BDH-800

User Manual

1. CLAIMERS

The information in these documents is the property of Northern Electric Power Co., Ltd., hereafter referred to as NEP.

No part of this document may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, mechanical, electronic, photographic, magnetic or otherwise, without the prior written permission of NEP. Internal reproduction used solely for the purpose of product evaluation or other proper use is allowed and does not require prior approval.

NEP makes no representations or warranties, express or implied, with respect to this documentation or any of the equipment and/or software it may describe, including without limiting the generality of the foregoing, to any implied warranties of utility, merchantability, or fitness of any particular purpose. All such representations or warranties are expressly disclaimed. Neither NEP nor its distributors or dealers shall be liable for any indirect, incidental, or consequential damages under any circumstances.

The exclusion of implied warranties may not apply in all cases under some statutes, and thus the above exclusion may not apply.

This document and the material furnished within is believed to be complete, accurate and up-to-date. Readers are cautioned, however, that product improvements and field usage experience may cause NEP to make changes to specifications and contents without prior notice, or per contract provisions in those cases where a supply agreement requires advance notice. NEP assumes no responsibility for the use of this material, and no responsibility 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.

Specifications and contents in these documents are continually reviewed, and subject to change without prior notice where necessary. However, discrepancies cannot be excluded. No guarantee is made for the completeness of these documents.

NEP WARRANTY

You can download the latest warranty terms and conditions from website at northernep.com.

For technical problems concerning NEP products and requiring assistance, please refer to CONTACT.

Trademarks

All trademarks, including company, brand products and service names, are recognized, even if not explicitly identified as such. Missing designations do not mean that a product or brand is not a registered trademark.

2. Safety

⚠️ **Caution!**

1) **Danger of burn injuries due to hot enclosure parts!**

   During operation, the upper lid of the enclosure and the body may become hot.
   Only touch the lower enclosure lid during operation.

2) **Comply with the local requirements for grounding the PV modules.**

3) **Do not stay closer than 20 cm to the inverter for any length of time.**

4) **All operations regarding transport, installation and start-up.**

   Including maintenance must be operated by qualified, trained personnel and in compliance with all prevailing codes and regulations.

⚠️ **Warning!**

1) **Ensure input DC voltage/current ≤Max. DC voltage/current**

   Over voltage/current may/cause permanent damage to inverter or other losses, which will not be included in warranty!

2) **Do not operate the inverter when the device is running**

3) **High leakage current!**

   Earth connection essential before connecting supply

4) **Prior to installation, inspect the unit to ensure absence of any transport or handling damage, which could affect insulation integrity or safety clearances; failure to do so could result in safety Hazards**

3. System introduction

The BDH800 micro-hybrid inverter is a powerful and efficient way to power your home. It is also incredibly reliable, with robust construction and advanced safety features. It can be installed on the balcony of apartments, making it a convenient and space-saving solution for power needs.

