



AS/NZS 4777.2:2020 Technical Information

SBSE3.6-50 SBSE4.0-50 SBSE5.0-50 SBSE6.0-50 SBSE8.0-50 SBSE9.9-50

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1 Disclaimer

Every attempt has been made to make this document complete, accurate and up-to-date. Readers are cautioned, however, that changes to local regulations or product improvements may cause SMA Australia to make changes to this document without advance notice. SMA Australia shall not be responsible for any damages, including indirect, incidental or consequential damages, caused by reliance on the material presented, including, but not limited to, omissions, typographical errors, arithmetical errors or listing errors in the content material.

It is therefore recommended that you always check for the latest version prior to following the instructions in this document.

2 Scope

This document is intended to cover the following SMA models:

Inverter model
SBSE3.6-50
SBSE4.0-50
SBSE5.0-50
SBSE6.0-50
SBSE8.0-50
SBSE9.9-50

Table 1: In scope inverters

As of December 18th, 2021 all inverters installed in Australia must comply with one of the pre-set region setting sets described in AS/NZS 4777.2:2020.

1. Australia A
2. Australia B
3. Australia C

All three regions contain the default Power Quality, Volt-Watt, Volt-Var, Frequency/Voltage Response and grid protection settings. Should you require advice or changes to protection settings please reach out to the SMA technical support for assistance.

The following inverters have not been tested to AS/NZS 4777.2:2020 for multiple inverter combinations: SBSE3.6-50, SBSE4.0-50, SBSE5.0-50, SBSE6.0-50, SBSE8.0-50, SBSE9.9-50.

3 Connecting to the inverter

3.1.1 Required equipment

- a. Laptop with WiFi and/or Ethernet port with a Web Browser eg. Chrome, Firefox, Edge.
 - i. Due to file size it is recommended to download the firmware prior to site visit.

3.1.2 Connection

- a. Via WiFi connection – refer to **3.1.2.1**
- b. Via Ethernet – refer to **3.1.2.2**

3.1.2.1 Connecting via Wi-Fi

- a. Search for the WLAN of the inverter.
The name will follow the format **SMA [serial number]**.
- b. Use the device specific **WPA2-PSK password**. The WPA2-PSK password can be found on the type label on the side of the inverter.

SMA Solar Technology AG Sonnenallee 1 34266 Niestetal Germany www.SMA.de			
SUNNY BOY Hybrid Inverter made in Germany by SMA Solar Technology AG Model: SBSE 6.0-50			
AC (in/out) 1-phase 50Hz/60Hz	I rated/I max P rated S rated,max V min/nom/max cos phi	26/30 A 6000 W 6000 VA 183/230/253 V 0.8 ... 1 ... 0.8	
S/N [redacted] Date of manufacture 23-11-2023	PV (in)	V max V mpp I max Isc max Isc max, all inputs	600 Vdc 60 - 480 Vdc 15 A 30 A 60 A
PIC: [redacted] RID: [redacted] WPA2-PSK: QUH6GQZE26Y7Z59A	BAT (in/out)	V max V oper I max	500 Vdc 90 - 500 Vdc 30 A
	SPS (out) 1-phase 50Hz	V ac I rated,max P rated S rated,max	230 Vac 16 A 3680 W 3680 VA

Image 1: Example of WPA password

- c. Open a web browser and enter in the IP address **192.168.12.3**.

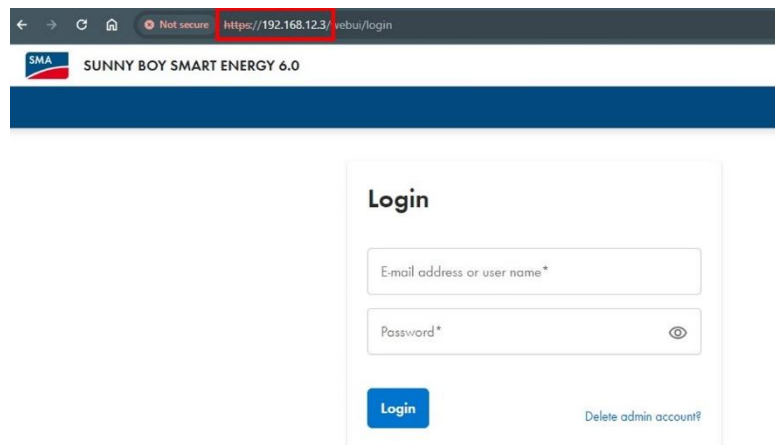


Image 2: Wi-Fi Login Menu

3.1.2.2 Connecting via Ethernet

- a. Connect your laptop to the inverter's ethernet port.

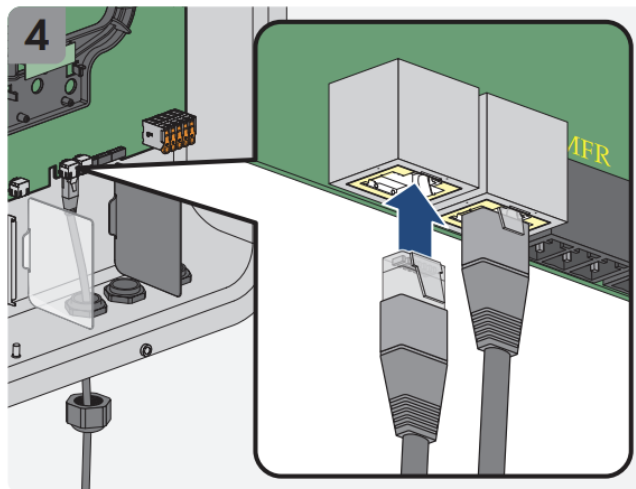
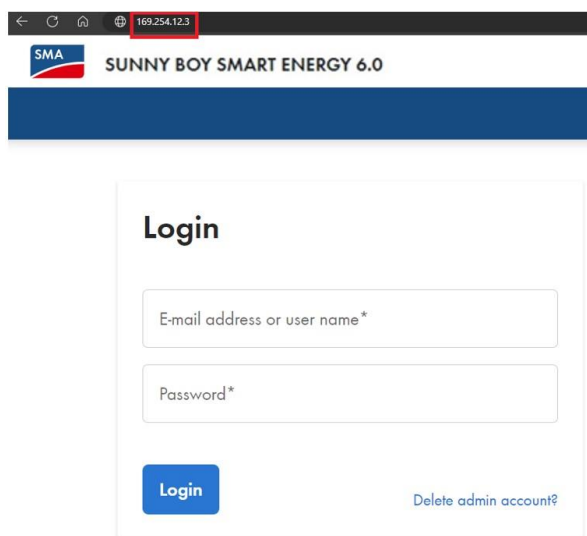


Image 3: Ethernet connection

- b. Open a web browser and enter in the IP address **169.254.12.3**.



The screenshot shows a web browser window with the address bar displaying **169.254.12.3**. The page header features the SMA logo and the text **SUNNY BOY SMART ENERGY 6.0**. The main content area is titled **Login** and contains two input fields: **E-mail address or user name*** and **Password***. Below the fields is a blue **Login** button and a link [Delete admin account?](#).

Image 4: Ethernet Login Menu

4 Commissioning Inverter

Commissioning the inverter can be done by:

- a. Web Browser on a laptop – Mac and Windows.

DNSP	Country Standard
Ausgrid Ausnet Citipower Endeavour Energy Energex Ergon Essential Energy Evoenergy Jemena SA Power Networks Ausgrid PowerCor United Energy	[AU] AS/NZS 4777.2:2020 Generator Region A
Western Power	[AU] AS/NZS 4777.2:2020 Generator Region B
Horizon Power TasNetworks	[AU] AS/NZS 4777.2:2020 Generator Region C
New Zealand DNSP	[AU] AS/NZS 4777.2:2020 Generator Region NZ

Table 2: AS/NZS4777 Standard by DNSP

4.1 Via Web Browser

Please refer to section 3.1.2 for connection via Wi-Fi or Ethernet.

4.1.1 Commissioning Wizard

NOTE: The commissioning wizard is only shown upon first connection, after successful commissioning a factory reset needs to be performed before the wizard will be shown again. Adjustments to parameters etc. do not require a factory reset.

