



BYD Battery-Box HV & Inverter cables connecting

Battery-Box H 5.1/6.4/7.7/9.0/10.2/11.5 (AU)

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Warning

1. Please read the battery installation manual, user manual and inverter user manual and installation manual carefully before formal installation and use.

2. Please install the system in strict accordance with local laws and regulations.

3. This manual reflects the installation wiring part of the battery and inverter.

For other cables connections of the inverter, please refer strictly to the installation manual of the inverter.

4. Please refer to the BYD minimum Configuration List and to the inverter information regarding the possible module configuration (n) with different Inverters.

5. Please note that this is the quick reference guide only. It is a shortened assistance for the installation of the Battery-Box HV and inverters cable connection and does not replace the original installation manual and user manual of inverters!

1. Inverter matching list

No.	name
1	SMA SBS 2.5
2	SMA SBS 3.7/5.0/6.0
3	FRONIUS 3.0/4.0/5.0-3-S
4	GOODWE ET
5	Ingeteam



Warning

Please refer to the BYD minimum Configuration List and to the inverter information regarding the possible module configuration (n) with different Inverters.

2. Cables connection of Battery-Box H 6.4-11.5(AU) and inverters

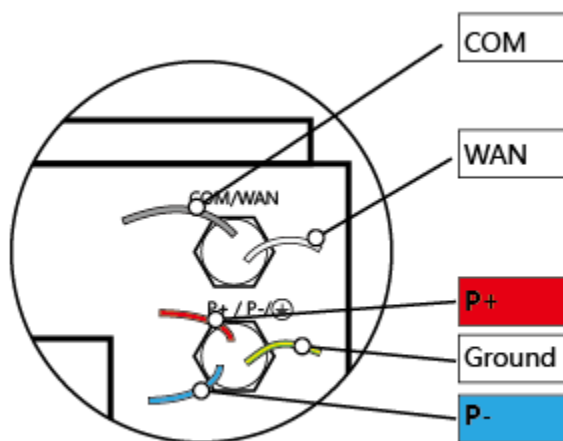
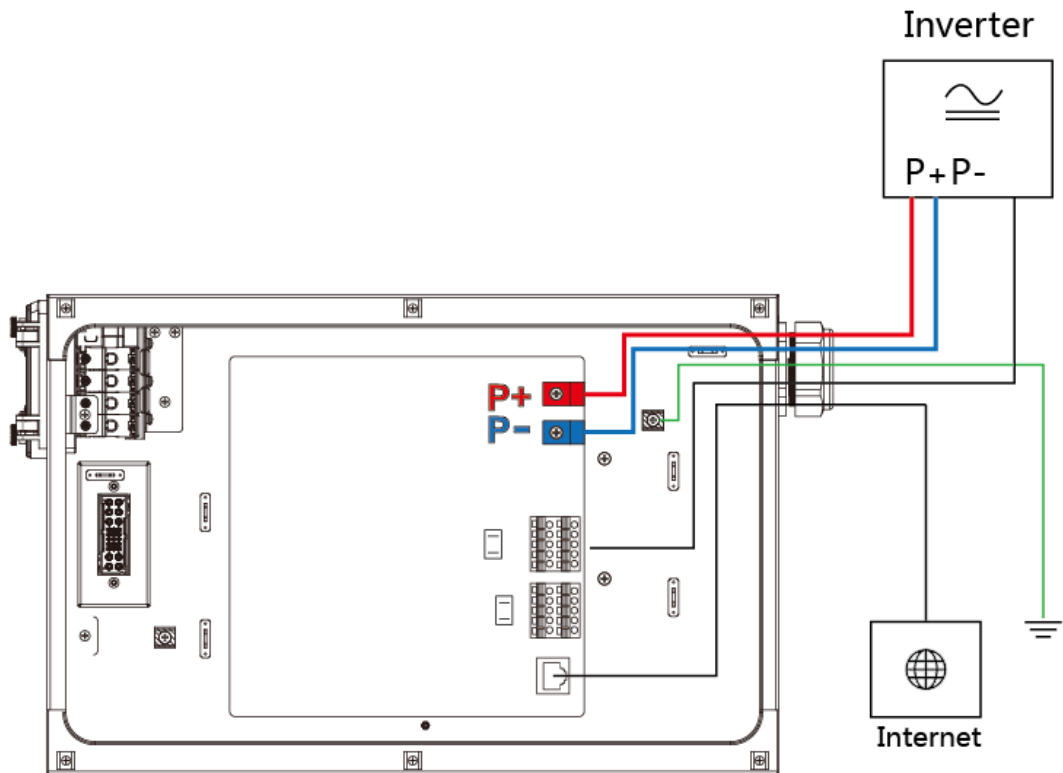
Connection sequence of BCU