It can be used in conjunction with a battery to store excess energy generated during the day. This energy can then be released to power home loads for later use, helping you to save money on your energy bills.
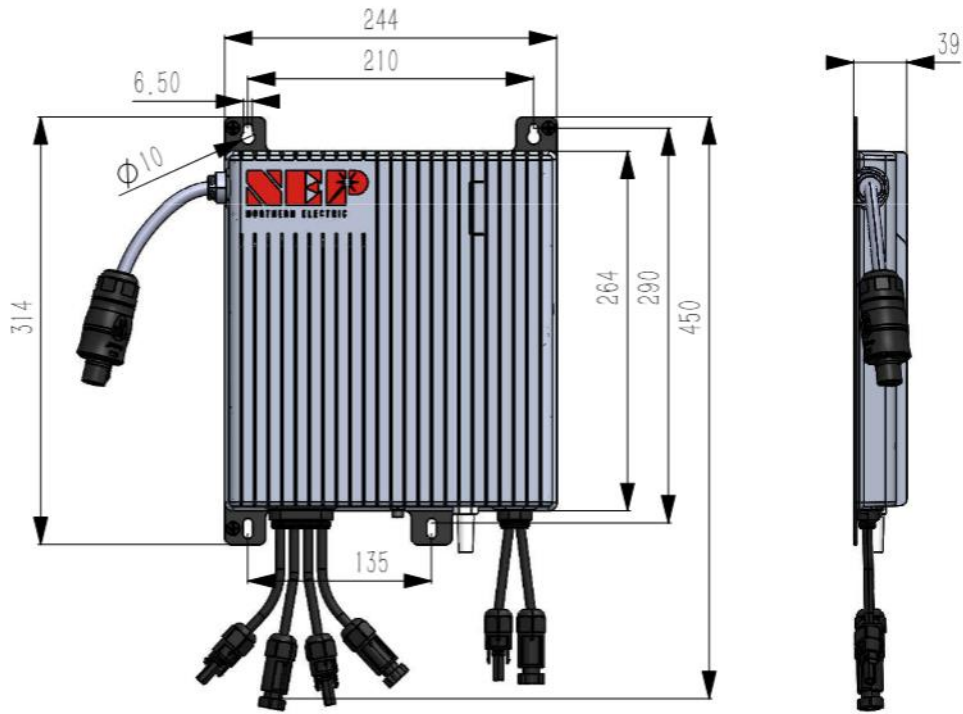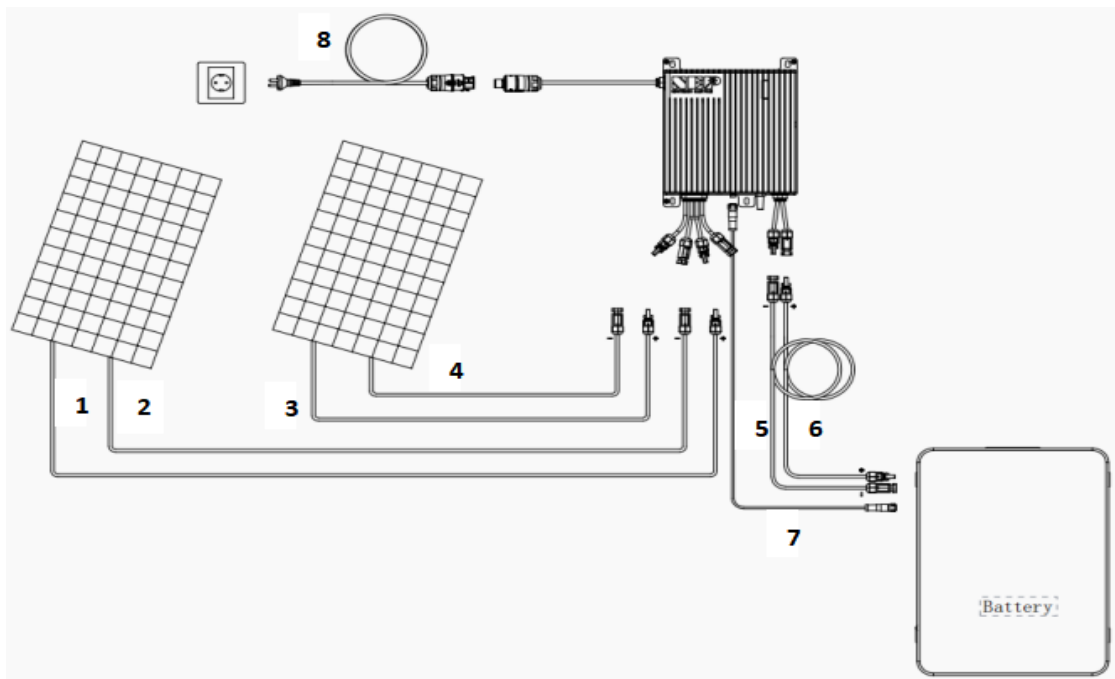
3.1. Product description
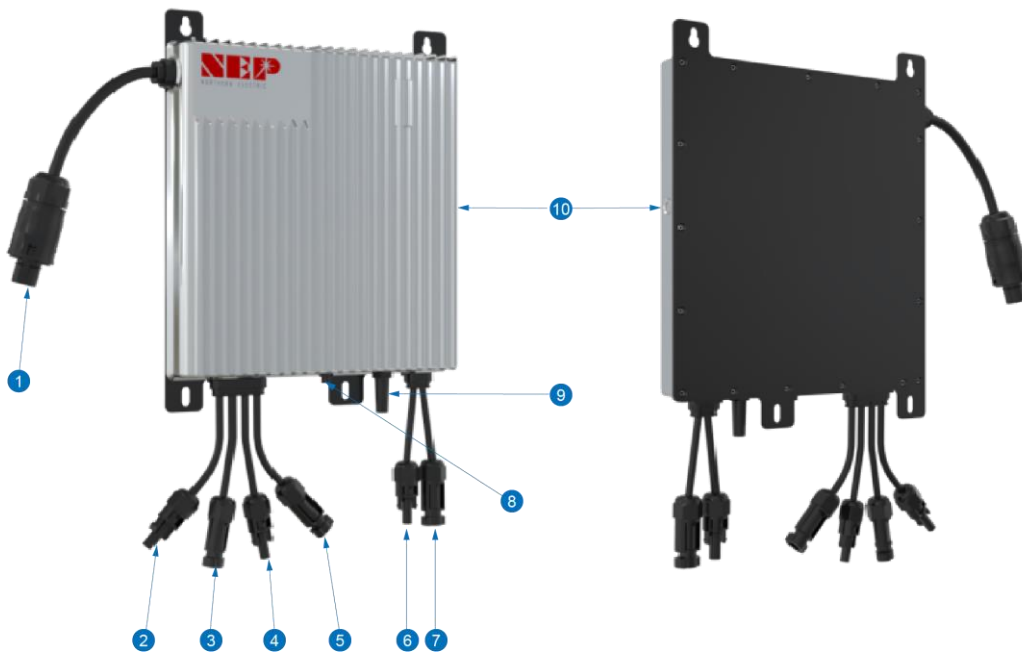
1	AC pigtail cable
2	PV 1(-)
3	PV 1(+)
4	PV 2(-)
5	PV 2(+)
6	Battery (-)
7	Battery (+)
8	CAN communication port
9	WIFI bar
10	Indicator

