

# Energy Management

# Smappee, the world's smartest energy management system.

Smappee Infinity is the most comprehensive, future-proof, smart energy management system on the market. This modular and global solution provides increased energy efficiency thanks to detailed, real-time energy consumption data. Add solar, gas and water for a complete overview of all your energy flows at a glance. Smappee Infinity is easy to install and integrate with IoT services, and features optimised self-consumption and smart charging, delivering exceptional value both for your residential and business customers.



## Fast, accurate energy data tailored to your needs

The Smappee Infinity collects real-time production and consumption data down to the appliance level. It offers the most complete and comprehensive set of submetering options available on the market by combining traditional submetering clamps or a MID meter in the fuse box, Smappee Input modules and Smappee's patented appliance recognition technology. This provides a large amount of highly valuable, actionable data that providers and users can access in multiple ways. Smappee incorporates an API for integration with HEMS/BMS systems, a flexible professional dashboard for in-depth analyses, and a user-friendly app for general users.

## Fast, low-cost installation

Thanks to its quick and easy installation and low maintenance costs, Smappee Infinity's total cost of ownership compares favourably with other competing solutions. This compact plug-and-play system is robust and reliable, with hubs connecting current clamps (CTs) or Rogowski coils. That way you spend less time on the setup and more time on saving energy for you and your customer.

## Modular and comprehensive

We know every situation is different. Which is why we've developed Smappee Infinity with flexibility in mind. Our comprehensive offering allows you to select only the features and services you need in order to deliver a solution that is tailored to your customer specific needs. Do you need more control, data or services over time? No problem! Thanks to the modularity of Smappee Infinity, you can always build on the existing solution to meet your changing needs.

## IoT-enabled control and dynamic load balancing

Smappee Infinity can easily pair with IoT products and platforms such as Google Assistant, Siri and Home Assistant and uses different communication protocols for even more integrations. Simply add a Smappee Output module to manage any appliance. The Smappee Infinity integrates with the Smappee EV Line of chargers offering a wide range of smart features from dynamic load balancing to solar optimisation. This ensures that the breaker won't trip and you always charge at the best price.

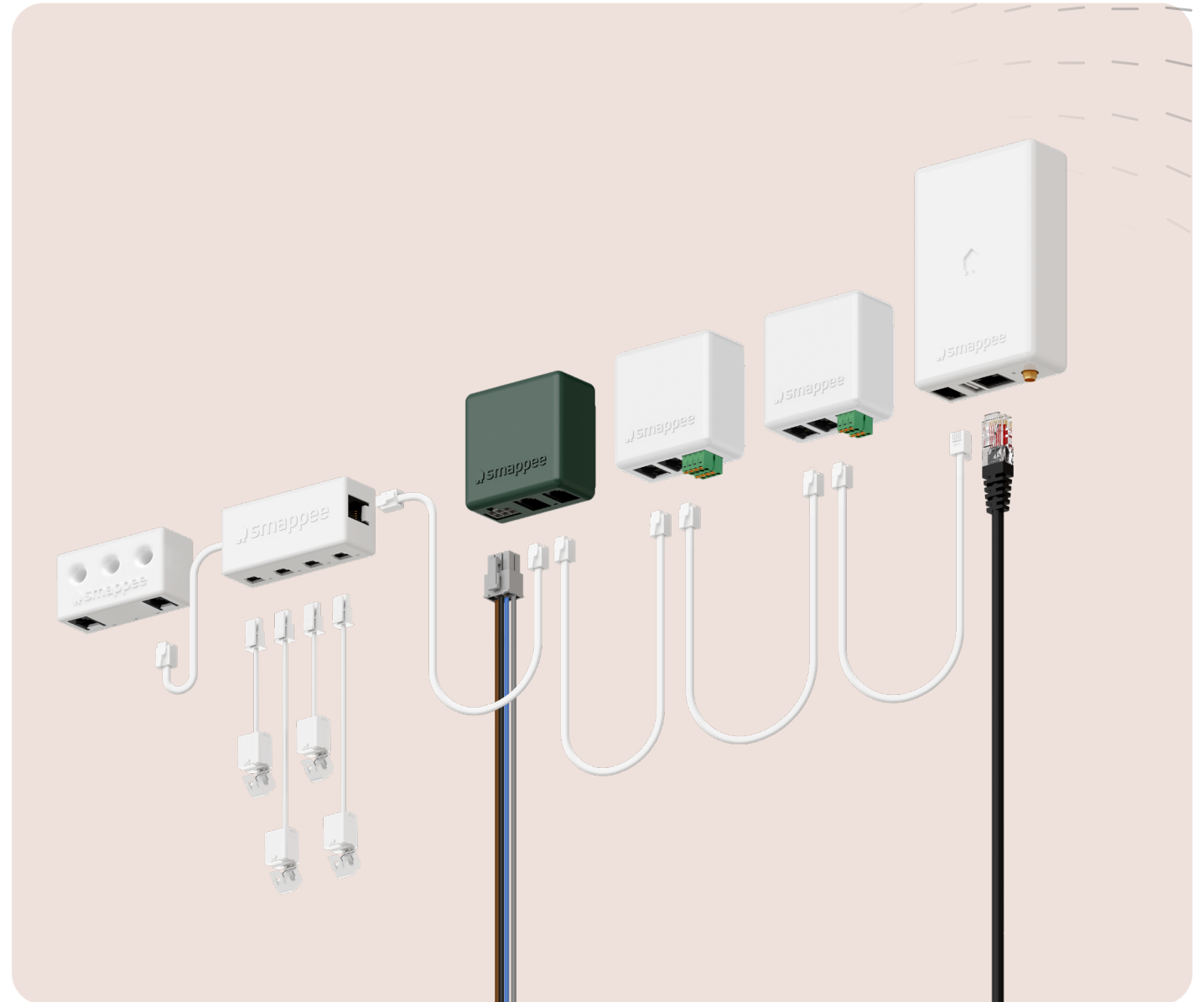
# The ingenuity of Smappee technology.

