Ingeteam

INGECON SUN STORAGE 1PLAY

Use and Settings of the ISS 1Play working with BYD B-BOX H5.1 and H6.4 battery

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1 Introduction

This document describes the process to configure the INGECON SUN STORAGE 1Play (TL and TL M version) to work with BYD B-BOX H5.1 and H6.4 battery (4-5 modules).

The BYD HV and ISS 1Play equipment can be used in the following type of **single-phase** installations:

- Stand-alone installations
- UPS installations
- Self-consumption/Grid Support installations

The minimum FW versions to work with the ISS 1Play and BYD B-BOX HV are the following:

Minimum Firmware Version used in the BYD B-Box HV:

- V3.013R or V3.13C

The battery FW version can be found on the BYD webpage. For further details, check the "Installation Manual of BYD HV".

https://www.eft-systems.de

Minimum Firmware Version used in the ISS 1Play TL:

- Inverter: ABH1002_Y
- Display: ABH1003_P

Minimum Firmware Version used in the ISS 1Play TL M:

- Inverter: ABH1007_

For further details, check the "List of approved lithium batteries" available on Ingeteam website.

2 Connecting the battery pack to the inverter

The instructions to connect the battery pack to the inverter are described in the "Installation Manual of B-Box HV"

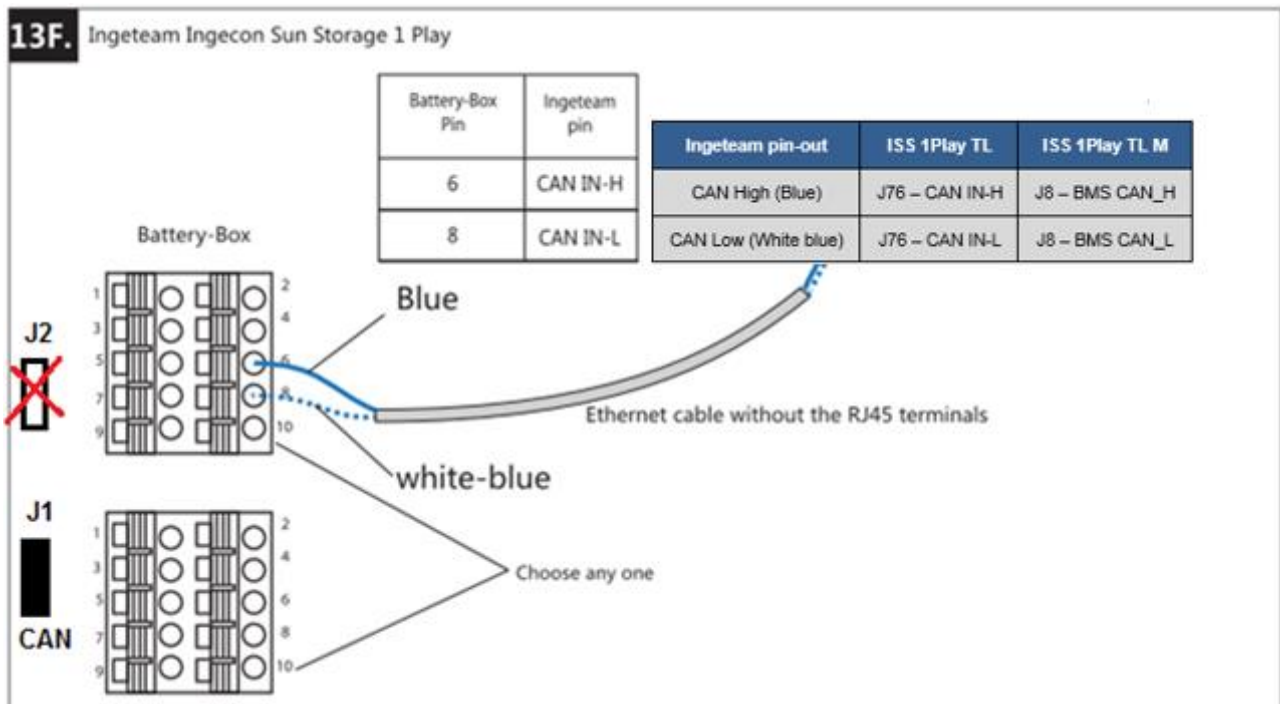Please, take into account the following technical notes:

1) The inverter is turned OFF before connecting the battery pack to the inverter.
2) The battery circuit breaker is on the OFF position.
3) Connect the DC power wires with 6-10mm^2.
4) Connect the CAN Communication wire using, for example, an Ethernet cable without the RJ45 terminals.
5) Connect the jumper J1 – CAN and disconnect the jumper J2 – RS485.