3.2. Product dimension(mm)

3.3. Wiring

NO.	Wiring
1	PV1 DC+
2	PV1 DC-
3	PV2 DC+
4	PV2 DC-
5	Battery DC-
6	Battery DC+
7	Battery Communication: CAN bus
8	AC Extension Cable

3.4. Installation

(1)

(2)

(3)

(4)

(5)   Battery

(6)   Battery

(7)

(8)

(9)
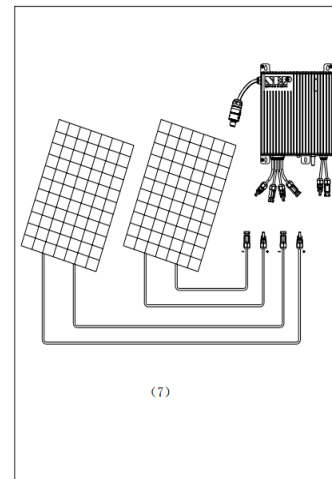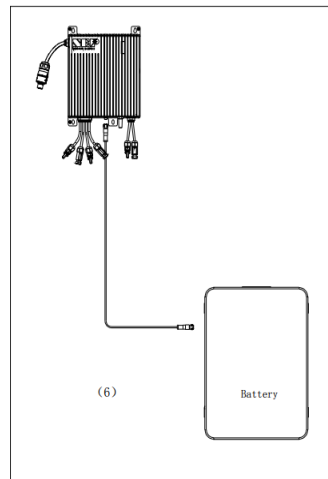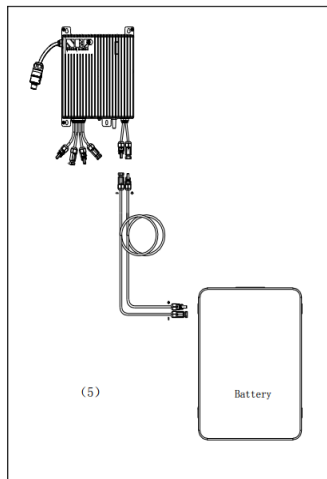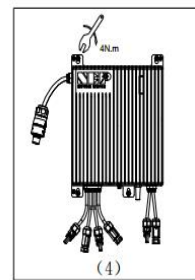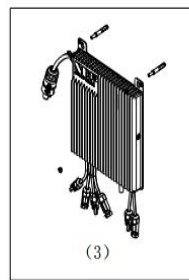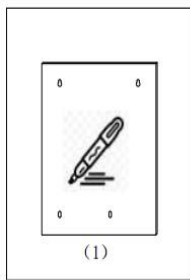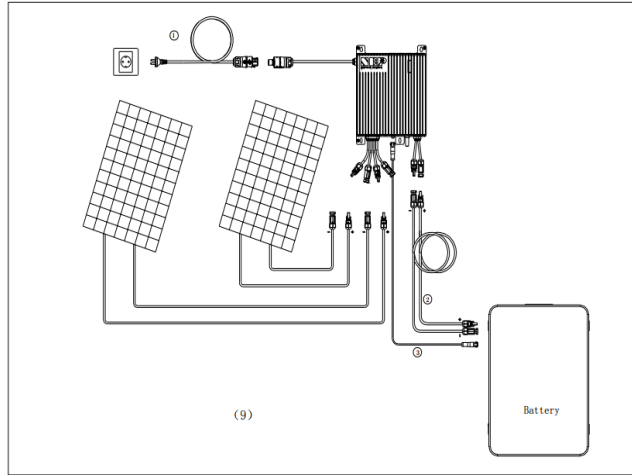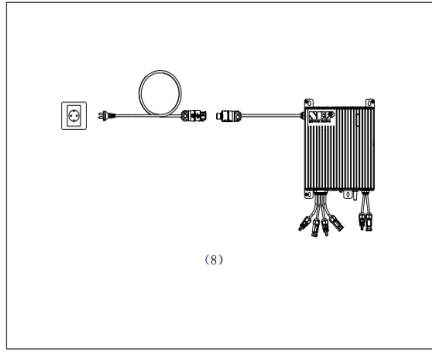
4. Running status

