

THREE PHASE INVERTER

X3-FORTH



Quick Installation Guide

PRODUCT FEATURES



Maximum Efficiency
Maximum Efficiency up to 99%



MPPT Voltage Range
180~1000Vdc MPPT Voltage Range



IP66 Protection
IP66 protection level



Remote Access
Remote setting and upgrading



24h Monitoring
24 hours operation monitoring



Multiple MPPTs
Maximum 12 MPPTs, 2 strings per MPPT tracker



Smart Air Cooling
Smart Air Cooling Technique



Export Power Control
Built-in export power control















Heat Dissipation
Heat Dissipation Technology

Safety

General Notice

1. Contents may be periodically updated or revised. SolaX reserves the right to make improvements or changes in the product(s) and the program(s) described in this manual without the prior notice.
2. The installation, maintenance and grid-related setting can only be performed by qualified personnel who:
 - Are licensed and/or satisfy state and local jurisdiction regulations;
 - Have good knowledge of this manual and other related documents.
3. Before installing the device, carefully read, fully understand and strictly follow the detailed instruction of the user manual and other related regulations. SolaX shall not be liable for any consequences caused by the violation of the storage, transportation, installation, and operation regulations specified in this document and the user manual.
4. Use insulated tools when installing the device. Individual protective tools must be worn during installation, electrical connection and maintenance.
5. Please visit the website www.solaxpower.com of SolaX for more information.

Descriptions of Labels

	CE mark of conformity		TUV certification
	RCM mark of conformity		UKCA mark of conformity
	Additional grounding point		Caution, hot surface
	Caution, risk of electric shock		Caution, risk of danger
	Read the enclosed documentations		Do not dispose of the inverter together with household waste.
	Do not operate this inverter until it is isolated from mains and on-site PV generation suppliers.		
	Danger of high voltage. Do not touch live parts for 5 minutes after disconnection from the power sources.		

⚠ DANGER!**Lethal danger from electrical shock due to the inverter**

- Only operate the inverter when it is technically faultless. Otherwise, electric shock or fire may occur.
- Do not open the enclosure in any case without authorization from SolaX. Unauthorized opening will void the warranty and cause lethal danger or serious injury due to electric shock.

⚠ DANGER!**Lethal danger from electrical shock due to the PV**

- When exposed to sunlight, high DC voltage will be generated by PV modules. Death or lethal injuries will occur due to electric shock.
- Never touch the positive or negative pole of PV connecting device. Touching both of them at the same time is prohibited as well.
- Do not ground the positive or negative pole of the PV modules.
- Only qualified personnel can perform the wiring of the PV panels.

⚠ WARNING!**Risk of personnel injury or inverter damage**

- During operation, do not touch any parts other than DC switch and LCD panel of the inverter.
- Never connect or disconnect the AC and DC connectors when the inverter is running.
- Turn off the AC and DC power and disconnect them from the inverter, wait for 5 minutes to fully discharge the voltage before attempting any maintenance, cleaning or working on any circuits connected.
- Make sure that the input DC voltage \leq Maximum DC input voltage of the inverter. Overvoltage may cause permanent damage to the inverter, which is NOT covered by the warranty.

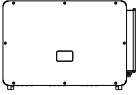






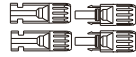
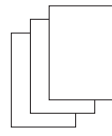
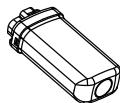
⚠ CAUTION!

- Keep children away from the inverter.
- Pay attention to the weight of the inverter. Personal injuries may be caused if not handled properly.

NOTICE!

- If an external RCD is required by local regulations, check which type of RCD is required for relevant electric codes. It is recommended to use a Type-A RCD with the value of 300 mA.
- All the product labels and nameplate on the inverter shall be maintained clearly visible.



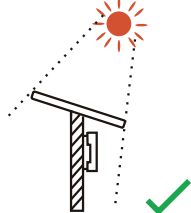
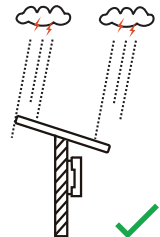

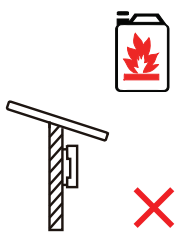
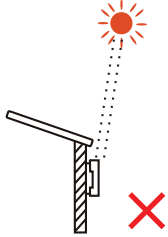
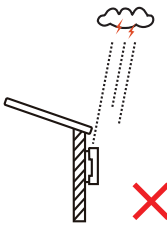
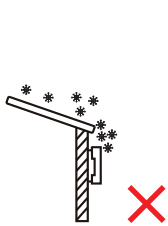
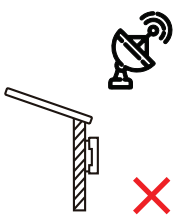
Packing List / Packliste / Liste du matériel livré / Lista de piezas / Lista da embalagem / Paklijst / Contenuto della confezione / Zawartość opakowania / Seznam balení / Packlista / Listă de ambalare / Опаковъчен лист / Pakkeliste / Λίστα συσκευασίας / Pakkeleht / Pakkausluettelo / Popis pakiranja / Csomaglista / Pakuotės turinys / Iepakojuma saraksts / Zoznam položiek balenia / Seznam pakiranja / Kutu Listesii / Lista de Embalagem

 Inverter x 1	 Bracket x 1	 M10 x L40 Bolt combination kit x 4	 Communication connector x 1	 T30 internal hex wrench x 1
 M8 Bolt x 2	 PV pin contact x 24 pairs	 PV connector x 24 pairs	 Documents	 Dongle x 1 (Optional)

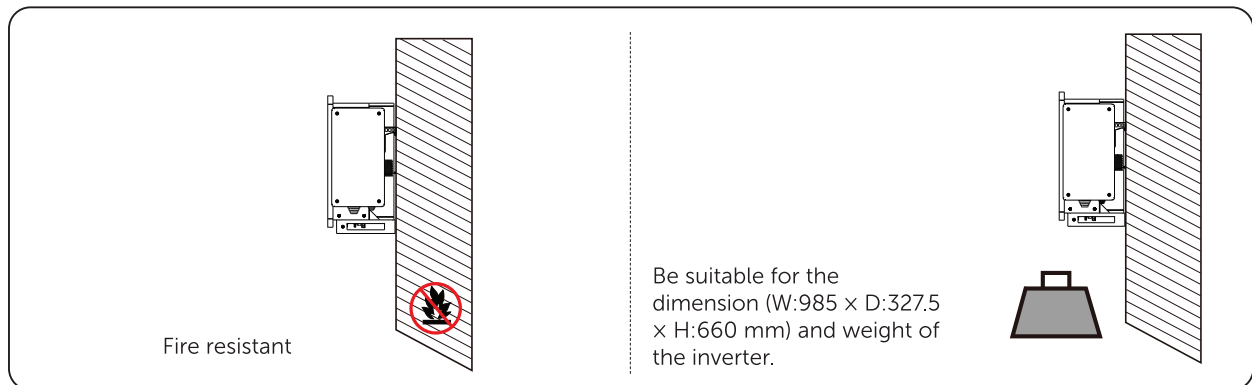
* **Note:** Refer to the actual delivery for the optional accessories.

PV pin contact and PV connector: 12 pairs for 40 kW and 50 kW inverter;
18 pairs for 60 kW to 110 kW inverter; 24 pairs for 120 kW to 150 kW inverter.
Please purchase OT terminals separately.

Installation Site / Installationsort / Site d'installation / Sitio de instalación / Local de instalação / Installatiesite / Sito di installazione / Miejsce instalacji / Místo instalace / Installationsplats / Loc de instalare / Монтажен объект / Monteringssted / Τόπος εγκατάστασης / Paigaldamise koht / Asennuspaikka / Lokacija ugradnje / Telepitési helyszín / Montavimo vieta / Uzstādīšanas vieta / Miesto inštalácie / Mesto namestitve / Kurulum Yeri / Local de Instalação

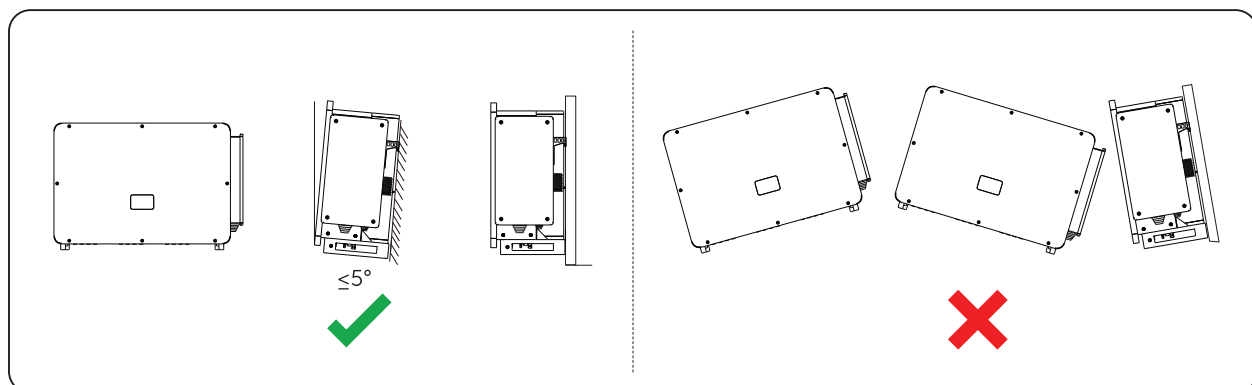
 -25°C ~+60°C 0-100%RH	 IP66	 No direct sunlight	 No rain exposure	 No snow lay up
 Near combustibles	 Direct sunlight	 Rain exposure	 Snow lay up	 Near antenna

