SALES ARGUMENTS ENERGYMANAGER - OVERVIEW

The EnergyManager measures, switches and visualizes all processes of the photovoltaic system and the appliances in the household.

1. Optimizing self-consumption

- Monitoring of the solar power production.
- Metering data acquisition and intelligent switching of electric consumers in real time.
- Optimization of self-consumption and therefore reduction of electricity costs.

Conclusion: Increase of self-consumption and reduction of electricity costs through intelligent use of solar power.

2. Monitoring

- Easy access to all energy data of the house from any place at any time.
- Reduction of power consumption through transparency and optimization.
- Remote access for maintenance purposes possible with Installer Center.
- Displaying of all inverters installed in the system in one interface.

Conclusion: Visualization of all EnergyManager data. Access to current and past energy data of the house anytime and anywhere.

3. Open system

- Systematically expandable by connecting new electric consumers, like Ego Smart Heater, keba Wallbox, MyStrom or further PV installations.
- Connection of any number of PV-systems incl. inverters.
- Possibility to lodge different feed-in tariffs.

Conclusion: Developed as an open system, the EnergyManager works perfectly with almost any system due to various interfaces.

4. Highest level of data security

- Data is stored on German servers, protected from unauthorized access with SSL encryption according to online banking standards.

Conclusion: Highest data security levels through SSL security protocols. This corresponds with the security standards of online banking.

SALES ARGUMENTS ENERGYMANAGER – FURTHER INFORMATION

1. Optimizing self-consumption

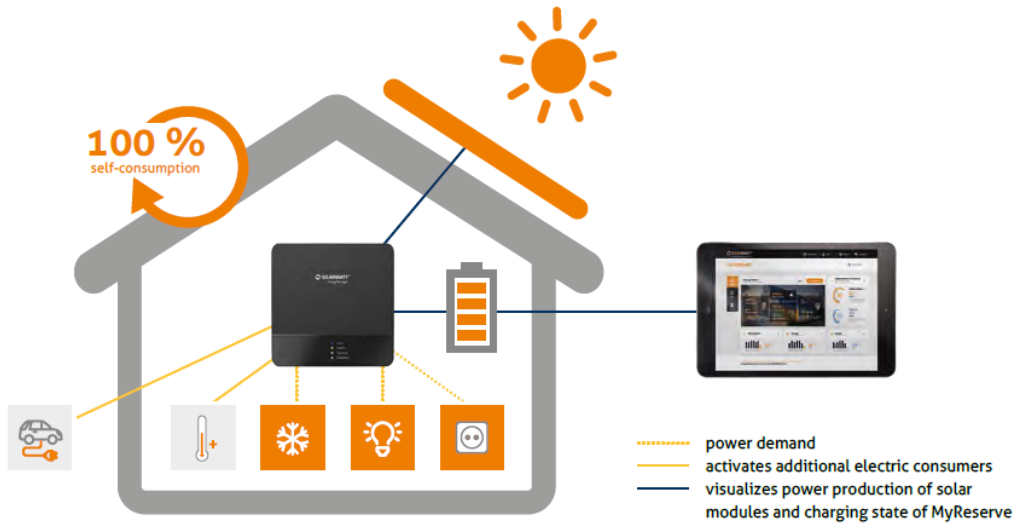
The EnergyManager monitors, controls and regulates all energy flows in the house. It gathers all measured data in real time enabling immediate control. The automatic or manual control of consumers optimizes self-consumption and avoids unnecessary grid feed-in, resulting in an increase of self-sufficiency.

Automatic, forecast-based switching and controls

- The EnergyManager creates both an output forecast for the PV-system and a demand forecast for the connected consumers.
- Considering these forecasts, a self-learning, automatic energy management takes place.
- If there is a solar power surplus, the EnergyManager turns additional appliances on aiming to use as much solar power as possible directly in the house.
- In order to optimize the charging behaviour of the MyReserve battery, the EnergyManager transmits output forecasts of the PV installation and the demand forecast to the battery system.

Individual control of appliances

- Users have the possibility to configure various details like a prioritization, individual switching thresholds (level of solar surplus), time frames and operating times, to individualize the entire system to their needs and wishes.



Conclusion:
Increasement of self-consumption and reduction of electrical bills through intelligent controls of energy flows in the house.

2. Monitoring

Full transparency, from everywhere at any time:

- The EnergyManager Portal is a browser-based application offering anoverview of all energy data of the house, accessible from anywhere anytime.
- The energy data is neatly displayed for each topic in individual dashboards, enabling detailed reporting for individual PV components and the connected consumers.
- Thanks to the clear visualization of the consumer's energy data, power guzzlers are identified and consumption is optimized with the aim to reduce energy bills.
- The data is measured in real time and the switching of consumers is available without delay.
- The data of any time period can be viewed and exported as CSV. It can thus be used for annual balancing and traceability of energy flows or as reporting in tax returns.

