

Voltwerk VS 5 hybrid

Battery-assisted inverter system for optimising own consumption



- | Integrated energy management system with 5 kW of nominal power and 8.8 kWh of storage capacity
- | Feed-in with efficiency factor of 97.7 % plus efficient utilisation of own consumption
- | Highly efficient lithium-ion batteries designed for a service life of 20 years



The Voltwerk VS 5 hybrid makes it possible to utilise solar power time-independently by storing unused capacity. In addition to feeding solar power into the national grid with extreme efficiency, it thus facilitates an improvement of an operator's own consumption and the bridging of any mains power cuts.

Integrated energy management system

The VS 5 hybrid is a combination of a transformerless 5 kW inverter, a lithium-ion battery with a capacity of 8.8 kWh and a management system with a colour touch screen display. If required, the battery capacity can be increased – the system cabinet is designed for 13.2 kWh. Storing solar power makes it possible for operators of photovoltaic systems to cover their own requirements with PV electricity not only during sunlight hours, but also at times of less light, such as in the morning, evening or overnight.

The energy either gets fed from the PV system directly into the national grid drawn from the storage battery or supplied from both sources simultaneously. Only if these two are unable to supply sufficient energy, does mains power get used. In the event of a power cut, the system works independently.

Optimising own PV consumption

By using the VS 5 hybrid system, matching a 4-person household's periods of PV power generation and times of

electricity demand can be increased from c. 30 % with a normal PV system to c. 70 %. During the summer months it is thus possible to achieve 100 % independence from the public electricity grid.

Intelligent system management

The system is equipped with a comprehensive monitoring system. The large touch screen display shows all of a household's electricity consumption data and the status and output data of the PV system and battery – clearly and in real time. The system has an intelligent system management function that controls and monitors energy flows and checks all components are working. The battery management system ensures that the lithium-ion batteries are charged and discharged in the optimum manner and thus last for a long time. In addition, location-independent monitoring of the plant via the web portal Voltweb is possible without additional equipment.

VS 5 hybrid

Input figures (PV generator)	
Recommended DC rating	5 kW
Max. DC input voltage (V_{dcmax})	940 V
Max. MPP voltage (V_{mppmax})	750 V
Min. MPP voltage (V_{mppmin})	275 V
Max. input current (I_{dcmax})	19 A
Number of MPP trackers	1
Type of connection	Plug, MCIV compatible
Number of DC inputs	1
MPP accuracy	> 99 %
Output data (mains)	
Nominal mains voltage ($V_{ac, i}$)	230 V
Max. output current (I_{acmax})	22 A
Nominal power ($P_{ac, i}$)	4,6 kW
Max. power (P_{acmax})	5 kW
Nominal frequency (f)	50 Hz
Required form of grid	TN grid / TT grid
Distortion factor (at nominal power)	≤ 3 %
Type of connection	Plug supplied with the system (flexible cable, max. cross-section 6 mm ²)
Type of feed-in	Single-phase
Efficiency	
Max. efficiency (inverter)	97,7 %
Efficiency of the whole system	85 %
Battery storage	
Battery type	Lithium-ion
Storage capacity	8,8 kWh
Expected service life	20 years
Environmental / ambient conditions	
Temperature range	- 10 °C / + 50 °C
Installation location	Inside (IP 20)
Abmessungen / Gewicht	
Dimensions (W x H x D)	600 x 1740 x 660 mm
Weight (incl. battery)	220 kg
Other	
Display	Graphic presentation via touch screen display

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Available at: