

INCASE MISSION

Within the world of Industry 4.0, we develop test set-ups and demonstrators for sustainable technologies to prove the viability and applications of this technology. We introduce the technology to the industry by means of workshops and lectures based on own research and experience.

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INCASE

European Regional Development Fund

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Project

Energy logger

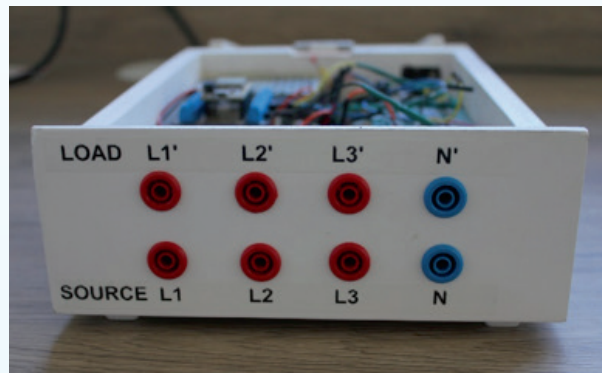
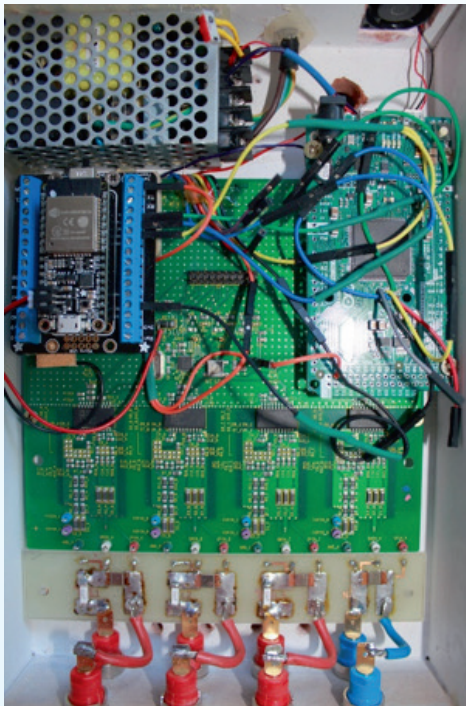
Measuring energy consumption in all circumstances



What

The aim of the energy logger is to “log” or “measure” the energy consumption of a single-phase or three-phase industrial tool.

You need voltage, power and time when measuring energy. There are devices on the market but, in many cases, those measure only the current and they are therefore not suited to perform the measurements correctly. The Energy Logger does measure correctly, both stand-by (a few dozens of micro-amperes) and rated current (16 to 30 amperes).





Pilots (applications)

We have developed a single-phase and three-phase energy logger, as well as a DC version. A visualisation was provided and the logger was connected to the Internet of Things (IoT). You can login through the internet wherever you want and visualise the consumption.

There has been a reasonable amount of commotion on energy measurements in recent literature. There are rather a large number of errors in energy measurements noticed, especially if there are PV inverters. PV inverters cause measurement errors up to 30 and 40 percent.

Errors are present in all meters, but are more pronounced for specific measurement principles.

That is why we have developed a test to test such energy meter: does the energy meter test correctly under all circumstances? We test devices such as light bulbs, which is the most elementary and pure load. We also test by using an emulated PV inverter, which injects the power into the grid. After that, we perform tests using a number of state of the art devices to see whether the meter still measures correctly. Finally, we combine the various tools, both loads and sources (PV inverter). We therefore go through an entire test pattern that runs automatically for an entire weekend. We create a new situation every hour so that we find out where things go wrong.

Besides testing various types of load, we also distort the voltage. In this way, we test all possible de facto situations that can occur in daily life.



Conclusion

The energy logger is a supporting deliverable for ProfiEnergy and the smart homes. However, it is crucial to be able to correctly measure the energy savings that are worked out in the smart homes.

That is why a test was developed that can act as a test for the energy meter: does the logger measure correctly under all circumstances?



Number of companies reached through workshops and lectures

Two workshops have been scheduled, where 25 companies are expected to be reached.

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