

KH Series Quick Installation Guide

Models: KH7 KH8 KH9 KH9.9 KH10 KH10.5

7-10.5kW Single Phase Storage Inverter

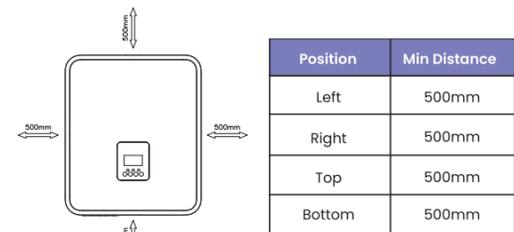
1. Packing List



NOTE
 1. For KH7-8, there are 6 PV connectors and 6 PV pin contacts (3*positive, 3*negative). For KH9-10.5, there are 8 PV connectors and 8 PV pin contacts (4*positive, 4*negative).
 2. For Australian market, the package will include two CTs and there would be no battery connectors and battery pin contacts.

2. Installation Steps

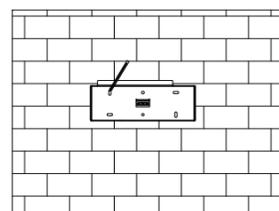
Please make sure the inverter will be installed with a proper distance as shown below.



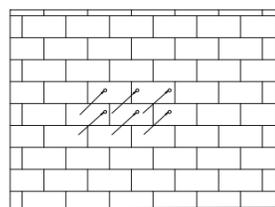
Step1: Fix the bracket on the wall

Choose the place you want to install the inverter.

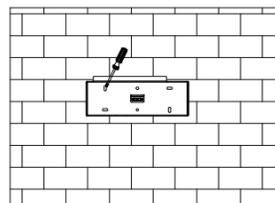
Place the bracket on the wall and mark the position of the 6 holes from bracket.



Drill holes with electric drill, make sure the holes are at least 50mm deep and 8mm wide, and then tighten the expansion tubes.



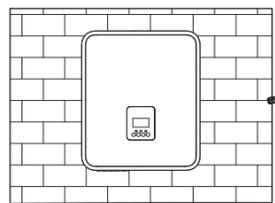
Insert the expansion tubes into the holes and tighten them. Install the bracket with the expansion screws.



M6
9.0.N.m

Step2: Match the inverter with wall bracket

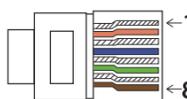
Mount the inverter to the bracket. Secure the inverter with the M5 screw and washer.



M5
2.0.N.m

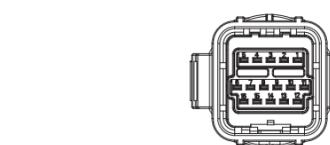
3. Serial Port Connections

Communication interface between the inverter and CT/Meter/485/DRM/Parallel 1/Parallel 2 are as follows with RJ45 connectors which should be inserted corresponding port in the inverter.



PIN	1	2	3	4	5	6	7	8
DRM	DRM1/5	DRM2/6	DRM3/7	DRM4/8	+3.3V	DRM0	GND	GND
Parallel1	E_STOP	GND_COM	/	Parallel_CANH	Parallel_CANL	/	Parallel_485B	Parallel_485A
Parallel2	E_STOP	GND_COM	/	Parallel_CANH	Parallel_CANL	/	Parallel_485B	Parallel_485A

Note: RJ45 corresponds to DRM/Parallel1/Parallel2.



PIN	1	2	3	4	5	6	7	8
CT/ Meter/ 485	Meter 485A	Meter 485B	EMS 485B	EMS 485A	CT2+	CT2-	CT1-	CT1+
PIN	9	10	11	12	13	14	15	16
CT/ Meter/ 485	/	K1	K2	K3	K4	/	D1	COM

- CT1: For KH/KA, CT2: Grid tied inverter (if have).
- Compatible Meter type: DDSU666 (CHINT), SDM230 (EASTRON).
- CT
- K1/K2, K3/K4 are dry contacts or external heat pump control signals.
- D1/COM is an external input signal.

