Technical Information

**SMA**

# SUNNY BOY SMART ENERGY

## Approved batteries and information on connecting batteries

# 1 Validity

This document is valid for:

- SBSE3.6-50 (Sunny Boy Smart Energy 3.6)
- SBSE4.0-50 (Sunny Boy Smart Energy 4.0)
- SBSE5.0-50 (Sunny Boy Smart Energy 5.0)
- SBSE6.0-50 (Sunny Boy Smart Energy 6.0)

## 2   Approved Batteries

You can find the batteries approved by SMA Solar Technology AG in the SMA Energy Solution Home with the Sunny Boy Smart Energy in the following table.

ⓘ **Firmware version of the battery**

The firmware version of the SMA Home Storage can be accessed and updated via the inverter user interface. With BYD batteries, the firmware version can be viewed via the battery's user interface after successful commissioning. For BYD batteries, the firmware of the batteries is updated via the user interface of the battery (see manufacturer's manual).
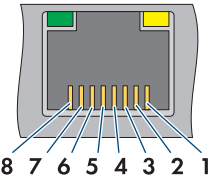
ⓘ **Inverter firmware version**

The firmware version of the inverter can be accessed via the user interface of the inverter.

| Battery name (type) Manufacturer | Firmware version of the battery | Inverter firmware version |
| --- | --- | --- |
| SMA Home Storage (3.2-13.1) SMA Solar Technology AG | BMS: ≥1.01.19.R | ≥ 3.08.03.R |
| Battery-Box Premium HVM (8.3-22.1) BYD Company Limited | BMU: ≥ 3.23 BMS: ≥ 3.28 | ≥ 3.08.03.R |
| Battery-Box Premium HVS (5.1-10.2) BYD Company Limited | BMU: ≥ 3.23 BMS: ≥ 3.28 | ≥ 3.08.03.R |

# 3 Battery Communication Connection

## 3.1 Pin assignment of RJ45 plug connector for battery communication

| RJ45 plug | Pin | Signal |
|---|---|---|
| | 1 | - |
| | 2 | EN_GND |
| | 3 | - |
| | 4 | CAN_H |
| | 5 | CAN_L |
| | 6 | - |
| | 7 | BAT_EN |
| | 8 | - |

## 3.2 Battery Communication Cable Requirements

The cable length and quality affect the quality of the signal. Observe the following cable requirements:

☐ Cable type: 100BaseTx

☐ Cable category: minimum CAT5e

☐ Plug type: RJ45 of Cat5e or higher

☐ Shielding: SF/UTP, S/UTP, SF/FTP or S/FTP

☐ Number of insulated conductor pairs and insulated conductor cross-section: at least 2 x 2 x 0.34 mm²

☐ Maximum cable length between 2 nodes when using patch and installation cables: 10 m

☐ UV-resistant if installed outdoors.