1. Check the firmware version, internet connection and continue.

SMA SUNNY BOY SMART ENERGY 6.0

Sunny Boy Smart Energy 6.0

START

- ☐ Welcome
- ☐ Administrator registration
- ☐ Device function
- ☐ Communication and updates

GETTING TO KNOW THE SYSTEM

CONFIGURING THE SYSTEM

COMPLETION

Network configuration

IP address 192.168.0.7

IF address of WiFi 172.22.0.1

Device time 06/17/2024 11:56 AM

Connection to time server ✓ Time is synchronized

Connection to Sunny Portal ✓ Connected

[Change the network configuration](#)

Firmware

Firmware version 03.08.07.R

Device function

[Start restoration](#)

[Continue >](#)

Image 5: Commissioning Wizard Step 1

2. Setup a user account, make note of the username and password as this cannot be reset without performing a user account factory reset.

SMA SUNNY BOY SMART ENERGY 6.0

Sunny Boy Smart Energy 6.0

START

- Welcome
- Administrator registration**
- Device function
- Communication and updates

GETTING TO KNOW THE SYSTEM

CONFIGURING THE SYSTEM

COMPLETION

Administrator registration

The administrator can access the device locally as well as create other users to access this device.

Personal data

☒ Mr. ☐ Ms.

First name*

Last name*

User name*

Assign password

Password*

Repeat password*

Password required

- At least 1 lowercase letter
- At least 1 uppercase letter
- At least 1 number
- At least 1 special character
- 10-50 characters
- Only permitted symbols

Continue >

Image 6: Admin account

3. Create a device name and select system manager, then continue.

SMA SUNNY BOY SMART ENERGY 6.0

Sunny Boy Smart Energy 6.0

START

- Welcome
- Administrator registration
- Device function**
- Communication and updates

GETTING TO KNOW THE SYSTEM

CONFIGURING THE SYSTEM

COMPLETION

Device function

Please enter a device name and determine the function in the system.

Device name*

My device

Select operating principle in the system

Device as System Manager

The device controls the system without further subordinate system managers.

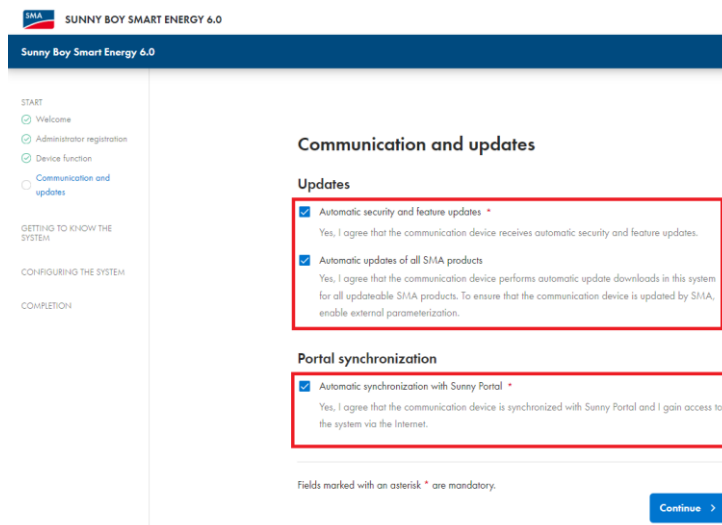
Lower-level inverter

The inverter does not perform any closed-loop or open-loop control. The inverter can receive and implement setpoints from a system manager.

Continue >

Image 7: Device config

4. Tick all boxes and continue.



SUNNY BOY SMART ENERGY 6.0

Sunny Boy Smart Energy 6.0

START

- Welcome
- Administrator registration
- Device function
- Communication and updates

GETTING TO KNOW THE SYSTEM

CONFIGURING THE SYSTEM

COMPLETION

Communication and updates

Updates

- ☒ Automatic security and feature updates *
Yes, I agree that the communication device receives automatic security and feature updates.
- ☒ Automatic updates of all SMA products
Yes, I agree that the communication device performs automatic update downloads in this system for all updateable SMA products. To ensure that the communication device is updated by SMA, enable external parameterization.

Portal synchronization

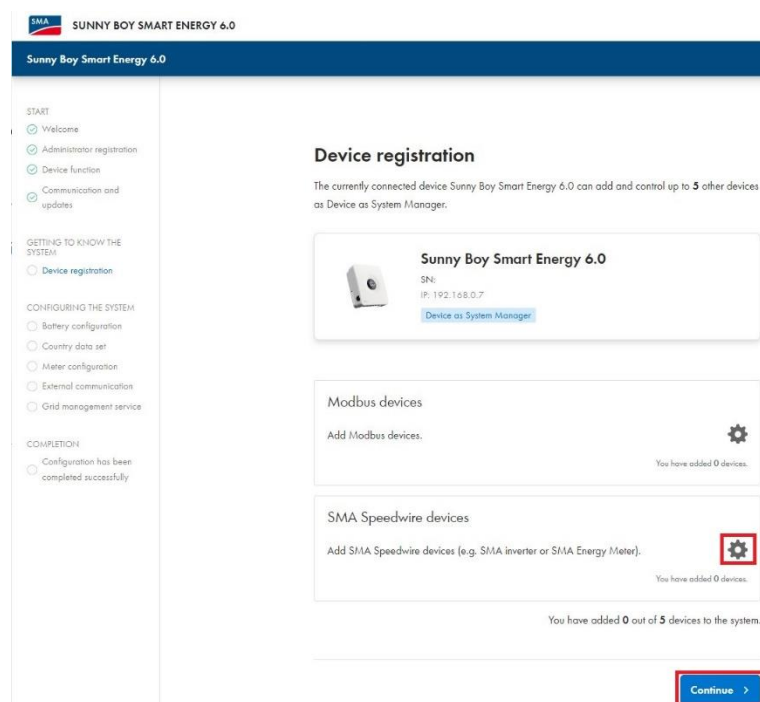
- ☒ Automatic synchronization with Sunny Portal *
Yes, I agree that the communication device is synchronized with Sunny Portal and I gain access to the system via the Internet.

Fields marked with an asterisk * are mandatory.

[Continue >](#)

Image 8: Automatic updates

5. Add SMA Home Manager or SMA Energy Meter as Speedwire devices.



SUNNY BOY SMART ENERGY 6.0

Sunny Boy Smart Energy 6.0

START

- Welcome
- Administrator registration
- Device function
- Communication and updates
- Device registration

GETTING TO KNOW THE SYSTEM

CONFIGURING THE SYSTEM

- Battery configuration
- Country data set
- Meter configuration
- External communication
- Grid management service

COMPLETION

- Configuration has been completed successfully

Device registration

The currently connected device Sunny Boy Smart Energy 6.0 can add and control up to 5 other devices as Device as System Manager.



Sunny Boy Smart Energy 6.0
SN: IP: 192.168.0.7
[Device as System Manager](#)

Modbus devices

Add Modbus devices.  You have added 0 devices.

SMA Speedwire devices

Add SMA Speedwire devices (e.g. SMA inverter or SMA Energy Meter).  You have added 0 devices.

You have added 0 out of 5 devices to the system.

[Continue >](#)

Image 9: Adding Speedwire Devices

6. If the system has battery installed, add the battery model. Contact Solar Academy or refer to SMA Website for compatible batteries.

