AlphaESS
your smart energy

EN

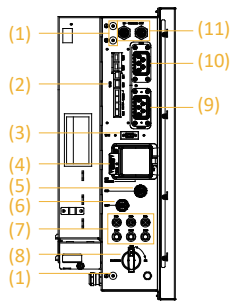
V02

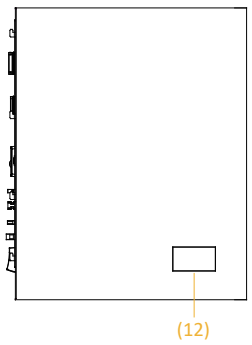
QUICK INSTALLATION GUIDE

SMILE-G3-T15-INV / SMILE-G3-T20-INV

01 Product Overview

(1) Grounding Points
(2) Communication Ports
(3) Wi-Fi Port
(4) Battery Circuit Breaker
(5) BAT - Connector
(6) BAT + Connector
(7) PV + Connectors / PV - Connectors
(8) PV Switch
(9) Backup Connector
(10) Grid Connector
(11) Parallel Communication Ports (Reserved)
(12) LED Display





02 Accessories and Installation Tools

2.1 Scope of Delivery

Inverter (×1)	Positioning Plate (×1)	Wall Bracket (×1)	Right Cover (×1)	Cable Cover (×1)	Top Cover (×1)
Grid Connector (×1)	Backup Connector (×1)	PV+&PV- Connectors (×3)	Hexagon Head Large Washer Screw M5*12 (×3)	Wi-Fi Module (×1)	Wall Anchor (×6)
COM Connection Cover (×1)	AUX Terminal Block (×2)	Grounding Cable (×1)	Grounding Terminals (×5)	PV&BAT Connector Disassembling Tool (×1)	Parallel Connector (×2, optional)
Documents (×1)					

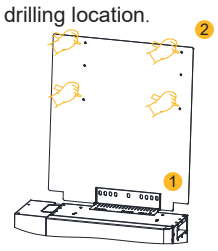
2.2 Installation Tools

T20 Screwdriver	PH2 Screwdriver	Flat-Head Screwdriver	Socket Wrench	Wire Stripper	Network Plug Clamp
Crimping Pliers (Model:PV-CZM-22100)	Cord End Terminal Crimper	Current Clamp	Spirit Level	Hammer Drill, Bit φ10	Multimeter

03 Mounting the Inverter

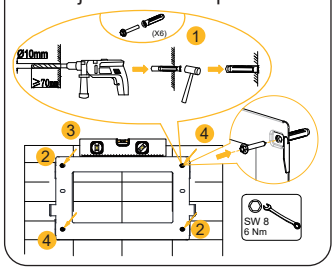
Before installing the inverter, please ensure that the battery has been installed properly.

1 Position and mark the drilling location.

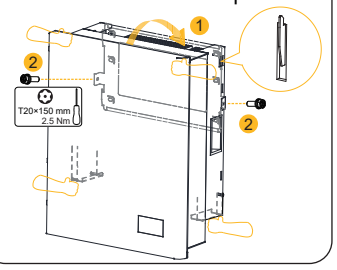


After drilling, recheck the hole positions

2 Secure the wall bracket and adjust horizontal position.



3 Hang the inverter onto the wall bracket with two persons.



04 Electrical Connection

DANGER

You must protect each inverter with an individual grid/backup circuit breaker in order to ensure that the inverter can be disconnected safely.

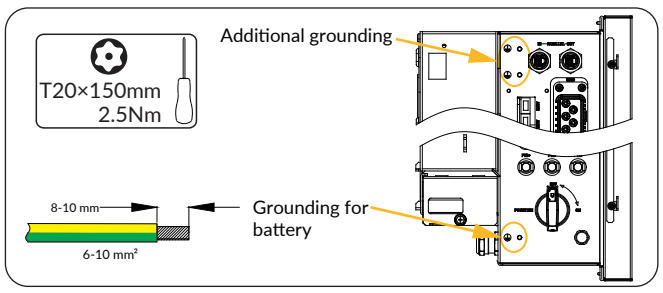
WARNING

Before doing electrical connection, please ensure the PV switch & all AC and DC circuit breakers are switched OFF and cannot be reactivated.

