Install and commission Sungrow 3-Phase Hybrid and Battery

Disclaimer

The material in this document has been prepared by Sungrow Australia Group Pty. Ltd. ABN 76 168 258 679 and is intended as a guideline to assist solar installers for troubleshooting. It is not a statement or advice on any of the Electrical or Solar Industry standards or guidelines. Please observe all OH&S regulations when working on Sungrow equipment.

Overview:

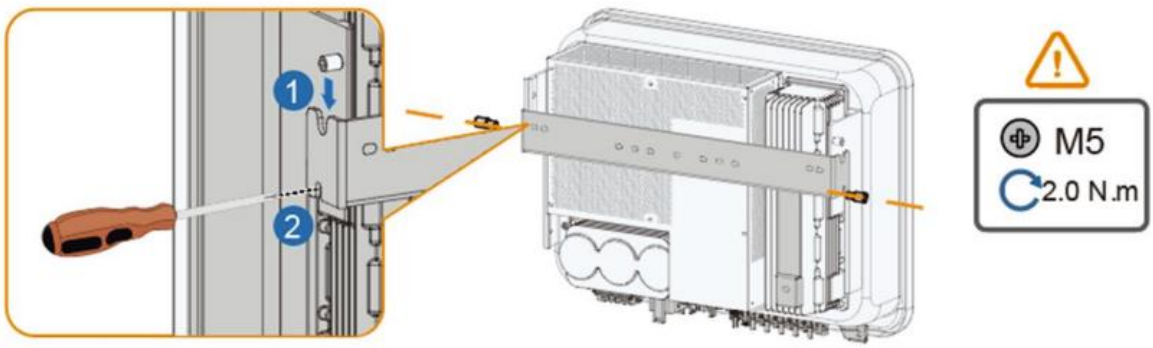
Sungrow have released their new 3-Phase Hybrid range of inverters, alongside the new SBH series batteries.

Please follow the install guidelines in the Owner's manual and Data sheet.

Mounting:

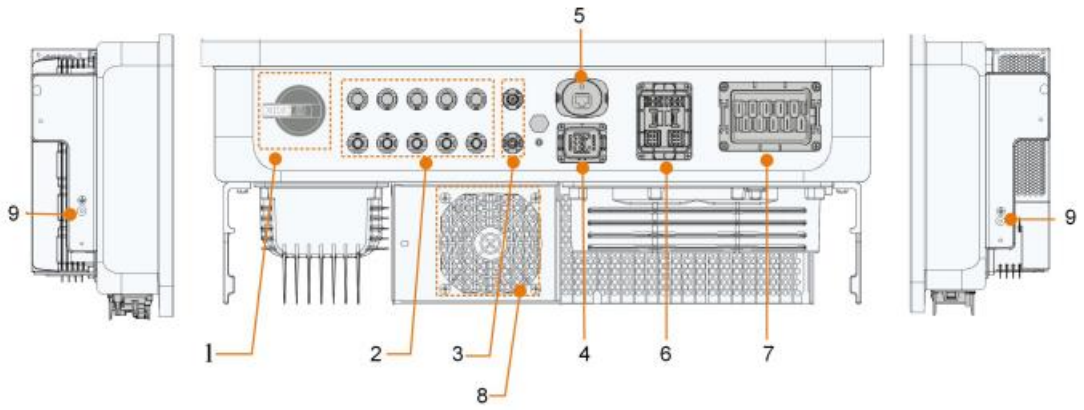
Securely fix the mounting bracket to the wall, and insert the bottom bracket to avoid the inverter tilting.

Mount the inverter and lock in place with security screws.



Connections:

All the connections are along the bottom of the inverter, and there are earth terminals on each side of the chassis.



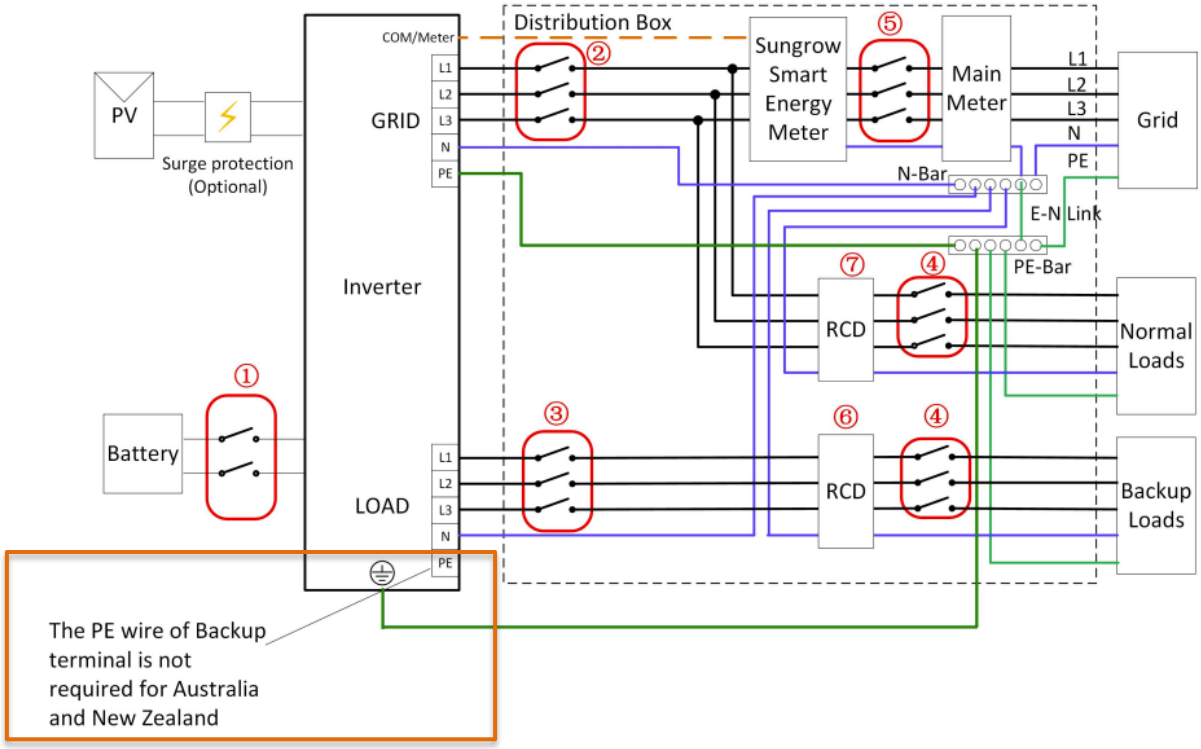
All the correct DC connectors, lugs and data crimps are included in the box. Do not use 3rd party connectors.