Installation Carrier / Installationsträger / Partie porteuse / Soporte de instalación / Suporte de Instalação / Installatiedrager / Supporto di installazione / Powierzchnia montażowa / Nosič instalace / Installationsfästen / Suport instalație / Монтажна основа / Monteringsholder / Μεταφορέας εγκατάστασης / Paigalduskandja / Asennusteline / Nosač za ugradnju / Telepítési szolgáltatató / Montavimo pagrindas / Instalācijas turētājs / Nosná konštrukcia pre inštaláciu / Namestitveni nosilec / Kurulum Taşıyıcı / Portador de Instalação

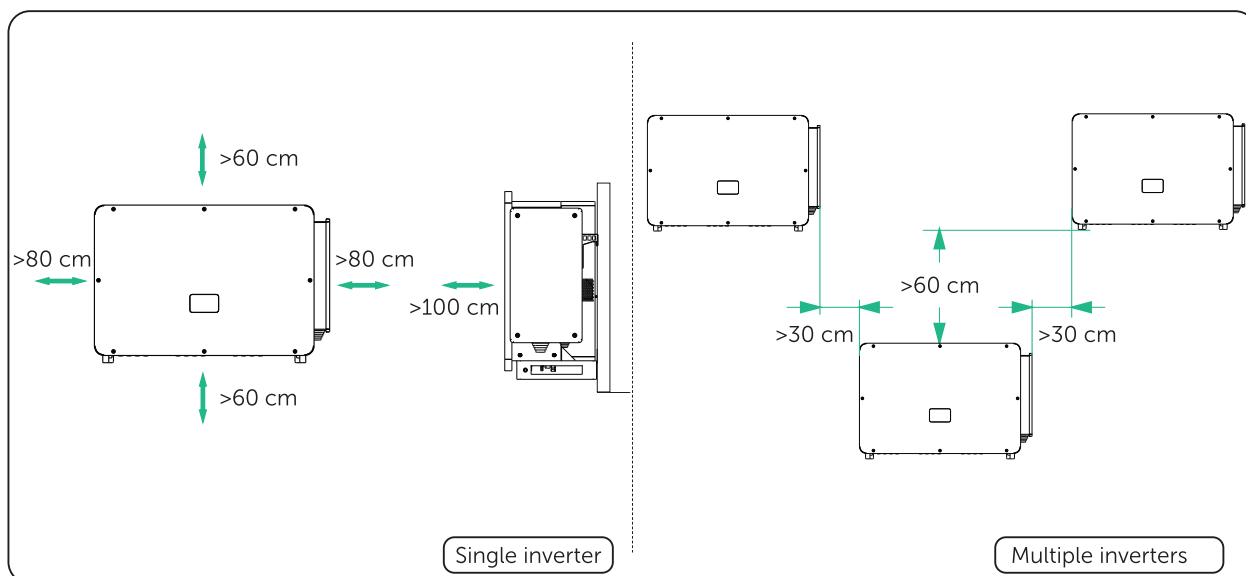


Inverter	40 kW	50 kW	60 kW	70 kW	75 kW	80 kW	100 kW	110 kW	120 kW	125 kW	136 kW	150 kW
Weight (kg)	80.5 kg		83 kg						87 kg			

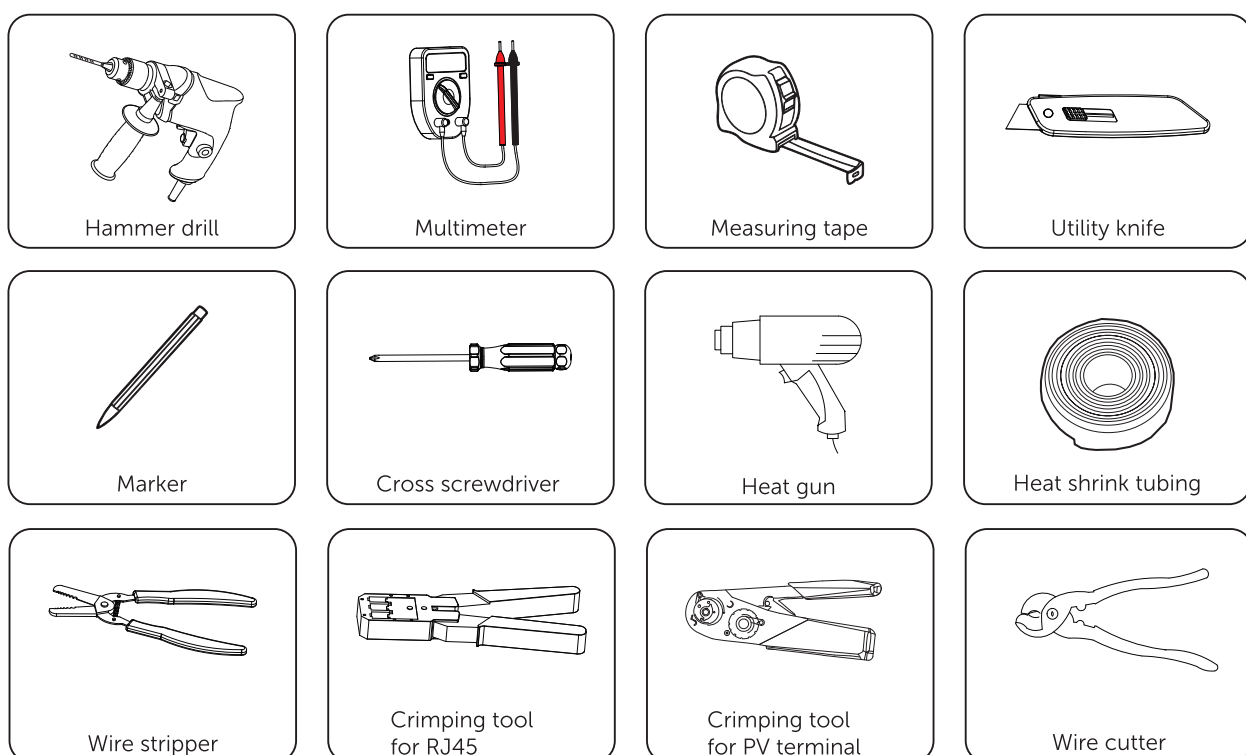
Installation Angle / Installationswinkel / Angle d'installation / Ángulo de instalación / Ângulo de instalação / Installatiehoek / Angolazione di installazione / Kąt instalacji / Instalační úhel / Installationsvinkel / Unghi de instalare / Монтажен ъгъл / Monteringsvinkel / Γωνία εγκατάστασης / Paigaldusnurk / Asennuskulma / Kut ugradnje / Telepítési szög / Montavimo kampas / Uzstādīšanas leņķis / Uhol inštalácie / Namestitveni kot / Kurulum Açısı / Ângulo de Instalação

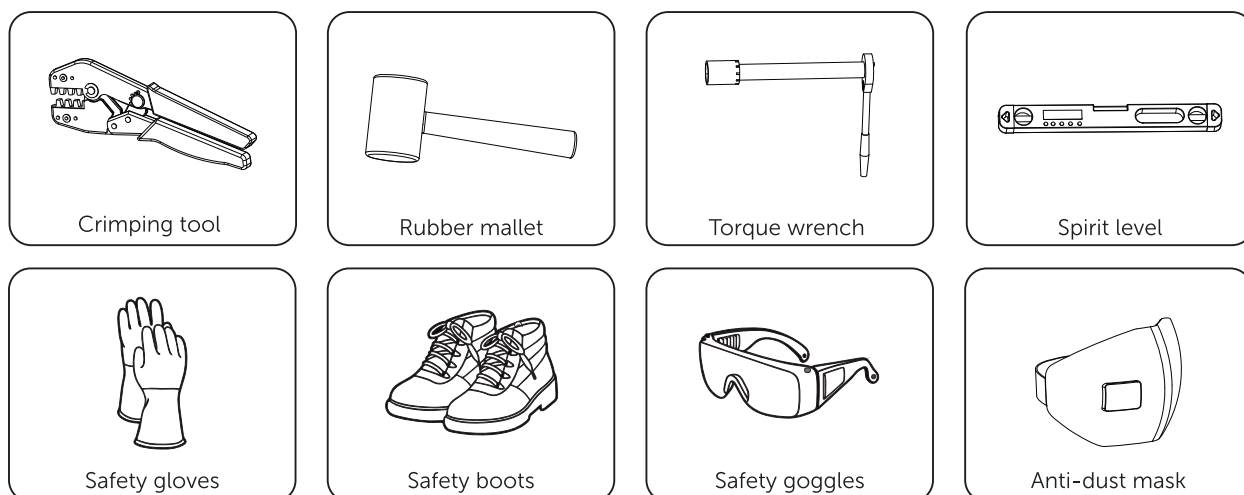


Installation Space / Installationsraum / Espace d'installation / Espacio de instalación / Espaço de instalação / Installatieruimte / Spazio di installazione / Przestrzeń instalacyjna / Instalační prostor / Installationsutrymme / Spațiu de instalare / Монтажно пространство / Monteringsplats / Χώρος εγκατάστασης / Paigaldusruum / Asennustila / Mjesto ugradnje / Telepítési tér / Montavimo erdvė / Uzstādīšanas telpa / Priestor pre inštaláciu / Prostor za namestitev / Kurulum Alanı / Espaço de Instalação



