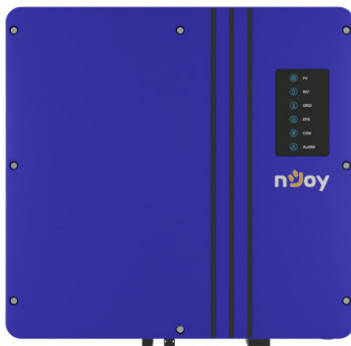


Inverter Series:

On-Grid Monophase
On-Grid Three-Phase
Hybrid Monophase
Hybrid Three-Phase

Inverter Installation and
commissioning manual (software)

Manual de instalare si punere in
functiune a invertorului (software)



Please read the manual before installing and operating the inverter.

This user manual introduces the inverter in terms of its installation, and software configuration. Please read through the manual carefully before installing and using the inverter, and keep the manual well for future reference

About This Manual

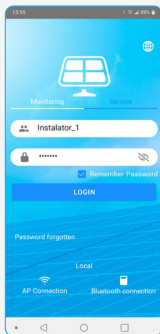
This user manual is intended for photovoltaic (PV) inverter operating personnel and qualified electrical technicians.

A. Local Initialization

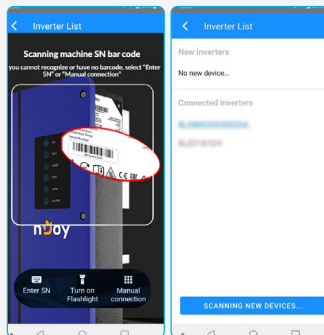
IF NECESSARY:

- *The installation firm needs to contact nJoy for creating a personalized account that allows for better management of the installation sites. This account will be assigned to the firm, not on the individual person.*
- *Download the SolarTouch app on a smartphone. (The QR code can be found on the product label).*

1

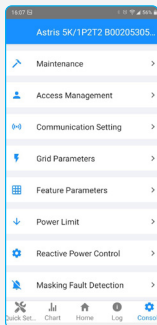


Launch the SolarTouch app and connect the device to Bluetooth (when launching the app will ask permission to access Bluetooth and GPS, please allow).



To successfully connect the inverter serial number needs to be added, by scanning or by manual adding and selecting the inverter's name from the available Bluetooth connections. (The Product serial number can be found on the side label attached to the inverter).

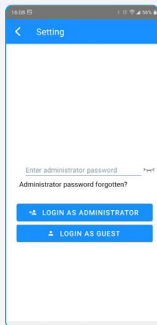
2



You will land on the Homepage where the inverter's functioning is already displayed.

Access Settings by clicking on Console.

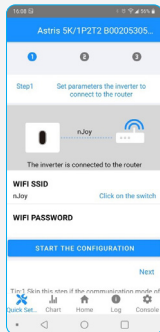
2



Choose the Access Management option. Access Change User and login as administrator by entering the 'admin' password.

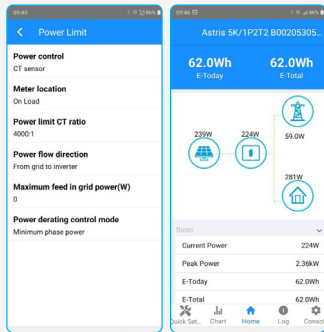
NOTE! From this point on, the administrator account remains active. To deactivate the account it is necessary to switch to the login as a guest option. This switch will change the inverter parameters to be only viewed and not modified.

3



To configure the Wi-Fi module press Quick Setup from the down-left ribbon on the screen. Follow the instructions that are presented in the previous 3 steps configuration. To do this, enter the wireless access details of the owner (SSID and password). Watch as the color of the LED changes from blue to green as the module connects to the Wi-Fi.

4



Access Console > Power Limit and set up the parameters according to the owners' system. (For example, if a CT or Smart Meter is added, make sure to set up those parameters).

NOTE! For an accurate electrical consumption reading please install the CT/Smart Meter on load (please consult the hardware installation manual).

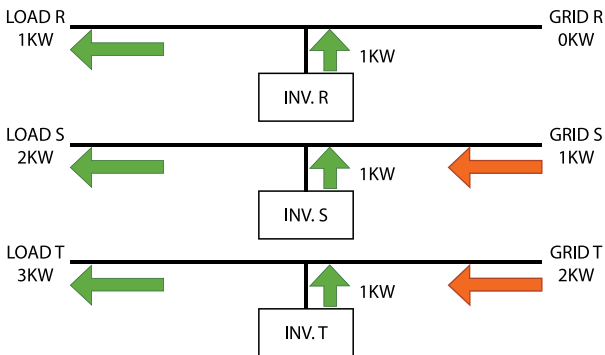
To do other configurations, please do them here in the Console menu. After finishing, relaunch the app and verify if all settings are correct.