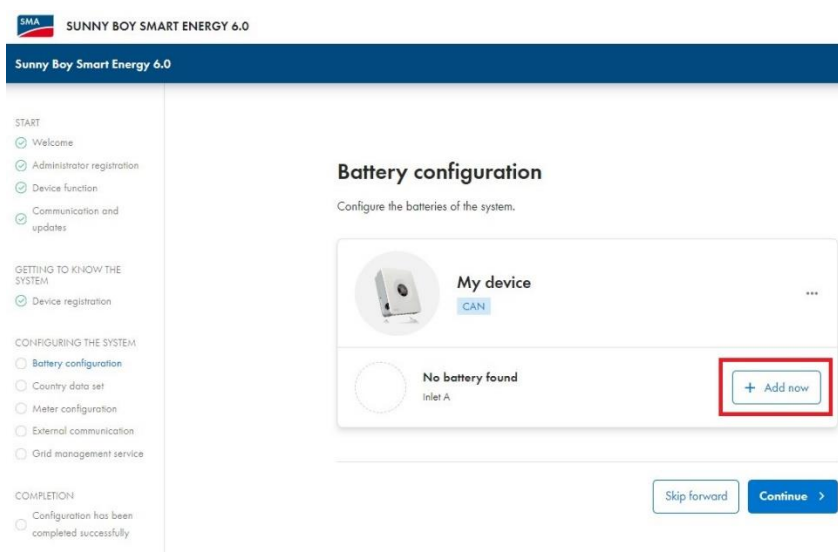


Image 10: Battery Configuration

7. Select the right country standard from the list.

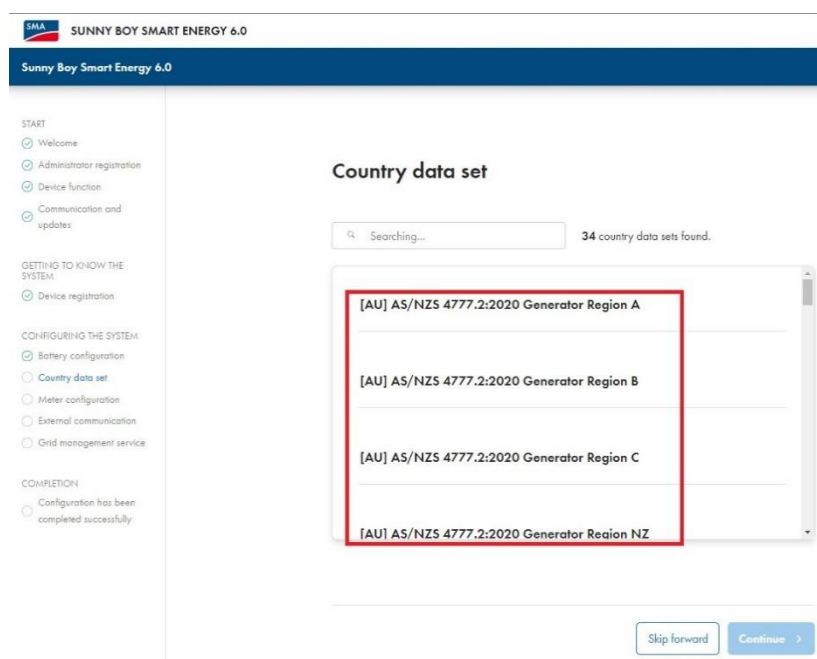


Image 11: Selection of Country Standard

8. After step 7, the remaining steps are only for export limiting which is not covered in this document.
9. It's recommended to update the firmware after commissioning. Refer to Chapter 5 for instructions.
10. Configuration has been completed successfully, then Continue.

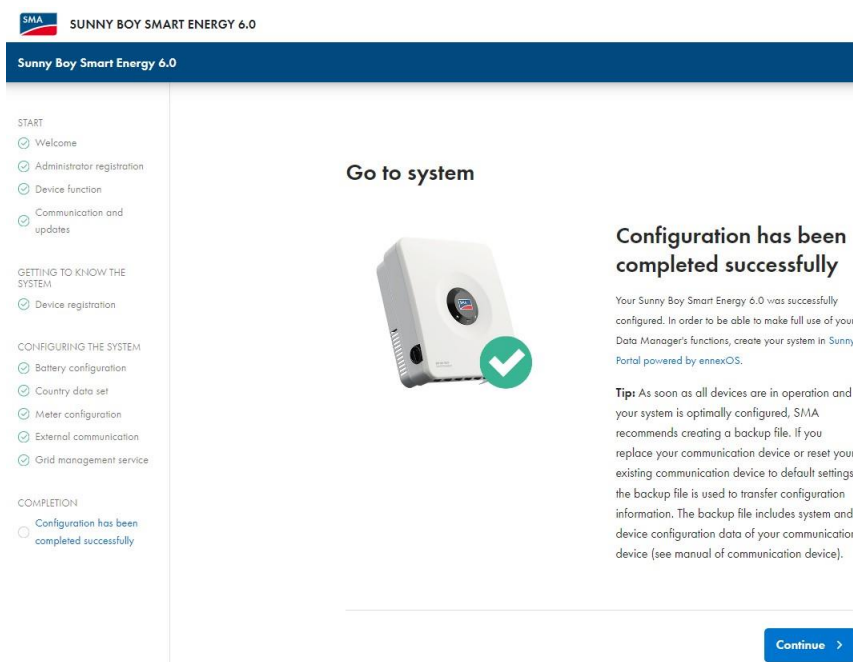


Image 12: Commissioning Complete

4.1.2 Changing grid protection & power quality response modes

To change the settings associated with power quality and grid protection, please reach out to the service team on +61 2 9491 4200 between 8am to 6pm Monday to Friday AEDT or via email on service@sma-australia.com.au.

5 Firmware update

Please refer to **Table 1** for applicable devices and minimum firmware versions. We recommend using the latest firmware from the [website](#) if it is newer than the one listed below.

Inverter model	Minimum firmware
SBSE3.6-50 SBSE4.0-50 SBSE5.0-50 SBSE6.0-50 SBSE8.0-50 SBSE9.9-50	3.08.03.R

Table 3: Minimum Firmware Requirements

5.1 Procedure

5.1.1 Required equipment

- a. Laptop with WiFi and/or Ethernet port with a Web Browser eg. Chrome, Firefox, Edge.
 - i. Due to file size it is recommended to download the firmware prior to site visit.

5.1.2 Connection

- a. Via WiFi connection – refer to **3.1.2.1**
- b. Via Ethernet – refer to **3.1.2.2**

5.1.2.1 Updating Firmware

- a. Enter the **Username** as configured during initial commissioning.
- b. Once logged in navigate to the **Configuration > Update and backup** via the menu.

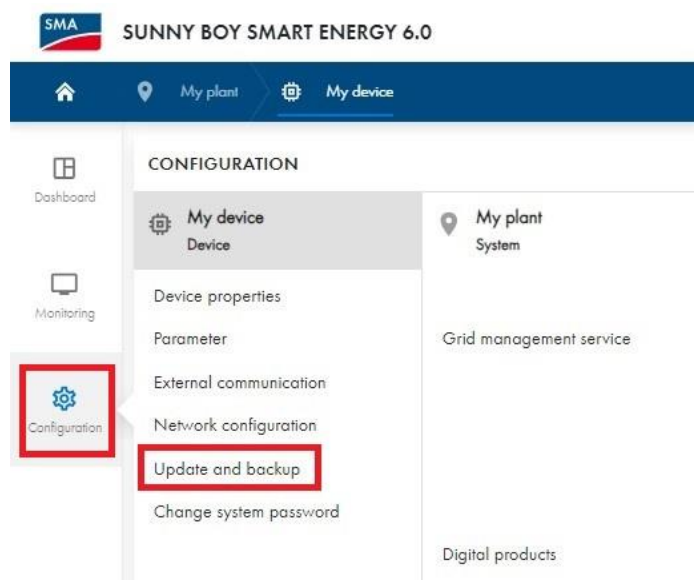


Image 13: Update the Firmware

- c. Click on **Select the file...** locate the appropriate firmware update on your device and click **Start Update**.

Note:

Depending on the firmware, the update process will take some time to complete. During this time, the file will be uploaded from your smart device to the inverter. Once this upload process reaches 100%, the inverter will install the new firmware. During which, you will lose connection between your smart device and the inverter. Wait 5 minutes after losing connection, before reconnecting to the inverter's WebUI.

When the update is complete, you will be able to verify this by navigating to **Events** and finding an entry **Update completed**.

Update and backup

Automatic updates

- ☒ Enable function and security updates for this communication device
- ☐ Enable function and security updates for all updateable SMA products of the system via this communication device

Backup

Here you can create and save a backup file of your device. The backup file can be used to restore important configurations.

[Creating a backup file](#)

Manual update

Select an update file to be transferred to the device.

[Select the file.](#)

[Start update](#)

Image 14: Firmware Update selection

6 Checking of Parameters

To verify that the Firmware and Country Standard are correct, it can be done via the following method.