The Hybrid micro inverter is powered on when sufficient DC voltage from the module is applied. The status LED will start flashing after sufficient DC power is applied as an indication that the micro inverter is live.

LED	Status	Meaning
Green Light Flashing every **two** seconds	Standby	OK
Red Light Flashing every **two** seconds	Standby	Error
Orange Light Flashing every **two** seconds	Standby	no communication
Green Light Flashing every **one** seconds	Producing	Standby
Red Light Solid	Producing	Grounding Fault
Orange Light Flashing every **one** seconds	Producing	no communication

5. Specification

PV Input | PV		
Recommended. PV Module	W	600 * 2
MPPT Voltage Range	V	22-55
Startup Voltage	V	24
Max. Input Voltage	V	60
Max. DC Short Circuit Current	A	20 * 2
PV Overvoltage Protection Category		II
AC Output (On grid)		
Max. Continuous AC Output Power	VA	800
Rated AC Output Voltage	V	230
Max. Continuous Output Current	A	3.48
Nominal Frequency	Hz	50 / 60
Power Factor @ full load		>0.99 (at full load)
THD @ rated power		<3%(at rated power)
AC Overvoltage Protection Category		III
Max. efficiency	%	97.30%
DC Output (Battery)		
Battery Type		LFP
Battery Voltage	Vdc	40 ~ 60
Max Charge / Discharge current	A	30 / 20
Max Charge / Discharge power	W	1000 / 1000
Others		
Operating Ambient Temperature Range	℃	-40 ~+65
Relative Humidity Range		0-100%
Communications		WIFI
Protection Class		IP65
Cooling		Natural convection
Dimension	D-W-H mm	315*244*39

6.NEPViewer app

How to check the working status of BDH-800 and how to set its parameters? The NEPViewer app will help you.

6.1WiFi configuration

⊞ NOTICE

1.DO NOT CONNECT AC

In the state of DC connected, AC disconnected, AP mode of the microinverter will be activated. If AC connected by accident, please unplug AC, DC to wait for memory clearance of the microinverter.

2.Find the AP Number

An **eight-digit** string can be found under the barcode on the sticker.

This is the **Gateway S/N**

Step 1 Get and Open NEPViewer

1.Obtain NEPViewer App

Search for NEPViewer in App Store or Google Play

*Android users can visit user.nepviewer.com for latest version APK file

2.Open NEPViewer

Step 2 Enter NEPViewer WiFI Configuration

Select the distribution network entrance

step1
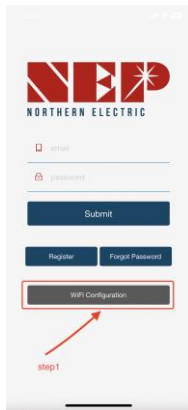
Step 3 NEPViewer WiFI Configuration

