

PIKO BA System – smart, communicative and independent



Smart
connections.

KOSTAL competence – Using energy smartly. Convincing.

| | |
|--|-----|
| KOSTAL family | 3 |
| Your trump card for energy generation | 4–5 |
| Solar power around the clock | 6–7 |
| Advantages of PIKO BA System | 8–9 |
| Accessories and smart partnerships | 10 |
| Service concept for the PIKO BA System | 11 |



KOSTAL family –

Success founded on history and over 100 years of experience.

The KOSTAL Group: the KOSTAL success story

- As an independent, family-owned company, the KOSTAL Group specialises in the development of high-quality electronic and mechatronic solutions for a wide range of automotive and industrial applications.
- The company was founded in 1912 by Leopold Kostal in Lüdenscheid, Germany, and today employs about 16 300 people at 39 locations in 18 countries.
- The KOSTAL Group has four divisions: Automotive Electrical Systems, Connectors, SOMA Test Technology and Industrie Elektrik with its international sales company KOSTAL Solar Electric.
- The KOSTAL Group's partners include the world's leading automotive manufacturers and numerous major industrial companies.

Quality-offensive thinking

- Having been developed in-house at KOSTAL, the PIKO inverter meets the highest standards.
- All PIKO inverters are produced in line with state-of-the-art technological standards.

- All production processes are aligned to the „zero-defects philosophy“ of an automotive supplier.
- The PIKO inverter is subject to strict quality management throughout the production process, including a final check lasting several hours.

KOSTAL Solar Electric: a partner you can always count on

- In the business division Industrie Elektrik, the PIKO inverters are developed and produced at the German headquarters. KOSTAL Solar Electric handles all distribution and sales of the PIKO inverters, as well as technical support.
- International customers also benefit from our local service with branch offices in France, Italy, Spain, Greece and Turkey.
- KOSTAL partnerships are designed for the long term. This has always been and continues to be an essential element of our company culture.



Your trump card for ...



Use the energy of the sun, even when it isn't shining!

Photovoltaics are a safe, renewable and sustainable source of energy. The solar modules on your roof work with the inverter to transform sunlight into usable energy. However, solar power isn't generated all the time – only when the sun shines. With the PIKO BA System, you harmonise the generation and consumption of energy in your house. Our smart complete system is designed in such a way that you use the power produced during the day directly in the house and store the excess solar power for use during the night.

Other benefits for you

- Reduce your electricity supply costs now and in future through efficient energy usage.
- Gain independence from your energy provider: On average, the systems monitored in the PIKO Solar Portal demonstrate a 76 % degree of self-sufficiency. Some PIKO BA System operators with large PV systems even achieve a reduction in their electricity bill of up to 98 %.

Your contribution to a cleaner future

Demonstrate your social responsibility and think about future generations now. With your cleanly produced electricity, you help bolster the success of the energy transition and protect the environment. Do your bit to combat:

- Resource shortages
- Greenhouse gases
- Urgency of expanding the power grid

KOSTAL is aware of its environmental responsibility and by satisfying stringent take-back and recycling requirements promotes a sustainable approach to the use of resources.



... energy generation



Safety is our priority

The safety concept of the KOSTAL storage system is of a particularly high standard. It integrates a specially designed PIKO BA Switch Box, which provides triple protection against overcharging. In developing the Switch Box, KOSTAL capitalised on its extensive experience of safety sensor technology in the automotive industry. The PIKO BA System Li fully meets the highest safety standards for lithium domestic storage systems and in 2015 received the ees AWARD.

Safe storage – now guaranteed for 15 years!

There are no hidden costs with the all-in-one storage system, consisting of battery inverter (PIKO BA), lithium battery (PIKO Battery Li) and current sensor (PIKO BA Sensor). And on the basis of their cutting-edge technology and components, the fortelion* lithium-ion battery modules are now guaranteed by KOSTAL for 15 years, making your investment in a PV and solar power storage system even more worthwhile.

