Notes on connection with various inverters

AXITEC, GoodWe, Kostal, SMA, Sofar, Sungrow

AXITEC Energy GmbH & Co. KG, Otto-Lilienthal-Str. 5, 71034 Böblingen, Germany, www.axitecsolar.com

Inhalt

1. GENERAL INFORMATION ON THIS DOCUMEN 1
2. AXIhycon 5H/6H/8H/10H 2
2.1 CommuniCation CABLE 2
2.2 Inverter setting 3
3. Goodwe ET/EH/BT/BH Serie 4
3.1 Compatibility 4
3.2 Communication cable 4
3.3 inverter setting 6
4. Kostal Plenticore 7
4.1 Compatibility 7
4.2 Verkabelung Kommunikation 7
4.3 Batterie setting 9
4.4 Inverter setting 9
5. SMA Sunny Boy Storage 10
5.1 compatibility 10
5.2 communication cable 10
5.3 Batterie setting 12
6. Sofar HYD 5-20KTL-3PH 14
6.1 Compatibility 14
6.2 Communication cable 14
6.3 Inverter setting 16
7. Sungrow SH5.0/6.0/8.0/10RT 17
7.1 compatibility 17
7.2 CommuniCation cable 17

1. GENERAL INFORMATION ON THIS DOCUMEN

This document refers to the aspects that must be observed specifically for connecting the AXIstorage Li SV to the inverters mentioned. It serves as a supplement to the installation instructions for the storage system and does not replace the installation instructions for the storage system or the inverter, which must be fully understood and observed for installation. Installation must be carried out by qualified personnel in accordance with the installation instructions. The safety instructions contained herein must be observed.

2. AXIHYCON 5H/6H/8H/10H/12H/15H/20H/29.9H/40H/50H

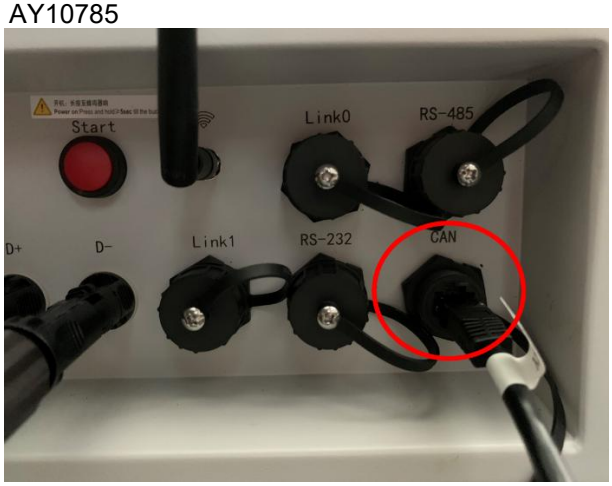
2.1 COMMUNICATION CABLE

It is important that the RJ45 socket on the storage system labeled CAN is used.

