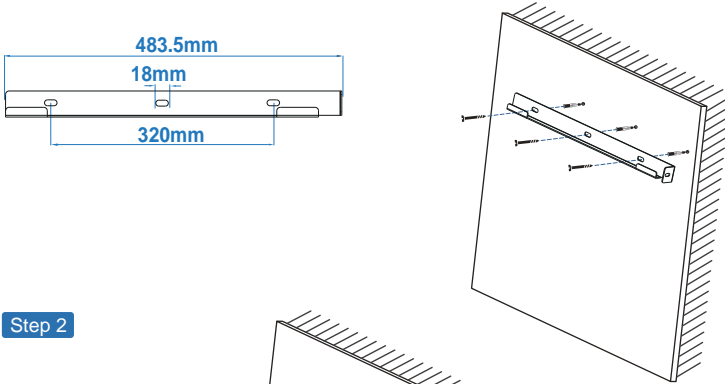
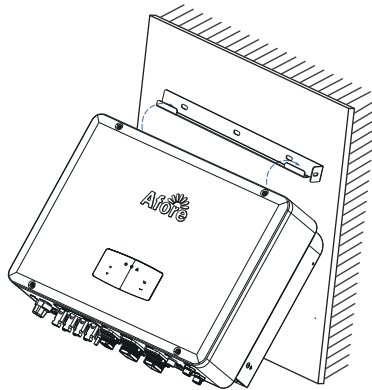


4.2 Mounting

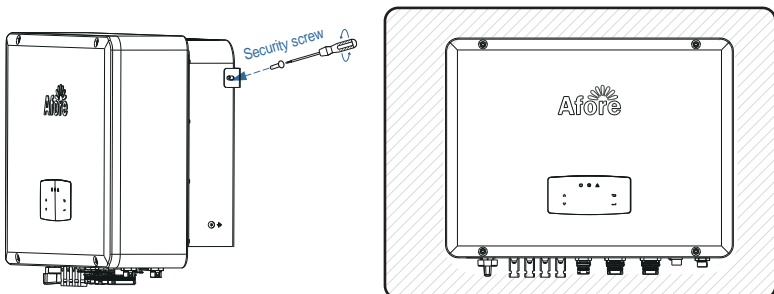
Step 1



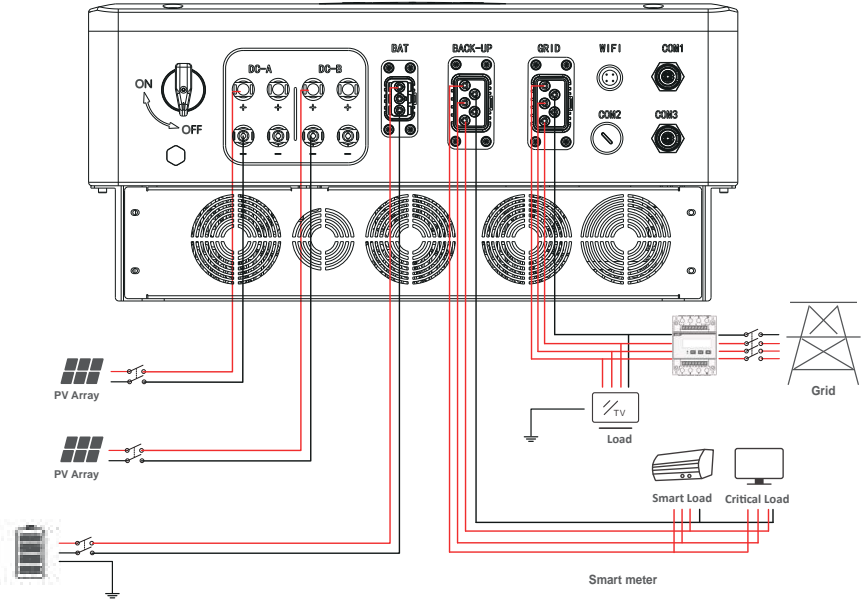
Step 2



Step 3



4.3 Electrical Connection



4.3.1 PV Connection

The AF-TH series hybrid inverter has one/two MPPT channels, can be connected with one/two strings of PV panels. Please make sure below requirements are followed before connecting PV panels and strings to the inverter:

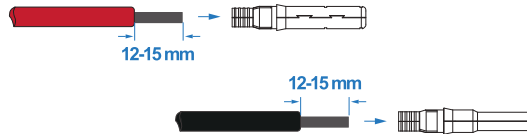
- The open-circuit voltage and short-circuit current of PV string should not exceed the reasonable range of the inverters.
- The isolation resistance between PV string and ground should exceed 300 kΩ.
- The polarity of PV strings are correct.
- Use the DC plugs in the accessory.
- The lightning protector should be equipped between PV string and inverter.
- Disconnect all of the PV (DC) switch during wiring.