Installation Tools / Installationswerkzeuge / Outils d'installation / Herramientas de instalación / Ferramentas de instalação / Installatiemiddelen / Utensili di installazione / Narzędzia do instalacji / Instalační nástroje / Verktyg för installation / Instrumente de instalare / Монтажни инструменти / Monteringsværktøjer / Εργαλεία εγκατάστασης / Paigaldamise tööriistad / Asennustyökalut / Alati za ugradnju / Telepítő eszközök / Montavimo įrankiai / Uzstādīšanas instrumenti / Nástroje pre inštaláciu / Orodja za namestitev / Kurulum Araçları / Ferramentas de Instalação





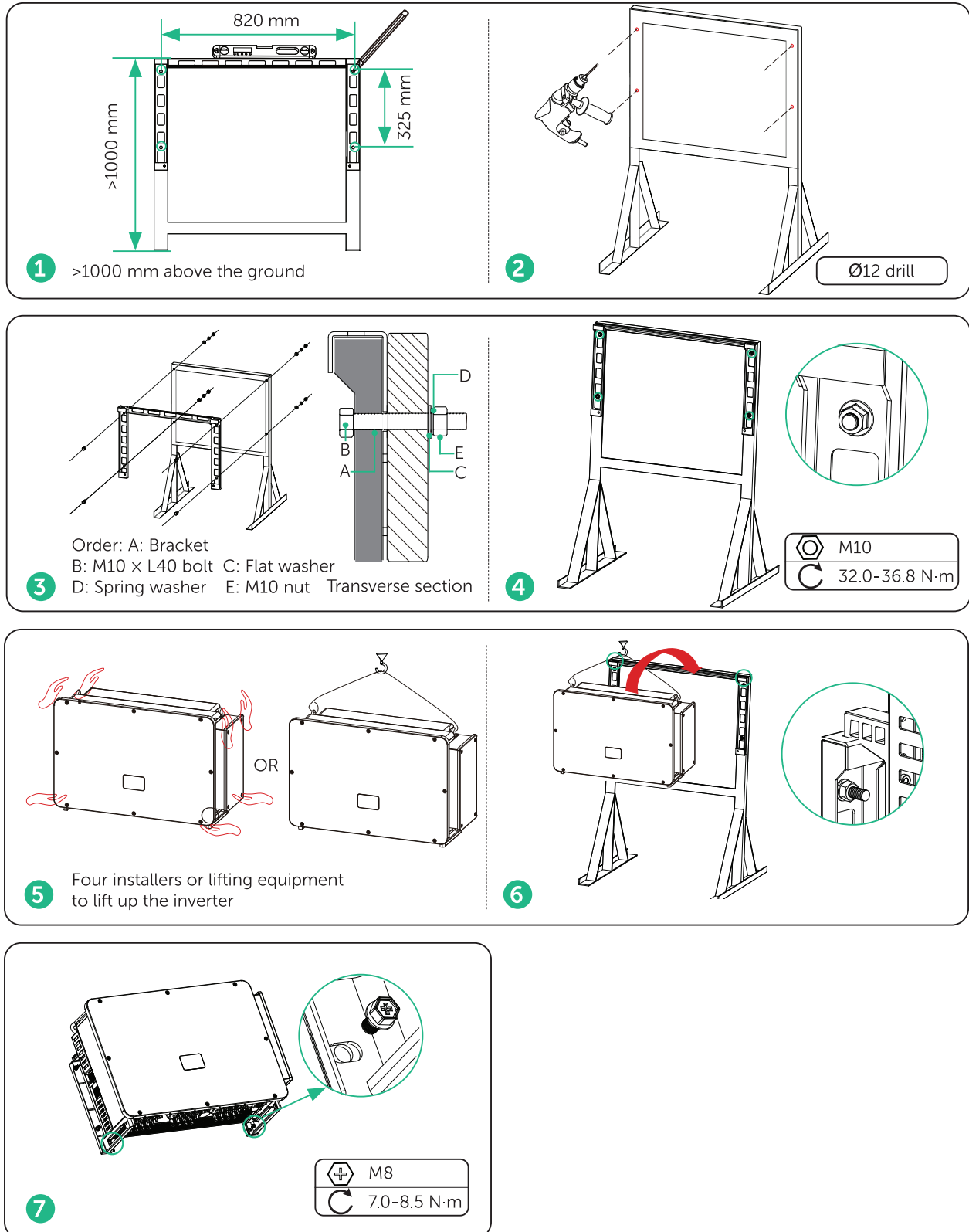
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No.	Required Material	Type	Conductor Cross-Section	Cable Length
1	PV cable	Dedicated PV wire complying with 1,500 V standard	4-6 mm ²	≤200 m
2	AC cable (40-125 kW)	Five-core copper wire	70 mm ² -240 mm ²	≤200 m
	AC cable (40-125 kW)	Five-core aluminium wire	70 mm ² -240 mm ²	≤200 m
3	AC cable (136-150 kW)	Four-core copper wire	70 mm ² -240 mm ²	≤200 m
	AC cable (136-150 kW)	Four-core aluminium wire	70 mm ² -240 mm ²	≤200 m
4	Communication cable	Network cable CAT5 or better	0.5 mm ² -0.75 mm ²	≤150 m
	Communication terminal	ENY0512 nylon terminal for 0.5 mm ² / 22 AWG conductor ENY7512 nylon terminal for 0.75 mm ² / 20 AWG conductor		
5	Additoinal PE cable	Conventional yellow and green wire	35 mm ² -70 mm ²	≤200 m
6	M10 × L80 expansion bolt kit × 4	For wall-mounting	/	/

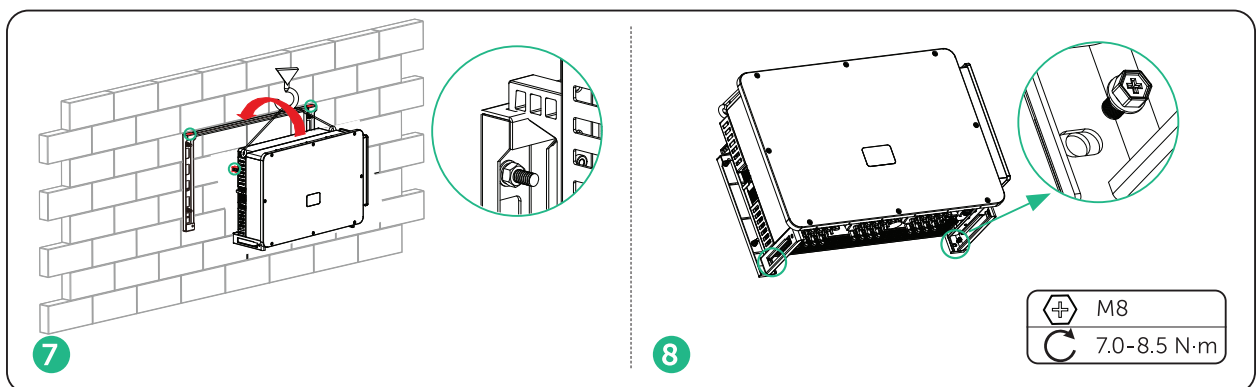
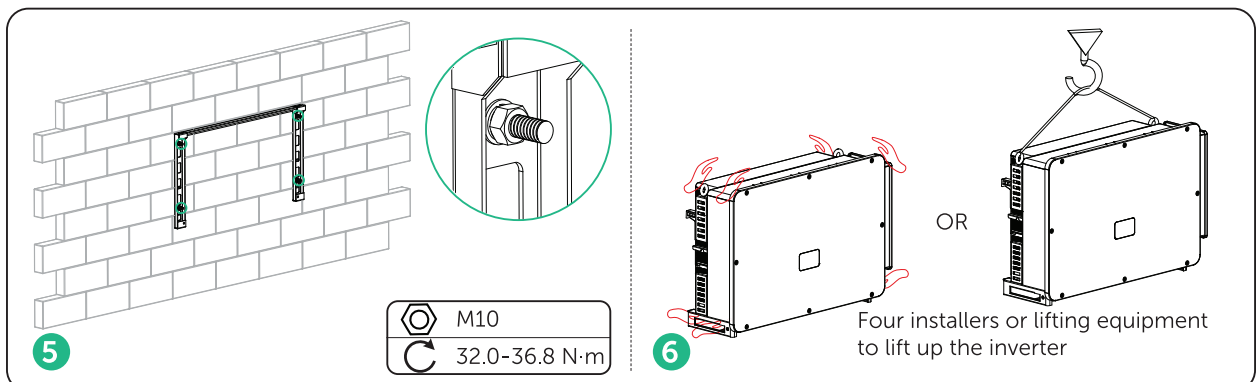
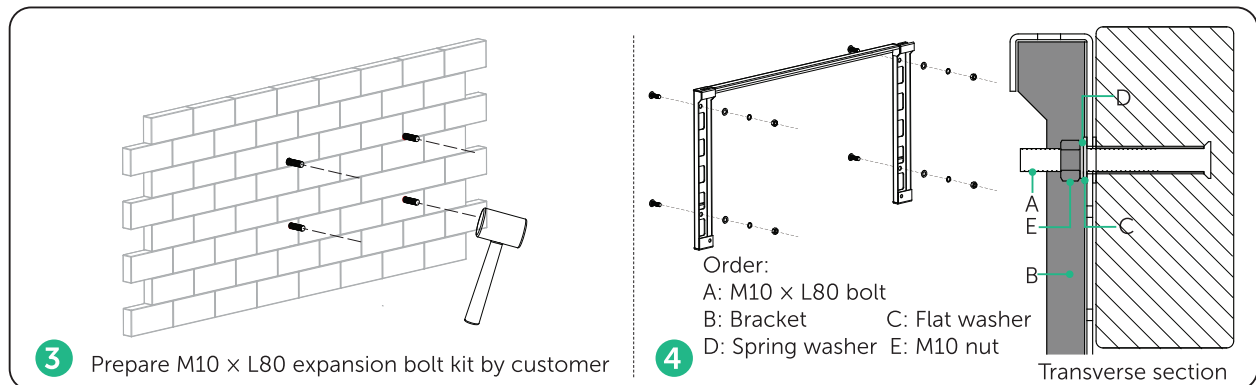
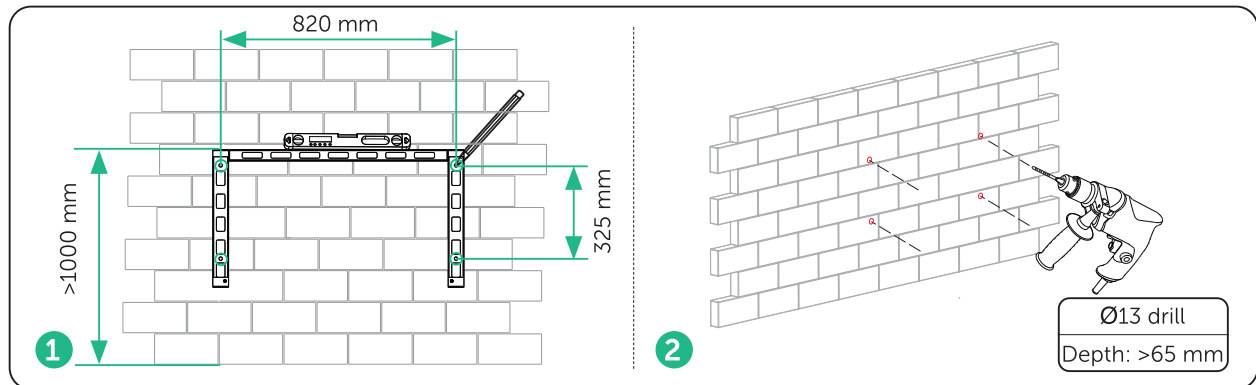
Inverter	40 kW	50 kW	60 kW	70 kW	75 kW	80 kW	100 kW	110 kW	120 kW	125 kW	136 kW	150 kW
AC breaker	150 A	200 A	250 A	250 A	250 A	150 A	200 A	200 A	250 A	250 A	200 A	250 A