NOTE

Please refer to System Wiring Diagram for detailed wiring.

4.1 Grounding Connection



4.2 AC Connection

WARNING

Select a suitable circuit breaker and consider the factors influencing the ampacity of the cable: type of cable used, ambient temperature around the cable, type of cable routing, bundling of cables. Other influences on dimensioning: loop impedance, mutual heating of circuit breakers, ambient temperature at the circuit breaker, selectivity, type of connected device. If these factors are ignored, it increases the danger of the circuit breaker tripping under normal operating conditions.

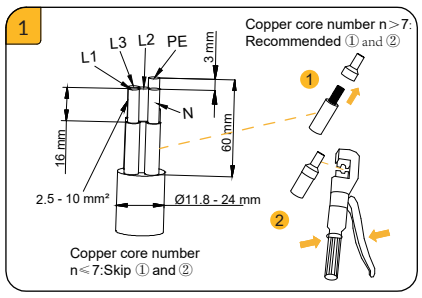
AC connection recommendation for SMILE-G3-T15-INV

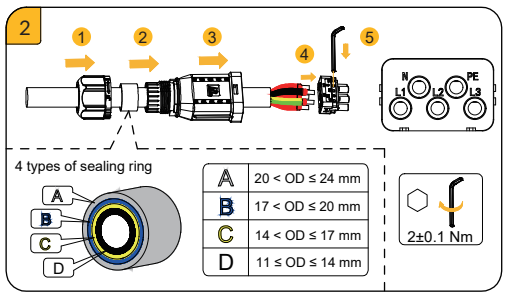
Description	Max. Current	Breaker Type	Recommended Cable Cross Section
Grid Side	29 A	32 A	6~10 mm²
Backup Side	21.7 A	32 A	6~10 mm²

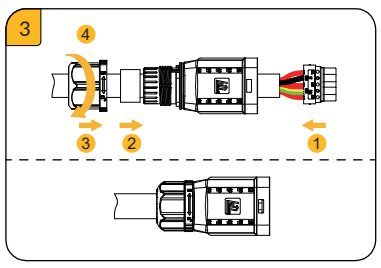
AC connection recommendation for SMILE-G3-T20-INV

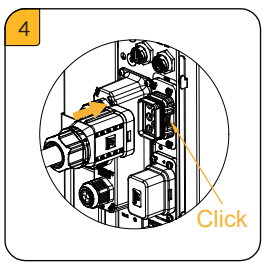
Description	Max. Current	Breaker Type	Recommended Cable Cross Section
Grid Side	36.2 A	40 A	6~10 mm²
Backup Side	28.9 A	32 A	6~10 mm²