## Smart technology

Smappee Infinity is an all-in-one energy management system that offers detailed real-time and historical energy data as well as IoT-enabled control and Cascade Overload Protection. It monitors solar PV, home storage, individual or groups of appliances and complex energy consumers such as heat pumps, air conditioning or electric cars. In addition, it offers intelligent automations that enhance security, comfort and cost savings. The system is future-proof and can adapt to any scenario, allowing over-the-air updates and extra modules to be added at any time.

## Compatible and versatile

Smappee Infinity is a global solution that is compatible with all inverters and almost any electrical installation worldwide. Thanks to the compact hardware, it easily fits into almost any distribution panel. Once the system is up and running, maintenance requires little effort, resulting in a low TCO. The two-step installation process consists of the physical installation in the distribution panel followed by configuration via the installation wizard in the Smappee App. The Smappee Dashboard also allows further configuration. Make use of the Smappee Configurator to optimise the perfect set-up.



# A modular solution for every energy need.

The strength of the Smappee Infinity system lies in its adaptability, allowing you to mix and match according to your energy needs. Depending on the set-up, Smappee Infinity will measure and calculate energy data, communicate that data to a data platform and, if desired, control the energy flows in the building.

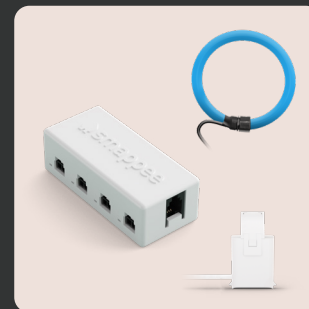
## Data calculation modules



Smappee Power Box

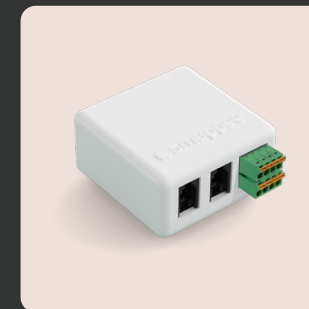
The Power Box provides power to all components and measures the line voltage of the connected phases. It also collects the currents from the CTs and calculates power, active, reactive and other energy and power quality data.

## Data measurement modules



Smappee CT Hub with Current Transformers

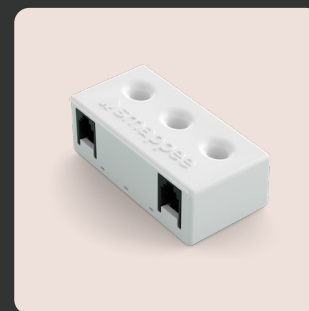
The CT Hub gathers energy data by measuring different currents with up to 4 Split Core CTs or Rogowski coils. Daisy chain several CT Hubs to measure different installations up to 28 inputs and up to a distance of 100 meters (109 yards).



Smappee Input module

The Input module counts pulses or monitors state changes (low/higher) with up to 4 digital inputs for sensors, meters and other devices. Add up to 10 Input modules per Smappee Genius.