AC wiring:

The maximum current drawn by the inverter is 63 Amps per phase. Ensure the AC cable and protective device(s) are sized appropriately.

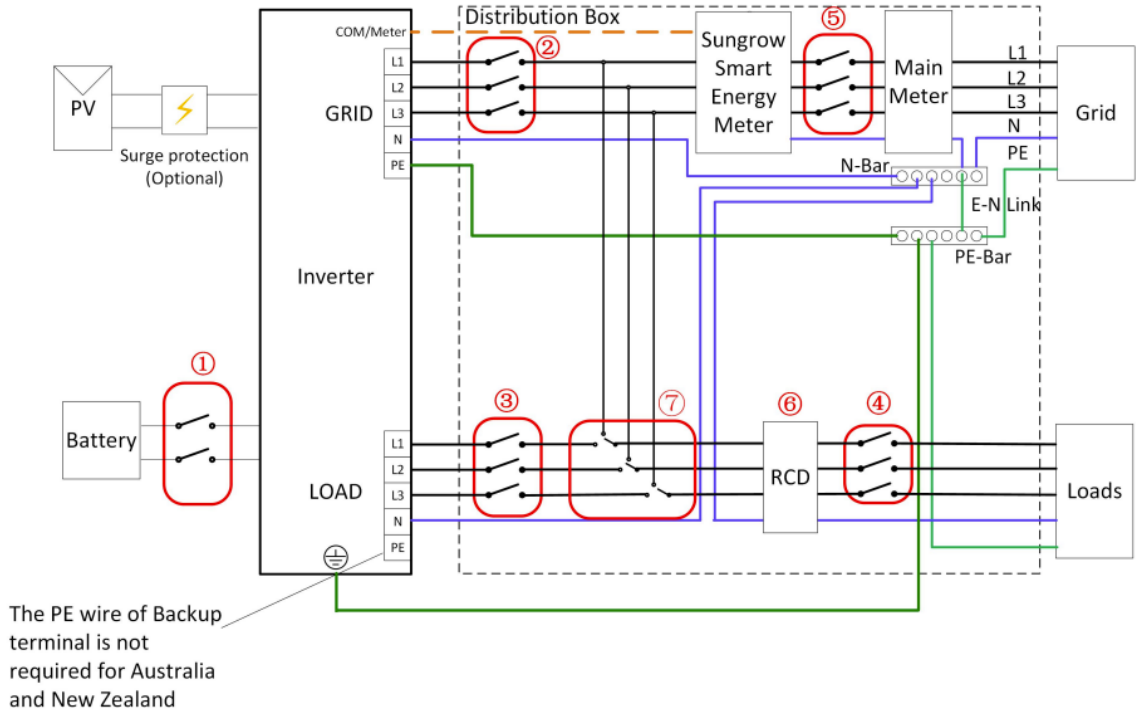
AC, backup, earthing, and changeover switch:

If there are loads connected to the grid (AU and NZ):



Ensure to connect an earth cable from the chassis to the earth bar, as the earth on the backup connector is not connected.

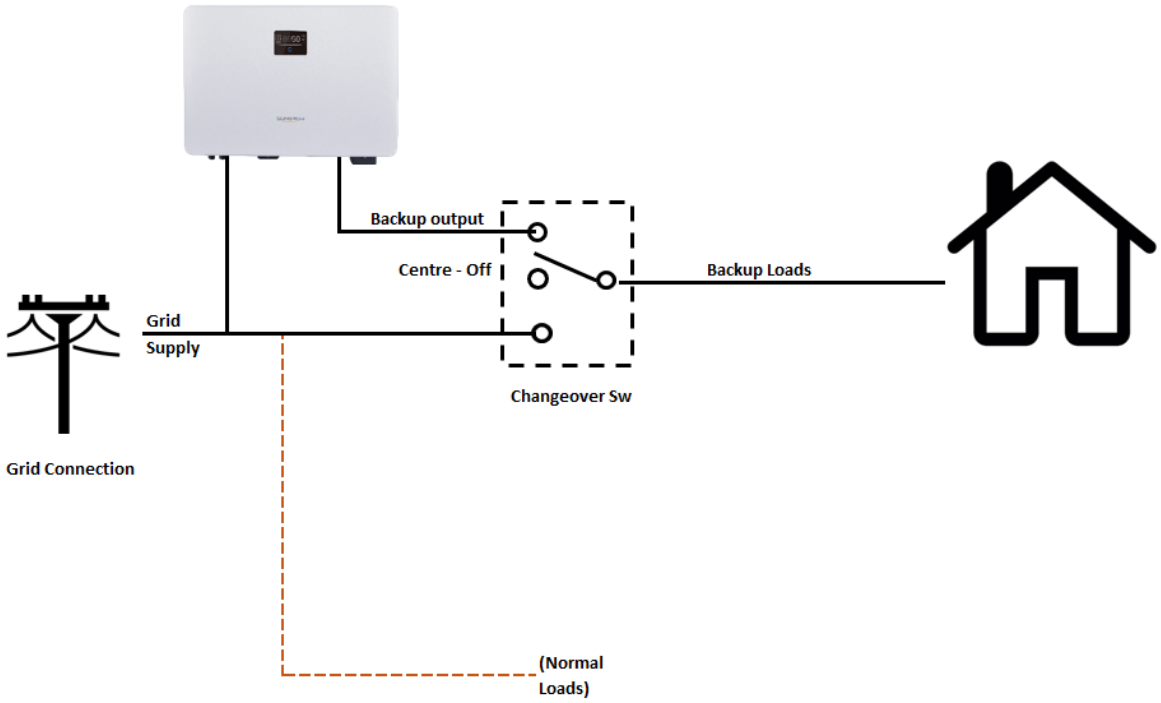
If all loads are connected to the backup port (Whole Home Backup):



