



Solar power storage system

# SONNENKRAFTBATTERIE

SK hybrid inverter 6 - 12 kW  
SK battery 12 - 29 kWh

## Easy installation

Flexible configuration, plug & play installation, built-in fuse protection - easy wireless expansion

## High-voltage batteries

Lightweight construction, lithium iron phosphate (LiFePO<sub>4</sub>) for extreme safety and maximum charge and discharge efficiency (up to 6000 cycles at 90% depth of discharge)

## Three-phase, integrated emergency power function

Inverter switches automatically (20 ms) to emergency power mode in the event of a mains failure - supply of selected household consumers via PV system or solar battery

## IP 65 protection class

Designed to offer maximum flexibility, suitable for outdoor use

## Remote monitoring

Remotely monitor your inverter via an app or the web portal - e.g. current PV power, consumption, charging status, error messages

**Optimisation of self-consumption, reduction of electricity costs and smooth emergency power operation**



Maximum independence: The SONNENKRAFTBATTERIE maximises self-consumption, reduces electricity costs and provides smooth emergency power operation.

**High-voltage batteries**

Lithium iron phosphate (LiFePO4) batteries offer many advantages over lead acid batteries and other lithium batteries. For example: extreme safety, lightweight design, improved discharge and charge efficiency (up to 6000 cycles at 90% depth of discharge). Due to their long service life and freedom from maintenance, they are the best investment you can make in the long term.

**Plug & play and easily expandable**

One solar battery can be connected per inverter. The solar battery is modular (wireless) and can be extended to up to seven battery modules. This allows a maximum storage capacity of 29.03 kWh. Furthermore, up to ten solar battery systems (inverter + solar battery) can be connected in parallel.

**Dynamic power limitation (export control)**

To enable the end user to extract the maximum amount of energy from the system without exceeding the export limit set by the grid operator, the output power is adjusted to the actual consumption directly via the hybrid inverter.

**Emergency power function integrated**

Thanks to the integrated emergency power function (three-phase), the inverter automatically (20 ms) switches to emergency power operation in the event of a grid failure and explicitly selected consumers in the household are supplied with energy via the PV system or solar battery.

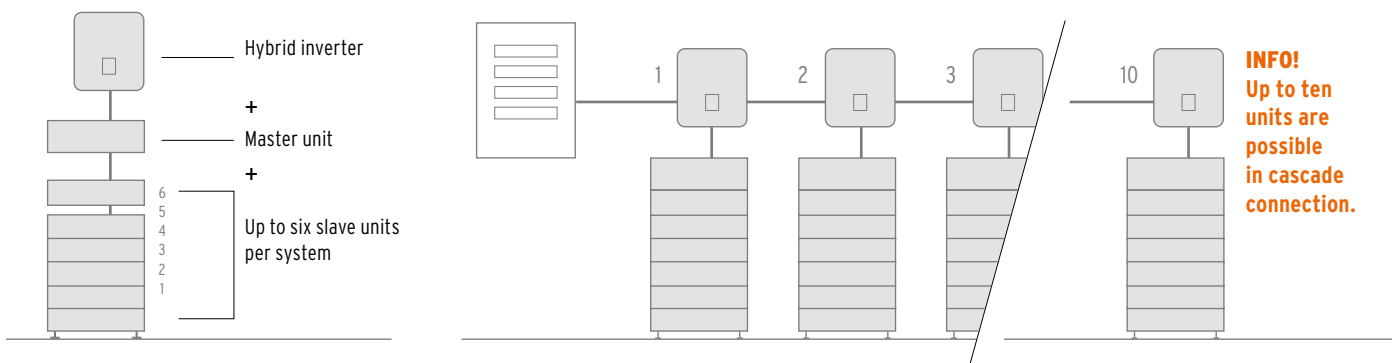
**Monitoring**

All system parameters can be read out via the app or web portal, e.g. current PV power, consumption, charging status, error messages. Furthermore, inverter settings can be changed via remote maintenance if required.

