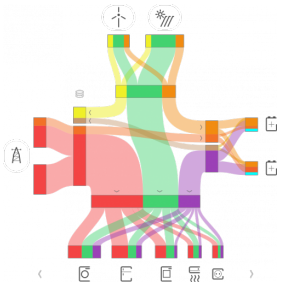
HEMS Introduction

Home Energy Management System (HEMS) is a system for:

- monitoring electricity flows at home (consumption, production and storage),
- control of key consumers,
- optimizing consumption in terms of reducing consumption and using cheaper energy to ensure the same comfort with lower costs.



Control system

It consists of an advanced HEMS controller (HC-IQ-HEMS), a suitable power supply (PS-IQ), and communication interfaces for meters, and consumer management devices (CAD-232-A2-IQ, GW-WN-W and GW-ENO-IQ).

Sources and consumers measurements

The measurement of electrical power and energy is provided by single-phase (PM1-E-D) and three-phase (PM3-I-D) meters, which are connected directly to CAD-232-A2-IQ or via a wireless bridge (BR-WN-W) to the HEMS controller.

Load managers

Are used for control of managed device. Wired load managers (relays, power-relays) are toggling power supply or enabling signal for the operation of the device. They are controlled directly from HC-IQ-HEMS.

HEMS also enables the use of various wireless load management devices:

- Wireless socket SC1-WN-F,
- Wireless relay RL1-WN-W,
- Wireless DIN rail power meter PM1-WN-D and
- Wireless on wall power meter PM1-WN-W,

which in addition to switching, also measure the consumption of these so there is no need for additional power meter.

Control devices

Are used for manual control of managed devices. Push-buttons are directly wired to HEMS controller, but also wireless push-buttons (PB-ENO) are supported.

Sensors

Sensors captures additional information about controlled devices, which can help optimization of load management. Supported sensors are:

- Room temperature and humidity sensor (TS-H)
- 12 temperature sensors S-PT1000 connected to AIR-12
- Wireless room temperature and humidity sensor (TSH-WN-W)
- Wireless module which allows to connect up to 2 temperature probes and 2 digital signals (TDI-WN-W)