One monitoring for all inverters:

In comparison to conventional energy management systems, the EnergyManager Portal allows all connected inverters to be viewed in one monitoring, regardless of how many inverter brands the system contains (also in the Installer Center if approved).

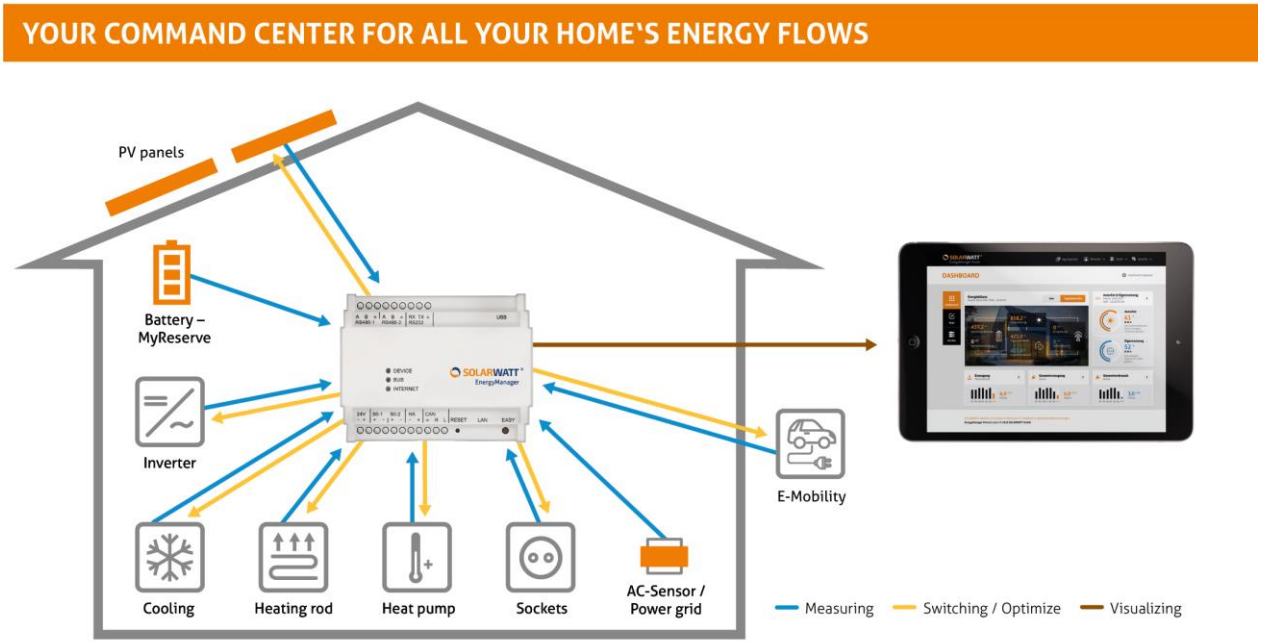
Remote maintenance by the installer:

- The InstallerCenter is an independent solution. It is independent from the EnergyManager Portal of the end customer, but in the same cloud.
- After the explicit consent / approval by the customer, the installer can monitor the data of the solar system and all connected devices. In case of failure, remote diagnosis is immediately possible and sometimes even direct troubleshooting.
- The installer sees a list of all his customer's systems including connected appliances in his user interface. Flawed systems can be identified immediately through a status indication.

Conclusion:
Visualization of all EnergyManager data. Access to current and past energy data of the house at any time and from any location.

3. Open system - high compatibility with common standards

- The EnergyManager has been developed as an open system for inverters, heat pumps, etc. and works perfectly with almost any system due to its various interfaces (RS485, 323, So, MBUS, CAN).
- Systematic expandability: Addition of new consumers such as Wallbox, Ego Smart Heater, MyStrom or further PV systems possible without any problems = investment security.
- Any number of PV installations and inverters can be connected to the EnergyManager. Different feed-in tariffs can be lodged for the PV systems.
- With additional devices, EnergyMeter or Digital Extension, further consumers like heat pumps or water heaters can be coupled with the EnergyManager and therefore metered and controlled.



Conclusion:
Developed as an open system, the EnergyManager works perfectly with almost any system through various interfaces.

4. Highest level of data security

- VPN tunnel according to IPSec standard and secure protocols (SSH/SSL, SFTP, HTTPS). Data retrieval through security standards of online banking.
- Data is stored on German severs, run by German companies.
- EnergyManager is certified as a smart meter gateway according to technical guideline TR 03109 of the BSI (German Federal Office for Information Security).

Conclusion:
Highest level of data security due to SSL encryption according to standards of online banking.