Mechanical Installation / Mechanische Installation / Installation mécanique / Instalación mecánica / Instalação mecânica / Mechanische installatie / Installazione meccanica / Instalacja mechaniczna / Mechanická instalace / Mekanisk installation / Instalare mecanică / Механичен монтаж / Mekanisk installation / Μηχανική εγκατάσταση / Mehaaniline paigaldus / Mekaaninen asennus / Mehanička ugradnja / Mechanikai telepítés / Mechaninis montavimas / Mehāniskā uzstādīšana / Mechanická inštalácia / Mehanska namestitvev / Mekanik Kurulum / Instalação Mecânica

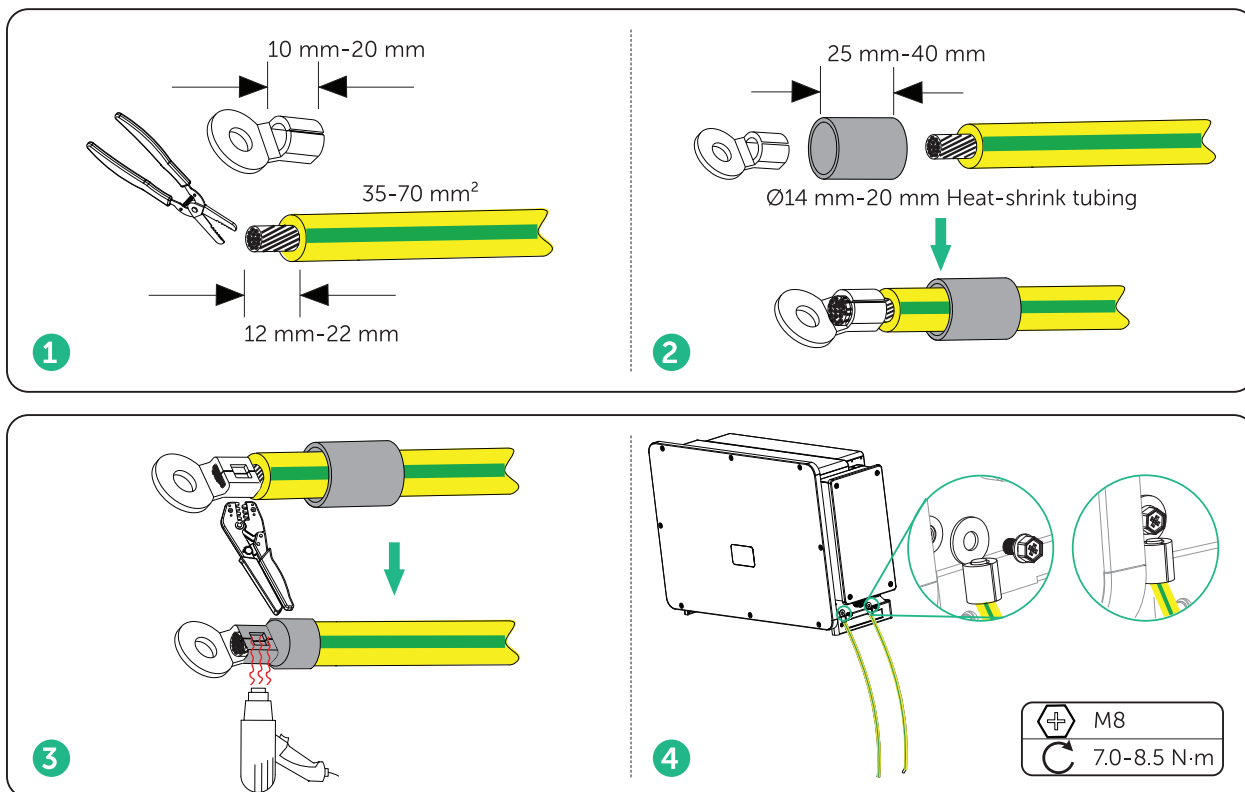
- Stand-mounting



- Wall-mounting

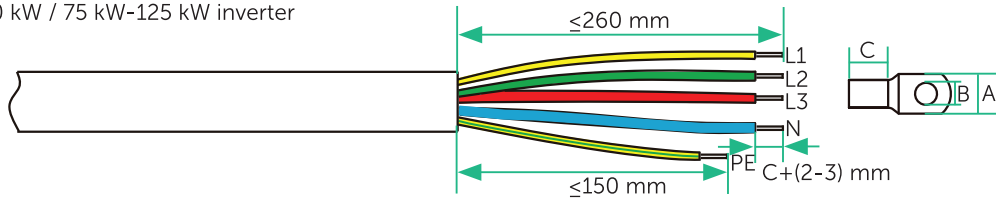


PE Connection / Schutzerdungs-Anschluss / Connexion PE / Conexión PE / Ligação à Terra / PE-aansluiting / Collegamento PE / Połączenie PE / PE připojení / PE-anslutning / Conexiune PE / PE връзка (земя) / Jordforbindelse / Σύνδεση PE / PE ühendus / PE-yhteys / PE priključak / PE bekötés / PE (apsauginio įžeminimo) kontaktas / PE savienojums / Pripojenie ochranného vodiča / PE povezava / PE Bağlantısı / Conexão PE



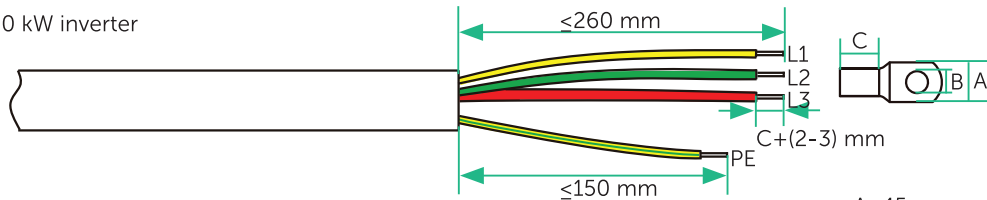
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40 kW-70 kW / 75 kW-125 kW inverter



70-240 mm² copper cable

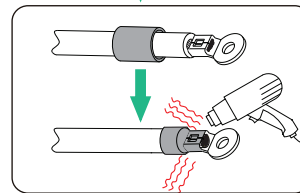
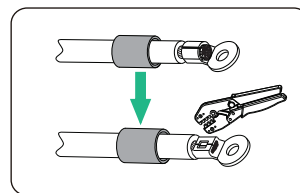
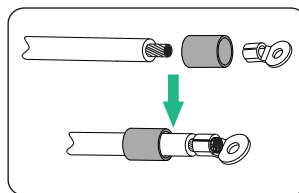
136 kW-150 kW inverter