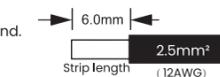
NOTE
 1. Please contact Fox ESS to purchase meter and CT. The part number is listed below:
 Meter: 30-803-00026-00 (230V, 80A), 30-803-00029-00 (3*230/400V, 80A)
 CT: 30-804-00003-00, 30-804-00004-00, 30-804-00025-00
 2. The CT and meter both support a maximum distance of 100 meters.

4. Wiring Steps

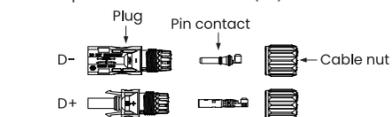
Note: Please use the connectors provided in the accessory kit for wiring.

PV Wiring (For KH Only)

- Choose 12 AWG wire to connect the PV module.
- Trim 6mm of insulation from the wire end.

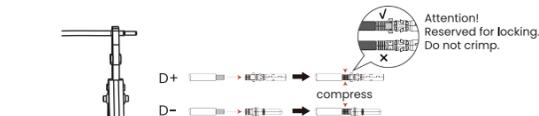


Separate the DC connector (PV) as below.

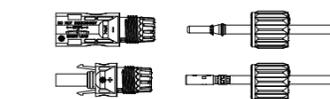


Insert striped cable into pin contact and ensure all conductor strands are captured in the pin contact.

Crimp pin contact with crimping pliers. Put the pin contact with striped cable into the corresponding crimping pliers and crimp the contact.



Insert pin contact through the cable nut to assemble into back of the male or female plug. When you feel or hear a "click" the pin contact assembly is seated correctly.



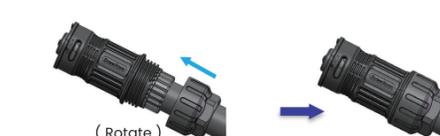
Wire crimping cord end terminal can be inserted into the housing quickly according to the sign (torque 0.7 +/- 0.1 N.m).



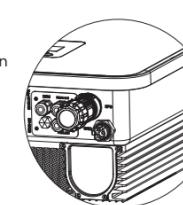
The housing is inserted into the socket.



Insert Seal and Clamp Finger into socket, then tighten the nut (torque 8 +/- 2 N.m).



Push the threaded sleeve to connection terminal until both are locked tightly on the inverter.

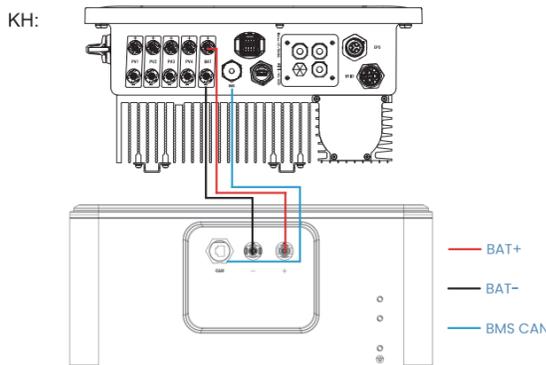


- When disconnecting the DC connector, please use the unlocking tool in the package.
- Align it with the buckle slot and press downward.
- Then pull the terminal outward.



Battery Wiring

- Turn off the DC switch.
- Prepare BAT wire.
- We recommend to use the original Bat-Inverter power cable and communication cable from Battery's accessory bag. If require a longer cable, please contact our sales representative to purchase.
- Connect the power line and communication line between the BMS and the inverter.



- When disconnecting the DC connector, please use the unlocking tool in the package.
- Align it with the buckle slot and press downward.
- Then pull the terminal outward.



AC Wiring

Cable dimensions

Table: With EPS Function (Internal)

Power (kW)	7.0-10.5	7.0-10.5 (AU)
Cable	16mm²	10/16mm²
Micro-Breaker	80A	63A
Cable	10mm²	10mm²
Micro-Breaker	50A	50A

Note: 1) If you don't use the EPS function or use on-grid power to charge the battery, the wiring conduct core section can be 8-10mm².

At the same time, you can choose 63A Micro-Breaker.

- Trim all the wires to 52.5mm and the PE wire to 55mm.
- Use the crimping pliers to trim 12mm of insulation from all wire ends as shown in the picture.