1.Click to enter the distribution network

Local Mode

step2

WiFi
Configuration

AP

Connect to Device
WiFi Access Point

AT

Connect to Device
WiFi Access Terminal

2.Click Allow to obtain geographic location permission (only pops up when installing the app for the first time)
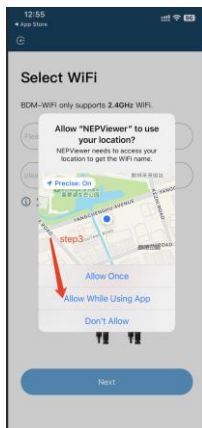
3.Please enter the home WiFi name (the current connected WiFi will be obtained by default)
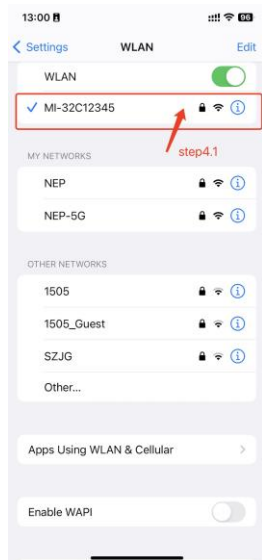
4.Please enter the password of your home wifi (manual input is required)
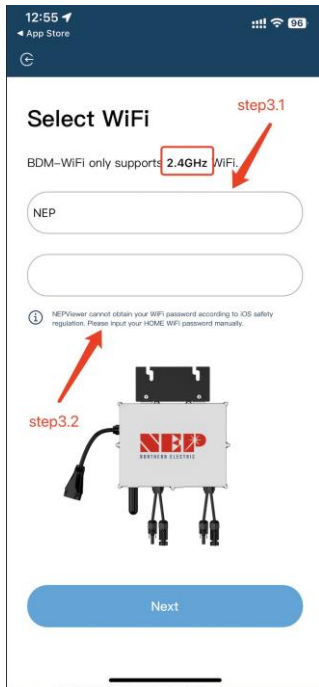
5.Read the corresponding steps carefully within 90 seconds of the countdown and check that only DC is plugged in
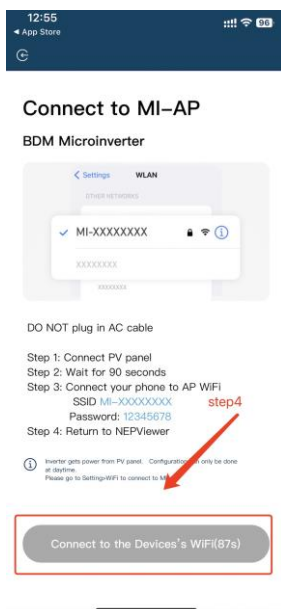
6.After the countdown ends (the button turns blue), you can jump to the WLAN setting page to connect to the hotspot SSID: MI-XXXXXXXX

Password: 12345678

7.Return to NEPViewer app

8.Allow connection to local network(It will pop up only when the app is installed for the first time,)

9.check this permission you can go to phone settings - NEPViewer - open local network

10.Wait for 50s for the device to complete configuration and restart

11Click the button to check the connectivity (provided that the current WiFi is connected to the home WiFi

12.Check that the current WiFi is connected to the home WiFi (this step may not appear)
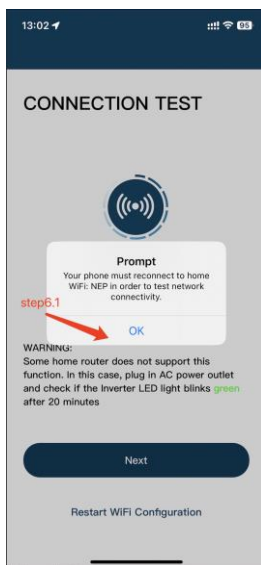
13.Click Sure, click Next， the WiFi configuration has been completed at this time.
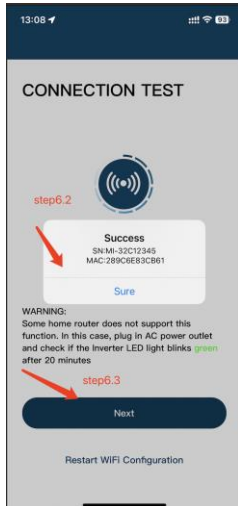
6.2Add inverter to NEPViewer