Earth the chassis as per above, and install the supplied 63 Amp changeover switch.

The switch is included to enable loads to be disconnected from the inverter (if the inverter fails), and transfer loads back to grid.

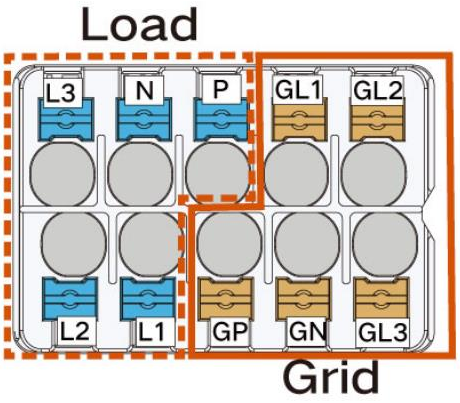
Changeover switch in detail:



The diagram above is single-phase for clarity, but 3-Phase is exactly the same. If the inverter fails, the owner simply switches from inverter over to grid.

AC connector:

Both grid and backup cable are included in the same housing.



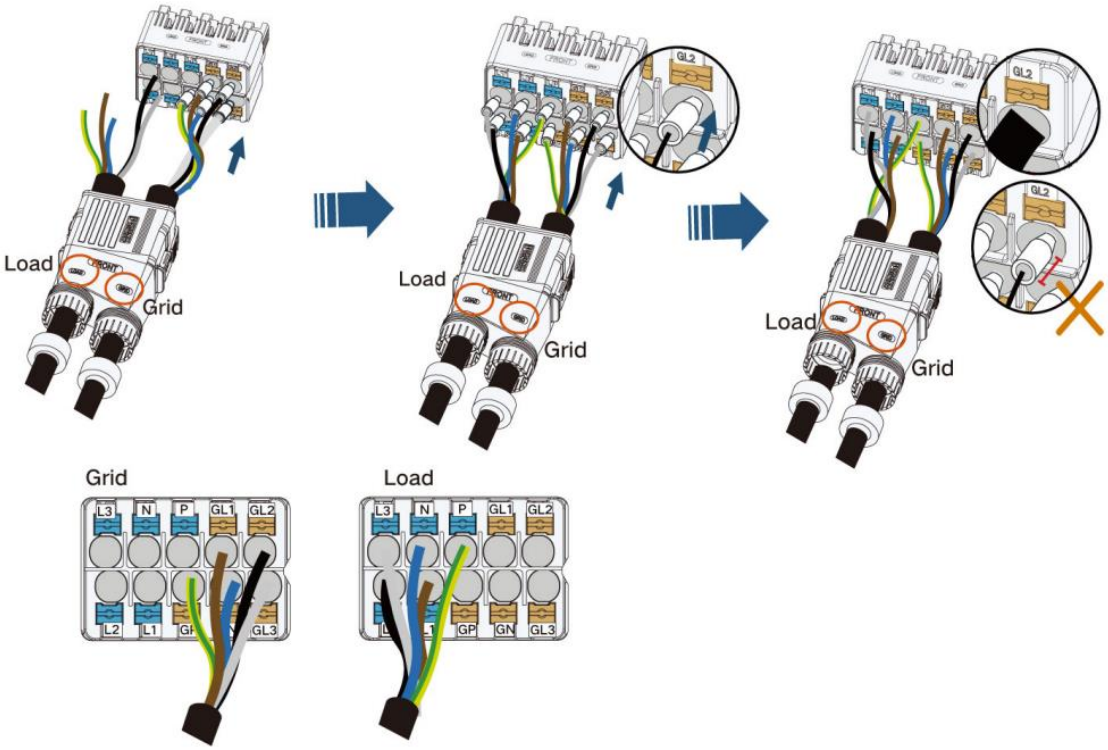
Ensure to connect the cable to the correct input/output. Ensure correct phasing.

*(This is the current layout, and is being re-designed).

