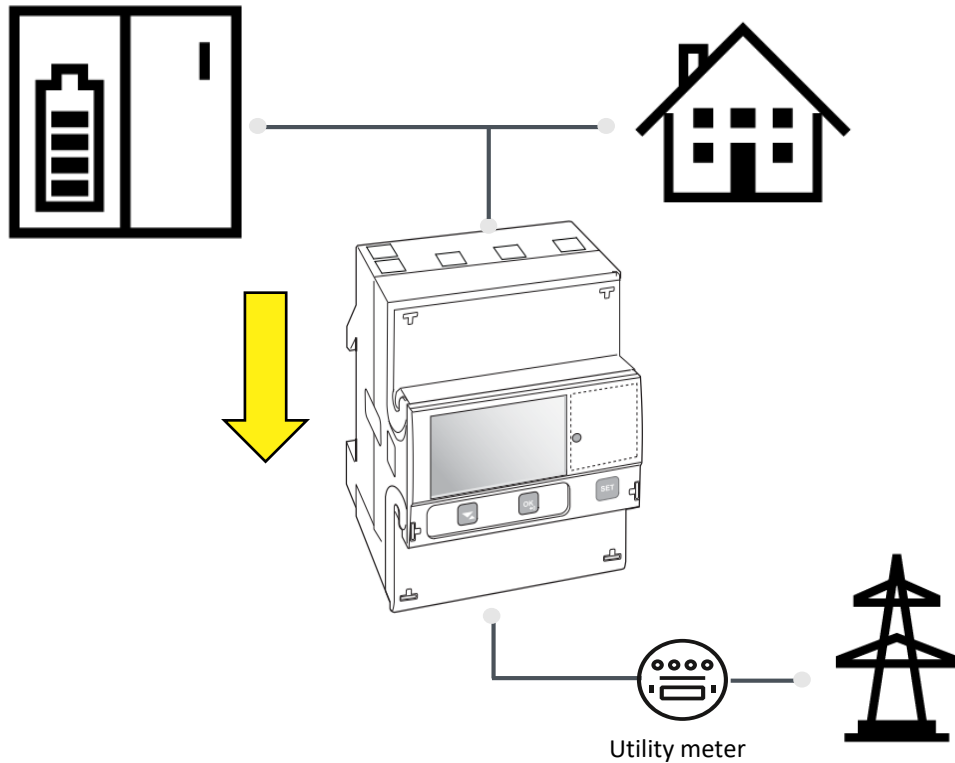


# Meter position & orientation errors

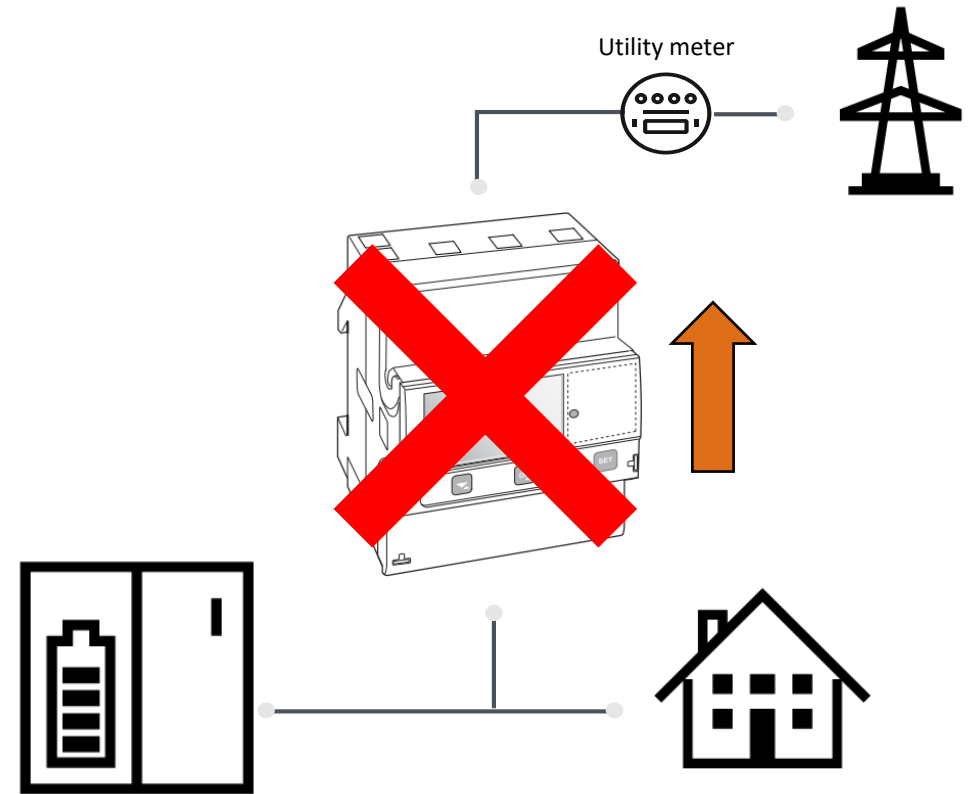
An overview of the most common errors in positioning and orientation of meters with real cases examples taken from a configuration with REACT-2 inverter & remote monitoring via Energy Viewer