1.Login or Register
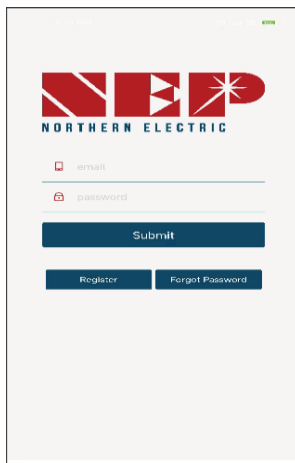
2.Click here to create a new site
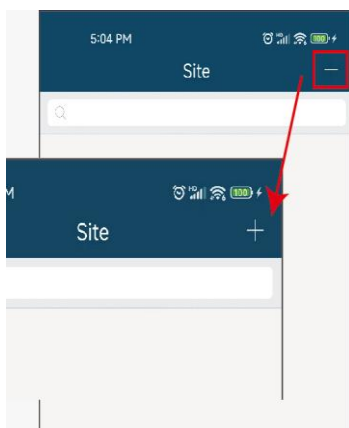
3.Login WiFi, can be added in the form of GATEWAY CODE.

On label of the inverter, a serial number can be found under the bar code, in form of:

XXXXX-XXXXXXXX-X

This EIGHT-digit-code is the GATEWAY CODE
*(Only lowercase letters are supported)
Fill in other detail info about your site and click on Next

Give a name to your site, and fill in GeoLocation click on Next
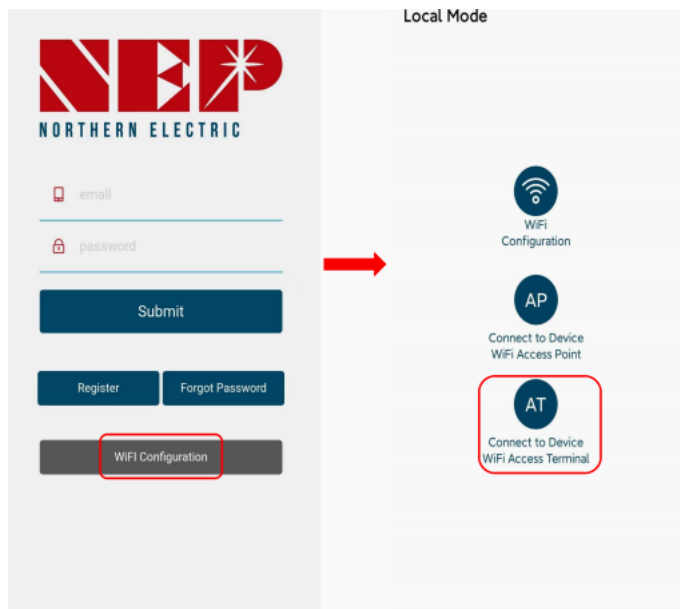

Fill in preferences

Site added when this dialog shown
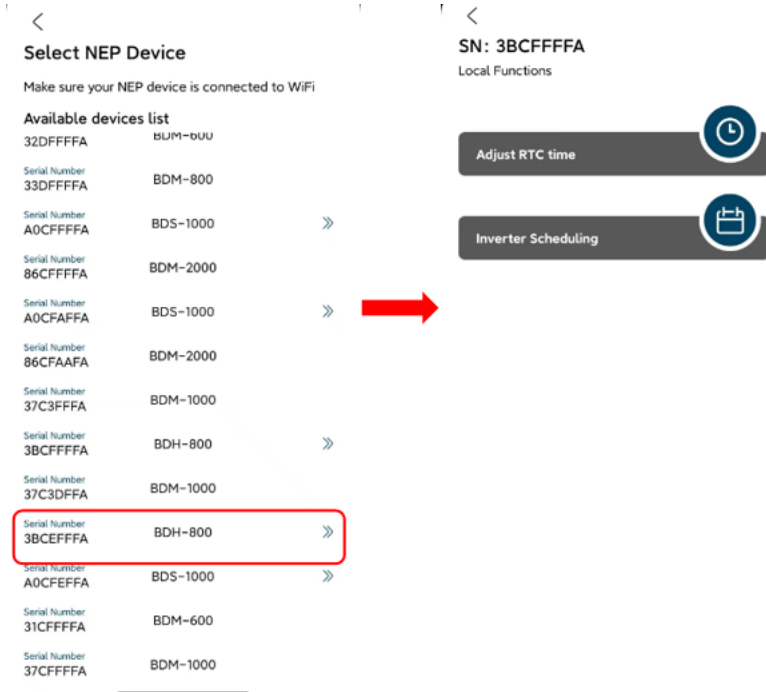

It's all set!   Enjoy your PV freedom!
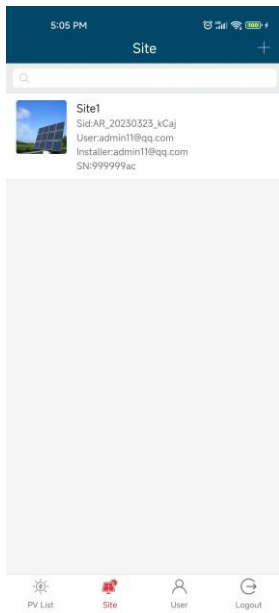
6.3BDH-800 configuration

