APsystems
ALTENERGY POWER

ECU-C
Installation and Configuration

English - 2020

Agenda

- Product Overview
- Installation
- ECU-C configuration

APsystems
ALTENERGY POWER

Product Overview

APsystems
ALTENERGY POWER

Monitoring gateway - ECU-C

- **Energy Communication Unit with advanced functions**

- Collection and transmission of inverter data
- Real time monitoring of each inverter
- Adapted to single or 3 phase
- Built-in WiFi
- Zigbee communication

- rail din mounted
- Metering Function (Electricity data monitoring)
- 0 Export function
- Redundant Energy Control

APsystems
ALTENERGY POWER

ECU-3 Structure

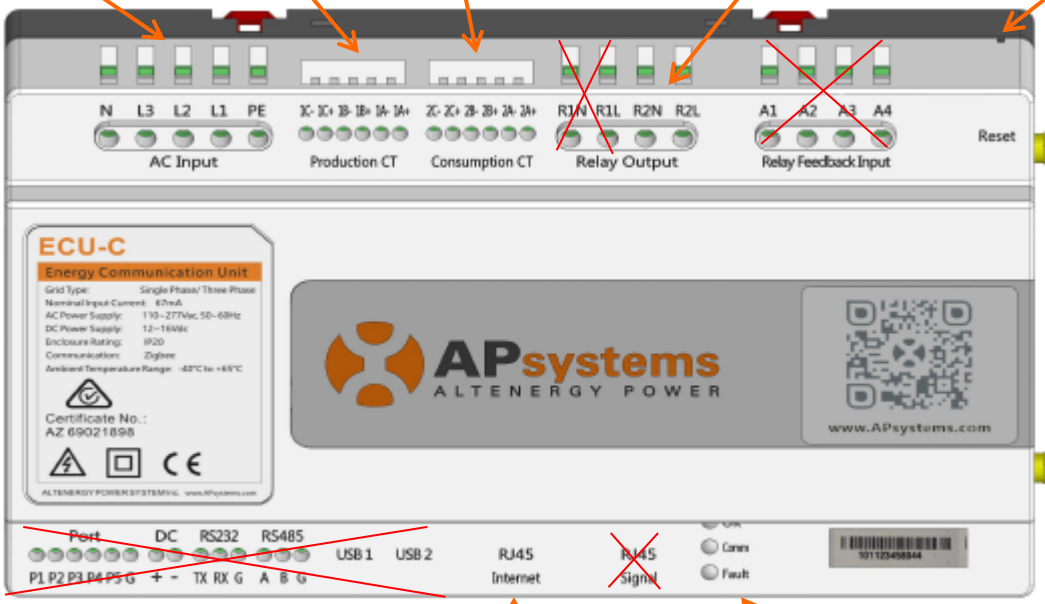
Power Interface
Single phase systems :
230V L1/N/PE
3 phase systems :
230/400V L1/L2/L3/N/PE

Consumption CT(s)

Production CT(s)

Redundant Energy Control

Reset Button



WiFi antenna

ZigBee antenna

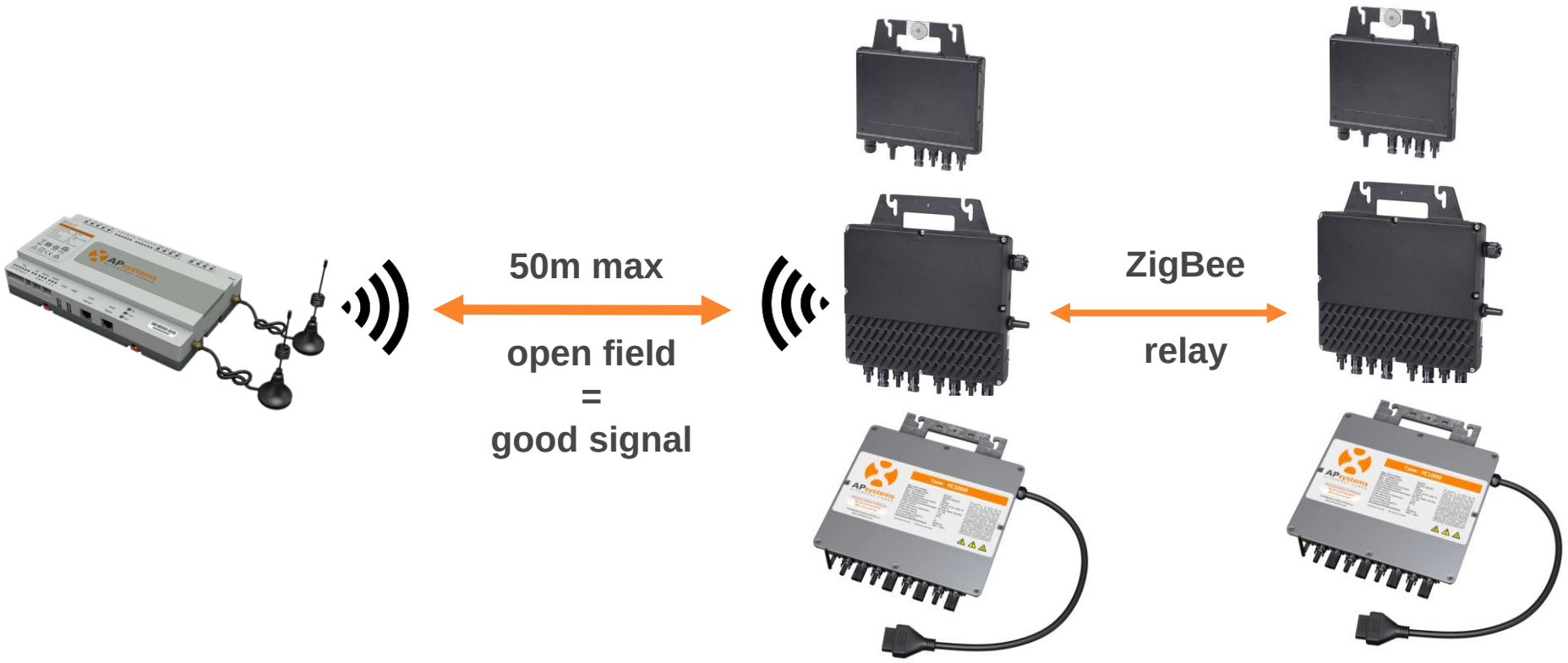
Network Interface

Status led

APsystems
ALTENERGY POWER

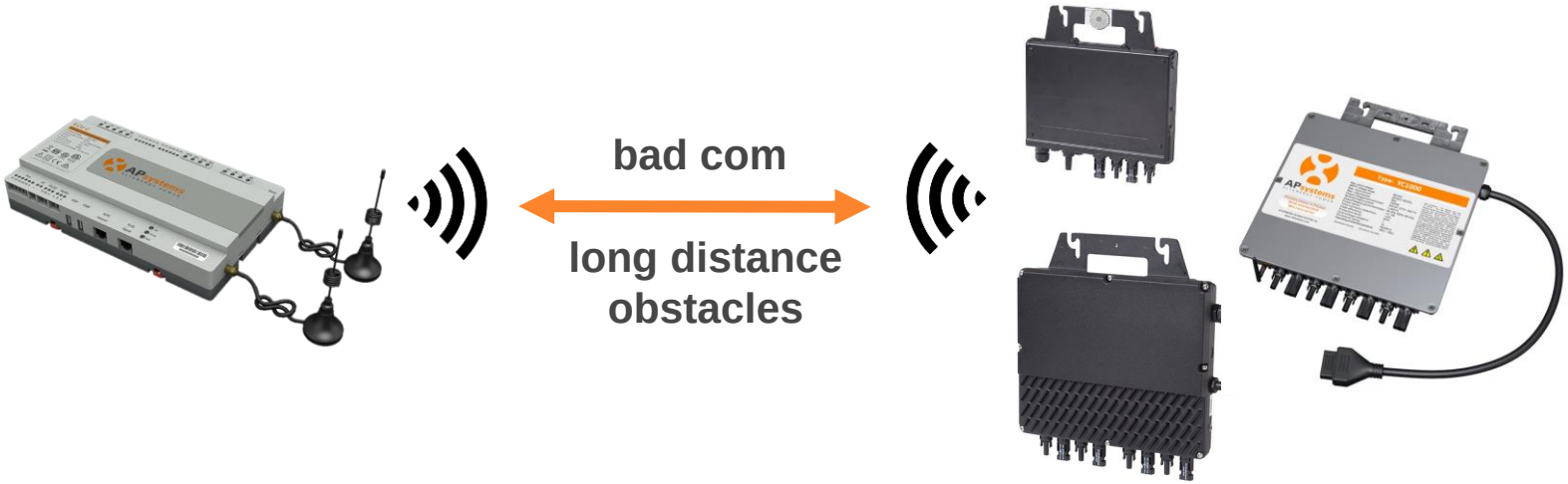
ZigBee communication

100 inverters per ECU



APsystems
ALTENERGY POWER

ZigBee communication



move Zigbee antenna of the ECU to a better location using extension cable for WiFi antenna 2,4GHz with SMA connectors male /female
(not provided by Apsystems)

If the antenna is installed outside not protected from the rain change if for an appropriate version : WiFi antenna 2,4GHz outdoor
(not provided by Apsystems)