2) The information concerning 9.9kw applies to the Australian market only.

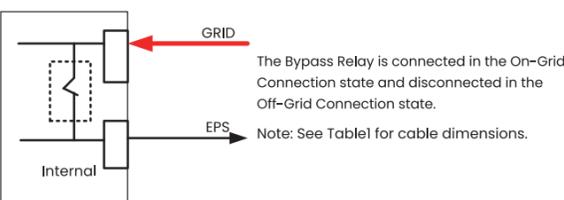
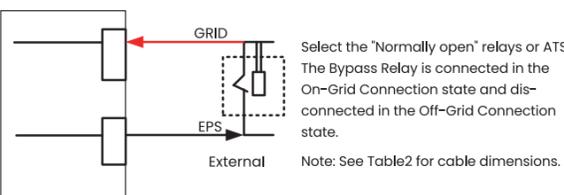


Table2: Without EPS Function (External)

Power (kW)	7.0-8.0	9.0-10.5
Cable	6mm²	10mm²
Micro-Breaker	50A	

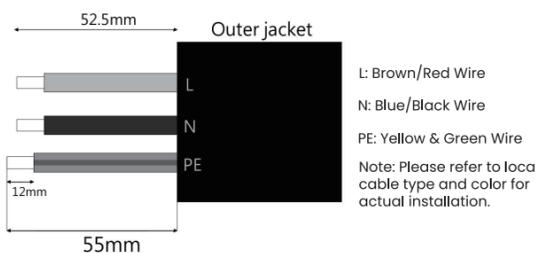
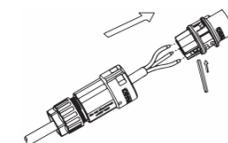


A. GRID Wiring

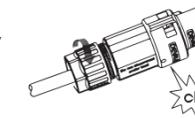
- Separate the ON-GRID plug into three parts as below.
- Hold the middle part of the female insert, rotate the back shell to loosen it, and detach it from female insert.
- Remove the cable nut (with rubber insert) from the back shell.



- Slide the cable nut and then the back shell onto the cable. Install the cable into the plug terminal and lock the screw (torque 3.0 +/- 0.3 N.m).



- Push the threaded sleeve into the socket, tighten up the cap on the terminal.

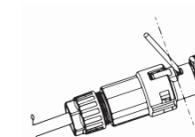


- Push the threaded sleeve to connection terminal until both are locked tightly on the energy station.



- Remove the ON-GRID connector.

Press the bayonet out of the slot with a small screwdriver or the unlock tool and pull it out, or unscrew the threaded sleeve, then pull it out.



B. EPS Wiring

- Set the parts on the cable one by one.

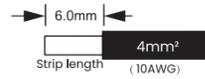


- Remove the EPS connector: press the connector unlock with a small screwdriver or the unlock tool and pull it out.



Grounding Wiring

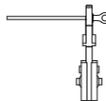
Trim 6mm of insulation from the wire end.



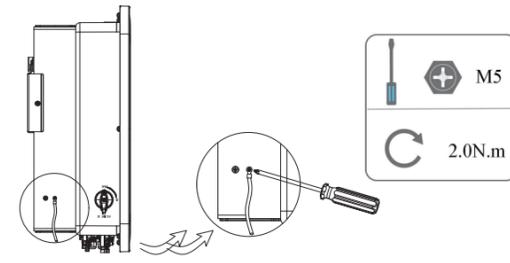
- Insert striped cable into earth terminal and ensure all conductor strands are captured in the earth terminal.

- Crimp the earth terminal with crimping pliers. Put the earth terminal with striped cable into the corresponding crimping pliers and crimp the contact.

Use the crimping pliers to press the ground cable into the ground terminal, and screw the ground screw with screwdriver as shown below.

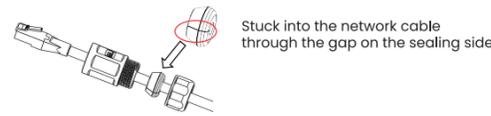


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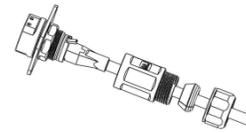


BMS Connection

Step 1
Insert the network cable into the wire-locking nut, sealing plug and mainbody in turn. The sealing plug is stuck into the network cable through the gap on the sealing side.



