



User guide for installing the Balcony solar system



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Please read this guide before installing the product. Keep the assembly instructions for future reference.

1. Safety information



Warning! Dangerous electrical voltage!!

Please observe all precautions and warnings when handling electricity. Before installation, use and maintenance, be sure to read the manual and follow the instructions and safety information in it.



Please read this guide before beginning the assembly of your Denver solar system with the SMI-601 Inverter and SOP-16600 Solar panels. We cannot assume any liability or guarantee for damages caused by improper handling. Failure to do so can result in serious health consequences, such as electric shocks and other life-threatening injuries.

Please keep the assembly instructions for future reference.

1. This product is not a toy. Keep it out of reach of children.
2. Keep product out of the reach of children and pets to avoid chewing and swallowing.
3. This device is not intended to be used by persons (including children) with limited physical, sensory or mental abilities.
4. Please check the micro inverter, the cables, and solar panels for visible damages before starting to connect the system. If visible damages show, please contact our support before continuing.

5. Make sure that the existing electrical installation is suitable for using this solar system. It is the responsibility of the end user to check this in advance before use.
6. This product has been created especially for Germany/Austrian market. If this Solar inverter system is installed in other countries, you need to make sure that the product complies with the regulation in this country. In some countries you need to have a licensed electrician to install this system in your house. It is the user responsibility to know the regulation in the country where it is installed to avoid any potential risks.
7. This micro inverter and solar power panels must be installed in households with grounding in the power outlet. Also make sure you have power plug with grounding. If you are in doubt if you have grounding in the power outlet, then please contact a licensed Electrician before installing. Please notice that the grounding in the Schuko power plug only works in a Schuko power outlet with grounding. If using in a normal non Schuko power outlet, then you need an adaptor with grounding fitting your outlet. Failure to have grounding can result in serious health consequences, such as electric shocks and other life-threatening injuries.
8. Please notice that we also recommend that you ground the solar panels to avoid potential damages for your solar panels in thunderstorms. A licensed electrician can help you with this. This is not included.
9. Repairs and maintenance may only be carried out by qualified personnel. Never open the product and make repair yourself. Do not open the electronic devices. This can lead to serious security problems, health hazards or equipment damage. Also, warranty is void if doing so.
10. Do not make modifications to any components of the PV module (diode, junction box, plug connectors or others). Warranty is void if doing so.
11. In the event of irregularities or unusual behavior (odor, smoke, etc.), pull out the mains plug and do not use the device before you have talked with our support.
12. Only use the accessories and cables that come with this product.
13. Do not install the micro inverter near flammable, explosive, corrosive or damp sources.
14. Ensure that the circuit is disconnected from power before starting the cleaning of the product to avoid electrical shocks and other life-threatening injuries. Please notice that the connectors are not waterproof when unmated. So, avoid cleaning when cables are unmated. Do not use abrasive, Degreasers, electric cleaners or corrosive solutions containing acid, alkali, acetone, or industrial alcohol for cleaning. We recommend the following to be used: Water with low mineral content, Near neutral pH water.
15. Periodically inspect the system to check the integrity of all wiring and support. Also check for bolts are fastened and not loose.
16. Check applicable building codes to ensure that the construction or structure (balcony, roof, facade, support, etc.) can bear the module system load.

17. Check with your landlord and local authority if setting up a solar panel system is allowed.

18. Avoid touching the inverter under load as the surface is hot and burns can occur.

Safety for the solar panels



Warning! Dangerous electrical voltage!!

Photovoltaic modules produce electrical voltage/current when exposed to light. Please observe all precautions and warnings when handling electricity. Before installation, use and maintenance, be sure to read the manual and follow the instructions and safety information in it.



SAFETY WARNING

- Cleaning activities create risk of damaging the modules and array components, as well as increasing the potential electric shock hazard.
- Cracked or broken modules represent an electric shock hazard due to leakage currents, and the risk of shock is increased when modules are wet.
- Before cleaning, thoroughly inspect modules for cracks, damage, and loose connections.
- The voltage and current present in an array during daylight hours are sufficient to cause a lethal electrical shock.