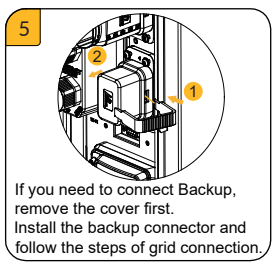
Grid and Backup Connection



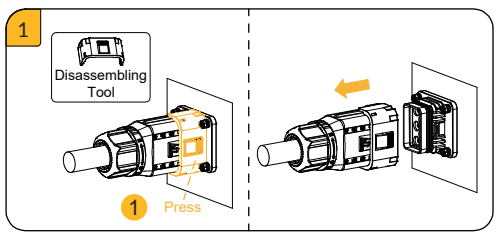


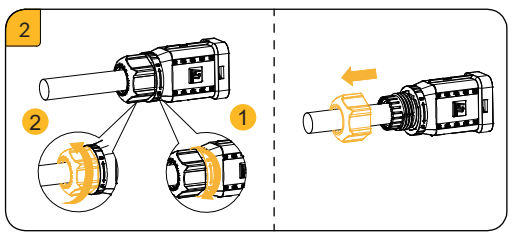


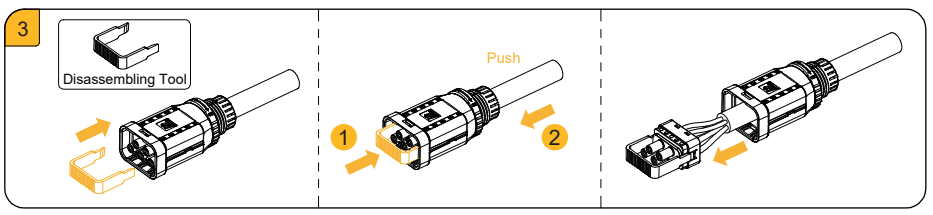




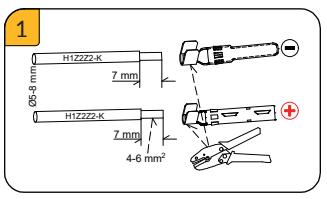
Grid and Backup Disconnection

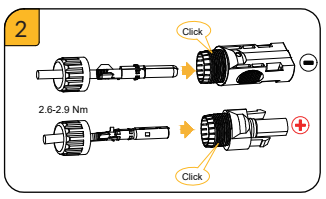


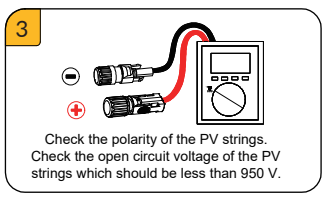


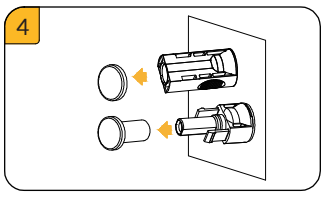


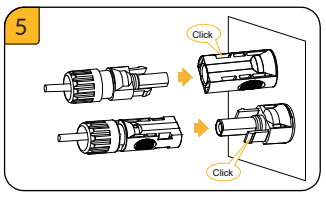
4.3 PV Connection

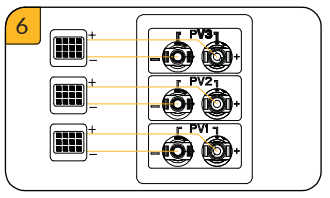




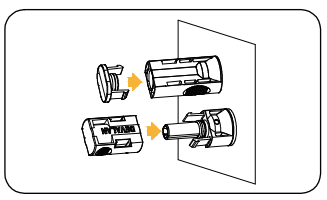


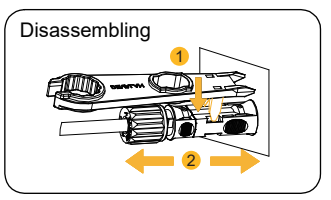






If there are PV connectors unused, please use the PV covers to seal the PV connectors.