70-240 mm² copper cable

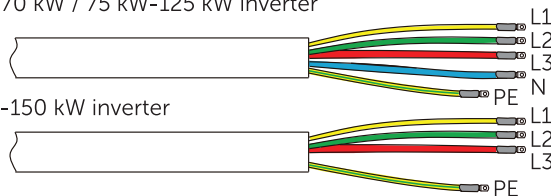
A ≤ 45 mm
B = 12.5 mm-15 mm

1



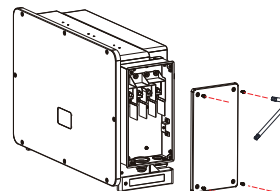
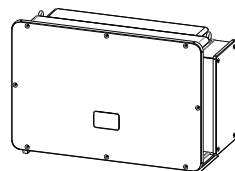
40 kW-70 kW / 75 kW-125 kW inverter

136 kW-150 kW inverter

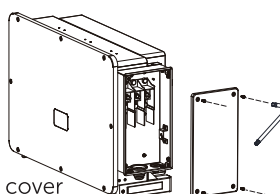
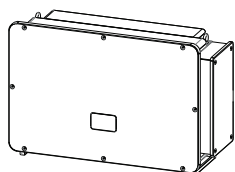


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40 kW-70 kW / 75 kW-125 kW inverter



136 kW-150 kW inverter

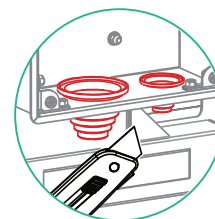
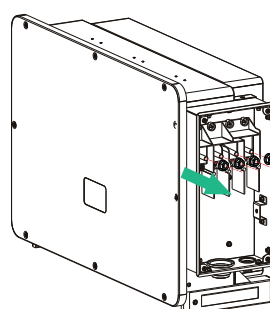
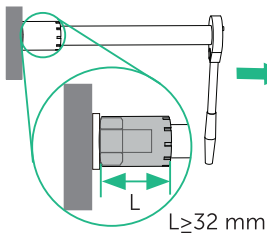
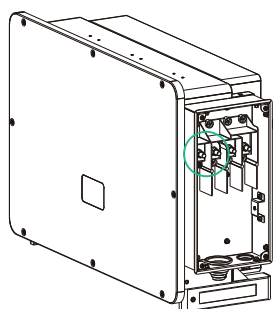


M8
5.0-7.0 N·m

3

Disassemble the AC cover

40 kW-70 kW / 75 kW-125 kW inverter for example



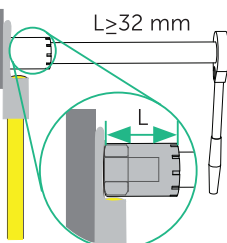
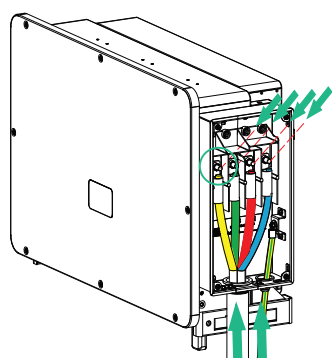
Cut off the tower shaped wiring grommet based on the actual cable size.

4 Disassemble the M12 nut

M12
25-30 N·m

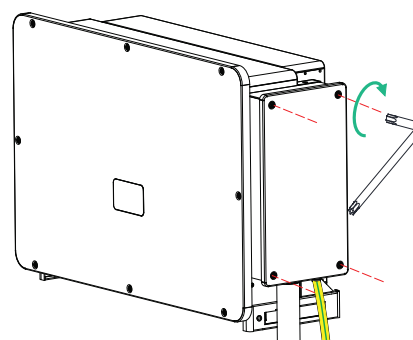
5

40 kW-70 kW / 75 kW-125 kW inverter for example



6 Tighten PE cable before connecting L and N cable.

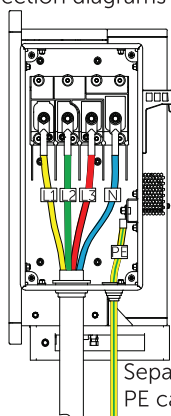
M12
25-30 N·m



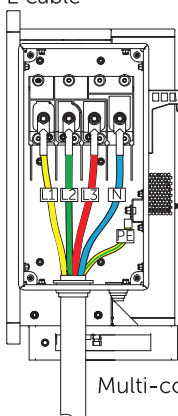
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M8
5.0-7.0 N·m

Wiring connection diagrams for PE cable

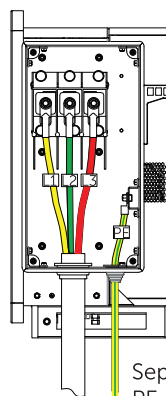


Separate PE cable

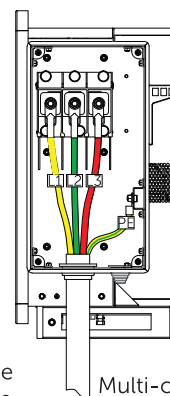


Multi-core cable

40 kW-70 kW / 75 kW-125 kW inverter



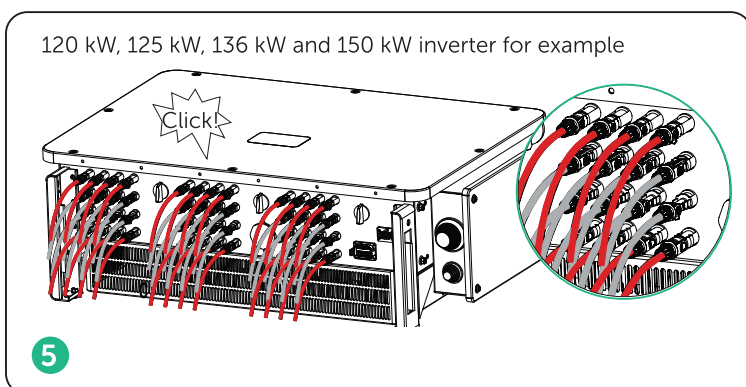
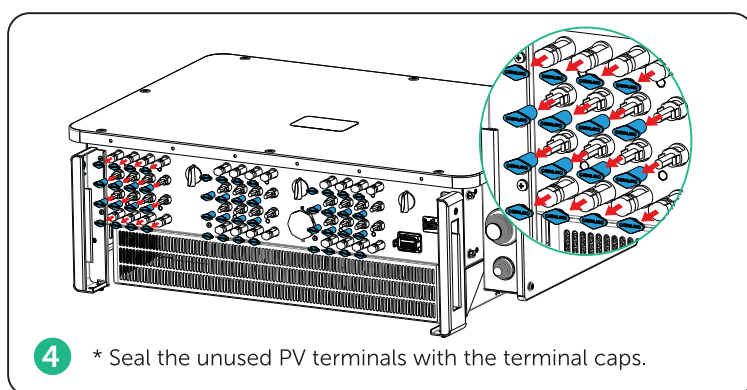
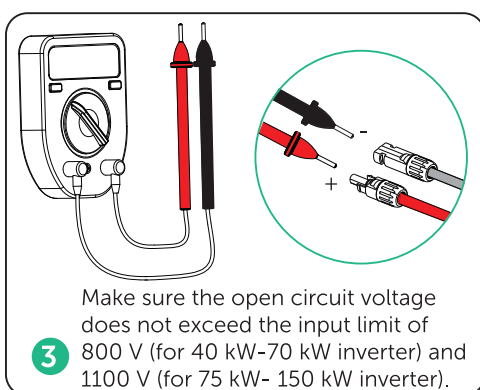
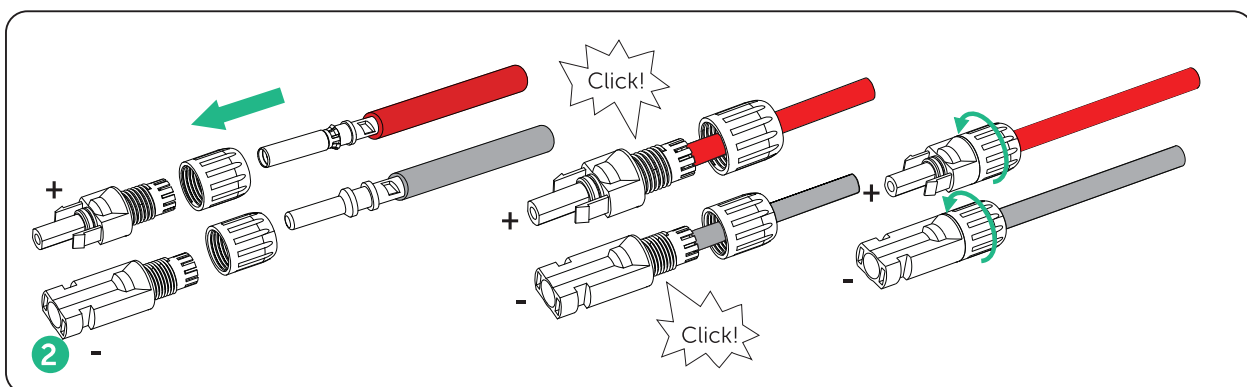
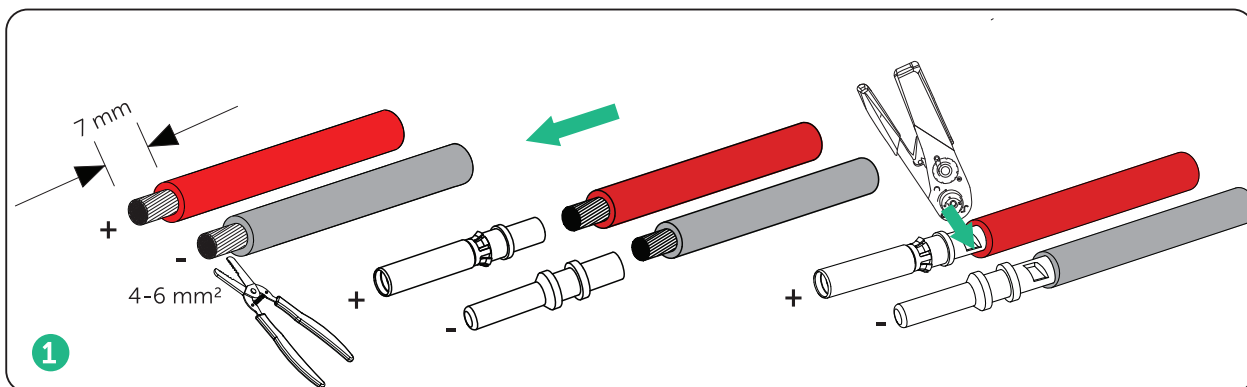
Separate PE cable