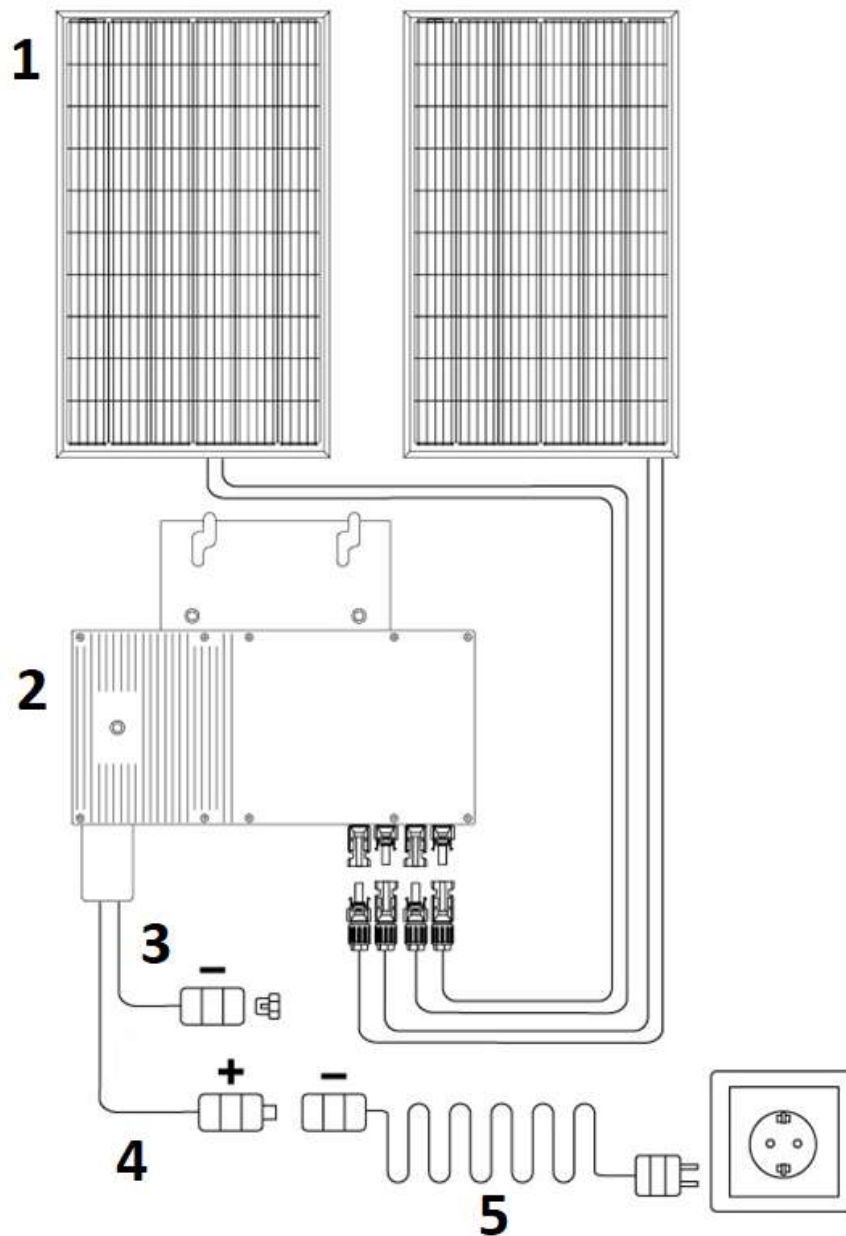
1. Repairs may only be carried out by qualified persons.

