APsystems

APstorage Training

APstorage

APstorage

E = Energy Storage System

L = Low voltage (40...60V)

S = Single Phase

5K = 5kW puissance

02

Mode de fonctionnement

1. Backup mode

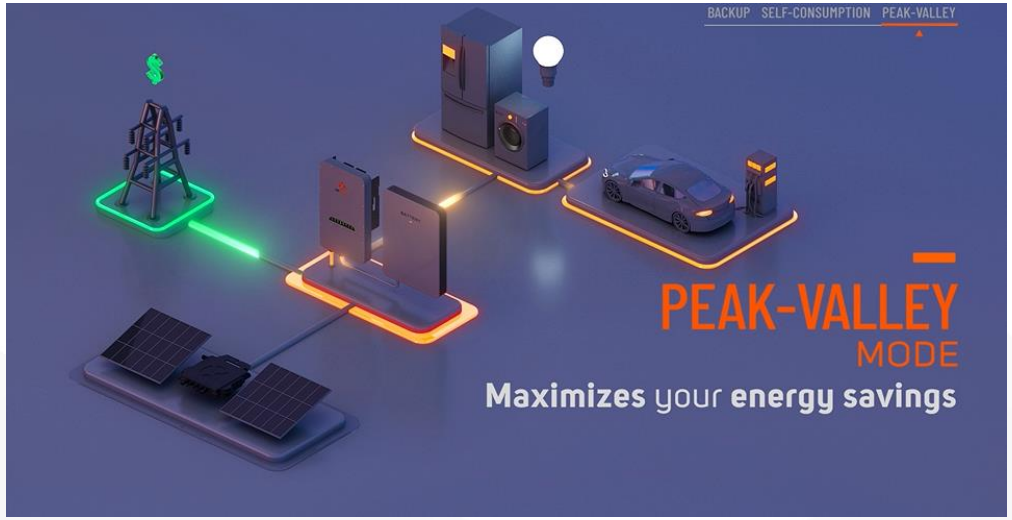
Priorité: Garder les batteries chargées

- **Backup mode**:
  - Réseau: PCS charge les batteries à pleine puissance, (priorité PV puis réseau si necessaire)
  - Hors réseau: PV system branché hors réseau fonctionne normallement. APstorage va fournir du courant seulement au backup.

2. Mode auto-consommation

- Réseau:
  - Quand PV produit **plus** que la conso de la maison, the **surplus charge** les batteries. Quand la batterie est pleine, le surplus peut être réinjecté dans le reseau ou bridé.
  - Quand PV produit **moins** que la conso de la maison, la batterie se **décharge**, et fournit du courant au back up et tout ce qui est branché au reseau.
- Hors réseau:
  - PV system branché hors reseau fonctionne normallement. APstorage fournit du courant seulement au back up,

3. Heure pleines/ creuses(Mode avancé)



- **Mode avancé:**
  - Réseau:
    - Heures pleines:

      Quand PV produit **plus** que la conso de la maison, the **surplus charge** les batteries. Quand la batterie est pleine, le surplus peut être réinjecté dans le reseau ou bridé.

      Quand PV produit **moins** que la conso de la maison, la batterie se **décharge**, et fournit du courant au back up et tout ce qui est branché au reseau.
    - Heures creuses (valley) time:

      PCS charge les batteries à pleine puissance, (priorité PV puis réseau si necessaire)
    - Flat time (ni heures creuses ni pleines):
      - Quand PV produit **plus** que la conso de la maison, the **surplus charge** les batteries. Pas de décharge.

Economiseur batterie/ Charge forcée batterie

- **PCS veille/réveil:** quand le PCS est inactive pendant 1h, il peut se mettre en veille si la fonction est activée.

