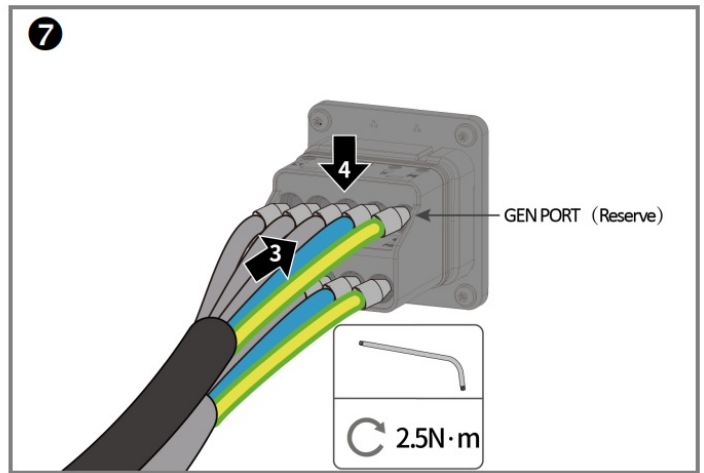
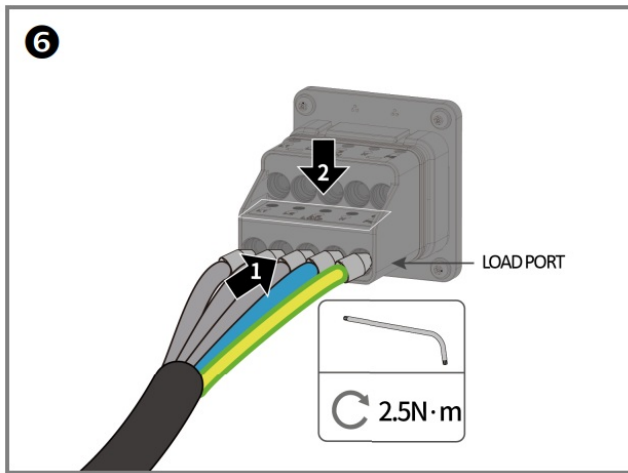
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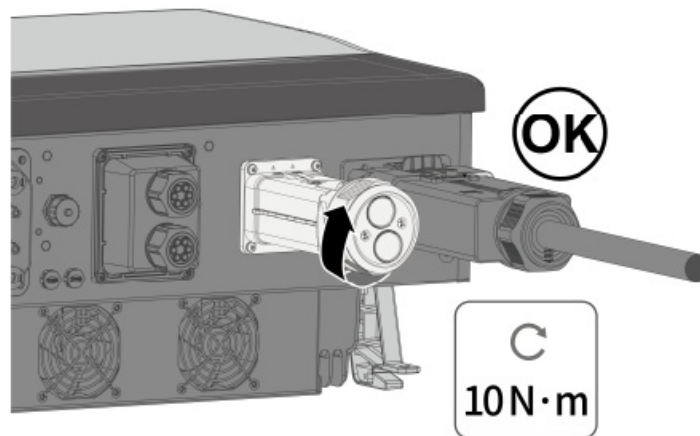


EPS Load / Diesel Generator Connection

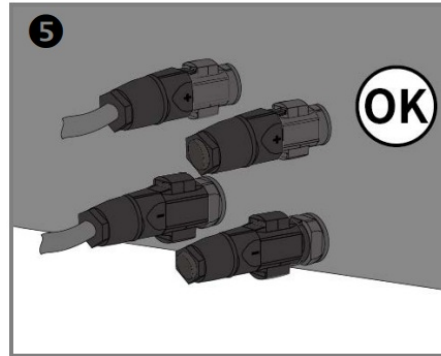
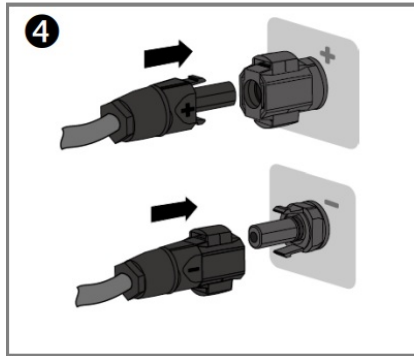
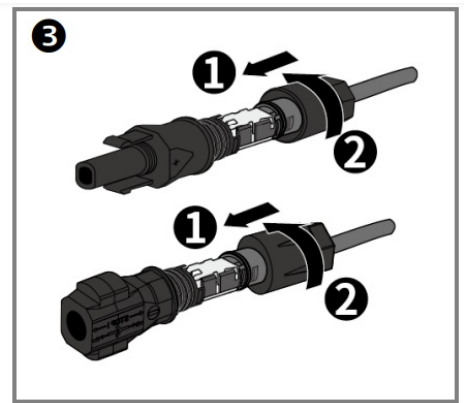
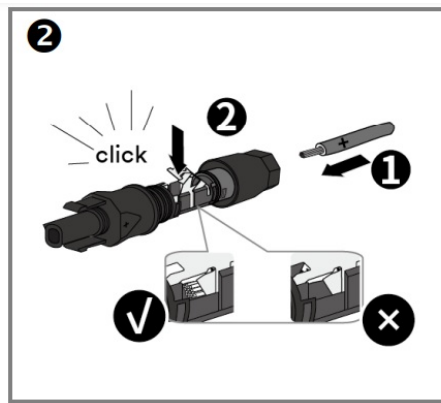
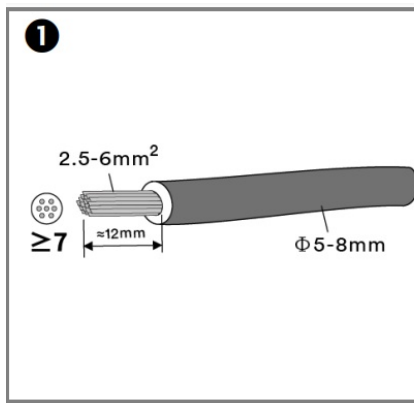