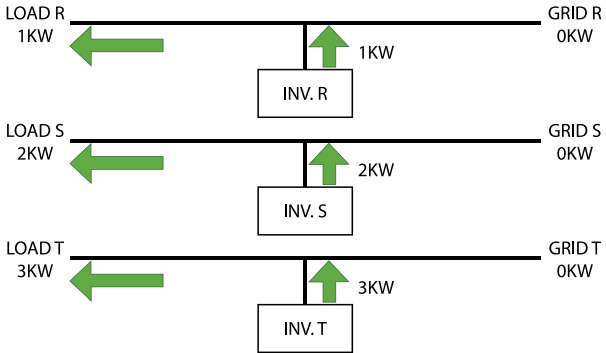
WARNING

3-Phase inverters have 3 options for Power derating control mode, each with it's own power management policy, as follows:

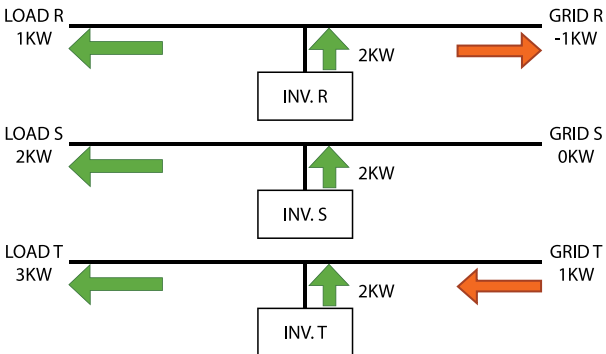
Minimum Phase Power: The inverter delivers same amount of power on each phase, amount equal to the least loaded phase. The other phases will supply the remaining power from the grid.



Independent Phase Power (this option is available for hybrid inverters!): The inverter tries to supply the required power on each phase to match each load, without taking power from the grid if possible.



Total Phase Power: The inverter delivers the total power needed to match the total load on all phases equally. If on a certain phase the power delivered is greater than the load, the remaining power will be injected in grid; if it is less, then the difference will be supplied from the grid.

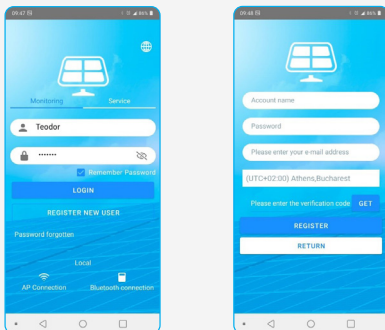


B. Owner's account for continuous monitoring

Our recommendation is that at every inverter commissioning attach an owner's account for monitoring the installation site and equipment and for a clear overview of all equipment commissioning. If needed, the installer firm, through the installer's account, can make a virtual, remote troubleshooting and error correction.

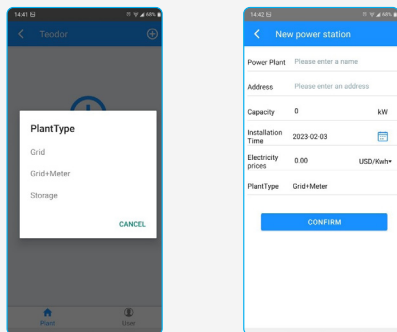
NOTE! During this operation a Internet connection is necessary.

1



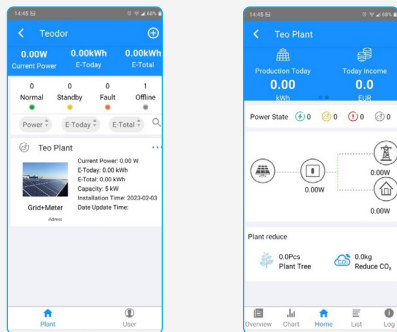
Open the app, and select REGISTER NEW USER to create a new account. With the owner, choose an account name, a password, an email address and the timezone (+2 GMT for Romania). Press GET to receive a confirmation code (on the owner's email address). Insert the verification code and press REGISTER. From this moment on the account is active.

2



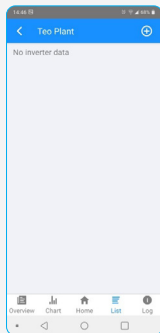
Now choose the inverter type: On Grid, On Grid with CT or Smart Meter or Hybrid. After making the selection, please fill in the following fields: Name, address, installed power (kW), installation date, the price of electrical energy (kWh). If the data is correct press CONFIRM.

3



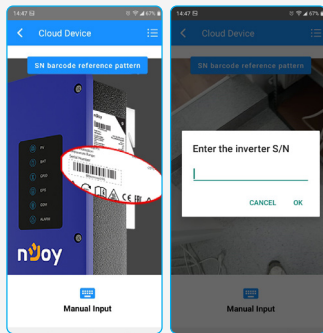
After CONFIRM, you'll see the owner's sites (represented in the images is only 1 site). Please select the desired site to access the monitoring screen (Homepage). Here can be observed the energy yield from the solar system to loads and/or electrical grid. For the moment all values are 0 because there is no installed equipment. To see a list of all inverters that have been installed, press List.

4



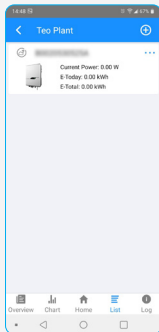
For now, the inverter list is empty. To add a new inverter to the list press + on the upper-right side of the screen.

5



To add the inverter, the app will require the inverter S/N (Serial Number). This number can be achieved by simply scanning the side label or by manually entering (by pressing Manual Input on the bottom page) the numbers/letters.

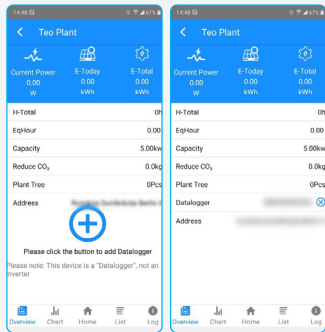
6



If this S/N is correct the app will automatically detect the inverter and will be added to the list.

NOTE! If the inverter is already to another location or client, the serial number will be null. For this situation please contact nJoy Technical Support.

7



If the inverter has an attached Smart meter of CT, then the inverter serial number will be needed in the Overview screen.