2.1 Wiring of CAN communication wire

BYD HV batteries require a CAN communication wire to the ISS 1Play.

The ISS 1Play will send the necessary keep-a-live command to the BYD HV battery, which is needed to keep its internal circuit breaker close. When the battery does not receive for 15 minutes such a command, its internal circuit breaker opens.

The ISS 1Play and BYD HV use a two-pin CAN connector. The pin-out is the following:

For ISS 1Play TL, it is mandatory that its display is correctly connected. Otherwise, the BYD HV will open its internal circuit breaker after 15 minutes.

3   Setting the battery pack

This chapter describes how to configure the battery settings when the ISS 1Play has been wired to the BYD B-Box H5.1/6.4 battery.

To do so, once all the previous steps have been completed, the following steps must be followed:

1) Make sure that the battery circuit breaker is in OFF position.
2) Move the circuit breaker to ON position to turn the battery pack on.
3) After a few seconds the inverter and battery should get powered. Make sure that the display´s screen is ON.
4) Enter in the WEB interface of battery with your PC. For further details, check the "Installation Manual of BYD HV".

3.1   WEB interface of battery

The inverter type should be configured in the WEB interface. Through the wizard you can configure:

- Type of the inverter as "INGETEAM"
- Series Battery Counts should be 4 modules for B-Box H5.1 or 5 modules for B-Box H6.4 type.

4   Setting the inverter

This chapter describes how to configure the inverter settings when the ISS 1Play has been wired to the BYD B-Box HV battery.

To do so, once all the previous steps have been completed, the following steps must be followed:

1) Make sure that the battery circuit breaker is in OFF position.
2) Move the circuit breaker to ON position to turn the battery pack on.
3) After a few seconds the inverter should get powered. Make sure that the display´s screen is ON.

4.1   DC Battery type

Please be careful to choose the right battery type when you set up the configuration in your inverter. The battery or inverter manufacturers have no responsibility on the damages caused due to incorrect configurations. For instance, if you select "Lead-acid" as a battery type in the inverter configuration and the battery being used is "Lithium-ion", the battery might get damaged or experience performance degradation.

It is required to set the DC Battery type: **BYD B-BOX H5.1/6.4**

4.1.1   For ISS 1Play TL M

This must be done using the web interface of the inverter. To perform any configuration change, the required installer access must be entered on the web. When the permission is given, go to:

CONFIGURATION > ADVANCED SETTINGS > TYPE OF BATTERY > BYD B-Box H5.1/6.4

Confirm the desired selection by pressing the "Write" button. A message to confirm the modification will pop up.

4.1.2   For ISS 1Play TL

To configure the battery type in the inverter settings, please NOT connect the CAN communication wire yet. The communication wire should be connected when the battery type is configured correctly.

This can be done using the "Ingecon Sun Manager" software package (downloadable on www.ingeteam.com) or through the display:

Using Ingecon Sun Manager:

Settings → 1-.DC BATTERY TYPE: Type of Battery > Lithium: BYD B-Box H5.1/6.4

1- DC BATTERY TYPE	
Type of Battery	Lithium : BYD B-Box H5.1/6.4

Figure 1: DC Battery selection on Ingecon Sun Manager.

Click on the "Send" button. A screen informing that the configuration was successfully saved must appear when the settings are correctly applied to the inverter.

Using the Display:

To perform any configuration change through the display, the required installer password must be entered on:

MAIN MENU > CONFIGURATION > ENTER PASSWORD

The password is indicated on the "Installation and Operation Manual", on the chapter dedicated to configuration.

When the permission is given, go to:

MAIN MENU > CONFIGURATION > BATTERY > LITHIUM > BYD HV > BYD B-BOX H5.1/6.4

Confirm the desired selection by pressing the "OK" button. A message to confirm the modification will pop up. A final screen that shows that the process has been completed will be shown on the display.

5 Final check

This chapter describes the instructions to check that all the connections and settings have been successfully done.

1) Make sure that the CAN communication wire from the BYD battery to the inverter is connected.
2) Make sure that the battery circuit breaker is in ON position.
3) Make sure that the inverter is turn-on from the battery and doesn't show communication Error with BMS.