SV1

AY10729

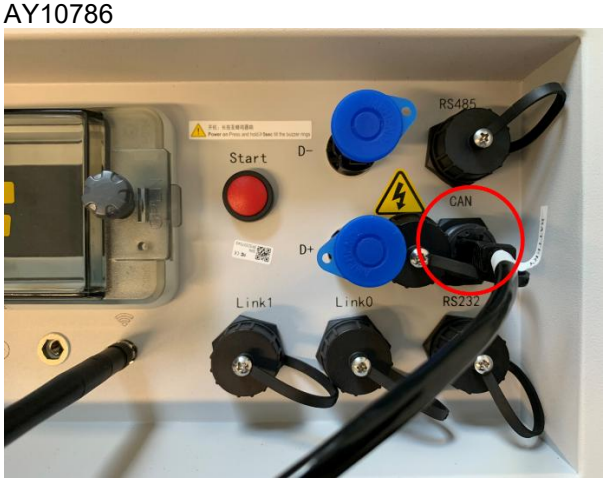
AY10785



SV2

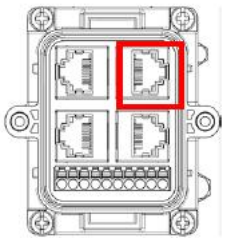
AY10732

AY10786

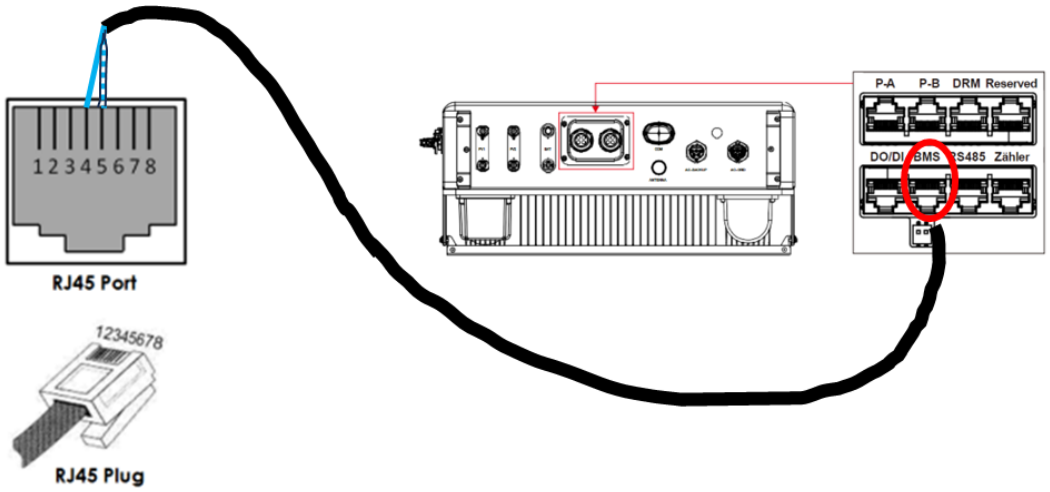


SV3

AY10948



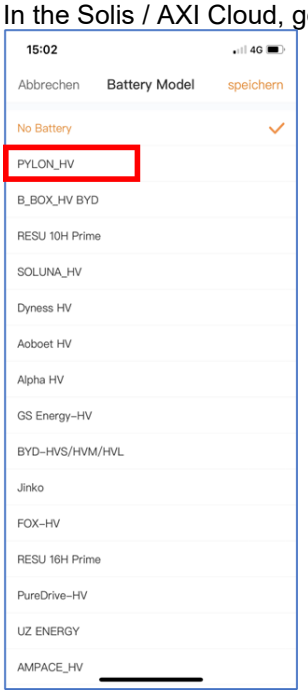
On the inverter side, the RJ45 socket labeled BMS is used. This is located under the cover for communication connections.



Storage CAN-Port	Inverter BMS Port	function	colour
Pin 4	Pin 4	CAN H	blue
Pin 5	Pin 5	CAN L	blue-white

2.2 INVERTER SETTING

In the Solis / AXI Cloud, go to Settings -> Battery Settings -> Battery Model and select Pylon_HV



3. GOODWE ET/EH/BT/BH SERIE

3.1 COMPATIBILITY

Before starting the installation, check the compatibility of the storage system with the selected inverter. The storage units are only compatible with the smaller models of the ET series (GW5-10K). For the BT and ET series, at least 4 battery modules are required for the Li SV1 also.
The information in our compatibility list is always decisive.

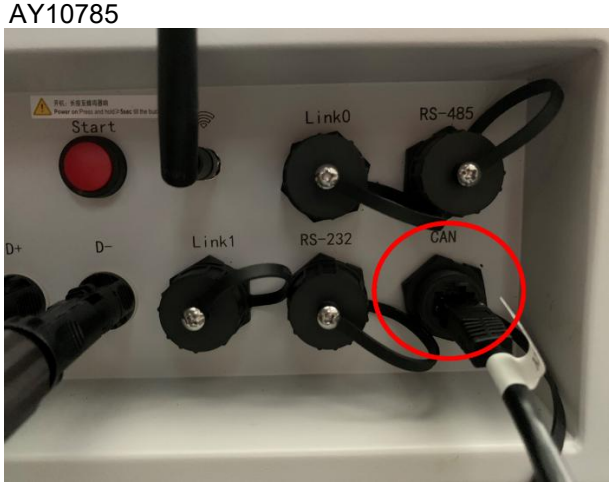
Compatibility AY10785 and AY10786

Firmware version V1.5 or newer is required for BMS variants AY10785 and AY10786. To install the update, connect the logger to the W-Lan and let us know the logger number. We can install the update for you then. Alternatively, we can send a cable for connecting to your laptop on request so that you can install the update offline.
Alternatively, the communication cable between the inverter and the storage system can be replaced. We will be happy to send you the appropriate cable on request.

3.2 COMMUNICATION CABLE

It is important that the RJ45 socket on the storage system marked CAN is used.
SV1
AY10729