Press Overview and then press the blue button +. Add the inverter serial number. From this moment on, the inverter is fully configured and the commission will be finalized. The app will receive all the relevant data about the solar system, as power yield, production and distribution modes.

8

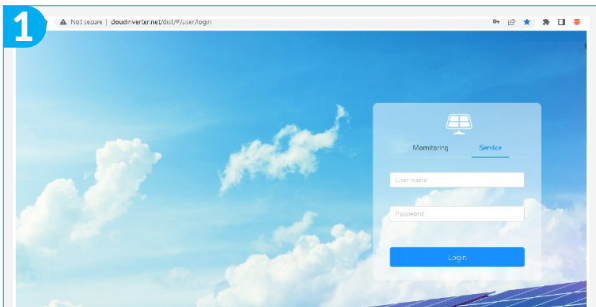


By pressing the Home button you can see how the electricity is distributed.

NOTE! Please be aware that the refresh rate is at 5-10 minute, the data displayed is not real-time. Please allow some time for the app to refresh the data and upgrade to the latest version.

If an 1 appears on the green icon this means that the inverter is online and producing energy.

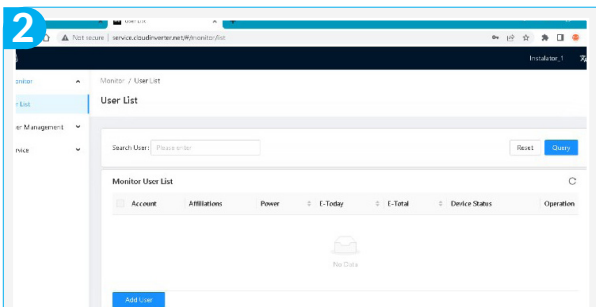
C. Adding the user account to the service application



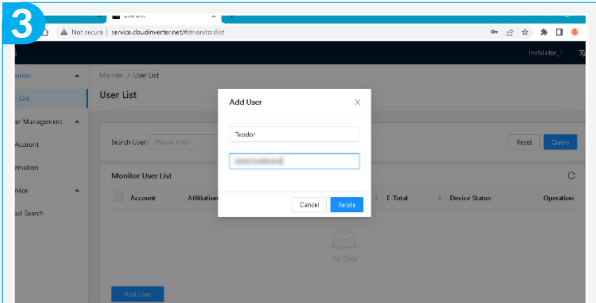
Open the browser and search www.cloudinverter.net

The Starting page of the service application will be displayed.

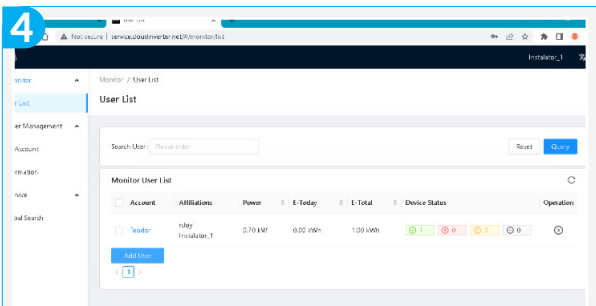
Select the Service version and fill the installer name and the password provided by nJoy.



Once the installer account is accessed, the option of remote monitoring and troubleshooting becomes active. In order to do that, the owner's account needs to be added to the User List. Add a user by clicking the button.



In the pop-up window you will have to fill in the owner name and inverter serial number. After making sure that the data is correct click Relate.



The owner account will be added to the User List. You can now see the system status (online, offline, error etc), the power generated from the PV panels, the daily yield or total yield etc.

5

Power: 664.00
E Today: 0.00 kWh
Total Plant: 1 kWh

H-Totol: 2.00 kWh
E-Total: 1.00 kWh

Statistics: 0 0 0 0

Filters: All Normal Fault Standby Offline

Status	PlantName	E-Today	E-Total	Start Time	Update	PlantType	Power	Efficiency	Operation
Normal	Teo Plant	0.00 kWh	1.00 kWh	2023-02-03	2023-02-06 12:07:22	Grid+Meter	664.00kW	0	Edit Delete

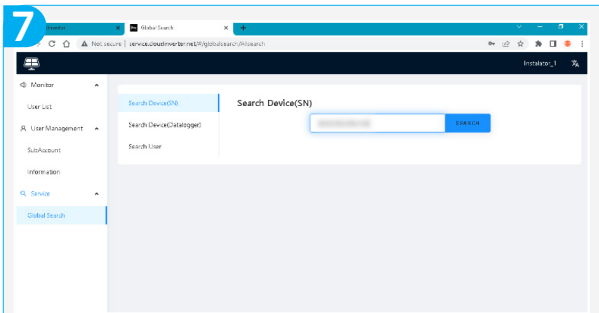
By clicking on the blue account name, a new tab will open with the user account monetization data. Here can be seen details about the installed system, the location etc.

6

Group: Teo Plant | 2022-11-06 - 2023-02-06 | Search

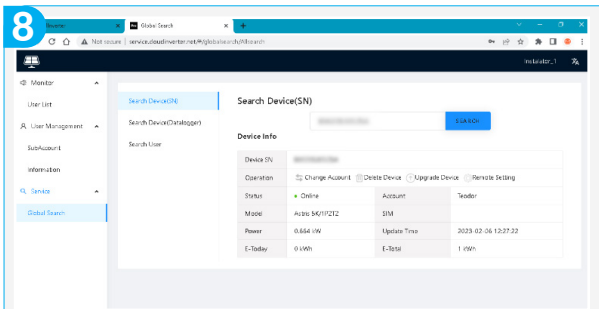
Name	Account	Type	S/N	Time	Event	Status
Actris SK/1P2T2	Teodor	Actris SK/1P2T2		2023-02-03 17:31:39	CU-Remote off	Action
Actris SK/1P2T2	Teodor	Actris SK/1P2T2		2023-02-03 13:32:42	CJ-Meter List	Action
Actris SK/1P2T2	Teodor	Actris SK/1P2T2		2023-02-03 13:32:18	A2-Grid absent	Action
Actris SK/1P2T2	Teodor	Actris SK/1P2T2		2023-02-03 12:31:25	A2-Grid absent	Action

By clicking on LOG > HISTORY LOG from the owner's account, all events will be displayed such as inverter function, notifications, errors etc.