2. All plugs are only connected if they are dry and clean! Connectors are not waterproof when unmated.
3. All work on cables and inverters must be carried out with caution!
4. Do not carry out installation work in strong winds.
5. Do not stand, step, walk and / or jump on modules under any circumstances. Localized heavy loads may cause severe micro-cracks at cell level, which in turn may compromise module reliability and void warranty.
6. Do not drop or place objects (such as tools) on the modules.
7. Do not lift modules by their wires or junction box, lift them by the frame.
8. Do not place excessive loads on the module or twist the module frame.
9. Do not use sharp instruments on the modules. Particular care should be taken to avoid module back sheets being damaged by sharp objects, as scratches may directly affect product safety.
10. Do not install modules near open flames or flammable materials
11. Do not immerse modules in water or constantly expose modules to water (Either fresh or salt) (i.e., from fountains, sea spray).
12. Exposing modules to salt (i.e., marine environments).
13. Do not make modifications to any components of the PV module (diode, junction box, plug connectors or others).
14. Regular maintenance is required to keep modules clear of snow, bird droppings, seeds, pollen, leaves, branches, dirt spots, and dust.
15. If the module has become soiled, wash with water and a non-abrasive cleaning implement (sponge) during the cool part of the day. Do not scrape or rub dry dirt away, as this may cause micro scratches.
16. Periodically inspect the system to check the integrity of all wiring and support. Turn off power before doing this. Also periodically check that the bolts for mounting the solar panels are fastened and not loose.
17. Cracked or broken modules represent an electric shock hazard due to leakage currents, and the risk of shock is increased when modules are wet. Before cleaning, thoroughly inspect modules for cracks, damage, and loose connections.
18. Ensure that the circuit is disconnected before starting the cleaning procedure as contact with leakage of electrically active parts can result in injury.
19. Do not use abrasive or electric cleaners on the module.
20. Do not use de-greasers on the module.
21. Do not use cleaning corrosive solutions containing acid, alkali, acetone, or industrial alcohol.
22. Dirt must never be scraped or rubbed away when dry, as this will cause micro-scratches on the glass surface.
23. Noticeable dirt must be rubbed away by gentle cleaning-implement (soft cloth, sponge or brush with soft bristles). Ensure that brushes or agitating tools are not abrasive to glass, EPDM, silicone, aluminum, or steel. Conduct the cleaning activities avoiding the hottest hours of the day, in order to avoid thermal stress on the module.

We recommend the following to be used:

- Water with low mineral content
- Near neutral pH water
- The maximum water pressure recommended is 4 MPa (40 bar)

2. The Balcony solar system in overview



1. 2 pcs solar panels
2. Micro inverter
3. This plug connector should not be used
4. This plug connector is be connected to the Schuko power cable
5. Schuko power cable

3. How to connect the system.

Note: Before connecting the system, please follow the mounting bracket installation guide/ manual that comes with the mounting bracket and attach on the solar panels.

Warning

It is very important that you follow this procedure precisely to avoid any risk.

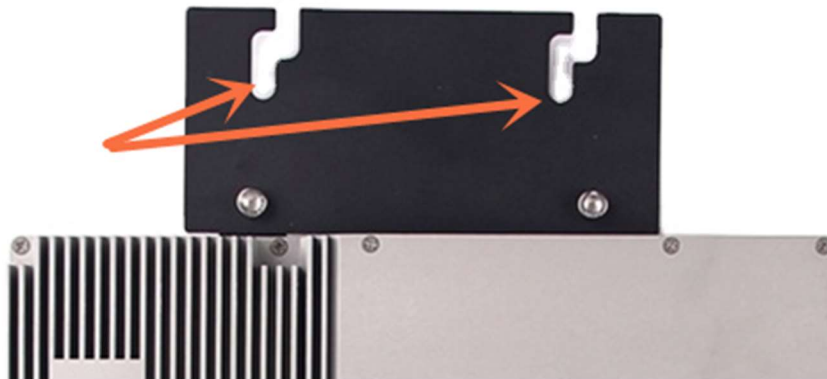
Step 1:

Take the 2 pcs solar panels out of the package and install the bracket on each of the solar panels according to the bracket installation guide. Please note that not all models come with included bracket.

During the installation process, please handle the solar panels with care to avoid bumping or scratching the solar panel. If the solar panel needs to be placed facing the ground temporarily, please take protective measures. Do not put weight on top of the panel. The panel can break. Scratches on the solar panel can decrease the solar panel performance and in worst case make the solar panel defective. This is not covered by the warranty.

Step 2:

Take the micro inverter SMI-601 out of the giftbox. Use the included 2x M8 screws to pass through the mounting holes on the inverter and fix it on the holes of the solar bracket



Make sure that the inverter is properly fixed to the bracket.