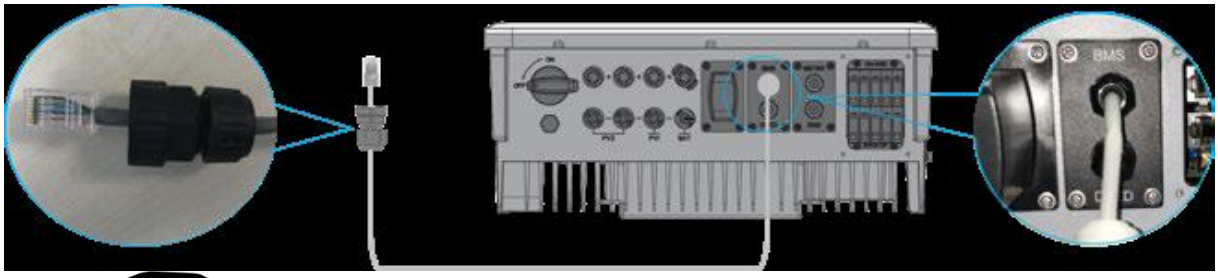
AY10785

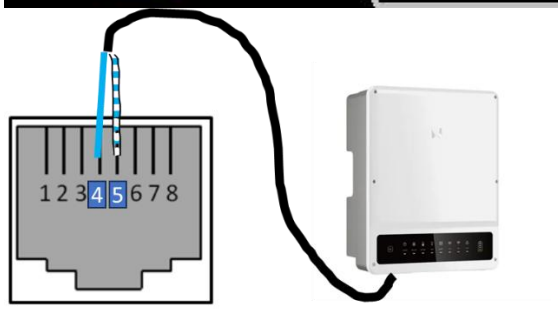


SV2
AY10732

AY10786

Use the cable that comes out of the inverter and is labeled “BMS” (To Battery).
To obtain protection against moisture, cut off the RJ45 plug at the end of the cable, feed the cable through the gland of the cable supplied with the battery and re-attach an RJ45 plug.





RJ45 Port

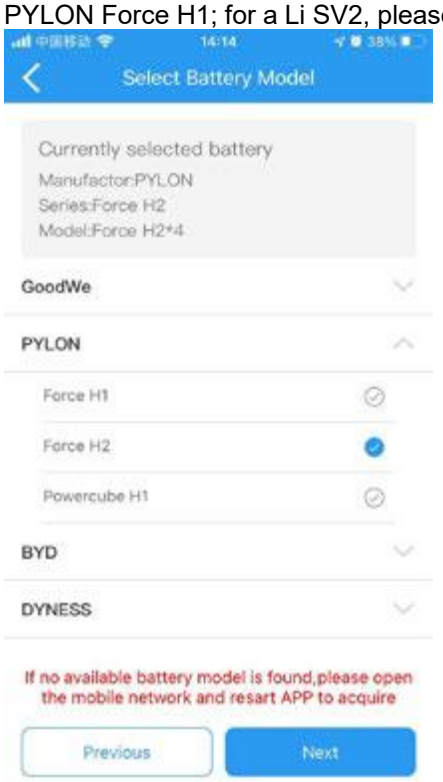
RJ45 Plug

The corresponding assignment of the CAN port on the storage system and on the inverter is given in the table below:

Storage CAN-Port	Inverter CAN Kabel	function	colour
Pin 4	Pin 4	CAN H	blue
Pin 5	Pin 5	CAN L	blue-white

3.3 INVERTER SETTING

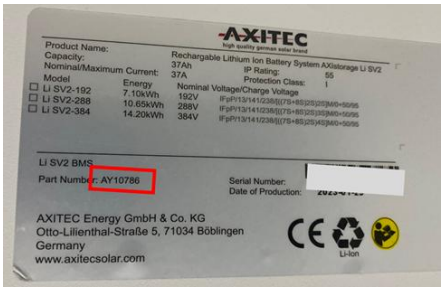
All other settings are made on the inverter:
The battery type must be selected in the PV Master app under “Basic Setting”. For a Li SV1, please select PYLON Force H1; for a Li SV2, please select PYLON Force H2, for a Li SV3, please select PYLON Force H3.



4. KOSTAL PLENTICORE

4.1 COMPATIBILITY

Before installation, check the compatibility of the storage system with the selected inverter. The BMS versions with item numbers AY10785 and AY10786 are compatible with the PLENTICORE costal. The information in our compatibility list is always decisive.