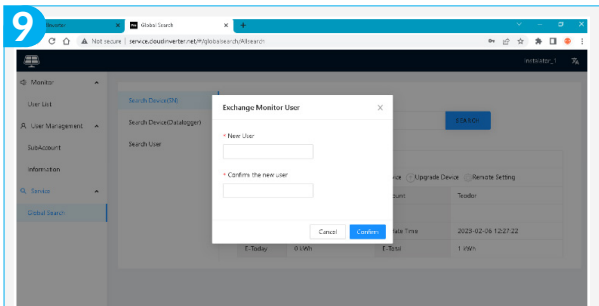
From the Service > Global search menu you can search inverters. by S/N.

NOTE! In order to find a specific equipment, it needs to be linked to an owner account and this account to be added to the installer service application.

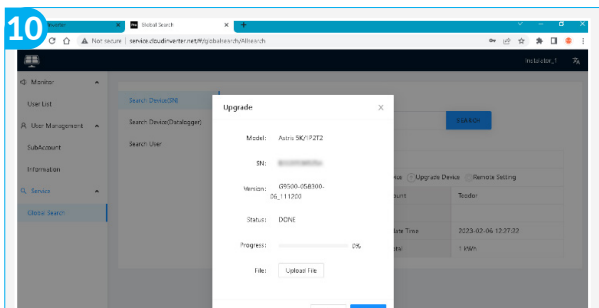


If the equipment is found, all data available will be displayed (model name, rated power, current status, owner's account linked etc).

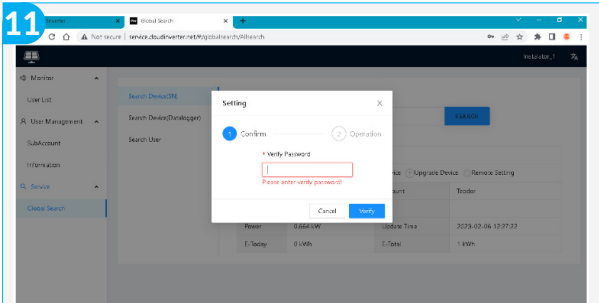
Several actions are available, accessible from the Operation line.



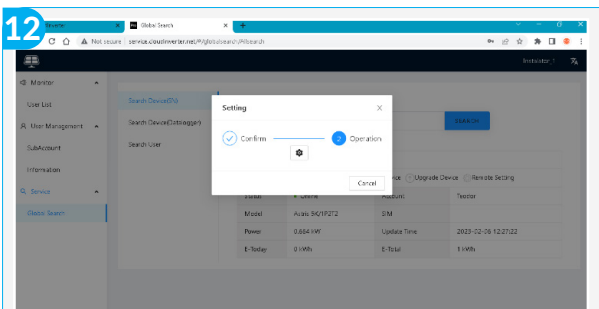
By clicking CHANGE ACCOUNT this equipment can be transferred to another owner by updating the account with the relevant information and added to the Service area of the app. The DELETE DEVICE button allows for the equipment to be erased from the owner's account.



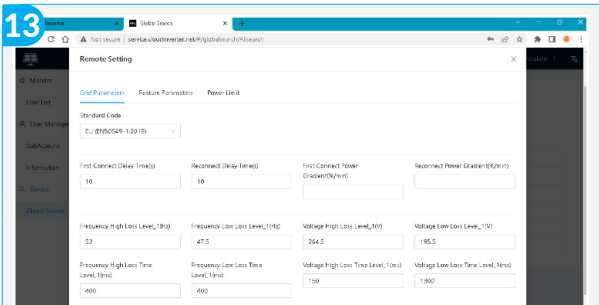
By clicking UPGRADE DEVICE the firmware can be remotely updated.



The REMOTE SETTING button allows for modification of the parameters and settings of the inverter. To have access to these parameters modifications you'll need the admin password and click Verify.



If the password is correct, a Settings symbol will appear (a gear wheel). By clicking this symbol you will have access to settings and parameters.



The settings are arranged in categories: Grid Parameters, Feature Parameters and Power Limit. The values displayed are the current measured values and these can be changed. By clicking on UPLOAD (down page button) the new settings are sent to the inverter.

NOTE! The blank parameters cannot be set or modified.

Va rugam sa parcurgeti manualul inainte de a instala si opera inverterul.

Acest manual prezinta inverterul din punct de vedere al montarii, instalarii al instalarii si configurarii software. Va rugam sa parcurgeti manualul inainte de a instala si opera inverterul si pastrati-l pentru viitoare referinte.

Pentru personal autorizat

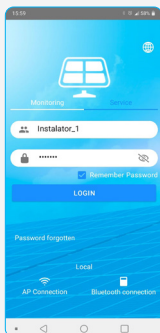
Acest manual de utilizare este dedicat personalului autorizat in instalatii inverteoare hibride si pentru electricienii calificati.