APsystems
ALTENERGY POWER

CTs for ECU-C

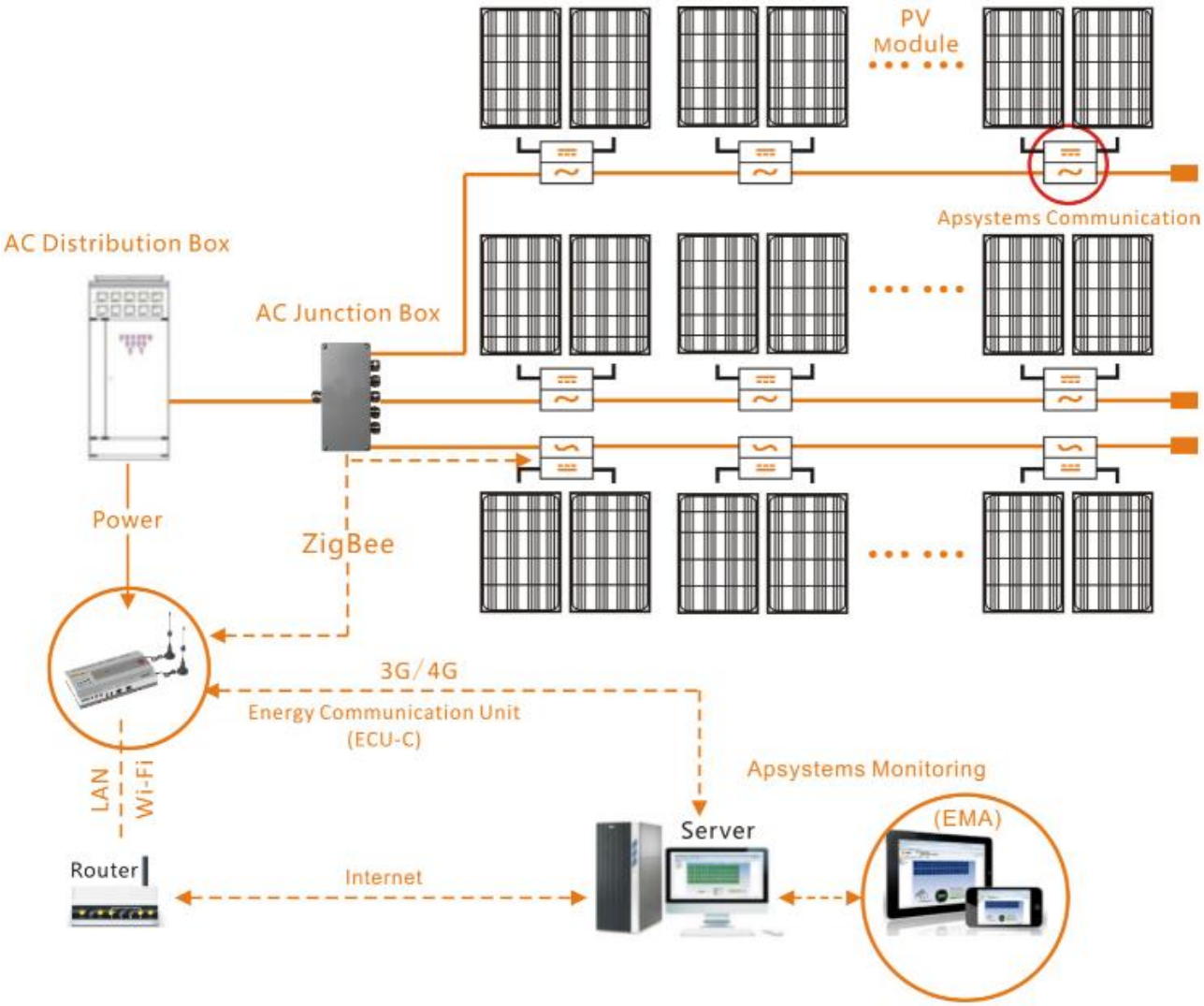
80A or 200A

APsystems
ALTENERGY POWER

Installation

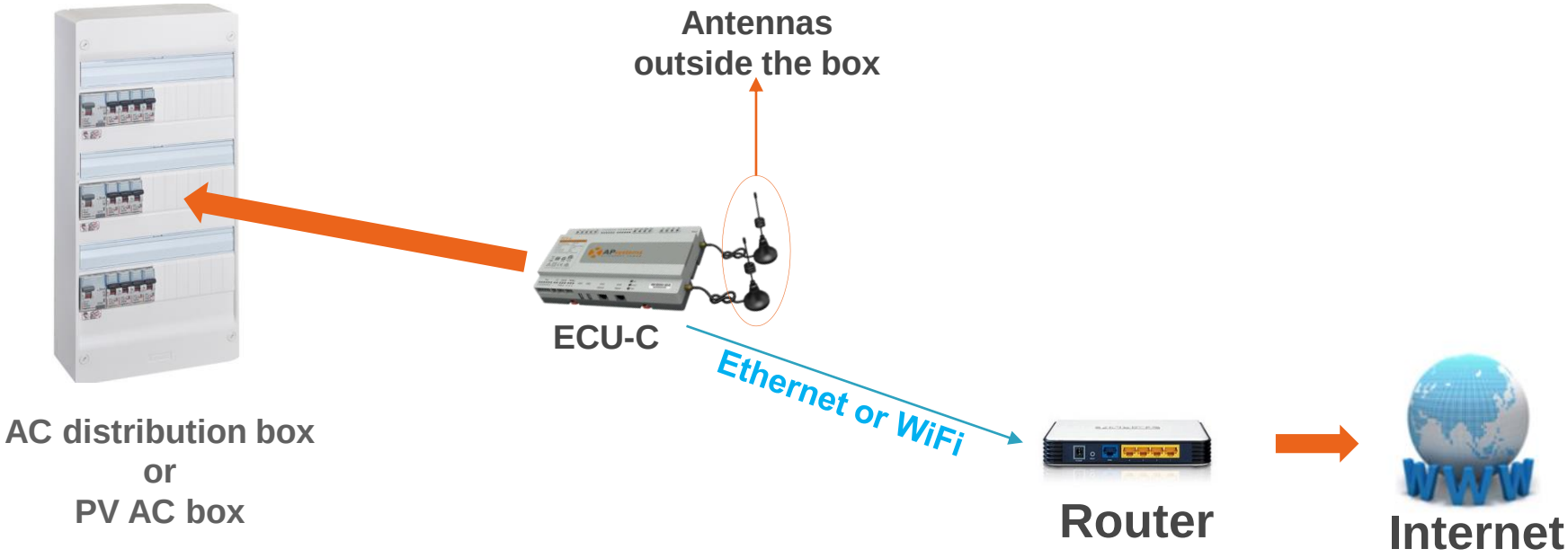
APsystems
ALTENERGY POWER

System overview



APsystems
ALTENERGY POWER

Install ECU-C



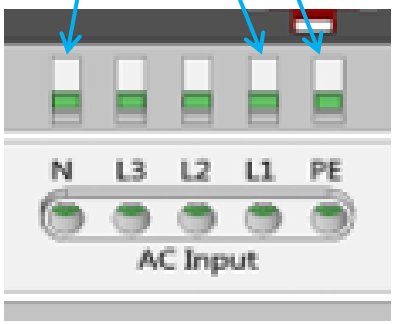
APsystems
ALTENERGY POWER

Install ECU-C

Power interface wiring
with
standard EU Grid 230/400V–50Hz
(L1, L2, L3, N, PE)