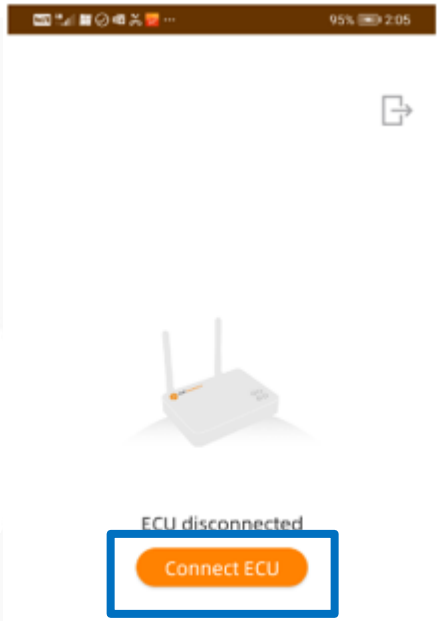
- **Charge forcée batterie:** si la charge batterie atteint un seuil critique, le PCS va forcer la charge avec le réseau automatiquement pour la protéger,

02

EMA Manager Mise en service

Connect your smartphone to ECU

Click “Accès local”



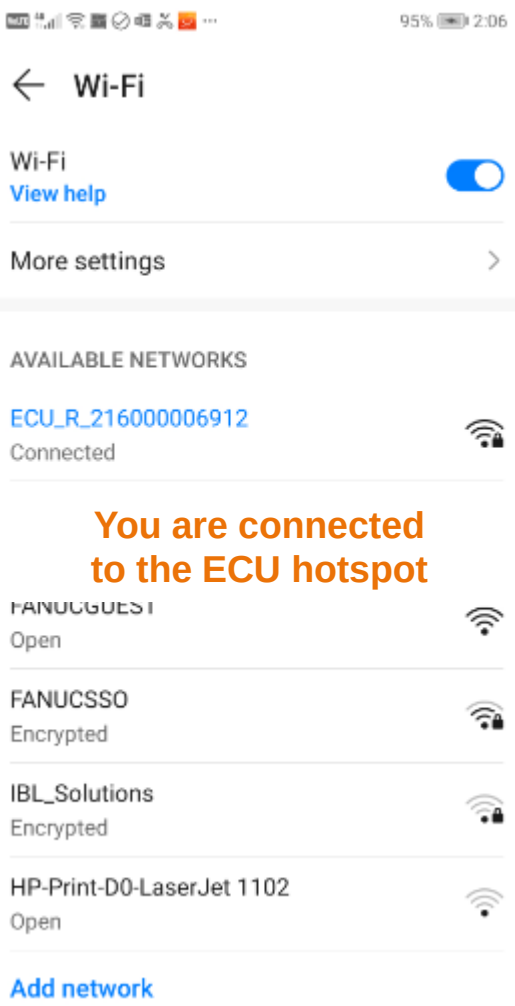
Warning : if your ECU gets a button “AP” on the side of the casing, the Wi-Fi hotspot is activated for 1 hour after the ECU is powered.
To activate the Wi-Fi hotspot for 1 hour again, press the “AP” button

