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ECU-C Zigbee (UID: 215-)
Installation and Configuration

English – Q1 2021

Caution: **Features are unavailable to residential split phase**

Agenda

- Product Overview
- Installation
- ECU-C configuration

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Product Overview

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Monitoring gateway - ECU-C

- **Energy Communication Unit with advanced functions**

- **Features are not available on NA split phase**
- Collection and transmission of inverter data
- Real time monitoring of each inverter
- Adapted to EU single or 3 phase
- Built-in WiFi
- Zigbee communication

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

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ECU-C Structure

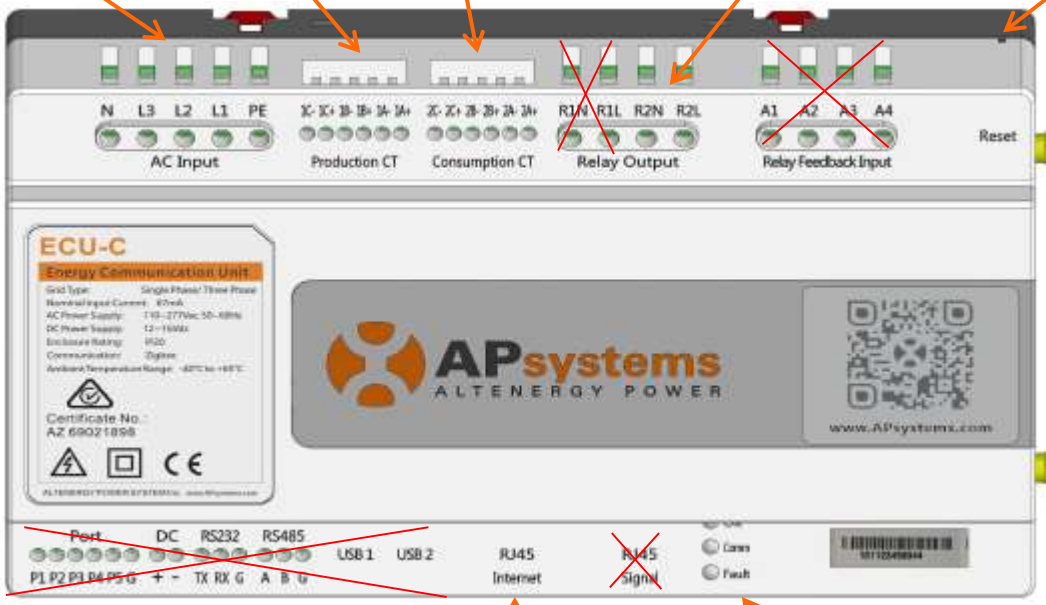
Power Interface
NA 3 phase systems :
208 or 277Y/480V
L1/L2/L3/N/PE

Consumption CT(s)

Production CT(s)

Redundant Energy Control

Reset Button



WiFi antenna

ZigBee antenna

Network Interface

Status led

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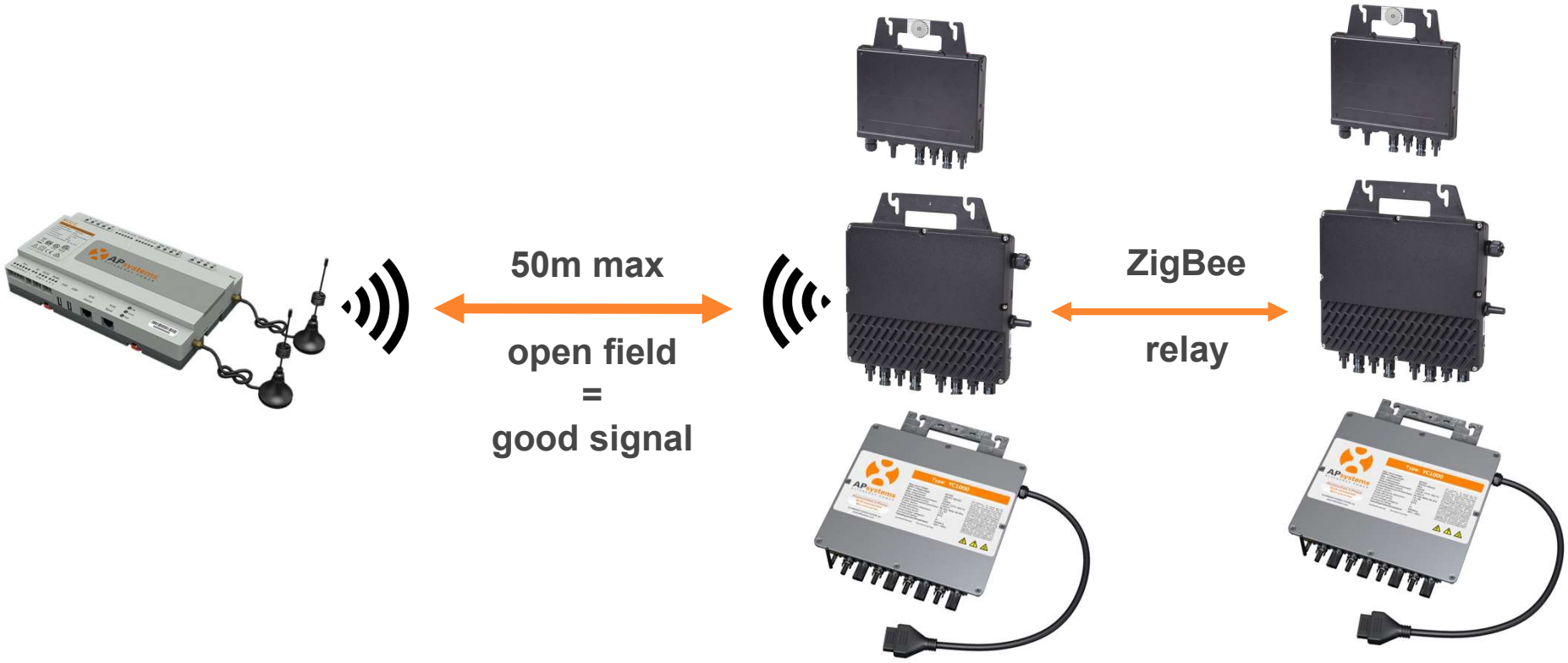
ZigBee communication

100 inverters per ECU



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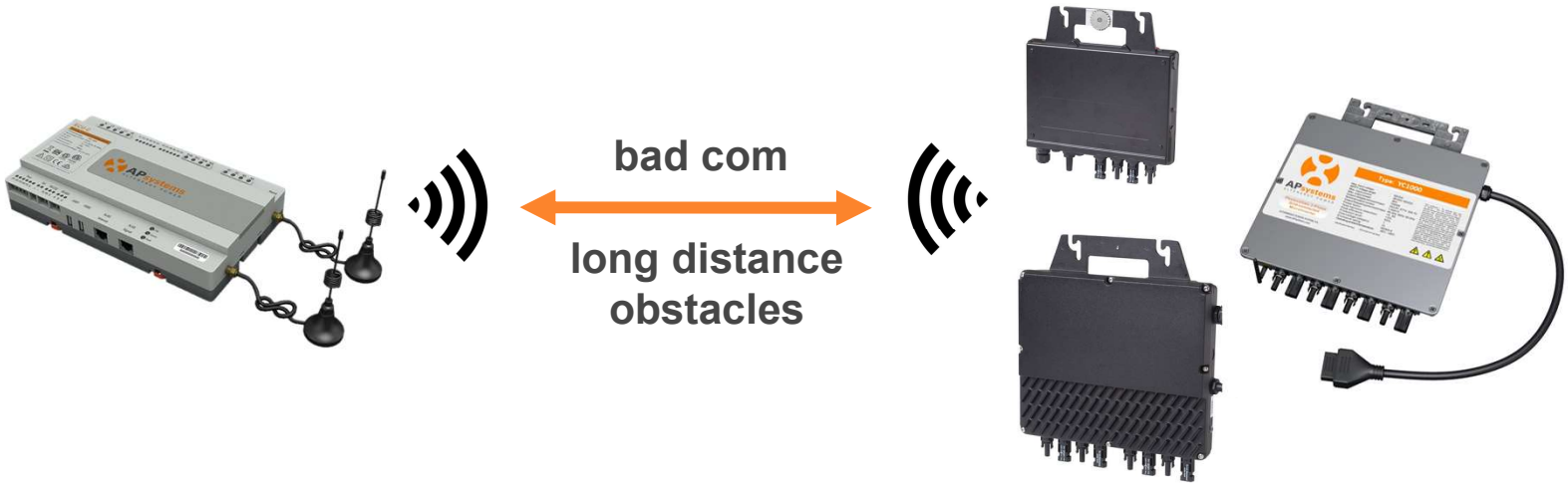
ZigBee communication



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)

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CTs for ECU-C

Production

Consumption

80A or 200A

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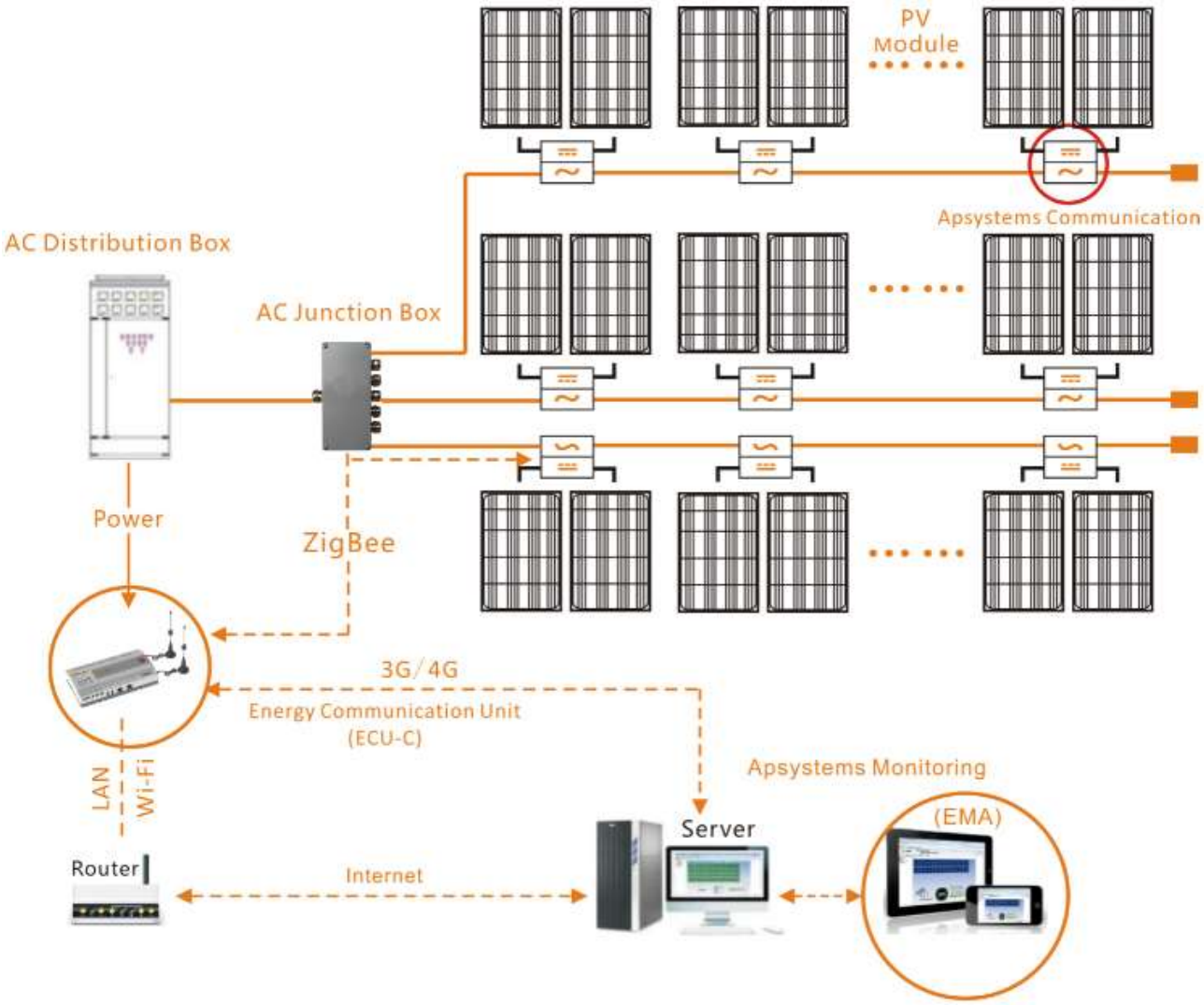
Installation

System overview



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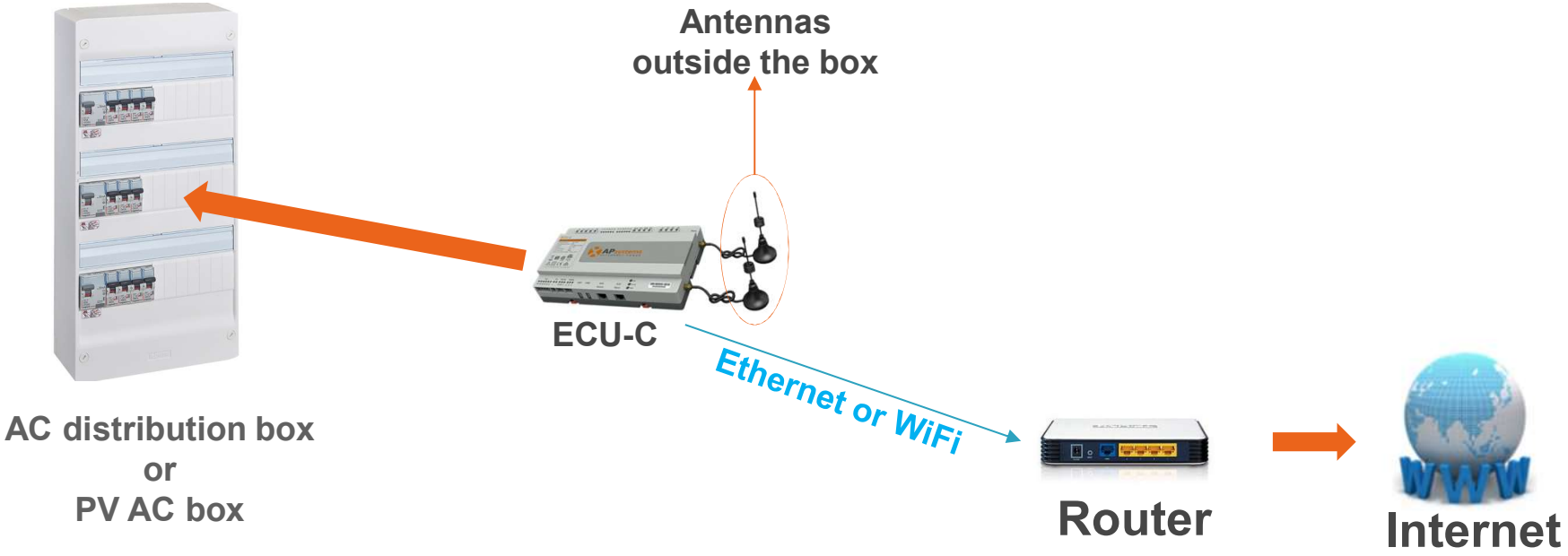
Install ECU-C



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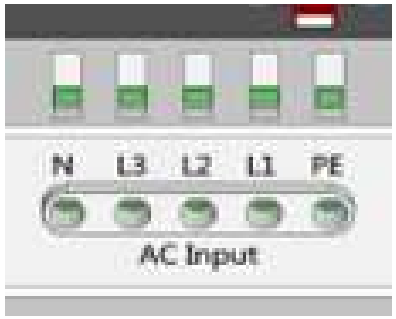
Install ECU-C

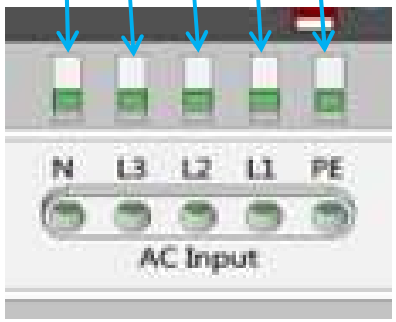
Power interface wiring
with
Standard NA 208 or 277Y/480V – 60Hz
(L1, L2, L3, N, PE)

NA split phase PV systems
No CTs required – **Features are unavailable for split phase systems**