- a. WebUI of the inverter

6.1 Country Standard & Firmware

1. Login to the inverter via methods in section 3.1.2.
2. Select the inverter name or SN in the webUI.

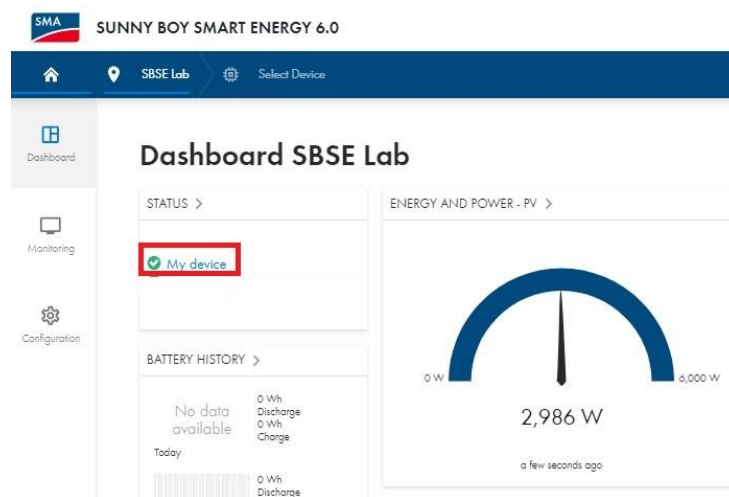


Image 15: Selecting device

3. Click on Configuration > Parameters.

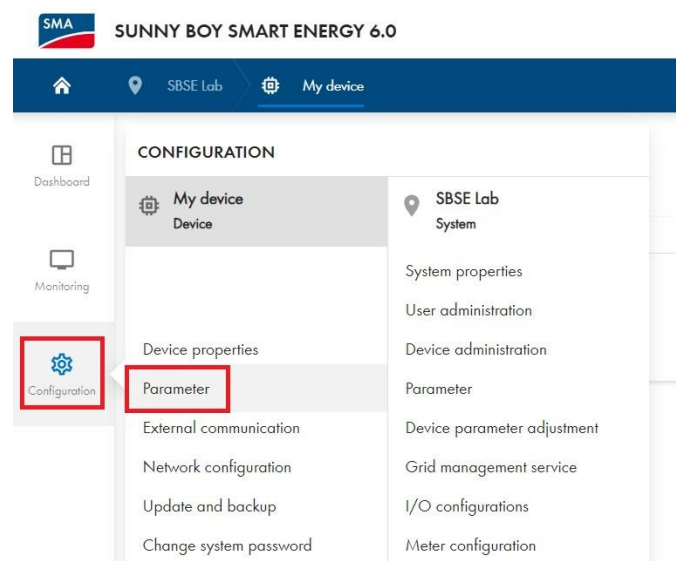


Image 16: Parameter adjustment

4. Enter in the search term “grid monitoring”.

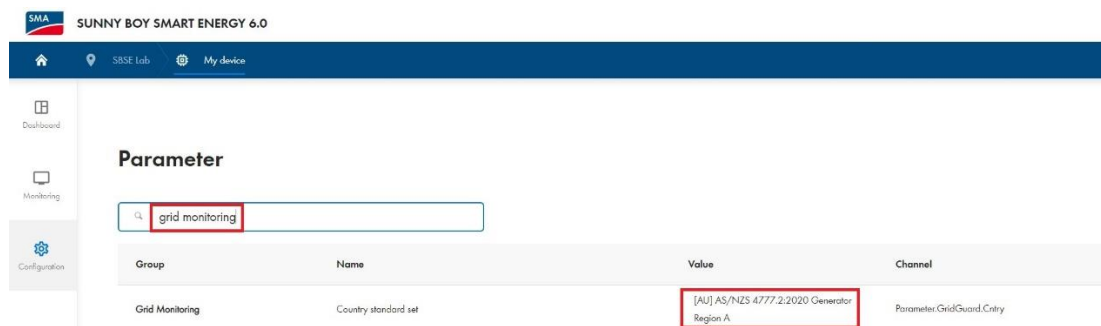


Image 17: Country Standard

5. To check firmware, under the same menu type in “firmware”.

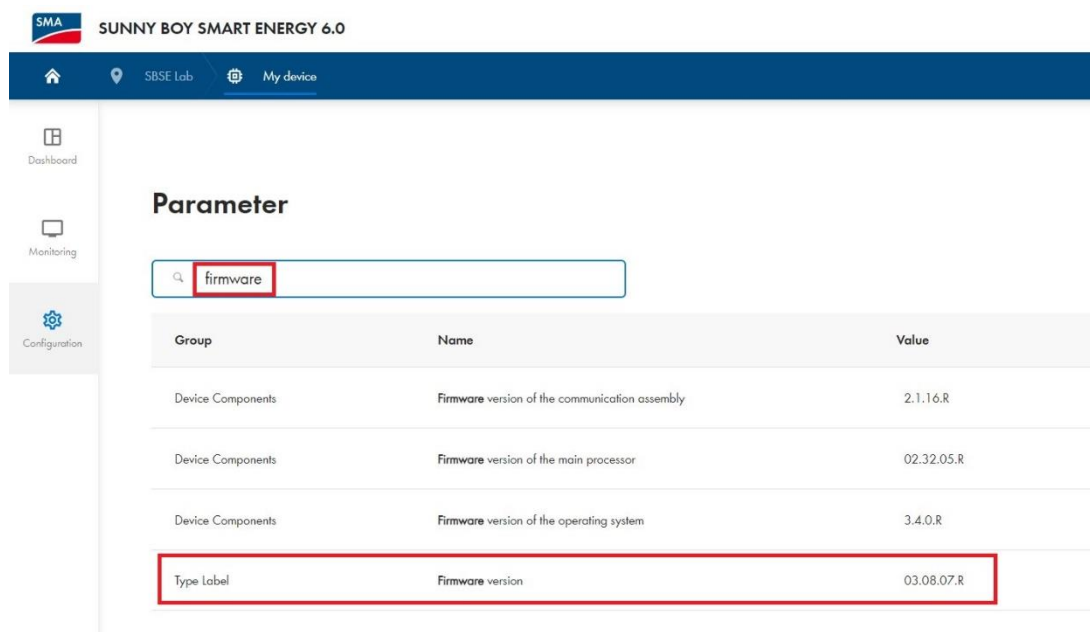


Image 18: Checking Firmware

6.2 Grid Protection and Power Quality Settings

6.2.1 Volt-Watt

To verify Volt-Watt settings search for **P(V)** and click on download as shown in image 19. The downloaded settings will be in a CSV format.

6.2.2 Volt-Var

To verify Volt-Var settings search for **Q(V)** and click on download as shown in image 19. The downloaded settings will be in a CSV format.

6.2.3 Frequency Protection

To verify Frequency Protection settings search for **Frequency Monitoring** and click on download as shown in image 19. The downloaded settings will be in a CSV format.

6.2.4 Voltage Protection

To verify Voltage Protection settings search for **Voltage Monitoring** and click on download as shown in image 19. The downloaded settings will be in a CSV format.

6.2.5 Over/Under Frequency

To verify Over/Under Frequency Protection settings search for **P(F)** and click on download as shown in image 19. The downloaded settings will be in a CSV format.

6.2.6 Fixed Power Factor

To verify Fixed Power Factor settings search for **Manual cos ϕ setting** and click on download as shown in image 19. The downloaded settings will be in a CSV format.

6.2.7 Fixed Reactive Power

To verify Fixed Reactive Power settings search for **Manual reactive power** and click on download as shown in image 19. The downloaded settings will be in a CSV format.

6.2.8 Ramp Rate

To verify Ramp Rate settings search for **WGra** and click on download as shown in image 19. The downloaded settings will be in a CSV format.