A. Configurarea locala initiala

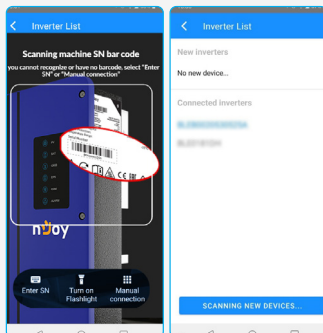
DACA ESTE CAZUL:

- *pentru a putea avea o evidenta si de a accesa de la distanta echipamentele instalate, firma instalatoare contacteaza nJoy pentru crearea unui cont personalizat de instalator. Acest cont va fi al firmei si nu individual pe persoana.*
- *descarca aplicatia SolarTouch pe telefon si o instaleaza. (QR Code-ul se gasesti pe eticheta produsului)*

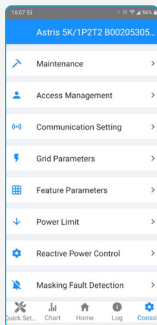
1



Se pornește aplicația SolarTouch și se conectează Local pe Bluetooth cu butonul Bluetooth connection (își va cere să pornească Bluetooth-ul și localizarea GPS).



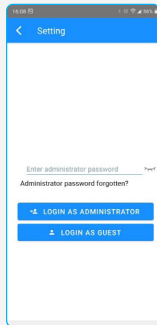
Pentru reușita conectării trebuie introdusă seria inverterului, fie prin scanare, fie selectând Manual Connection și alegând echipamentul disponibil pe rețeaua Bluetooth. (Seria produsului se găsește pe eticheta produsului la secțiunea Serial Number).



Se ajunge in ecranul principal (Home) unde deja se vede functionarea echipamentului.

Se intra in consola de setari a invertorului accesand butonul Console.

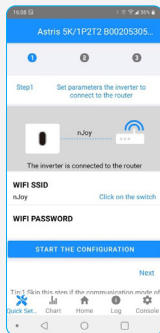
2



Se alege optiunea Access Management. Se acceseaza Change User si se intra in contul de administrare introducand parola 'admin' si apasand butonul LOGIN AS ADMINISTRATOR. In acest moment toate setarile din meniul Console sunt accesibile. Se iese inapoi in ecranul Console.

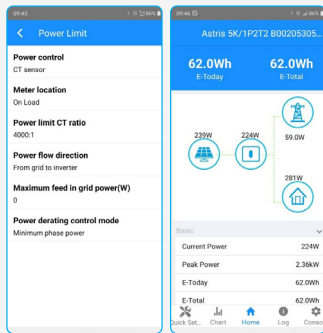
OBS! De aici inainte contul de administrare va ramane activat. Pentru a-l dezactiva e necesar sa se acceseze optiunea LOGIN AS GUEST, lucru care va face ca parametrii inventurului sa poata fi doar vizualizati, nu si schimbati.

3



Se face configurarea modului Wi-Fi prin accesarea butonului Quick Setup din partea de jos-stanga. Se urmeaza toate instructiunile aferente celor 3 pasi de configurare prealabila. Pentru aceasta trebuie introduse datele retelei wireless a proprietarului (SSID si parola de acces). Se urmareste ca LED-ul modului WiFi sa-si schimbe culoarea din albastru in verde, semn ca modulul s-a conectat la reseaua WiFi.

4



Se intra in meniul Console / Power Limit si se configureaza setarile in functie de echipamentul proprietarului (Ex. daca se foloseste CT sau SmartMeter, se introduc parametrii respectivi).

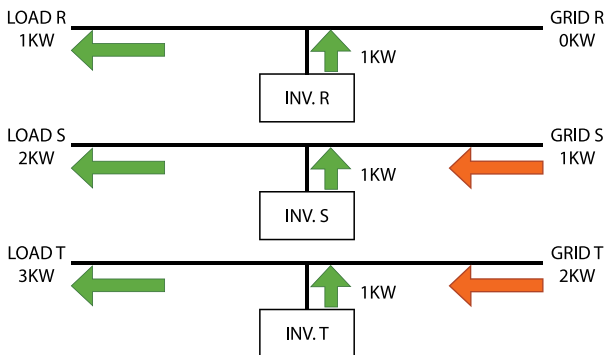
ATENȚIE! Pentru o citire mai exacta a consumului se recomanda ca dispozitivul de masurat (CT sau SmartMeter) sa fie montat dupa inverter (On Load).

Daca e cazul, se fac si celelalte setari din meniul Console, apoi se reporneste aplicatia si se verifica ca noile setari sa fie pastrate.

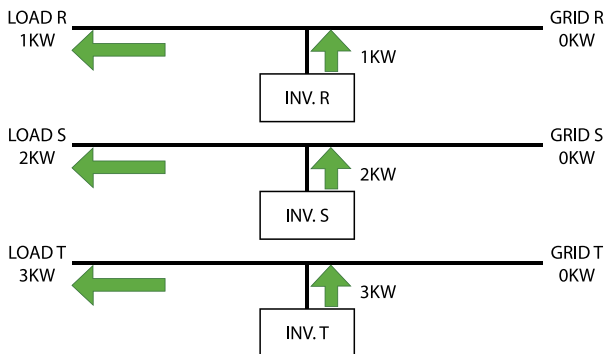
⚠ ATENTIE!