*Only works with a Smappee Genius as gateway.*



Smappee Solid Core 3-Phase CT

The Solid Core 3-Phase CT is the compact and cost-effective alternative to the CT Hub for 3-phase measurements. Daisy-chain up to 9 Solid Core 3-Phase CTs or combine with Smappee CT Hubs.



Smappee MID meter

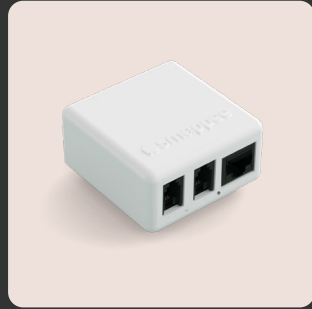
The MID meter is a calibrated polyphase multifunction kWh meter and allows official energy registrations and billing. It measures and displays the characteristics of single or 3-phase loads with a range of up to 100 A.

## Communication modules



Smappee Genius

The Genius is the gateway between the Power Box and the Smappee Cloud and ensures secure data storage. It also interacts with Smappee's control modules and 3rd party components allowing smart control and dynamic load balancing. Data is transferred via Ethernet, Wi-Fi or 4G.



Smappee Connect

The Connect is the compact and cost-effective alternative to the Genius. It only transfers data and does not offer smart control or load balancing functionalities. Data is transferred via Ethernet or Wi-Fi only.



Smappee 4G Connect

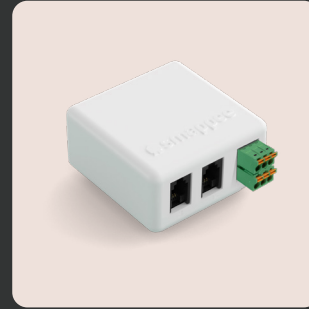
The 4G Connect is an alternative to the Connect. Data is transferred via 4G and Wi-Fi.



Smappee Wi-Fi Connect

The Wi-Fi Connect is an alternative to the Connect. Data is transferred via Wi-Fi only.

## Control modules



Smappee Output module

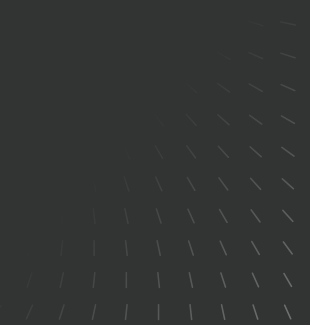
The Output module controls (a group of) appliances remotely and can be used as a control signal for smart devices from the distribution panel. The 2 separate power relay outputs control devices that are directly powered (max. 5 A switching capability) or single or 3-phase breakers. Add up to 10 Output modules per Smappee Genius. You can set up rules to automate devices connected to an Output module with the Smappee Automations.

*Only works with a Smappee Genius as gateway.*



Smappee EV Line

The Smappee Infinity integrates with the Smappee EV Line of chargers. The EV Line offers the smartest charging solution for any situation. They are equipped with autonomous overload protection and offer optimised self-consumption. Via the Smappee App and Dashboard, you get detailed insights into the charging process and costs and can set up any functionality as you wish, such as flexible pricing and payment via QR code or charge card. Easily expand the Smappee building energy management system with Smappee's smart charging solutions.



# Tailored data access and visualisation.

Smappee offers a full range of interface options, with data visualisation tailored to your needs.



## Dashboard

This comprehensive web-based tool can be used for graphic and numerical analysis, to track data on a periodic basis such as voltage currents, harmonics and frequency (regular intervals: 5-minute, hourly, daily, monthly and yearly). Add the 'Cards' to visualise the data for each site according to your preference, easily compare results and export the required data as .csv or excel files, using the download button. The dashboard includes a first-line support functionality, allowing you to do the configuration and help your customers remotely.

## Mobile app

Our user-friendly Smappee App is available both for iOS and Android. It visualises real-time energy data and graphs with historical overviews by day, week, month and year. Consumers can detect always-on power and energy guzzlers while learning about energy consumption and how much it is costing them. The app also allows control of connected appliances and to set automations that optimise energy efficiency. It offers different levels of branding and customised messaging options for our partners.



# Gateway to a world of IoT solutions.

## Interconnectivity for energy efficiency projects

In addition to a full range of data options, Smappee helps facilitate control over appliances to further optimise energy usage. Use the standard Smappee automations and eco-system and the pre-set automations in Home Assistant to easily control devices based on Smappee data. Smappee is also compatible with third party products and services and several standards and communication protocols. This allows for speedy development of custom-made use cases and integrations for energy efficiency projects.

