

HEMS v1.2.0 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,
- current limiting of consumers to protect main grid fuse,
- managing charging of electric vehicles (EV fleet)



HEMS Controller

It consists of an HEMS master controller ([MC-230](#)).

Temperature sensor

Temperature sensor is directly wired ([Digital temperature sensor](#)) or paired ([Wireless temperature sensor](#) and [Wireless temperature and humidity sensor](#)) to the HEMS master controller [MC-230](#). Only one temperature sensor can be added.

Power sensors

The measurement of electrical power and energy of all energy sources and main electrical consumers is provided by single-phase ([PM1-E-D](#)) and three-phase ([PM3-I-D](#) and [PM3-E-D](#)) power sensors which are connected directly to HEMS master controller [MC-230](#). It supports:

- **1 grid** power sensor
- up to **3** sensors for local power **plants** (PV, Wind, Cogeneration, Generator, etc)
- up to **2** local **storage** systems (home battery)
- up to **8** managed **consumers** (electrical heating, EV charging station, electrical domestic water heater, washing machine, tumble dryer, ...)

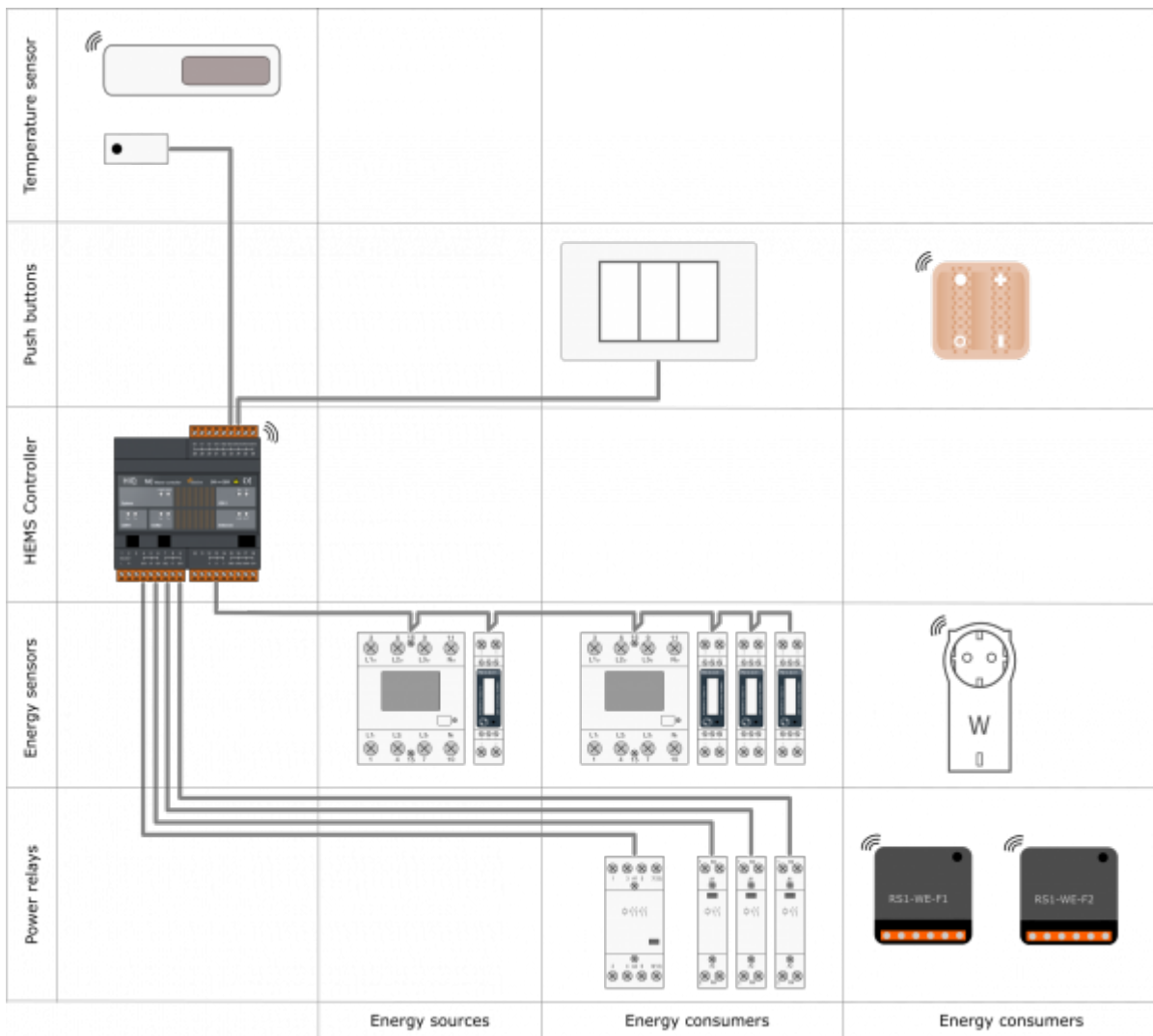
The measurement of main electrical consumers is also possible with wireless modules ([Metering smart plug](#) and [Micro smart plug](#)) which are paired to HEMS master controller [MC-230](#). It supports up to **8** managed **consumers**.

Power relays

Are used for control of managed consumers. Power relays are toggling power supply or enabling signals for the operation of the device. They are controlled directly from HEMS master controller [MC-230](#).

Push buttons

Are used for manual control of managed devices. Push buttons are directly wired or paired ([Soft remote](#)) to HEMS master controller [MC-230](#).



EV chargers

Are used for charging electric vehicles. They are controlled from HEMS master controller MC-230 via Modbus TCP/IP gateway.

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