Warning:

The fatal high voltage may on the DC side, please comply with electric safety when connecting. Please make sure the correct polarity of the cable connected with inverter, otherwise inverter could be damaged.

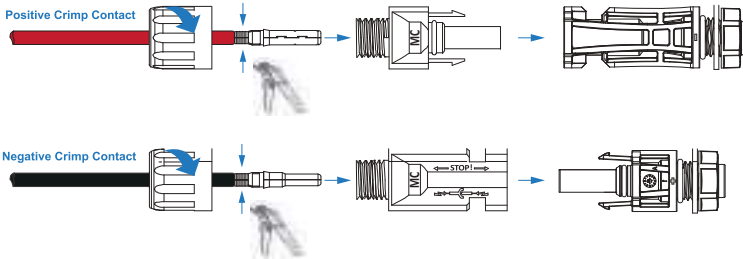
Step 1



Note:

PV cable suggestion
Cross-section
4mm²

Step 2



Note:

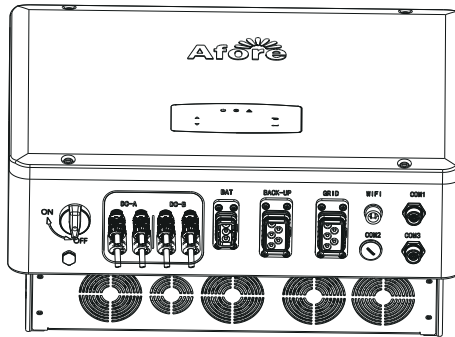
Please use PV connector crimper to pinch the point of the arrow.



Note:

You'll hear click sound when the connector assembly is correct.

Step 3



4.3.2 Battery Connection

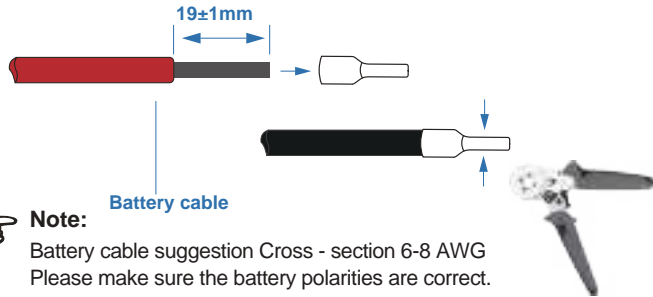
AF-TH series hybrid inverters are compatible with lithium battery. For lead acid battery or batteries with other brands, please confirm with local distributor or Afore for technical support.



Note:

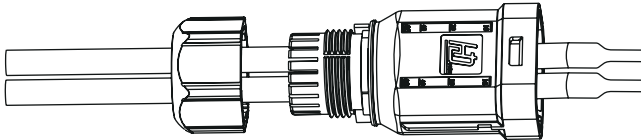
Set battery type and manufacturer, please refer to Chapter 5.3. BMS(Battery Management System)communication is needed between inverter and battery.

Step 1



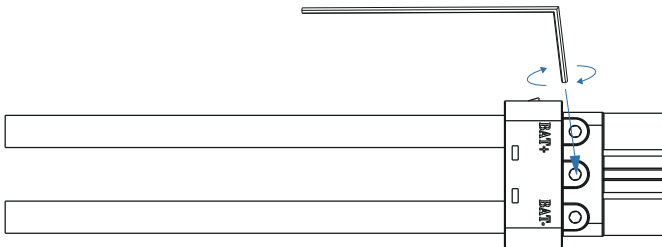
Step 2

Pass the crimped battery harness through the waterproof connector and the cover.