The micro inverter can also be installed on other firm, and light-proof (shade) location as needed. But please make sure to keep it away from flammable material and direct sunlight.

The inverter needs to be installed as close to the inverter as possible so the solar panel MC4 plugs can reach the micro inverter.

Step 3

Connect the micro inverter cable with Schuko plug cable. Do not insert Schuko power plug into the Schuko power outlet yet.



Step 4

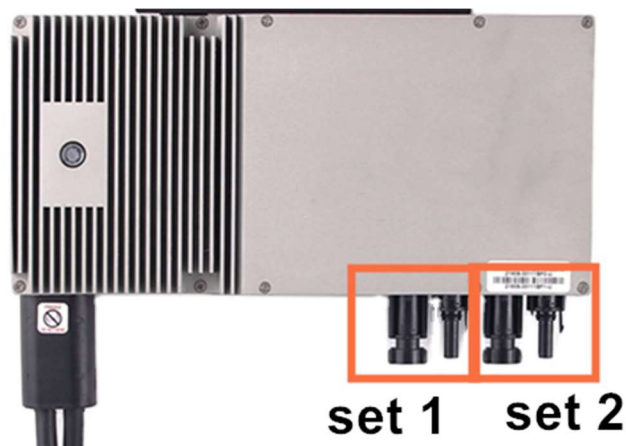
Note: Please make sure that the power is disconnected before plugging or unplugging the panels modules from the inverter. Do not insert Schuko power plug into the Schuko power outlet yet.

Insert the 2 pairs of MC4 plug cables from the 2 solar panels into the MC4 connectors on the micro inverter. Please notice the polarity +/- of the MC4 plugs.



Solar panel MC4 plugs

Also please notice that the plugs should be inserted in sets/pairs like below. Do not mix one solar panel connectors between set 1 and 2.



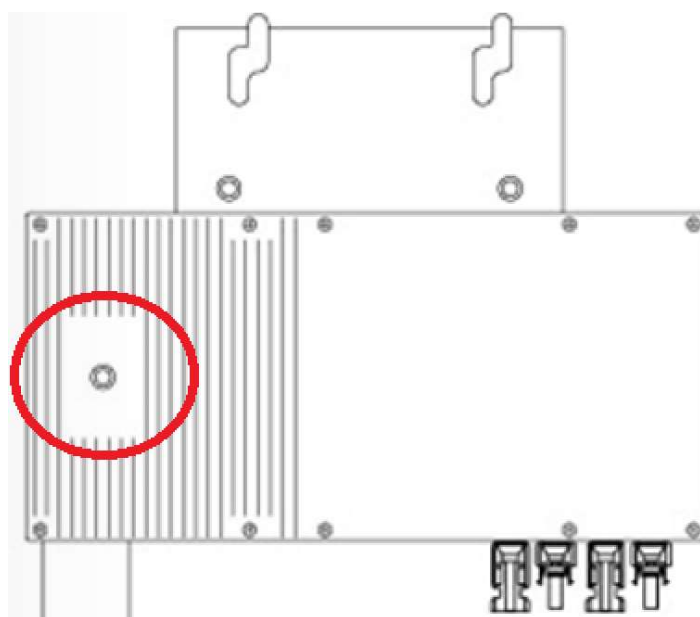
4. Setting up WI-FI connection to the Micro inverter.

Do not insert Schuko power plug into the Schuko power outlet yet.

Step 1

After the cabling has been completed as described in previous chapter the LED light on the micro inverter flashes red every 1 second.

Please notice that the LED can be difficult to see in full sunlight. Hold your hand to the LED to create some shade and then you should be able to see it.