Connect your smartphone to ECU

Select ECU Wi-Fi hotspot in the list

ECU-R/ or ECU-B :
Enter password 88888888
ECU-C :
no password

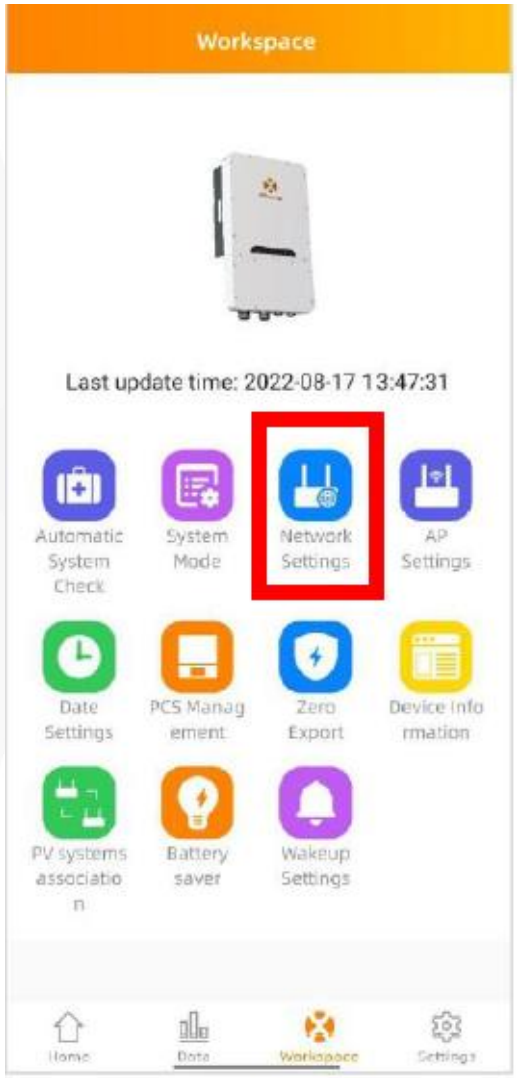
then click “connect”



ECU Configuration

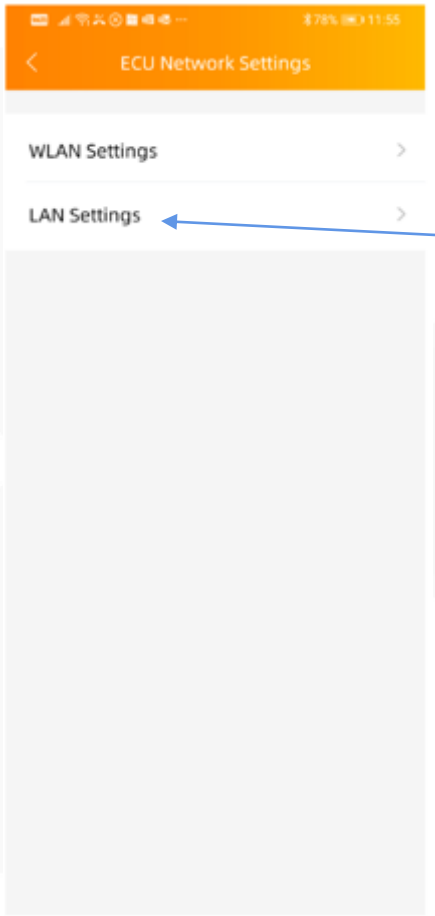
then
click “Workspace”

ECU Internet Connection



click “ECU Network Settings”

ECU Internet Connection: LAN



If ECU is connected to the internet router via Ethernet cable

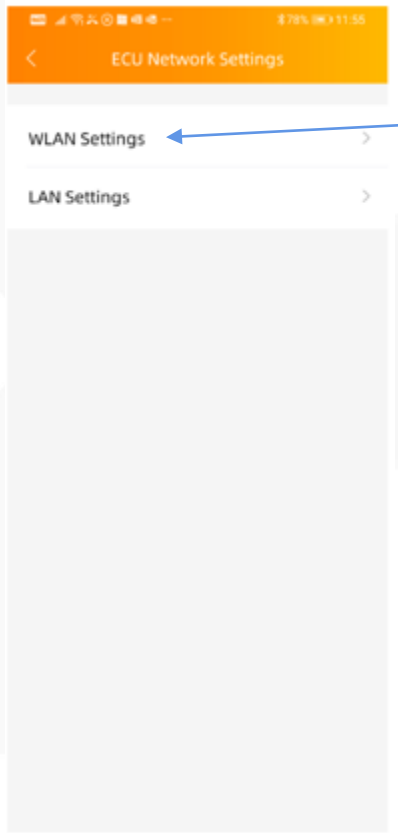
click “LAN Settings”

check setting is “Obtain an IP address automatically”