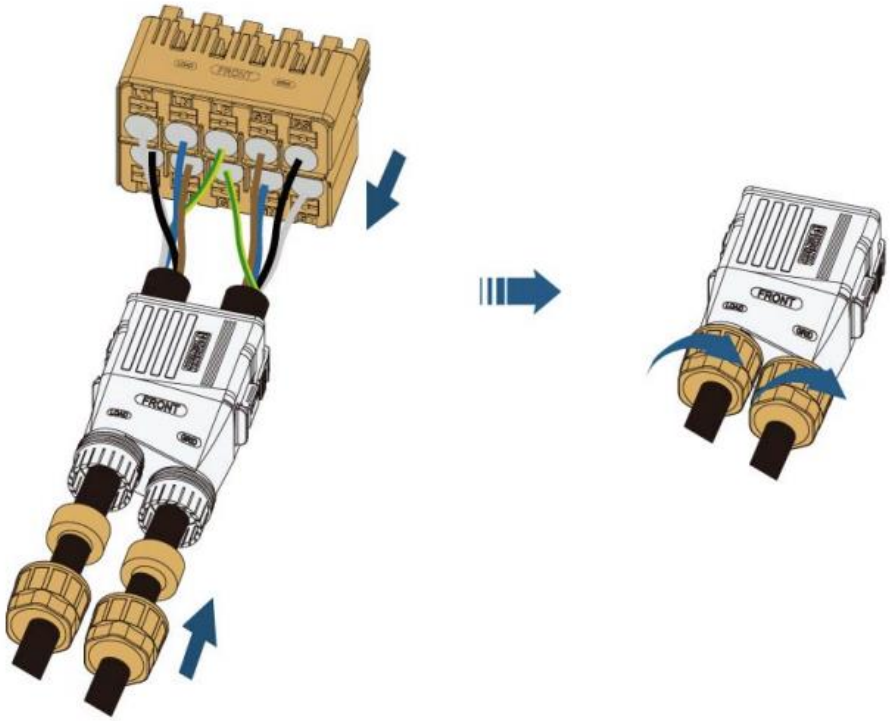
Cable termination and connection:

Please use the supplied terminators for a secure fit.

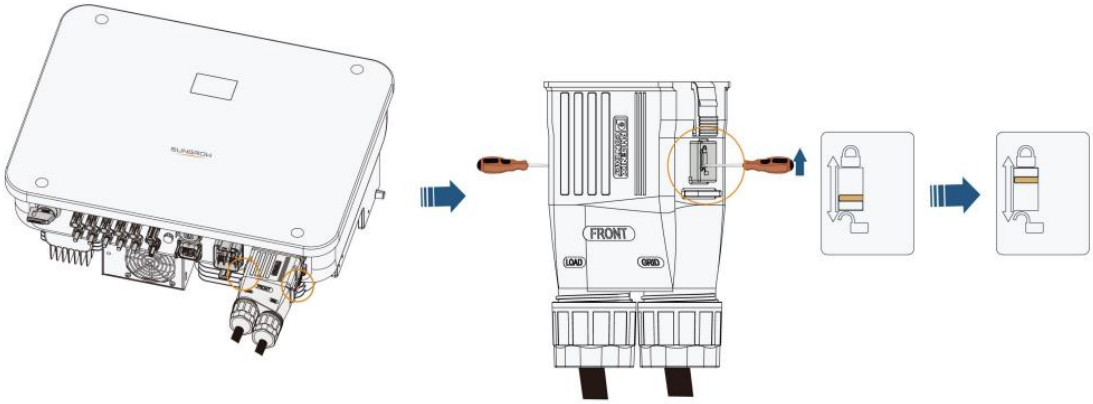
Push the terminated cable securely home in the connector to avoid ‘Hot-Spots’.



There are different sized rubber glands included in the pack. Please use the correct size to ensure IP rating.



Securely plug in and lock in place.

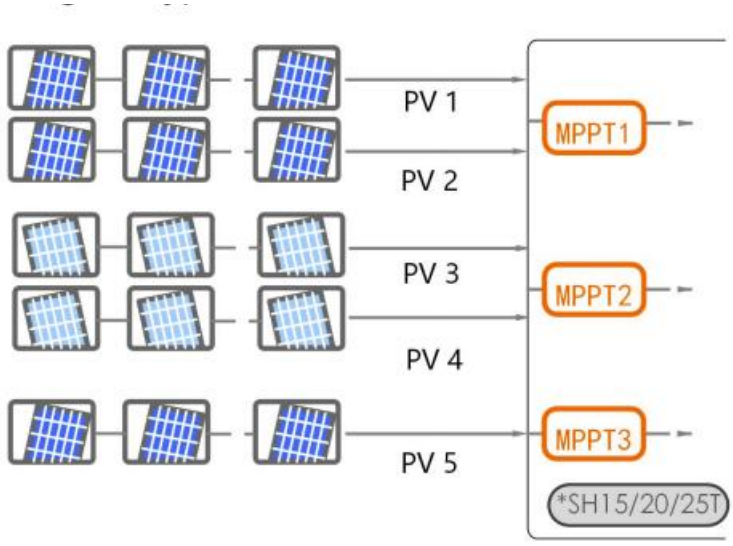


PV array connection:

The 3-Phase T series has 3 MPPT with 5 inputs. Inputs are rated at 16 A IMP, 20A Isc, and the MC4's are rated at 30 Amps.

Please consult the manual for full details.

Ensure correct connection using the correct crimping tool and die to avoid 'Hot Spots' and arcing etc.



Meter connection:

A meter is not quired where:

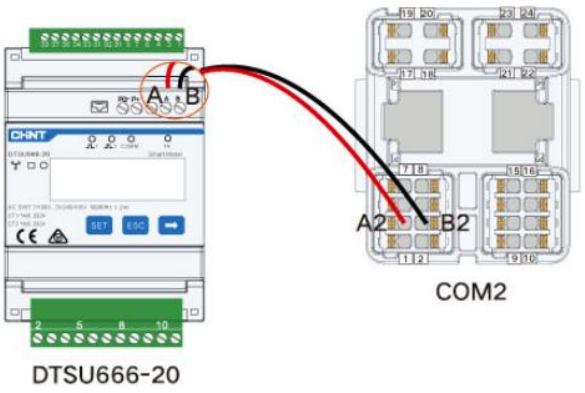
- There are no normal loads connected (i.e. Whole Home Backup).
- And/or there is another Sungrow inverter connected.