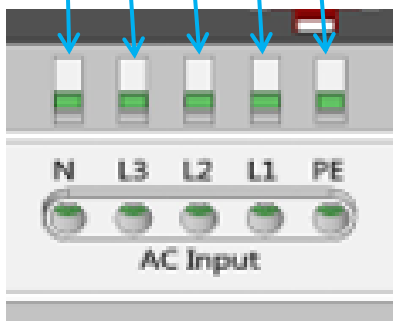
Single phase PV systems

N, L1, PE



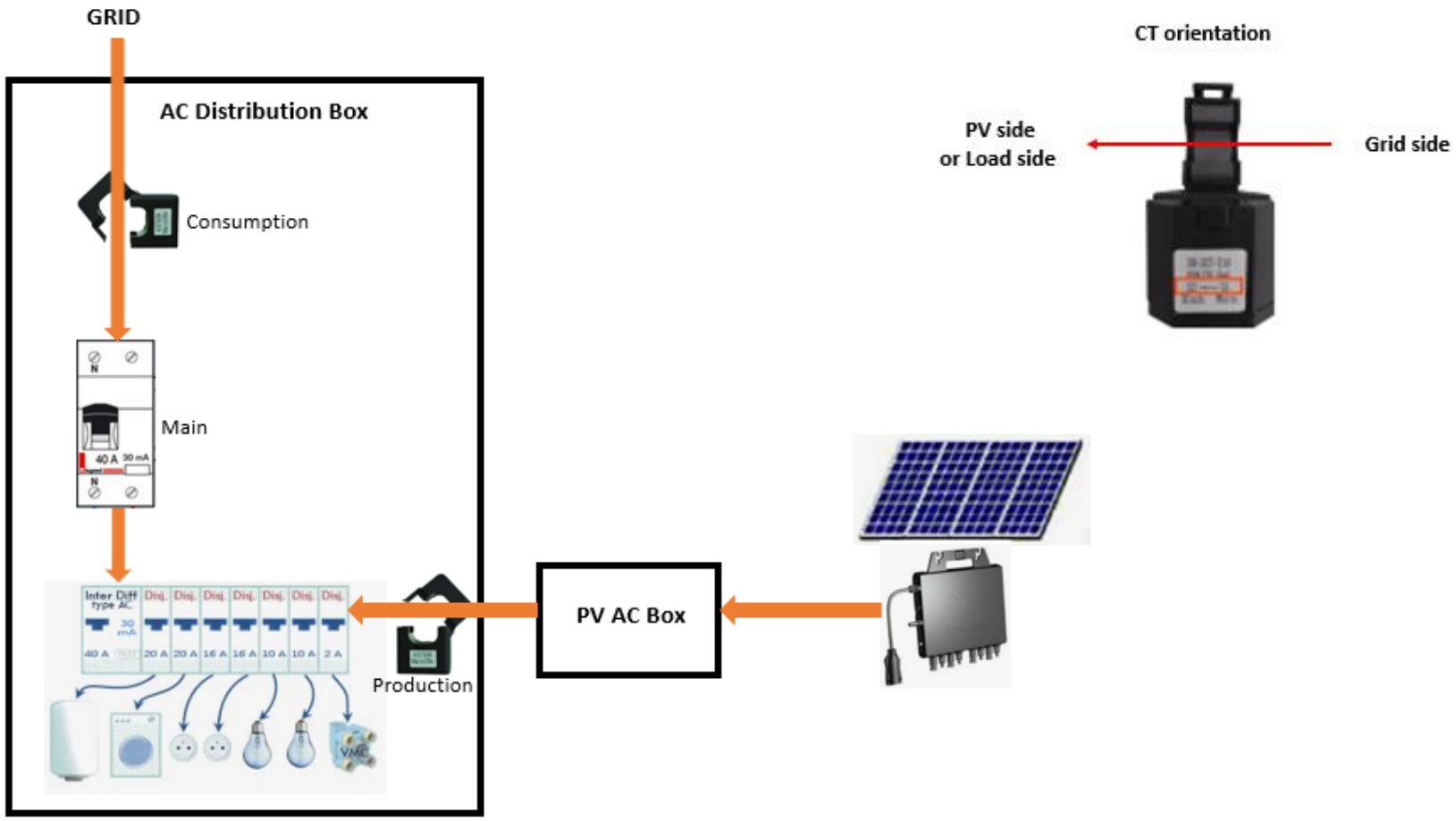
3 phase PV systems

N, L3, L2, L1, PE



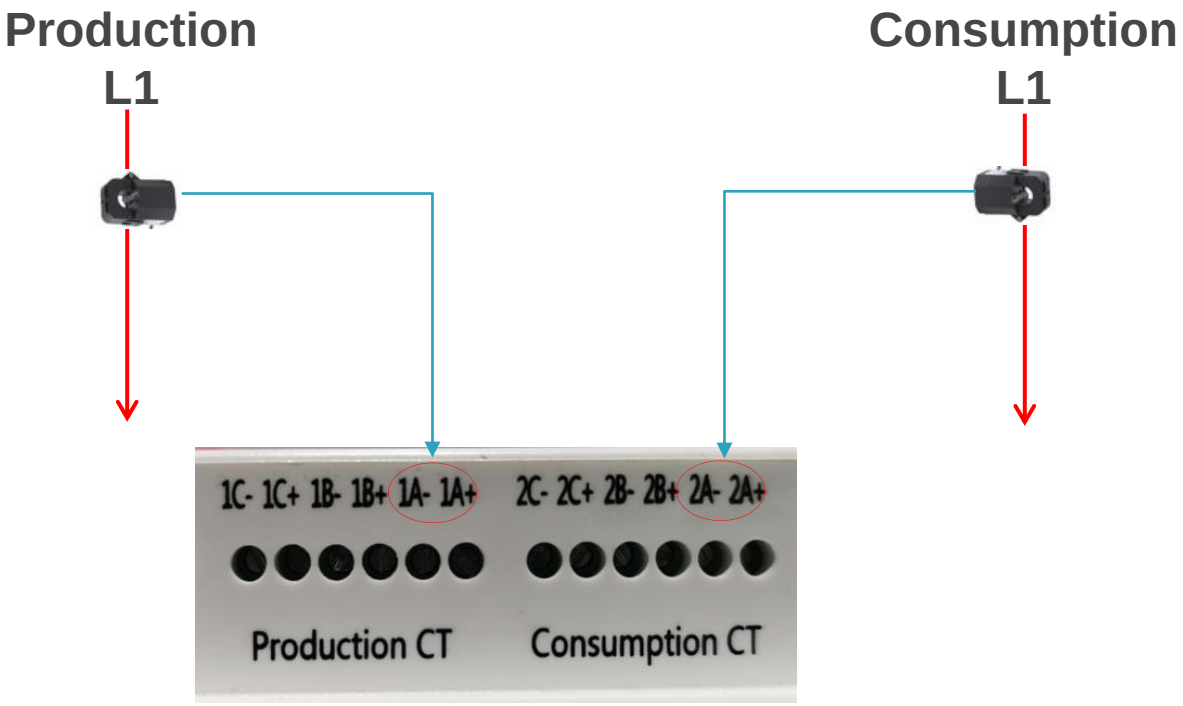
APsystems
ALTENERGY POWER

Install CT for ECU-C



Install CT for ECU-C

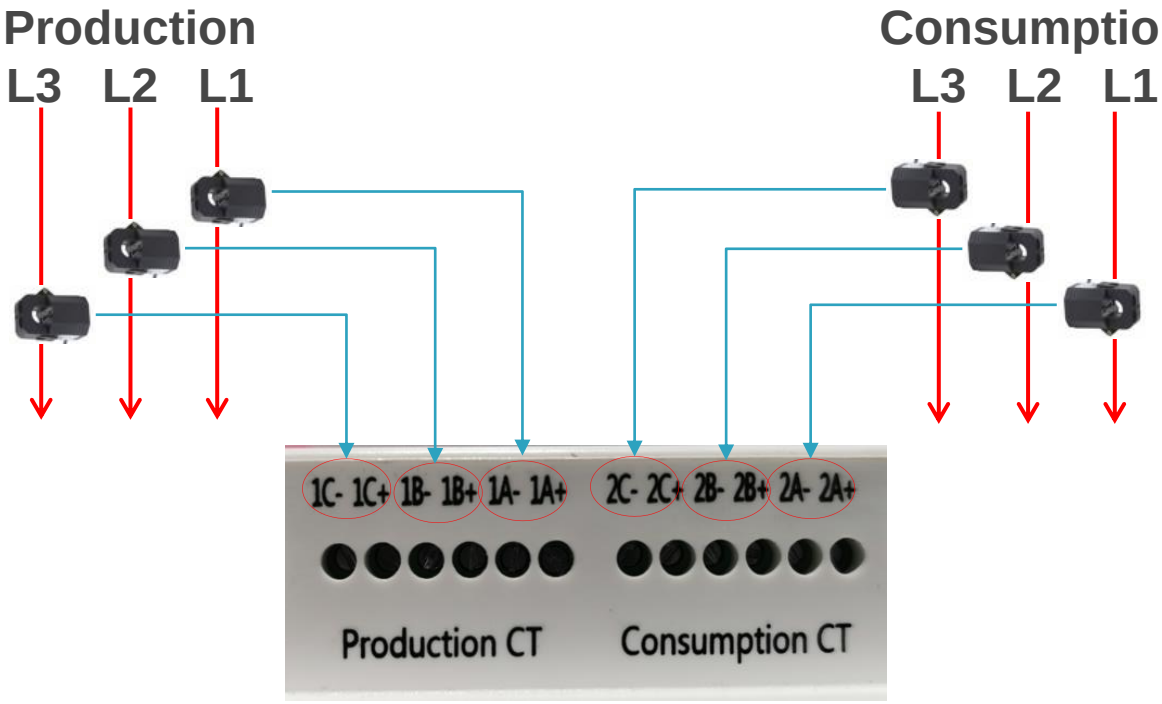
Single phase PV system
2 CTs



APsystems
ALTENERGY POWER

Install CT for ECU-C

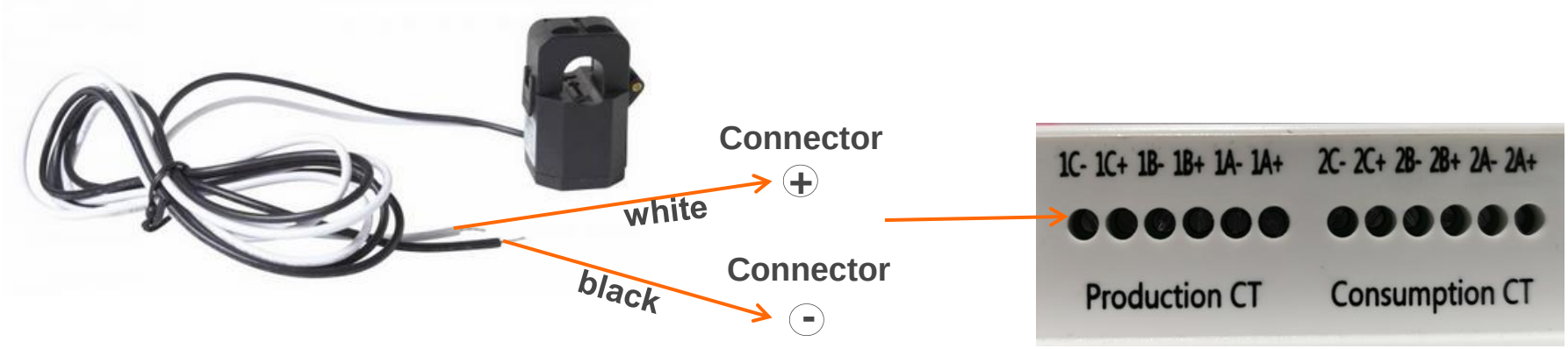
3 phase PV system
6 CTs



Warning : check phase are matching on ECU-C power port and CTs port

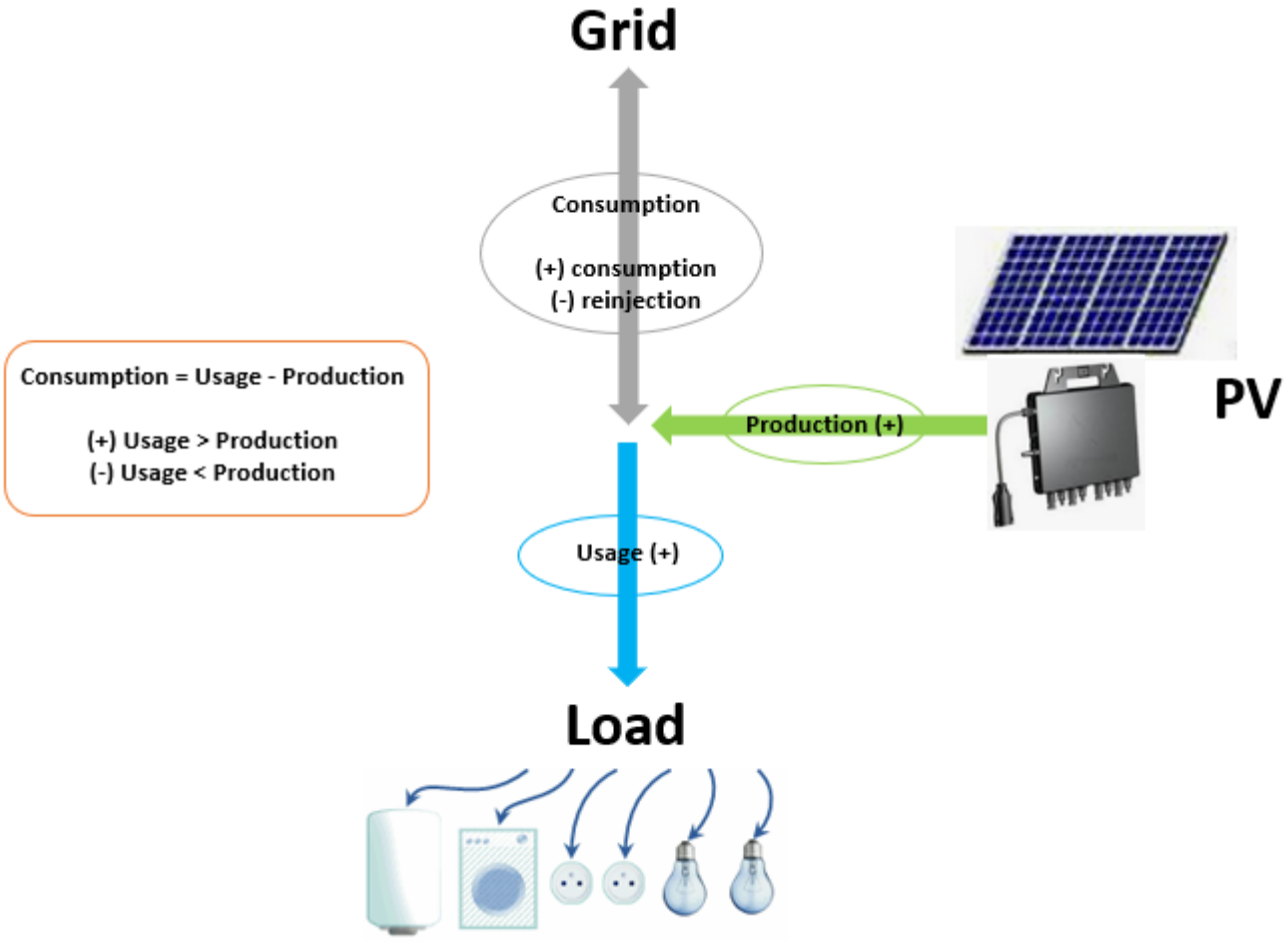
APsystems
ALTENERGY POWER

Install CT for ECU-C

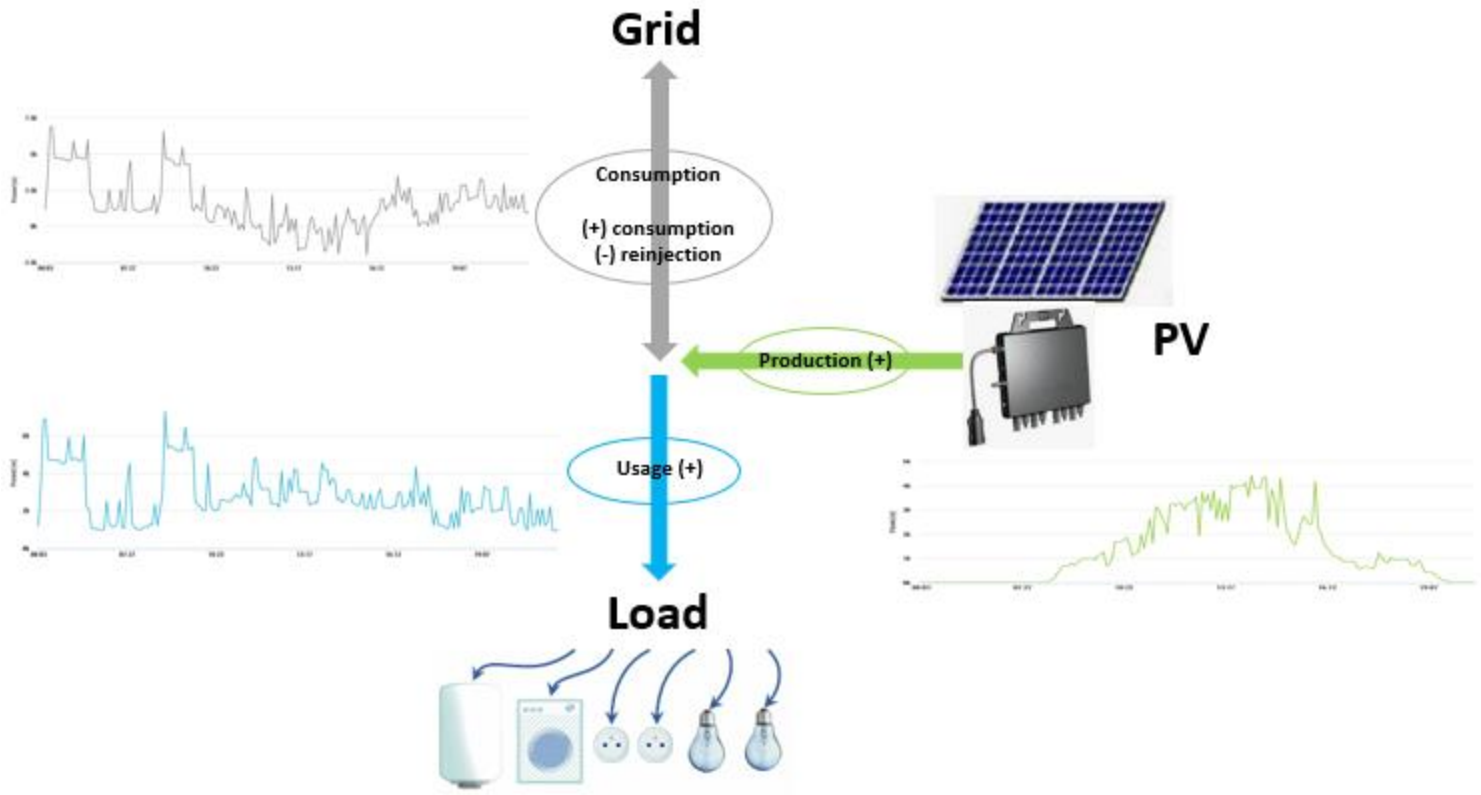


APsystems
ALTENERGY POWER

Energy Metering

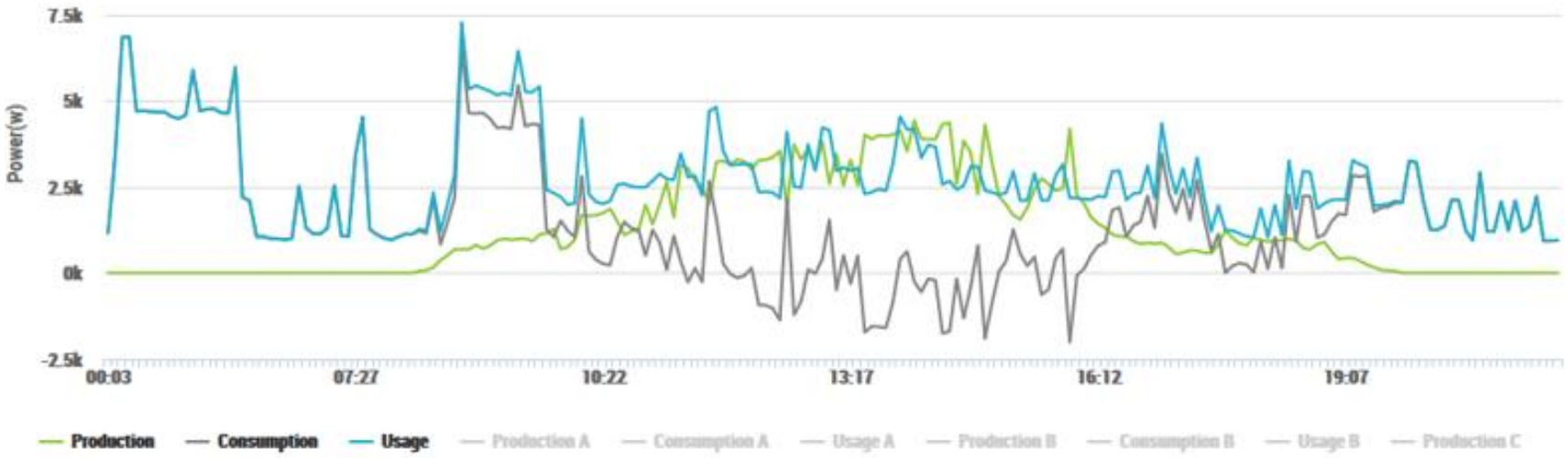


Energy Metering



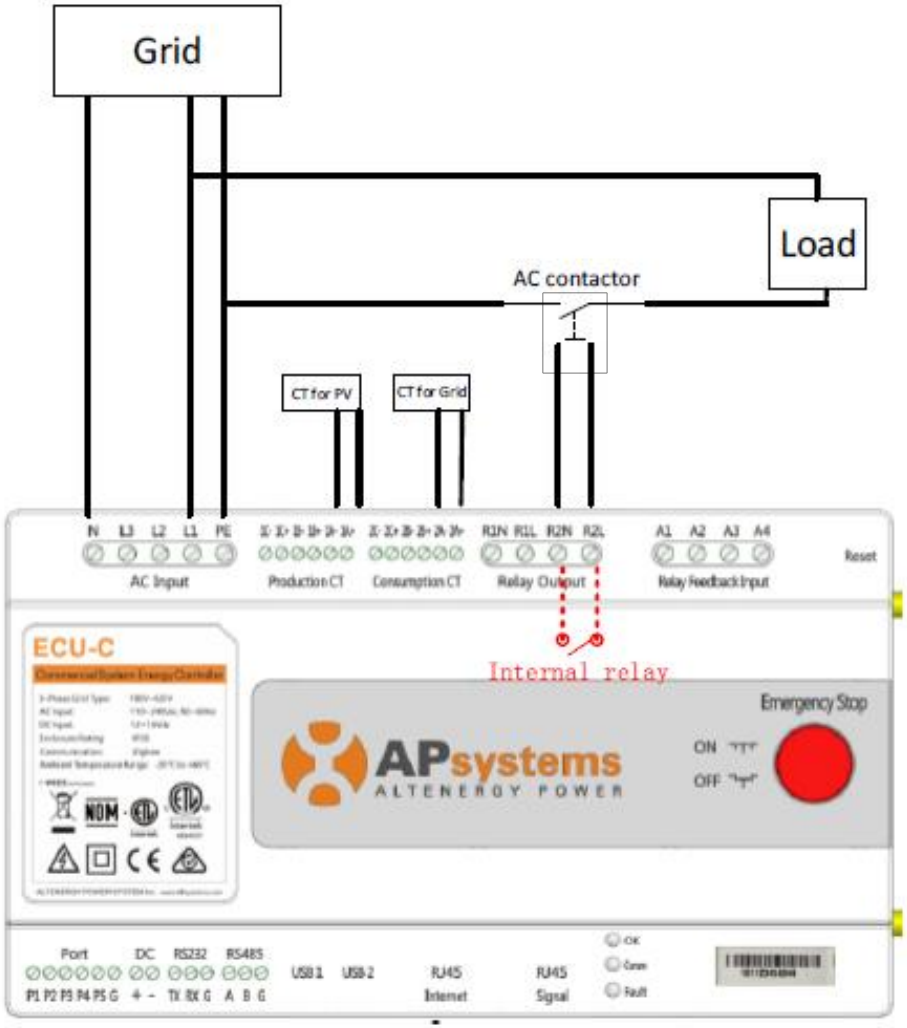
APsystems
ALTENERGY POWER

Energy Metering



APsystems
ALTENERGY POWER

Install ECU-C



Redundant Energy Control :
works only single phase
(only L1 monitored)

How it works :

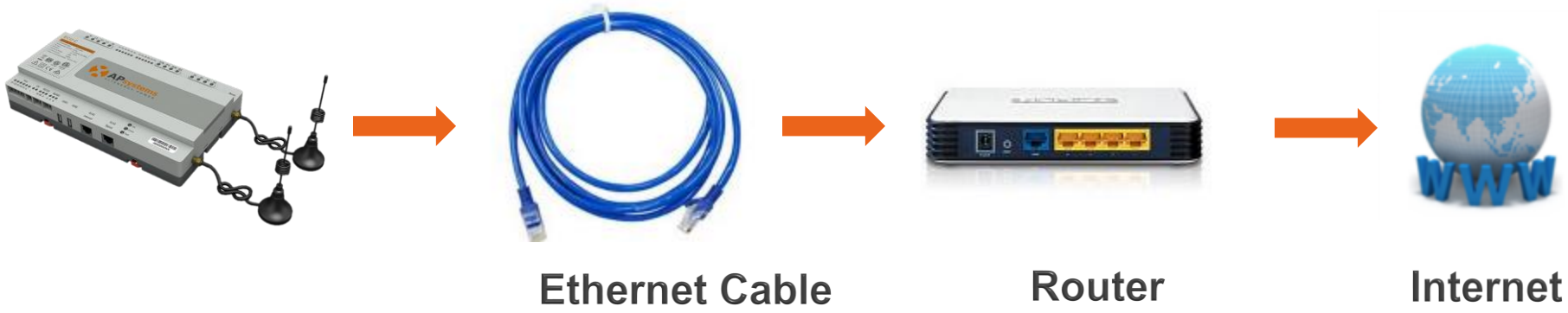
This function allows ECU-C, in case of excess energy (PV power > load consumption) to power a load in order to improve self-consumption ratio.

When excess energy set up (Power Limit) is reached, contact #2 of **Relay output** port delivers N/L1 through **R2N**/**R2L** so you can power an external contactor and turn on a load.

APsystems
ALTENERGY POWER

ECU internet connection

- Option 1: Wired Connection (recommended)



- Connect ECU to the router through the Ethernet cable
- Make sure the connection between the ECU & the router is ok
- Power ECU, it will obtain automatically IP address from the router
- Ensure the router connects to the internet, then the ECU will connect to the internet.

APsystems
ALTENERGY POWER

