



Make Your Energy Work More Efficiently for You.  
Monitoring and Managing PV Plants with Solar-Log™

# Smart Energy with Solar-Log™

## Clever control of self-produced power consumption

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A photovoltaic plant is worthwhile, despite falling feed-in tariffs. Now the financial benefit comes from self-produced power consumption. Every kilowatt-hour consumed locally means purchasing less kilowatt hours from the grid. Thus you save money, especially with increasing electricity prices. For example, in Germany the surplus power can still be fed into the public grid and one will receive a guaranteed feed-in remuneration.

## Solar-Log™ – The intelligent Energy Management System



### Solar-Log™ and EGO Smart Heater – intelligent heating with PV power

Surplus PV power is used to heat water that is stored in combination storage tanks. This made-in-Germany system offers an enormous savings potential, especially in the summer and in transitional periods.

### Effective use of heat pumps for energy storage

Solar-Log™ controls the heat pump and provides it with surplus PV power. A heating system can be used as a buffer storage when using a heat pump.

### Charging Station E-Mobility

The Solar-Log™ ensures that electric cars are charged with the maximum amount of available power from the PV plant – cost effective and environmentally friendly at the same time. Even when there is not enough power available from a photovoltaic plant, the Solar-Log's "Surplus/Minimum Charge" function can be set to keep the charging process running.

### Battery Storage - Monitoring

Battery storage systems are the ideal solution to store produced power from a PV plant for self-consumption. Solar-Log™ visualizes battery power – charge and discharge levels.

### Battery storage – forecast-based charging time shifts

Solar-Log™ intelligently manages battery charging. Currently in combination with battery storage from Varta and the Solar-Log 300, 1200, 1900 and 2000 models and the Solar-Log WEB Enerest™ online portal.

### Example, see the following graphic:

The Daily Overview displays a sunny day with high power production (yellow) and the amount of self-consumption (green). The weather forecast indicates that there will be moderate temperatures and strong solar irradiance for this day. As a result, a maximum PV yield is expected. The amount of feed-in power from a 5 kWp PV plant is limited to 60 % of the installed module output according to the requirements of the German Renewable Energies Act (EEG). In order to prevent generated power from being wasted, it is consumed locally.



# Detect power outages quickly

Unmonitored plants can have power outages, deterioration, and defects that can go unnoticed for several weeks or even indefinitely. This can be costly, especially in the summer months.

## Example: Complete failure of an inverter

### PV Plant

Total Power	5.4 kWp
Inverter power	5.4 kWp
No. of inverters	1
Location	Germany
Feed-in Tariff	0.123 €/kWh
Electricity purchasing costs	0.26 €/kWh
Plant completion	April 2017

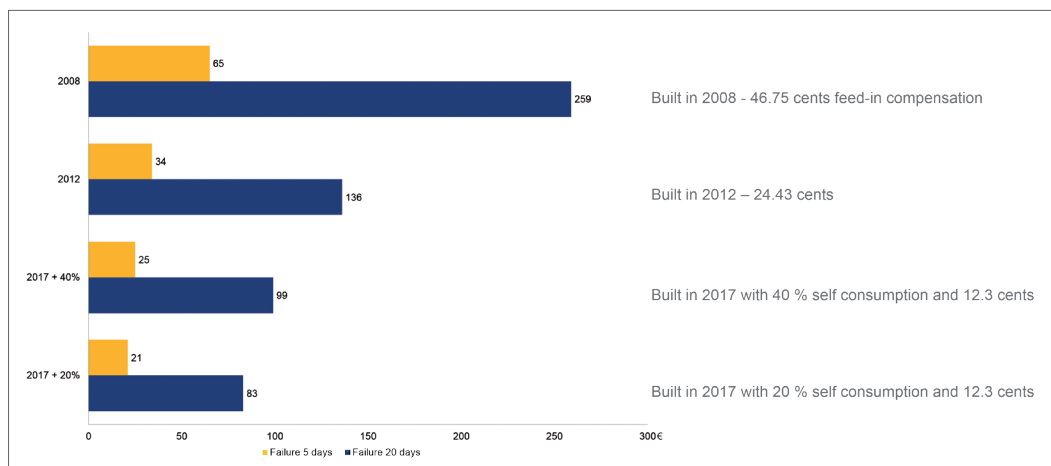
If the inverter failure is not detected for 20 days due to inadequate monitoring, there is a financial loss of 68.20 €.