Funding opportunities

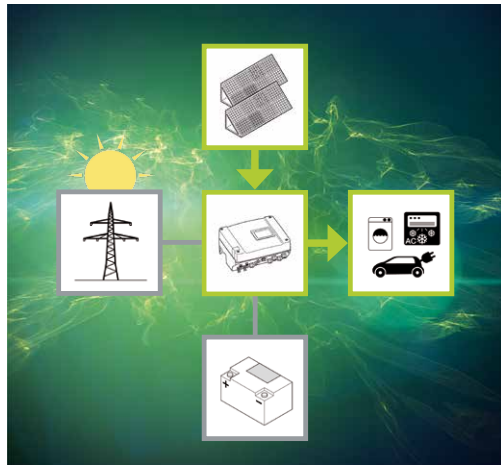
In Germany, the more stringent requirements of the Development Loan Corporation's (KfW) new incentive programme are met fully. This also applies to the stipulated fair-value replacement guarantee on the PIKO Battery, which KOSTAL provides at no extra charge. In Austria, funding can be requested under the Austrian storage programme. Under public incentive programmes, investing in a photovoltaic system brings even quicker returns.



*fortelion is a trademark of SONY Corporation

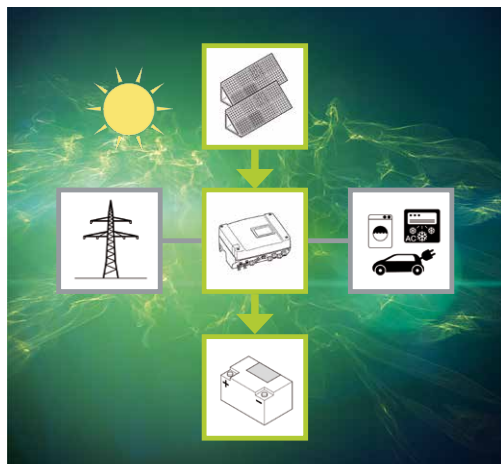
Solar power ...

The PIKO BA System has many advantages and several modes of operation. It can react flexibly to various situations in the household and fluctuating requirements over the course of the day.



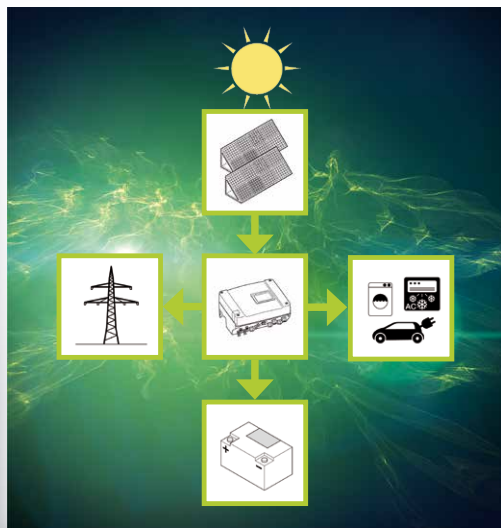
Morning

When the sun comes up in the morning, solar power is produced and the coffee machine is run, for example, the power can be used directly. This means that you are already independent of your energy provider at the start of the day.



Mid-morning

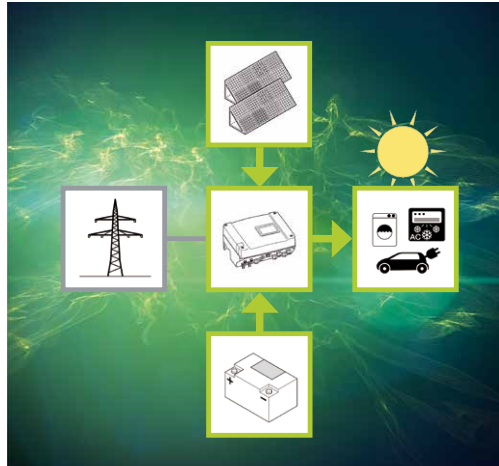
When all occupants have left the house in the morning, the power not needed in the household is fed to the PIKO Battery and saved there for the evening.