The LED light indicator

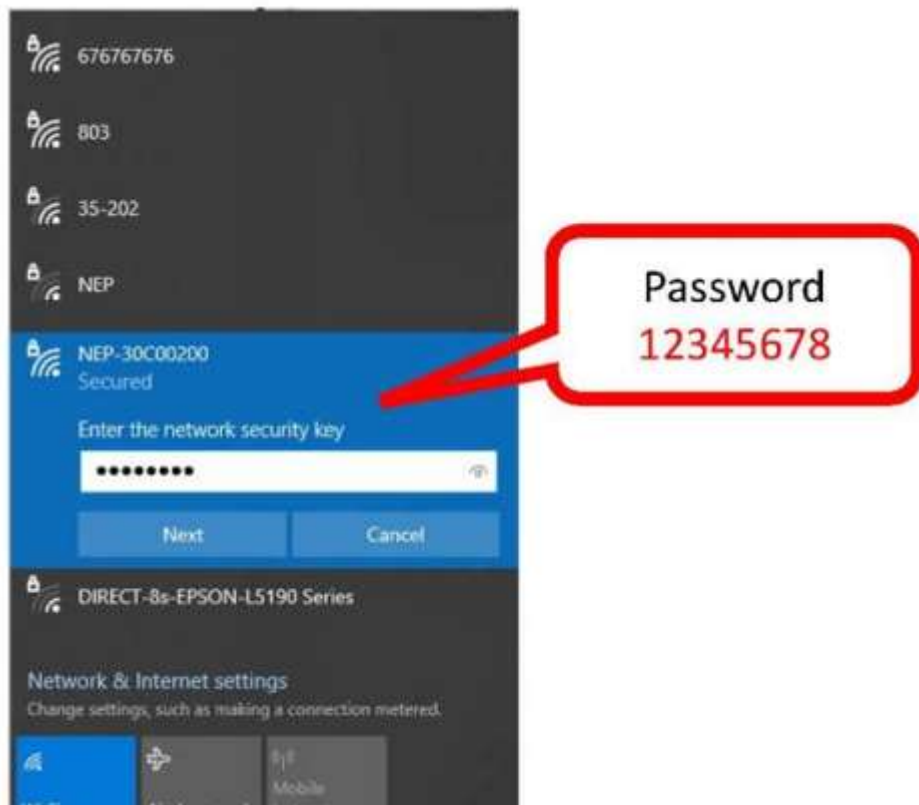
Step 2

Wait one minute. Now you need a computer (you can also use your phone) with Wi-Fi and connect this to the wifi network SSID: NEP-xxxxxxx. The xxxxxxxx refers to the micro inverters unique ID number sticker which can be found on the micro inverter.



Connect to the NEP Wi-Fi device

Enter password: 12345678 and press next to connect to the micro inverter.

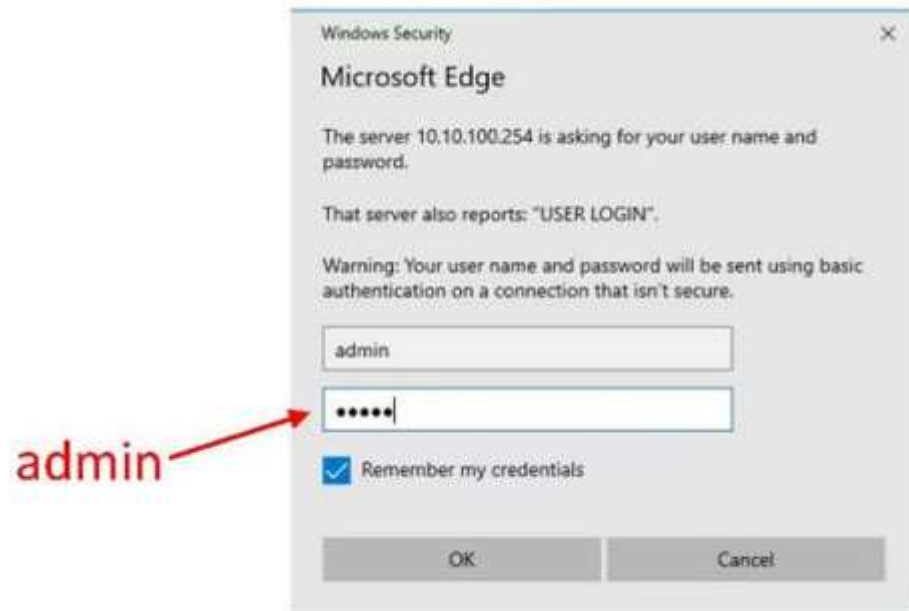


Now the micro inverter is connected to the PC.

Now there is Wi-Fi connection between the micro inverter and you PC via Wi-Fi. But you still haven't got the micro inverter on you home Wi-Fi network. So, this is the next step.