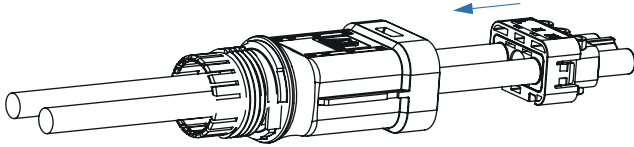
Step 3

Insert the wire harness into the terminals according to "+" and "-" polarity, make the insulated terminals parallel with the terminals , the crimping screw torque is 2.0±0.1N.m



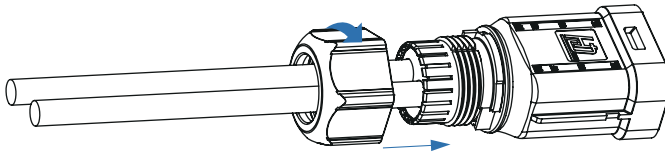
Step 4

A “click” sound will be heard when the connector assembly is correct.



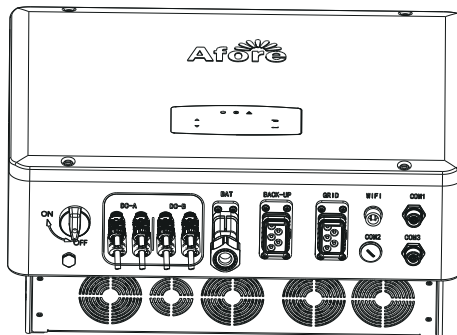
Step 5

Use an open-end wrench to tighten the waterproof lock.

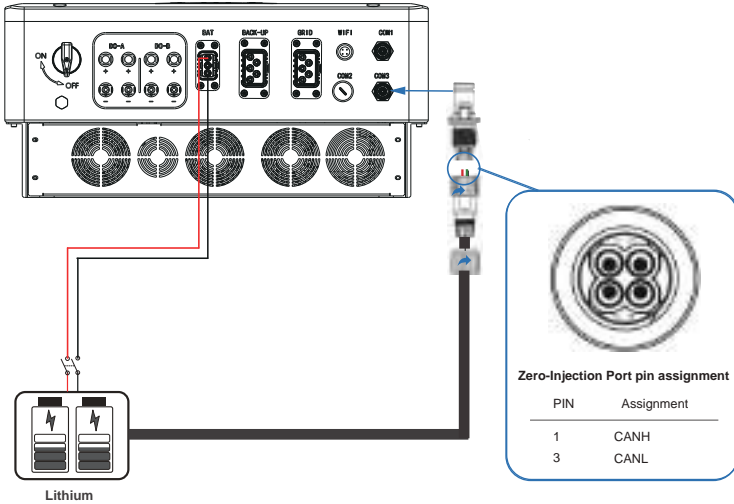


Step 6

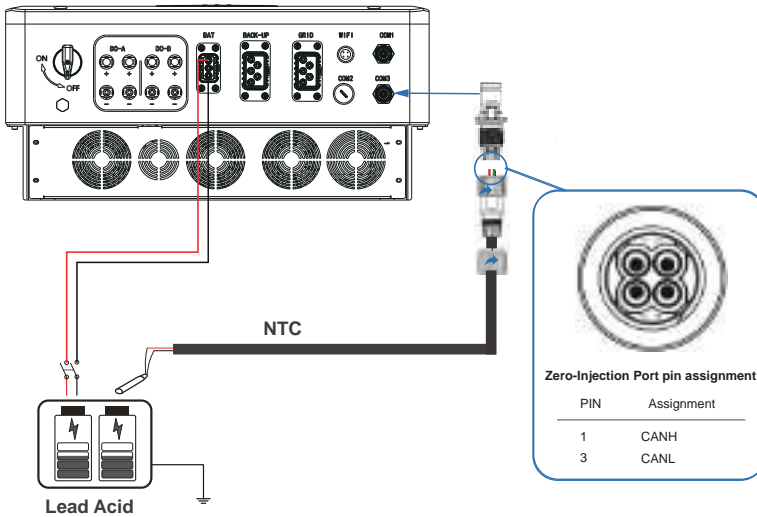
Insert the battery connector into the inverter, if hear a “click”, it means the battery connection is finished.