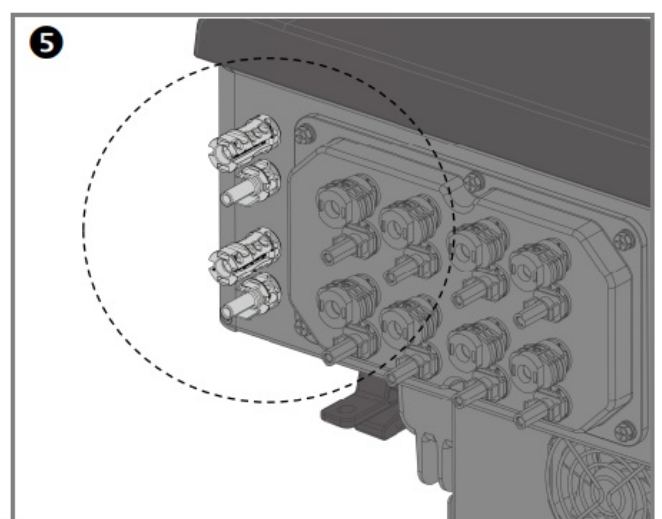
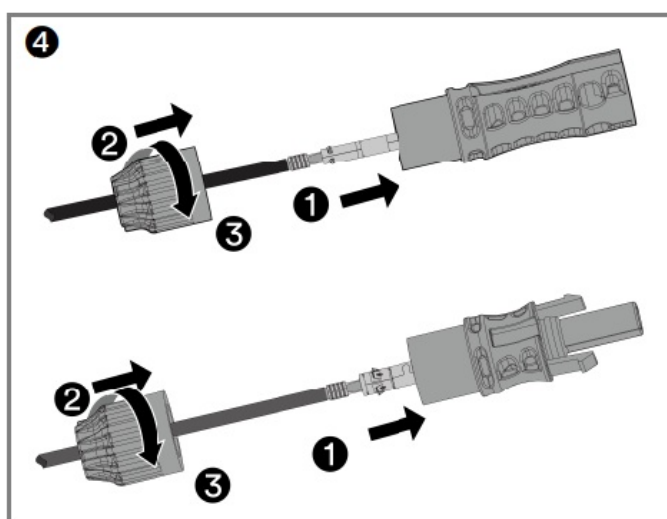
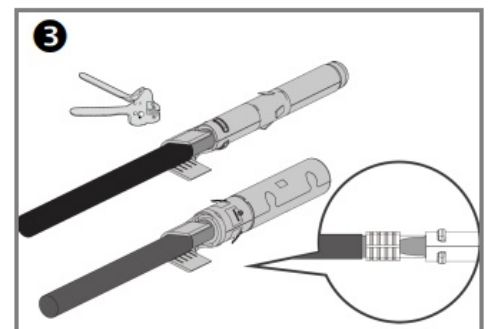
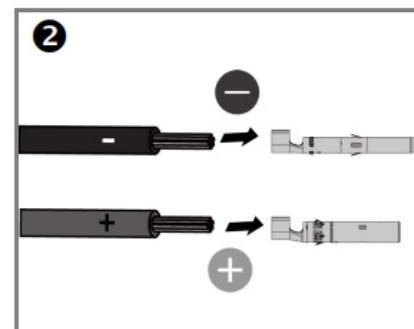
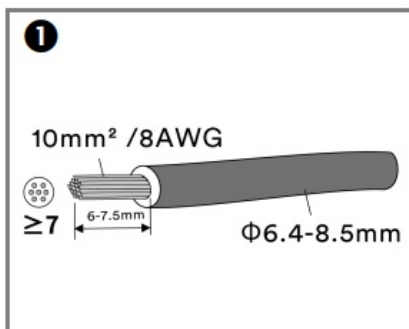
The connector has to be tightened and sealed properly regardless if there is no load or diesel generator connected.

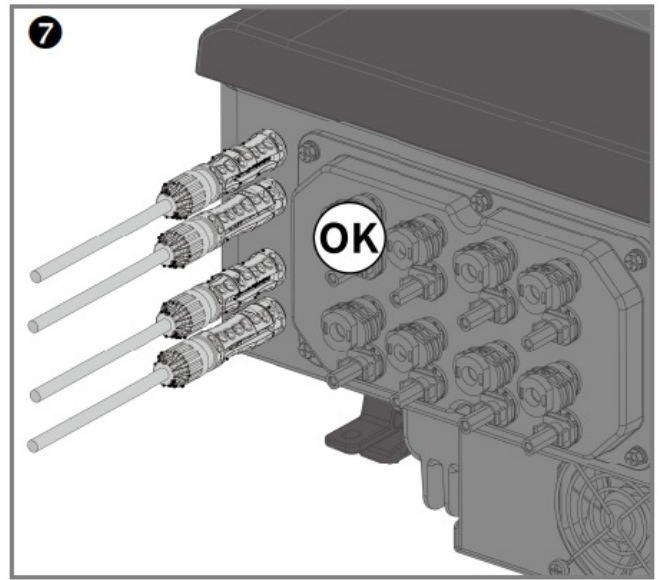
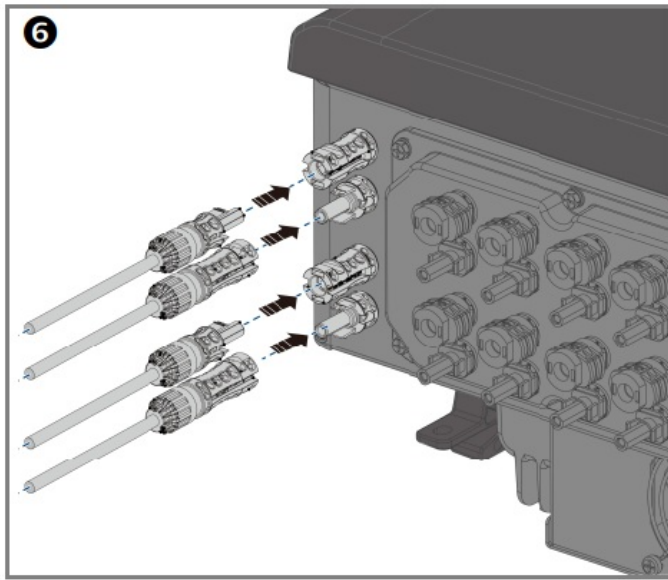


PV Connection



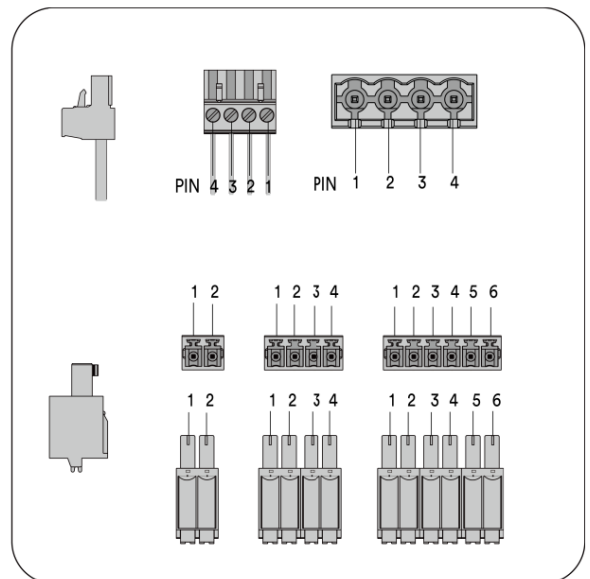
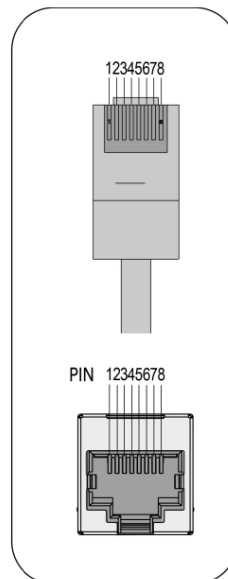
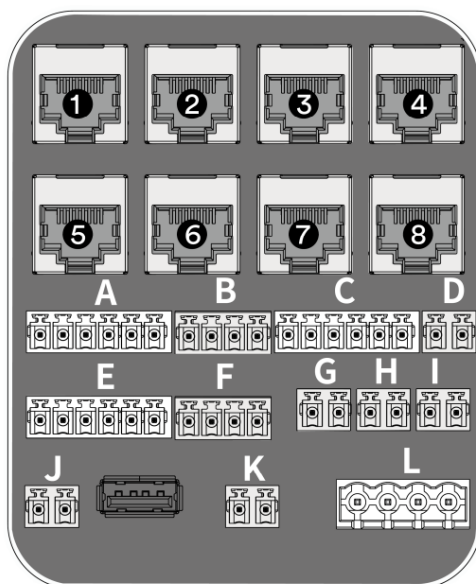
Battery Connection