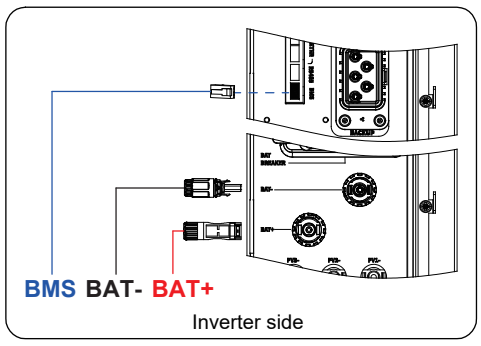


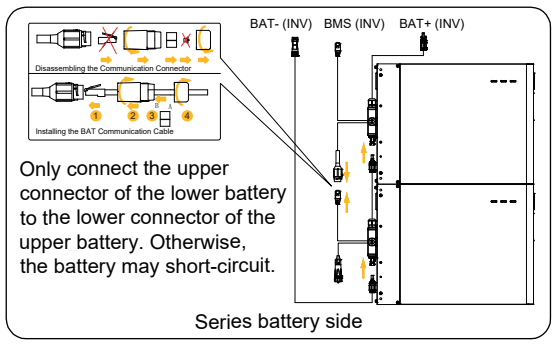
4.4 BAT Power Connection

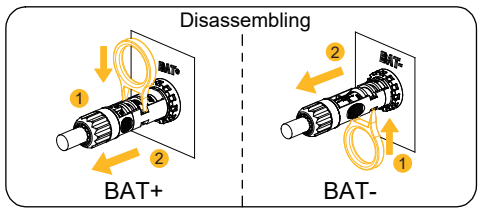
DANGER

Danger to life due to burns caused by electric arcs through short-circuit currents.
Short-circuit currents in the battery can cause heat build-up and electric arcs. Heat build-up 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.
- Disconnect the inverter from all voltages sources prior to performing any work on the inverter.
- DO NOT short-circuit the battery terminals. First, complete the main negative terminal connection between battery and inverter, and then complete the main positive terminal connection between battery and inverter.
- Observe battery safety information provided in the Installation&Operation&Maintenance Manual.

BAT connection for inverter and series battery



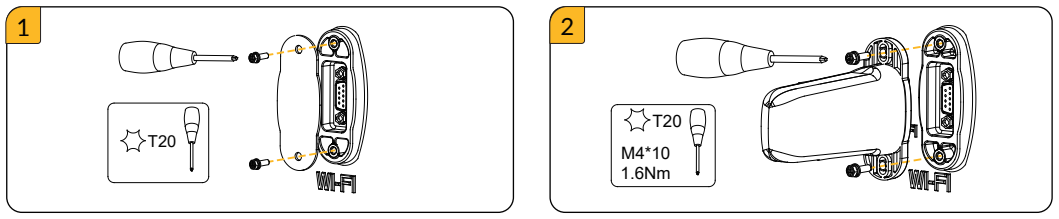




For more detailed instructions on the connection cables between the inverter and the battery, please refer to the document attached to the cable accessory box.

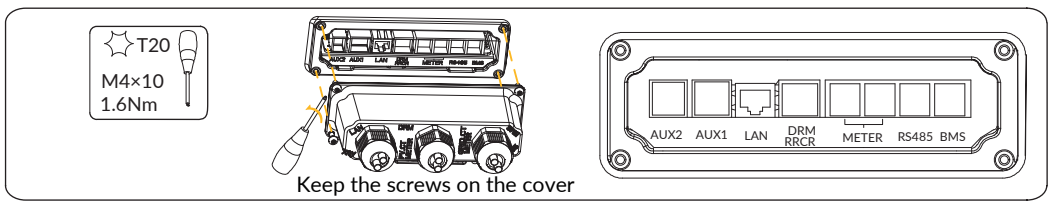
05 Communication Connection

5.1 Wi-Fi Connection



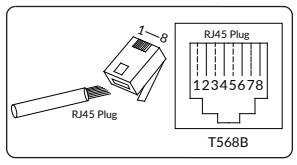
5.2 Other Communication Connection

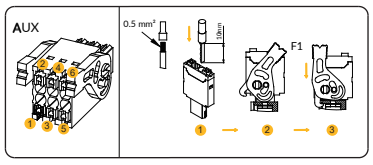
AUX / LAN / DRM&RRCR / Meter / RS485 / BMS Connection



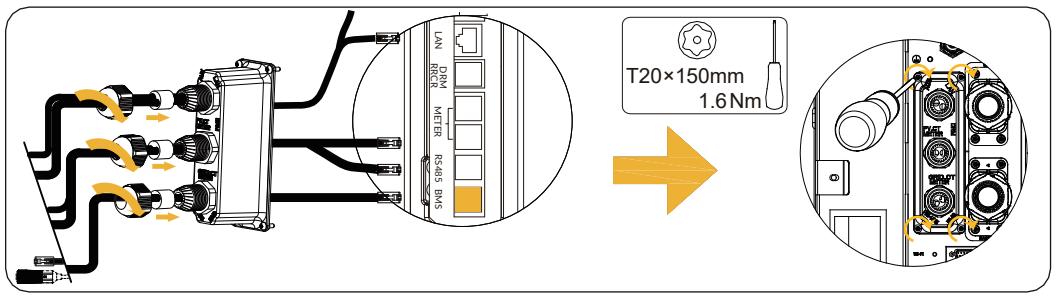
The pin definition of the communication ports AUX / LAN / DRM&RRCR / Meter / RS485.
The communication cable for BMS is provided by AlphaESS, and other communication cables need to be provided by the installer.