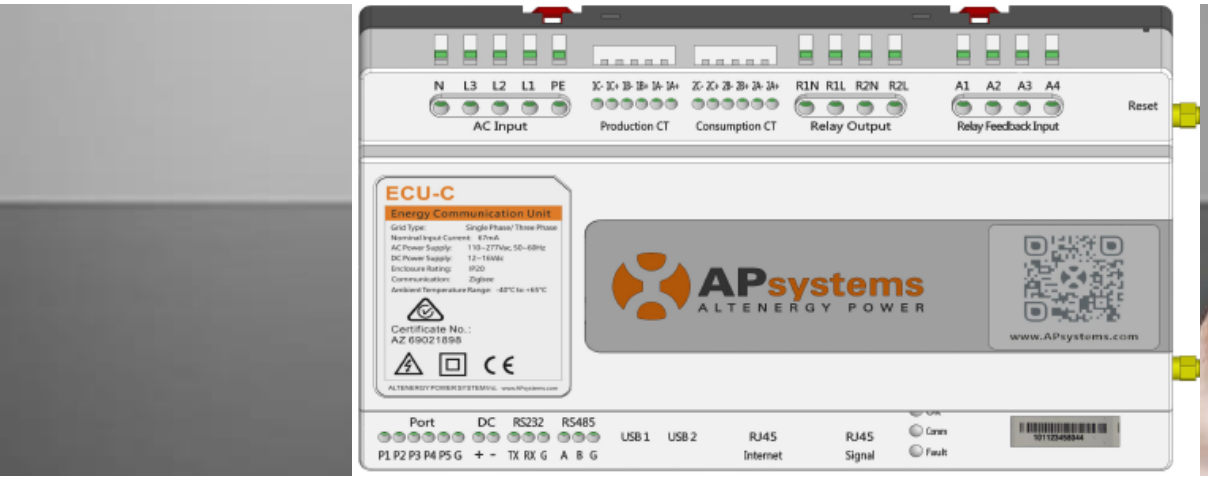
ECU internet connection

- Option 2: Wifi Connection

- Connect the ECU-R or the ECU-C to the router through WiFi
  -> set up through ECU configuration

APsystems
ALTENERGY POWER

ECU-C Configuration



APsystems
ALTENERGY POWER

ECU ID and Version

ECU ID (12 digits) is located on the label sticked on the front face or the back of the ECU case.

ID starting with **215** -> ECU-C ZigBee for YC600, QS1 and YC1000

APsystems
ALTENERGY POWER

Microinverter ID

It is a 12 digits ID located on a label sticked on the front of the ECU case.

UID helps to identify each microinverter and his version :

- starting with **501 or 502** -> **YC1000**
- starting with **406, 408 or 409** -> **YC600**
- starting with **801, 802** -> **QS1**

APsystems
ALTENERGY POWER

Configuration Steps

- Connect your smartphone to ECU-C through WiFi
- Log on ECU-C local interface
- Set up ECU-C
- System check up

APsystems
ALTENERGY POWER

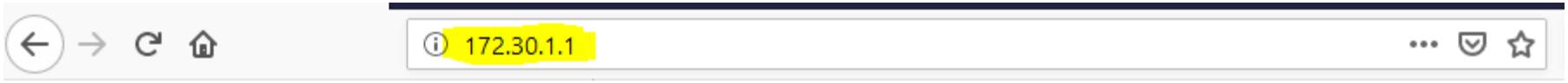
connect to ECU-C WiFi hotspot

- Power the ECU-C, select WiFi network **ECU-WIFI_XXXX** with your computer or smartphone, and connect your device (no password)

APsystems
ALTENERGY POWER

Connect to ECU-C local interface

enter 172.30.1.1 in your internet browser :



click Enter to access to ECU-C local interface

English | Chinese

APsystems ALTENERGY POWER

ENERGY COMMUNICATION UNIT

Home | Real Time Data | Meter | Administration

Home

ECU ID	215000001976
Lifetime generation	0.38 kWh
Last System Power	0 W
Generation of Current Day	0 kWh
Last Connection to website	2020-03-03 14:07:54
Number of Inverters	2
Last Number of Inverters Online	0
Current Software Version	C1.1
Current Time Zone	Europe/Oslo
ECU Eth0 Mac Address	80:97:1B:00:D6:BB
ECU Wlan0 Mac Address	60:C5:A8:E6:78:FD