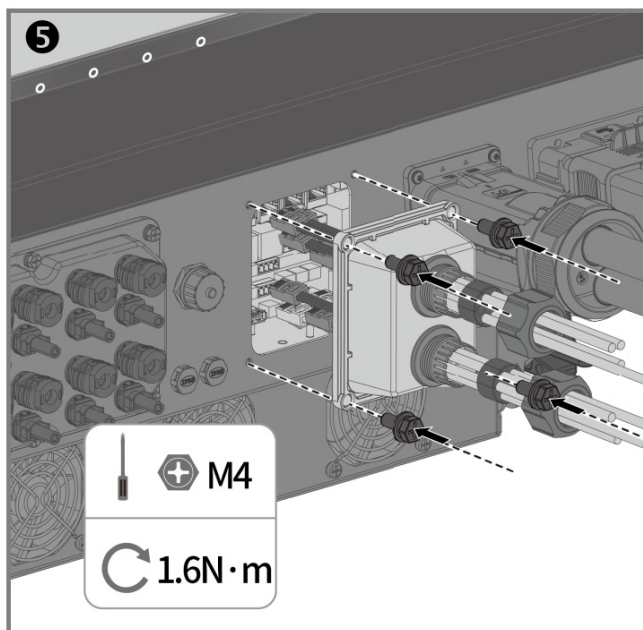
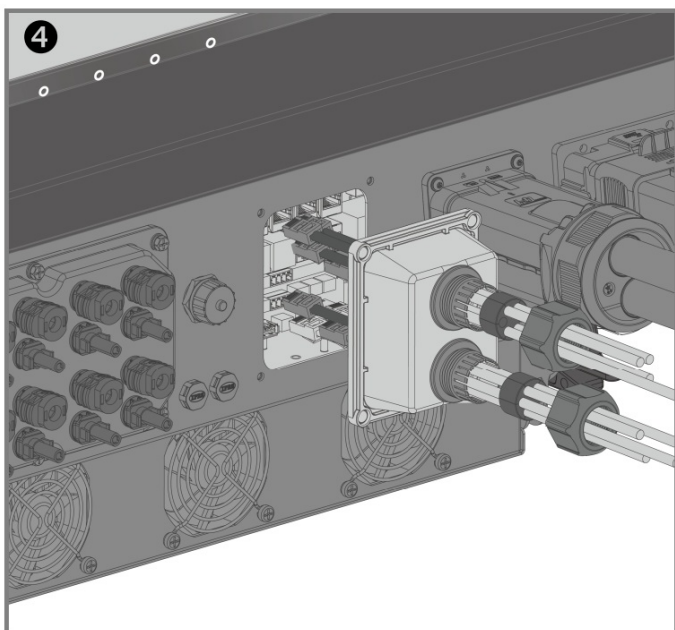
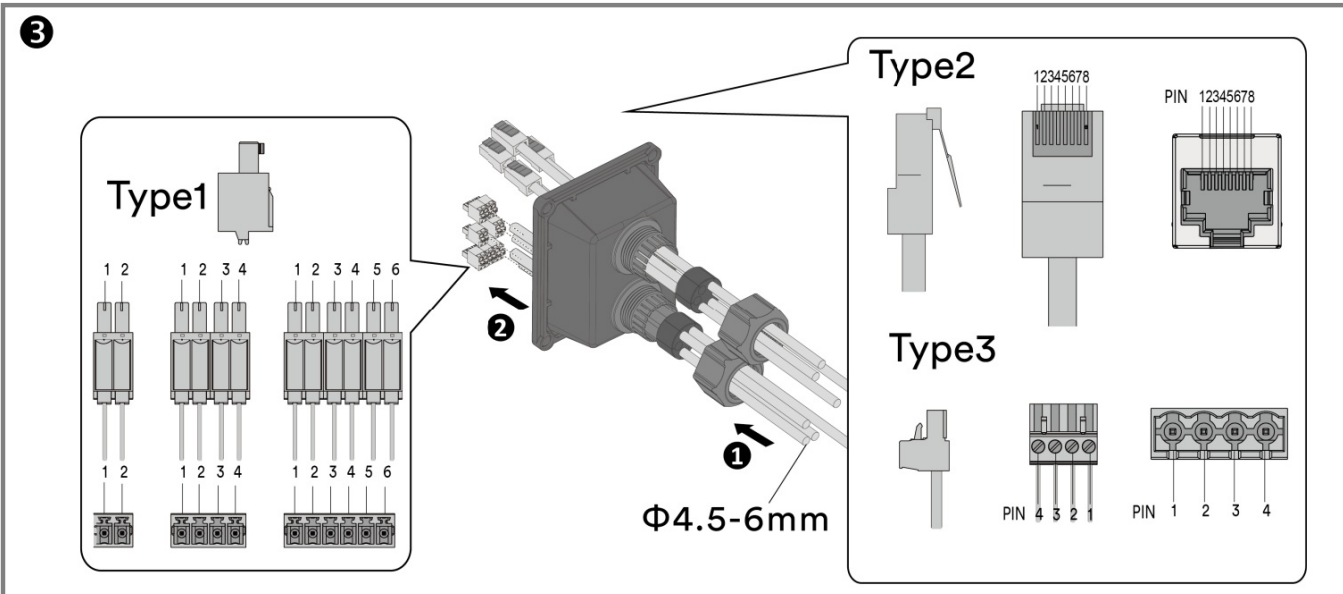
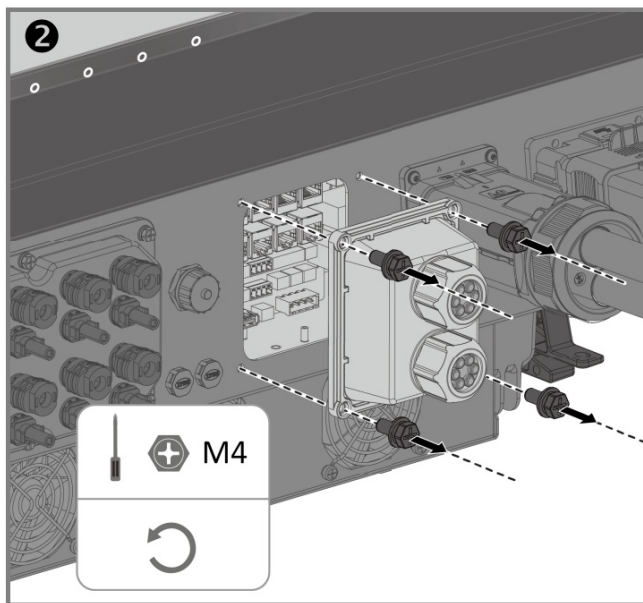
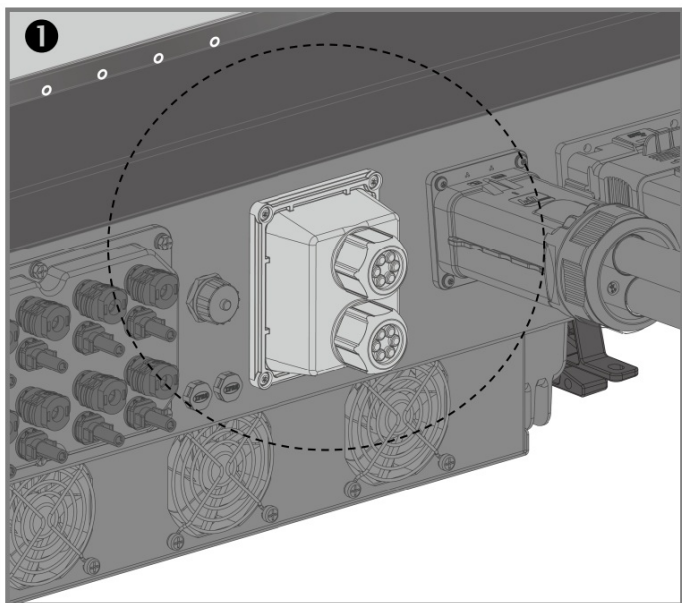
Communication Setup

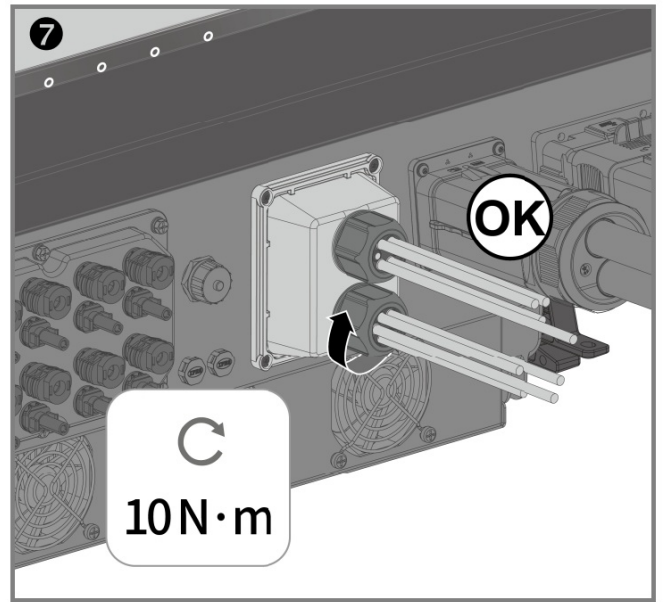
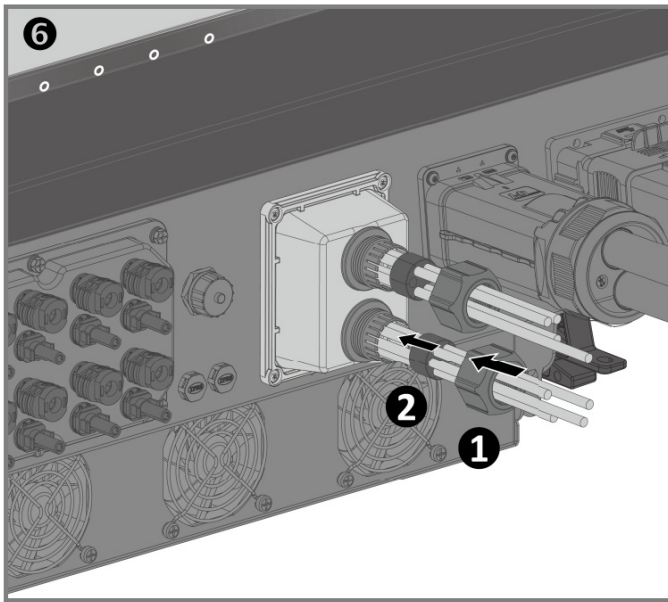
Communication interfaces



Object	Description	Terminal	PIN definition							
			1	2	3	4	5	6	7	8
1/2	Parallel(Reserved)	COM1/2	RS485A_PARA	RS485B_PARA	X	RS485A_SYNC	RS485B_SYNC	X	CANBH_PARA	CANBL_PARA
3	Third_RS485	COM3	RS485A	RS485B	GND	X	X	X	X	X
4	SOUTH_485(Reserved)	COM4	RS485A	RS485B	GND	X	X	X	X	X
5/6	Ethernet	COM5/6	TX+	TX-	RX+	X	X	RX-	X	GND
7	BMS1	COM7	X	GND	X	CANH	CANL	X	X	X
8	BMS2	COM8	X	GND	X	CANH	CANL	X	X	X

Object	Description	Terminal	PIN definition					
			1	2	3	4	5	6
A/E	DRM0/DI*4	6pin	DRMS Device		Ripple Control Receiver Device			
			Com LO AD/0or GND	REF GE N/0	DI_1	DI_2	DI_3	DI_4
B	North_485(Reser ved)	4pin	\	GND	RS485B	RS485A	\	
C	CT(Optional)	6pin	Current Transformer L1		Current Transformer L2		Current Transformer L3	
			Black	Red	Black	Red	Black	Red
D	ON/OFF	2pin	GND	DI	\		\	
F	Meter	4pin	\	GND	RS485B	RS485A	\	
G/K	NS-protection	2pin	NS-protection (netw ork and systemprote ction) Device		\		\	
			Negative	Positive				
H/I	External output_1 2V	2pin	GND	Selv_12 V	\		\	
J	AI- HUB_DI(Reserve d)	2pin	GND	DI	\		\	
L	DO2/DO1(Reserv ed)	4pin	Multifunctional Relay				\	
			DO2		DO1			
			A	B	A	B		



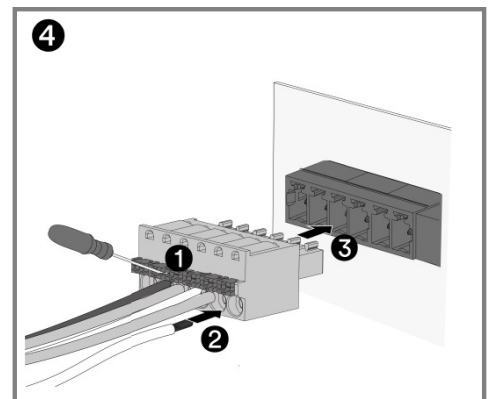
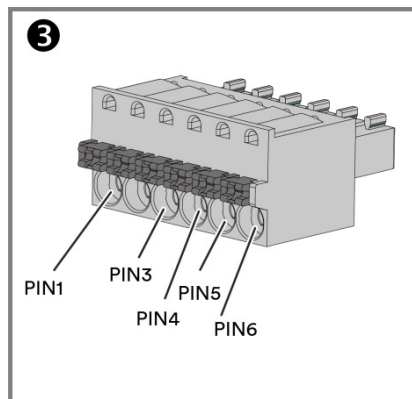
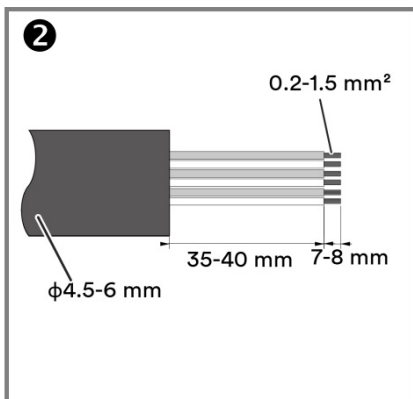


Ripple control connection

1

Position	PIN	Assignment
1	1	COM LOAD/0or GND
2	2	REF GEN/0
3	3	DI_1
4	4	DI_2
5	5	DI_3
6	6	DI_4