A meter is required where:

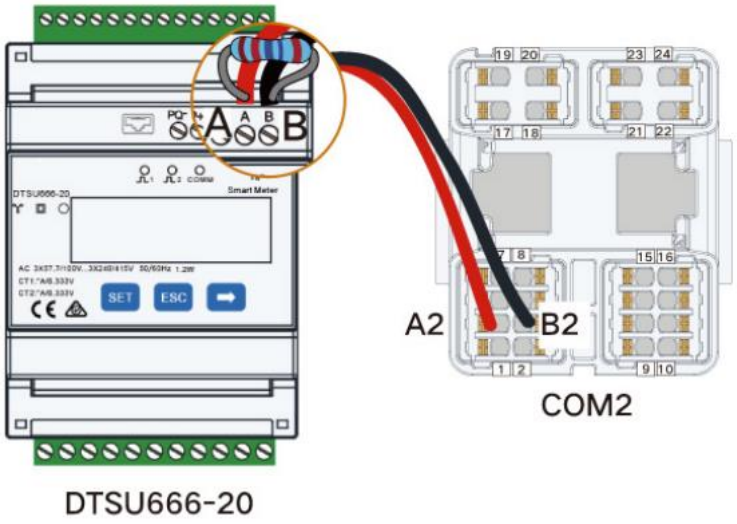
- There are normal loads connected.
- And/or there is a non-Sungrow inverter connected (refer to DTSU666-20 install guide in user manual)

Connect suitable RS485 cable between A and B on the meter, to A2/B2 in the COM port plug. The terminals are clearly marked “METER A2 B2”.

Always use the supplied bootlace crimps or the connection may not be reliable.



If the RS485 cable is longer than 10m, connect the included 120 Ohm resistor across A and B terminals.



AC and CT connection:

Ensure correct phasing otherwise incorrect data will show on iSolarCloud.

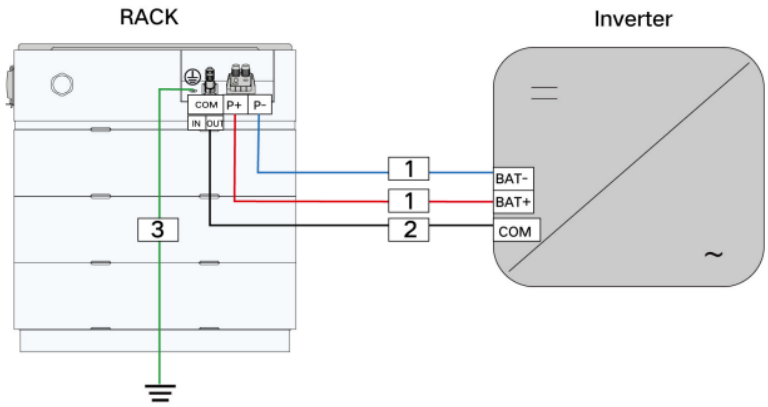
Battery connection:

Please refer to the battery documents re. installing a battery. The following is how the battery is connected.

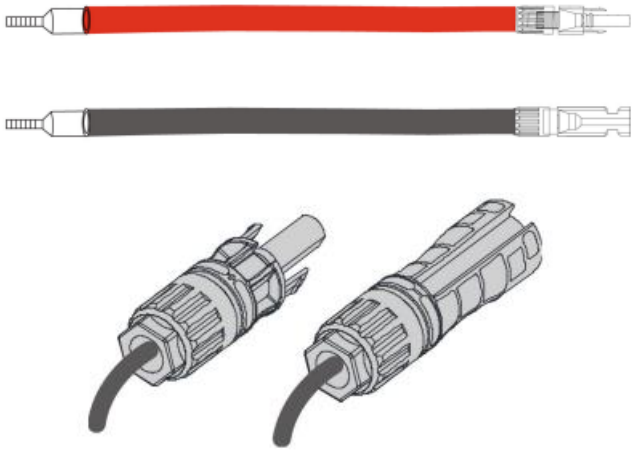
The inverter end has Evo2 DC connectors and the plugs are in the kit. This can accommodate 10mm DC cable.

The DC power is a parallel connection i.e. Positive to Positive, and Negative to Negative.

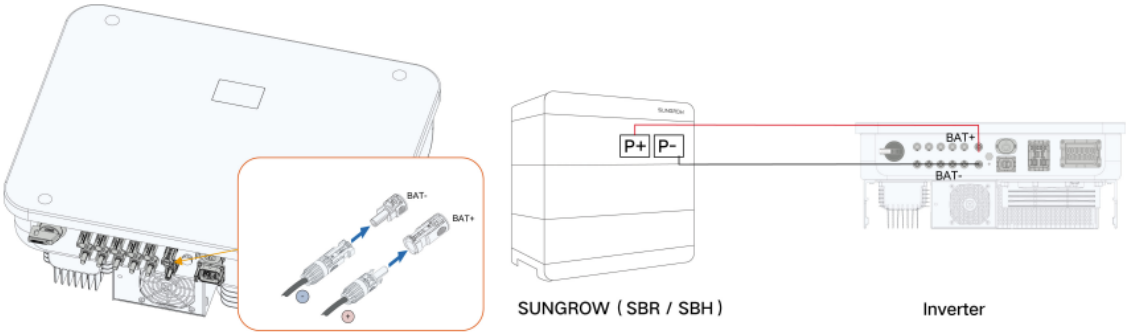
There is also a CAN communications cable and an Earth.