Midday

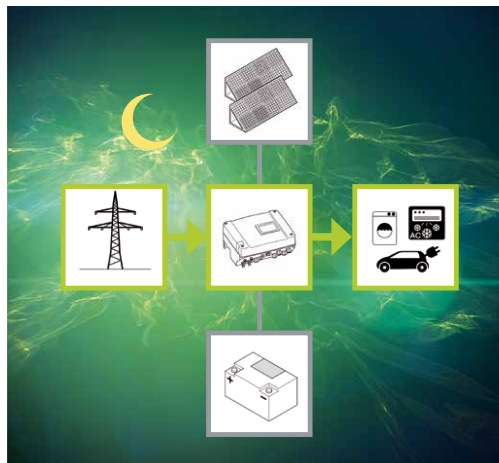
At midday when a lot of solar power is being produced, the excess power, which can neither be used nor stored, is fed into the public power grid. This means that you also secure the legally guaranteed feed-in compensation for this solar electricity for the next 20 years.

... around the clock



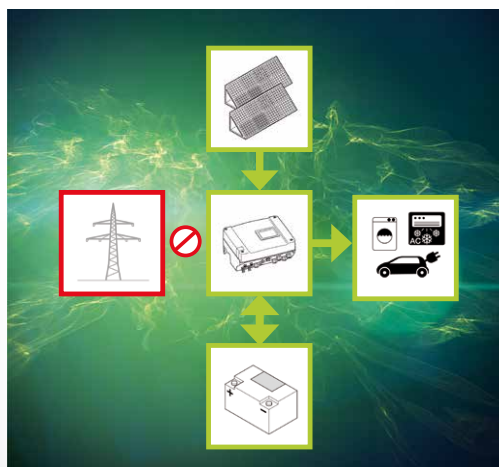
Afternoon

In the afternoon when a lot of power is being consumed, the increased demand can be covered by the power generated on your own roof, and at the same time by the power stored in your battery, fully automatically, without you having to do anything. Smart consumer management helps you to ensure a high self-consumption rate.



Night

Only at night when no solar power can be produced and if the battery is empty does electricity need to be acquired from the public grid.



Power cut – no problem

The PIKO BA Backup Unit gives you additional peace of mind. In the event of a power cut in the public grid, your storage system delivers a complete three-phase supply to your home network in a matter of seconds. Maximum peace of mind, independence and convenience through smart solutions from KOSTAL.

Your PIKO BA System controls the various statuses fully automatically and without compromising on convenience. The PIKO BA Sensor makes very light work of complex energy management for you. You have a guaranteed supply of power at all times assuming maximum self-consumption of your solar power.

Advantages of PIKO BA System



PIKO BA System – smart, communicative and independent

Use or store power in the house or feed it into the grid – the PIKO BA System handles all three scenarios.

Organise your energy intelligently with smart performance

The PIKO BA System was specially developed for use in single-family dwellings and provides a whole host of benefits:

- Through monitoring of the PV system, energy flows in the home can be learned and consumption adapted and optimised accordingly, so the objective of “using energy economically” can be achieved in no time.
- Even in bad weather the PIKO Battery Li can be used efficiently and adapted to the requirements of individual homes.
- The storage unit’s modularity and scope for retrofits make it very flexible: the smallest PIKO Battery Li comprises three modules. If the projected capacity later proves to be too inadequate, it can be easily increased to incorporate up to eight modules.
- Another major advantage of the PIKO BA, which can also be purchased without battery, is that it is future-proofed so that new storage technologies can be added later on.



Energy management



PIKO Solar Portal



Household communication through smart interaction

The energy you consume at night can also be covered by solar power. Your own power, produced and stored throughout the day, enables you to watch television or cook at any time without purchasing extra electricity.

- The PIKO Solar App or the PIKO Solar Portal show you how much power is available. Find out how much electricity you are consuming at any given time of day and how much of the energy you need can be provided by your system.
- Turn your house into a Smart Home with the PIKO BA System and the EEBus Initiative*: Using networking technology, your domestic appliances can communicate with one another.
- Even without networking, you can still put the energy you generate to the best possible use with the relay control. For instance, your air conditioning system can be directly controlled wherever energy is available.

- Through the obligatory PIKO BA Sensor, dynamic active power control can be engaged so that more solar power is generated and efficiently used.