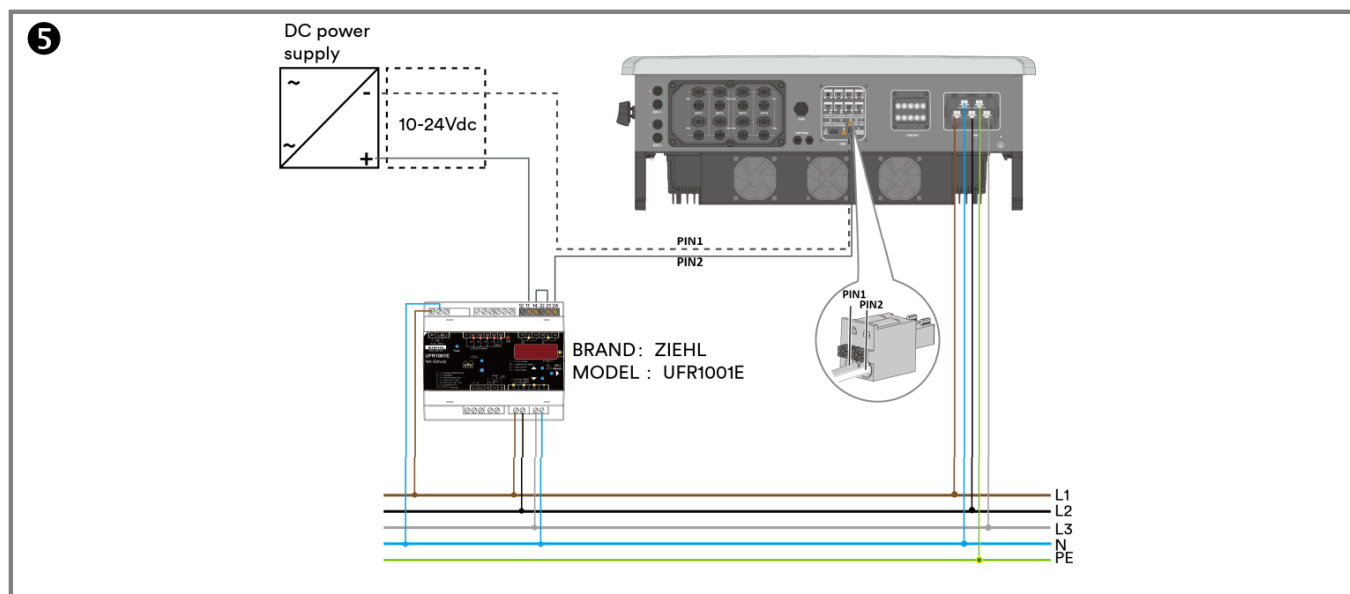
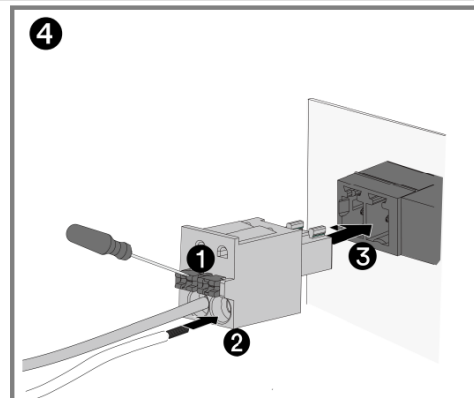
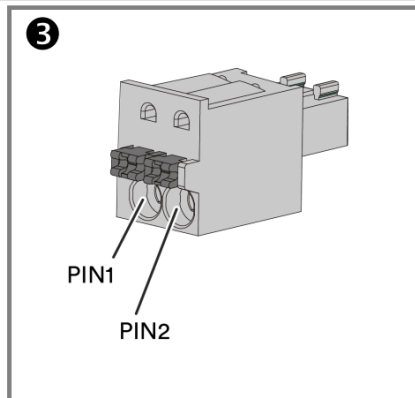
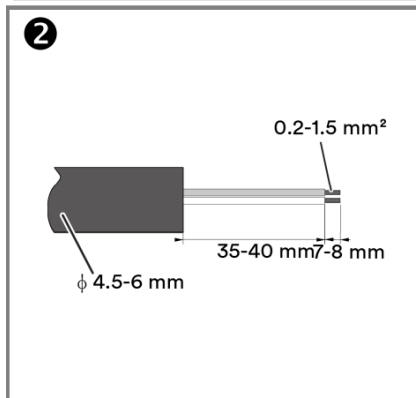
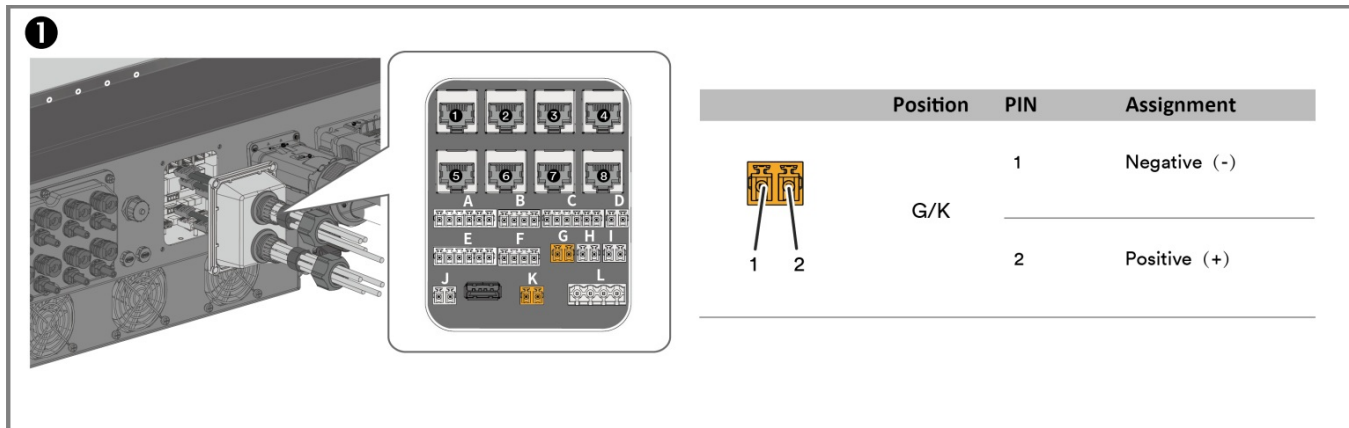
A/E



5

Ripple control receiver

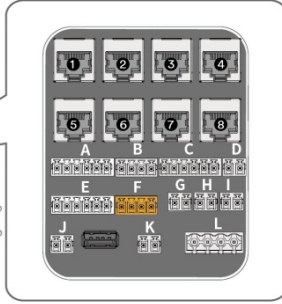
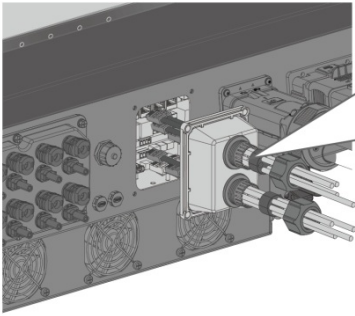
NS protection connection



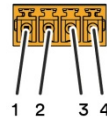
Indicative only, please refer to the NS protection device user manual for correct wiring.

Smart meter connection

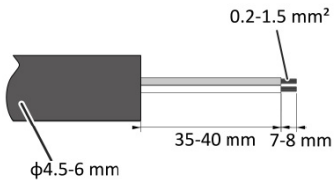
1



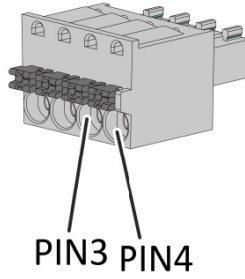
Position	PIN	Assignment
F	1	/
	2	GND
	3	RS485B
	4	RS485A



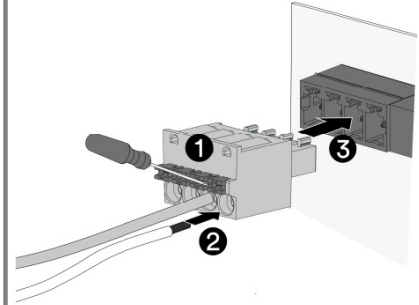
2



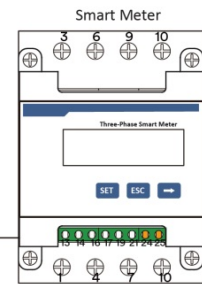
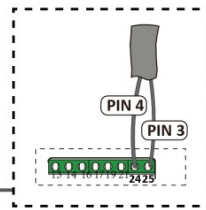
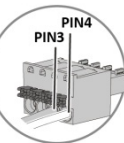
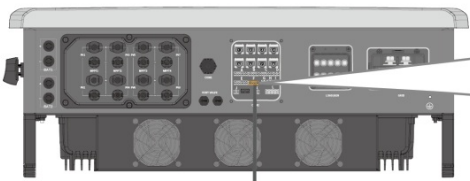
3