## Offer Energy-as-a-service (EaaS)

Accelerate your business as an aggregator or Energy Service Provider (ESP) with Smappee's turnkey solution. Rather than only supplying kilowatt-hours, offer subscription-based energy services through monitoring, automated remote control and optimisation of loads and energy consumption. All of this without discomforting the customer. Implement dynamic pricing mechanisms, such as time-of-use tariffs, spot market prices, real-time energy stock exchange pricing and offer your customers the Smappee tariff. This way, they always benefit from the most advantageous rate.



# Infinite possibilities.

## 1 Transparent energy use and costs

Smappee offers users insights into energy consumption and costs, down to the appliance level, so avoiding surprises on energy bills, including where a heat pump, air conditioning or EV charger is in use.

## 2 Dynamic load balancing

Smappee automatically manages energy flows in the most efficient way using integrated third party systems, the Output modules, the Smappee EV Line and Automations.

## 3 Overload protection

Smappee prevents fuses from blowing by managing energy flows in such a way that less power goes to e.g. EV chargers when users start cooking or when a production line is running at full capacity.

## 4 Optimised self-consumption

Instead of returning excess energy to the grid, Smappee's dynamic load balancing technology ensures that 100 % of the generated solar power is used by sending it to smart devices, HVAC, EV chargers or batteries.

## 5 Smart EV charging

Smappee allows for easy and secure charging of your car(s) while cleverly managing your building's energy flows. Benefit from autonomous overload protection, tariff optimisation, optimised self-consumption and a clear overview of charging costs.

## 6 Add intelligence to smart meters

Smappee's smart meter module reads the smart meter and offers consumers valuable insights into their energy consumption allowing them to save energy and money. Utilities can custom-create the Smart meter module, app, dashboard and packaging.

## 7 Grid monitoring

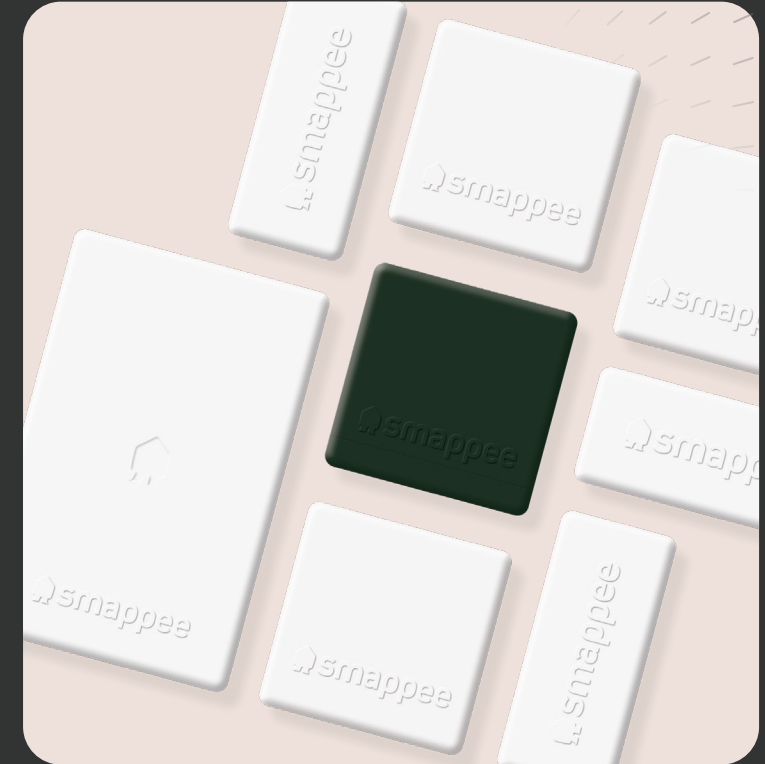
Use Smappee to monitor the energy flows in the transformer cabins. Based on Smappee's insights, energy flows can be shifted to different phases or a battery or larger transformer can be installed to restore the balance and thus safeguard the grid's proper functioning.

## 8 Turnkey energy solutions

Smappee is your one-stop partner, with a suite of vertically and horizontally integrated solutions. Smappee monitors not just consumption but also production, providing granular real-time, historical and projected data down to the appliance level. In addition to a full range of data options, we also help facilitate custom-made control of appliances to further optimise energy usage for energy efficiency projects.

## 9 Complete submetering

Smappee offers the most complete and comprehensive set of submetering options available on the market allowing your company to lock in the level of accuracy, installation requirements and budget that best fits your specific needs.







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