# Meter position & orientation

Correct orientation



Wrong orientation

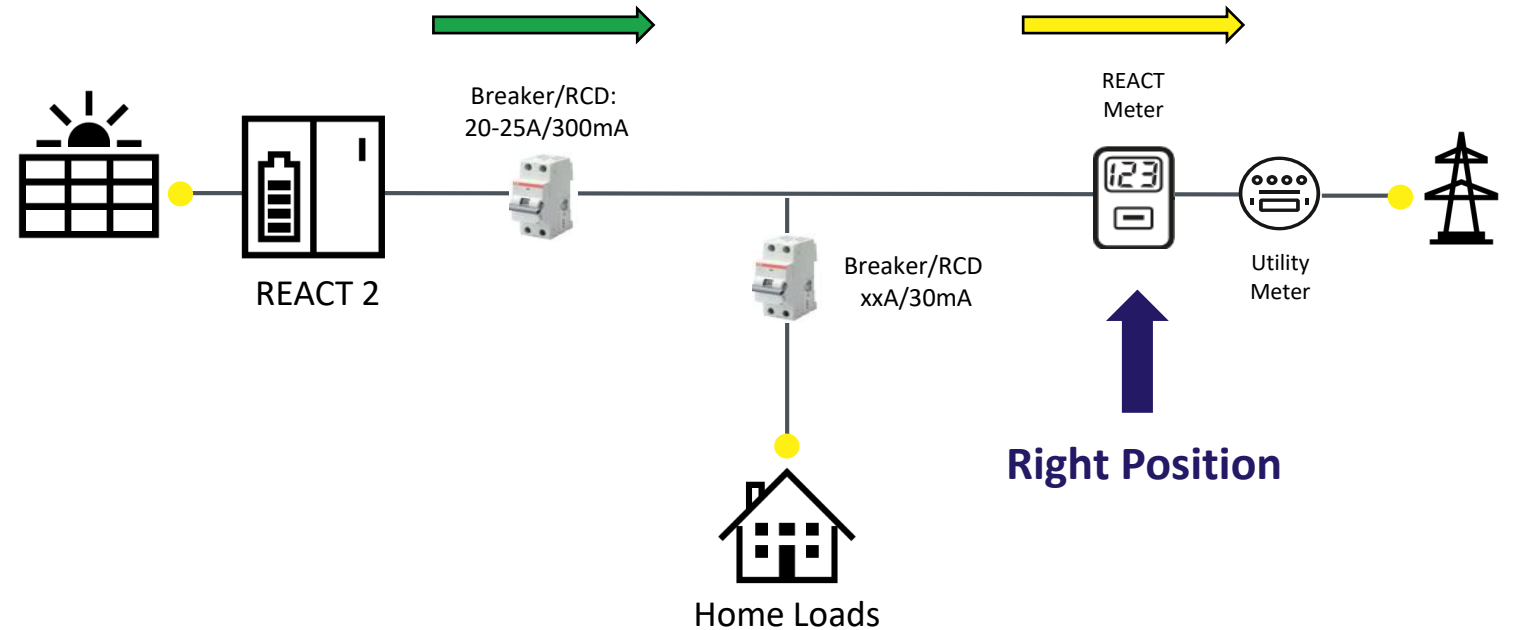


# Right position & orientation

## Right position and orientation scheme

It is mandatory to install the REACT 2 power meter in the right position of the plant and with the right orientation.

**A wrong meter positioning affects the correct system operation** (both for battery management and load management)



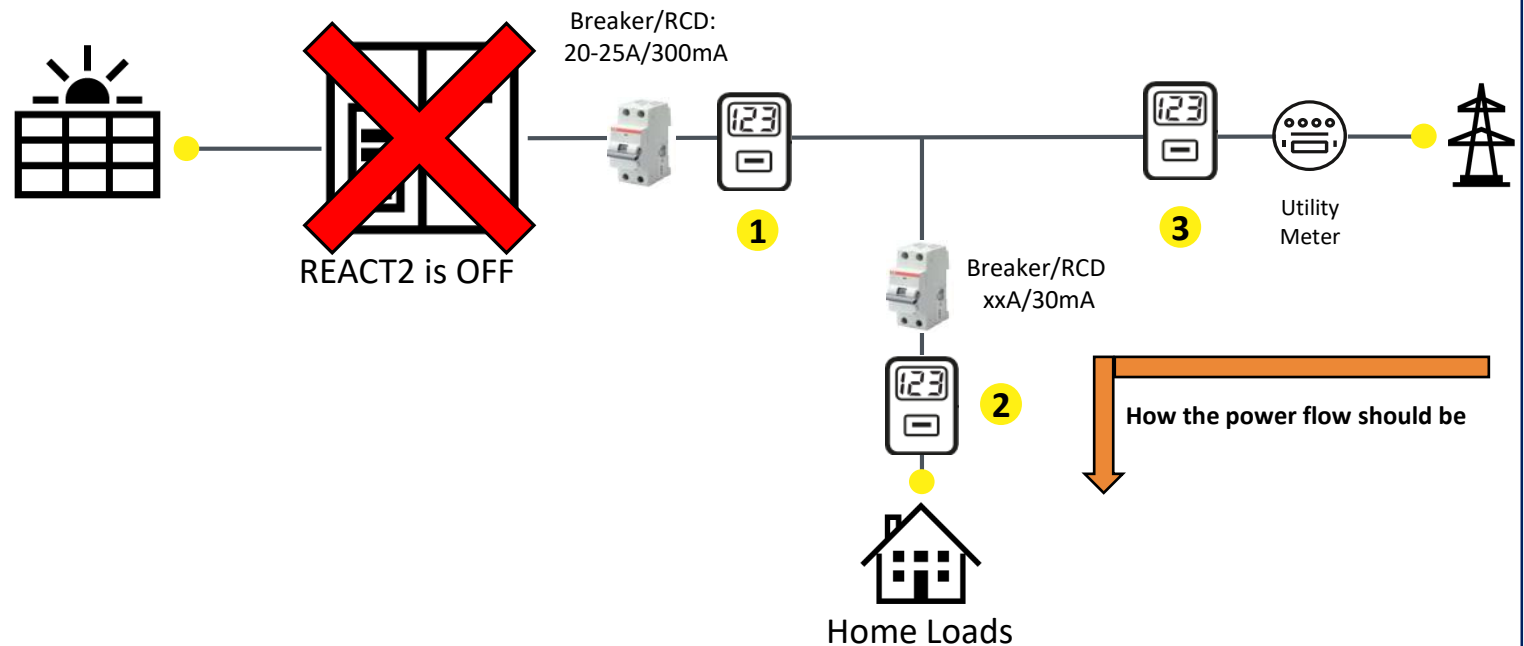
# How to: check for correct meter position

## STEP 1

Turn OFF REACT 2 DC switch. House consumption shall be greater than 50 W.

