

FEMS App Self-Consumption Optimization

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1. Introduction

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Dear customer,

Thank you for choosing the "FEMS App Self-Consumption Optimization". You are welcome to send us your suggestions so that we can further improve the quality of our products.

2. Installing the app

The FEMS App Self-Consumption Optimization is installed by default on all FENECON Home and Commercial systems.

With FENECON Industrial S, Self-Consumption Optimization can be optionally selected during installation. For all other Industrial systems, FENECON carries out the installation of the app.

3. FEMS App Self-Consumption Optimization

In combination with a PV system, a combined heat and power plant (CHP) or a wind turbine, the Self-Consumption Optimization is the most common application for an electrical energy storage system.

3.1. Functionality

The control algorithm ensures that the proportion of self-used energy ("self-consumption") is optimized. To this end, the electrical energy storage system is always charged when generation is greater than consumption and discharged when generation is insufficient to supply the electrical consumer loads. This is technically equivalent to an adjustment to "0" at the grid connection point, i. e. avoiding grid withdrawal and grid feed-in. Netted active power values (totaled across all three phases) are used here.

3.2. Visualization and configuration in the Online Monitoring

The amount of self-consumption can be viewed in Online Monitoring via the associated flat widget:

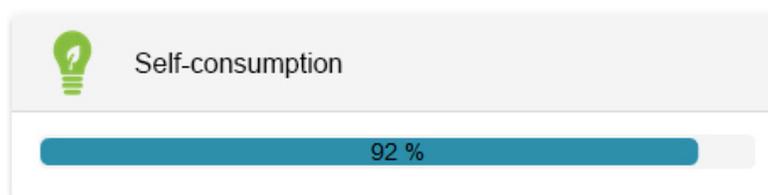


Figure 1. Flat widget — Self-consumption optimization

In the example above, self-consumption is 92 %. This means that 92 % of the electricity generated is consumed.

A click on the "History" tab displays the self-consumption as follows:

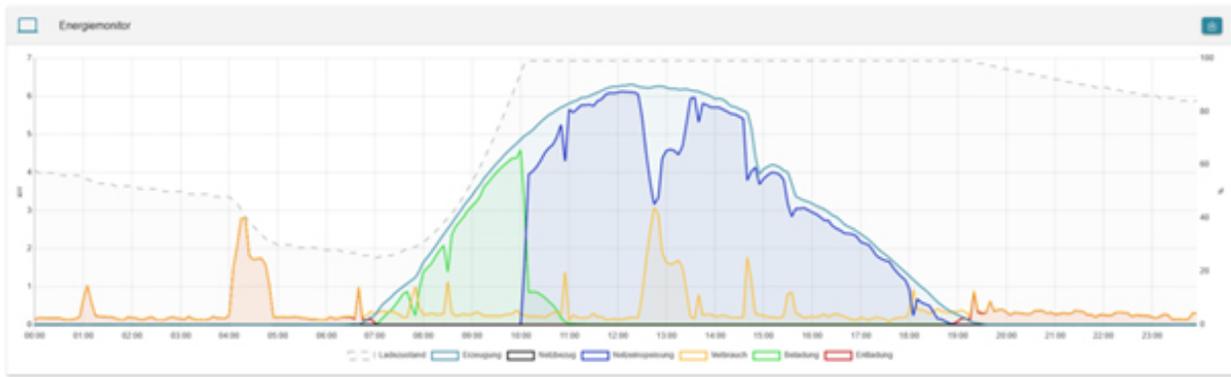


Figure 2. Self-consumption optimization — History in the Online Monitoring

The picture shows: The energy produced by the PV system that is not directly consumed charges the battery (green) until it is full (dashed line). From then on, the surplus energy is fed into the public grid (blue). In the evening, the electrical energy storage system discharges again (red) to supply consumers (yellow).

3.3. Configuration in the FEMS App Center

The controlled electrical energy storage system and the meter for adjustment can be selected in the App Center. The default settings are ess0 and meter0: grid meter.

Self-consumption optimisation

Alias	Self-consumption optimisation
Ess-ID*	ess0: Storage system ▼
Grid-Meter-ID*	meter 0: Grid meter ▼

UPDATE APP
UNINSTALL APP

Figure 3. Configuration of the FEMS App Self-Consumption Optimization

4. Self-consumption optimization 2.0



FENECON offers various FEMS Apps that extend self-consumption optimization and make the electrical energy storage system demonstrably more grid-friendly and economical.

- [FEMS App Grid-Optimized Charging](#)
- [FEMS App Time-of-use tariff](#)

It is also possible to use surplus PV in controlled consumer loads:

- [Power-to-Heat](#)
- [E-Mobility](#)

5. Contact

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6. Directories

6.1. List of illustrations

Figure 1. Flat widget — Self-consumption optimization

Figure 2. Self-consumption optimization — History in the Online Monitoring

Figure 3. Configuration of the FEMS App Self-Consumption Optimization