# SEM at a glance

#### What is:

SEM is a smart device aimed to maximize the on-site consumption of the energy produced by renewable sources.

### How it works:

The SEM device

- measures the energy produced by renewable sources

- measures the energy consumed by its own home electrical system

automatically optimizes the on-site
consumption of the electrical energy by
switching on/off possible combinations of loads

defined by the user

# Main features:

- For single-phase and tri-phases systems up to 20kW
- Universal: Applies to any plant regardless of
- the inverter or counters installed
- Easy to install and use without any kind of manumission
- Local data monitoring and storage
- Controls up to 4 timed/untimed loads;
- Manages up to 12 combinations of loads.
- Web-Server on board for:
- monitoring of the plant;
- system management;
- consulting historical plant data up to 13 months





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# SEM - Stn Energy Manager -

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Self-consumption, indeed, is by far the most convenient way to exploit energy from renewable sources. The aim of SEM is to self-consume all the energy produced by the renewable energy plant.



A SEM device package includes:

- the device itself
- 2 current sensors that allow the SEM to perform the measurements of energy production and consumption
- a 6V power supply
- an installation DIN rail.
- The SEM is equipped with:
- 4 relay outputs able to control loads to 230Vac, 10A, and signals of 1A 24V AC / DC.
- quick connections and wiring through terminal blocks;
- LAN network port.
- **OPTIONAL:**

8 relay outputs module to increase the number of controlled loads up to 12 and increase number of combinations of loads up to 20.

SEM is still able to handle up to 12 combinations of loads, so one can create more customized combinations, allowing the energy consumption to follow the daily-production curve. Each SEM device can be controlled and programmed through an intuitive and easy-to-use web interface.

On the home page of SEM interface, the status of the power plant is displayed in real time, allowing monitoring:

- the energy produced by renewable sources
- the total energy consumed by the plant to which SEM is
- connected

• the status (on-off) of the loads connected to the SEM device

When the energy produced by renewable resources exceeds the consumption of the plant, the SEM device activates new loads based on the combinations of loads set by the user; this way the energy consumption follows the energy production, allowing to minimize the energy transferred to the electricity grid.

The operating data concerning the last 13 months are stored by the SEM device, and can be consulted on the web interface. The data can be also downloaded on a PC in a .csv format file, to allow the user to analyze and optimize the efficiency of the system.

SEM is a smart device developed with the aim of maximizing the on-site consumption of the energy produced by renewable sources.

(Logil)