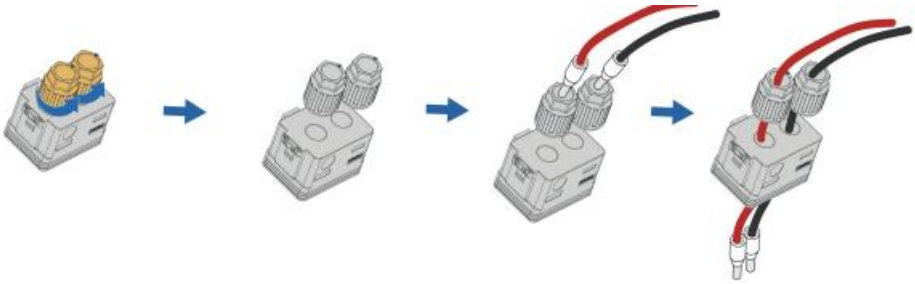
Make the power cables using the supplied plugs and crimping terminators. Use the correct ool and die to avoid ‘Hot Connections’.

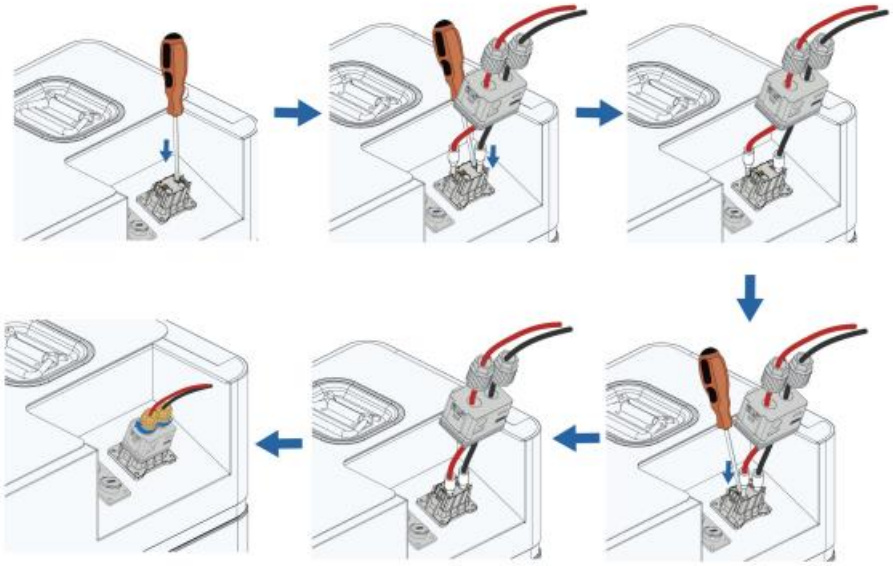


Connect the Evo2 connectors to the battery terminals in the inverter.



Insert the terminated cables into the connector and secure with the supplied weatherproof glands.





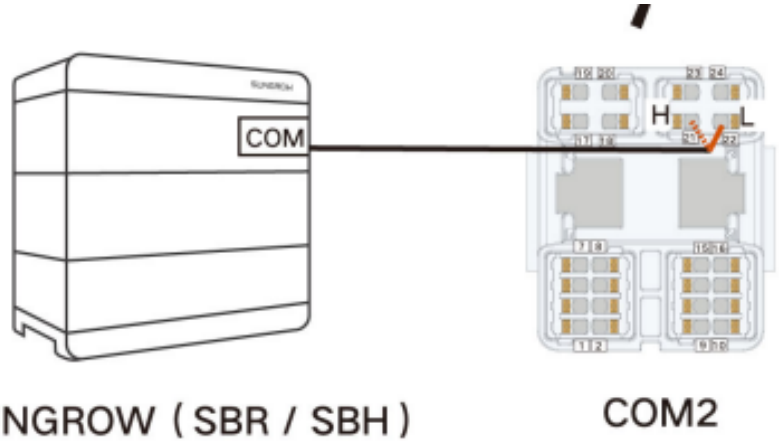
Can connection:

The battery BMS communication is via CAN. There is a cable supplied in the box. The you require a longer cable (Max 10m), any Cat6 cable will suffice.

Battery Inverter

CANH – Pin 1, and CANL – Pin 2

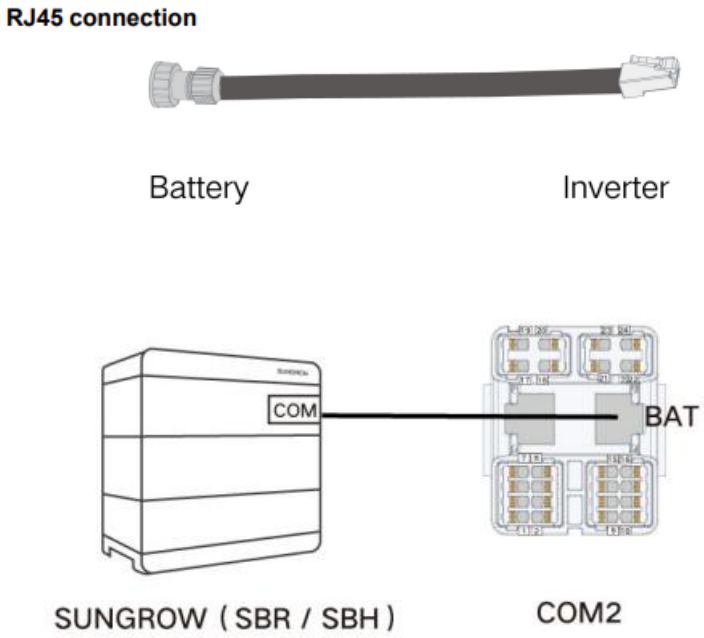
Connect the CANH (White/Orange) and CANL (Orange) to the appropriate terminals in the COM plug.