- a) Ground cable.
- b) Negative cable
- 3) Positive cable.
- 4) Communication cable
- 5) network cable.



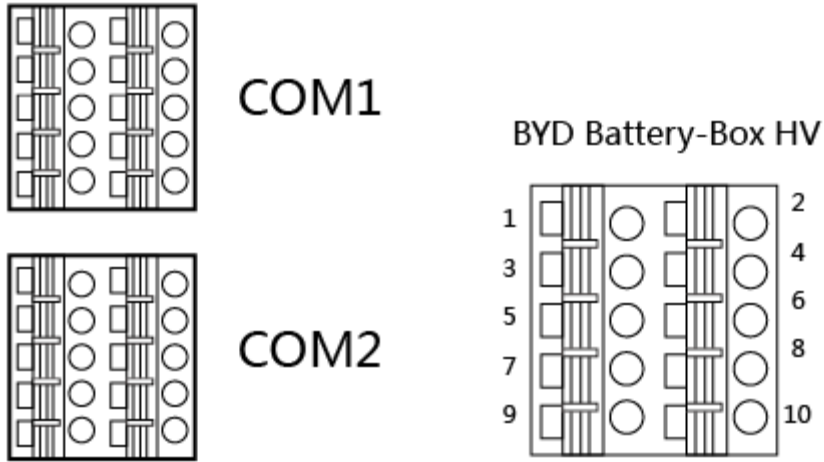
Warning

Must be connected to the common ground. Do not connect it to the ground on the inverter.



2.1 Pins definition of COM terminal of BCU

The COM1 and COM2 terminals share the same pins. The table below show the pin assignment.

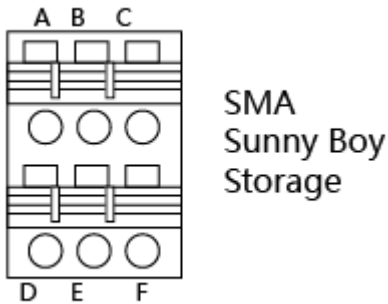


Pin	Definition	Description
1	13V+	Positive terminal of 13V output
2	EN 11V+	Positive terminal for inverter enable signal interface
3	13V-	Negative terminal of 13V output
4	EN 11V-	Negative terminal for inverter enable signal interface
5	RS485A	RS485 Bus
6	CANH	CAN-Bus
7	RS485B	RS485 Bus
8	CANL	CAN-Bus