3 phase PV systems

N, L3, L2, L1, PE



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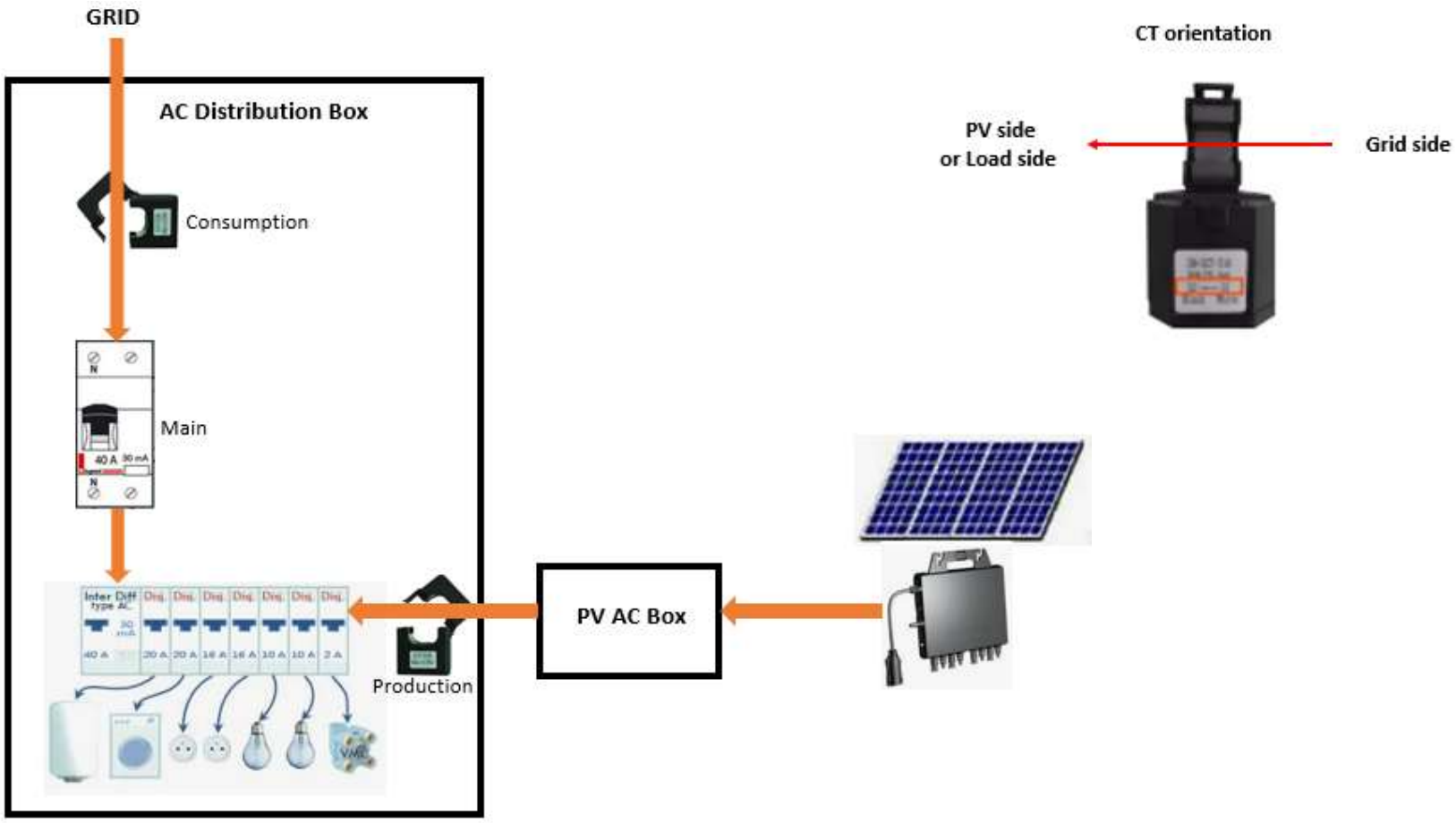
Install CT for ECU-C



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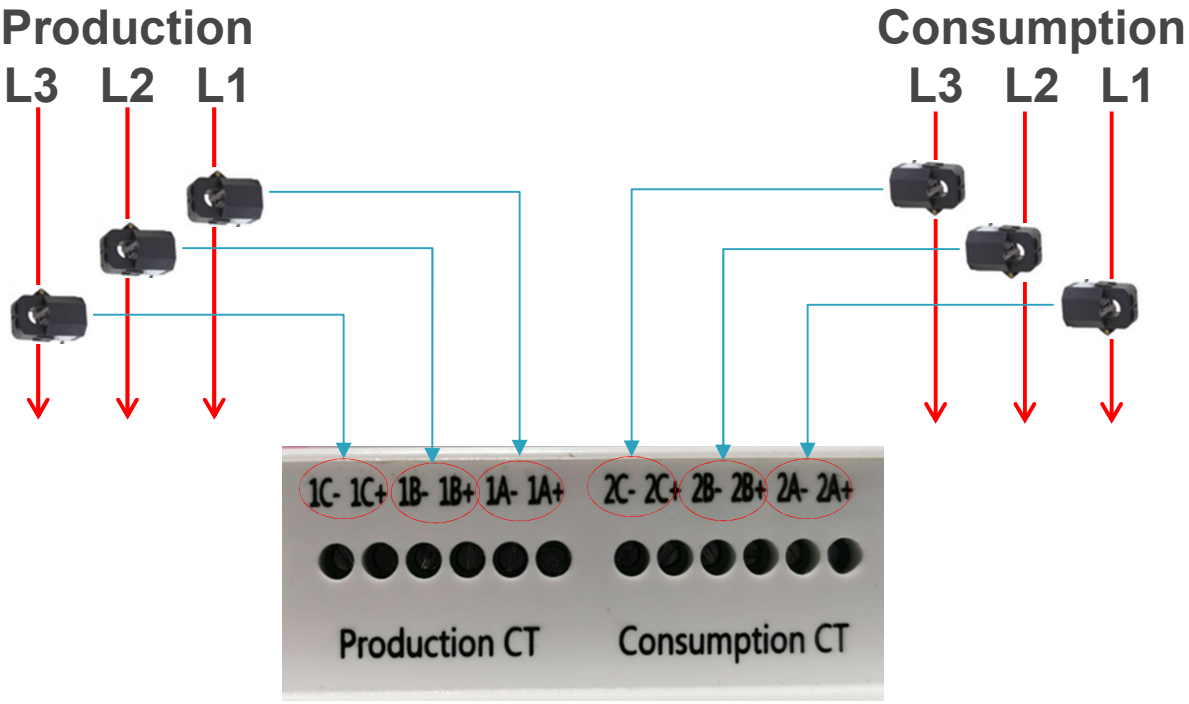
Install CT for ECU-C

3 phase PV system
6 CTs



Warning : Check phases are matching on ECU-C power port and CTs port

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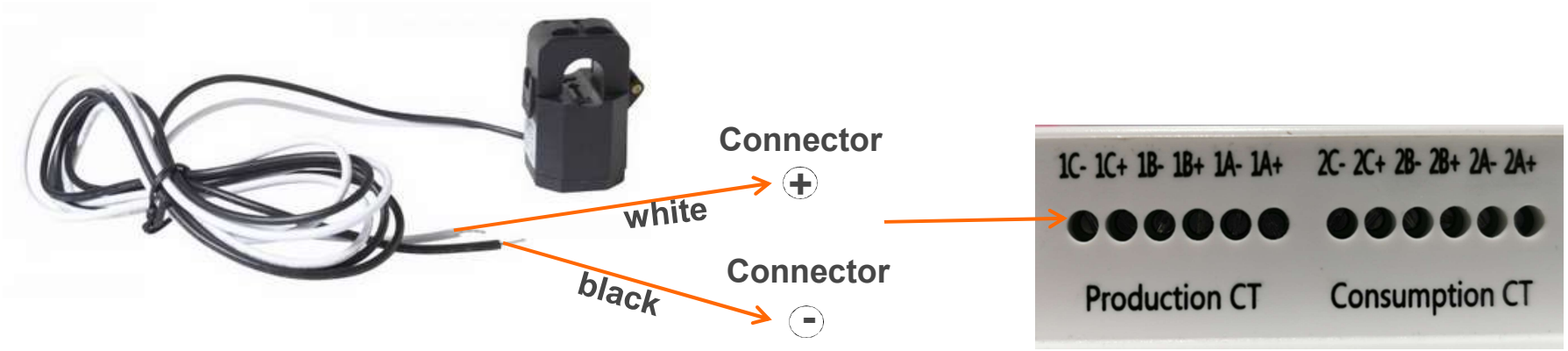
Install CT for ECU-C



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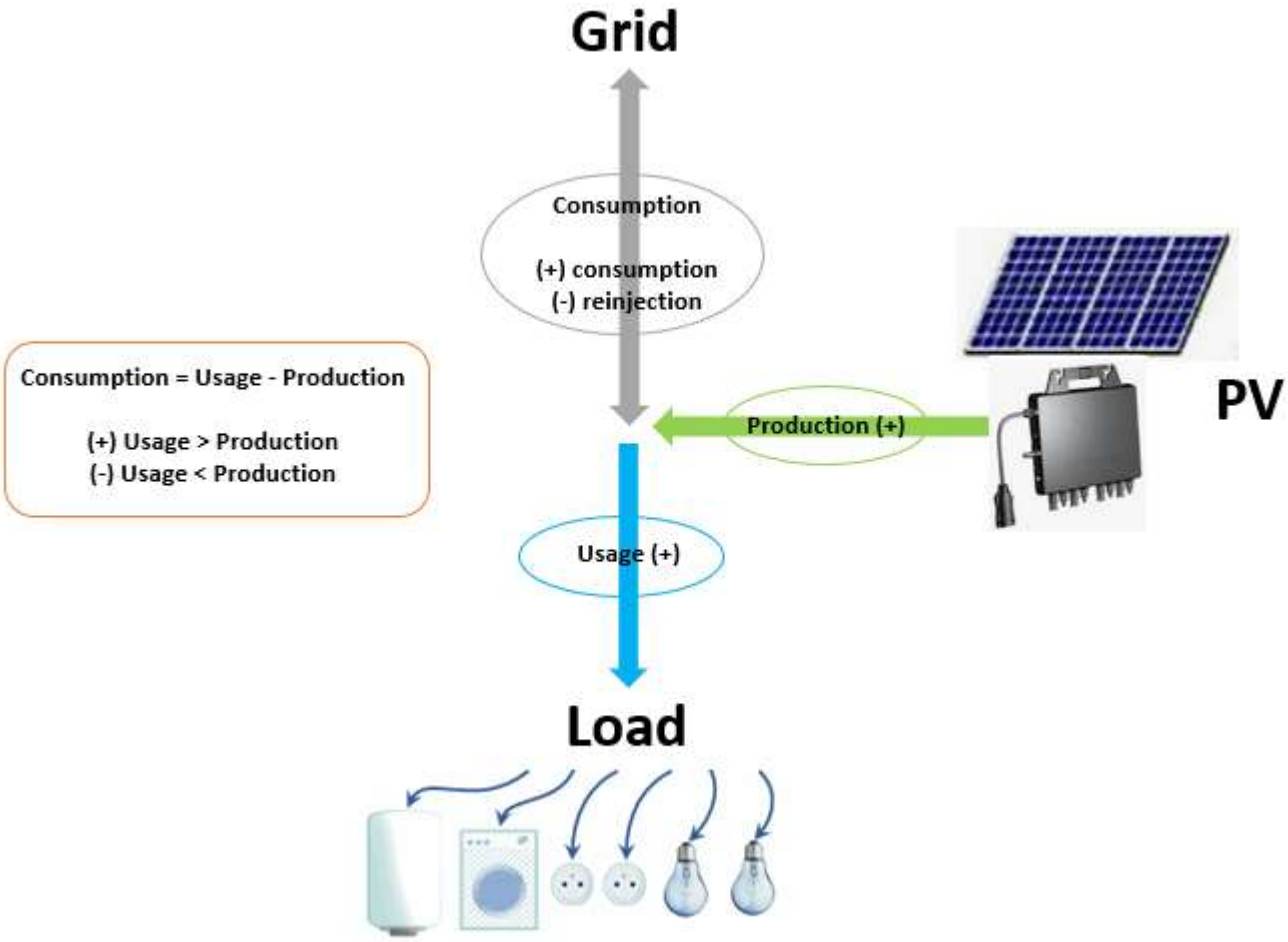
Energy Metering