and IP address is not 192.168.131.228

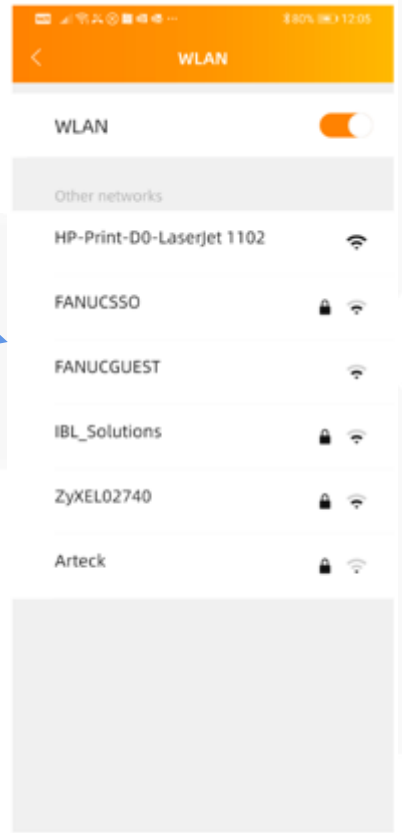
ECU Internet Connection: WLAN

In case wire connection via RJ45 port is not possible,
you may connect ECU to the internet router through Wi-Fi :

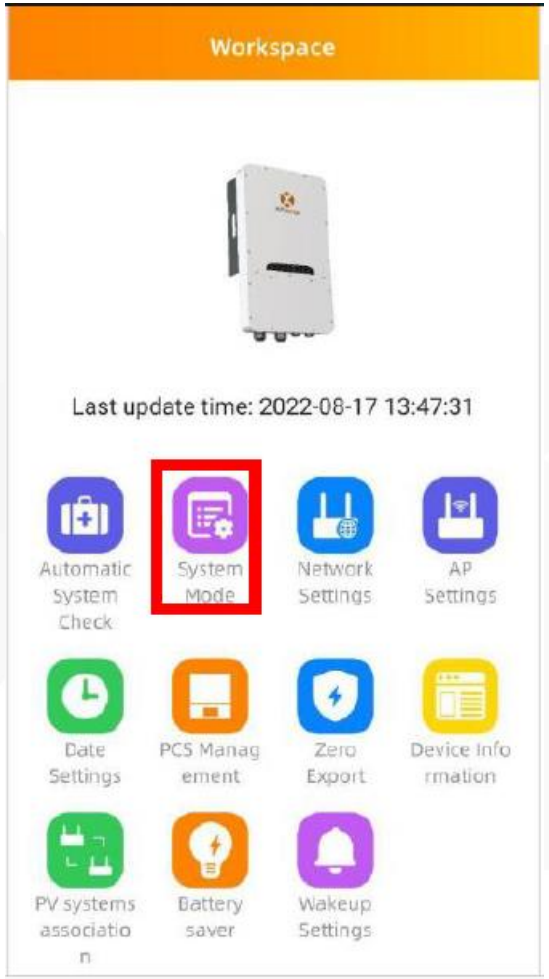


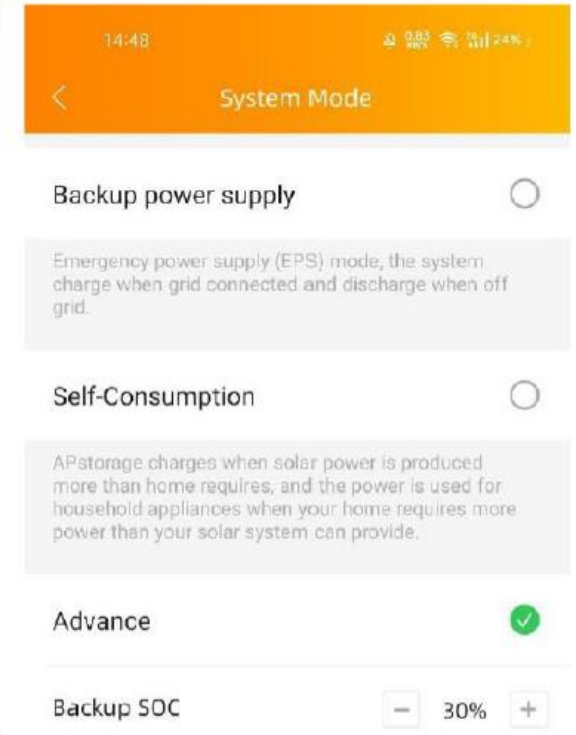
click “WLAN”