9	Shield	Shield line
10	NC	Reserved

3 Connect with SMA SBS Inverter

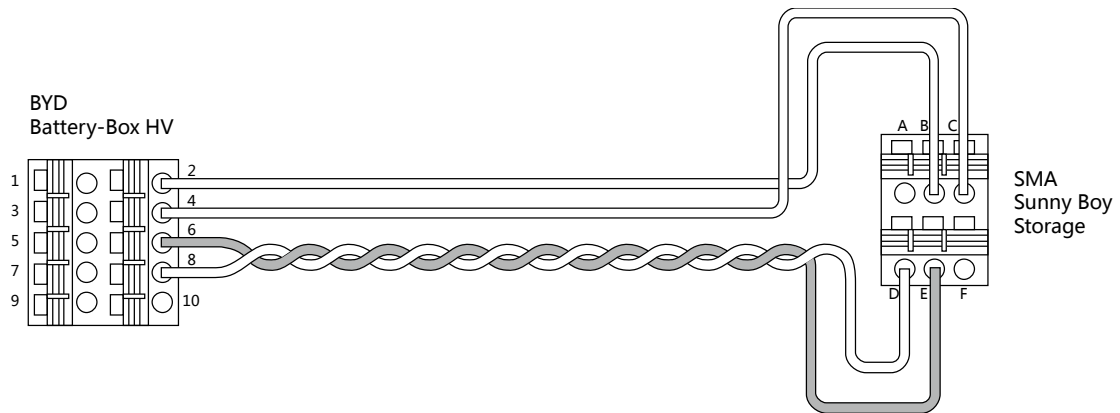
3.1. Pins definition of COM terminal of SMA SBS Inverter



Pins from SMA SBS COM terminal of inverter	Definition
B	Enable
C	GND and shielding
E	CAN H
D	CAN L
A	Not assigned
F	12V+

3.2. Communication cable of Battery-Box H 5.1-11.5 (AU)

connect to SMA inverter



Pins from BYD Battery-Box H COM terminal of BCU	Definition	Pins from SMA SBS terminal of inverter	Definition
2	EN 11V+	B	Enable
4	EN 11V-	C	GND and shielding
6	CANH	E	CAN H
8	CANL	D	CAN L



Turn off the inverter and battery system switch before installation;

Confirm the power cables are not connected reversely;

Ensure reliable and correct connection of communication cable between battery and inverter.

Make sure communication cable connection follows the requirement of different types of inverters.

After connecting the wires according to the installation manual, gently pull down each wire to ensure that it is secure;

Before power on the system the wiring must be double checked if it' s done correctly;

Use twisted-pair wire for CAN_H and CAN_L, which will help to improve the stability of CAN communication.

The installation method of the inverter maybe changed. Please refer to the installation instructions of the inverter.

Note: Please define the pins according to the label and number it in right direction!

3.3 Battery-Box H 6.4-11.5(AU) parameter settings on SMA SBS inverter

The parameters of the battery are set on the web page of the inverter. For other parameters and working modes of the inverter, please refer to installation and user manual of the inverter.

Set Battery parameters in the SMA inverter:

No.	SMA SBS Parameters	Default value
1	Battery-Areas of application-Lower Imt deep disch.Protect area prior shutdown.	2%
2	Battery-Areas of application-Minimum width of deep discharge protection area.	3%

3	Battery-Areas of application –Area width for conserving battery stay of charge.	3%
4	Battery-Areas of application Minimum width of own consumption area.	100%

4 Connect with FRONIUS Inverter



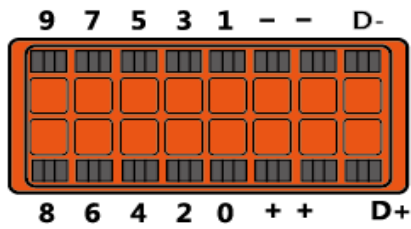
Please refer to the inverter installation manual for detailed wiring.

When connecting the meter in the second connection mode, the jumper cap above the JP2 in the BCU PCBA must be unplugged.


If not unplugged, it is possible that the Battery-Box and inverter will not be able to communicate properly.