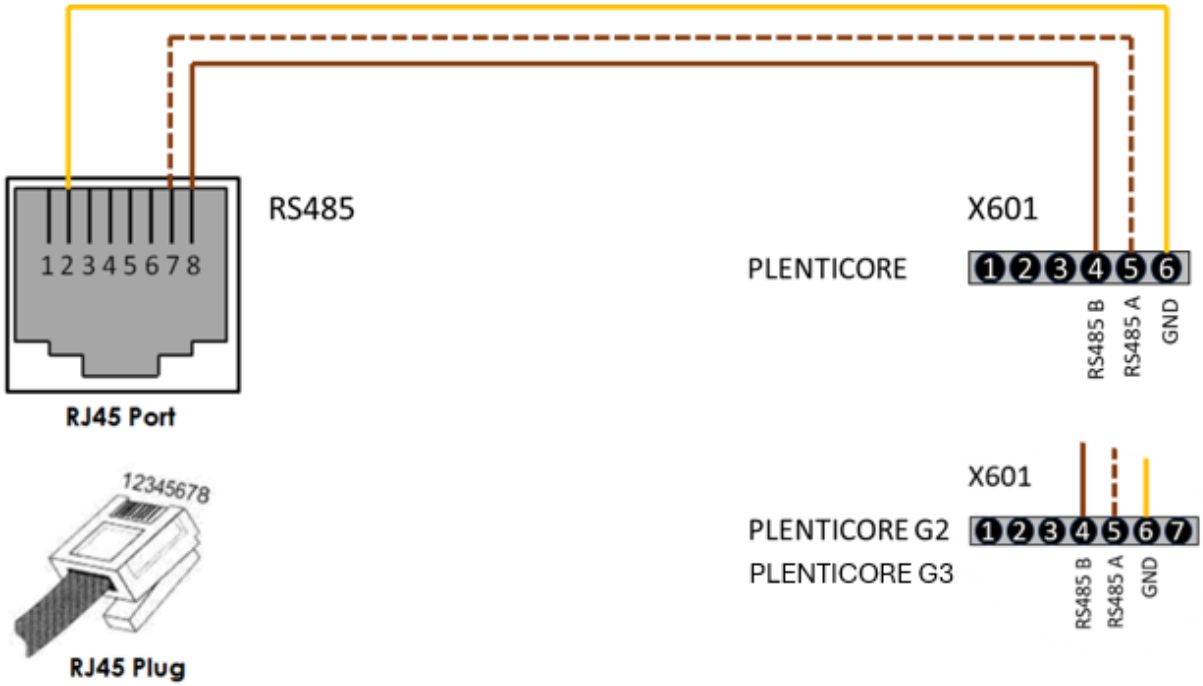
4.2 VERKABELUNG KOMMUNIKATION

The RS485 port is used on the battery side.
SV1
AY10785

SV2
AY10786

The X601 connector is required on the inverter. The length of the communication cable must not exceed 10 m. Use a cable with at least CAT 7 and 0.3-0.5 mm² with twisted wire pairs.

Storage RS485-Port	Inverter X601 Port	function	colour
Pin 2	Pin6	GND	orange
Pin 7	Pin 5	RS485 A	brown-white
Pin 8	Pin 4	RS485 B	brown

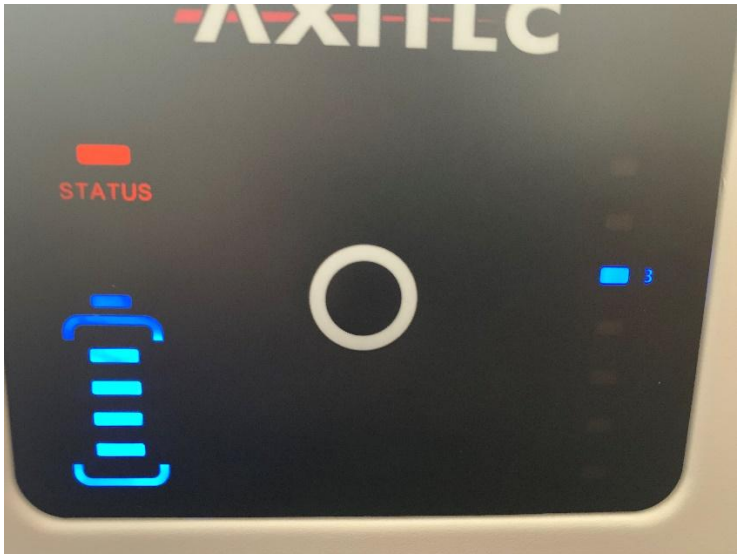


4.3 BATTERIE SETTING

The communication protocol must be changed on the BMS of the AXIstorage Li SV so that communication with the Kostal inverter can take place.

To do this, follow the steps below:

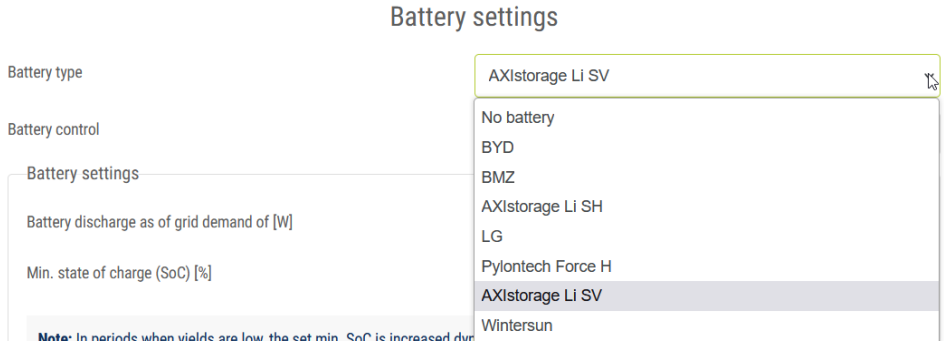
1. activation of the display: press the LED button briefly
2. activation of protocol selection mode: press LED button for >10 seconds
3. select the protocol in position 3: press the LED button briefly to switch to number 3
4. confirm the selected protocol: press the LED button for >4 seconds
5. selection LED is blue and switches back to operating mode
6. restart the system



All other settings must be made on the inverter.

4.4 INVERTER SETTING

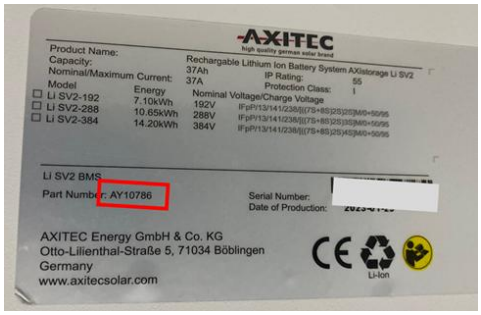
Go to Battery settings in the Service menu and select the **AXIstorage Li SV** storage system under Battery type for the models Li SV1 and Li SV2. The storage system can be selected in the inverter from software version G1 01.27.xxxxx / G2 02.08.xxxxx onwards.