Select customer network
enter password
then click “SEND”

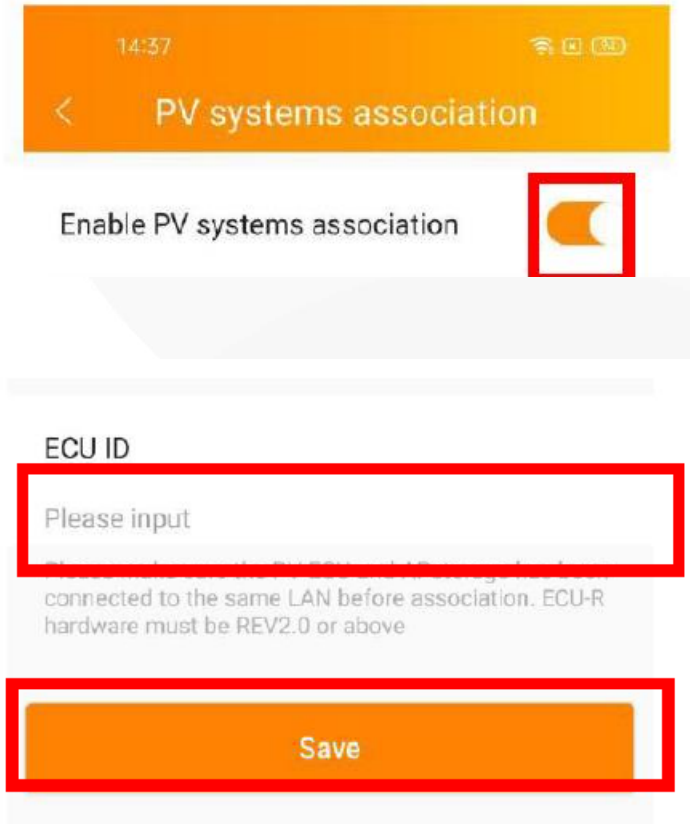


Système mode



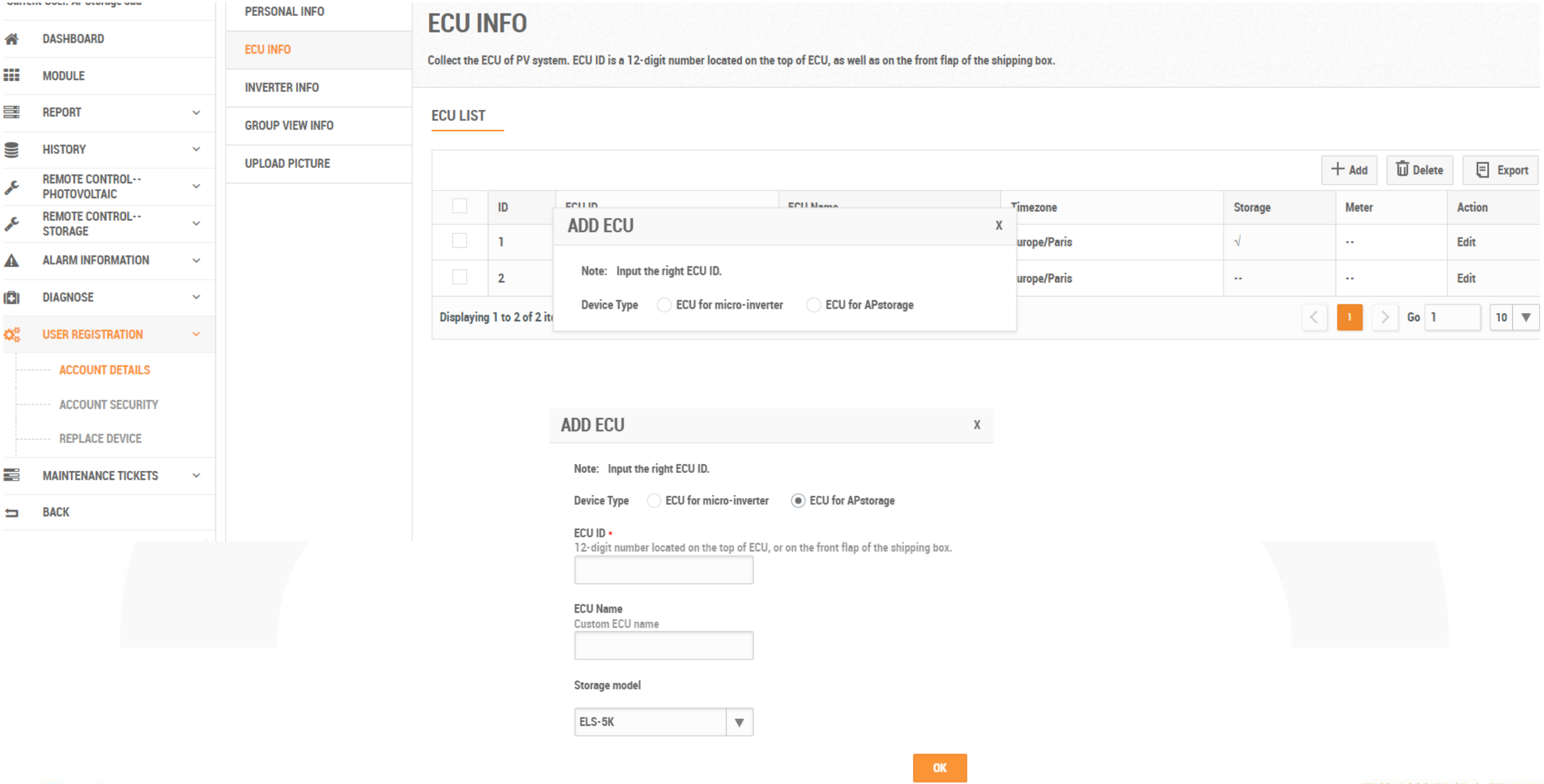


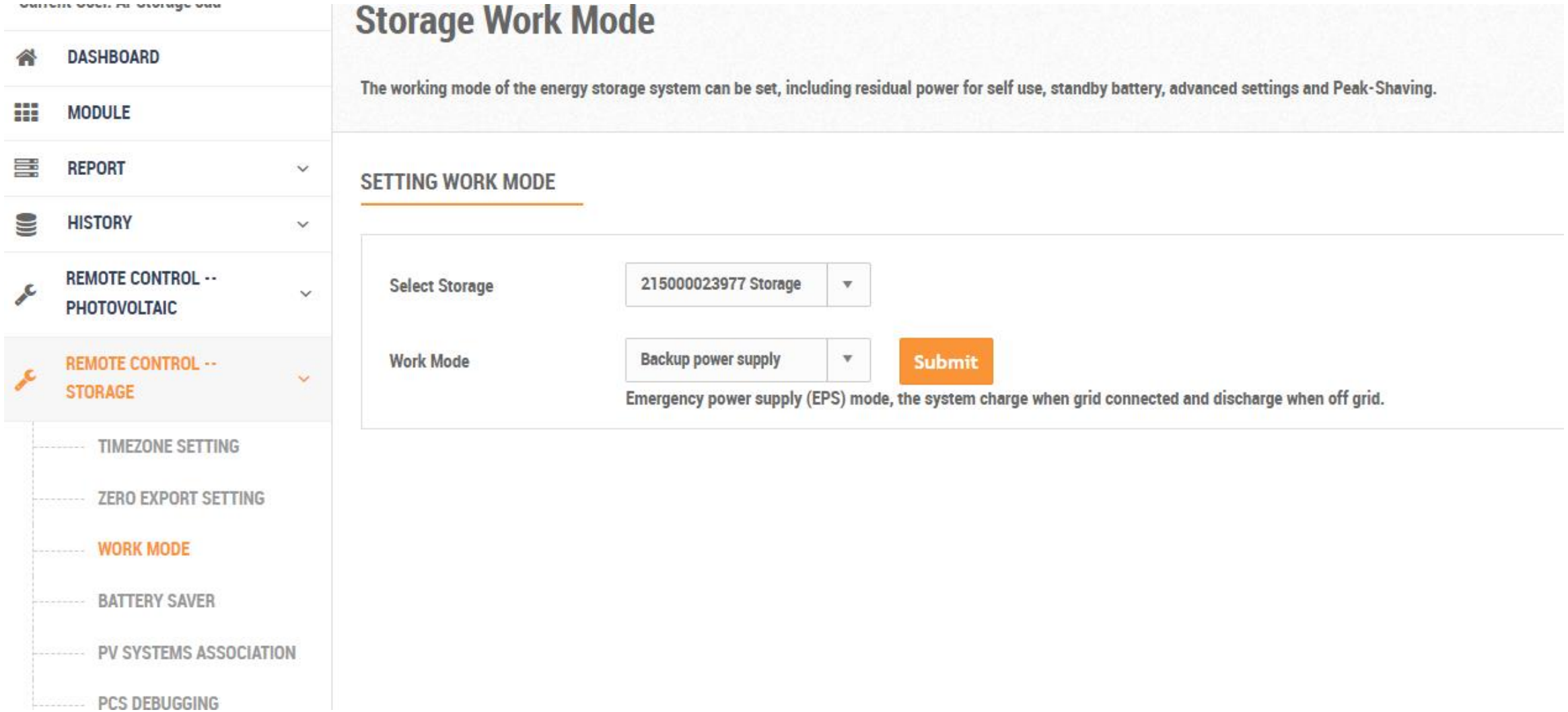
Association PV



02

EMA Dashboard overview


DASHBOARD
MODULE
REPORT
HISTORY
REMOTE CONTROL--PHOTOVOLTAIC
REMOTE CONTROL--STORAGE
ALARM INFORMATION
DIAGNOSE
USER REGISTRATION
ACCOUNT DETAILS
ACCOUNT SECURITY
REPLACE DEVICE
MAINTENANCE TICKETS
BACK
PERSONAL INFO
ECU INFO
INVERTER INFO
GROUP VIEW INFO
UPLOAD PICTURE
ECU INFO