Image 19: Grid quality settings download

Version		4		
Language	en-US			
Local export date				
Export UTC date				
Time zone	Australia/Sydney			
User name	service			
Level	Device			
System ID	Plant 1			
System name	SBSE Lab			
Device ID	IGULD-SELF			
Device name	My device			
Serial number of device				
Group	Name	Value	Translated Unit	Channel
System and device control	P(V), tripping delay	0	0 s	Parameter.Inverter.WModCfg.WCtiVolCfg.ActTms
System and device control	P(V), number of points used	2	2	Parameter.Inverter.WModCfg.WCtiVolCfg.Crv.NumPt
System and device control	P(V), voltage value	1.1	1.1 p.u.	Parameter.Inverter.WModCfg.WCtiVolCfg.Crv.XVal[0]
System and device control	P(V), voltage value	1.13	1.13 p.u.	Parameter.Inverter.WModCfg.WCtiVolCfg.Crv.XVal[1]
System and device control	P(V), voltage value	2	2 p.u.	Parameter.Inverter.WModCfg.WCtiVolCfg.Crv.XVal[2]
System and device control	P(V), voltage value	2	2 p.u.	Parameter.Inverter.WModCfg.WCtiVolCfg.Crv.XVal[3]
System and device control	P(V), voltage value	2	2 p.u.	Parameter.Inverter.WModCfg.WCtiVolCfg.Crv.XVal[4]
System and device control	P(V), voltage value	2	2 p.u.	Parameter.Inverter.WModCfg.WCtiVolCfg.Crv.XVal[5]
System and device control	P(V), voltage value	2	2 p.u.	Parameter.Inverter.WModCfg.WCtiVolCfg.Crv.XVal[6]
System and device control	P(V), voltage value	2	2 p.u.	Parameter.Inverter.WModCfg.WCtiVolCfg.Crv.XVal[7]
System and device control	P(V), active power value	100	100 %	Parameter.Inverter.WModCfg.WCtiVolCfg.Crv.YVal[0]
System and device control	P(V), active power value	20	20 %	Parameter.Inverter.WModCfg.WCtiVolCfg.Crv.YVal[1]
System and device control	P(V), active power value	0	0 %	Parameter.Inverter.WModCfg.WCtiVolCfg.Crv.YVal[2]
System and device control	P(V), active power value	0	0 %	Parameter.Inverter.WModCfg.WCtiVolCfg.Crv.YVal[3]
System and device control	P(V), active power value	0	0 %	Parameter.Inverter.WModCfg.WCtiVolCfg.Crv.YVal[4]
System and device control	P(V), active power value	0	0 %	Parameter.Inverter.WModCfg.WCtiVolCfg.Crv.YVal[5]
System and device control	P(V), active power value	0	0 %	Parameter.Inverter.WModCfg.WCtiVolCfg.Crv.YVal[6]
System and device control	P(V), active power value	0	0 %	Parameter.Inverter.WModCfg.WCtiVolCfg.Crv.YVal[7]
System and device control	P(V), activation	308	On	Parameter.Inverter.WModCfg.WCtiVolCfg.Ena
System and device control	P(V), low priority	308	On	Parameter.Inverter.WModCfg.WCtiVolCfg.LoPrioEna
System and device control	P(V), type of reference voltage	4520	Mean value of phase	Parameter.Inverter.WModCfg.WCtiVolCfg.VRefMod
System and device control	P(V), limitation of change rate	303	Off	Parameter.Inverter.WModCfg.WCtiVolCfg.WGraEna
System and device control	P(V), decrease rate	20	20 %/s	Parameter.Inverter.WModCfg.WCtiVolCfg.WGraNeg
System and device control	P(V), increase rate	20	20 %/s	Parameter.Inverter.WModCfg.WCtiVolCfg.WGraPos
System and device control	P(V), type of reference active power	4405	Maximum active power	Parameter.Inverter.WModCfg.WCtiVolCfg.WRefMod
System and device control	P(V), nominal value filter	308	On	Parameter.Inverter.WModCfg.WCtiVolCfg.WTmEna
System and device control	P(V), setting time, nominal value filter	3	3 s	Parameter.Inverter.WModCfg.WCtiVolCfg.WTms

Image 20: P(V) settings CSV

7 Export Limiting

Soft Export Limit of SBSE with SMA Sunny Home Manager 2.0 as the Controller has been tested under AS/NZS 4777.2020 Appendix L.

Further instructions on how to set the export limit with these combinations, please refer to

[Export Limiting AS4777.2020 – Home Manager 2.0 as Controller](#)

8 Earth Fault Alarm

The inverter detects earth faults by the measurement of insulation resistance between the DC side and ground prior to operation, and residual current during operation. Earth faults (and other faults) trigger the inverter's earth fault alarm. The following is a summary of these alarms.

Inverter model	Visual LED on Inverter	Audible alarm	Remote Alarm
SBSE3.6-50 SBSE4.0-50 SBSE5.0-50 SBSE6.0-50 SBSE8.0-50 SBSE9.9-50	Yes	No	Optional via Sunny Portal

Table 5: Earth Fault Alarm

8.1 Sunny Portal Remote Alarm Setup

The inverter's Earth Fault Alarm can be configured once the plant is registered in Sunny Portal. In the event of an earth fault, a report with the corresponding events will be emailed to nominated addresses. A report will then be sent every hour until the earth fault is acknowledged in Sunny Portal or cleared.

For instructions on how to register your plant in Sunny Portal, please refer to the respective Sunny Portal User Manual for your plant:

- Webconnect (no communication devices): [User Manual - SUNNY PORTAL powered by ennexOS \(sma.de\)](#)

Once your plant is registered in Sunny Portal, continue to set up the Earth Fault Alarm using the following instructions:

1. Login to your Sunny Portal account on ennexos.sunnyportal.com.

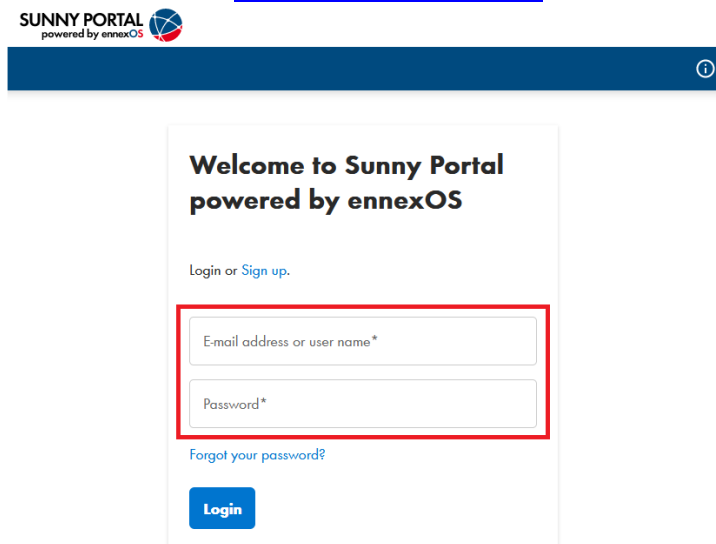


Image 21: EnnexOS Login

2. Expand the **Configuration** tab and select **Notifications**.

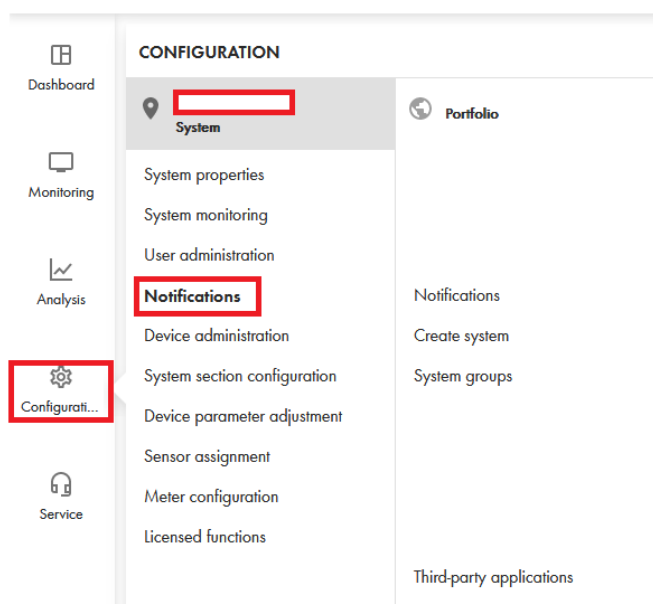


Image 22: Notification

- Expand the drop-down menu at the top of the page and select the option **Event report for errors in accordance with the standard**.

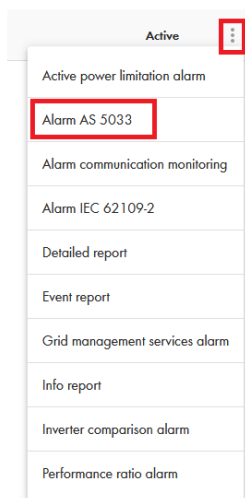


Image 23: Event Report Selection

- Once selected the report is automatically created with the email used to login to Sunny Portal as the default address.

Notifications

Type	Designation	Configuration	Level	Systems	E-mail	Cycle	Active	
	Alarm AS 5033				your email	Immediately		

Image 24: Earth Fault alarm

- You have now set up the Earth Fault Alarm for your inverter.

9 Secure Power Supply (SPS)

To comply with local wiring regulations and enable SPS function, refer to the wiring diagram in section 9.1, review the notes in 9.2 and activate the SPS function through the SBSE WebUI as described in section 9.3.