Invertoarele trifazice au 3 optiuni pentru setarea Power derating control mode, dupa cum urmeaza:

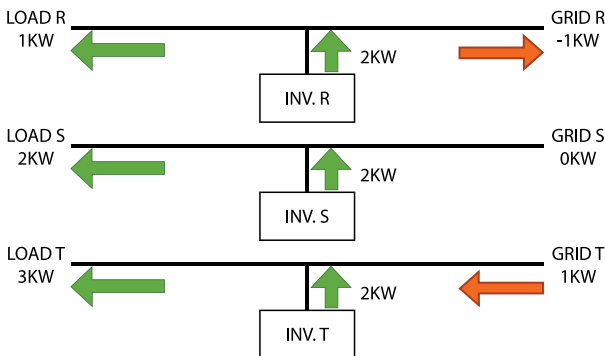
Minimum Phase Power: Invertorul furnizeaza pe toate cele 3 faze aceeasi putere, egala cu puterea consumata pe faza cea mai putin incarcata. Pentru celelalte faze, diferenta de putere se ia din retea.



Independent Phase Power (optiune accesibila numai pentru invertoarele hibride!): Invertorul incearca sa furnizeze puterea ceruta pe fiecare faza in functie de incarcare. Ca urmare, aportul din retea va fi minim (ideal 0).



Total Phase Power: Invertorul furnizeaza In mod egal pe toate cele 3 faze o putere egala cu puterea totala consumata pe toate cele 3 faze. Daca pe una din faze puterea furnizata e mai mare, surplusul va fi trimis in retea; daca e mai mica, diferenta necesara va fi luata din retea.

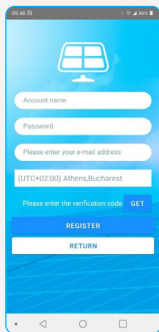
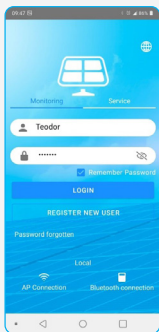


B. Crearea contului de monitorizare al proprietarului

Recomandam ca, la fiecare instalare de inverter sa se faca si un cont de monitorizare al proprietarului, astfel ca firma instalatoare va putea sa aibe o evidenta mai clara a site-urilor instalate, iar la nevoie firma instalatoare, prin intermediul contului de instalator, va putea monitoriza si eventual diagnostica echipamentele instalate de la distanta.

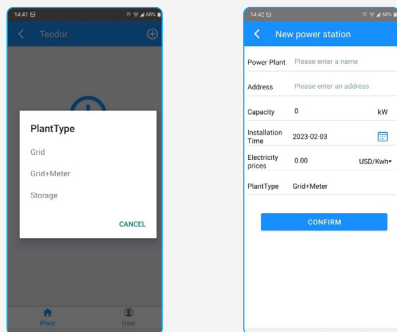
ATENTIE! Pentru aceasta operatiune trebuie sa aveti acces la internet (mobile sau rezidential).

1



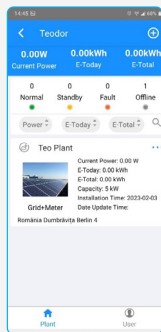
Se porneste aplicatia si se apasa butonul REGISTER NEW USER, si se intra in ecranul de creare a contului. Impreuna cu proprietarul stabiliti un nume de cont reprezentativ, o parola, adresa de e-mail a proprietarului si fusul orar (+2 pentru Romania). In continuare apasati butonul GET pentru a primi pe e-mail-ul proprietarului codul de verificare. Se introduce si acest cod si se apasa REGISTER. In acest moment se va crea contul si veti intra in cont.

2



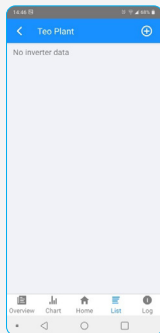
Acum alegeti tipul de invertor: On Grid, On Grid cu CT sau SmartMeter, sau hibrid. Dupa ce alegeti varianta corecta, aveti posibilitatea sa completati impreuna cu proprietarul celelalte date ale site-ului: Numele si adresa acestuia, puterea instalata (kW), data instalarii, pretul energiei electrice per kWh. Daca datele introduse sunt corecte apasati CONFIRM.

3



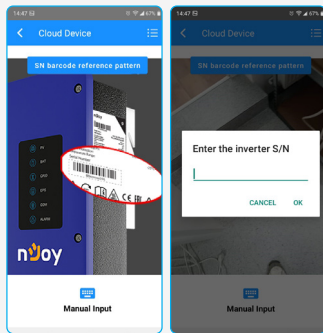
Astfel ajungeti in ecranul cu site-urile de energie solara ale proprietarului (in cazul nostru este doar una). Selectati-l ca sa intrati in ecranul de monitorizare a site-ului (ecranul Home). Aici se poate vizualiza fluxul de energie electrica de la instalatia solara catre consumatori si/sau catre retea. Decamdada toate valorile sunt 0 pentru ca nu au fost introduse echipamentele. Pentru a accesa lista invertoarelor din acest site apasati butonul List

4



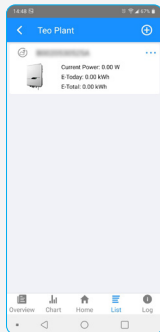
Deocamdata lista de inverteare este goala. Pentru a introduce inverterul proaspat instalat, apasati butonul + aflat in dreapta-sus.

5



Se va cere introducerea S/N (Serial Number) a inverterului. Aceasta se poate face in doua feluri: fie se scaneaza codul de bare aflat pe eticheta de pe inverter ori de pe ambalajul acestuia, fie se introduce manual (apasand butonul Manual Input aflat in partea de jos).

