

+ Sonnenbatterie *eco*

Use self-generated
electricity and save!



Safe



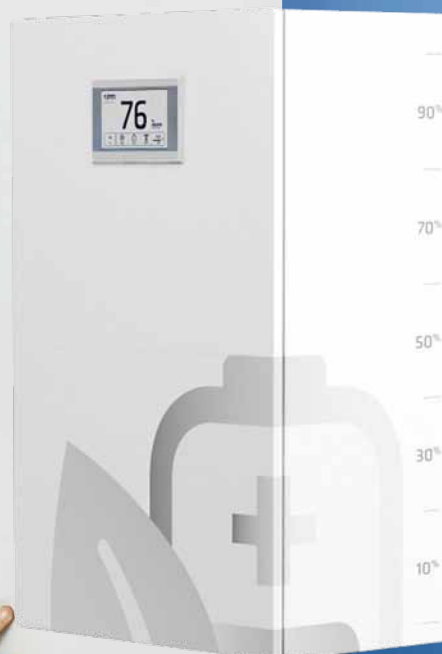
Cost-effective



Compact



Extendable





The Sonnenbatterie **eco** delivers real savings, both day and night.

The *eco* brand represents significant cost-effectiveness without compromising the high level of quality and convenience consumers have come to expect.

Sonnenbatterie, a pioneer in intelligent electricity storage technology, has developed a more compact device which, thanks to its high degree of standardization and modular design, can be made available at a significantly lower price. The Sonnenbatterie *eco* is the right choice for every home and every budget.

Simple, fast installation

The Sonnenbatterie *eco* is now easier and quicker to install, saving time and money. Whether the unit is wall-mounted or free-standing, its sleek, compact design is attractive and adaptable to any room size.

Intuitive operation

User operation has been made simpler thanks to the controller-based, integrated touchscreen. Multi-touch gestures allow access to operating modes, charge supply, and other system information. An optional elegant background illumination on the device gives the Sonnenbatterie *eco* a sophisticated appearance.

Technical data Sonnenbatterie *eco*

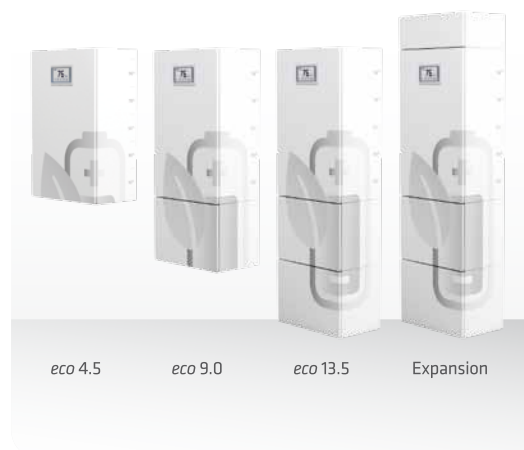
	<i>eco</i> 4.5	<i>eco</i> 9.0	<i>eco</i> 13.5	Expansion <small>individual units</small>
Battery capacity	4.5 kWh	9 kWh	13.5 kWh	4.5 kWh
Usable capacity (max. 80% DoD)	3.5 kWh	7 kWh	10.5 kWh	3.5 kWh
LiFePO ₄ battery	✓	✓	✓	✓
Weight	140 kg	200 kg	260 kg	60 kg
Dimensions W/H/D	56/90/35	56/130/35	56/170/35	56/40/35
Continuous output	2,500 W	3,000 W	3,500 W	See the <i>eco</i> type for details
Maximum efficiency of inverter				96%
Maximum efficiency of battery				98%
Cell design	80 % depth of discharge for a long calendar service life and high cycle durability > 5000 cycles			
Ambient temperatures				0 - 40 °C
Protection against dust and moisture				IP 21
Operating mode	Grid-parallel, single phase with three-phase measurement			
Emergency power capability				✓
Tests/Directives	VDE AR-4105/CE/UN 38.3 low-voltage directive			
Permitted grid types				TT, TN

Upgrade and expand your system at any time

The new modular design provides ease of adaptability to your individual needs. The system is available in a variety of storage capacities and configurations, allowing for flexibility and expansion whenever necessary. With a choice of wall-mounted or free-standing installations, Sonnenbatterie *eco* will perfectly suit any home interior. Optional extras are available, such as radio-controlled power outlets or elegant background illumination for an intuitive overview of the operating status.

New standards in terms of cost-effectiveness

The Sonnenbatterie *eco* raises the bar for cost-effectiveness of electrical storage systems. Coupled with a photovoltaic system, the Sonnenbatterie *eco* can provide a power supply at a significantly lower price than currently available in the market. Your electricity costs will remain essentially frozen for the next 20 years. Sonnenbatterie customers can easily achieve a self-generated consumption rate of up to 80 % over an entire year by using a combination of a PV system and storage technology. This will not only result in a significant drop in electricity bills, but will also ensure an almost continuous power supply from your own roof – with no CO₂ and no grid expansion. This is truly “green power.”



