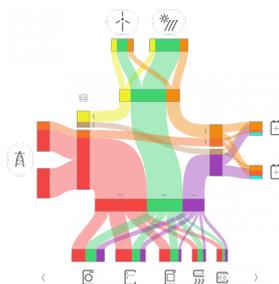


# HEMS Introduction

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.

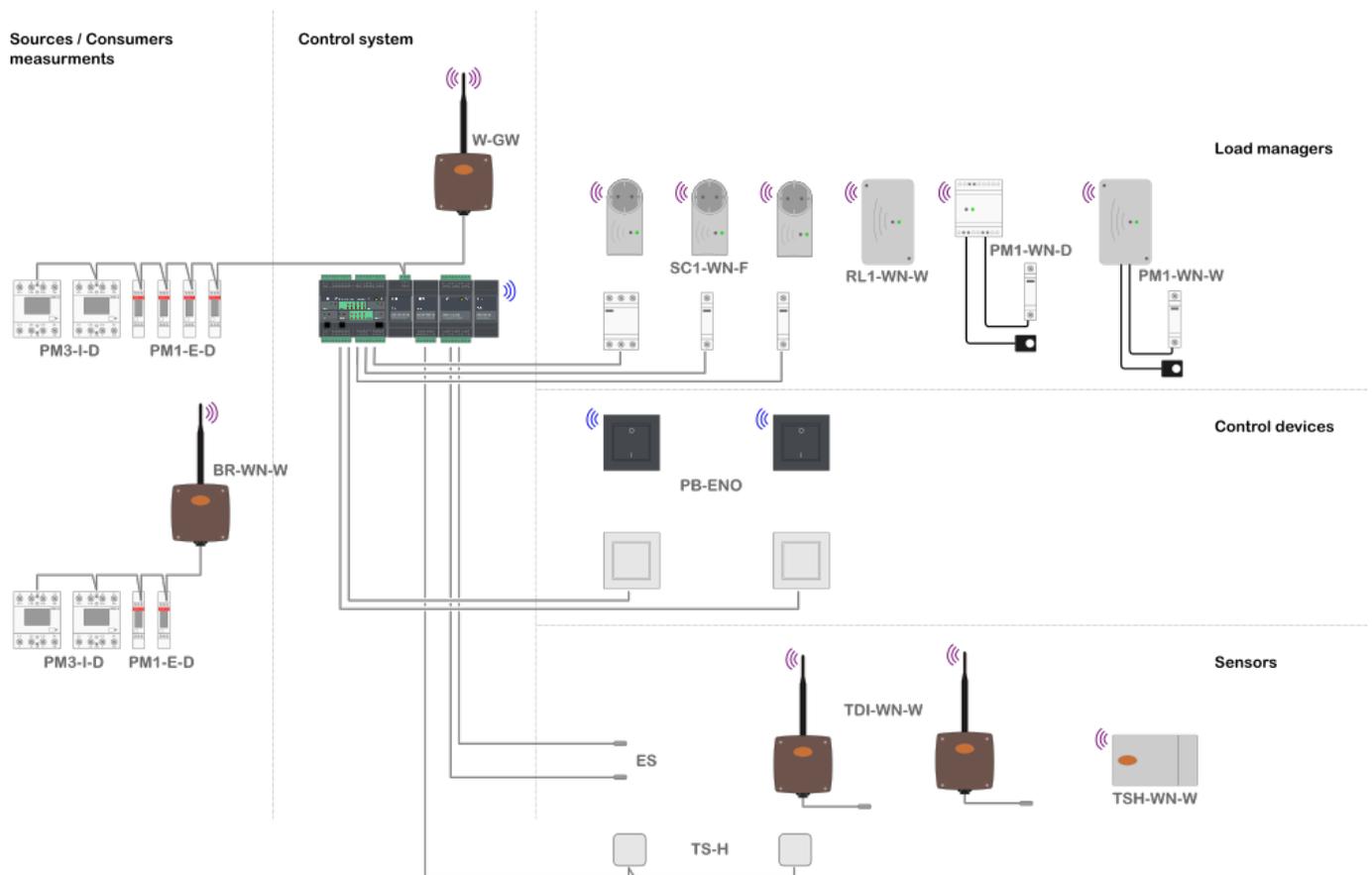
## Control devices

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)



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