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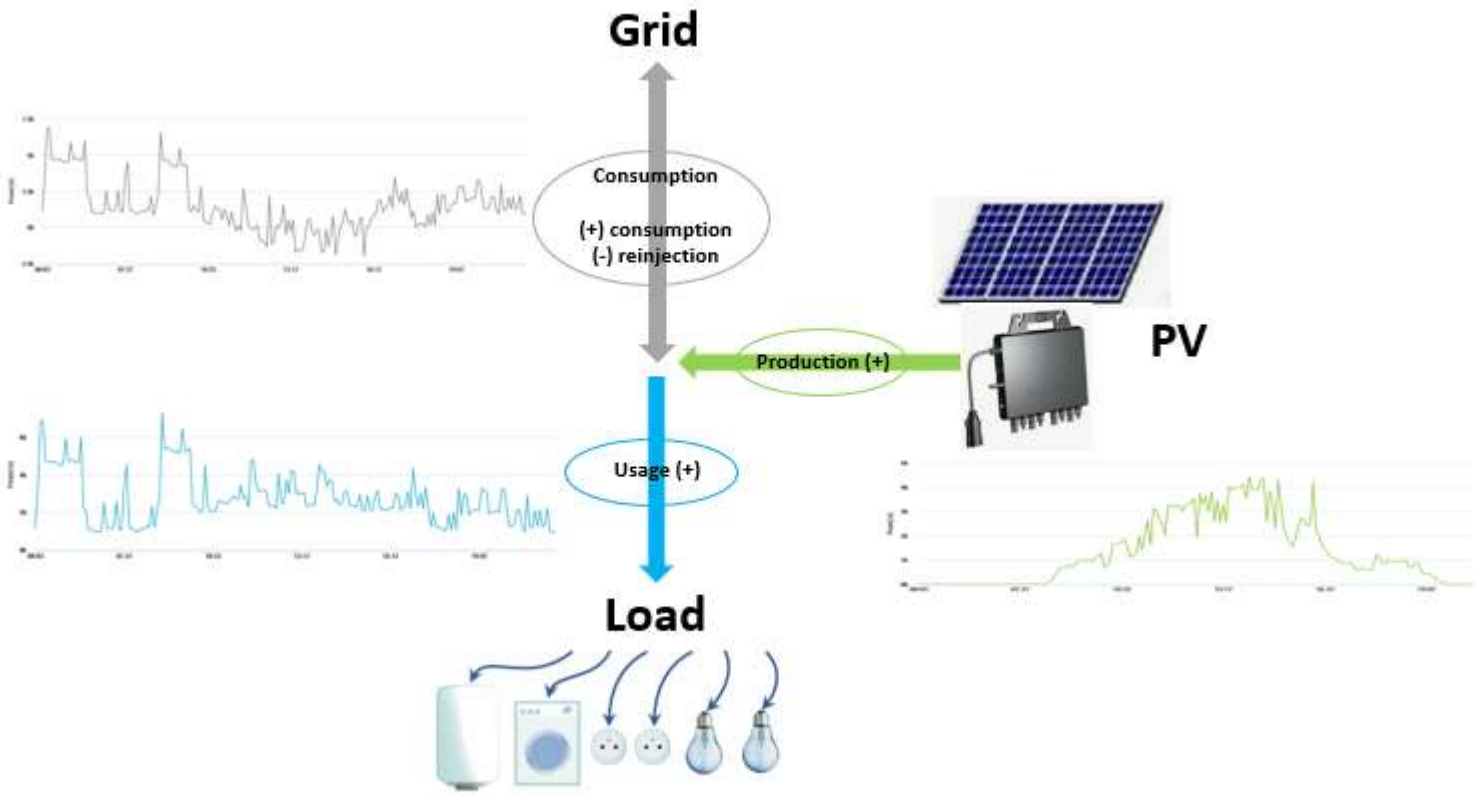
Energy Metering



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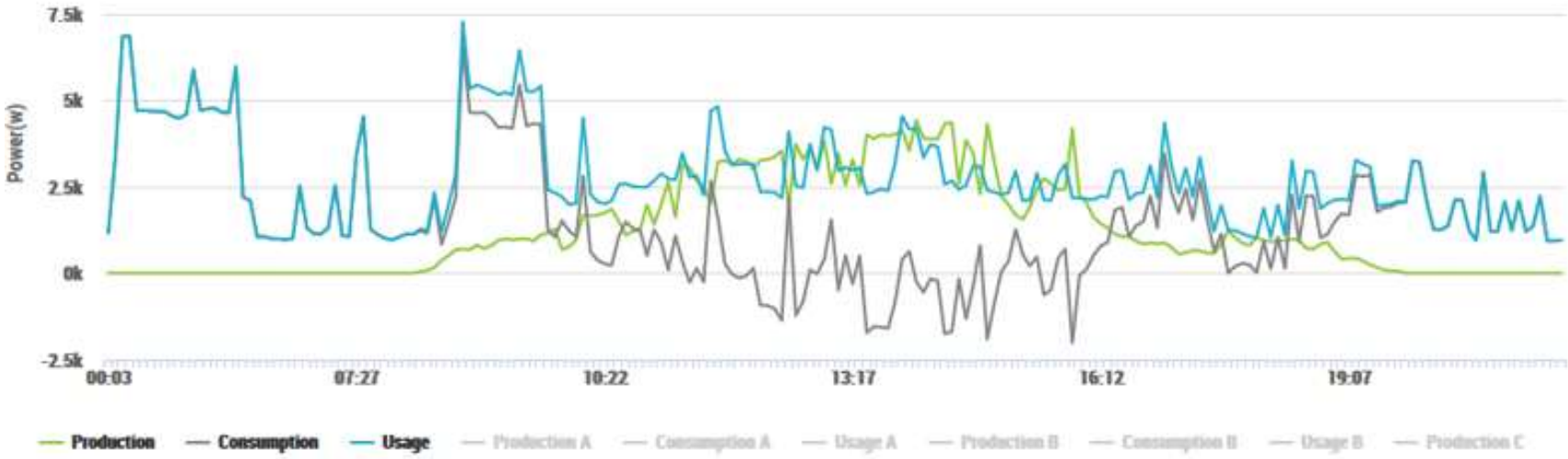
Energy Metering



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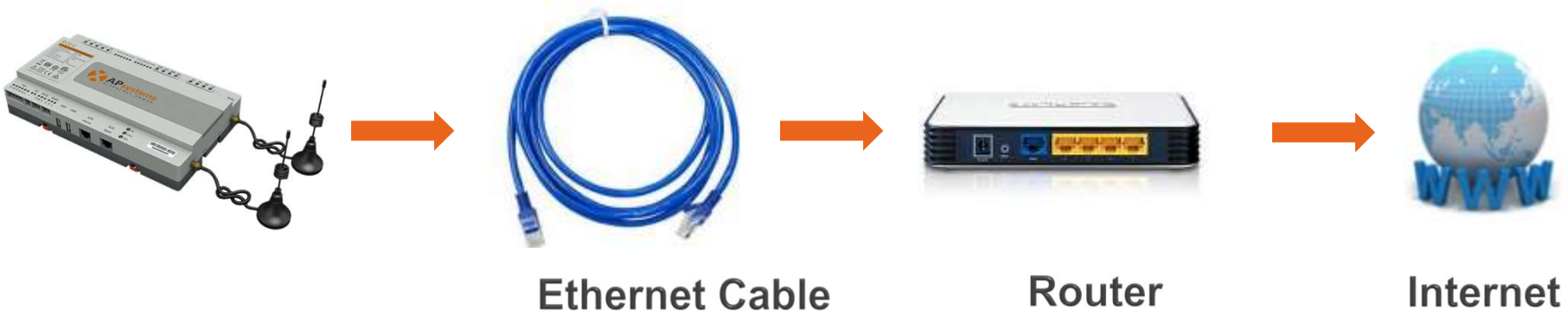
ECU internet connection

- 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.