All the power absorbed by the loads comes from the grid. The Web-Server User Interface (UI) shows a negative value (e.g. - 1250 W).

- NO power consumption is shown (0 W): the meter is in position **1**, **WRONG** position. Install the meter in the correct position.
- A negative power draw is shown: the meter may be in position **2** or **3**
- If the power sign is positive, the meter orientation is **WRONG**. Install the meter in the correct position.



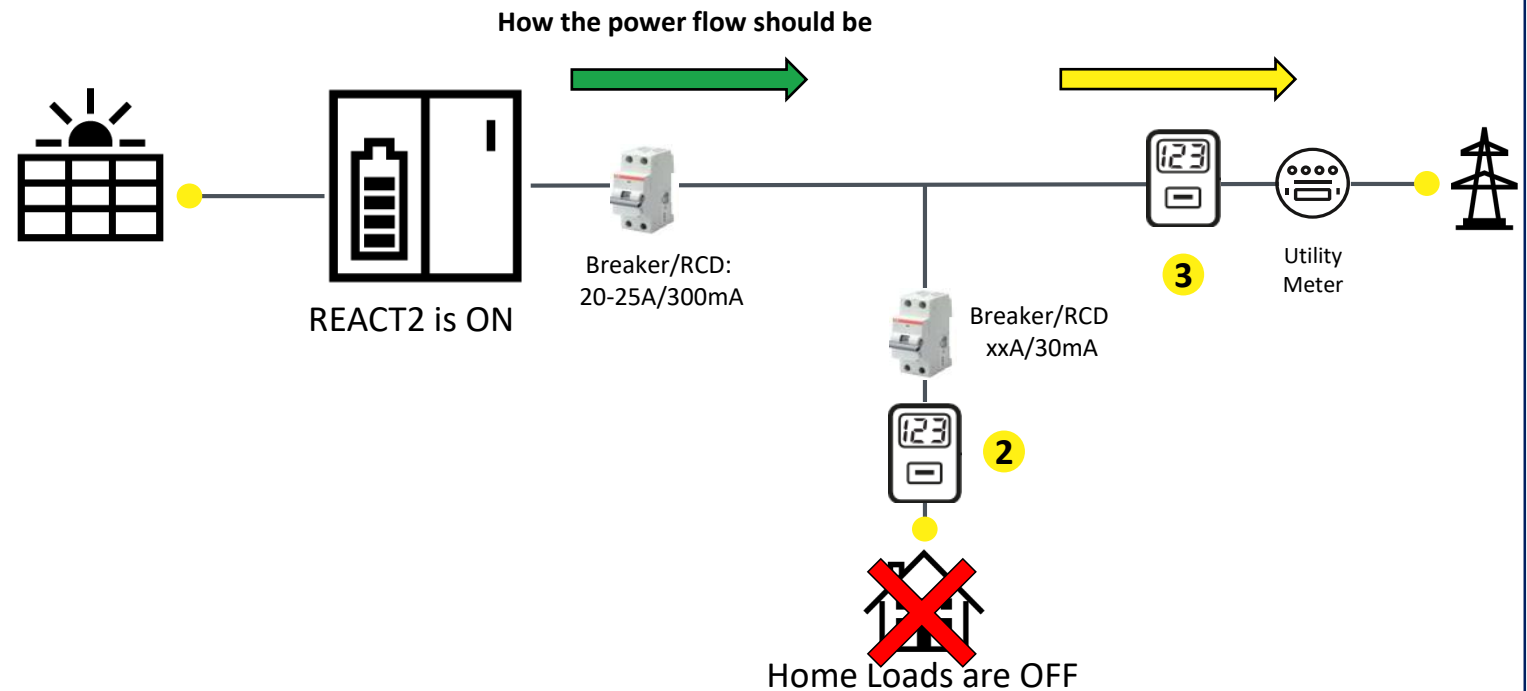
# How to: check for correct meter position

## STEP 2

Turn ON REACT 2 DC switch. Turn OFF all home loads.

The Webserver UI (User Interface) **shall show power flowing to the grid** (positive value, eg: + 1000 W)

- Power is shown with positive sign: the meter is in the right position **(POSITION 3)** 3
- NO power is shown (0 W): the meter is in position 2, which is **WRONG**.  
Please install the meter in the right position (POSITION 3)