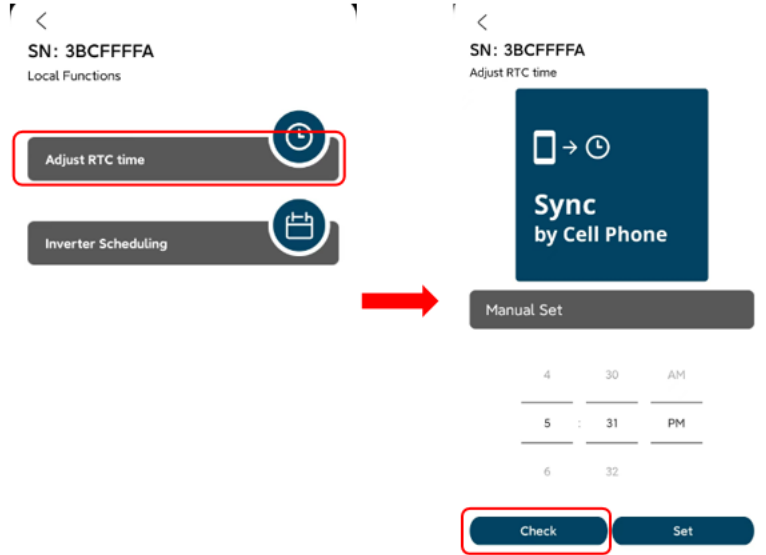1.click on the icon AT you will enter the inverter configuration

*(AT intended for inverter configuration in storage system now,such as BDH-800,BDS-1000)
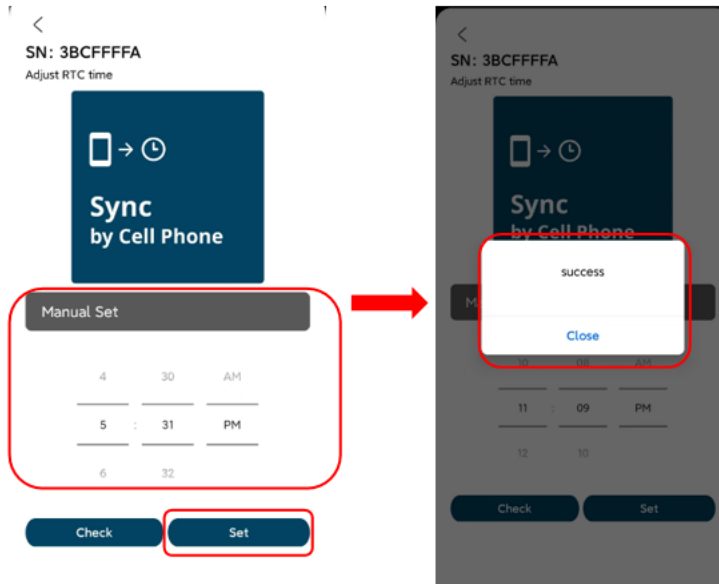
2.Click on the invert model 'BDH-800' and you'll see it in detail