9.1 Connection Diagram

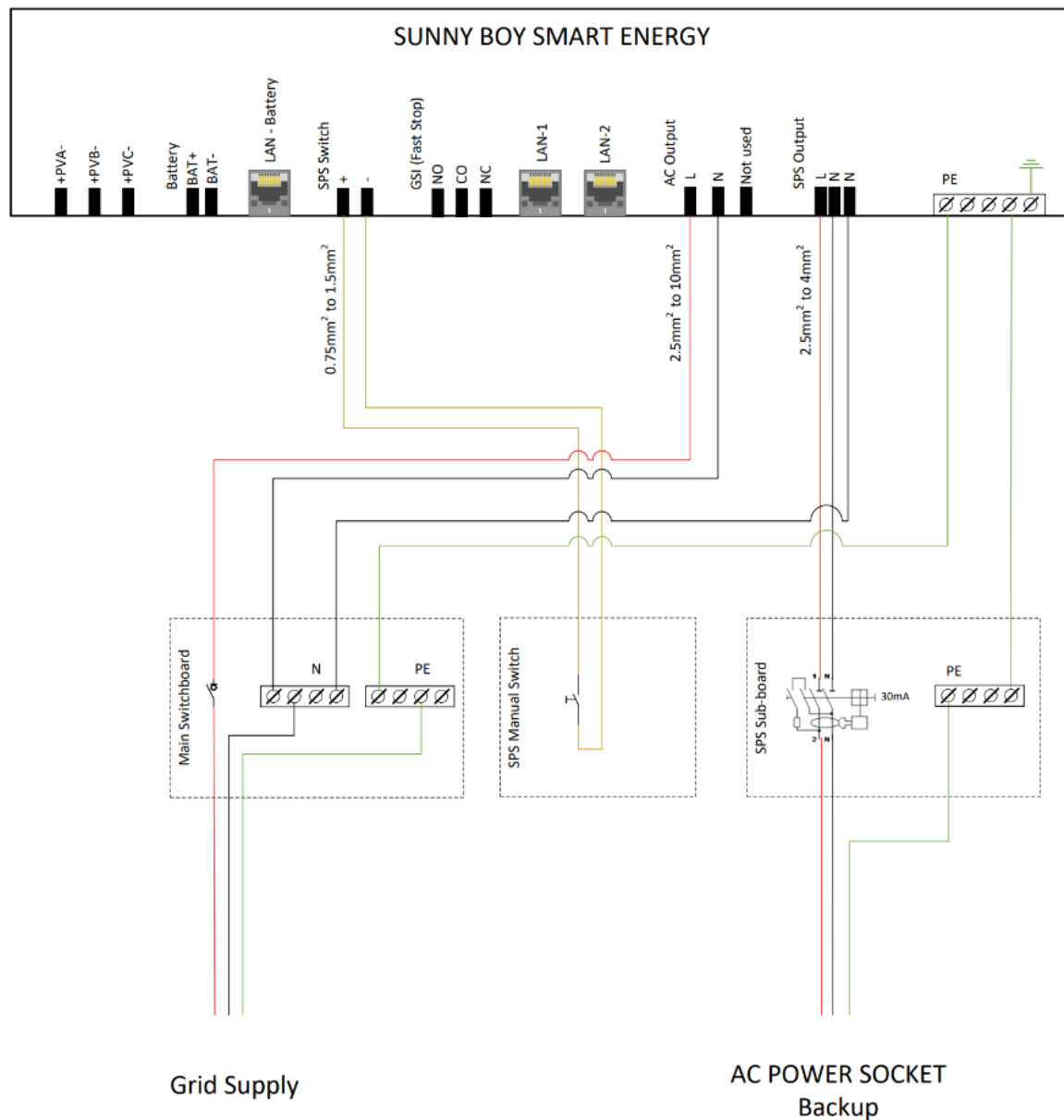


Image 25: Secure Power Supply Connection Diagram

9.2 Wiring Notes

1. SPS in this drawing refers to secure power supply working as a backup circuit when grid is not available.
2. To safely operate the SPS function, the installer must ensure the system is properly wired and SPS backup is enabled on the SBSE WebUI. The user must manually close the switch that connects to SPS switch before backup can be activated.
3. Turn off the battery, disconnect the SBSE from both DC and AC power sources, and ensure the system is completely de-energized before working on any live conductors within the SBSE
4. Bridging the SPS switch is not recommended, as it can expose the installer to a live system, potentially resulting in electrical shock.
5. For SPS, a cable bridge between N and earth busbar should not be fitted to avoid creating a second MEN.

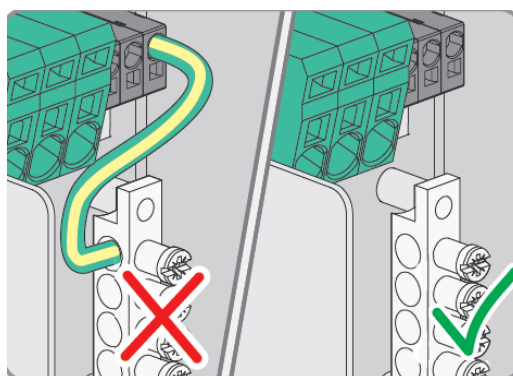


Image 26: Disconnect Neutral from the Earth Busbar

6. Select a 10A or 15A rated socket outlet based on the load and choose a RCBO device accordingly. The RCBO at a minimum must be type A with 30mA earth leakage sensitivity.
7. AC isolator may be required. Please refer to relevant Australia and New Zealand Standards.
8. To maintain neutral continuity on the load connected to the SPS output, one of the Neutral terminals on the SPS output needs to maintain continuity with the main switchboard.
9. Cable sizing stated in the diagram is the accepted range for each terminal. The sizing of cable shall follow AS/NZS 3000, AS/NZS 3008 and any additional requirements stated in the instruction manual.

9.3 Activate SPS through SBSE WebUI

Enabling the SPS function on the Inverter WebUI is a crucial step alongside proper wiring. The following procedures outline how to activate the secure power supply feature through the Inverter WebUI.

1. On the dashboard page, navigate to the **Status** section and click on **SBSE**.

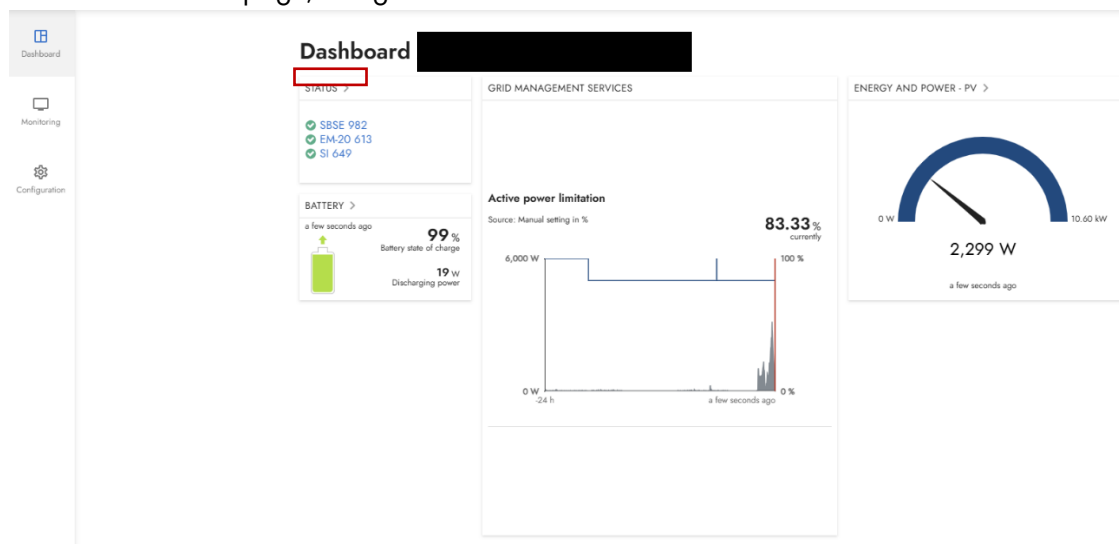


Image 27: SBSE WebUI

2. Click on **Configuration** in the left menu bar, then select **Parameter** under **SBSE**.

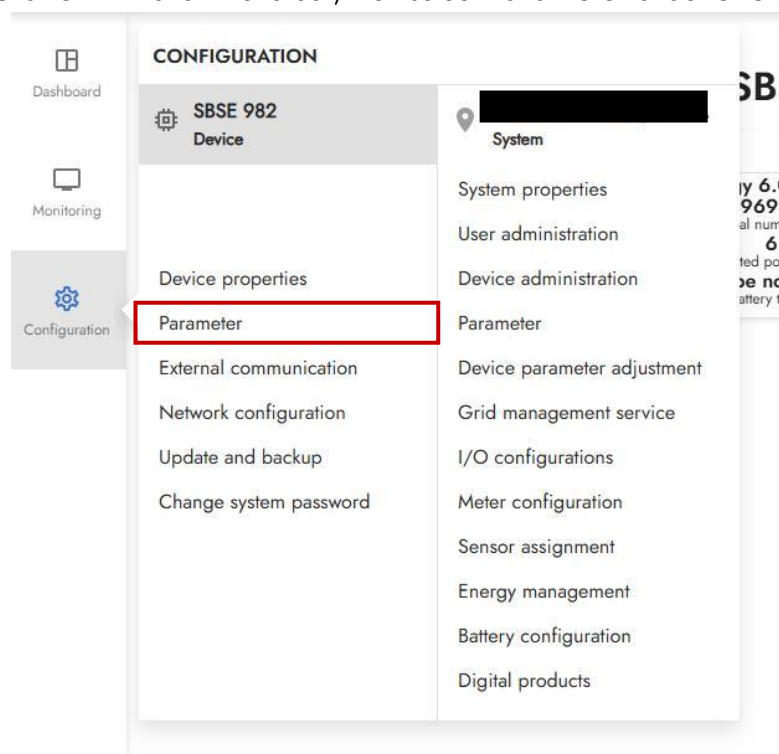


Image 28: Parameter under Configuration

- In the search field, type "backup," then select **Emergency Power Mode** from the drop-down list under the **Backup Type** configuration line.