# Examples of wrong meter installations with feedback from Energy Viewer

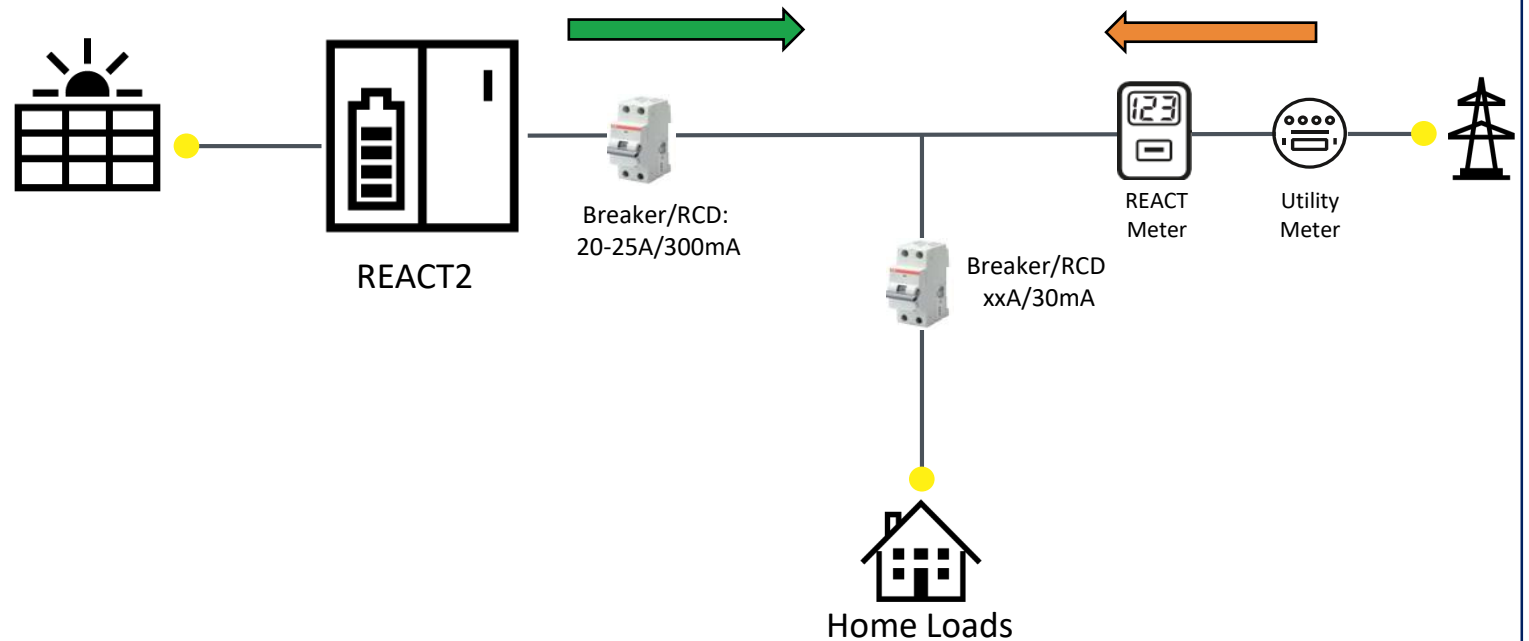
Please note that in order to obtain feedback via Energy Viewer, the plant and associated devices must be properly registered and must properly communicate data to the Aurora Vision cloud-based platform.

# Right position, wrong orientation

## The meter measures absorbed energy as injected and viceversa

The meter will measure power acquisition when the inverter is injecting power into the grid and will measure power injection during the night, when the house consumes power.

The battery will be charged during the late afternoon/morning and will be discharged during the day.



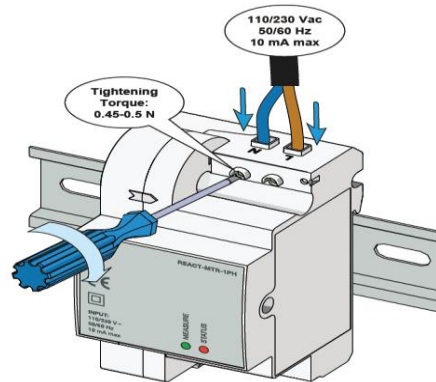
# Right position, wrong orientation

## The meter measures absorbed energy as injected and viceversa

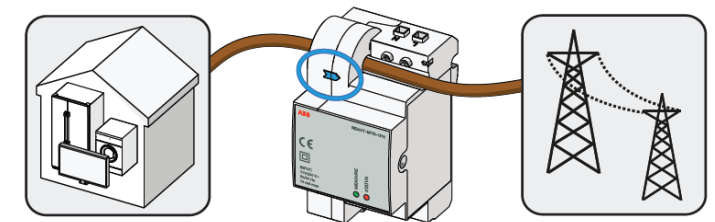
A wrong meter positioning affects the correct system operation, take care of:

- The **REACT-MTR-1PH power supply**: in case of **reverse of power supply N - L** → The **METER will work as reverse mode**
- **Energy readings**: in case of **wrong direction** during insertion of the phase cable → The **METER will work as reverse mode**

- Connect the **neutral cable** (normally blue) to the terminal labelled with the letter **N**.
- Connect the **phase cable** to the terminal labelled with the letter **L**.



Make sure that the direction of insertion of the cable is correct. The arrow on the front of the REACT-MTR-1PH shows the side of the cable that must be connected to the distribution grid





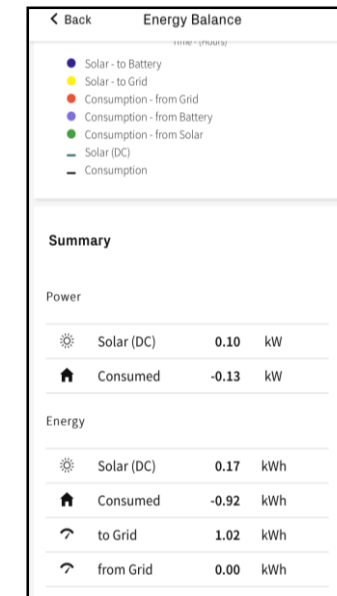
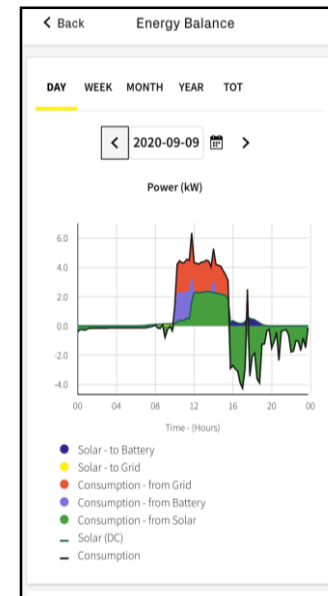
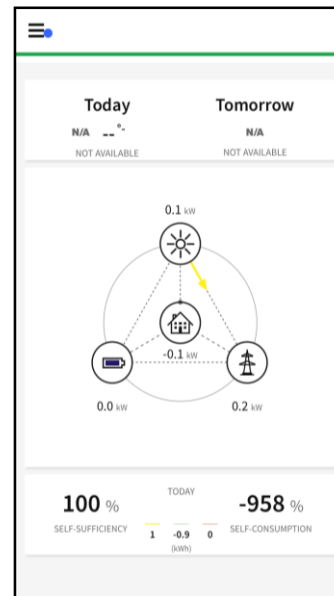
# Right position, wrong orientation

## Energy Viewer

In the **Home dashboard** you will see the «House» icon with negative power; the **Energy Monitoring Card** will have incoherent KPIs.