BMS	1	2	3	4	5	6	7	8
	/	RS485_A4	/	CAN1_H	CAN1_L	/	RS485_B4	/
RS 485	1	2	3	4	5	6	7	8
	12V	DEBUG_RXD_COM	GND	RS485_ B5	RS485_A5	/	DEBUG_TXD_COM	/
METER	1	2	3	4	5	6	7	8
	/	/	RS485_A7	/	/	RS485_B7	/	/
DRM	1	2	3	4	5	6	/	/
	DRED 1 /5	DRED 2/6	DRED 3/7	DRED 4/8	REF GEN/0	COMLOAD/0	/	/
RRCR	1	2	3	4	5	6		
	K1	K2	K3	K4	3.3V	/		
AUX1	1	2	3	4	5	6		
	DO1_NO	DO1_COM	DO1_NC	DI_negative	DI_positive	GND		
AUX2	1	2	3	4	5	6		
	DO2_NO	DO2_COM	DO2_NC	DI_negative	DI_positive	GND		





Wiring the Communication Cables to the Inverter



06 Commissioning

WARNING

Never power on the energy storage system without the correct and reliable installation and electrical connection.

Follow the steps in the COMMISSIONING GUIDE AND REPORT to download AlphaESS APP, register your account, power on the system, configure Wi-Fi module, set system parameter and operate the system. After completing the commissioning, please submit the commissioning report.

07 Power ON / OFF the Energy Storage System Procedure

Procedure for Powering ON the System
1) Switch on the battery circuit breaker in the middle side of the inverter.
2) Switch on the battery circuit breakers of all batteries.
3) Switch on the AC circuit breaker between the grid port of the inverter and the grid.
4) Switch on the AC circuit breaker between the backup port of the inverter and the loads.
5) Switch on the PV switch between the PV strings and the inverter if there is any.
6) Switch on the PV switch at the lower left of the inverter.

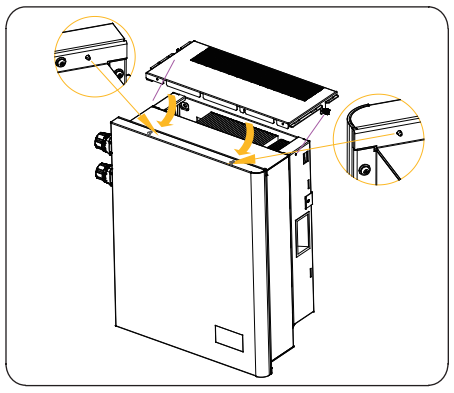
Procedure for Powering OFF the System
1) Switch off the AC circuit breaker between the backup port of the inverter and the loads.
2) Switch off the AC circuit breaker between the grid port of the inverter and the grid.
3) Switch off the PV switch between the PV strings and the inverter if there is any.
4) Switch off the PV switch at the lower left of the inverter.
5) Switch off the battery circuit breakers of all the batteries.
6) Switch off the battery circuit breaker in the middle side of the inverter.