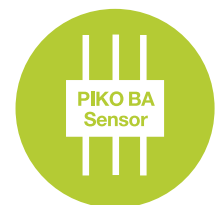
Be independent with smart energy control

Break the link between power generation and consumption and set your own electricity prices for the next 20 years.

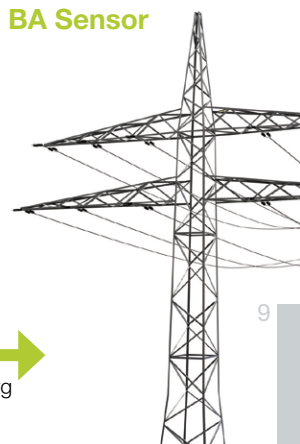
- Thanks to unique, intelligent battery control, end customers can now adjust battery-charging cycles according to the power consumption of their homes. This software, specially developed for the storage system, adapts your power projections and generation to home consumption.
- The PIKO BA System Li has two individually tracked inputs so that both the east-west and south orientations of the PV system can be tracked without yield losses.



PIKO Solar App



PIKO BA Sensor



*You can find more information about the EEBus Initiative online at www.eebus.org

Accessories and smart partnerships



Your secure backup for power cuts

The optional PIKO BA Backup Unit ensures you are fully equipped for any power cuts.

- Secure supply during a power cut
- VDE-tested backup power function
- Automatic switching over within a few seconds
- Three-phase power supply
- Up to 10 hours of operation at night (with a consumption of 500W and a fully-charged battery)
- Dimensions: 680mm x 366mm x 173 mm (HxWxD)
- Suitable for consumer loads of 2900 – 4700 W when using the PIKO Battery Li (depending on the number of battery modules)



Smart partnerships for even more benefits

In addition to the many applications that can be performed with the PIKO BA System alone, KOSTAL is making more smart connections with major partners to further expand the range of potential applications.

PIKO inverters are compatible with:

- HomeLYnk from Schneider Electric GmbH
- PowerDog energy management systems from eodata GmbH
- Solar log monitoring devices from Solare Datensysteme GmbH
- Solarfox displays from Soledos GmbH
- Weblog from meteocontrol GmbH
- Products of the component manufacturer PADCON

In addition, KOSTAL is a member of the EEBus Initiative and integrates technological advancements made in this arena into its products. The products of member companies can also be combined with one another.

Service concept of the PIKO BA System



Service concept

As with all PIKO string inverters, KOSTAL Solar Electric GmbH also offers its proven five-year replacement warranty for the PIKO BA. Should a warranty claim be made within this period, you will receive a replacement unit delivered and commissioned by your specialist company, no questions asked. The specialist company will also arrange to take away the old PIKO inverter. For more information about the KOSTAL service concept and warranty conditions, please visit the KOSTAL homepage*.

KOSTAL will be pleased to assist you with your service questions. Support for questions and concerns relating specifically to batteries is provided through our smart connection with our partner SONY. If you have any service enquiries please contact KOSTAL. The necessary arrangements will then be made with the relevant partner.

You can reach the KOSTAL service hotline on: Telephone +49 761 47744-222 (Mon – Fri from 8:00 a.m. to 5:00 p.m.) or by e-mail at service-solar@kostal.com. You can send us queries or messages at any time, including outside hotline operating hours, using the service portal at service.kostal-solar-electric.com. Queries are treated as a priority.



KOSTAL seminars and webinars can be booked online in just a few clicks.

KOSTAL seminars and webinars

Participants in KOSTAL seminars benefit from professional instruction, wide-ranging and specialised knowledge, and interactive exchanges with the seminar host. This offer includes various training sessions focusing on technology and sales. Detailed information KOSTAL seminars is available at: www.kostal-solar-electric.com/wissensseminare. Here you can find out all you need to know about new webinars in KOSTAL's much-expanded range of training offers.

* www.kostal-solar-electric.com

KOSTAL

KOSTAL Solar Electric GmbH
Hanferstr. 6
79108 Freiburg i. Br.
Germany
Telephone: +49 761 47744 - 100
Fax: +49 761 47744 - 111

www.kostal-solar-electric.com

