

The second generation of the original German hybrid inverter

Is it really possible to produce and store cost-effective electricity without being dependent on electricity suppliers and in an environmentally friendly way? The latest innovation from KOSTAL may have made this vision much closer to reality, enabling self-generated solar energy to not only be used directly, but also allowing surplus to be saved for later use.

Strong performance, high efficiency and smart management are all important qualities of a hybrid inverter. But how can the latest technology be used to push the boundaries another step further, to create an inverter that not only thinks and grows with you and adapts to your needs at any time, but is even more flexible? With its second generation PLENTICORE plus, KOSTAL believes it has found the answer.

A leading inverter since market launch

The hybrid inverter has three DC inputs, with a wide input voltage range. The third input can be enabled for connecting a compatible battery if required. It is also possible to connect additional AC sources, such as further PV inverters, a small wind turbine or a combined heat and power unit. The energy manager implemented in the inverter coordinates the power available from PV, battery, the energy supply company's grid and AC sources present in the house grid.

The new inverter has a self-learning and integrated shadow management system for maximum yields, while an integrated data logger continuously transmits yield data to the KOSTAL Solar Portal. This data can be visualised easily in the portal and via an app.

The second generation is coming

Innovation has always been an important part of KOSTAL's DNA, with the company continually optimising the functionality of its products and integrating further outstanding

performance features. In the second generation, the PLENTICORE plus hybrid inverter proves to be a real expert in communication. With integrated WLAN, the company's original inverter now simplifies initial commissioning and monitoring.

Two LAN interfaces allow several inverters to be networked in series as a 'daisy chain', making integration of inverters and components into the plant owner's network a simple process. This saves time and effort during initial installation or later expansion of the PV system. In this way, larger solar power capacities and higher consumption can be integrated, for more self-consumption and a higher degree of self-sufficiency.

Further functions now built-in

In its second generation the new inverter also

has three additional switched outputs for load control. A total of four digital 24-volt outputs are now available, for more functions and a wider range of applications for your inverter, e.g. for activating additional sources of consumption such as a heat pump, air conditioners or charging stations. A new monitoring input enables the external overvoltage protection to be monitored. With integrated WLAN, web-based initial commissioning is possible via smartphone or tablet. This means that initial commissioning and parameterisation during operation are simplified and can be controlled intuitively.

In summary, with the new PLENTICORE plus you get a multifunctional inverter all-rounder that always fits the bill, offering more yield, more efficiency and less effort.





Andreas Schmalenberg

PES was keen to learn more about the benefits of this latest inverter and the thinking behind the changes, from Andreas Schmalenberg, Product Manager PV-Inverter and Energy Storage Systems, at KOSTAL.

PES: It's great to speak with you Andreas. Firstly can you tell us when the PLENTICORE plus was initially released and what led to the release of the second generation?

Andreas Schmalenberg: Certainly. In 2013 we became the first company to introduce the hybrid inverter to the market, with the Piko BA. And in 2018, the first generation of our PLENTICORE was launched.

Of course, we are always striving to improve our products. For this reason, feedback from our customers and installers is also important to us. Not least due to the strong increase in demand for products related to photovoltaic systems, we need to ensure we can fulfil orders and the tight supply of parts prompted us to look for alternative, more readily available components.

As part of this process we took the opportunity to make some adjustments, such as interface expansion, installation of the latest hardware components and the introduction of Push In terminals for easier installation. In addition, the PLENTICORE plus has now been awarded the SG Ready label, which indicates that it meets all the requirements for compatibility with heat pumps.

PES: If I own a first generation product and want to connect a PLENTICORE plus of the second generation with it, does this work without problems?

AS: Yes, the original PLENTICORE plus and the new second generation model are compatible with each other and can easily be linked. Also, the second generation model can now be easily integrated into the network, thanks to daisy chaining technology. No additional physical connection to the router is necessary.

PES: Recently, you released your own wallbox, the ENECTOR. Are there any particular benefits in connecting it to the PLENTICORE plus instead of another hybrid inverter?

AS: The ENECTOR is the ultimate solar wallbox, particularly when used in conjunction with KOSTAL products. It contains powerful functions with support from our Smart Energy Meter. Whether fast charging with maximum power in Power Mode or blocking the charging function from unwanted use in Lock Mode, the KOSTAL Smart Energy Meter and the KOSTAL Wallbox manage this in clever interaction.

In addition, further individual charging modes support intelligent control and simple customisation. With the Solar Pure Mode only self-produced solar power is used. In Solar Plus Mode, the charging power can be limited to a defined grid purchasing amount. If the solar surplus increases, the grid consumption will be reduced and the charging power increases automatically until the maximum of the solar surplus is reached.

Another positive aspect is the possibility to see the generation and consumption data of your house including the wallbox charging performance in a monitoring portal or app www.kostal-solar-portal.com / KOSTAL Solar App.

PES: How do customers know before purchasing which batteries are compatible with the PLENTICORE plus?

AS: For each compatible battery we have provided documents in several languages on our website at

<https://www.kostal-solar-electric.com/en-gb/products/hybrid-inverter/plenticore-plus/>

PES: Are there any features that sets the PLENTICORE apart from other hybrid inverters?

AS: The PLENTICORE plus is a well established and reliable product. Of course, all the advantages of the first generation are present in the second generation as well, such as the AutoUpdate, which can be activated with one click. So neither the installer nor the customer has to worry about outstanding features. All software updates are installed automatically, user just has to actively activate the AutoUpdate function once.

Also, customers don't have to pay for functions they might never use, but still have the possibility to unlock the battery mode at a later time if needed.

Another thing that sets our products apart is the usage of displays. We get a lot of positive feedback on this, as our displays enable the user to see basic and important information with a quick glance. This remains the case with the second generation. The PLENTICORE plus also has a very intelligent shade management system that makes additional solar optimisers obsolete.

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