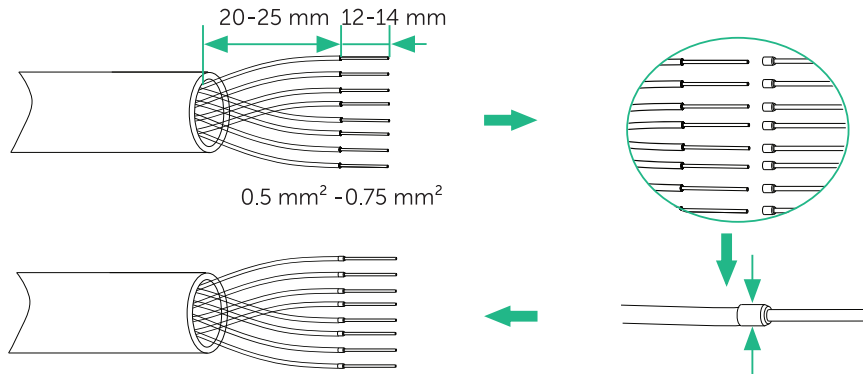
Multi-core cable

136 kW-150 kW inverter

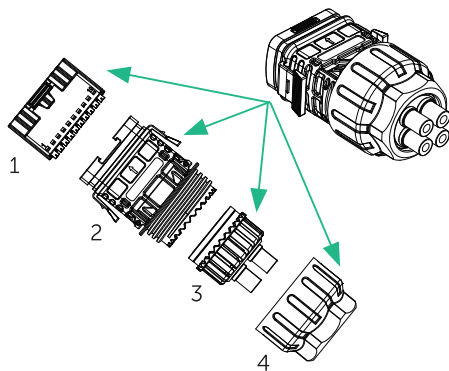
DC Side Connection / Gleichstrom-seitiger Anschluss / Connexion côté CC / Conexión lateral de CC / Ligação lateral CC / Aansluiting gelijkspanningszijde / Collegamento lato CC / Połączenie po stronie DC / Boční připojení stejnosměrného proudu / Anslutning på DC-sidan / Conexiune laterală c.c. / СВЪРЗВАНЕ ОТ DC СТРАНАТА / DC-sidetilslutning / Πλαϊνή σύνδεση DC / Alalisvoolupoolne ühendus / DC-puolen liitäntä / Priključak za istosmjernu struju (DC) / Egyenáram-oldali bekötés / DC (nuol. sr.) šoninis kontaktas / Līdzstrāvas puses savienojums / Pripojenie na strane jednosmerného prúdu / DC stranska povezava / DC Yan Bağlantı / Conexão do Lado CC



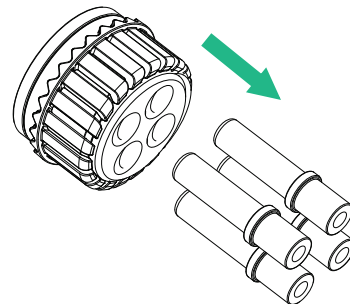
Communication Connection / Kommunikations-Anschluss / Branchement de communication / Conexión de comunicación / Ligaçãõ à Comunicaçãõ / Communicatie-aansluiting / Collegamento comunicazione / Połączenie komunikacyjne / Komunikační připojení / Kommunikationsanslutning / Conexiune de comunicare / Коммуникационная връзка / Kommunikationsforbindelse / Σύνδεση επικοινωνίας / Sideühendus / Tiedonsiirtoliitäntä / Priključak za komunikaciju / Kommunikációs bekötés / Duomenų ryšys / Sakaru savienojums / Pripojenie komunikácie / Komunikacijska povezava / İletişim Bağlantısı / Conexão de Comunicaçãõ



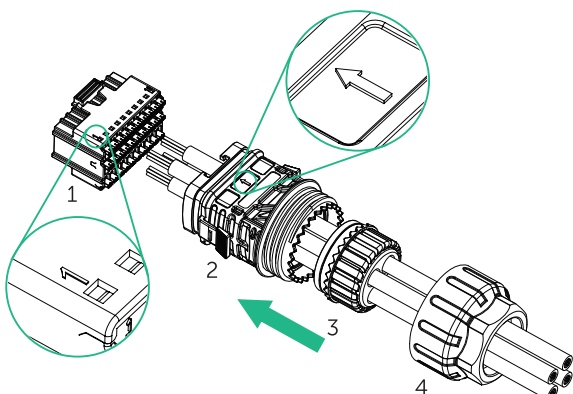
- 1 ENY0512 nylon terminal for 0.5 mm² / 22 AWG conductor;
ENY7512 nylon terminal for 0.75 mm² / 20 AWG conductor



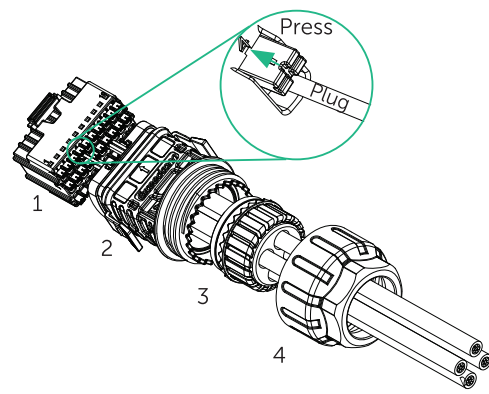
- 2 Component 1: Housing; 2: Body;
3: Seal part; 4: Nut



- 3 Remove the waterproof plug based on actual needs.



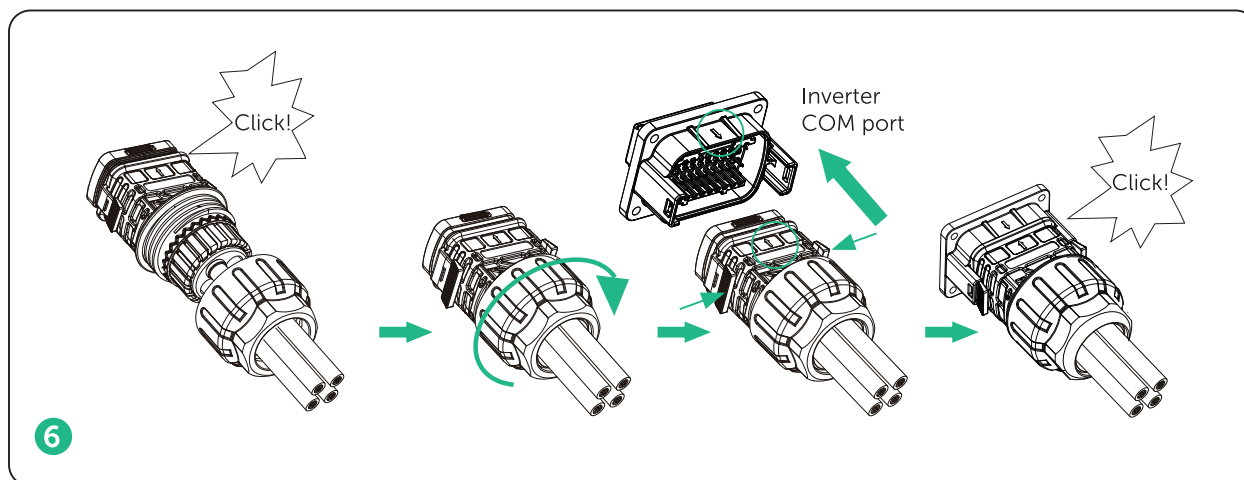
- 4 Route the COM cable through Component 4-3-2.



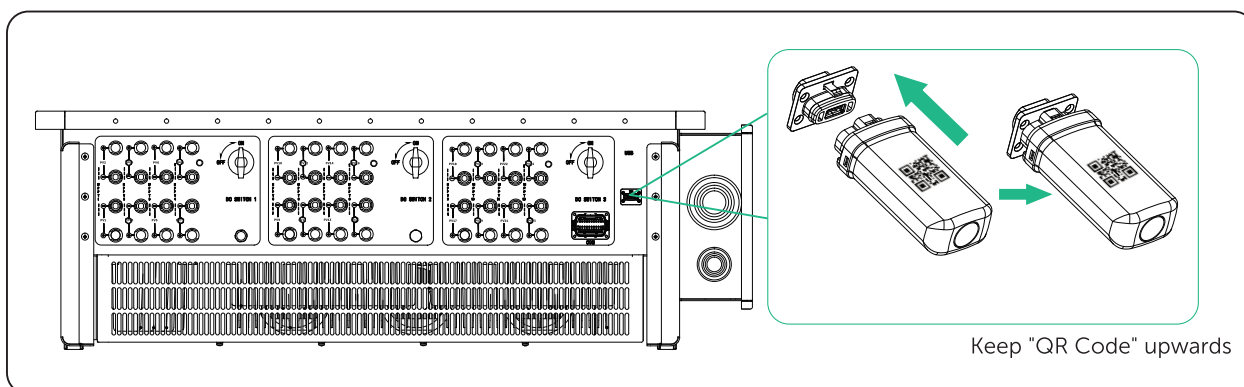
- 5 Plug the cable into Component 1 in accordance with the pin definition in the following table.