4



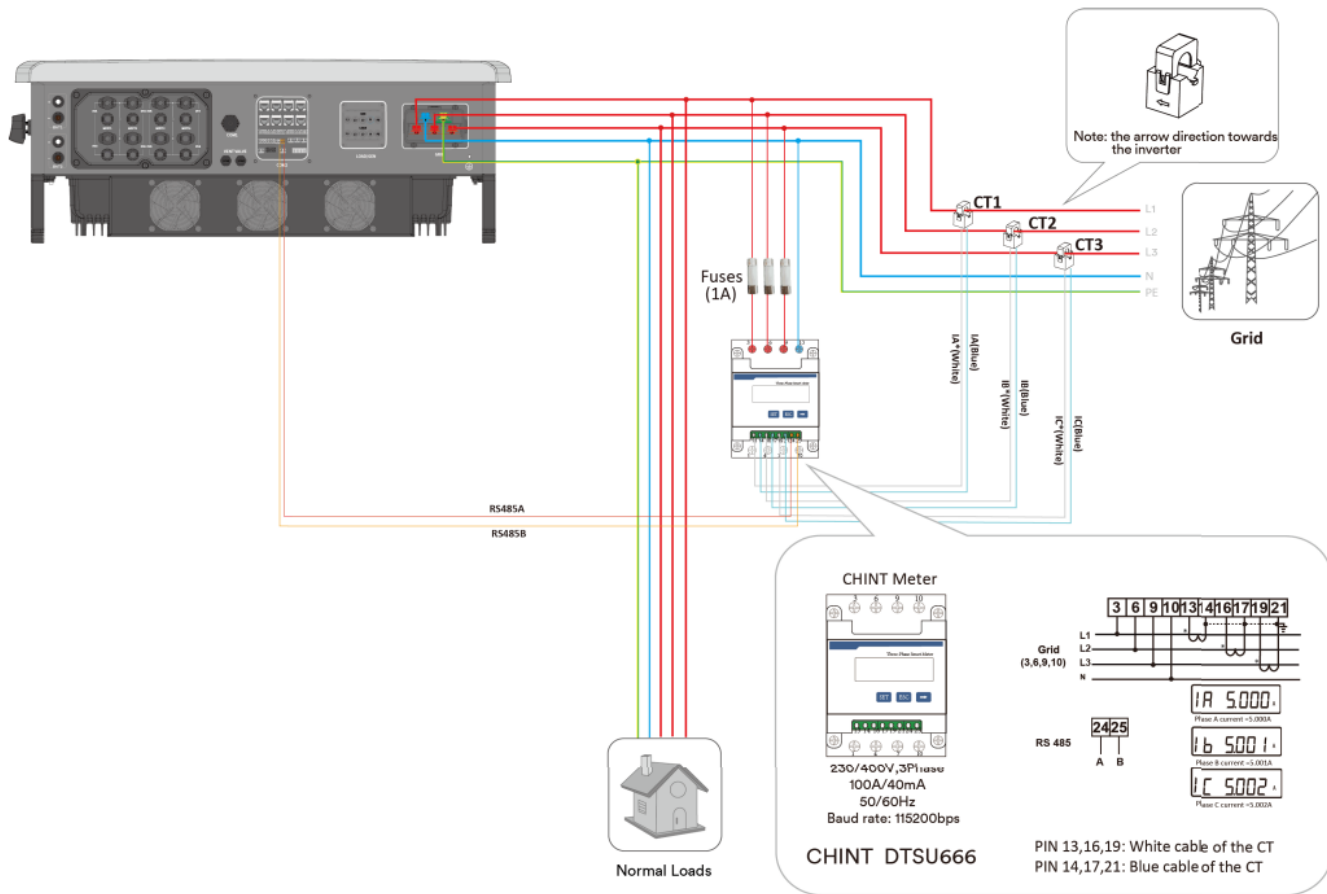
5



RS 485

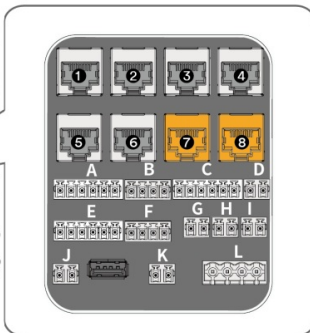
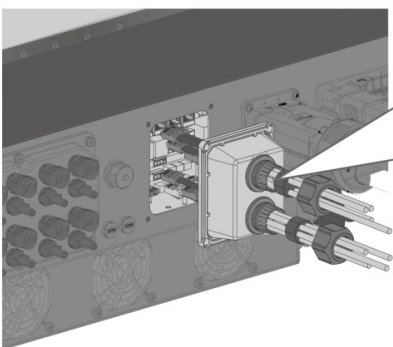