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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

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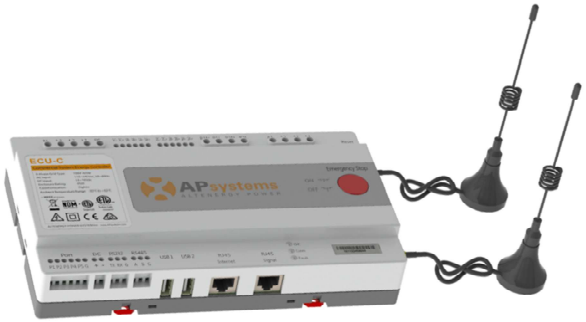

ECU Configuration through ECU App

ECU APP

Configuration Steps

- Download APsystems EMA Manager APP in your smartphone (utilize the ECU APP embedded in app)

- Connect your smartphone to ECU-R or ECU-C WiFi hot spot

- Open ECU App :
  1 - ECU configuration
  2 - System check up

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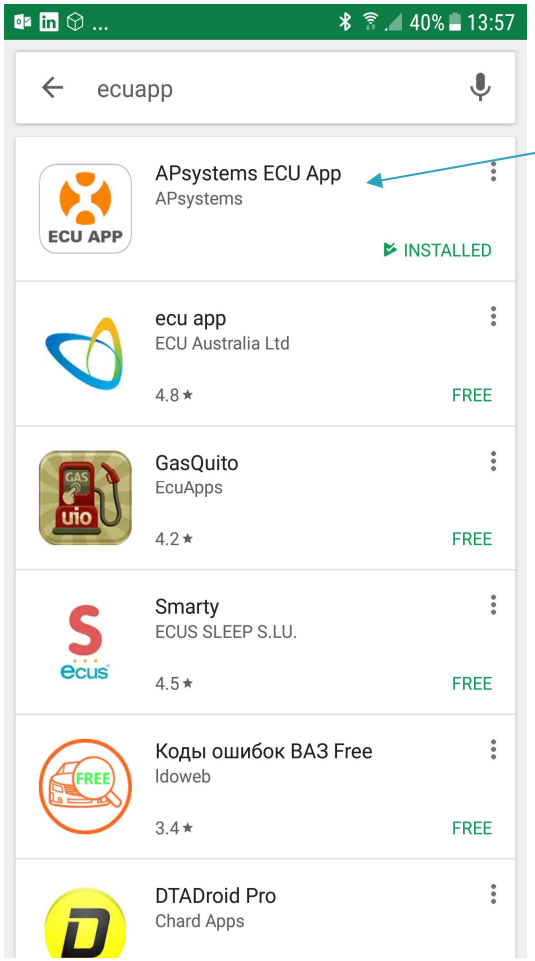
Download ECU App



Enter “EMA Manager” in your smartphone Play Store, select APsystems EMA Manager and click “install”

Or scan QR code in the Installation Manual And download ECU App

(iOS)

(Android)

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Connect your smartphone to ECU

Direct Wifi

Direct Wifi

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Connect your smartphone to ECU

Open Settings/connections/Wi-Fi in your smartphone

select ECU hot spot
for ECU-R : ECU_R_216000XXXXXX
for ECU-C : ECU-WIFI_XXXX

216000XXXXXX = ECU-R ID
XXXX = 4 last digits of ECU-C ID

Warning : If your ECU has a button “AP” on the side of the casing, the Wifi hotspot is activated for 1 hour after the ECU is powered. To activate the Wifi hotspot for 1 hour again, press the “AP” button

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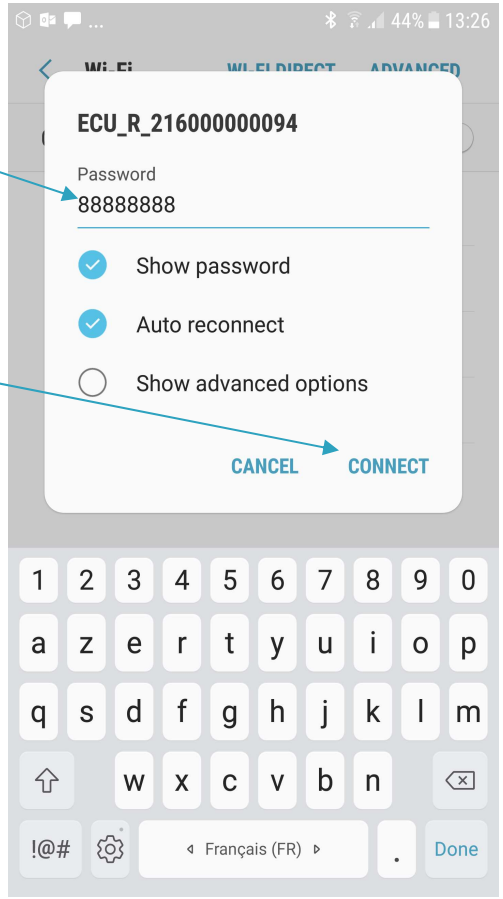
Connect your smartphone to ECU

ECU-R : Enter password 88888888
ECU-C : no password

then click “connect”



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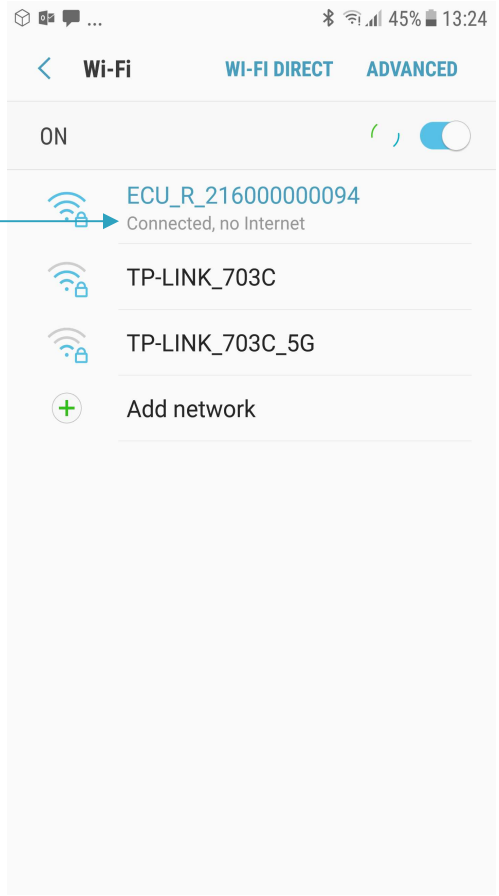
Check WiFi connection

Check your smartphone is connected to ECU hot spot



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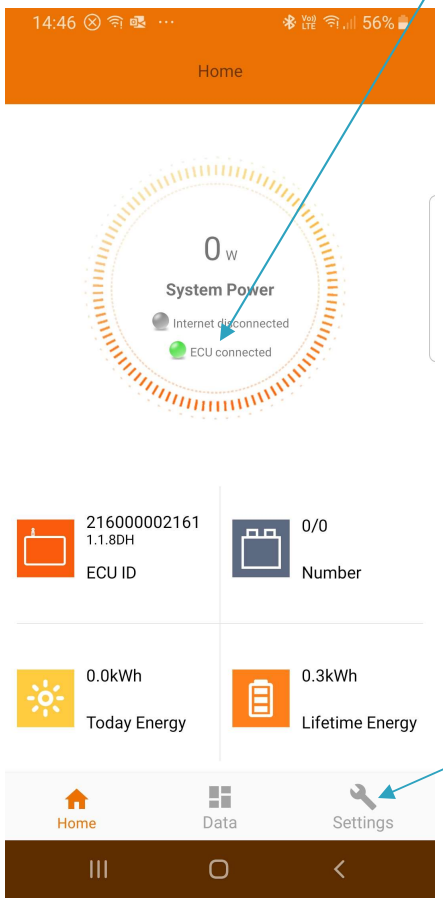
1- ECU Configuration

Open ECUAPP

Open ECUAPP on your smartphone,
and check on Home Page you are connected to the ECU



then
click “Settings”