Open a web browser, enter URL address: <http://10.10.100.254>

Now you are asked for a username and a password. Enter: **admin** both places and press OK.



You have now access to the Micro Inverters Wi-Fi settings.



Press the search button and choose your Wi-Fi network and press OK.

Enter your Wi-Fi password key and press OK.

The micro inverter will now restart, and please wait 10 minutes.

After restart the Inverter should be connected to the Wi-Fi.

Connect the Schuko power plug to the power outlet of the house/apartment and you can turn on the power.



Now the solar system should be up and running. After 10 minutes, LED flashes green every 3 seconds.

4. Register the micro inverter on NEPViewer

To follow the solar panel energy production via the APP then you need to register your solar system. Please wait 10-15 min with this task after inserting the Schuko power plug into the power outlet.

Visit NEPViewer website: <https://user.nepviewer.com>

Press Register button and follow the instructions and login. Please note down the password for later use.



You now get the User Registration menu.

User Registration

Please fill in the following information.

Email

1

This email address has been registered before.

Password

2

This field is required.

Confirm Password

3

Street

4

City

5

Country

6

State / Province

7

Zip Code

8

Contact Person

9

Contact Number

10

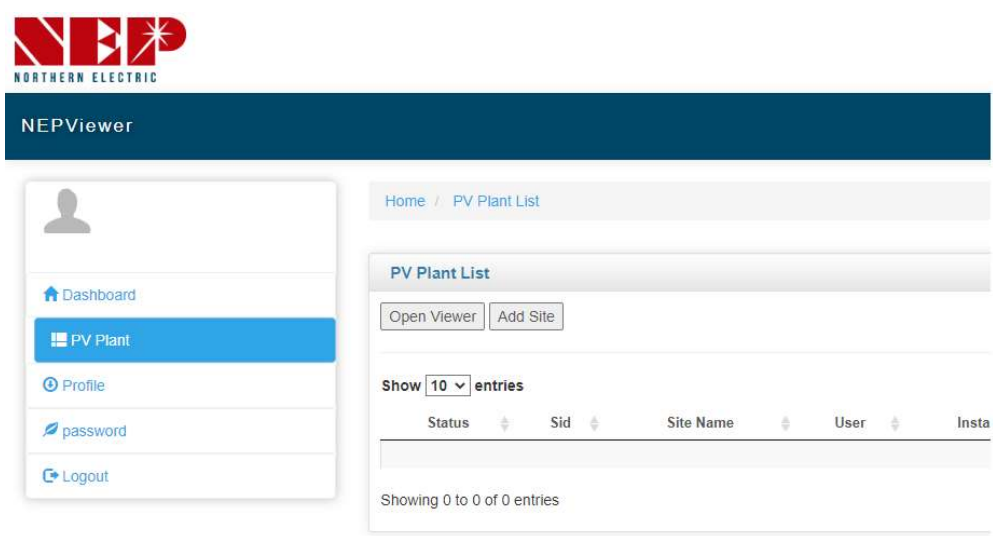
Save

1. Enter email address
2. Enter password
3. Confirm password
4. Enter Street
5. Enter City
6. Select Country

- 7. Select State/Province
- 8. Enter Zipcode
- 9. Enter contact person
- 10. Enter contact number (optional)

Press save.

Now you enter the main menu:



Choose the PV Plant menu and press **Add site**.

New menu appears:

Step 1 / 3

* Installer Email
1 test@test.com

* Country_Name
2 Germany

* State / Province
3 Baden-Württemberg

* City
4 Hamburg

* Street
5 Main street

* SN/Address
6 ☐ Gateway ☒ BDM-WIFI

* Micro Address Add Remove
7 30C00200

Next

1. Enter your email address.
2. Enter your country.
3. Choose you state/province.
4. Enter your city
5. Enter street
6. Choose BDM-WIFI
7. In the Micro Address menu point you enter the Unique inverter barcode you find on the inverter.
Do not use below as it is just an example.



Press **Next** and a new menu appears

Step 2 / 3

*** Name of Your Plant**

1

*** Latitude**

2

*** Longitude**

3

*** Timezone**

4

1. Enter the name of the plant. You can freely choose.
2. This is automatically filled out.
3. This is automatically filled out.
4. Choose your Timezone.