### Calculation

Yield July 2017	860 kWh
Feed-in Tariff	0.123 €/kWh
Average yield loss per day	(5.1 kWh/kWp) 27.74 kWh
Monetary loss per day	554.8 kWh
Monetary loss per day	3.41 €
Monetary loss in 20 days	68.20 €

A professional monitoring system would detect such malfunctions immediately. The loss in this case would have only been 17.05 € if the problem was resolved within five days.

## Plant comparison in regard to self-consumption



# Solar-Log WEB Enerest™

## Keeping a close watch on your system

With its M, L and XL service packages, Solar-Log WEB Enerest™ online portal provides the perfect solution for every PV plant. Would you like yield certainty, comprehensive and professional plant maintenance and easy access to your yield and plant data? Then, the all-inclusive service package from your installer and service provider is the right solution for you.

Would you like to monitor your PV plant yourself? This is possible free of charge with the Solar-Log WEB Enerest™ Home version. This solution provides the basic functions of PV plant monitoring up to 30 kWp. Decide which solution fits your needs.



## PV Plant Data always Available

### With the App for the Solar-Log WEB Enerest™ Portal

The app with its modern design and user-friendly operating concept is available free of charge for smartphones and tablets. It offers many features and interactive graphics, for example, a single PV plant can be presented on a pinboard with customized views. Current and historical plant data, as well as data from connected components such as heat pumps and heating rods, can be visualized. The News Center keeps users informed and up-to-date.



# An overview of our products

## Gateway Solar-Log 50 – data transfer to Solar-Log WEB Enerest™



The Solar-Log WEB Enerest™ online portal in combination with the Gateway Solar-Log 50 provides reliable and cost-effective PV plant monitoring. This new solution is especially attractive for the price-sensitive market segments of plants up to 15 kWp and all existing plants.

The Solar-Log 50 provides all of the relevant information including PV yields and power consumption, to the Solar-Log WEB Enerest™ online portal. The Portal processes the recorded data and offers numerous reporting options and analysis tools for the efficient monitoring and use of your PV energy.

Technical Data		Solar-Log 50
Basic Functions	Inverter: Monitoring and power reduction to x %	Ethernet RS485 (4 pole) or RS422 <sup>1)</sup> (6 pole)
	Battery storage: Monitoring	Ethernet RS485 (4 pole) or RS422 <sup>1)</sup> (6 pole)
	Meter	RS485 (2 pole)
	Maximum number of components	5
	Maximum plant size	15 kWp

## The Solar-Log™ product line offers numerous options

Just the right Solar-Log™ system for optimum monitoring, no matter how large your plant or what conditions are present on site, Solar-Log™ monitoring systems can be customized to your needs. All Solar-Log™ devices are available with several different options and features for plants up to 15 kWp, 100 kWp or 2000 kWp. Benefits include the intelligent control of energy, feed-in management, and professional monitoring of PV plants including comprehensive visualization and customizable reporting options.



### Product comparison

	Solar-Log 300	Solar-Log 1200	Solar-Log 1900	Solar-Log 2000
Plant size	for small PV plants up to 15 kWp	for mid-size PV plants up to 100 kWp	for large plants up to 2000 kWp	for large plants up to 2000 kWp
Display and operate using the Color TFT Touch Display	-	●	-	●
Graphic visualization – PC local and Internet	●	●	●	●
Consumption of Self-produced power: Visualization and control of external electrical appliances	●	●	●	●
Consumption of Self-produced power: Power meters	●	●	●	●
Reduction to x % (with and without the calculation of self-consumption)	●	●	●	●
Reduction to x % (with adjustable fixed reduction)	●	●	●	●

## 10 Reasons for investing in a Solar-Log™ monitoring system

- 1 Solar-Log™ immediately transmits error messages online or to mobile devices to guarantee yield certainty.
- 2 Gain independence over rising energy costs by using the self-consumption performance feature.
- 3 Easy-to-use display directly on the device as well as online access for remote operation.
- 4 It is easy to connect the Solar-Log™ to the network without any software installation.
- 5 The best price/performance ratio for top-notch monitoring.
- 6 The Solar-Log™ monitoring system provides protection on your ROI and offers the bank security it needs.
- 7 Increased property values due to having a PV plant installed with self-consumption power management.
- 8 Convenience and certainty when used with a service contract from a monitoring specialist who will take care of things.
- 9 Demonstrates your active concern for environmental protection.
- 10 Solar-Log™ devices are made in Germany, to the highest quality standards, by the world's market leader.

## Our Partners for Smart Solutions



Subject to change without notice.

Solare Datensysteme GmbH

[www.solar-log.com](http://www.solar-log.com)

