

Press Information

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Charging even when it's cloudy: HEIDELBERG introduces new wallbox for growing solar market

- **Simple connection to a house installation with solar power system – no further control electronics necessary**
- **Integrated phase switching and solar management of the Wallbox ensure optimal charging**
- **New wallbox adapts to the available power of the solar installation and charges the car starting at 1.4 kW – even on cloudy days, depending on the system**
- **Photovoltaic (PV) systems will dominate the electricity market in Germany by 2037 – enormous annual increase in PV capacity necessary**

Heidelberger Druckmaschinen AG (HEIDELBERG) presents a new wallbox for the growing solar market. With the Amperfied Wallbox connect.solar, electric car drivers can use their own solar power for charging on both sunny and cloudy days. The advantage of the new system is that it can be easily connected to an existing house installation with a solar system, without any additional control electronics. An integrated phase switching with solar management ensures optimal charging and adapts to the available power of the solar system. Even with a solar output as low as 1.4 kW, for example on a cloudy day, the car can still be charged. This is ensured by innovative electronics that switch between single-phase and three-phase charging depending on the available power.

"Our new wallbox is suitable for homeowners who already have a photovoltaic system and only need a suitable wallbox for optimised charging of the electric car," said Dr. Ludwin Monz, CEO of HEIDELBERG. "The new wallbox can be easily connected to the house grid via a power meter. By doing so, we are taking into account the growing trend of photovoltaic installation in combination with electric cars."

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With the Wallbox connect.solar, Amperfied GmbH, a subsidiary of HEIDELBERG, offers an optimal solution for the increasing dovetailing of private charging infrastructure and power generation, which the German government wants to promote with the funding of charging stations, photovoltaic systems (PV systems) and energy storage systems in a package. Connected to an energy storage system controlled by a home energy management system (HEMS), the new wallbox is ideally suited for efficient, time-delayed use of self-produced electricity. This makes it eligible for funding under the KfW grant programme "Solarstrom für Elektroautos (442)" ("Solar Power for Electric Cars"). From October 2023, the Wallbox connect.solar will complement the Amperfied portfolio of high-quality charging solutions developed and manufactured in Germany.

"The Amperfied Wallbox connect.solar is addressing the growing photovoltaic market. The integration of electromobility and photovoltaics into an overall system is an essential step towards sustainable energy," says Davide Ghione, CEO of Amperfied GmbH.

Photovoltaics as the dominant energy source

Photovoltaic electricity, the generation of which produces no climate-damaging CO₂ emissions, plays a key role in Germany's energy transition. Against the backdrop of the goal of greenhouse gas neutrality in 2045, the electricity sector should already be largely free of greenhouse gas emissions by 2035, as the federal government states in its photovoltaic strategy. According to associations and the Federal Network Agency, the installed PV capacity is to increase fivefold from around 70 gigawatt peak (GWp, capacity of a system under ideal conditions) at the end of 2022 to up to 345 GW in 2037. Photovoltaics would then be the dominant energy source in Germany with a share of around 55 percent of installed capacity.

The growth in photovoltaics is already reflected in consumer interest. According to surveys, about 2/3 of property owners with a suitable roof can imagine purchasing a solar system. In fact, almost half of new solar power systems on private homes are already combined with a wallbox.

"The integration of a wallbox into an overall system consisting of a PV system and an energy management system is one of the most frequently expressed wishes from residential customers," explains Ulrich Grimm, Technical Managing Director of Amperfied GmbH.

"With the Wallbox connect.solar, we offer our customers a complete solution made in

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Germany that makes optimal use of self-generated solar power for charging electric cars."

Suitable for combination with PV system and energy storage: the German government has been promoting the joint installation of charging stations, photovoltaic systems and energy storage systems with 500 million euros since the end of September 2023. The Wallbox connect.solar is ideally suited for the KfW grant programme "Solar power for electric cars (442)". By connecting to an energy storage device controlled by a home energy management system (HEMS), the new wallbox enables efficient, time-shifted use of the self-produced electricity.

Optimal for pure PV surplus charging: For owners of PV systems, the Wallbox connect.solar is an easy-to-install retrofit solution for charging their vehicle primarily with surplus PV power.

Integrated phase switching – low installation effort: Unlike many other PV wallboxes, the phase switching is already integrated in the Wallbox connect.solar. Apart from the external power meter, no other hardware is required for PV overcharging. This means that the installation effort is low compared to a comprehensive HEMS solution.

Complete solution for charging with solar power—even in cloudy conditions: The new wallbox is optimised to such an extent that charging can continue even in unfavourable weather conditions – significantly better than with previous standard wallboxes. If the solar yield is below 4.1 kW, for example on cloudy days, the wallbox switches from three-phase to single-phase charging, which means that charging is possible with as little as 1.4 kW solar yield. This works externally controlled by a home energy management system (HEMS) or internally by the wallbox's solar management software*.

For communication, the wallbox connects to a local network via Wi-Fi or Ethernet and talks to home energy management systems via Modbus TCP. The Wallbox connect.solar can be easily and conveniently controlled via smartphone using the myAmperfiend app. A web interface offers further configuration, control and monitoring functions. Optionally, all wallboxes of the connect series are now available in a version with integrated residual current device RCD type A.

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Available from October 2023: The Wallbox connect.solar will be available from Amperfiied GmbH and selected partners starting in October 2023. It complements the connect series introduced in 2022 with intelligent wallboxes for home and business as well as the best-selling models Wallbox Energy Control with integrated load management and Wallbox Home Eco for easy charging. Like all charging systems, the Wallbox connect.solar is designed and manufactured in Germany according to the highest quality standards.

* Available via software update as of Q4/2023

Figure 1: A photovoltaic-optimised wallbox like the Wallbox connect.solar is indispensable for owners of PV systems to charge their electric cars with self-generated solar power even when electricity production is low.

Figure 2: For pure PV surplus charging, the Wallbox connect.solar does not require any hardware other than the external power meter, which reduces the installation effort compared to a comprehensive Home Energy Management System (HEMS).

Figure 3: If more than just surplus PV charging is required, the Wallbox connect.solar can be connected via Modbus TCP to a HEMS, which controls and optimises the energy flows within the home.

Figure 4: The Wallbox connect.solar is part of the connect series, which includes charging stations for home and business. Its visually identical sibling, the Wallbox connect.home, was awarded the prestigious "Red Dot Award: Product Design 2023".

A short **video** clearly explains the advantages of the Wallbox connect.solar.

[Volle Ladung Sonnensaft fürs Elektroauto. Juice up your car mit der Wallbox connect.solar](#)   - YouTube

Service: You can download the current HEIDELBERG whitepaper "Electromobility for a successful energy revolution" [from our website](#).

Additional details about Amperfiied wallboxes:

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Images and further information about the company are available on the Heidelberger Druckmaschinen AG [Press releases. | Heidelberg](#) at www.heidelberg.com and in the [PR Media library | Heidelberg](#).

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