Step 2
Insert the network cable plug into the matched RJ45 panel mount connector.

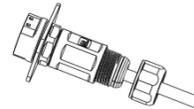


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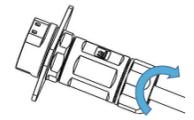
Step 3
Tighten the connector mainbody by an open-ended wrench into the RJ45 panel mount connector with a torque 1.2±0.2 N·m.



Step 4
Insert the sealing plug into the main body of RJ45 cable end connector.



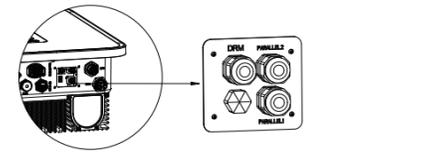
Step 5
Tighten the connector's nut by an open-ended wrench with a torque 1.2±0.2 N·m.



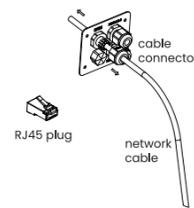
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DRM Connection

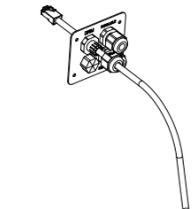
Step 1: Screw the cable connector off from the inverter.



Step 2: Prepare a standard network cable and RJ45 plug, then insert the network cable through the cable connector.



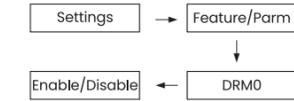
Step 3: Crimp the cable with the RJ45 plug using a crimping tool.



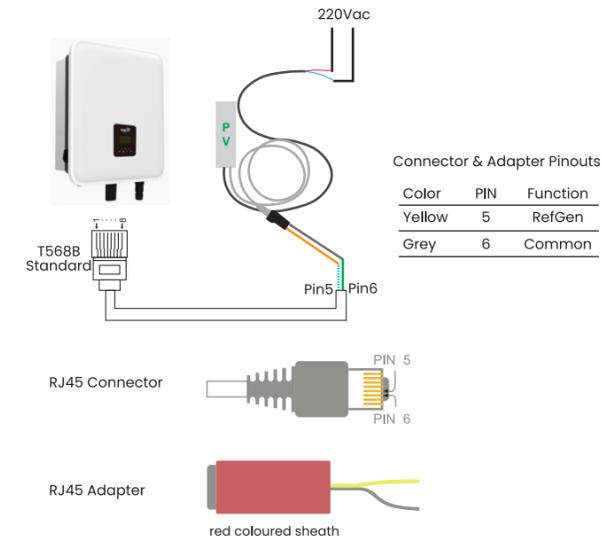
Step 4: Insert the cable connector into DRM port at the bottom of the inverter and screw it tightly.

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Steps to Enable DRM:



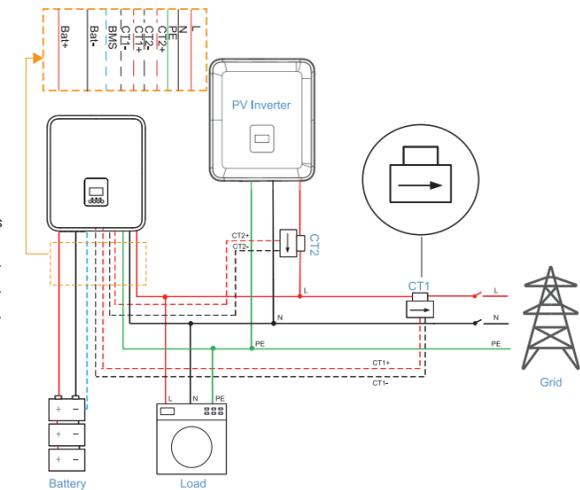
System Diagram of DRM0 (only for Australia):