In the **Energy Balance dashboard**, Consumption will be often displayed with negative spikes and Consumed energy values will always be negative.

In the **Grid dashboard**, «from Grid» and «to Grid» will be inverted (*compared to the expected behaviour*)

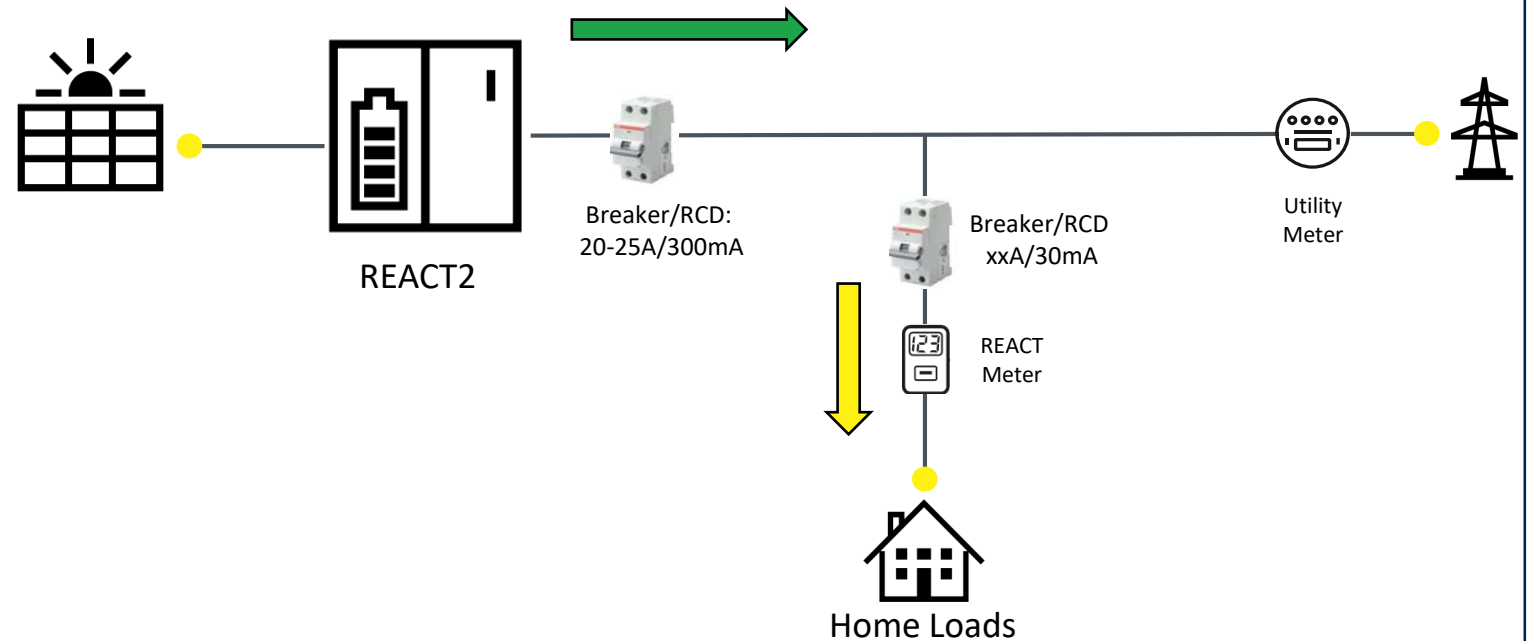


# Wrong position, right orientation

## The meter measures all consumed energy as injected energy

In this position REACT-2 thinks to inject power into the grid when the house is consuming power. In this context it seems that the inverter is injecting power «to Grid» 24/7, with no consumption «from Grid».

As soon as the battery is fully charged it will never be discharged again



# Wrong position, right orientation

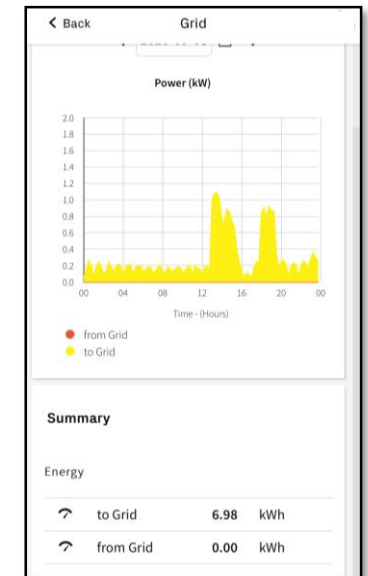
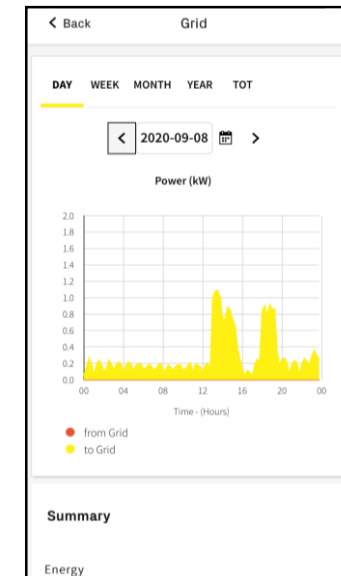
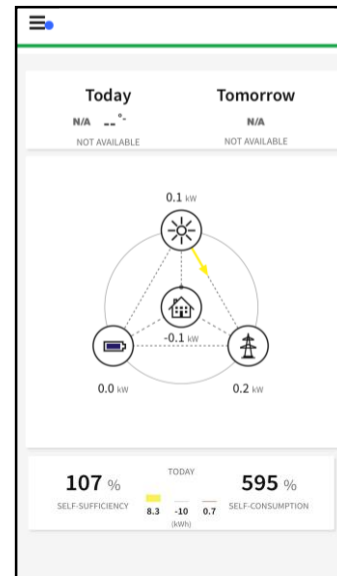
## Energy Viewer

In the **Home dashboard** you will see an **Energy Monitoring Card** with incoherent KPIs values.