Due to simplicity of installation, connection method 1 is recommended

4.1. Pins definition of COM terminal of Fronius Symo Hybrid Inverter



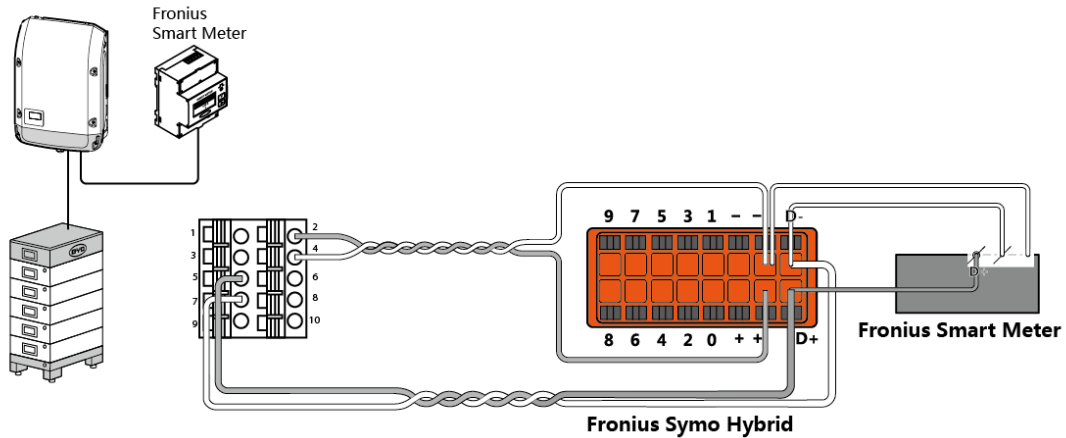
Pins from Fronius Hybrid inverter	Symo COM terminal of	Definition
Modbus RTU 2-wire (RS485)		
D+		Modbus data +
D-		Modbus data -
Int./ext. supply		
-		GND
+		Uint/Uext Internal voltage output 12.8 V or input for an external supply voltage >12.8 - 24 V DC (+ 20%)

 Please read the inverter installation manual for more detailed interface definition.

4.2 Communication cable of Battery-Box H 5.1-11.5 (AU)

Connect with Fronius Symo Hybrid inverter

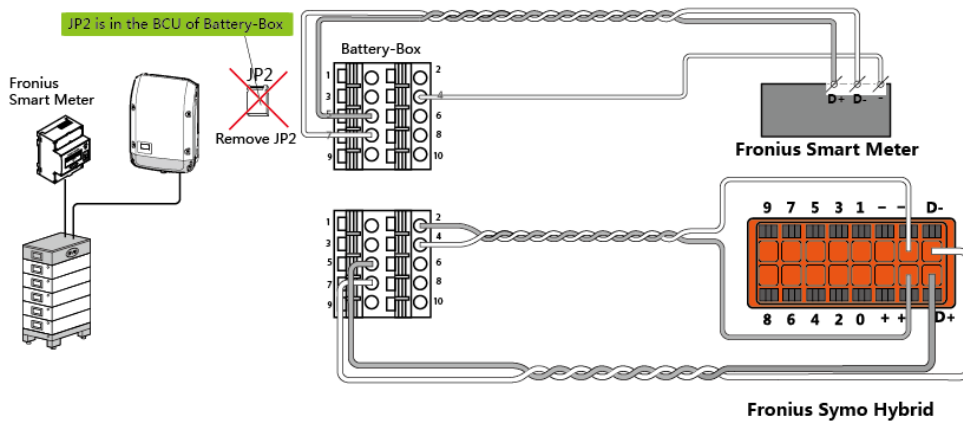
4.2.1 Connect method1



Please read the inverter installation manual for more detailed.

Pins from BYD Battery-Box H COM terminal of BCU	Pins from Fronius Symo Hybrid plus COM terminal of inverter
2(EN 11V+)	-
4(EN 11V-)	+
5(RS485A)	D+
7(RS485B)	D-
Pins from Fronius Symo Hybrid plus COM terminal of inverter	Fronius Smart Meter
-	-
D+	D+
D-	D-