- Pin definition

Function	Pin	Definition	Remark
RS485-1	1	RS485A IN+	For inverter RS485 networking or connecting the data collector
	2	RS485B IN-	
	3	RS485 IN-GND	
	4	RS485 OUT+	
	5	RS485 OUT-	
	6	RS485 OUT-GND	
RS485-2	7	RS485A METER	For connecting RS485 meter or other devices
	8	RS485B METER	
	9	V+5V	
	10	COM_GND	
DRM	11	DRM1/5	Reserved for DRM
	12	DRM2/6	
	13	DRM3/7	
	14	DRM4/8	
	15	RG/0	
	16	CL/0	
DI	21	Digital IN+	Input digital signal
	22	Digital IN-	
DO	29	Digital OUT+	Output digital signal
	30	Digital OUT-	

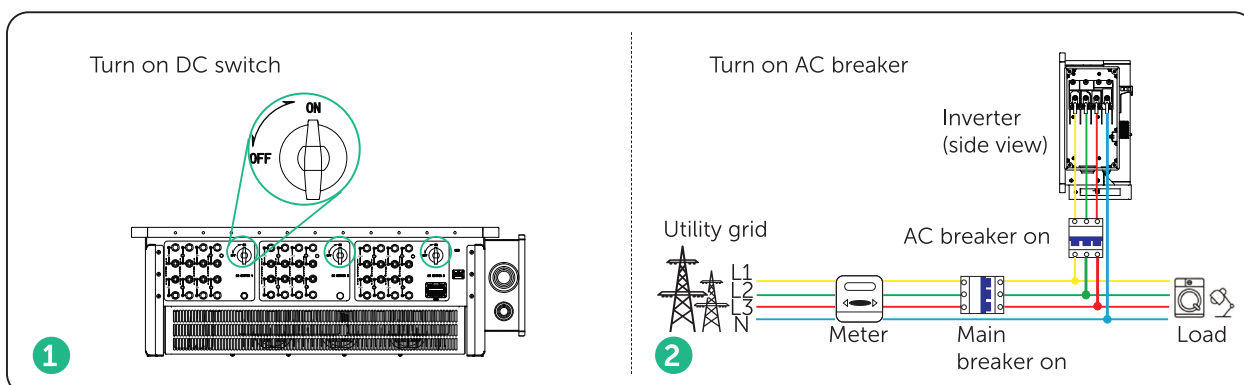


Monitoring Connection / Überwachungs-Anschluss / Branchement de surveillance / Conexión de monitorización / Ligaçãõ à Monitorizaçãõ / Monitoring-aansluiting / Collegamento monitoraggio / Połączenie na potrzeby monitorowania / Připojení ke sledování / Övervakningsanslutning / Conexiune de monitorizare / Мониторингова връзка / Overvågningsforbindelse / Σύνδεση παρακολούθησης / Seire ühendus / Valvontaliitântä / Priključak za nadzor / Monitoring bekötés / Stebėjimo ryšys / Uzraudzības savienojums / Pripojenie monitorovania / Povezava za spremljanje / İzleme Bağlantısı / Conexão de Monitoramento

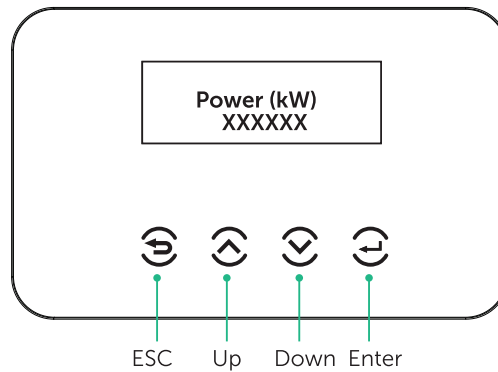


Power on the System / Schalten Sie das System ein / Mise sous tension du système / Encienda el sistema / Ligue o sistema / Het systeem inschakelen / Accensione del sistema / Włączanie systemu / Zapnutí systému / Slå på systemet / Pornire sistem / Включване на системата / Tænd for systemet / Ρεύμα στο σύστημα / Süsteemi sisselülitamine / Kytke järjestelmän virta päälle / Napajanje sustava / Rendszer áram alá helyezés / Ijungti sistemą / Ieslēdziet sistēmu / Zapnite system / Vklopite sistem / Sistemini Gücü / Ligar o Sistema

- Check before power-on
 - 1) The device is installed correctly and securely;
 - 2) All the DC breakers and AC breakers are OFF;
 - 3) All AC cables are connected correctly and securely;
 - 4) All DC cables are connected correctly and securely;
 - 5) All communication cables are connected correctly and securely;
 - 6) All the connectors which are not used should be sealed by covers.
 - 7) Make sure the PV module output is well insulated to ground;
 - 8) Make sure all PV modules should be of the same type, same model, same number, aligned and tilted identically;
 - 9) Make sure the open circuit voltage of the PV string shall not exceed 800 V (for 40 kW-70 kW inverter) and 1100 V (for 75 kW- 150 kW inverter) at the coldest expected temperature in time.
- Power on the system



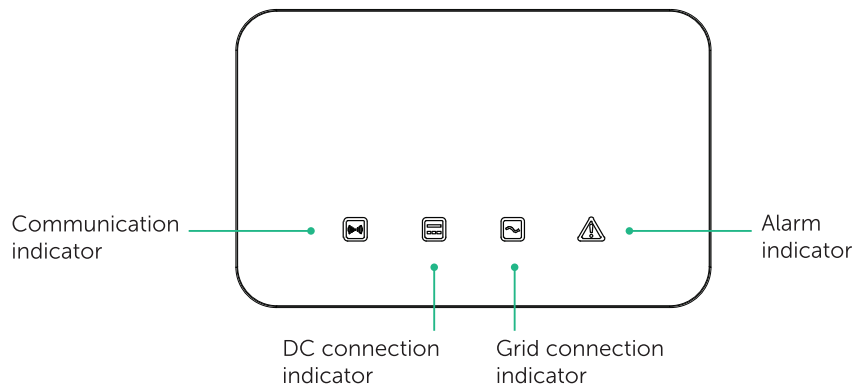
LCD Panel / LCD-Bildschirm / Panneau LCD / Panel LCD / Painei de LCD / LCD-paneel / Pannelo LCD / Panel LCD / LCD panel / LCD-panel / Panou cu LCD / LCD панель / LCD-panel / Πάνελ LCD / LCD-paneel / LCD-paneeli / LCD ploča / LCD panel / LCD skydas / LCD panelis / LCD Panel / LCD plošča / LCD Panel / Painei LCD







- In normal state, the "Power", "TodayEnergy", "TotalEnergy" and "Status" information will be displayed. You can press the keys to switch information.
- In error state, the fault message and error code will be displayed, please refer to the corresponding solutions in the user manual.

Key	Definition
ESC key	Exit from the current interface or cancel the setting
Up key	Move the cursor to the previous option or increase the value
Down key	Move the cursor to the next option or decrease the value
Enter key	Enter the selected option or confirm the selection

LED Indicators / LED-Indikatoren / Indicateurs LED / Indicadores LED / Indicadores LED / LED-indicatoren / Indicatori LED / Wskaźniki LED / LED indikátory / LED-indikatorer / Indicatori LED / LED индикатори / LED-indikatorer / Ενδεικτικές λυχνίες LED / LED-indikaatorid / LED-merkkivalot / LED pokazatelji / LED kijelzők / LED indikatoriai / LED indikatori / LED indikátory / LED kazalniki