6



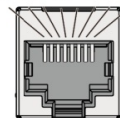
BMS Connection

1

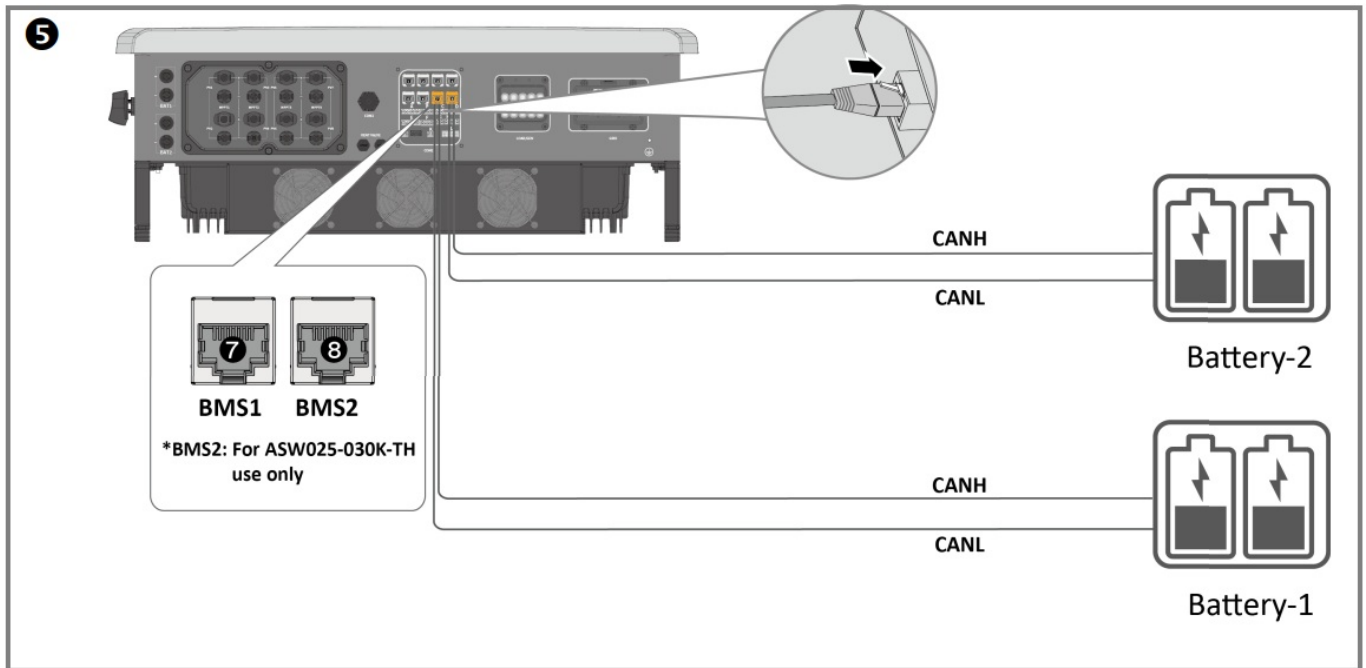


Position	PIN	Assignment
1	/	
2	GND	
3	/	
4	CANH	
5	CANL	
6	/	
7	/	
8	/	

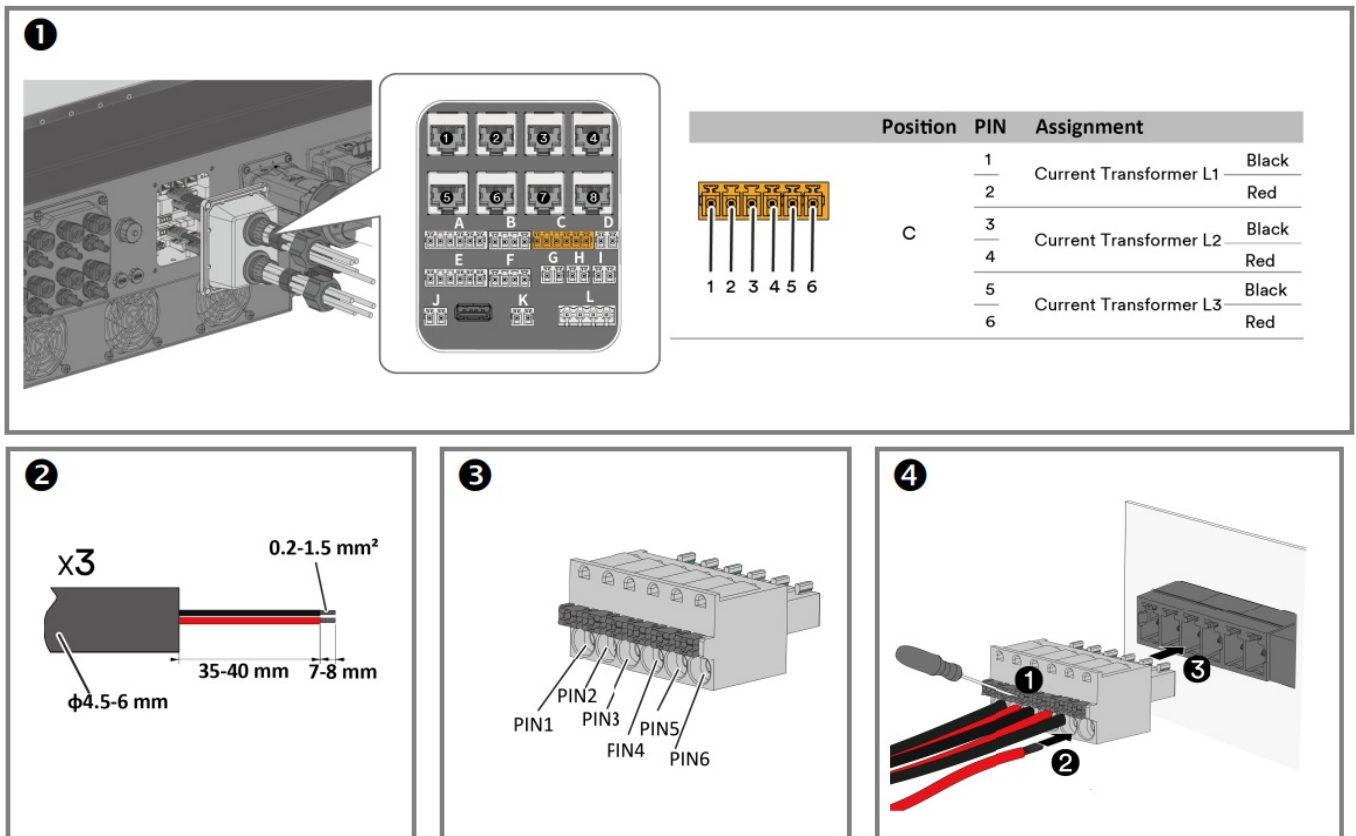
1 2 3 4 5 6 7 8

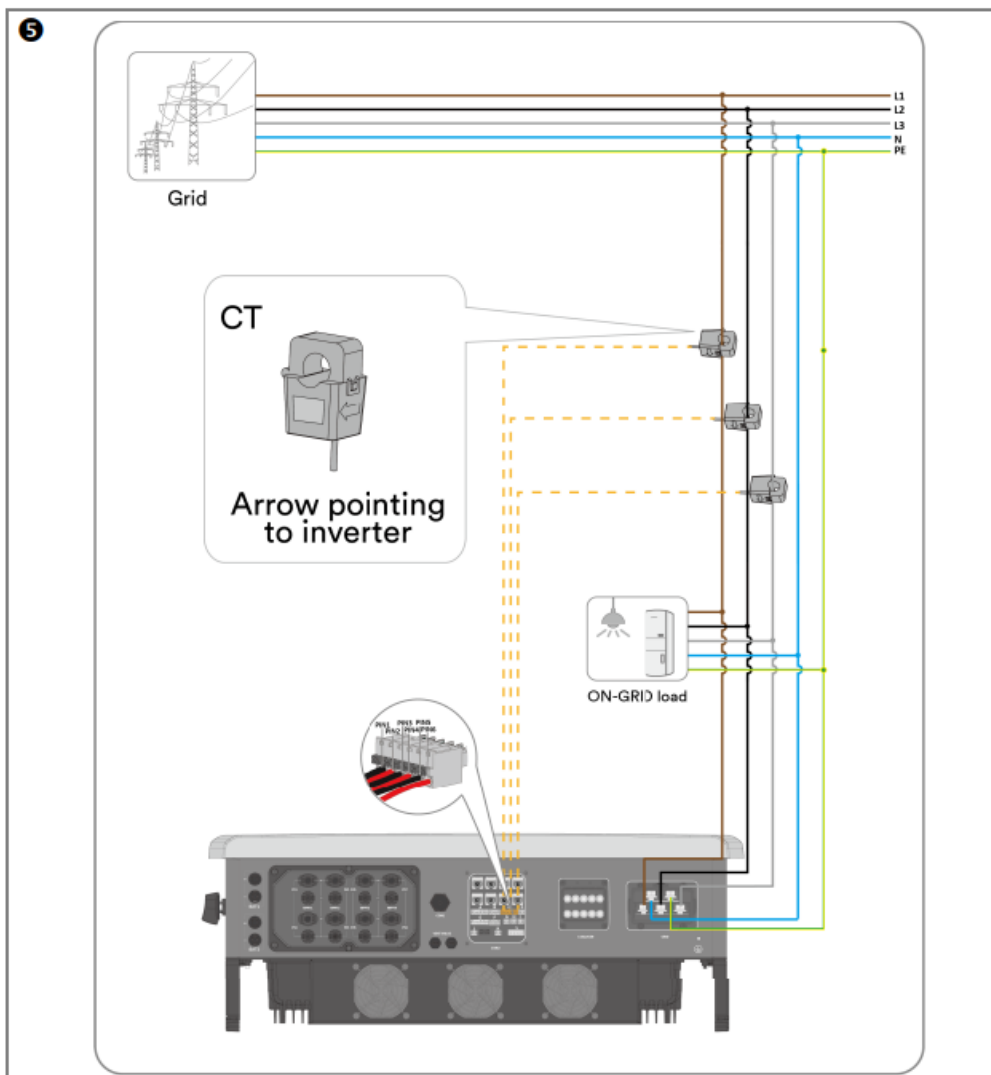


7 (BMS1)
/
8 (BMS2)