Parameter

🔍 backup

Group	Name	Value	Channel
AC Side	Limit for maximum continuous AC current in <i>backup</i> operation	33.7 A	Parameter.Bck.AMaxLim
AC Side	Voltage monitoring lower maximum limit in <i>backup</i> operation	1.1 p.u.	Parameter.Bck.VolCtLhLimPu
AC Side	<i>Backup</i> voltage	230 V	Parameter.Bck.Vset
Device	Interruption of load supply during the transition from <i>backup</i> to feed-in operation.	5 s	Parameter.Operation.BckCbSwDI
AC Side	Operating mode of <i>backup</i> mode of PV inverter	Off ▾	Parameter.Operation.BckOpModPv
Device	Minimum duration of grid return for deactivation of <i>backup</i> operation.	300 s	Parameter.Operation.BckSwOffDI
Device	Minimum duration of grid fault for start of <i>backup</i> operation.	5 s	Parameter.Operation.BckSwOnDI
AC Side	Configuration of the <i>backup</i> type	— ▾	Parameter.Operation.BckTyp
AC Side	Activation of Manual Restart for reoccurring short-circuit faults in <i>backup</i> operation mode.	— ✓ Automatic secure power supply operation Emergency power mode	Parameter.Operation.ManRstr.ManRstrBckSc

Image 29: Enable SPS Function

- Save** the changes on the **Parameters** page to enable the SPS function via the inverter WebUI.



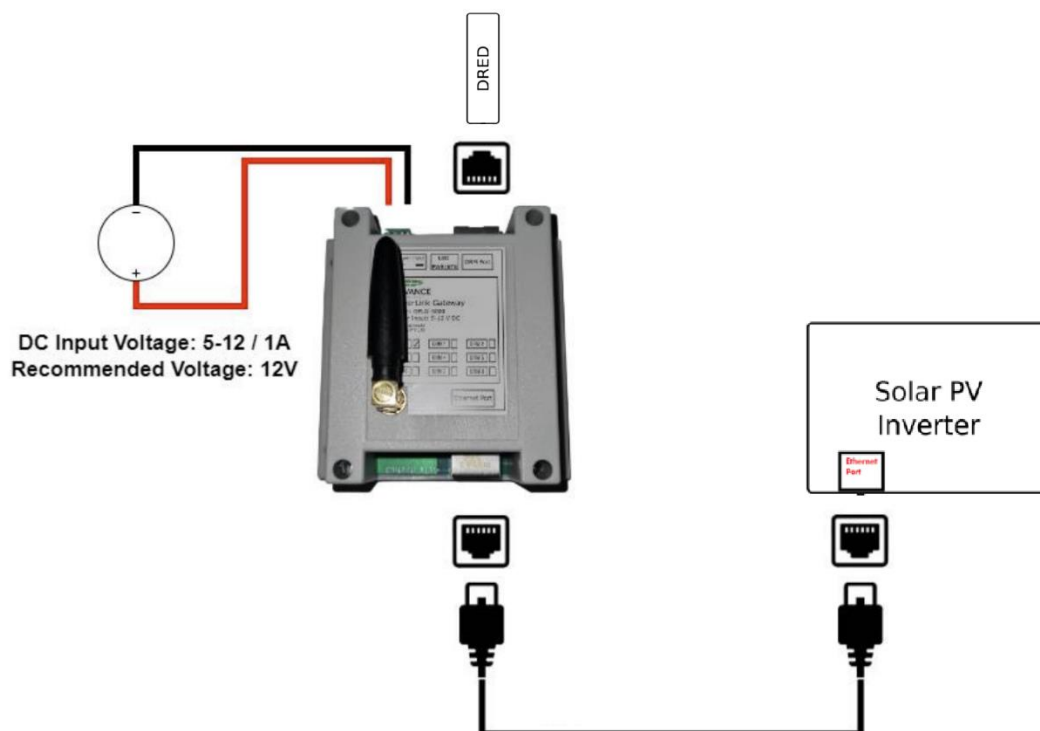
Image 30: Save changes in Parameters page

10 DRED / DRM

10.1 Connection to a DRED

Inverter connection to a demand response enable device (DRED) is possible with an approved modbus Demand Response controller (DRC) such as provided by Olivance:

[Olivance Powerlink - Olivance](#)



Olivance Powerlink Availability

This is currently provided for free via a website redemption - [SMA DRM Controller Redemption for QLD Emergency Backstop](#).

The modbus TCP parameter must be enabled on the inverter.

1. Login to the inverter's WebUI as an installer, refer to section **3.1.2** or **4.1** depending on different connection methods.

2. Navigate to **Configuration > External Communication > Carry out initial configuration** and check **Enable Modbus server**.