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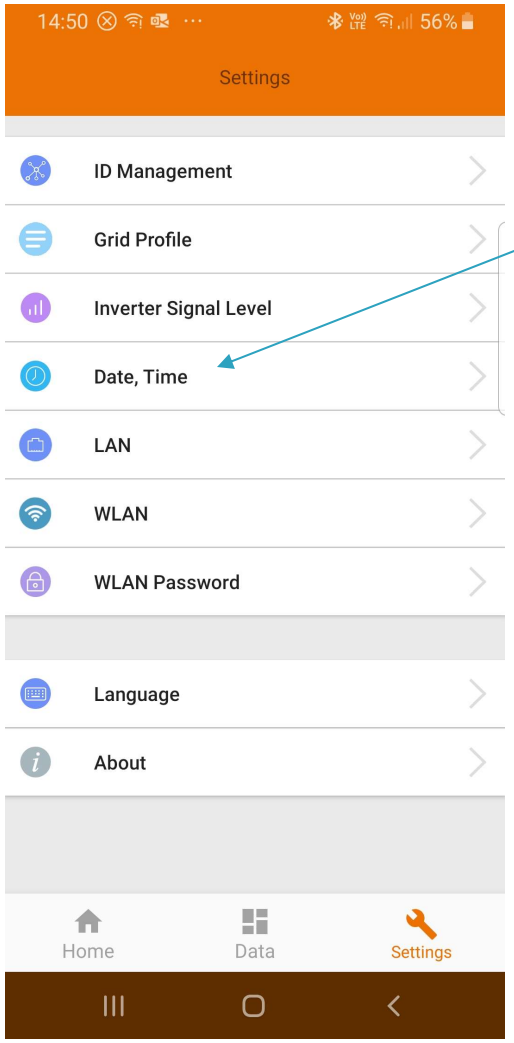
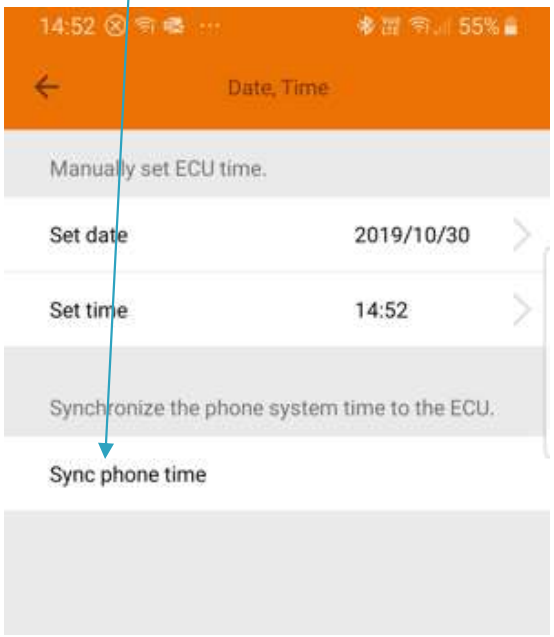
Setup Date and Time



From the Settings Page click
"Date, Time"
then click
"Sync phone time" and "OK"



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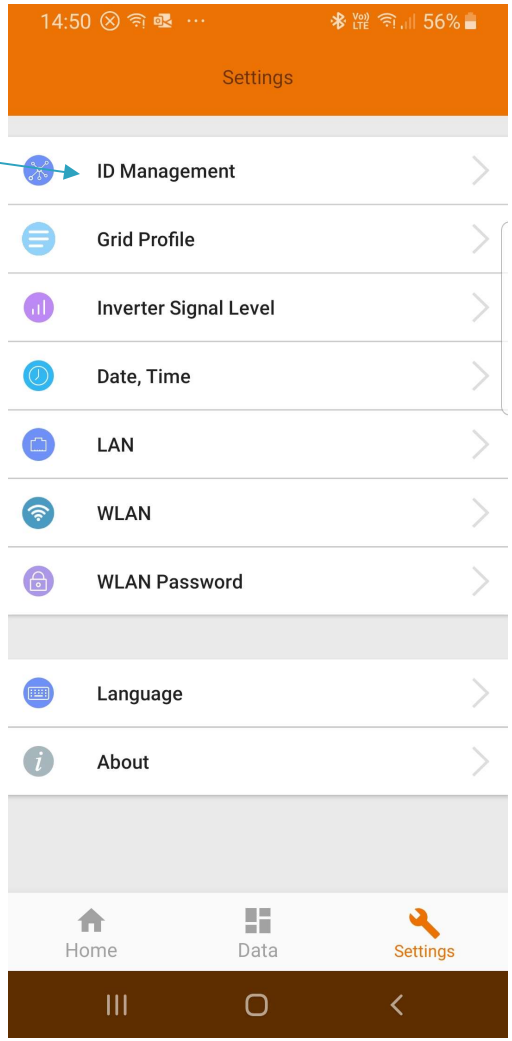
Enter inverter ID

From Setting menu click "ID Management"



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Microinverter ID

It is a 12 digits ID located 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**

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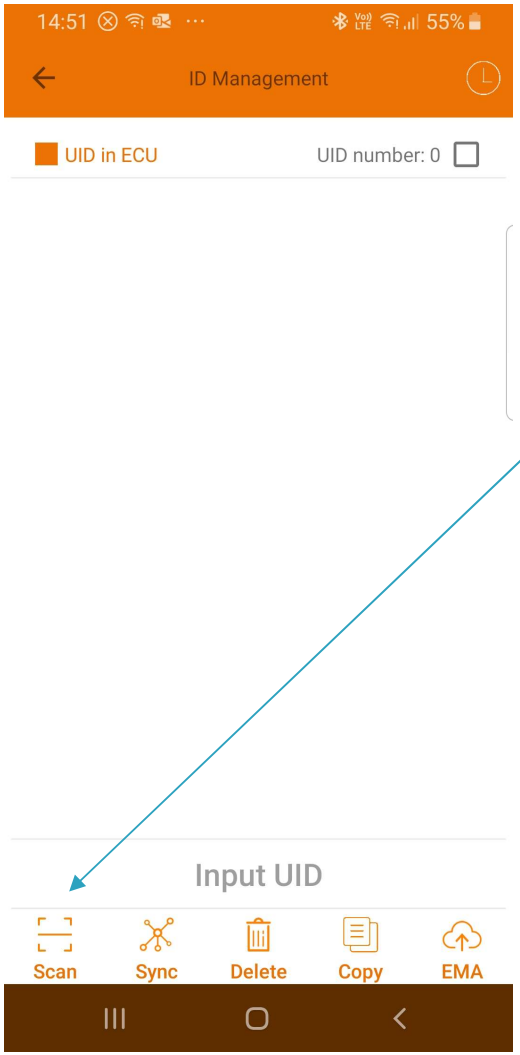
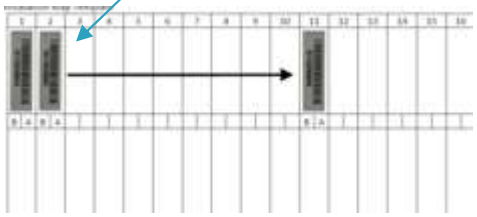
Enter inverter ID

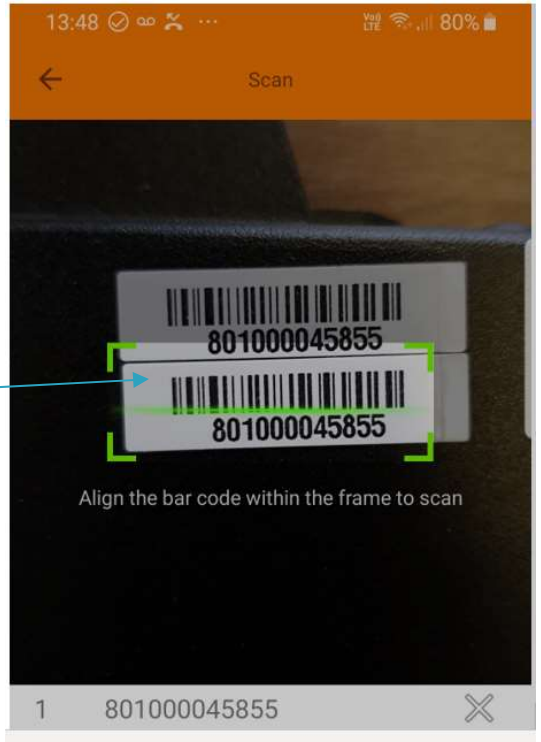


Select SCAN to enter inverter ID by camera

Then, scan all inverter ID

To speed up the process read barcodes on inverter map





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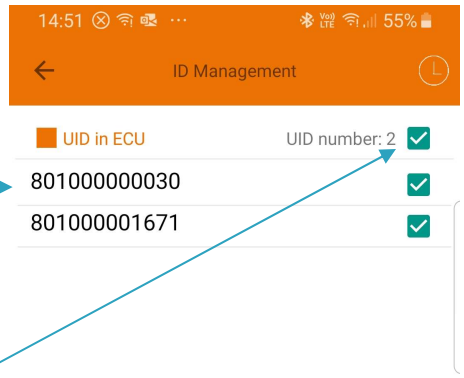
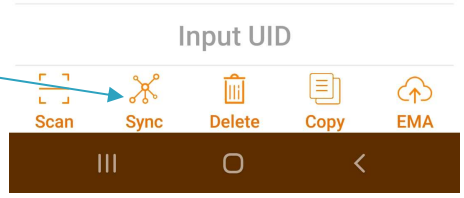
Enter inverter ID

Inverter ID are displayed in the list



check the box in order to select all inverters and click “SYNC”