3.In detail,click on text Adjust RTC time you will enter the inverter time sync configuration Click Check ,you can check if inverter has the same time as cell phone.
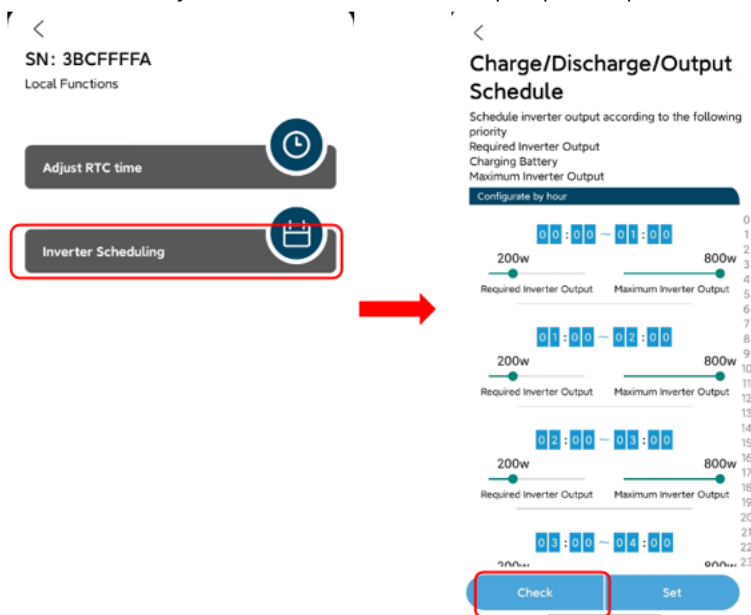

4.If not,in manual set to fill in the phone time and click Set .

5.If pop up success,inverter has the same time as cell phone now.

6.Click on text Inverter Scheduling you will   enter the inverter output power configuration.

7.Click Check ,you can check inverter output power per hour.

8.In Configurate by hour, you can change inverter output power and maximum by hour by swiping left and right .The time range from 0 o'clock to 23 o'clock.

*(The maximum power should be greater than the requested output power, and the power adjustment can only be adjusted in base 100)
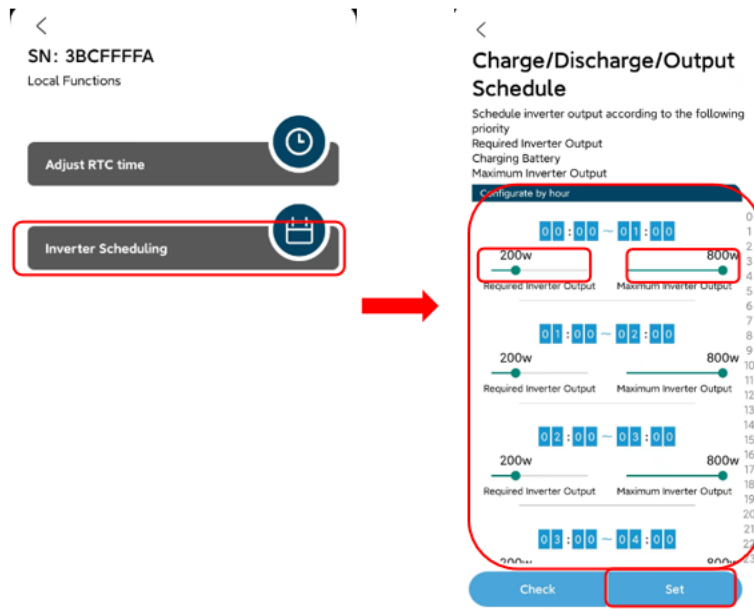
9.Click Set,if pop up success,your set is ok.
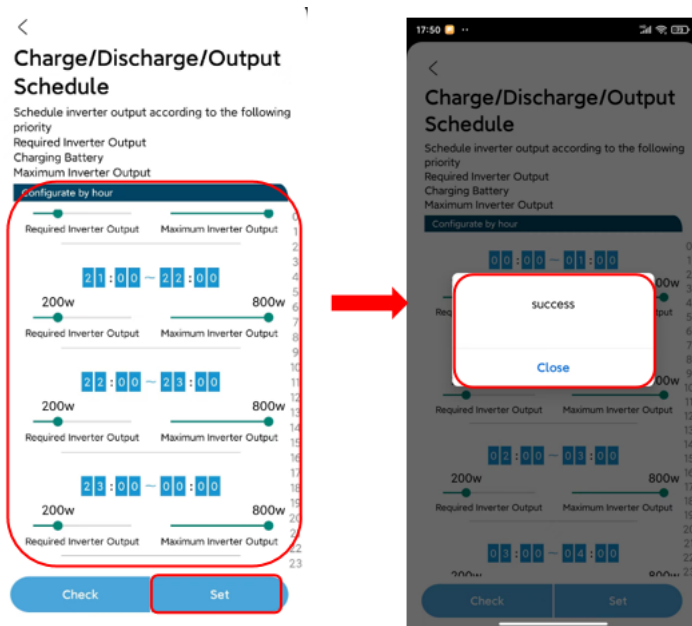
Now you can control your device remotely using the NEPViewer app !