2020-03-03 14:09:41
Tuesday

ENVIRONMENTAL BENEFITS

CO_2 Offset Equivalent to

0 GALLONS

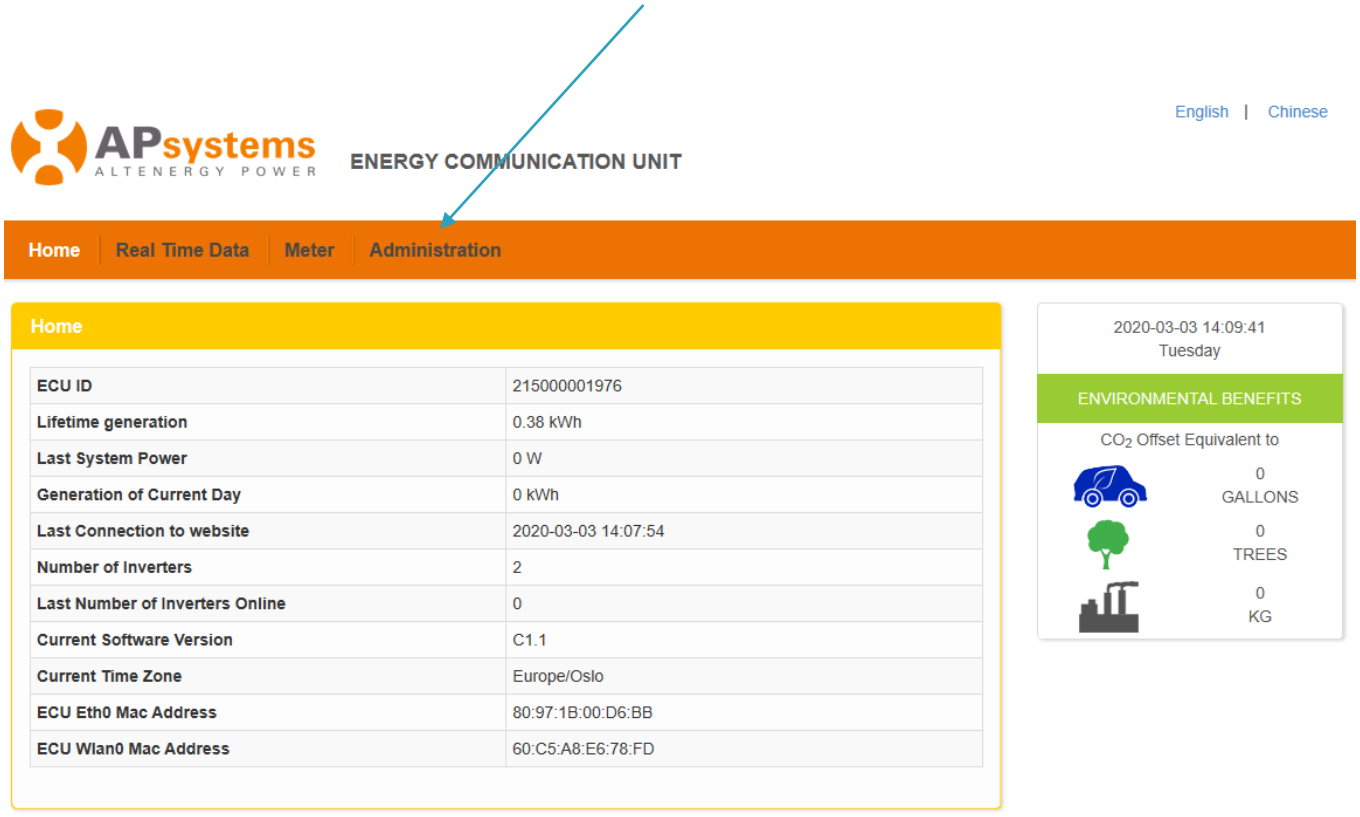
0 TREES

0 KG

APsystems ALTENERGY POWER

ECU-C configuration

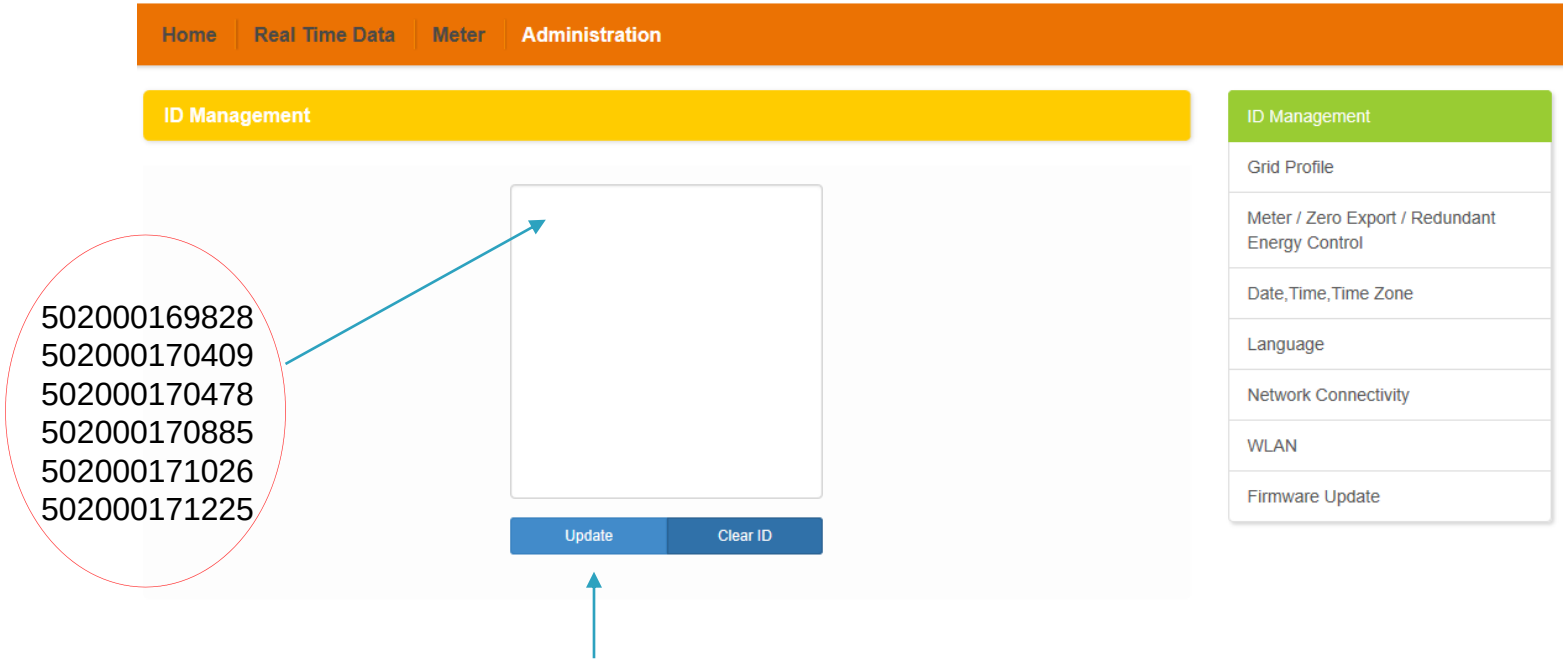
click «Administration»



APsystems
ALTENERGY POWER

Input Microinverter ID

Enter inverter ID in the tab, manually or via Barcode Scanner App with your smartphone (copy/past all IDs from word or xls doc)

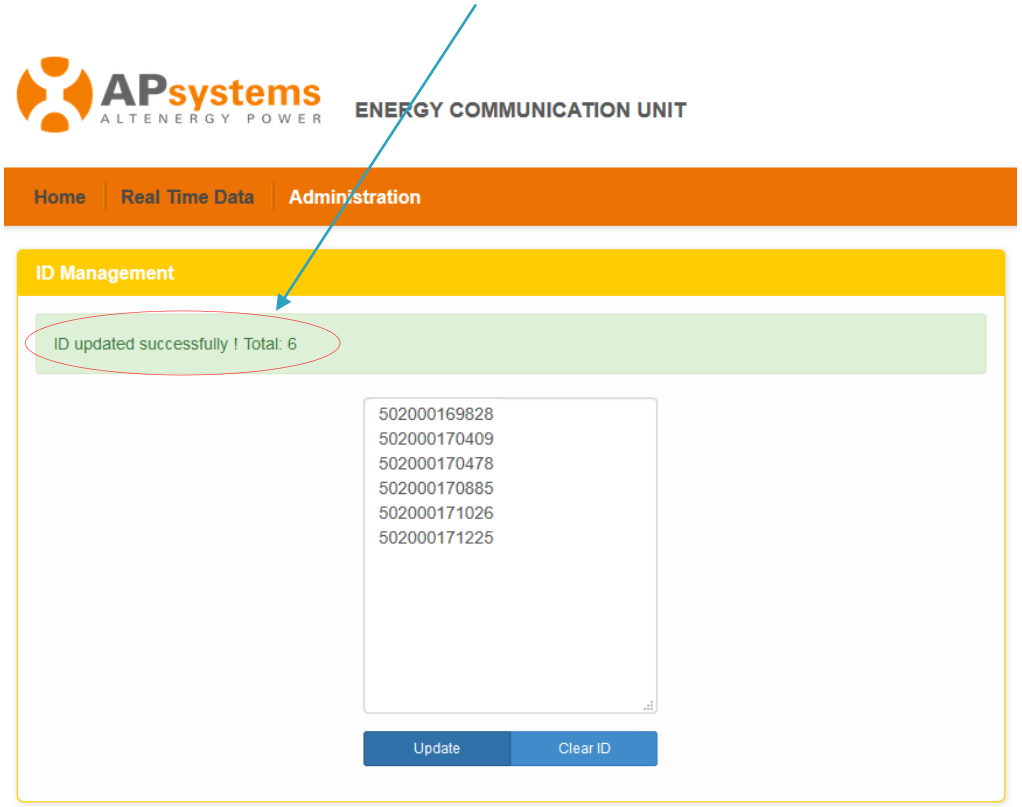


Then click «Update»

APsystems
ALTENERGY POWER

Input Microinverter ID

Inverter ID are set up in the ECU

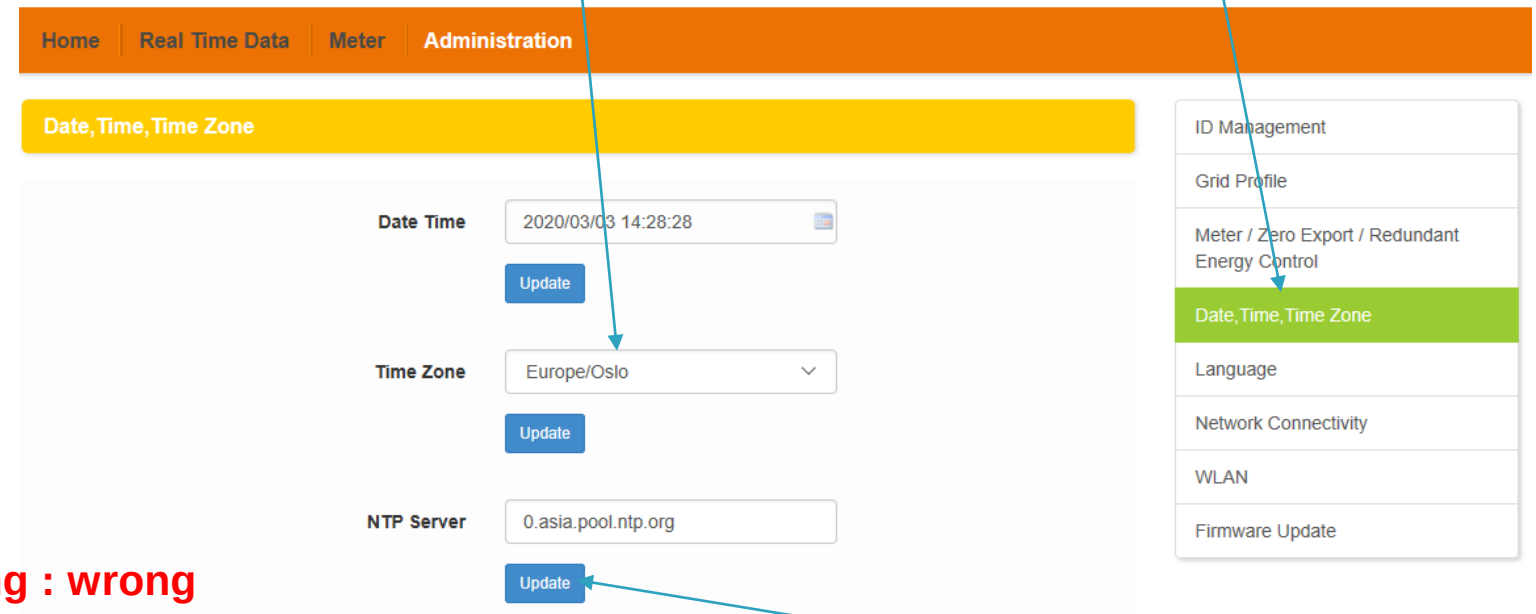


APsystems
ALTENERGY POWER

Set up Time zone

Click «Date, Time, Time zone»

Chose the right Time Zone in the rolling menu



then click «Update»

Warning : wrong Time Zone setting will display wrong time information in EMA and affect production curve

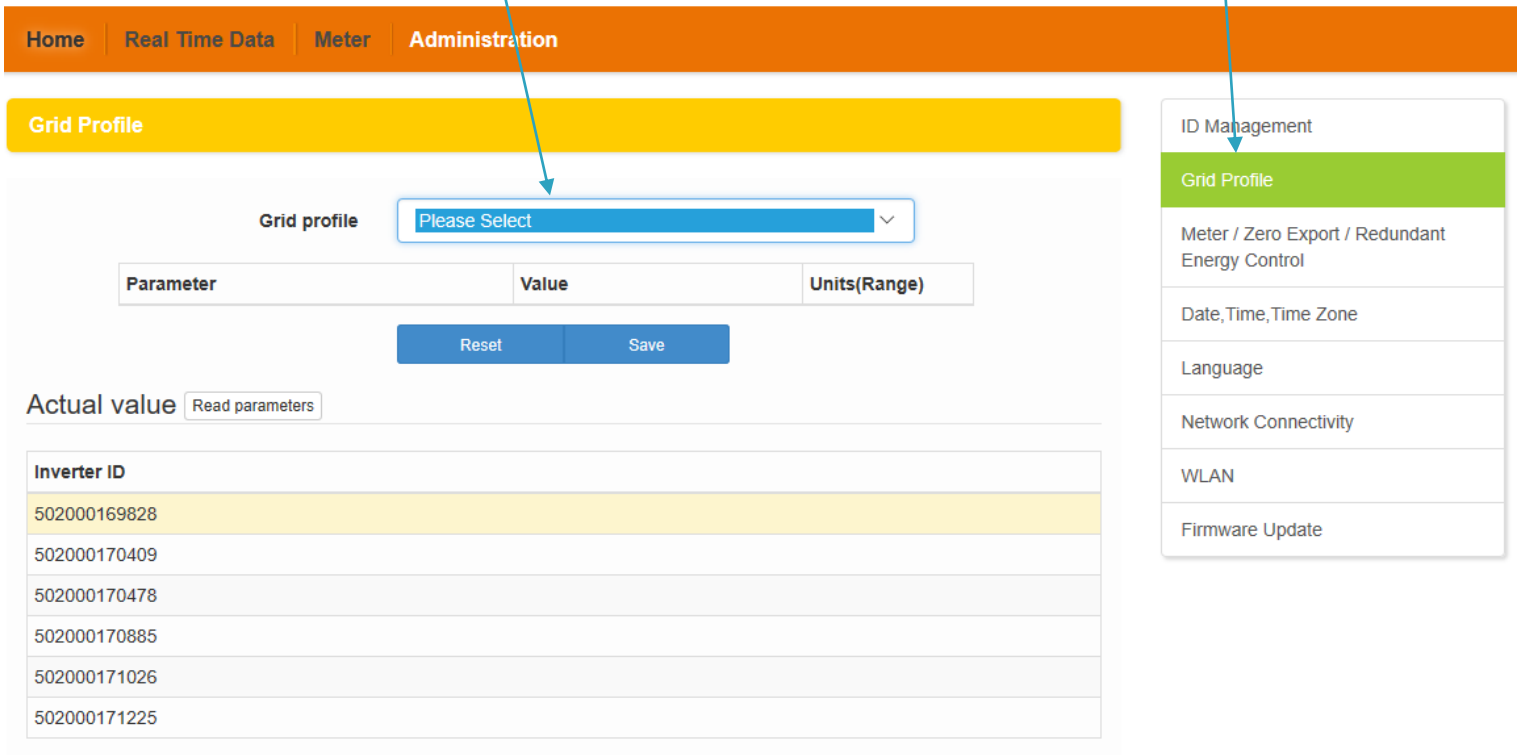
ECU configuration is completed

APsystems
ALTENERGY POWER

Set up Grid Profile

Click «Grid Profile»