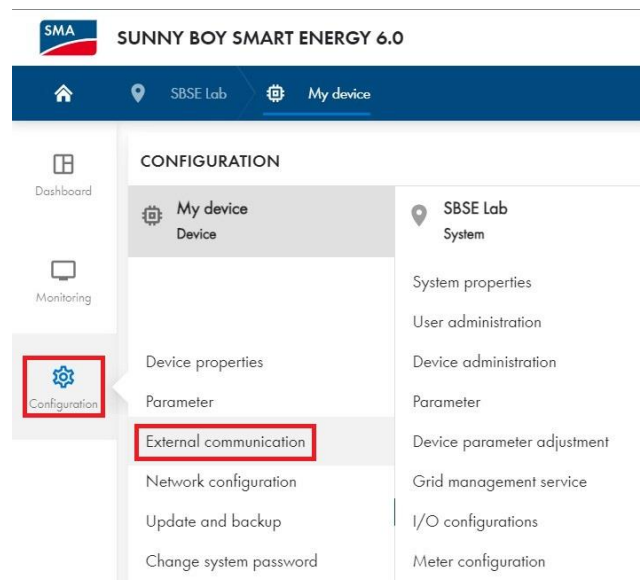


Image 31: External Communication

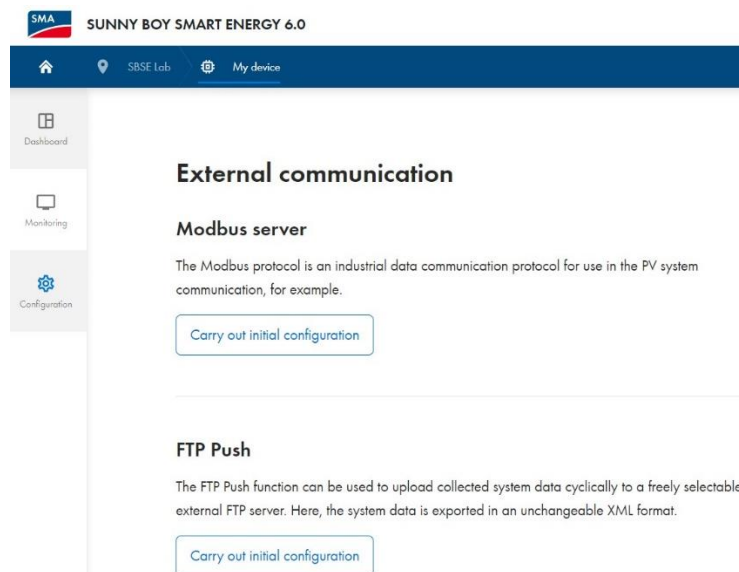


Image 32: Modbus Configuration

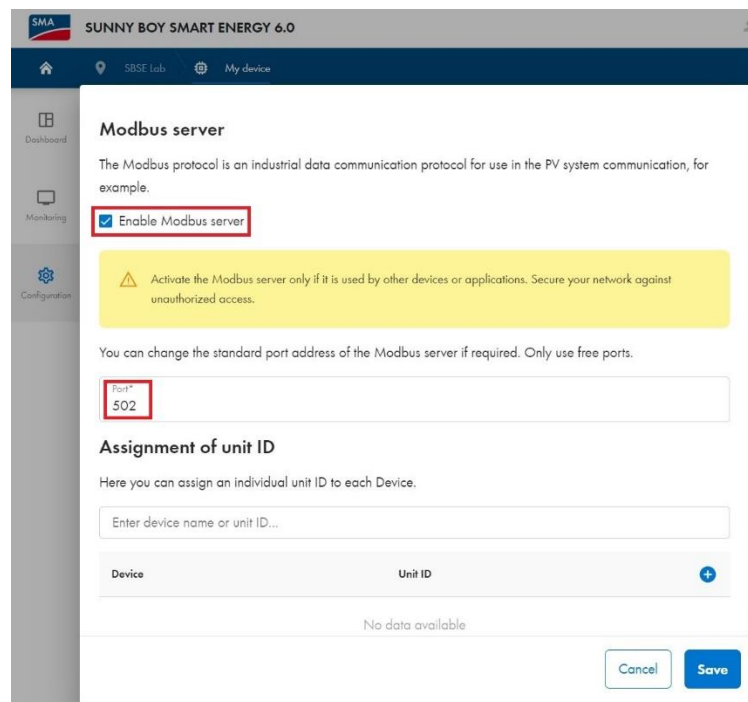


Image 33: Enabling Modbus

10.2 DRM Modes

Currently DRMO is the only DRM mode available for the inverter models in this document.

11 Startup and Shut Down Procedure

Incorrect startup/shut down procedure can damage the inverter, make sure to follow the instructions below.

Please consult with a qualified person before performing the below steps.

11.1 Startup Procedure

1. If the DC load-break switch has been protected with a padlock, open and remove the padlock on the DC load-break switch.
2. Hang the side covers on the hooks on the left and right of the mounting bracket and slide them downwards.

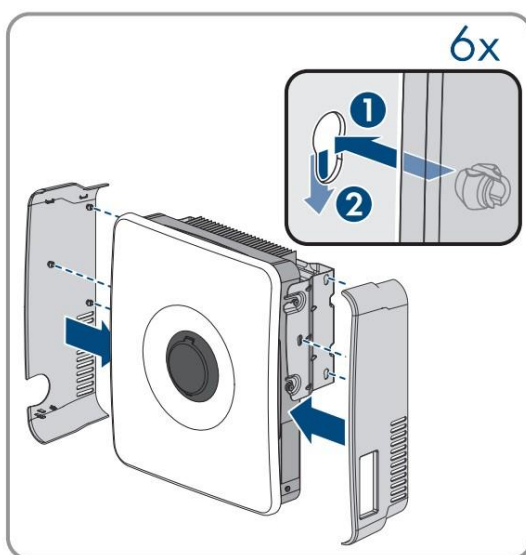


Image 34: Mounting bracket

3. Press the side covers downwards until an audible click can be heard.

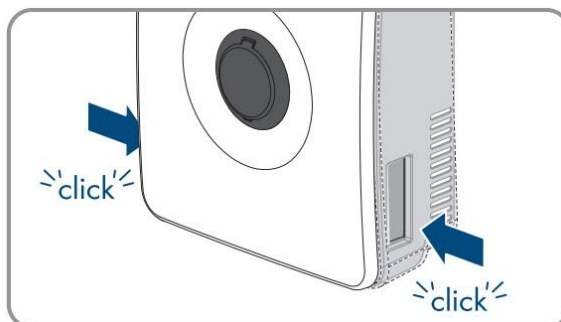
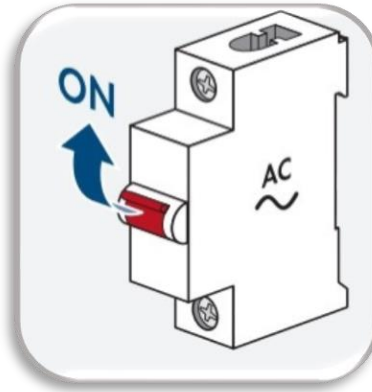
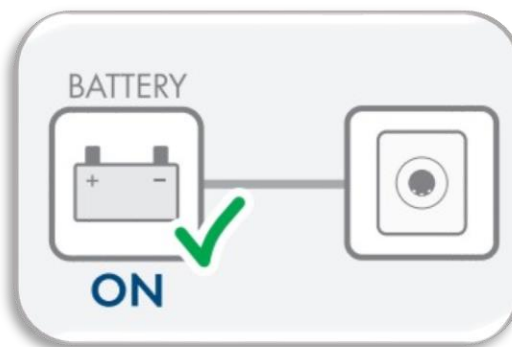


Image 35: Mounting bracket

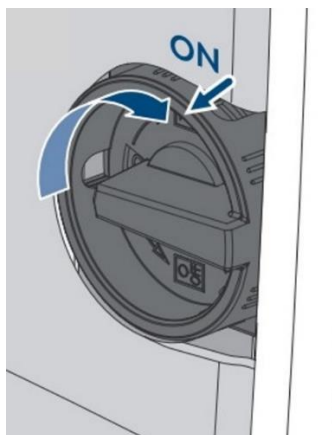
- Switch on the AC circuit breaker **Main Switch – Inverter Supply**, marked in the switchboard.

*Image 36: AC switch on*

- Switch on the battery

*Image 37: Battery on*

- Switch on the **DC load-break switch**.

*Image 38: DC isolator on*

7. Wait until the green LED lights up or pulses or the green and red LEDs flash simultaneously. This can take up to 5 minutes.
8. If the green and red LEDs flash simultaneously during initial commissioning, operation is stopped because no country data set has been set yet. For the inverter to begin operation, the configuration must be completed, and a country data set must be set.
9. If the green LED is still flashing, the conditions for activating feed-in operation are not yet met. As soon as the conditions for feed-in operation are met, the inverter starts with feed-in operation and, depending on the available power, the green LED will light up continuously or it will pulse.

11.2 Shut Down Procedure

1. Switch off the **Main Switch – Inverter Supply**, marked in the switchboard.
2. Switch off the **DC load-break switch** into position **O**
3. Slide the covers upward slightly, so that they can be removed from the hooks on the mounting bracket and the inverter.
4. When required lock the **DC load-break switch**.

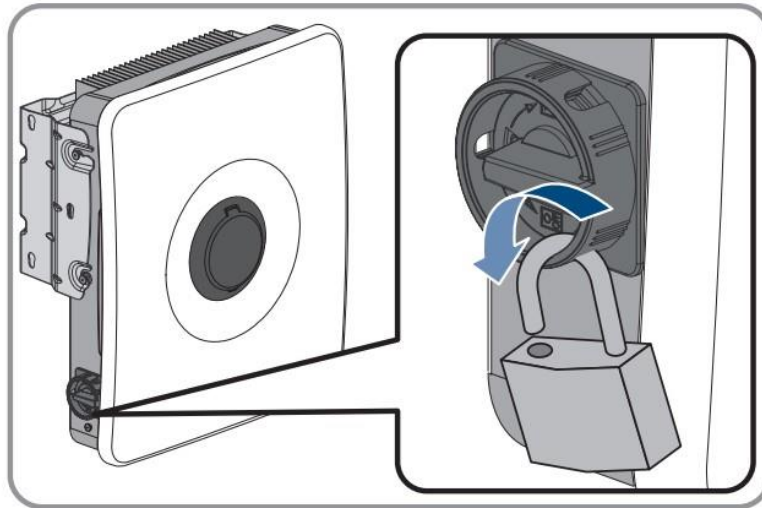


Image 39: Locking DC isolator

12 DVC Classification

Please refer to Table 6 for DVC category on the inverter's input / output ports.

Port Location	Decisive Voltage Class (DVC)
BAT+, BAT-	C
+PVA-, +PVB-, +PVC-	C
Grid L1, N	C
SPS L1, N	C

Table 6: DVC Classification

This concludes the document, if you have any questions you can reach out to Solaracademy@sma-australia.com.au for pre-sales/installation questions or service@sma-australia.com.au for after sales support.