In the **Grid dashboard**, you will only see «to Grid» power 24/7; the shape form will be quite similar to normal house consumption.

In the **Summary**, «from Grid» energy value will always be equal to zero.

In the **Battery dashboard**, you will never see values because the battery will never be discharged (since it is already fully charged)

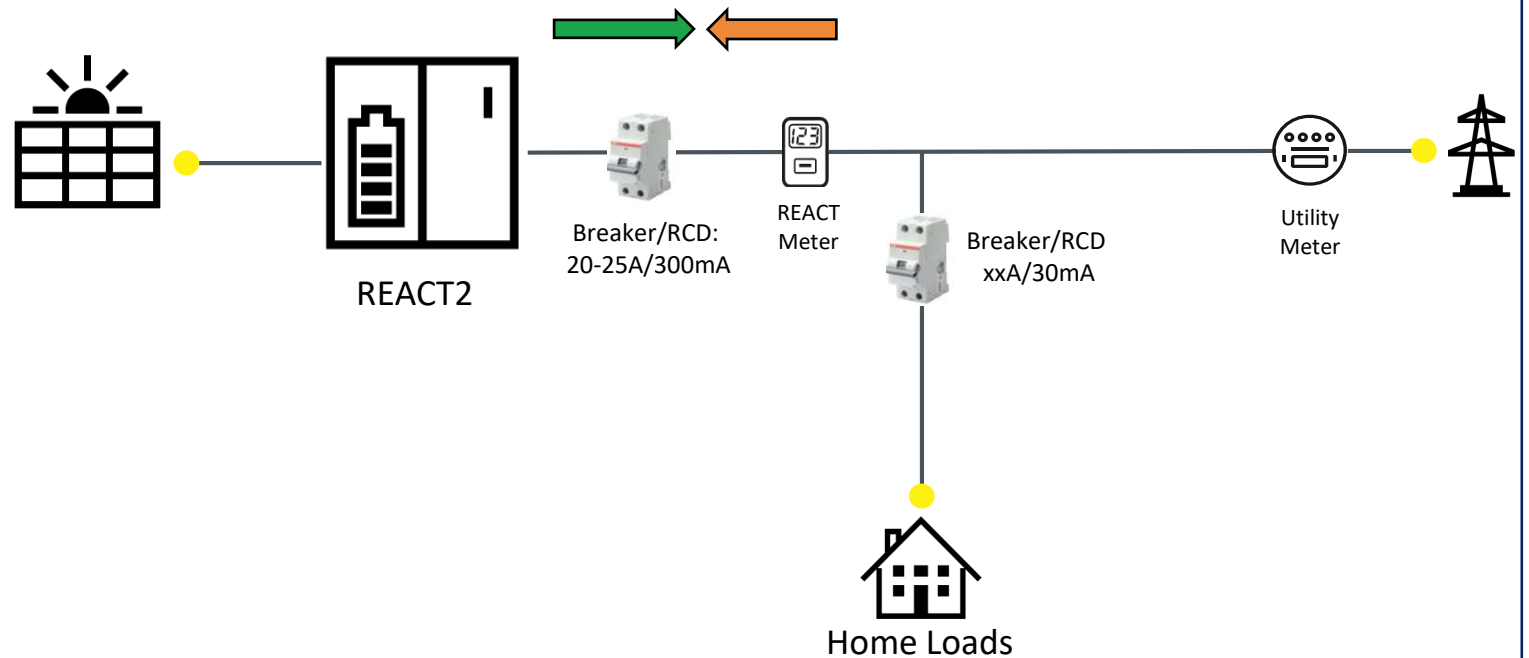


# Wrong position, wrong orientation

## The meter measures all produced energy as consumed energy

In this position REACT-2 thinks to absorb power from the grid as soon as the inverter produces power. In this context, the Consumption profile and the Solar (generation) profile will be extremely similar as soon as the battery will be completely discharged.

As soon as the battery is empty it will never be charged again.

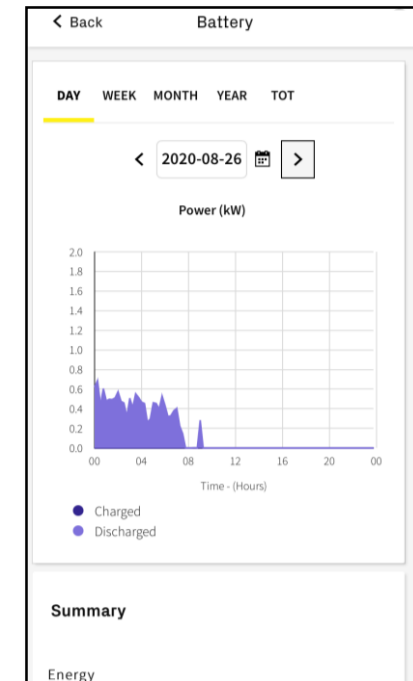
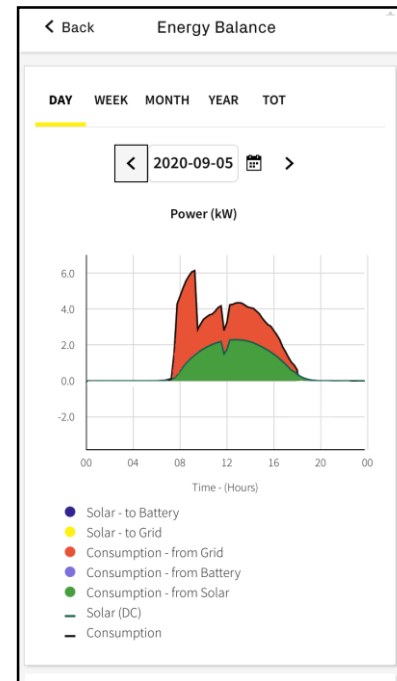


# Wrong position, right orientation

## Energy Viewer

In the **Energy Balance dashboard**, you will see a Consumption profile which is roughly two times the Solar (generation) profile; the shapes will be extremely similar as soon as the battery is completely discharged.