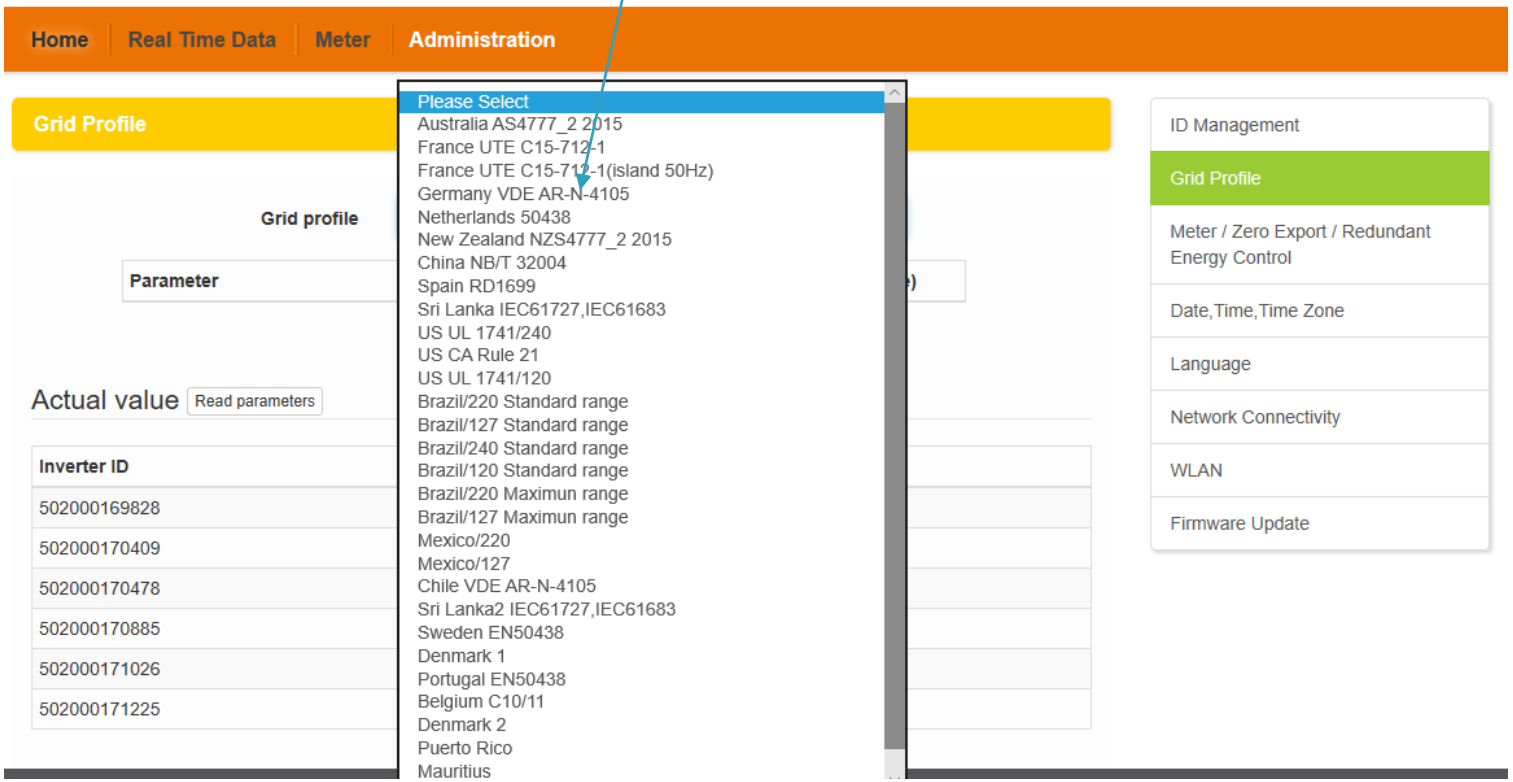
Click on rolling menu



APsystems
ALTENERGY POWER

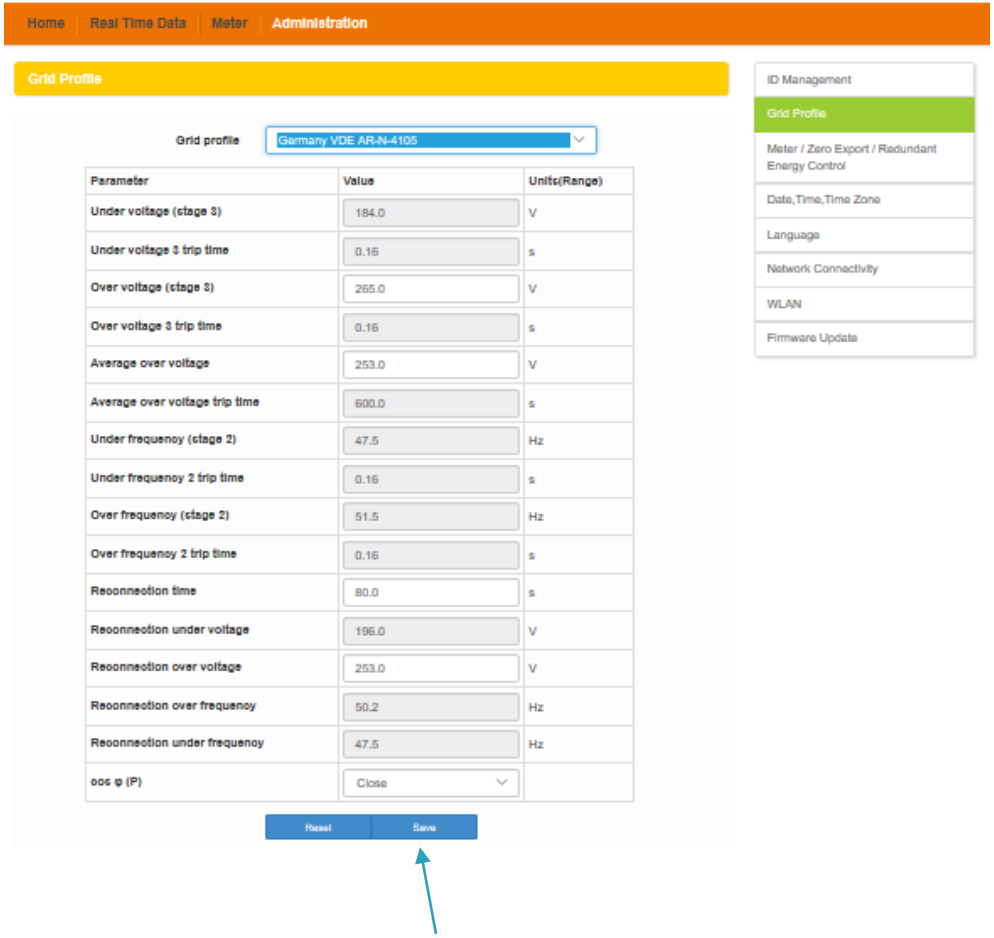
Set up Grid Profile

Select the right country



APsystems
ALTENERGY POWER

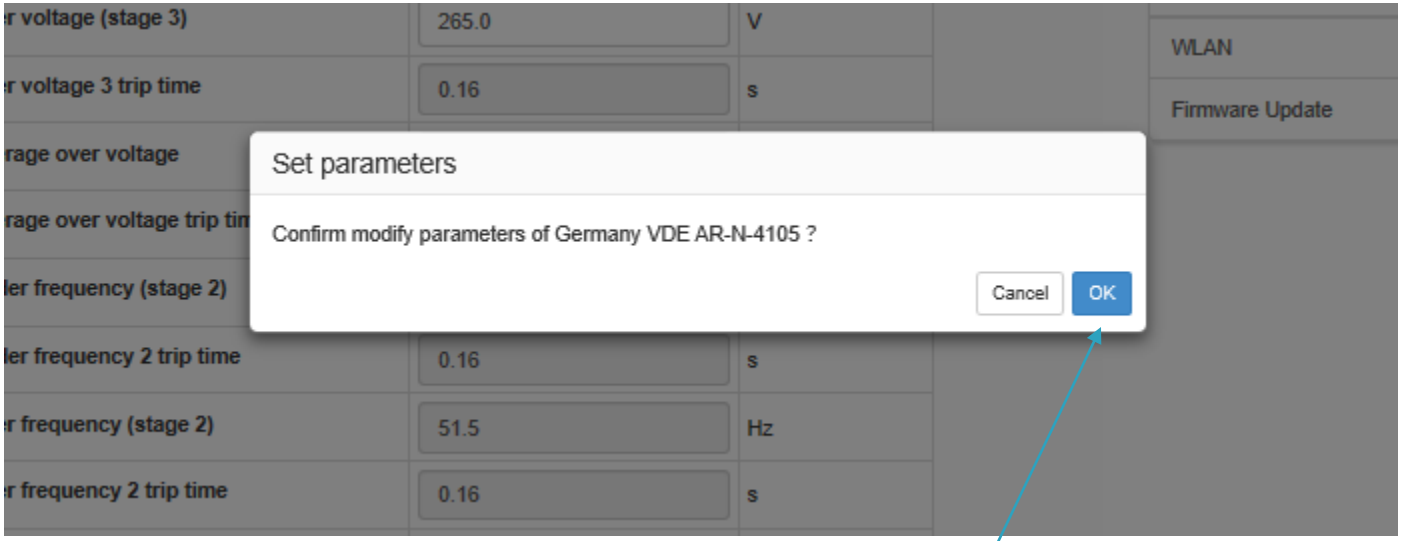
Set up Grid Profile



Then click «Save»