5. SMA SUNNY BOY STORAGE

5.1 COMPATIBILITY

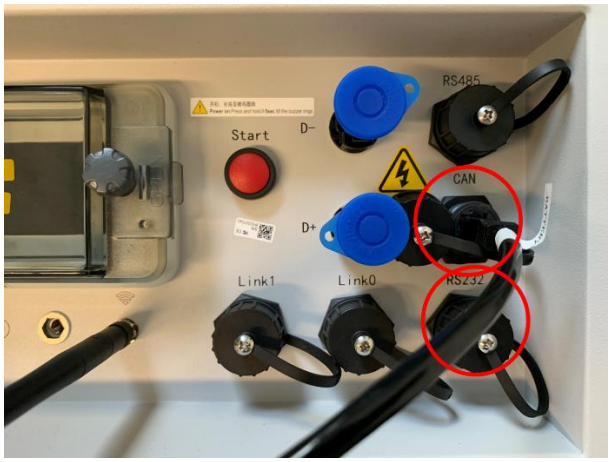
Before installation, check the compatibility of the storage system with the selected inverter. The BMS versions with the item numbers AY10785 and AY10786 are compatible with the Sunny Boy Storage. Please also note that the SBS2.5 is not compatible with the AXIstorage Li SV. The information in our compatibility list is always decisive.



5.2 COMMUNICATION CABLE

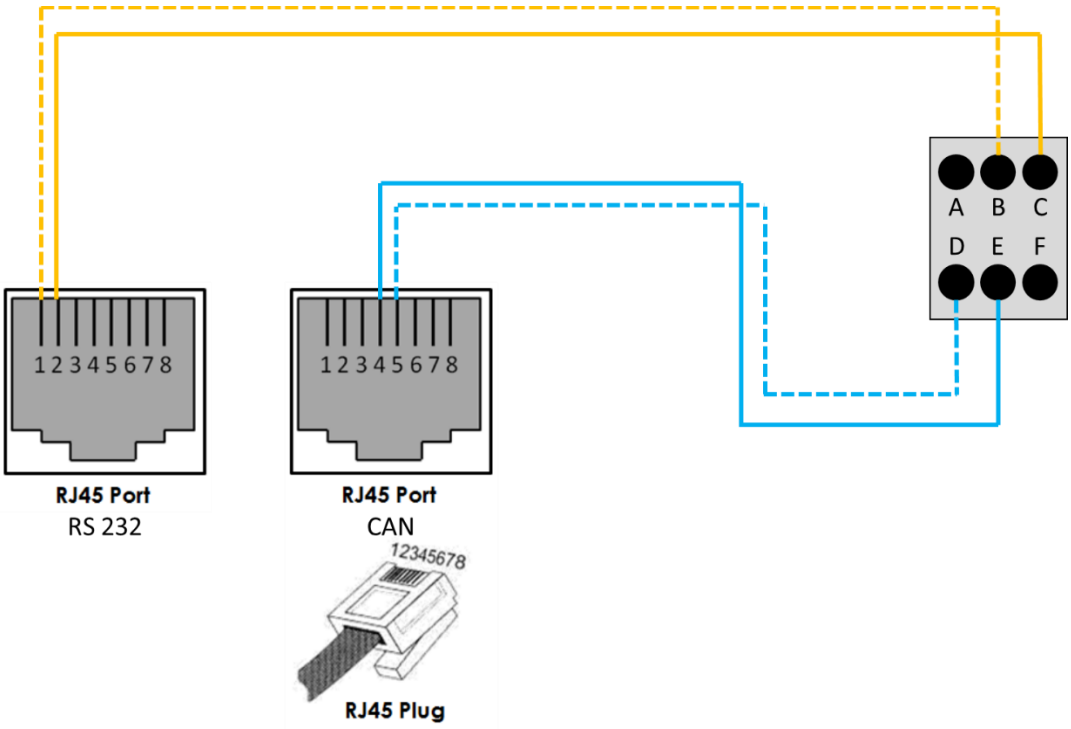
The RS232 port and CAN port are required on the battery side.
SV1
AY10785

SV2
AY10786



The colors of the wires refer to standard TIA-568B. A cable with at least CAT5e with twisted wire pairs must be used for the CAN connection.

Storage CAN-Port	Storage RS 232-Port	Inverter clamp	function	colour
Pin 4	-	E	CAN H	blue
Pin 5	-	D	CAN L	blue-white
-	Pin 1	B	Enable 11 V+	orange-white
-	Pin 2	C	GND	orange



5.3 BATTERIE SETTING

The communication protocol must be changed on the BMS of the AXIstorage Li SV so that communication with the SMA inverter can take place.

To do this, follow the steps below:

1. activation of the display: press the LED button briefly
2. activation of protocol selection mode: press LED button for >10 seconds
3. select the protocol in position 4: press the LED button briefly to switch to number 4
4. confirm the selected protocol: press the LED button for >4 seconds
5. selection LED is blue and switches back to operating mode
6. restart the system

All other settings must be made on the inverter.