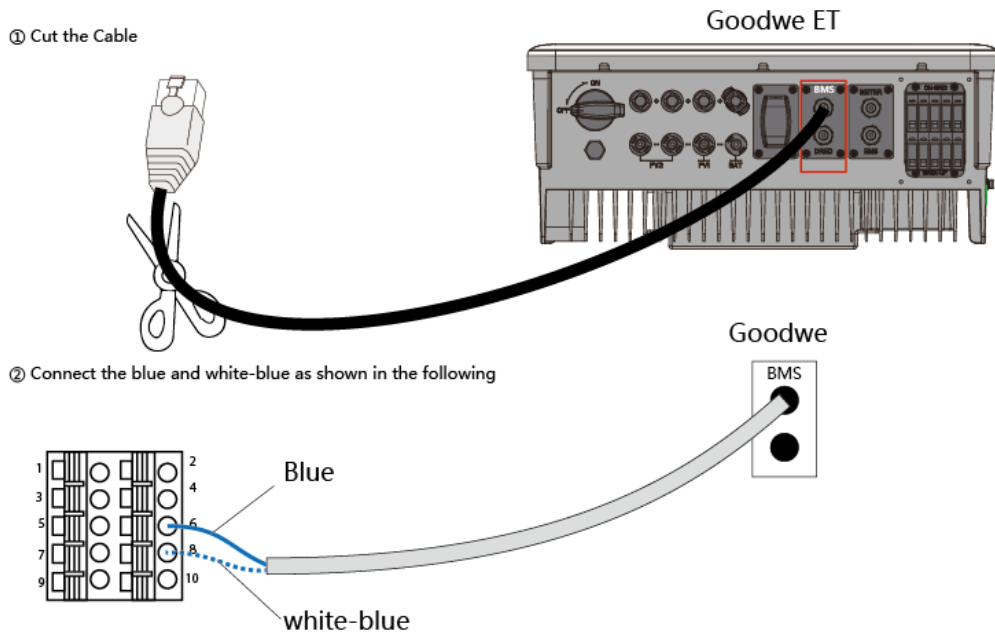
4.2.2 Connect method2



Please read the inverter installation manual for more detailed.

Pins from BYD Battery-Box H COM terminal of BCU	Pins from Fronius Symo Hybrid plus COM terminal of inverter
2(EN 11V+)	-
4(EN 11V-)	+
5(RS485A)	D+
7(RS485B)	D-
Pins from BYD Battery-Box H COM terminal of BCU	Fronius Smart Meter
4	-
5	D+
7	D-

5 Connections with GOODWE ET inverter

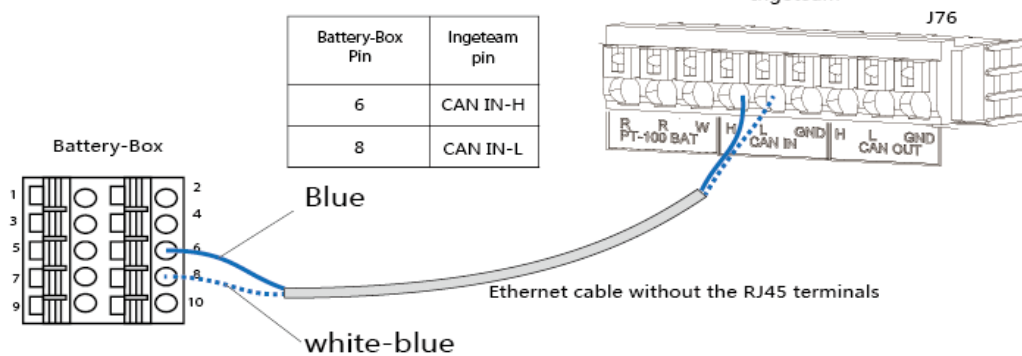


Please read the inverter installation manual for more detailed

Use twisted-pair wire for CAN_H and CAN_L, which will help to improve the stability of CAN communication.

6 Connections with Ingeteam inverter

Ingeteam Ingecon Sun Storage 3TL and 6TL





Please read the inverter installation manual for more detailed.

Use twisted-pair wire for CAN_H and CAN_L, which will help to improve the stability of CAN communication.

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