In the **Battery dashboard**, you will see a discharging behaviour and then a profile always at zero; the battery will never be charged again, therefore you will never see energy values different from zero.

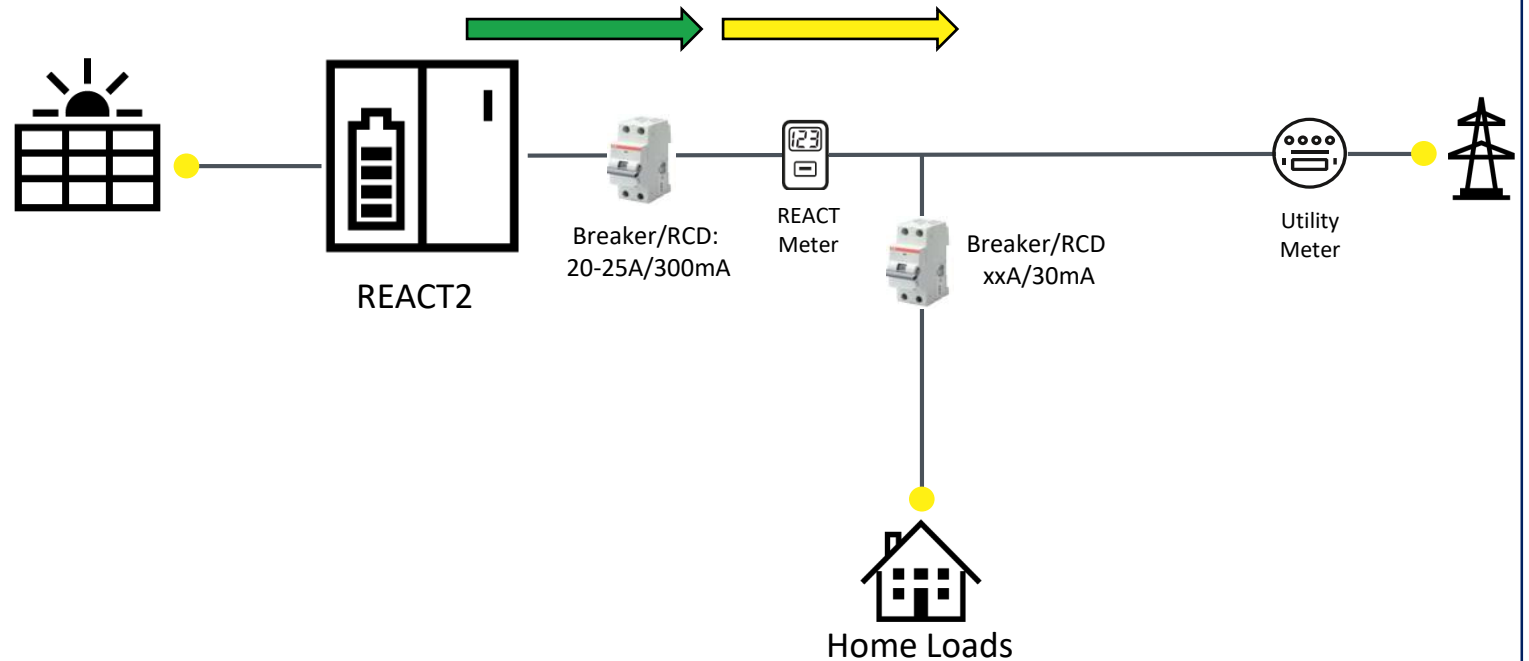


# Wrong position, right orientation

## The meter measures all produced energy as consumed energy

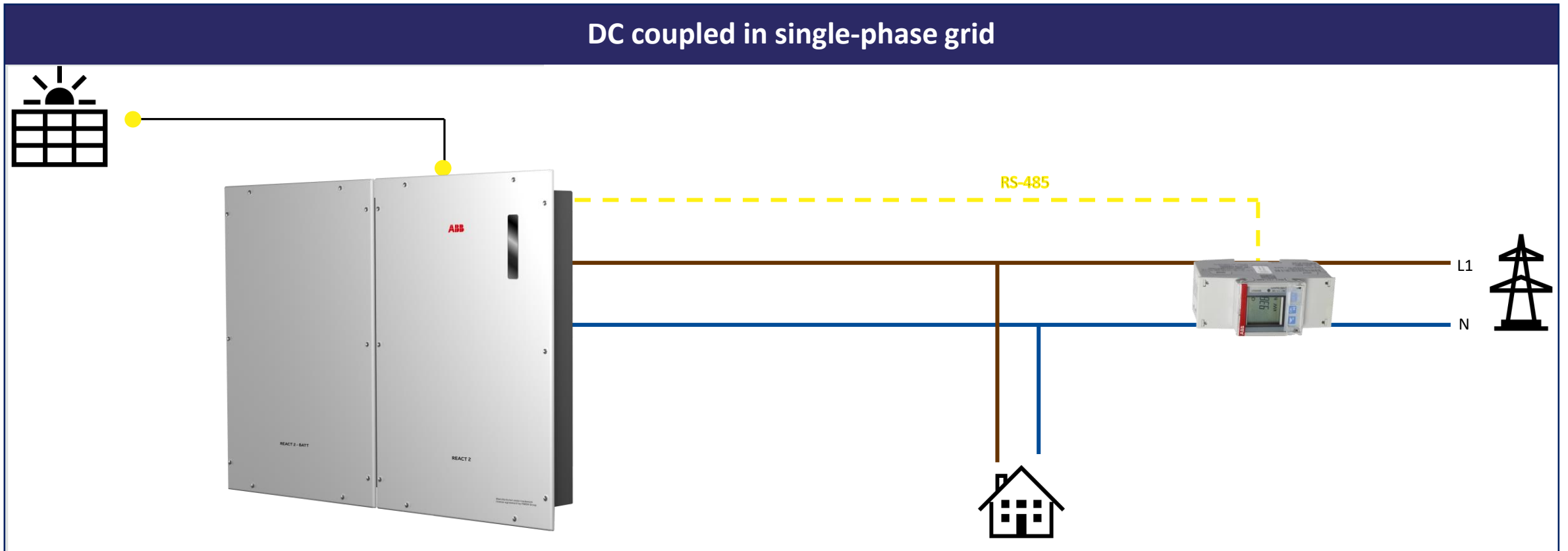
In this position REACT-2 thinks to inject power into the grid as soon as the inverter produces power. In this context, the home Consumption profile will never be displayed.