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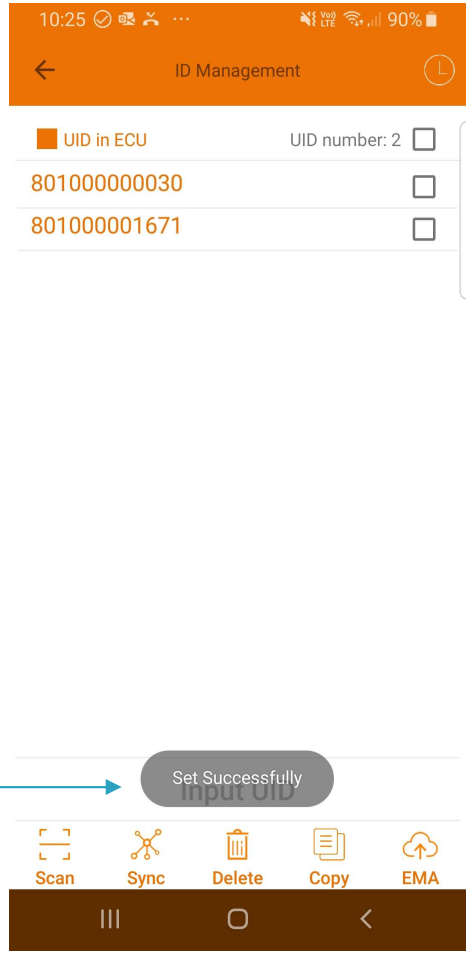
Enter inverter ID

Click “OK”

and check ID registration in ECU is successful



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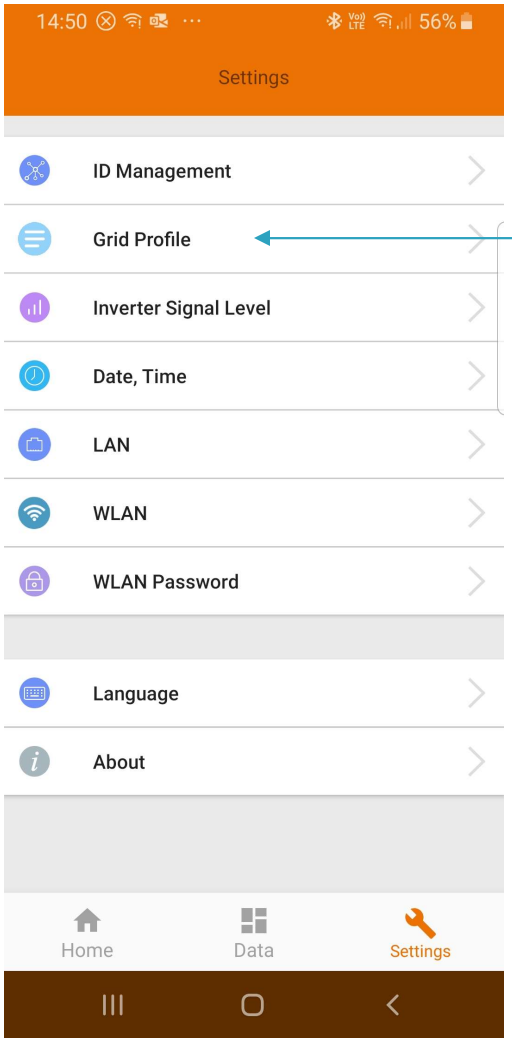
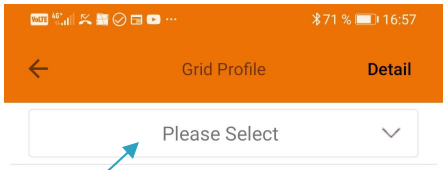
Enter country grid profile



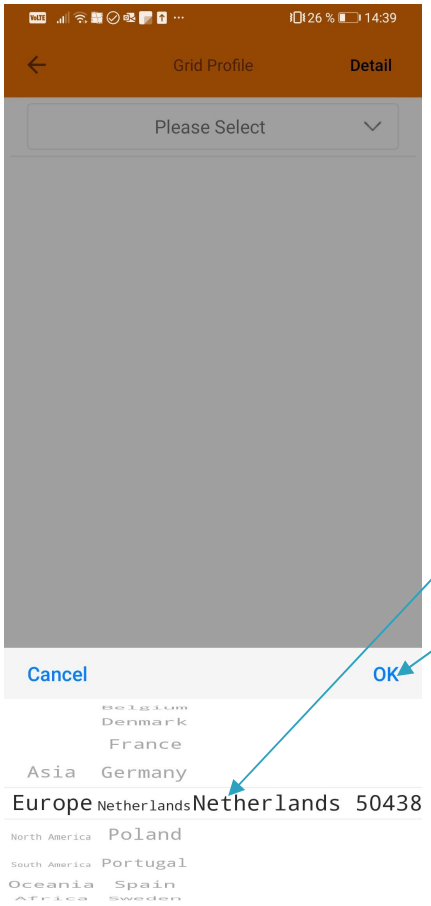
from Settings menu click "Grid Profile"

then Click "Please Select"



That setting may also be done remotely from EMA monitoring

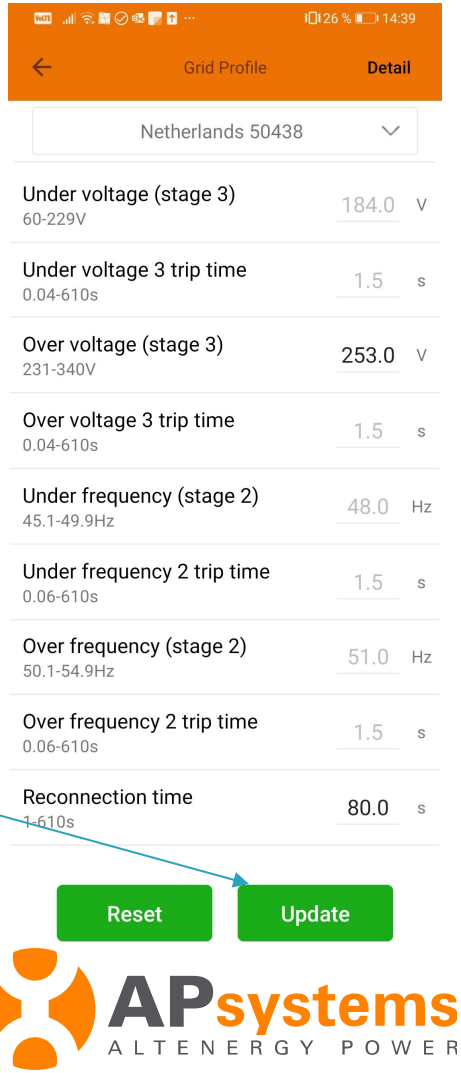
Enter country grid profile



Select the right setting In the rolling menus

Then click “OK”

Selected grid profil is displayed, then click “Update”



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2 – System check up

Inverter registration & communication

Back to Home Page
slide your finger from top to bottom screen
to refresh data,
Check number of inverter registered (2nd #)

then after about 2 minutes
check ECU is connected
to all inverters (here 2 out of 2)

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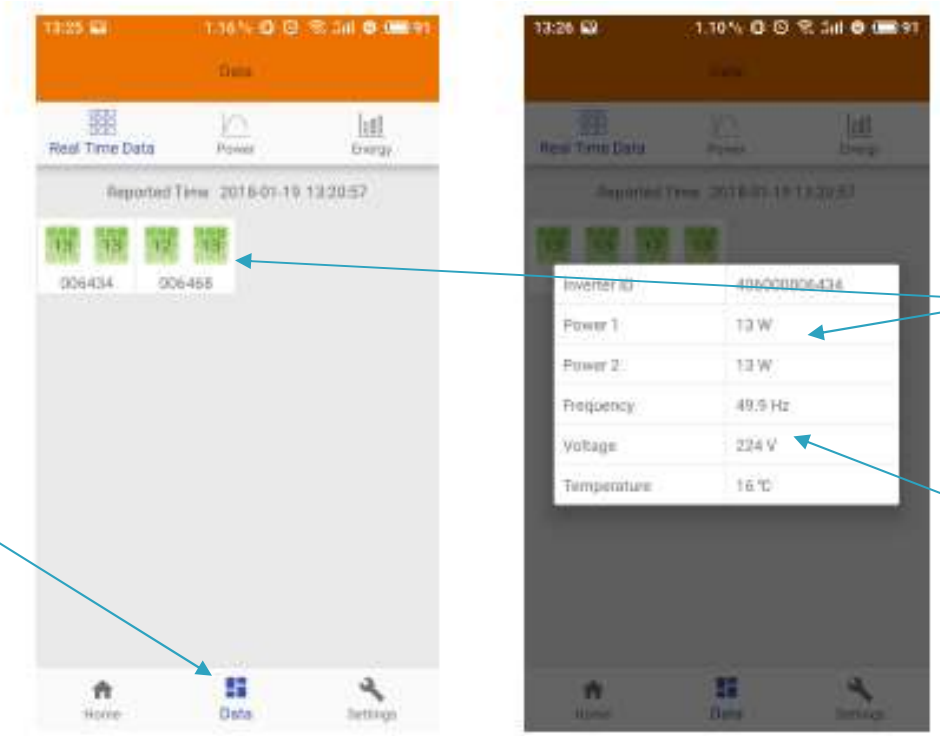
Production

On the Homepage, tap on “Data”



Check if all Inverters and their PV modules are Producing.

Verify the AC and Frequency.

Green panel indicates the inverter is successfully connected.

Grey panel indicates the inverter is disconnected.