You can now start your own energy revolution and put the brakes on rising electricity bills!

We reserve the right to make technical changes.

The values, outputs, other technical data, images, and diagrams in this prospectus and in data sheets, advertisements, and other promotional documents are approximate guidelines in all cases where they have not been identified as binding.



System monitoring

The Sonnenbatterie includes an integrated web server that allows for monitoring and controlling the system from any location at any time, using any of three convenient methods:



- ✓ **Touchscreen**
- ✓ **The free Sonnenbatterie app**
- ✓ **“Meine.Sonnenbatterie.de”
online portal**



Remote control



Operation of appliances



House monitoring



System monitoring

All relevant information is presented in a simple, clear manner, making evaluation and analysis as simple as child's play! Users can have fun researching their load profiles of power generation and consumption, and can even identify additional potential savings.

Active energy manager

The Sonnenbatterie's intelligent, integrated measurement devices detect when excess solar power is available that is not required for self-consumption or for charging the battery. In order to further increase your consumption of self-generated electricity, the Sonnenbatterie may then automatically switch on your heat pump, for example. Up to three electrical devices can be switched using optional remote-controlled power outlets. Thus, energy-intensive equipment – washing machines, dishwashers, or electrical heating systems – can run on excess solar power, further reducing the use of grid-supplied electricity.

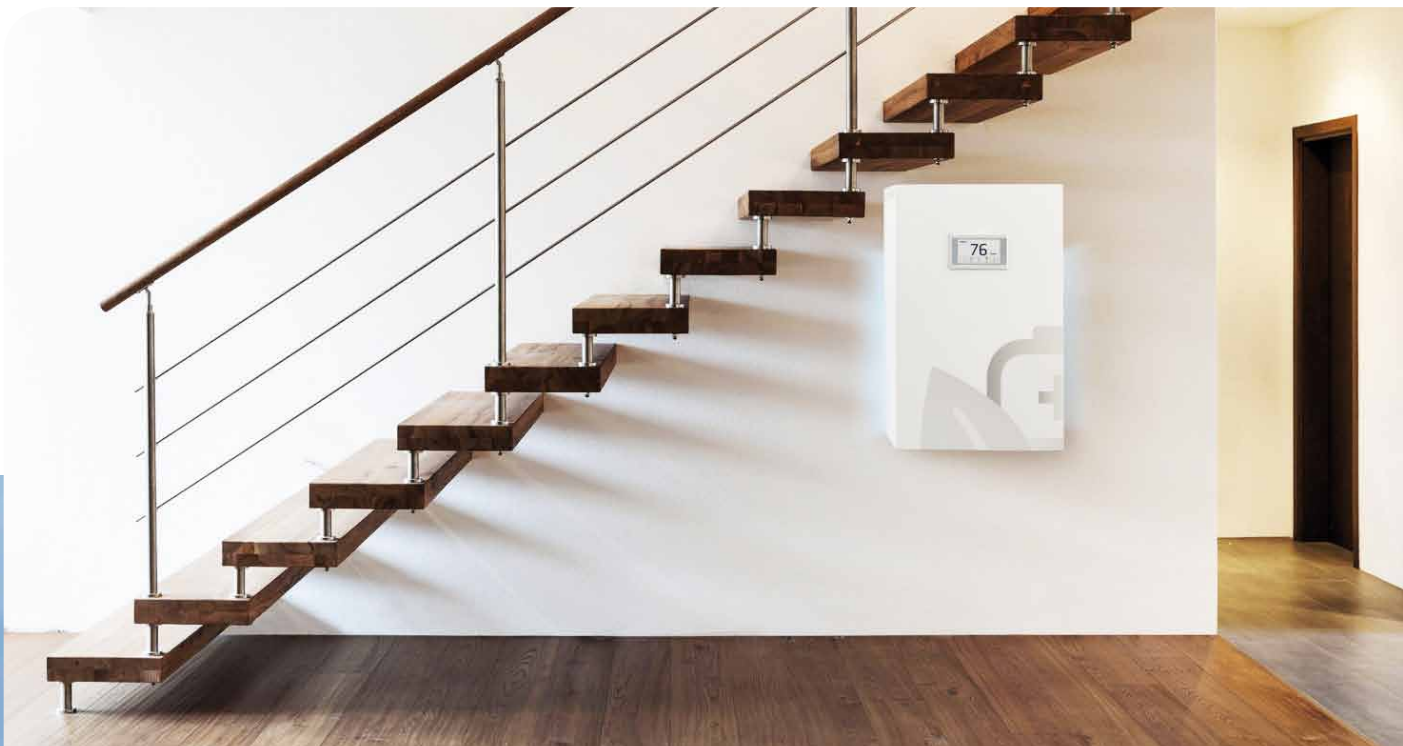
Alternatively, the power outlets can be managed using the Sonnenbatterie mobile app or the online portal no matter where you are or the time of day. Convenient and efficient!