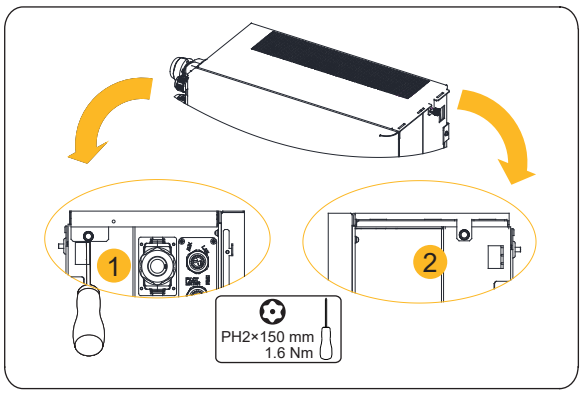
08 Mounting the Covers

CAUTION

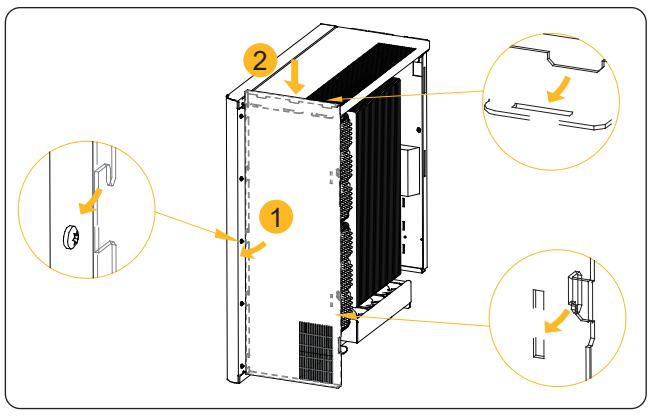
Make sure all the wiring has been done and the energy storage system works normally, then mount the covers of the inverter.

8.1 Mounting the Top Cover

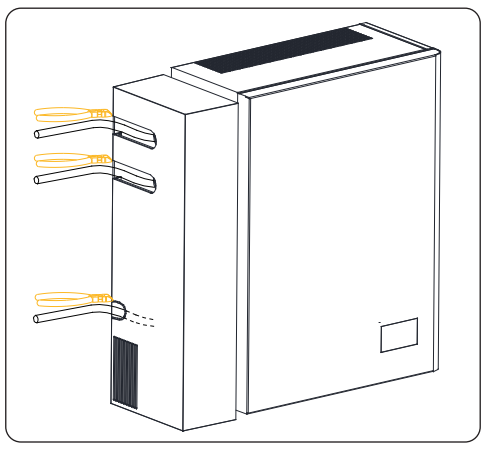


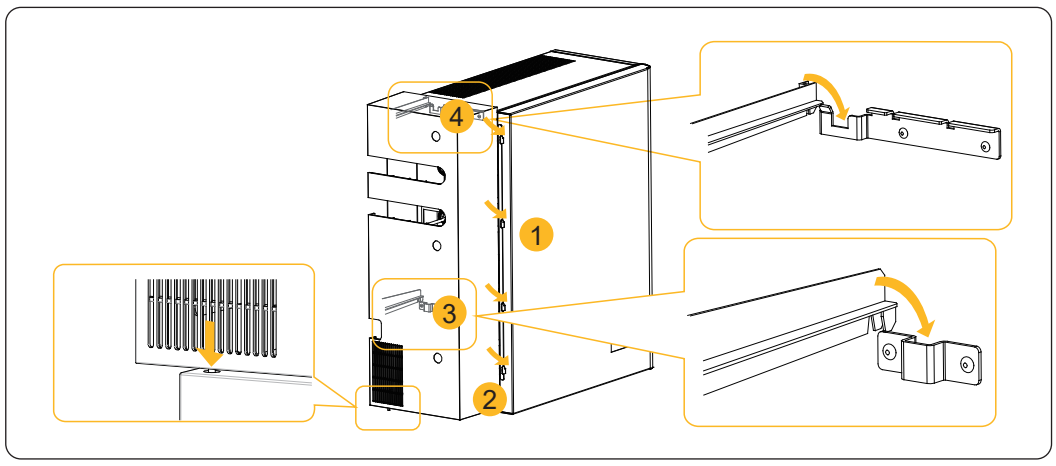


8.2 Mounting the Right Cover



8.3 Mounting the Cable Cover





For more information, please download the user manual and other technical documents.

Commissioning Guide
System Installation Manual
APP Manual (Installer)
AlphaCloud Manual (Installer)
APP Manual (End User)
AlphaCloud Manual (End User)
System Datasheet