SUNGROW（SBR / SBH） COM2

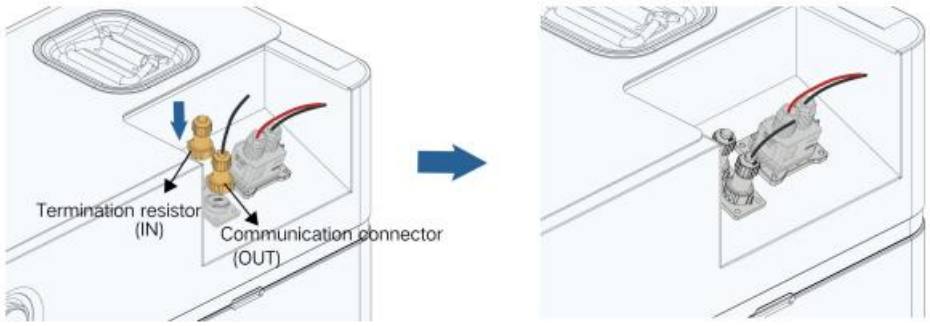
Alternative:

The battery can also be connected using an RJ45 plug.



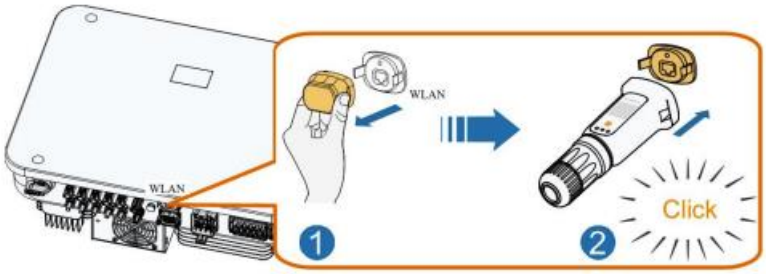
Assemble both the terminator connector and the communication cable to the supplied RJ45 assemblies. Lining up the arrows on the body to the chassis connector, gently push the connectors in until it clicks into place.

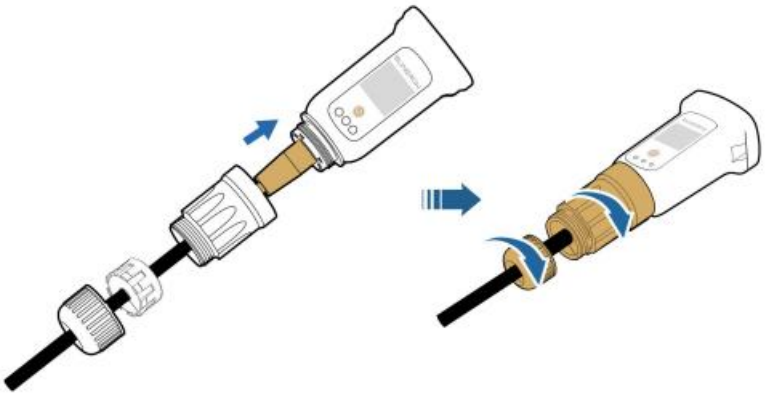
The terminator plug is inserted into the ‘IN’ plug, and the communication cable into the ‘OUT’ plug.



Dongle:

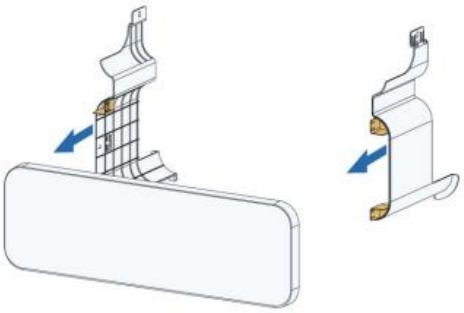
The inverter is supplied with a Winet-S dongle. You can connect to the customer’s internet via either WiFi or ethernet.