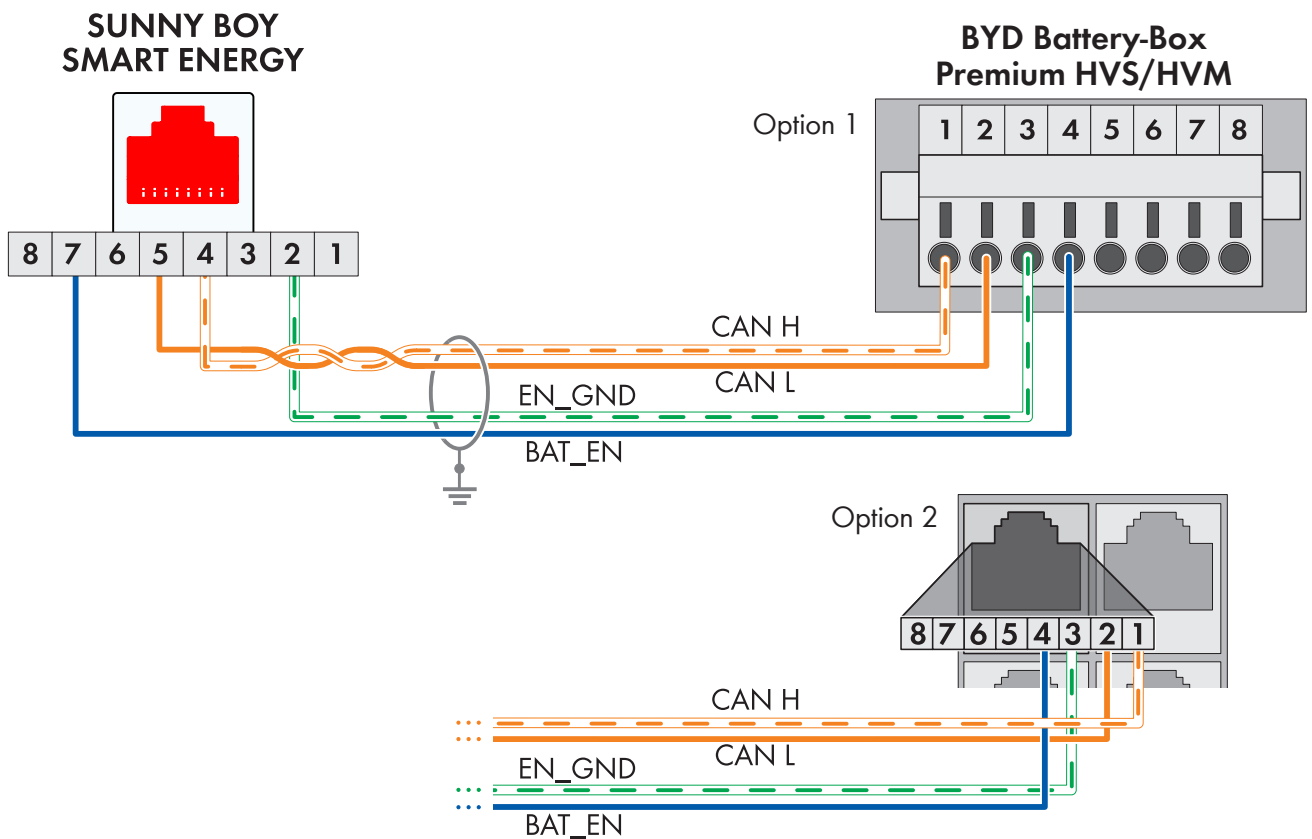## 3.3 Cabling plan with Battery-Box Premium HVS/HVM

Figure 1: Cabling plan Sunny Boy Smart Energy with Battery-Box Premium HVS/HVM

| Pin at the RJ45 connector on the inverter | Signal | Terminal point at battery |
|---|---|---|
| 1 | - | - |
| 2 | EN_GND | 3 |
| 3 | - | - |
| 4 | CAN_H | 1 |
| 5 | CAN_L | 2 |
| 6 | - | - |
| 7 | BAT_EN | 4 |
| 8 | - | - |

## 3.4    Cabling plan with SMA Home Storage

To connect the Sunny Boy Smart Energy to the SMA Home Storage, you must use an RJ45 adapter for the plug connection. The adapter is included in the scope of delivery of the battery.
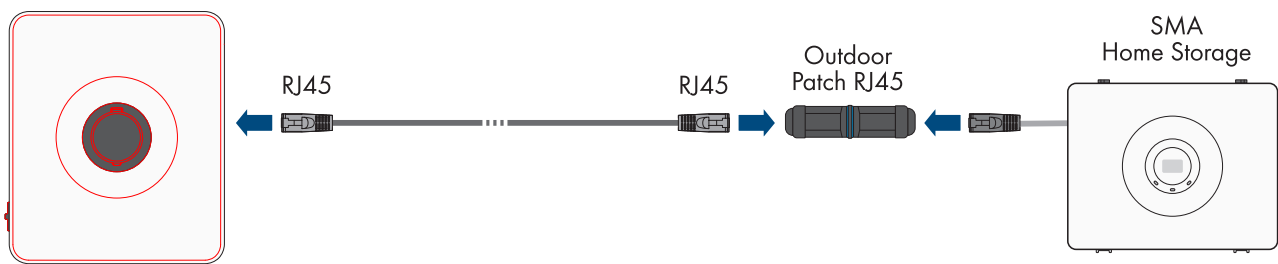


Figure 2: Cabling plan of Sunny Boy Smart Energy with SMA Home Storage

**Also see:**

- Battery Communication Cable Requirements ⇒ page 4

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