4.3.2.1 BAT-CAN/RS485



4.3.2.2 BAT-NTC



4.3.3 AC Connection

The AC terminal contains “GRID” and “BACK-UP”, GRID for load, and BACK-UP for emergency load.

Before connecting, a separate AC breaker between individual inverter and AC input power is necessary. This will ensure the inverter be securely disconnected during maintenance and fully protected from current of AC input.

An extra AC breaker is needed for On-Grid connection to be isolated from grid when necessary. Below are requirements for the On-Grid AC-breaker.

Inverter Model	AC breaker specification
AF3K~12K-TH	63A/230V/400V AC breaker
AF15~30K-TH	125A/230V/400V AC breaker



Note:

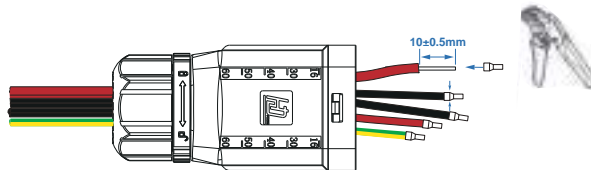
Qualified electrician will be required for the wiring.

Model	Wire Size	Cable (mm ²)	Torque value
3-30kW	8-10AWG	4-6	1.2N·m

Please follow steps for AC connection

- Connect DC protector or breaker first before connecting.
- remove insulation sleeve 11mm(0.5 inch) length, unscrew the bolts, insert the AC input wires according to polarities indicated on the terminal block and tighten the terminal screws.

Step 1



Note:

Cable suggestion: Cross-section 8-10AWG.

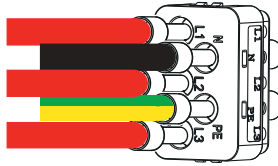
Earth cable PE suggestion: Cross-section (Copper) 8-10AWG



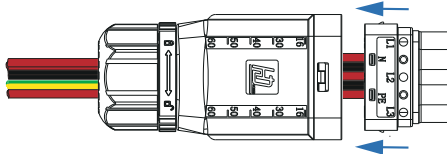
Note:

The Max. power load connects to EPS port should not exceed the inverter's EPS Max. output power range.

Step 2

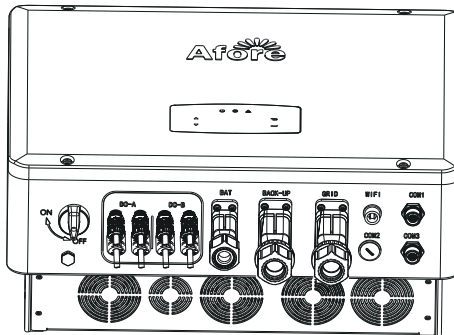


Step 3



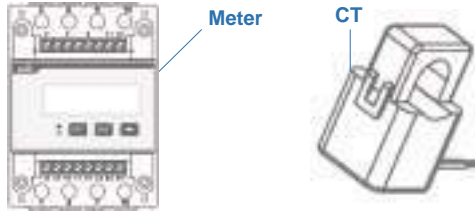
Step 4

Insert the connector into the inverter, if hear a “click”, it means the connection is finished.