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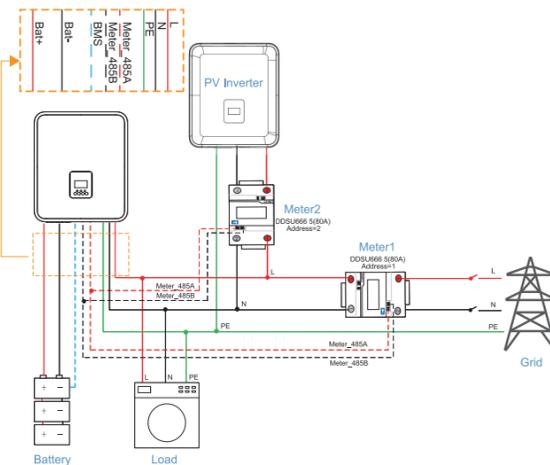
Note: Similar adapters with a black coloured sheath are fitted with four wires and will not work on PV inverters.

CT1+CT2:



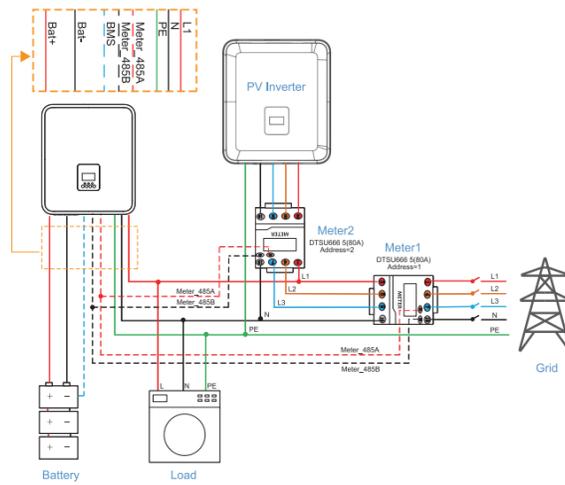
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Meter1+Meter2 (single phase):



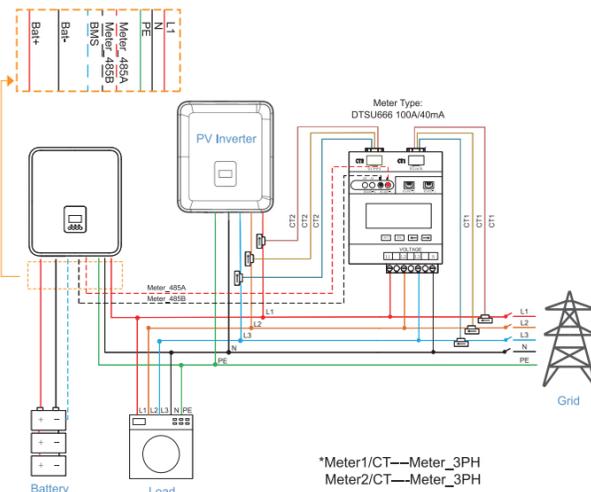
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Meter1+Meter2 (three phase):



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Meter (three phase) + 6 CTs:



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5. Inverter Start-Up

Please refer to the following steps to start up the inverter.

- Ensure the inverter fixed well.
- Make sure all wirings are completed.
- Make sure the CT/meter is connected well.
- Make sure the battery is connected well.
- Make sure the external EPS contactor is connected well (if needed).
- Make sure the BMS buttons and battery switch off.
- Turn on the PV/DC switch (for Hybrid version only), AC breaker, EPS breaker and battery breaker.
- Enter the settings page, default password is '0000', select START / STOP and set it to start (long press "enter" to quickly go to the START / STOP page).

Note:

- When starting inverter for the first time, the country code will be set by default to the local settings. Check if the country code is correct.
- Set the time on the inverter by the button or through APP.

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6. Inverter Switch Off

Please refer to the following steps to switch off the inverter.

- Enter the settings page, select START / STOP and set it to stop.
- Turn off the PV/DC switch (for Hybrid version only), AC breaker, EPS breaker and battery breaker.
- Wait 5 min before you open the upper lid (if in need of repair).

Note:

The Ethernet port under inverter is only for local monitoring use (via register), LAN connection need to purchase a separate product Smart LAN.

Please scan the QR Code and follow the steps below to download our latest multi-language User Manual/Quick Installation Guide:
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