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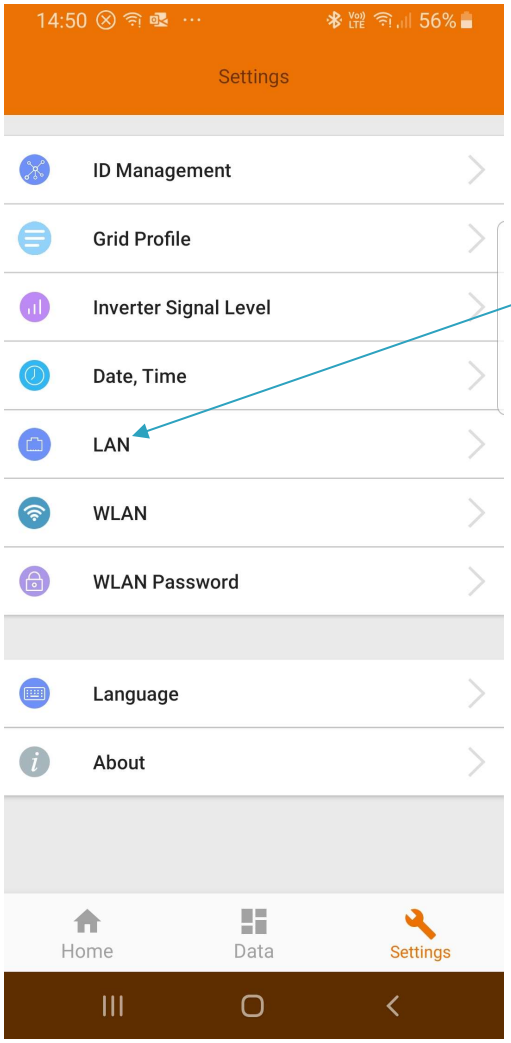
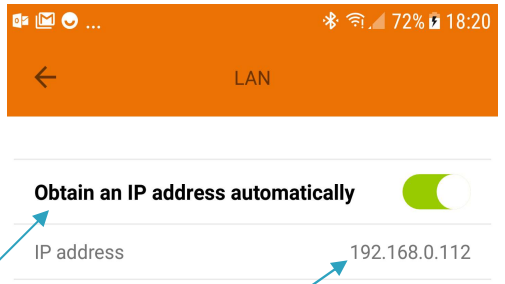
LAN connection



If ECU is connected to the internet router via Ethernet cable

click “LAN” in the Setting menu



check setting is “Obtain an IP address automatically” and IP address is not 192.168.131.228

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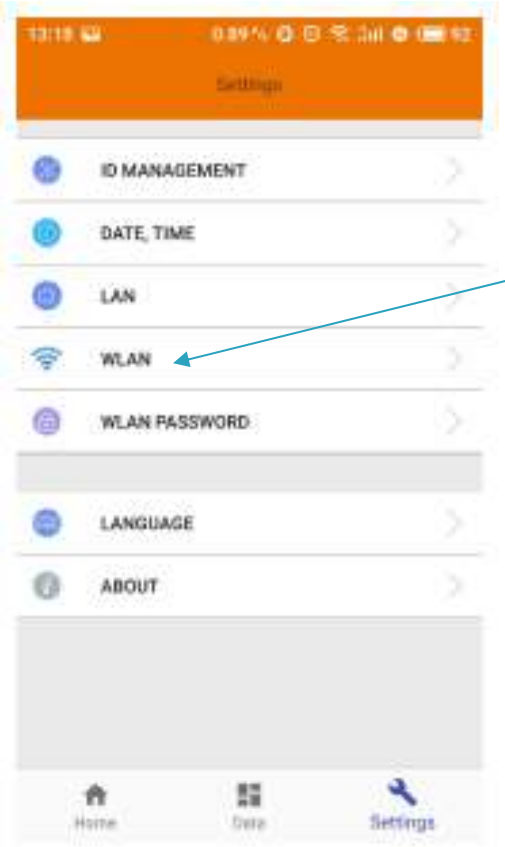
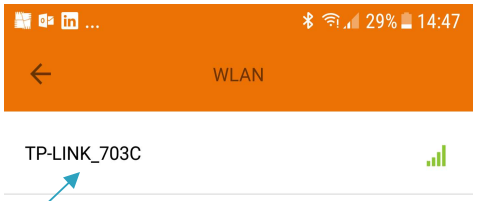
WLAN connection

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



From Settings menu click “WLAN”



Select the right network

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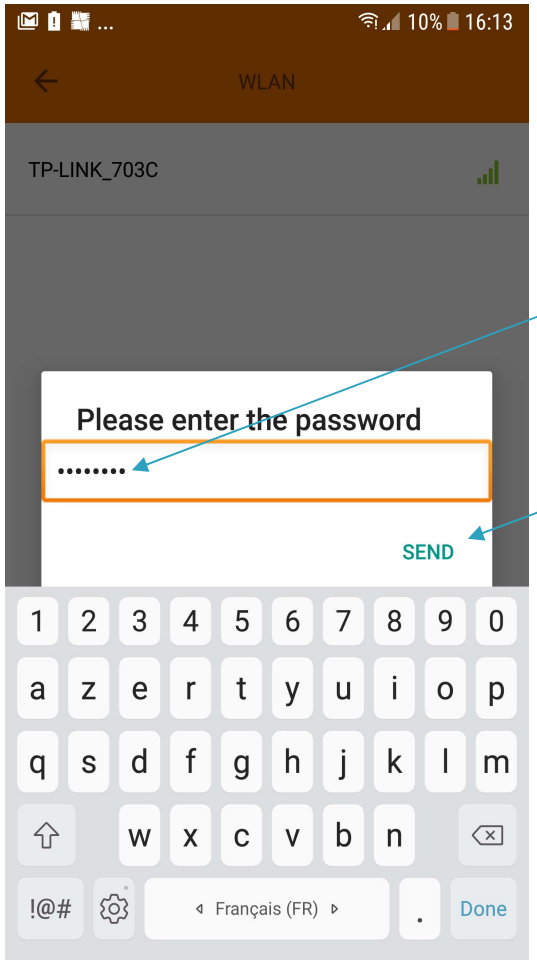
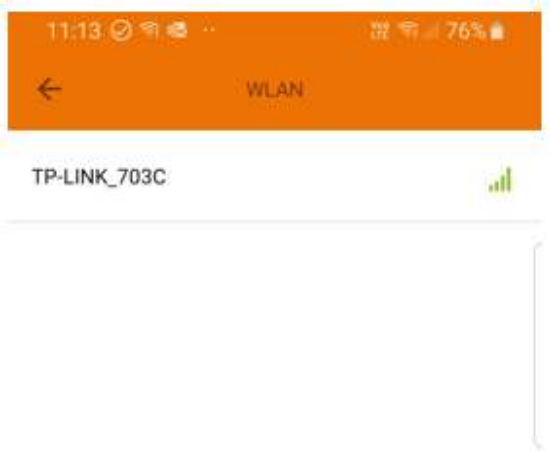
WLAN connection



Enter the Password and click "SEND"



Then it will display this message

ECU will connect to this SSID and restart. Please reconnect to ECU later

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WLAN connection

Close WLAN menu,
then open it again
and
check WiFi connection

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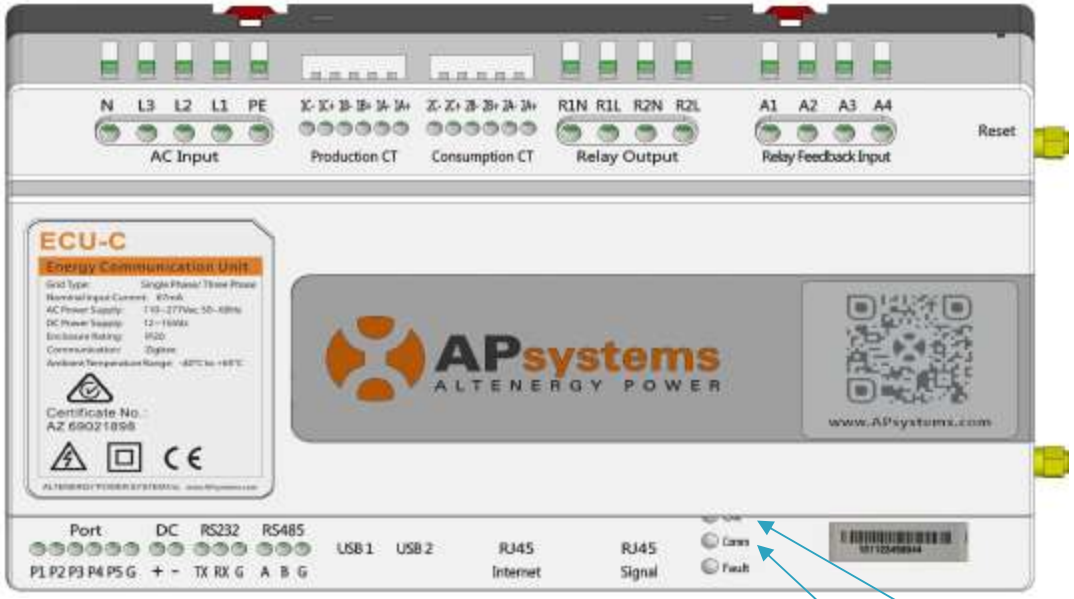
Communication with EMA monitoring



Lights up green -> ECU is powered

Lights up green -> send data to EMA

ECU-C is connected to internet and EMA monitoring

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THANK YOU!

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