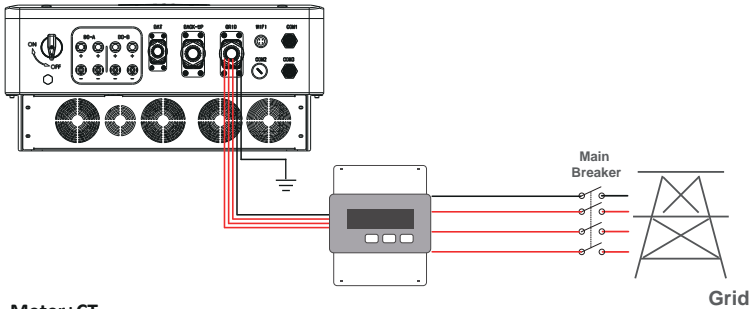


4.3.5 CT or Meter Connection

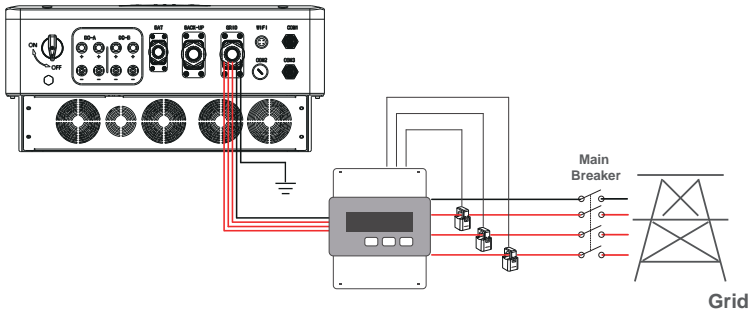
Meter and a current sensor (CT for short below) are used to detect current power direction of the local load and the grid. The output control function of the inverters will be activated based on the detected data.



Meter



Meter+CT



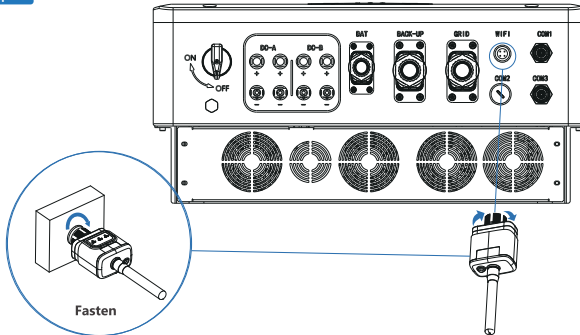
4.4 Communication Connection

The monitoring module could transmit the data to the cloud server, and display the data on the PC, tablet and smart-phone.

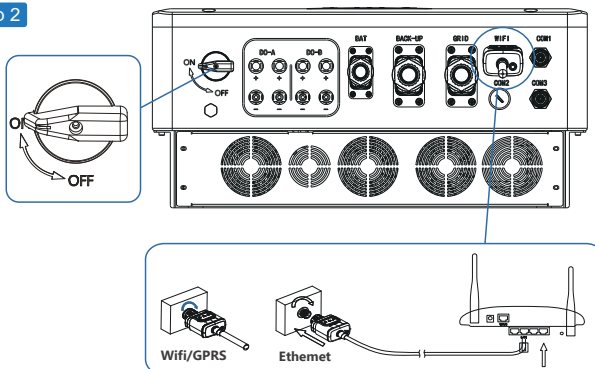
Install the WIFI / Ethernet / GPRS / RS485 Communication

WIFI / Ethernet / GPRS / RS485 communication is applicable to the inverter. Please refer to "Communication Configuration Instruction" for detailed instruction.

Step 1



Step 2

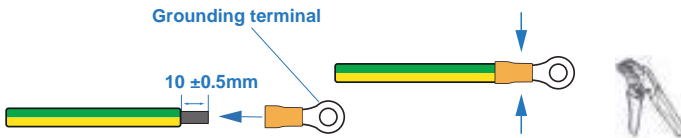


Turn on the DC switch and AC circuit breaker, and wait until the LED indicator on the monitoring module flashes, indicating that the monitoring module is successfully connected.

4.5 Earth Connection

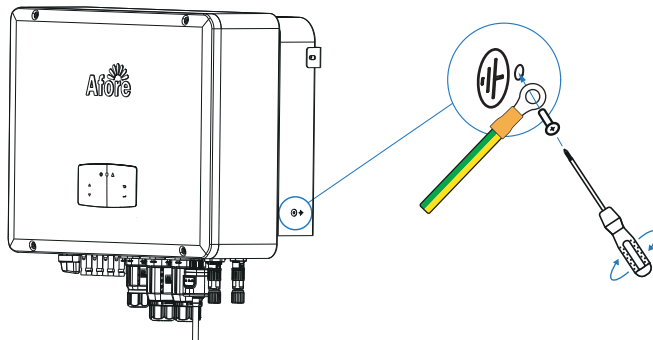
Note:
A second protective earth (PE) terminal should be connected to the inverter. This prevents electric shock if the original protective PE wire fails.

Step 1



Note:
Earth cable PE suggestion:
Cross-section (Copper) 4-6mm² / 10AWG

Step 2



Fix the grounding screw to the grounding connection of the machine housing.

Note:
Make sure the earth cables on the inverter and solar panel frame are separately.