Collect the ECU of PV system. ECU ID is a 12-digit number located on the top of ECU, as well as on the front flap of the shipping box.
ECU LIST
Add
Delete
Export
ID
Timezone
Storage
Meter
Action
1
urope/Paris
√
--
Edit
2
urope/Paris
--
--
Edit
Displaying 1 to 2 of 2 it
1
Go 1
10
ADD ECU
X
Note: Input the right ECU ID.
Device Type
ECU for micro-inverter
ECU for APstorage
ADD ECU
X
Note: Input the right ECU ID.
Device Type
ECU for micro-inverter
ECU for APstorage
ECU ID *
12-digit number located on the top of ECU, or on the front flap of the shipping box.
ECU Name
Custom ECU name
Storage model
ELS-5K
OK


DASHBOARD
MODULE
REPORT
HISTORY
REMOTE CONTROL -- PHOTOVOLTAIC
REMOTE CONTROL -- STORAGE
TIMEZONE SETTING
ZERO EXPORT SETTING
WORK MODE
BATTERY SAVER
PV SYSTEMS ASSOCIATION
PCS DEBUGGING
Storage Work Mode
The working mode of the energy storage system can be set, including residual power for self use, standby battery, advanced settings and Peak-Shaving.
SETTING WORK MODE
Select Storage
215000023977 Storage
Work Mode
Backup power supply
Submit
Emergency power supply (EPS) mode, the system charge when grid connected and discharge when off grid.