APsystems
ALTENERGY POWER

Set up Grid Profile

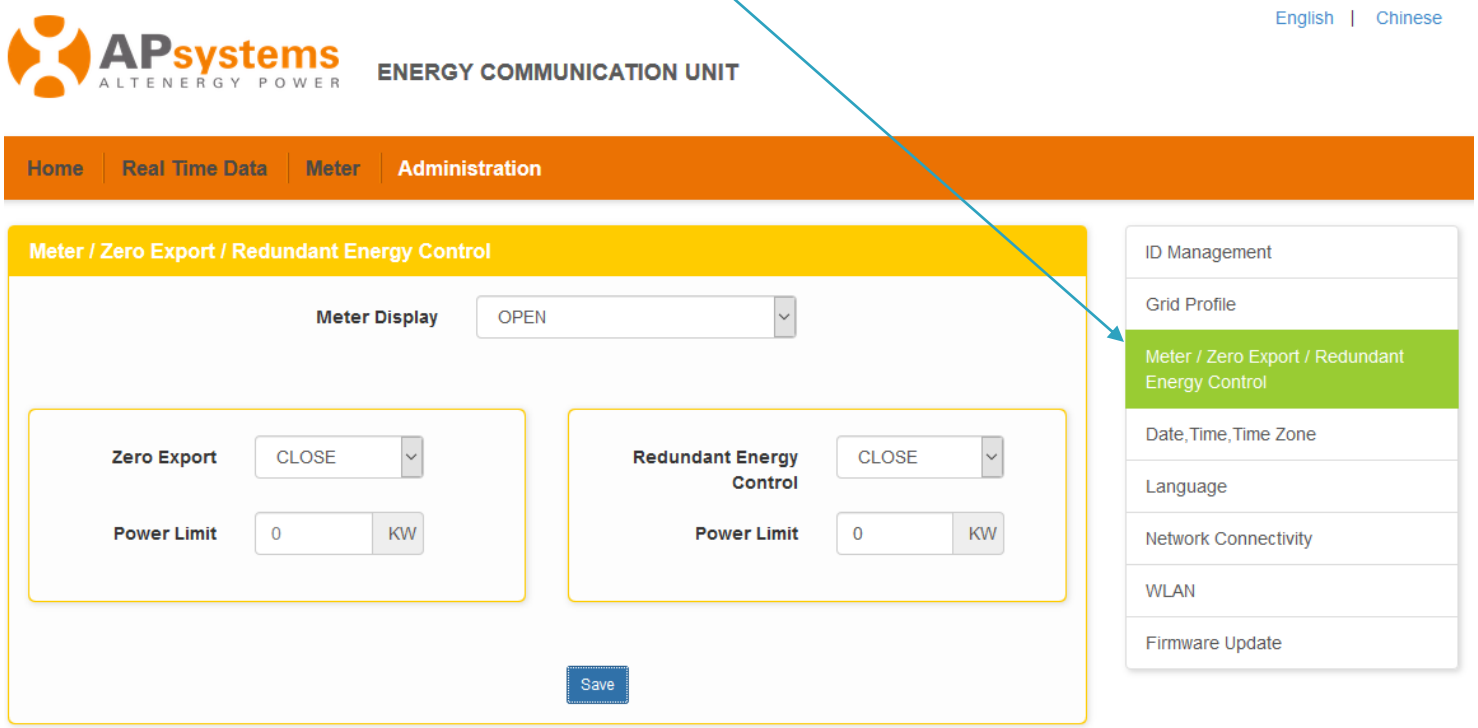


Then click «OK» to confirm

APsystems
ALTENERGY POWER

Set up Advanced Functions

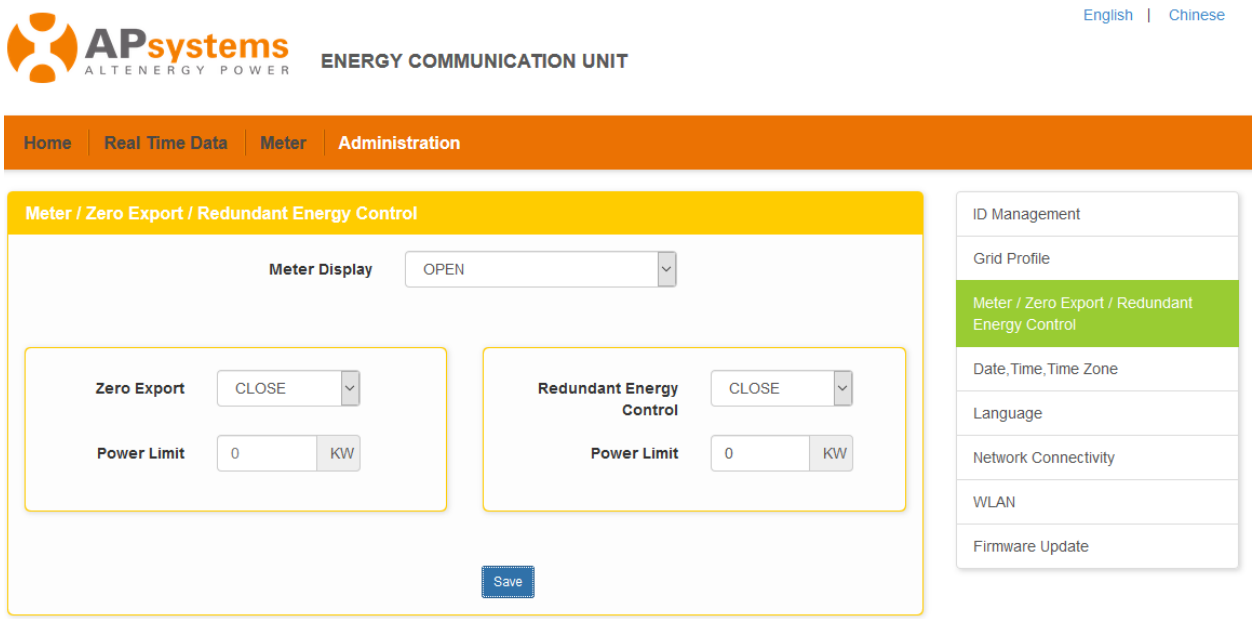
Click «Meter/Zero Export/Redundant Energy Control»



APsystems
ALTENERGY POWER

Set up Advanced Functions

Option 1 : Metering only

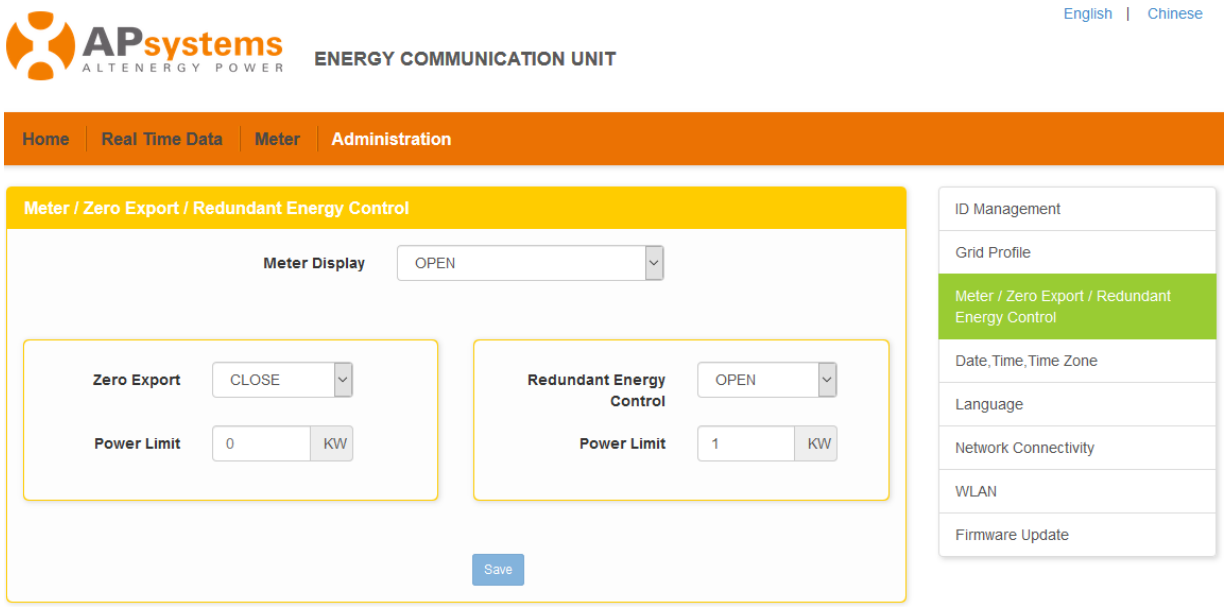


Setting :
Meter Display : OPEN
Zero Export : CLOSE
Redondancy Energy Control : CLOSE
Then click «Save»

APsystems
ALTENERGY POWER

Set up Advanced Functions

Option 2 : Metering + Redundant Energy Control



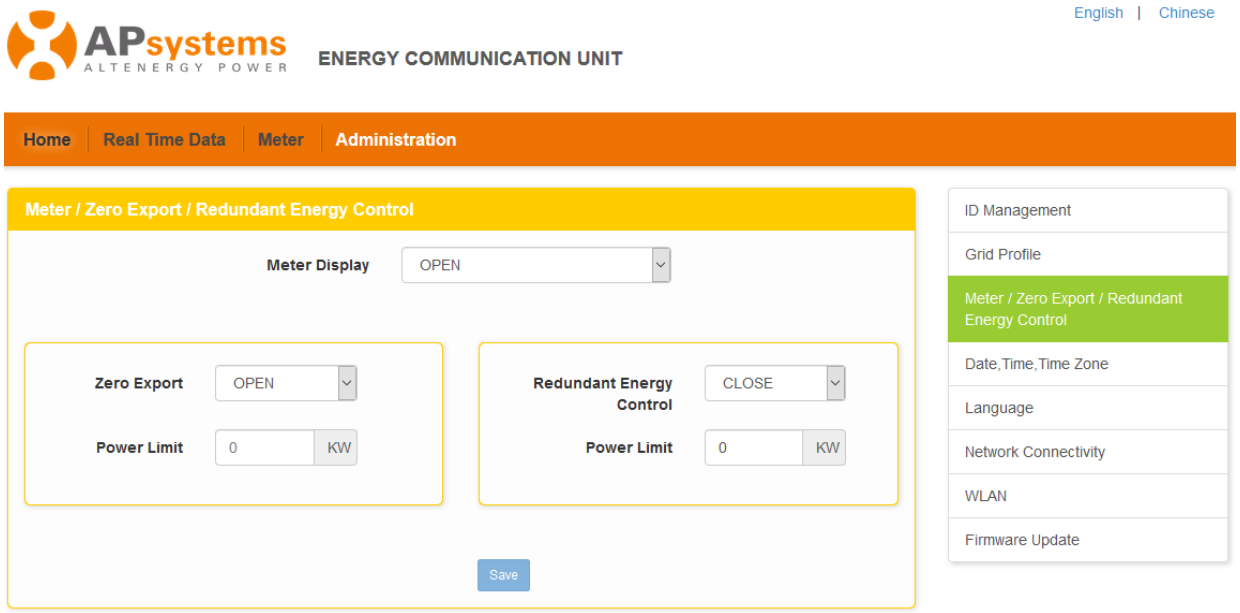
Setting :
Meter Display : OPEN
Zero Export : CLOSE
Redondancy Energy Control : OPEN
Power Limit : enter a value a little bit higher than load power
Then click « Save »

APsystems
ALTENERGY POWER

Set up Advanced Functions

Option 3 : Metering + Zero Export

Nota : Redundant Energy Control and Zero Export cannot be activated in the same time



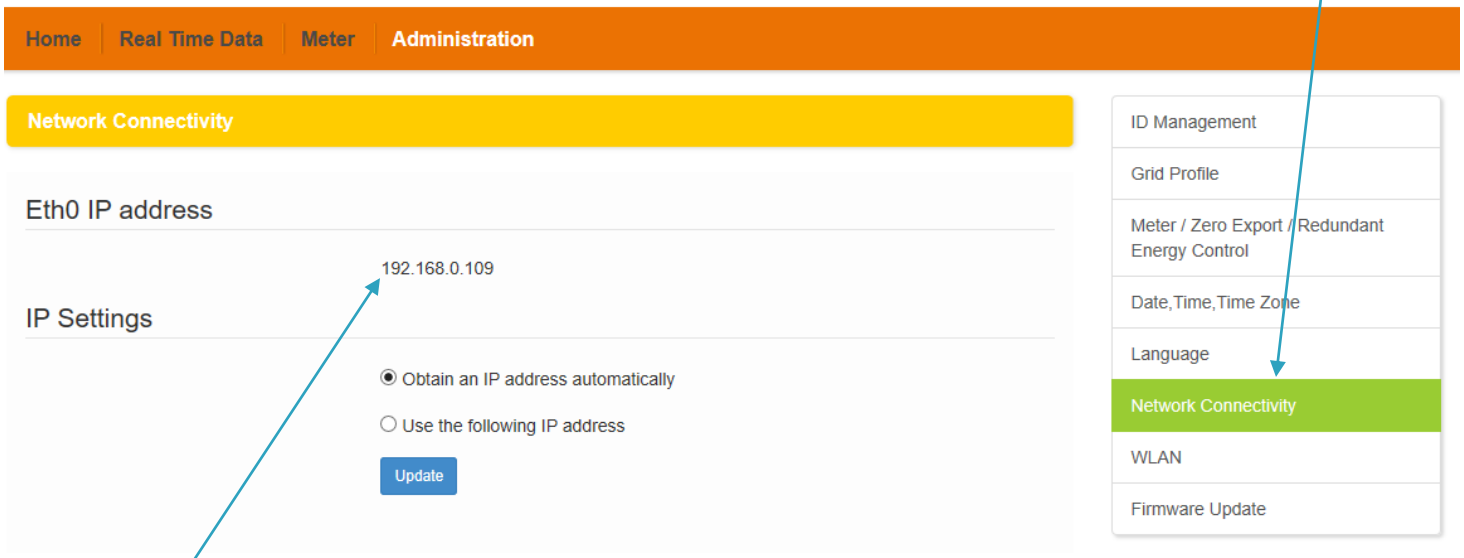
Set up as follow :
Meter Display : OPEN
Zero Export : OPEN – enter Power Limit
Redondancy Energy Control : CLOSE
Then click « Save »

APsystems
ALTENERGY POWER

Wire connection with router

If you connected ECU-C to the router with an Ethernet cable, check IP address is fine :

Click « Network Connectivity »