6. SMA SUNNY BOY SMART ENERGY

6.1 COMPATIBILITY

Before installation, check the compatibility of the storage system with the selected inverter. Only the **SV3**, BMS version with item number **AY10948**, is compatible with the Sunny Boy Smart Energy.
Firmware version **V1.6** or newer is required.
The information in our compatibility list is always decisive.

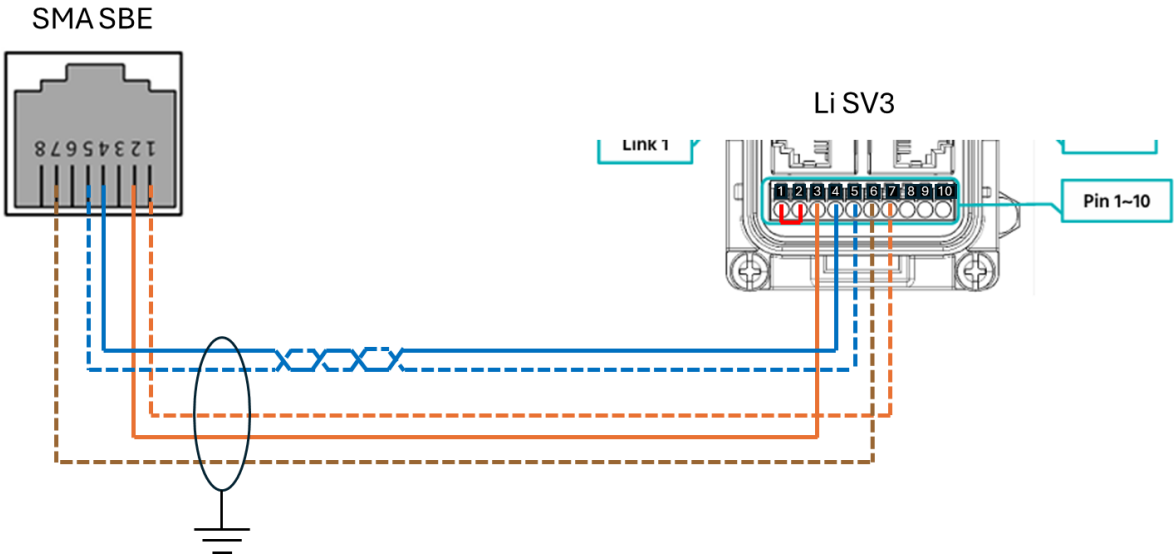
6.2 COMMUNICATION CABLE

On the battery side, the Pins 1-10 are used as shown below.

SV3
AY10948

Battery PIN (1-10) Option 2	Inverter CAN (RJ45)	Function	Colour
Pin 7	Pin 1	EN_GND	orange-white
Pin 3	Pin 2	EN_GND	orange
Pin 4	Pin 4	CAN_H	blue
Pin 5	Pin 5	CAN_L	blue-white
Pin 6	Pin 7	BAT_EN	brown-white
Pin 1 und Pin 2	-	gebrückt	

The colors of the wires refer to standard TIA-568B. For the CAN connection, a cable with at least CAT5e with twisted wire pairs must be used. The length of the communication cable must not exceed 10 m.



7. SOFAR HYD 5-20KTL-3PH

7.1 COMPATIBILITY

The following configurations are possible for operation with the Sofar hybrid inverter:

Li SV1: 4-7 Batterie packs

Li SV2: 2-4 Batterie packs

Li SV3: 2-6 Batterie packs

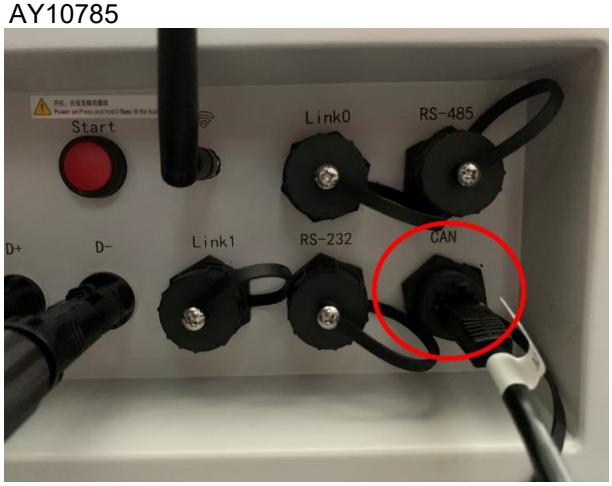
For the BMS variants Li SV1A (AY10729) and Li SV2A (AY10732), a software update to V1.6 may be required to establish communication with the inverter. We can send you a suitable cable for connecting the laptop on request.

7.2 COMMUNICATION CABLE

The CAN port is used on the battery side.