Press **Next** and a new menu appears

Step 3 / 3

The screenshot shows a registration form with the following fields and elements:

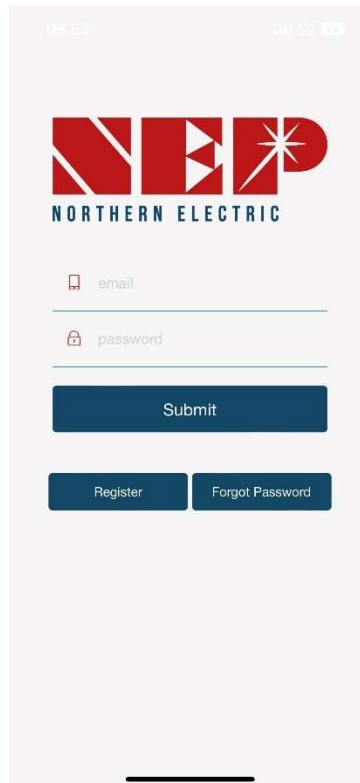
- Temperature Unit:** A dropdown menu with "Celsius" selected. A red number "1" is to its left.
- Power of Plant (kW):** A text input field containing "0,6". A red number "2" is to its left.
- Currency Unit:** A dropdown menu with "EURO" selected, followed by a text input field containing "0,55" and the unit "/1 kWh". A red number "3" is to the left of the dropdown.
- Module Manufacture & Type:** A text input field containing "Denver". A red number "4" is to its left.
- Location:** A text input field containing "City". A red number "5" is to its left.
- Upload Image of Your Plant:** A section containing a large empty image box, a green "Select image" button, and a red number "6" to the left of the image box.
- Other Viewer:** A large empty text area. A red number "7" is to its left.
- Buttons:** At the bottom are two blue buttons: "Previous" and "Create".

1. Choose **Celsius**
2. Enter **0.6**
3. Choose **Euro**
4. Enter **Denver** or **model number**.
5. Enter **City**
6. Upload an image of your solar panel if you like. It is not a must.
7. Leave this empty.

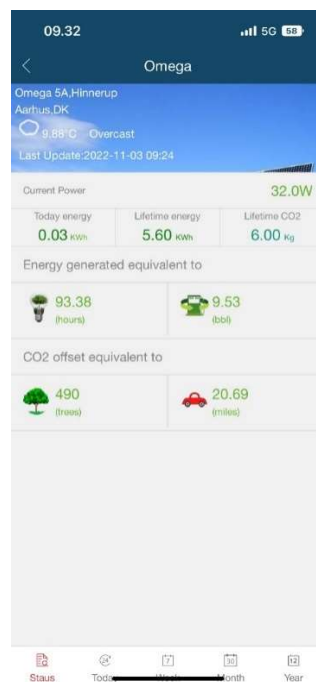
Press create button.

After registering then you can download the NEPViewer APP from **Google Playstore/App Store**.

When installed you will see this Login screen. Insert the same email and password used for registering previously on NEPViewer homepage from your computer.



Now you will see this screen and you can follow your energy production from your phone or tablet.



Congratulations, you are now producing you own green power.

Please notice - All products are subject to change without any notice. We take reservations for errors and omissions in the manual.

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Electric and electronic equipment contains materials, components and substances that can be hazardous to your health and the environment, if the waste material (discarded electric and electronic equipment) is not handled correctly.

Electric and electronic equipment is marked with the crossed out trash can symbol, seen above. This symbol signifies that electric and electronic equipment should not be disposed of with other household waste, but should be disposed of separately.

All cities have established collection points, where electric and electronic equipment can either be submitted free of charge at recycling stations and other collection sites, or be collected from the households. Additional information is available at the technical department of your city.

Hereby, Denver A/S declares that the radio equipment type micro inverter is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: denver.eu and then click the search ICON on topline of website. Write model

number: SMI-601. Now enter product page, and RED directive is found under downloads/other downloads.

Operating Frequency Range: 2401 to 2484 MHz

Max Output Power: 19 dBm

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