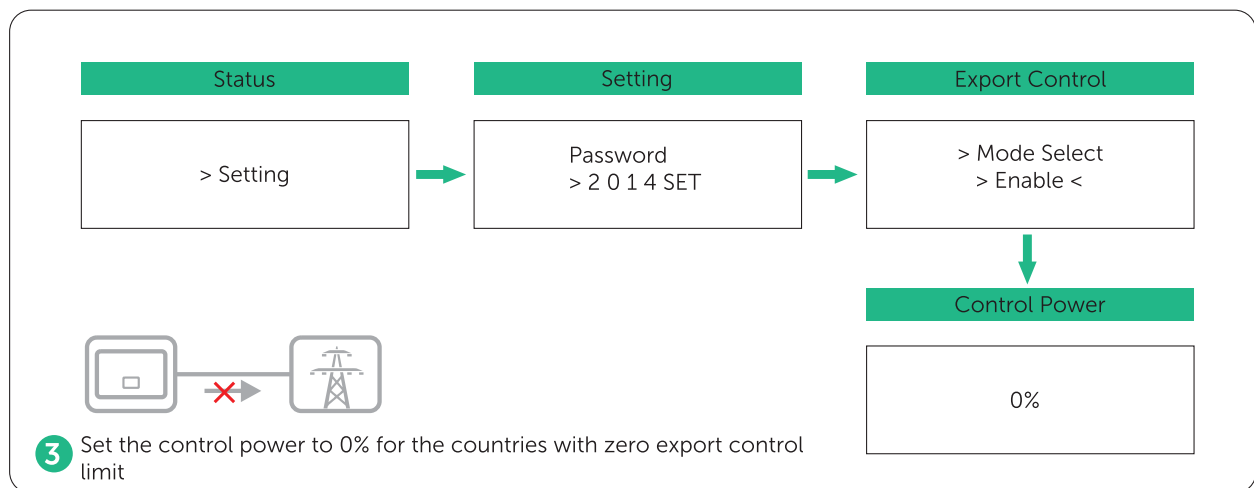
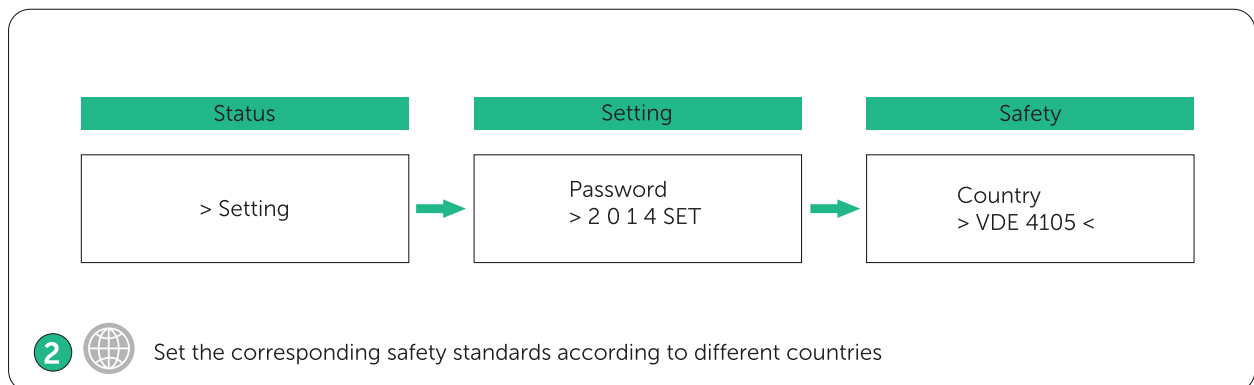
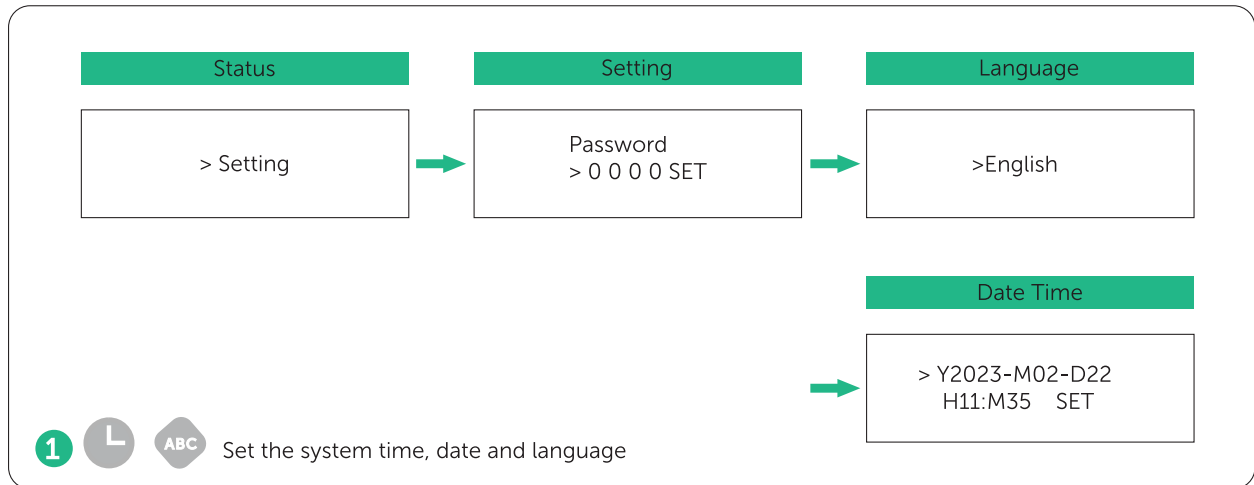


LED	Status	Definition
Communication indicator (Blue) 	On	The inverter communication is normal.
	Flash	No communication data is sent or received for a long time.
DC connection indicator (Green) 	On	The inverter is in grid-connected state.
	Flash	Alarm indicator on: Errors occur on the inverter DC side. Alarm indicator off: No errors occur on the inverter DC side and at least one channel of MPPT input voltage is higher than 200 V.
	Off	The input voltage of all channels of MPPT is less than 200 V; Or DC switch is not turned on.
Grid connection indicator (Green) 	On	The inverter is in grid-connected state.
	Flash	Alarm indicator on: Errors occur on the inverter AC side. Alarm indicator off: AC grid is connected and the inverter is not in grid-connected state.
	Off	The inverter is not connected to the grid.
Alarm indicator (Red) 	On	Errors occur on the inverter.
	Off	No errors occur on the inverter.

*** Note:**

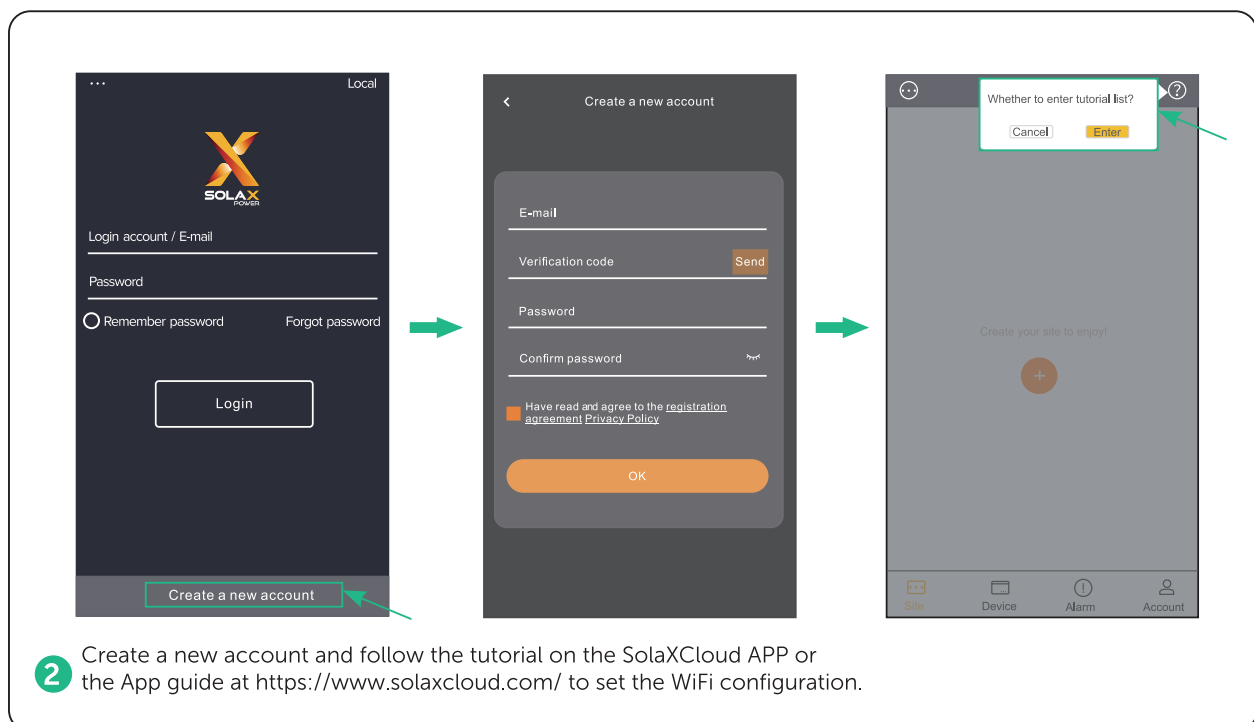
In aging mode, alarm indicator is flashing and other indicators keep the current state;
 In software upgrading state, all the indicators are blinking by horse-racing LED in circle;
 When the software upgrading fails, the alarm indicator turns on and other three indicators will be off;
 After the inverter upgrade succeeded, all the indicators will be off.

General Setting / Allgemeine Einstellungen / Paramètres généraux / Configuración general / Definição Geral / Algemene instelling / Impostazione generale / Ustawienia ogólne / Obecné nastavení / Generell inställning / Setare general / Обща настройка / Genel indstilling / Γενική τοποθέτηση / Üldine seadistus / Yleisasetus / Орце postavke / Általános beállítás / Bendrasis nustatymas / Vispārīgs iestatījums / Všeobecné nastavenie / Splošna nastavitve / Genel Ayar / Configuração Geral



* **Note:** The initial password is 2014 which should be changed for the consideration of account security.

Wi-Fi Configuration / WLAN-Konfiguration / Configuration Wi-Fi / Configuración de wifi / Configuração de Wi-Fi/Wi-Fi-configuratie / Configurazione del Wi-Fi / Konfiguracja Wi-Fi / Konfigurace Wi-Fi / Wi-Fi-konfiguration / Configurare Wi-Fi / Wi-Fi конфигурация / WiFi-konfiguration / Ρυθμίσεις παραμέτρων Wi-Fi / Wi-Fi konfiguratsioon / Wi-Fi-kokoonpano / Konfiguracija Wi-Fi mreže / Wi-Fi konfiguráció / „Wi-Fi” konfiguracija / Wi-Fi konfigurácia / Konfigurácia Wi-Fi / Konfiguracija Wi-Fi / Wi-Fi Yapılandırması / Configuração Wi-Fi



* **Note:** Configure the inverter parameters such as Date, Time, Safety, Export Control, ect. by SolaXCloud App.