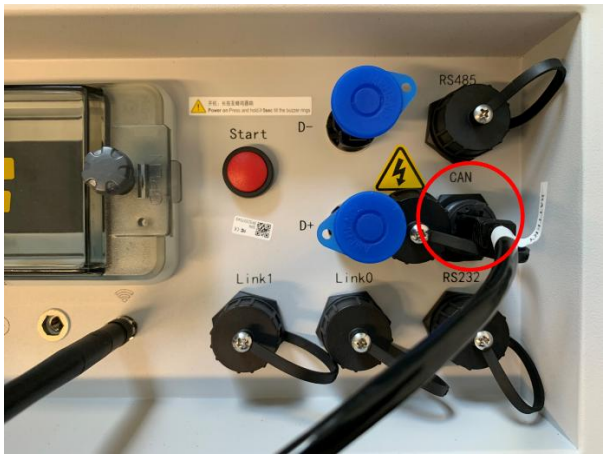
SV1
AY10729

AY10785



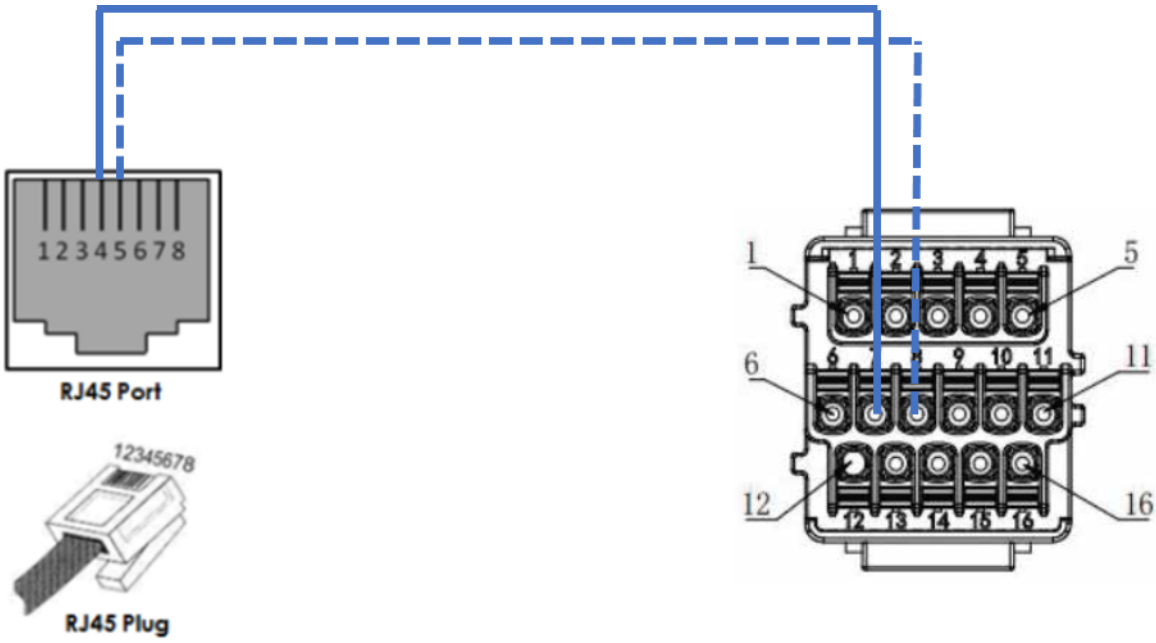
SV2
AY10732

AY10786



SV3
AY10948

Storage CAN-Port	Inverter COM Port	function	colour
Pin 4	Pin 7	CAN H	blue
Pin 5	Pin 8	CAN L	blue-white



The multifunctional communication connection (COM) is required for the Sofar inverter. The blue wire (CAN High) is set to pin 7, the blue-white wire (CAN Low) to pin 8. The colors of the wires refer to standard TIA-568B. The wires for the connection to the inverter should be stripped 6-10 mm.

7.3 INVERTER SETTING

1) Press the button highlighted in red to access the menu

2) Select “Advanced Settings”

3) Enter the password 0001

4) Select “Battery Parameter”

5) Select “Battery type”

6) Select “Pylon” or “AXITEC”

7) select „Battery Address“

8) Set 01

9) Set the maximum current and discharge depth

10) Select „Save“

The second battery input must be deactivated via the inverter menu in order to avoid an error message.

8. SUNGROW SH5.0/6.0/8.0/10RT

8.1 COMPATIBILITY

Please note that at least 4 battery modules are required for operation with the Sungrow inverters for the Li SV1.

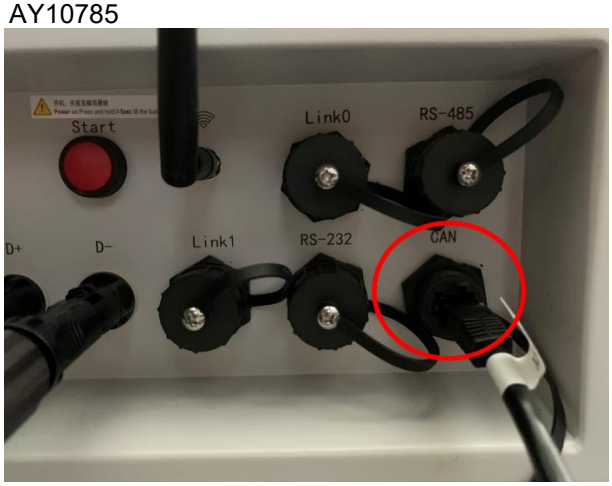
8.2 COMMUNICATION CABLE

It is important that the RJ45 socket on the storage unit marked CAN is used.