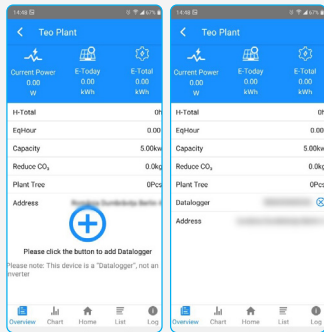
6



Daca S/N-ul introdus este corect, aplicatia va identifica tipul de inverter si il va afisa in lista de invertore.

ATENTIE! *Daca inverterul a fost deja asignat unei alte persoane sau la o alta locatie, S/N-ul introdus nu va fi recunoscut. In acest caz contactati tehnicianul nJoy pentru a remedia situatia.*

7



In cazul in care inverterul are un CT sau SmartMeter atasat, atunci va trebui introdusa seria inverterului si in ecranul Overview.

Se apasa butonul Overview si in acest ecran se apasa butonul albastru +. Se introduce seria inverterului. In acest moment configurarea site-ului de energie solara este terminata si aplicatia va incepe sa primeasca date despre productia de energie si modul in care a fost repartizata.

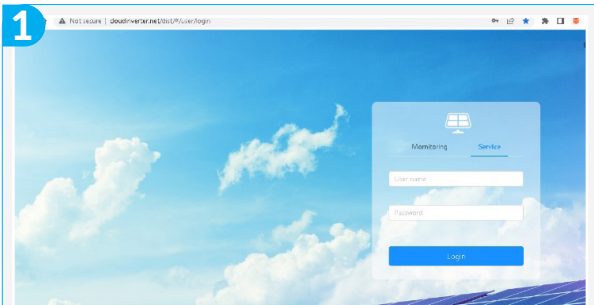


Prin apăsarea butonului Home se poate vizualiza modul în care energia electrică produsă este repartizată.

ATENȚIE! Transmiterea datelor nu se face instantaneu, rata de reimprospătare e de 5-10 minute, așa că dacă vi se pare că datele afișate nu sunt corecte acordati timp aplicației să-și actualizeze informațiile.

În momentul în care în dreptul iconitei verzi de la Power State apare cifra 1, asta înseamnă că există 1 invertor în funcțiune care generează energie și deci invertorul e on-line.

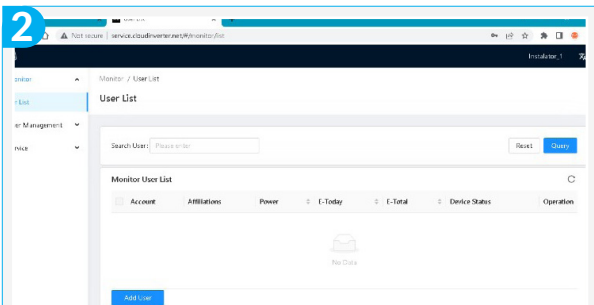
C. Introducerea contului utilizator in aplicatia de service



Deschideti browser-ul de internet si in fereastra de adresa introduceti www.cloud-inverter.net

Se va afisa pagina de start a aplicatiei de management

Selectati varianta 'Service' si introduceti numele si parola contului de instalator furnizat de n.Joy.



Odata intrat in contul de instalator, aveti posibilitatea sa monitorizati si sa configurati de la distanta echipamentele instalate. Pentru aceasta intai trebuie sa adaugati contul proprietarului la lista de utilizatori (User List). Apasati butonul 'Add User'.

5

The screenshot shows a web dashboard for 'cloudinverter.net'. The main area displays power and energy statistics for a 'Tea Plant'. The power is 664.00 W, and the energy today is 0.00 kWh. There are also buttons for 'Normal', 'Fault', 'Standby', and 'Offline'. Below the statistics is a table with the following data:

Status	PlantName	E-Today	E-Total	Start Time	Update	PlantType	Power	Efficiency	Operation
🟢	Tea Plant	0.00 kWh	1.00 kWh	2023-02-03	2023-02-06 12:07:22	Grid+Meter	664.00W	0	Edit Delete

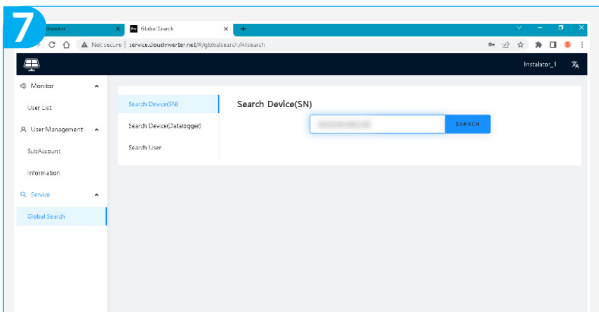
Cu click pe numele contului (albastru) se va deschide in browser o noua fereastră (tab) care va contine contul de monitorizare al proprietarului (user account). Aici se pot vedea amanuntit date despre echipamentul instalat, locatia instalarii etc.