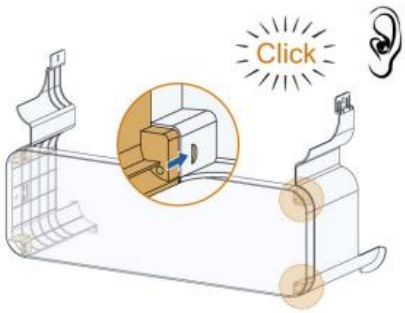


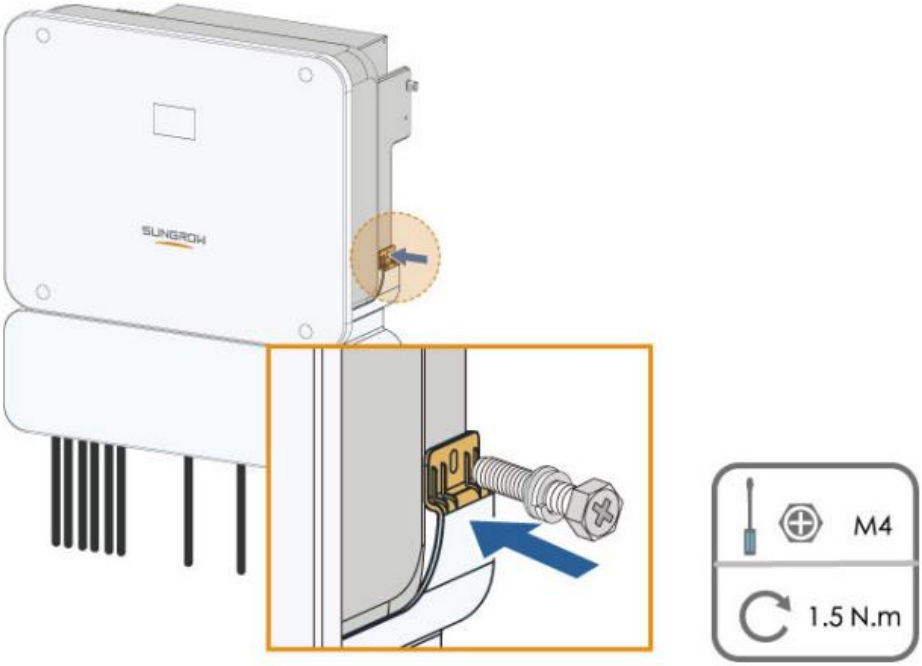


Final steps:

Assemble the cable cover and secure with the two screws in either side of the heatsink.





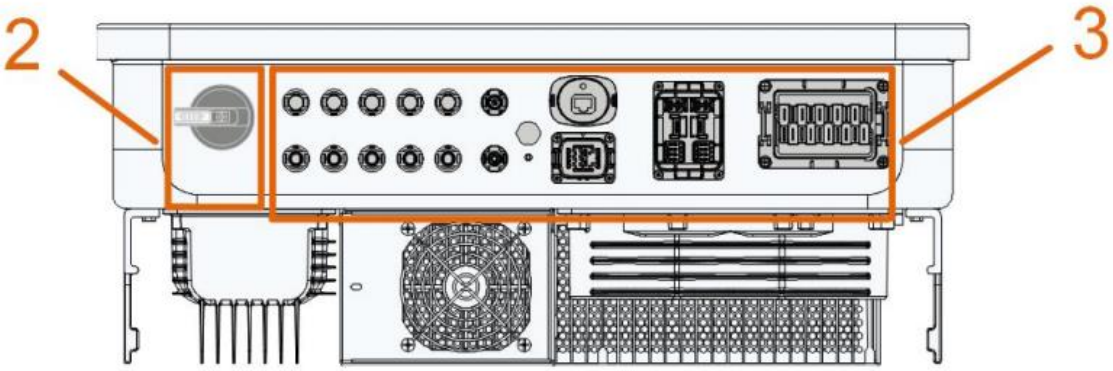


Power up:

Conduct all necessary electrical checks in accordance with the standards before powering up.

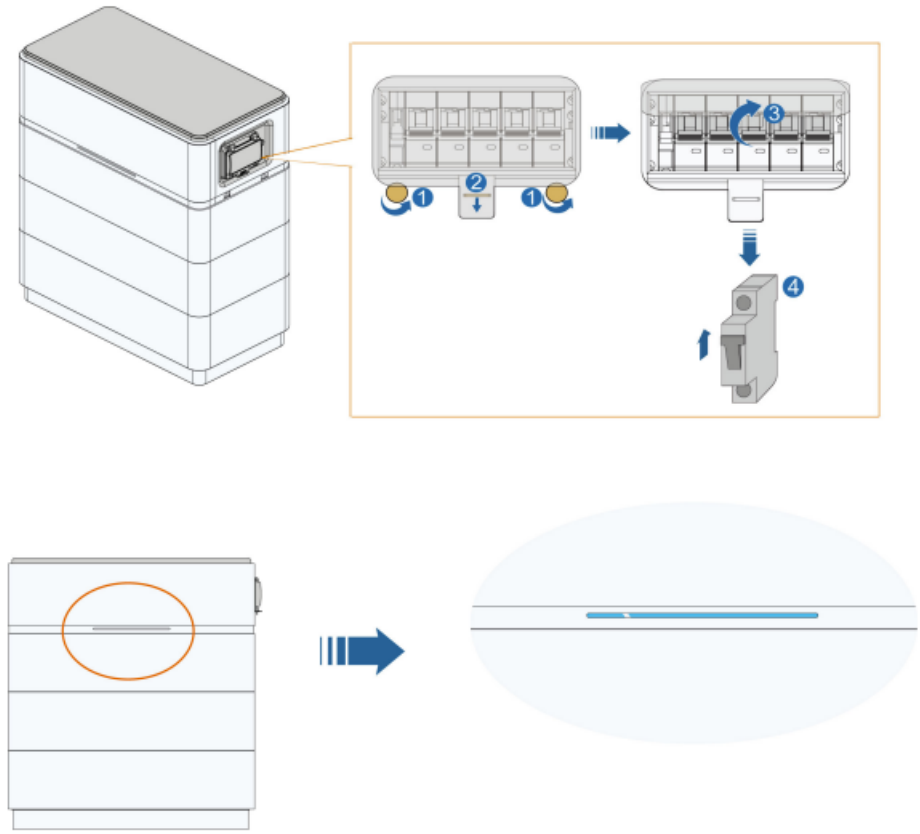
Turn on the AC supply, DC isolator (2), and battery isolator.

DC isolator (2):



Battery Isolator:

Open the lid and switch the breakers up. Wait till the blue LED is steady.



After a few moments, the blue icon/touch button (4) on the display will pulse on and off, indicating the inverter is in standby and ready to commission.

If the icon is red, there is a fault i.e. reverse polarity etc. The error code will be displayed (5).

Commissioning:

Please refer to the commissioning document and video.

If the issue still persists, please take photos testing on site and contact Sungrow Service Department on 1800 786 476 or email to service@sungrowpower.com.au.