SV1

AY10729

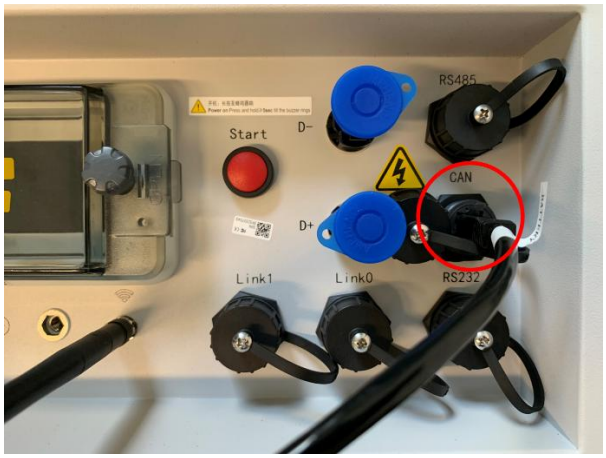
AY10785



SV2

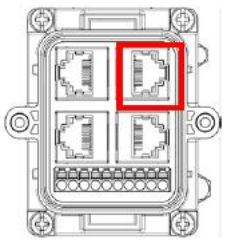
AY10732

AY10786



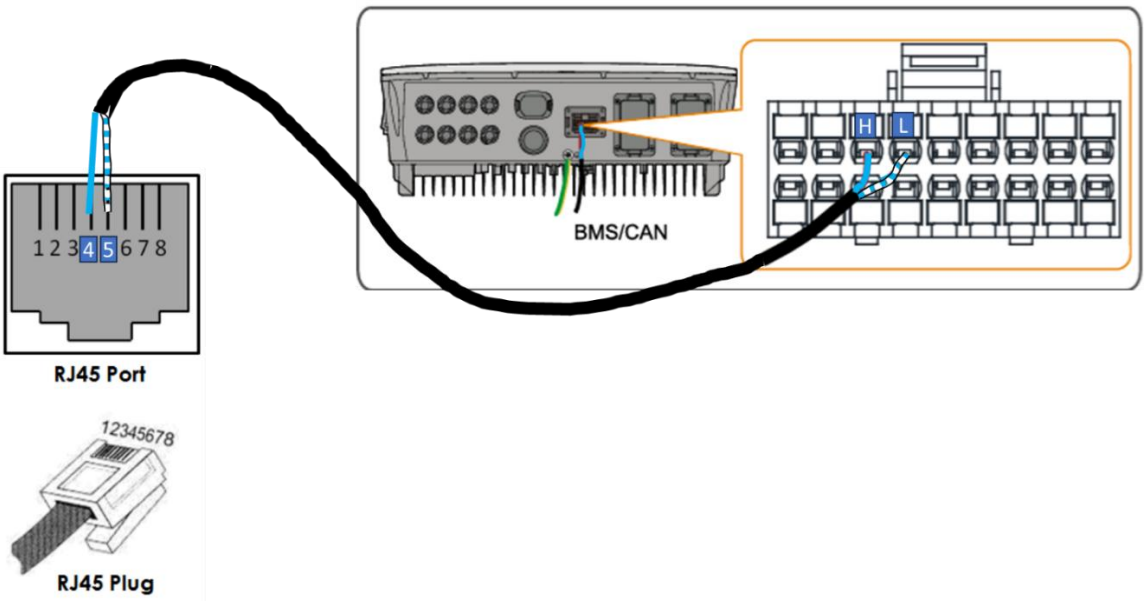
SV3

AY10948



The assignment of the terminals on the inverter is shown in the table below.
The terminals marked H and L are required for the CAN connection. Use long wire end ferrules (15 mm are usually included in the packaging).

Meter		BMS/CAN		DI/DRM			DO
A2	B2	H	L	D1/5	D3/7	R	NO
A1	B1	EN_H	EN_G	D2/6	D4/8	C	COM
RS485		Enable					



Die entsprechende Belegung des CAN-Ports am Speicher ist in der Anleitung des Speichers in der untenstehenden Tabelle zu finden:

Storage CAN-Port	Inverter COM Port	function	colour
Pin 4	H (Pin 5)	CAN H	blue
Pin 5	L (Pin 7)	CAN L	blue-white

The wire coming from H on the inverter must therefore be connected to pin 4 (blue wire) on the CAN socket of the storage system. The wire coming from L on the inverter must be connected to pin 5 (blue-white wire) on the CAN socket of the storage system.

All other settings are made on the inverter. The value for the maximum battery voltage must remain unchanged at “0”. Set the maximum SOC to 100% and the minimum SOC to at least 5%. Please refer to the information on pages 4 and 5 of our datasheets for the values of the maximum charging and discharging power.