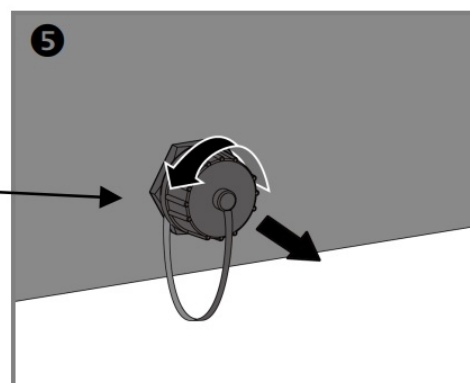
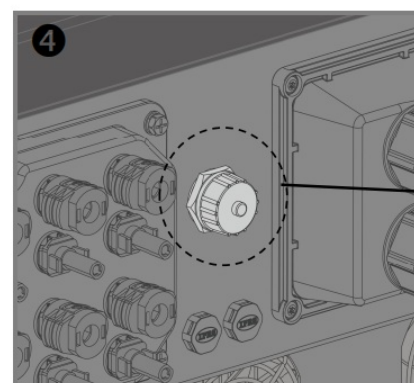
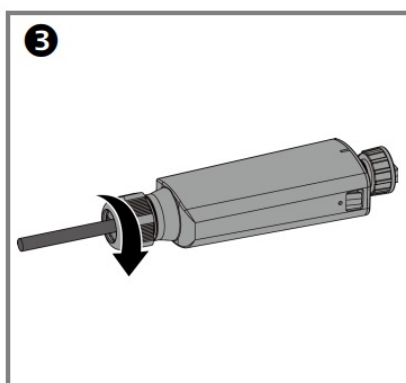
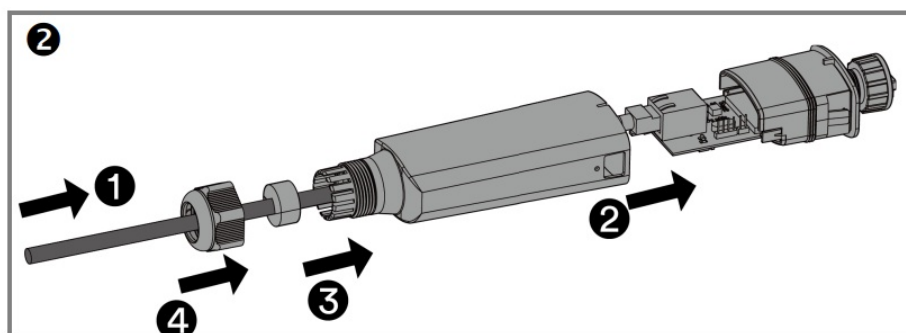
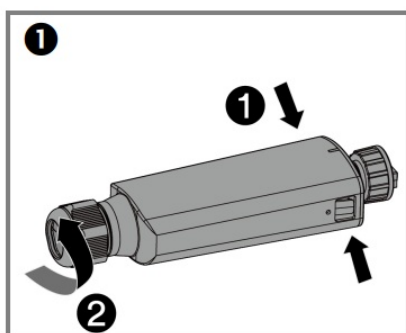


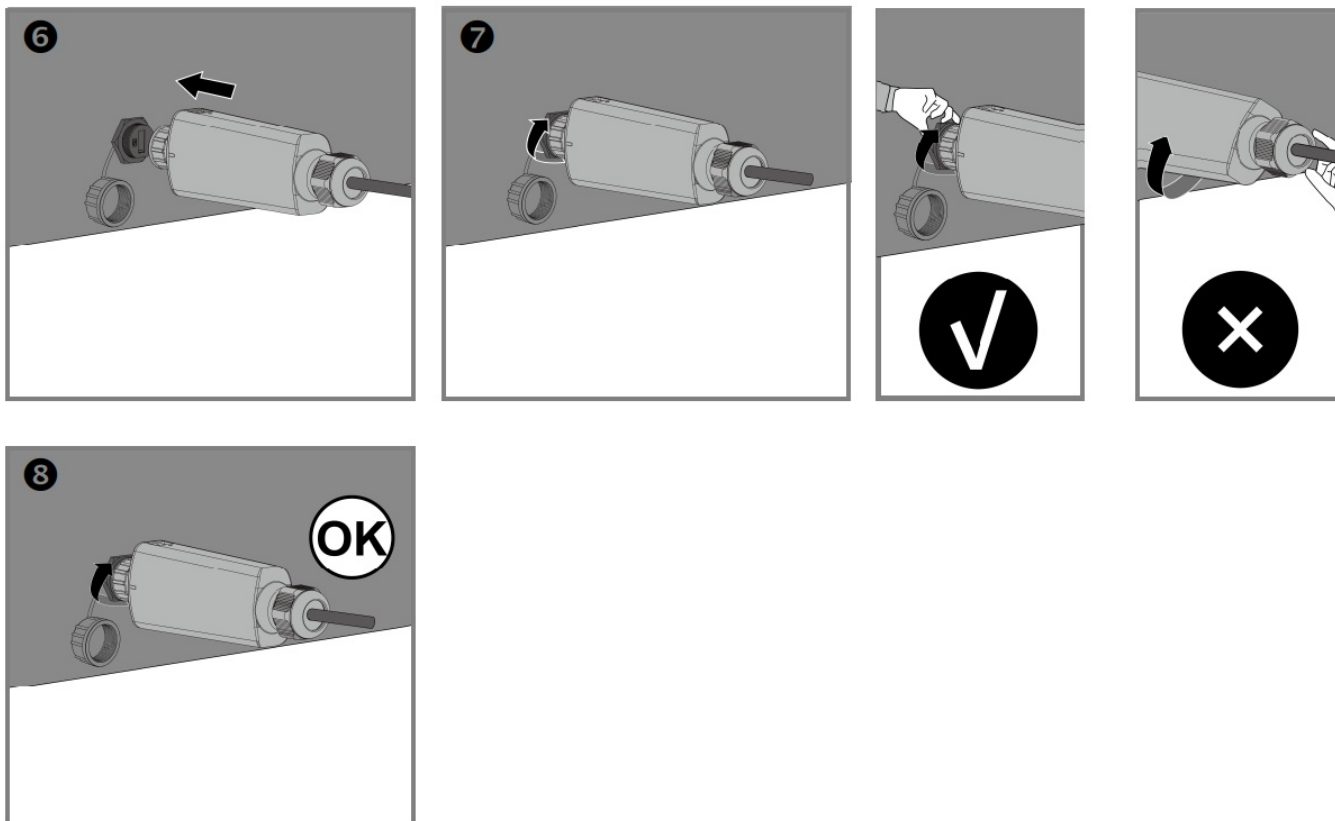
Current Transformer connection (optional)





Ai-Dongle connection





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 quantity and string arrangement connected to each MPPT
 - Fault code
 - Installation location

EMEA

- **Service email:** service.EMEA@solplanet.net APAC
- **Service email:** service.APAC@solplanet.net LATAM
- **Service email:** service.LATAM@solplanet.net

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- **Service email:** service.taiwan@aiswei-tech.com
- **Hotline:** +886 809089212

- <https://solplanet.net/contact-us>

AISWEI Technology Co., Ltd.

Web: www.solplanet.net

Add: No. 18, Alley 600, Nanchezhan Road, Huangpu District, Shanghai, China

FAQ


Q: Can the product be used with PV modules that require functional grounding?

A: No, the product must not be operated with PV modules which require functional grounding of either the positive or negative PV conductors.

Q: Can the product be operated with non-Solplanet approved batteries?

A: The product must only be operated with an intrinsically safe lithium-ion battery approved by Solplanet to ensure safe operation.

Documents / Resources

	<p>solplanet ASW015 Three Phase Hybrid [pdf] Installation Guide ASW015-030K-TH, ASW015 Three Phase Hybrid, ASW015, Three Phase Hybrid, Phase Hybrid, Hybrid</p>
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References

- [Contact Solplanet | Get in Touch | Solplanet](#)
- [User Manual](#)

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