6

The screenshot shows the 'History Log' page for the 'Tea Plant'. It displays a list of events with the following columns: Name, Account, Type, S/N, Time, Event, and Status. The events listed are:

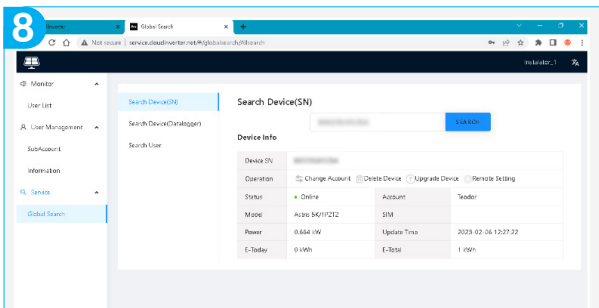
Name	Account	Type	S/N	Time	Event	Status
Actris SK/1P2T2	Teodor	Actris SK/1P2T2		2023-02-03 17:31:39	CU-Remote off	Action
Actris SK/1P2T2	Teodor	Actris SK/1P2T2		2023-02-03 13:32:42	CJ-Meter List	Action
Actris SK/1P2T2	Teodor	Actris SK/1P2T2		2023-02-03 13:32:18	A2-Grid absent	Action
Actris SK/1P2T2	Teodor	Actris SK/1P2T2		2023-02-03 12:31:25	A2-Grid absent	Action

Accesand meniul 'Log / History Log' din contul proprietarului, se pot vizualiza toate evenimentele aparute in functionarea invertorului, notificari, erori, etc.

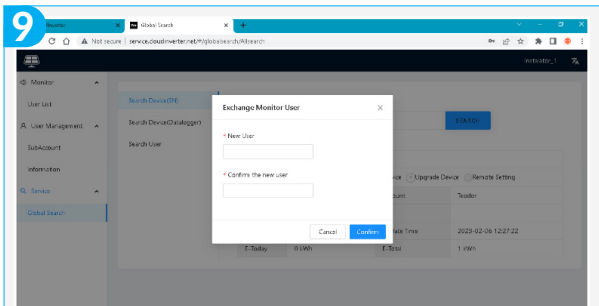


Din meniul 'Service/Global search' se poate cauta echipamentul dupa S/N.

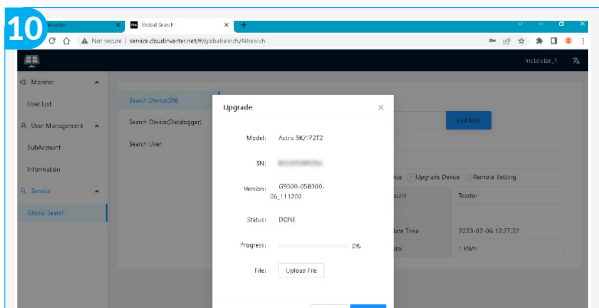
ATENȚIE! Pentru ca echipamentul sa poata fi gasit, el trebuie sa fie asociat unui cont proprietar, si acest cont sa fie introdus in aplicatia de service de catre instalator.



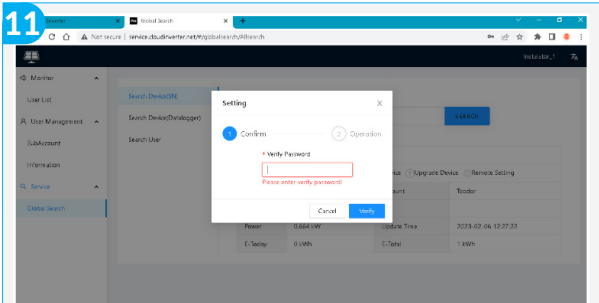
Daca echipamentul e gasit, se afiseaza date referitoare la acesta (model, putere furnizata, starea curenta, de ce cont proprietar apartine, etc.). Asupra lui se pot executa o serie de actiuni, accesibile in dreptul liniei 'Operation'



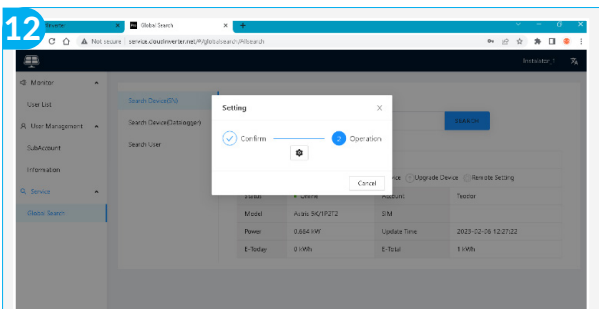
Astfel, prin accesarea butonului 'Change Account' se poate transfera echipamentul în contul unui alt proprietar, evident contul-destinație trebuie să fie și el introdus în zona de service a aplicației. Butonul 'Delete Device' permite ștergerea echipamentului din contul proprietarului.



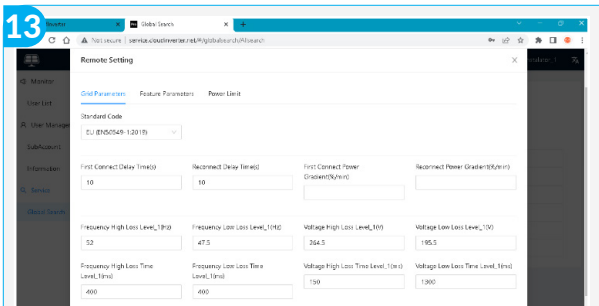
Cu ajutorul butonului 'Upgrade Device' se poate face update de firmware de la distanță.



Butonul 'Remote Setting' permite modificarea anumitor setari si parametri ai inventoriului. Pentru a avea acces la aceste setari, trebuie introdusa parola admin si apasat butonul 'Verify'.



Daca parola a fost introdusa corect, va apareea simbolul de setari (o rotita dintata). Accesand acest simbol se intra in fereastra de setari si parametri.



Aceste setari sunt impartite pe categorii: Grid parameters, Feature parameters si Power Limit. Sunt afisate valorile curente ale setarilor; acestea se pot modifica si, apasand butonul 'Upload' din partea de jos, se trimit spre echipament modificand setarile anterioare.

ATENȚIE! Parametrii care sunt 'blank' adica nu au valori afisate nu pot fi setati sau modificati.