Active inclusion of weather data

The Sonnenbatterie features an integrated active-energy manager that monitors weather data to create yield forecasts, particularly relevant when there is a power limitation of 60 % for photovoltaic systems as demanded by the German Federal Ministry for the Environment. This type of power limitation can usually only be achieved by reducing the output of the photovoltaic inverter when 60 % is exceeded.

However, self-generated electricity is wasted in such cases, rather than supplied to the user. To avoid this, the Sonnenbatterie's active-energy manager will access current and future weather data online. This information will be evaluated using a self-learning algorithm, and converted into an individual photovoltaic yield forecast for use in intelligent charging management of the Sonnenbatterie.

In this way, it is ensured that output peaks of greater than 60 % are stored and for later use rather than being wasted. Ultimately, this helps achieve the grid-friendly operation of the Sonnenbatterie, making a significant reduction of the burden on electricity grids.





Much more than just energy storage.

Safety first

As with all Sonnenbatterie systems, the Sonnenbatterie eco employs a multi-stage safety concept

The temperatures of all important systemic components – such as storage battery cells and inverters – are monitored continuously. If overloading or overvoltage occurs, a redundant safety shutdown becomes active. Since 2010, Sonnenbatterie has employed only LiFePO₄ (lithium iron phosphate) batteries, which have been tested and certified in line with UN 38.3. In addition, the battery cells have been certified by TÜV Rheinland in accordance with EN 62133:2003, a prerequisite for use in the automobile industry, for example. Additionally, our in-house battery specialists carry out their own safety tests in our laboratory. Every energy cell is carefully checked before it is installed in a Sonnenbatterie unit: Sonnenbatterie now offers a 10-year warranty on battery cells thanks to this step.

The Sonnenbatterie's battery pack only operates in the low-voltage range – below 60 volts – and has redundant protection against short circuits. Continuous remote monitoring is also carried out for every cell during online operation, which is the recommended mode of operation. If limit values are exceeded, a malfunction notification is automatically activated.

Safe delivery of Sonnenbatterie

Our transport procedure, labeling, and packaging are based on UN 3481, the United Nations' lithium battery transport regulation. The batteries have been tested as part of an expert assessment by TÜV Saar, and a patent application has been submitted. Our trained and certified Sonnenbatterie Centers ensure that the Sonnenbatterie is installed in a safe and appropriate manner. As a manufacturer, Sonnenbatterie is committed to a high level of product quality and safety. In this context, the company participates actively in the development of standards for the entire sector; for example, as a contributor to the working group on storage systems of the German Solar Industry Association (Bundesverband Solarwirtschaft, BSW) and to the relevant working groups of the Central Association of German Electrotechnical and Information Technology Trades (Zentralverband der Deutschen Elektro- und Informationstechnischen Handwerke, ZVEH), the Central Association of the German Electrical and Electronics Industry (Zentralverband Elektrotechnik- und Elektronikindustrie e. V., ZVEI) and the German Commission on Electrotechnology of the German Association for Electrical, Electronic & Information Technologies (Verband der Elektrotechnik, Elektronik und Informationstechnik, VDE).

* Please note the relevant valid conditions of our limited warranty.



* Please note the limited warranty as of our prevailing terms and conditions.

Unsere Partner:





About Sonnenbatterie

In January 2011, the Sonnenbatterie was introduced to the market as the first fully integrated lithium storage system; the first systems had previously been successfully tested in practical applications at pilot customers' sites in 2010. Since then, the Sonnenbatterie has been refined in a systematic manner on the basis of many years of practical experience, and intelligent functions have been added. The Sonnenbatterie is now in its fourth product generation and continues to aim for high customer value and reliability.

From private homes to commercial facilities – the right solution for every application

Sonnenbatterie models are perfectly adapted to every need – from single-family homes to agricultural or commercial use – with a consistently high level of quality and convenience!

Starting with a storage capacity of 4.5 kWh and ranging through to the largest model with 60.0 kWh, the Sonnenbatterie provides a maximum degree of self-sufficiency and independence from rising electricity prices.

Perfect interaction with all electrical generators

As an AC-coupled system, the Sonnenbatterie can be combined with practically all power generators. A combination with a photovoltaic system is only the beginning: applications using small wind turbines and cogeneration systems (electricity-generating heating systems or fuel cells) are also feasible. Consumers have maximum flexibility in terms of practical use – and the connections are pre-installed!

Participation in the balancing energy market by means of a virtual power plant is possible with the Sonnenbatterie thanks to its sophisticated online functionality.





Much more than just energy storage.

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