

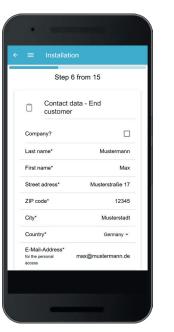
## **FEMS**

**FENECON Energy Management System** 

### **FEMS**

**FENECON Energy Management System** 





From commissioning

on 30.06.2024 at 09:00

From service assistance

to real-time visualization.

Awattar

to Energy Journey.



From control

Live demo

E-Mail: demo@fenecon.de

Password: femsdemo



to detailed historical data.

### **Open interfaces**

FEMS integrates perfectly into your existing infrastructure. Whether SCADA control system or smart home. Using open APIs (Modbus/TCP, REST/JSON), data from FEMS can be effectively processed in different environments. While read access is included already within the standard scope of delivery, write access can be purchased additionally as an app.





### Load management

Experts can switch additional loads automatically or manually based on the grid feed-in, the state of charge or other threshold values.











FEMS is built on ,OpenEMS' (Open Energy Management System), an open-source operating system designed for the energy transition and initiated by FENECON. The source code of OpenEMS is continuously developed in collaboration with an international community of private individuals, companies, scientific institutes and universities within the OpenEMS Association.

PV inverter and energy meters

forecast.

using separate meters.

For most energy management applications, only the

measurement at the grid connection point is required.

For proper display of energy flows in the online moni-

toring and forecast-based use cases, all generators

must be measured to ensure a correct consumption

FEMS can communicate directly with a large number of

PV inverters. Alternatively, all other AC generators can also be integrated into the energy management system

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## "The brain of every FENECON energy storage system"

### Full transparency

View historical and live data locally or via the Internet on your PC and cell phone at any time

### High-performance hardware

Local artificial intelligence for consumption and production forecasts and AI-optimized energy plans

### Energy Journey

Lifetime free updates and extendible with apps

### Apps: buy once – use forever

One-time purchase, no recurring costs

### Made in Germany

Development team and servers in Germany, data protection and IT security according to German law

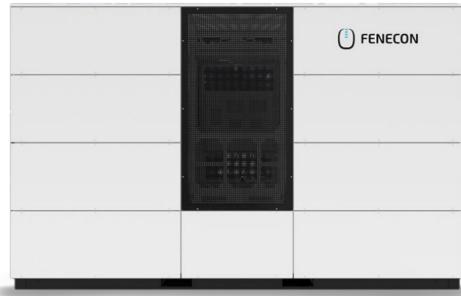
### Globally connected

Developed as open source together with the global OpenEMS community from 52 countries

### Included in every storage system

For FENECON Home, Commercial and Industrial





### **FEMS**

**Sector coupling** 

### FEMS

Commercial and Industrial



#### PV self-consumption

"Energy is being produced during the day and consumed at night" - this is the conventional use case scenario for energy storage systems. With FEMS, even higher energy yield from the PV system can be achieved.

This increases the efficiency of your entire system and protects the power grid.



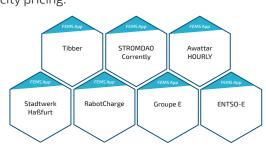
# **PV self-consumption**Optimize self-consumption and self-sufficiency



**In summer**Avoid curtailment and charge batteries gently

### Optimized for time-of-use tariffs

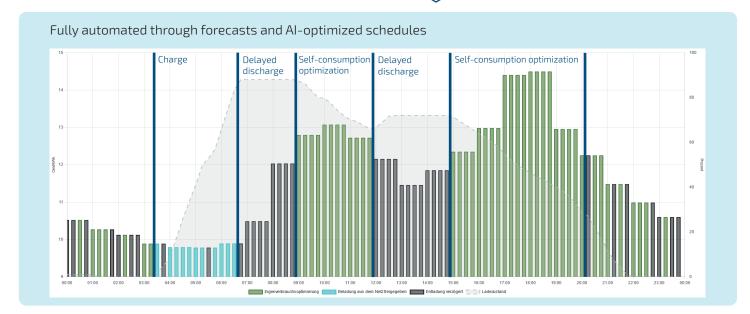
The FEMS App Time-of-Use Tariff combines local production and consumption forecasts with the dynamic electricity prices provided by your energy supplier. Using AI, it automatically generates an energy plan to determine optimal times for consumers to draw power from the battery or the grid, and when to charge the battery from the grid. This ensures that FEMS not only maximizes self-consumption from your photovoltaic system but also optimizes the remaining electricity consumption based on real-time electricity pricing.





#### In winter

Buy the remaining electricity at the best time



### Adjustable according to §14a EnWG (German energy law)

German Energy law (EnWG) §14a regulates the handling of controllable consumption devices such as heat pumps, wallboxes or energy storage systems. With this amendment, grid operators have been able to temporarily dim the output of these devices to 4.2 kW in the event of imminent grid overloads since January 1, 2024. Our residential storage systems are ready for this new regulation.

### E-Mobility

Whether for solar-optimized home charging or semipublic and public EV charging parks, the FEMS apps for e-mobility offer comprehensive coverage. You can select from a range of compatible AC and DC wallboxes. With its modular design, the system can grow and adapt to meet your changing requirements.





Nulti-charging poin

management

### Heating

Integrating a heat pump or heating element into the energy management system allows you to further optimize self-consumption from your PV system, making you more independent of fossil energy sources.





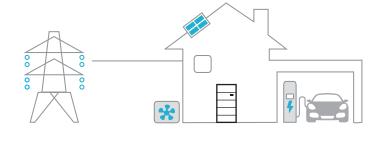


### Standard apps for your individual project

Standardized FEMS apps transform a versatile FENECON Commercial or Industrial storage system into the perfect solution for various projects. The integrated App Centre allows for quick and easy switching and combination of applications.

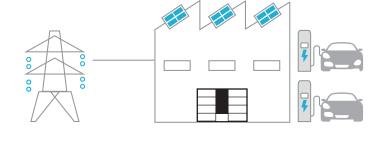
In practice, a storage system can be used to avoid the need for short-term grid expansion for a charging park or to bridge the waiting period for a transformer. If necessary, the system can switch to phase-accurate blackout protection or peak-shaving to mitigate high power prices. Additionally, power and capacity can be marketed through the proven interface to various trading service providers.

### **Example system configurations:**



#### **FENECON** Home

optimizes self-consumption with PV system, wallbox, heat pump and uses dynamic electricity tariffs.



#### **FENECON Industrial**

avoids grid expansion with PV system, several charging stations and peak shaving app.