As soon as the battery is fully charged it will never be discharged again.



# Examples of single line diagrams

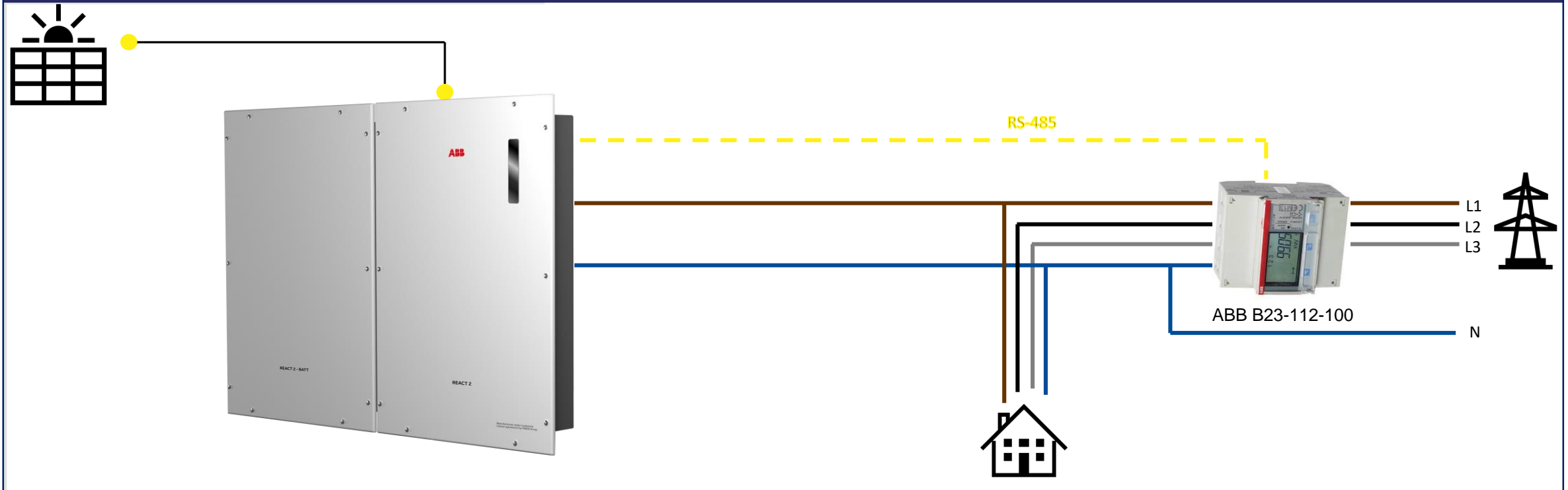
# DC coupled in single-phase grid



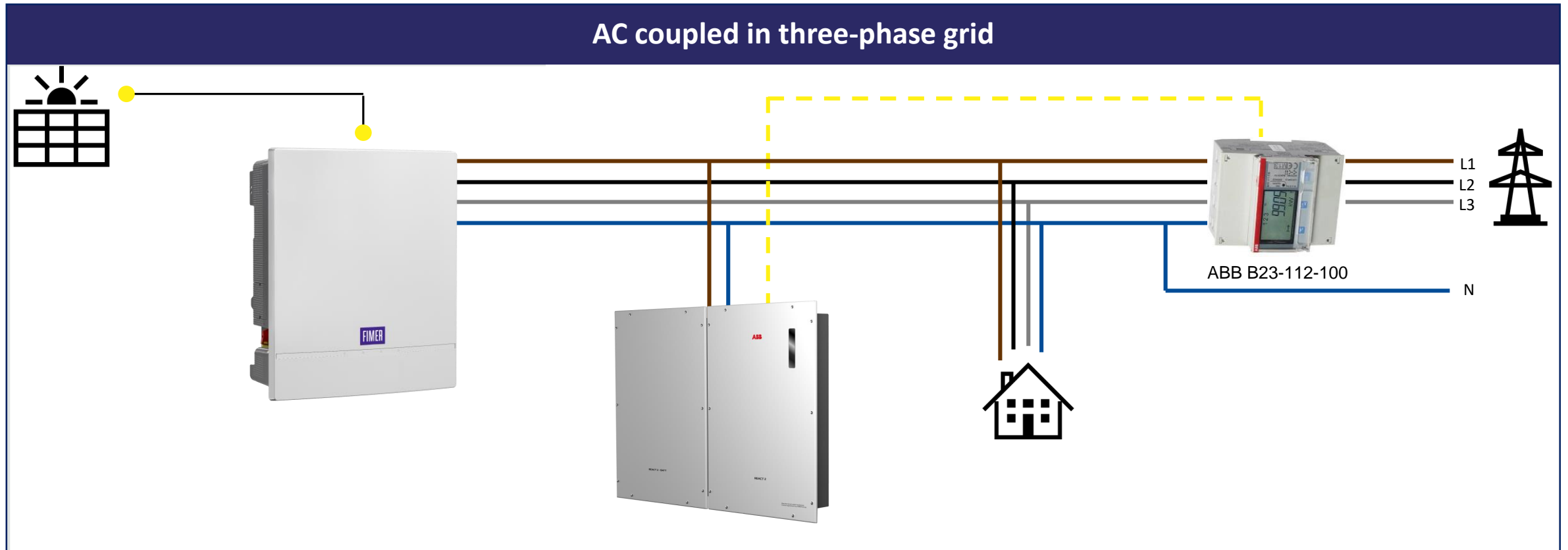


# DC coupled in three-phase grid

## DC coupled in three-phase grid



# AC coupled in three-phase grid



# Thank you

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