ENERGY STORAGE OPERATION STATUS

Charge

Work Mode
Advanced Mode

Battery
68%
0 10.24kWh

TODAY'S ENERGY USAGE

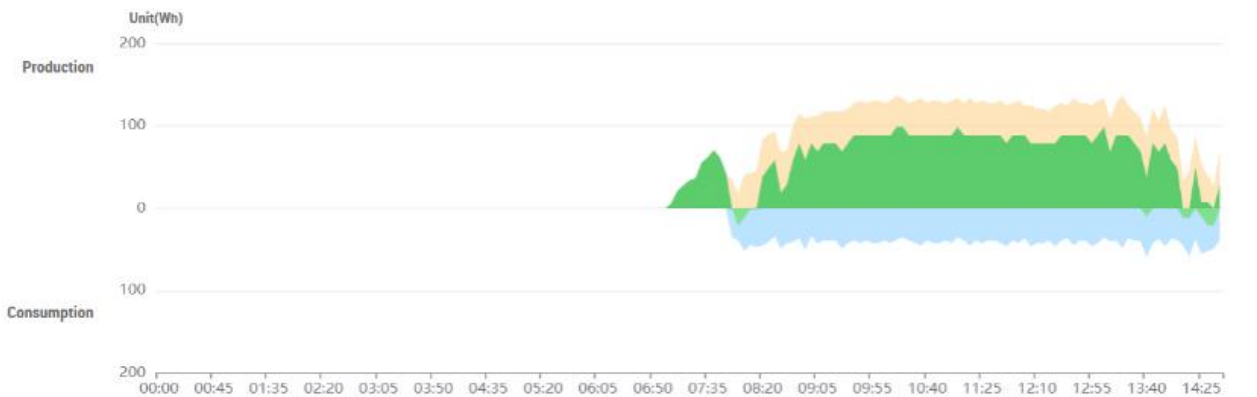
System Time: 2022-07-27 14:48:08

SYSTEM INFORMATION

Create Date	2022-05-07
System Size	4.8kW
Inverter Type	YC600

ENERGY USAGE

Day | Month | Year



Produced 9.38 kWh | Charged 6.07 kWh | Exported 0 kWh
Consumed 3.43 kWh | Discharged 0.12 kWh | Imported 0 kWh

SYSTEM BENEFITS

776.01 (kWh)	1.22 (MWh)	570.6 (kg)
Total Produced	Total Consumed	CO2

CONTACT INFORMATION

Company Name	APsystems
Telephone	--
Email	emasupport@apsystems.cn

How to calculate the Max PV system power under system wiring

- 1. Identify the largest maximum single load power rating (kW) that you want to backup, and select the absolute minimum number of PCS units . A maximum of 2 ELS 5K units can be connected in parallel.
- 2. Based on the estimated backup loads for the user defined time period, calculate the required energy storage (kWh) capacity and the minimum number of battery required.
- 3. Refer the Table below to calculate the maximum PV system power (PV system 1) to connect to the backup side, if the total PV system power is larger than Max PV system power, connect the excess power (PV system 2) to the grid side.

Table 1: Maximum PV system power for storage system for backup operation

ELS-5K units	Battery units	Max PV system power (kWac)
1	1	3.12
1	>=2	6.25
2	2	6.25
2	3	9.37
2	>=4	12.5

ELS-3K units	Battery units	Max PV system power (kWac)
1	1	3.12
1	>=2	4.6
2	2	6.25
2	3	9.2

Exemples d’installations