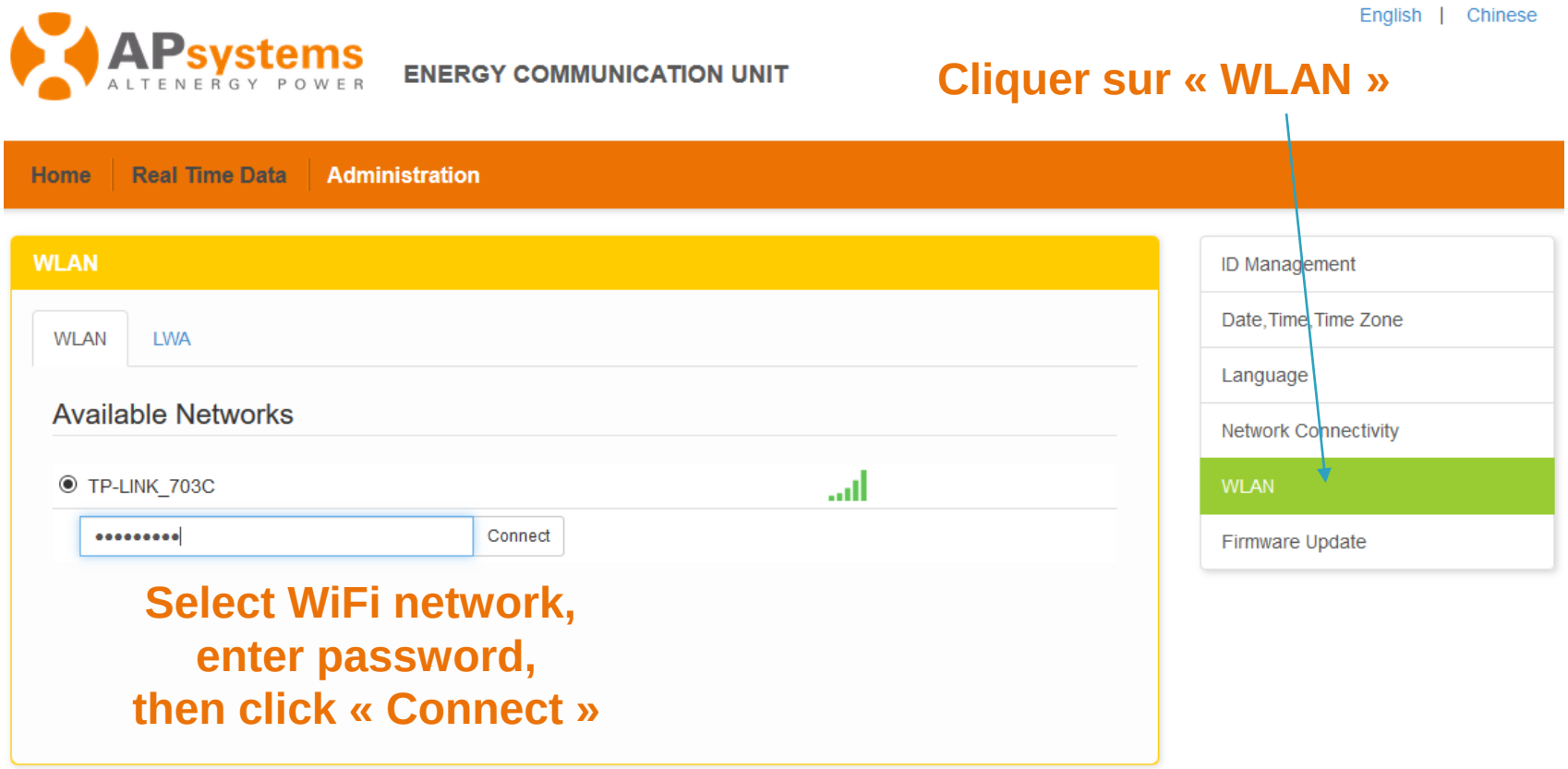


IP address cannot be 192.168.131.228

APsystems
ALTENERGY POWER

WiFi connection with router

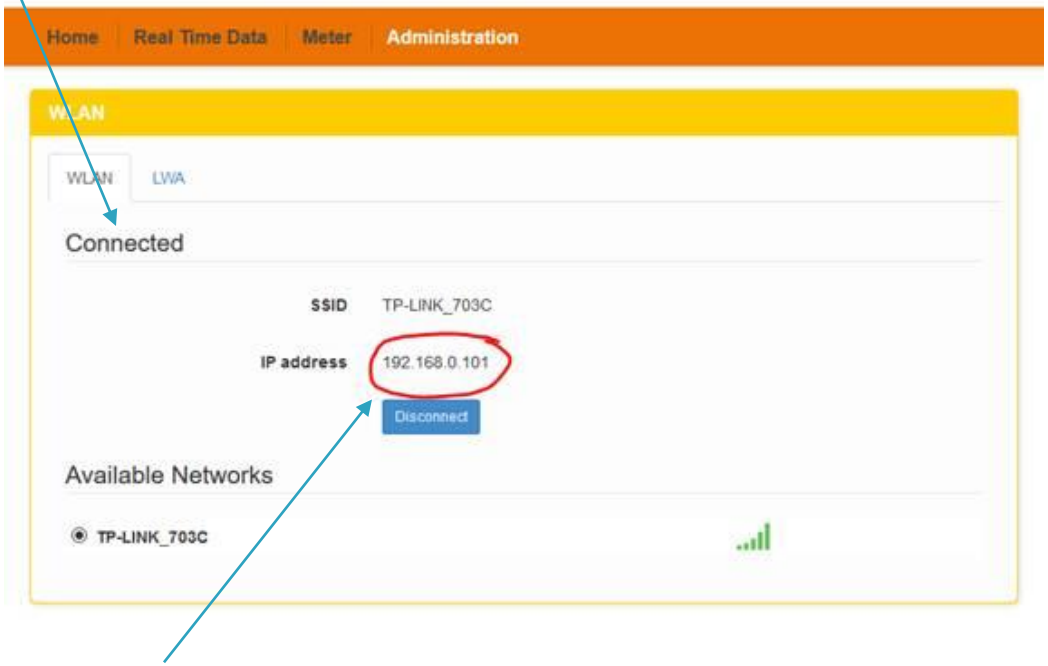
If you cannot connect ECU-C to the router through Ethernet cable (recommended), configurate a WiFi connection :



APsystems
ALTENERGY POWER

WiFi connection with router

Check ECU-C is properly connected

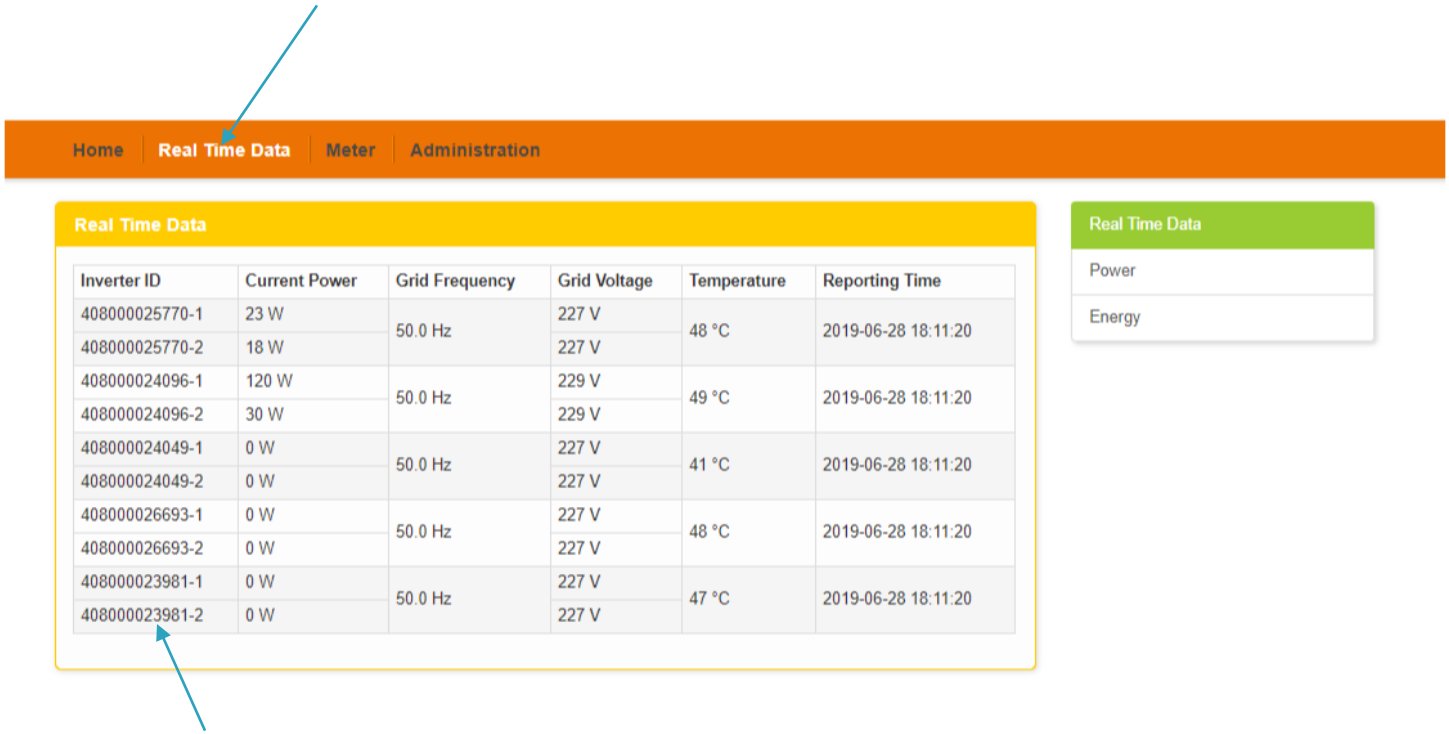


And IP address is fine
Cannot be 192.168.131.228

APsystems
ALTENERGY POWER

Check communication with inverters

Cliquer sur « Real Time Data » (5mn après avoir paramétrer l'ECU)

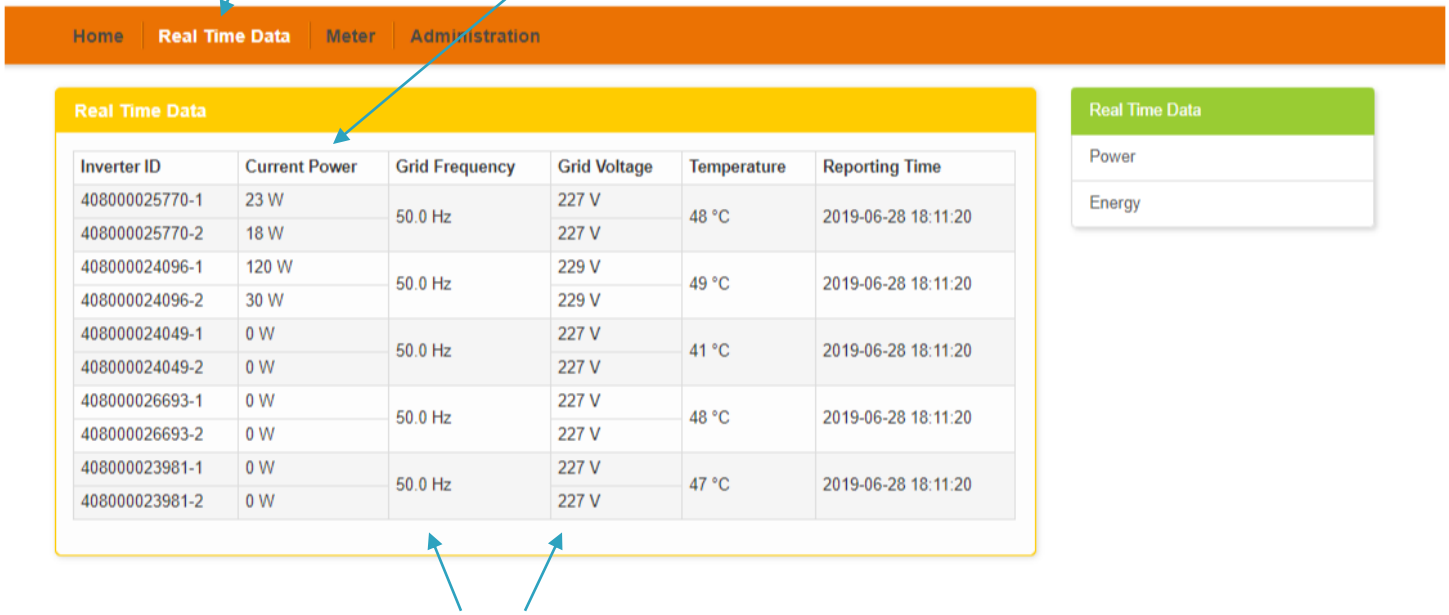


Vérifier que chaque panneau (N° du micro-onduleur-N° entrée DC) affiche des données, si ce n'est pas le cas vérifier que le N° enregistré est le bon.

APsystems
ALTENERGY POWER

Check system is working well

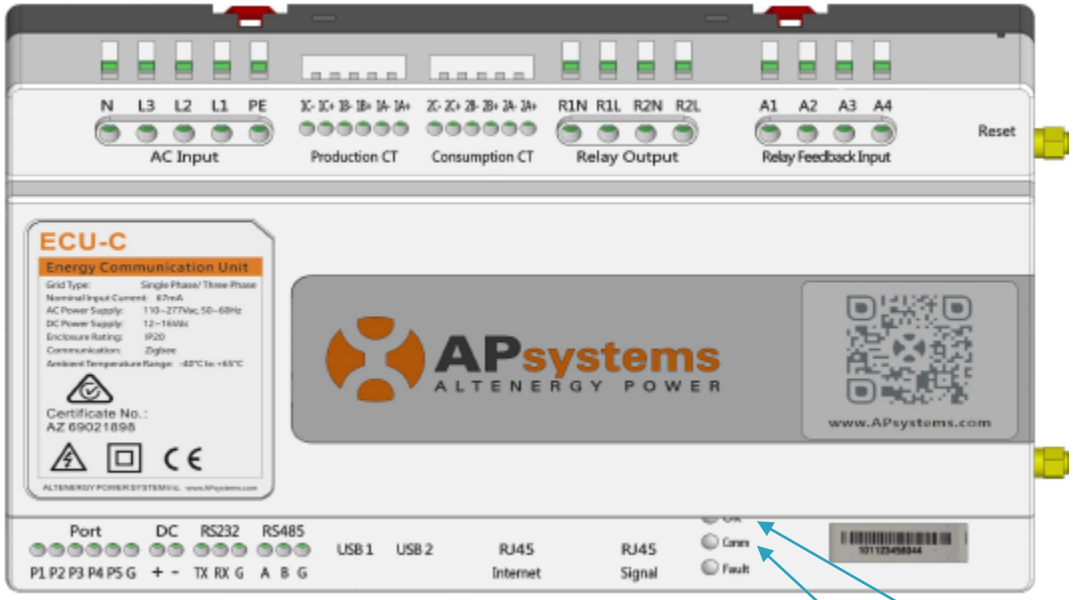
wait 10mn after ECU-C configuration,
then, through « Real Time Data » menu check all PV modules are producing



and grid parameters are good

APsystems
ALTENERGY POWER

Communication with EMA monitoring



Lights up green -> ECU is powered

Lights up green -> send data to EMA

ECU-C is connected to internet and EMA monitoring

APsystems
ALTENERGY POWER