**INFO! Dimensions:**

**Inverter and storage sizes can vary depending on consumption behaviour. The inverter power corresponds to the annual electricity consumption. For the suitable storage capacity for working households, the inverter power is multiplied by a factor of 1.5.**

Example: annual power consumption 8,000 kWh inverter required - 8 kW  
storage system = 8 \* 1.5 = 12 kWh



		SK-HWR-6	SK-HWR-8	SK-HWR-10	SK-HWR-12
<b>DC input (PV)</b>					
Max. recommended DC power	W	9000	10400	13000	15000
Max. DC voltage	V			1000	
DC nominal operating voltage	V			720	
Max. input current (input A / input B)	A	14 A / 14 A	26 A / 14 A	26 A / 14 A	26 A / 14 A
Max. short circuit current	A	16 A / 16 A	32 A / 16 A	32 A / 16 A	32 A / 16 A
Starting voltage	V		160 V		
MPPT voltage range	V		160 - 950		
MPPT voltage range (full charge)	Vdc	250 - 800	240 - 800	280 - 800	320 - 800
MPPT number	Pcs.			2	
Strings per MPPT tracker		1 + 1	2 + 1	2 + 1	2 + 1
<b>AC input/output</b>					
Max. AC input power	VA	12000	16000	16000	16000
Max. AC input current	A	18.2	24.2	24.2	24.2
AC output nominal power	W	6000	8000	10000	12000
Max. AC output power	VA	6600	8800	11000	13200
Max. AC output current (per phase)	A	9.6	12.8	16.0	19.2
Nominal mains voltage (AC voltage range)	V		400 V / 230VAC; 380 V / 220 VAC, 3L/N/PE		
Nominal network frequency/range	Hz			50/60, +/- 5	
Power factor (cos phi)				1 (setting range 0.8 cap - 0.8 ind)	
Distortion factor (THDi) at nominal power				< 3%	
Unbalanced output				Yes	
Parallel connection				Yes (max. 10 pcs.)	
AC inrush current				15 A @ 0.5 ms	
<b>Emergency power supply output (backup power capability)</b>					
AC output nominal power	W	6000	8000	10000	12000
Max. AC output power (60s)	VA	12000	14000	15000	15000
Nominal voltage	V		400 V / 230 VAC; 380 V / 220 VAC, 3 L/N/PE		
Nominal frequency	Hz			50/60	
Max. AC output current (per phase)	A	18.2	21.2	22.7	22.7
Power factor (cos phi)				1 (setting range 0.8 cap -0.8 ind)	
Switching time				< 20 ms	
Distortion factor (THDi), linear load				< 3%	
<b>Efficiency</b>					
MPPT efficiency		99.90%	99.90%	99.90%	99.90%
Max. efficiency		97.80%	98.00%	98.00%	98.00%
Europ. efficiency		97.20%	97.30%	97.30%	97.30%
<b>Protection</b>					
Integrated fuse protection		PV reverse polarity protection, battery reverse polarity protection, anti-islanding protection, output short circuit protection, leakage current protection, insulation monitoring, DC reverse polarity protection, overcurrent protection / overtemperature protection, DC disconnect switch, overvoltage protection SPD AC: Type II / DC: Type II, string monitoring function			
Protection class		I			
Protection type (according to IEC 60529)		IP65			
Inverter topology		transformerless			
<b>General data and permissible ambient conditions</b>					
Dimensions (W x H x D)	mm	449 x 519 x 198			
Net weight	kg	28			
Installation		Wall mounting			
Operating temperature range	°C	- 25 ... + 60 (throttling from + 45)			
Storage temperature	°C	- 40 to + 70			
Humidity	%	0% - 95% (non-condensing)			
Max. operating height	m	2000			
Standby consumption	W	200W for hot standby, 15W for cold standby			
Idle mode		Yes			
Communication interface		Ethernet, counter, WiFi, 4G (optional), DRM, USB, BMS (CAN&RS485), RS485			
Warranty		10 years			
Test certificates		EN/IEC61000, EN/IEC62109, VDE4105, TOR Producer Type A Version 1.2, OVE Directive R25:2020			

**SK-B-12****SK-B-16****SK-B-20****SK-B-24****SK-B-29****Electrical properties**

Battery type	LiFePO4 prismatic cell					
System structure	1 x SKBM4300 2 x SKBS4300	1 x SKBM4300 3 x SKBS4300	1 x SKBM4300 4 x SKBS4300	1 x SKBM4300 5 x SKBS4300	1 x SKBM4300 6 x SKBS4300	
Nominal capacity	Wh	12,440	16,590	20,740	24,880	29,030
Nominal voltage range	V	172.8	230.4	288	345.6	403.2
Operating voltage range	V	145.8 - 197.1	194.4 - 262.4	243 - 328.5	291.6 - 394.2	340.2 - 459.9
Rec. charge/discharge current	A	25				
Max. charge/discharge current	A	50				
Peak discharge current	A	60 A @ 30 sec.				
Battery charge/discharge efficiency		> 95%				
Depth of discharge		90%				
Cycles		≥ 6000 (125 °C, @90% DOD, 0.5 °C charge/discharge)				
Communication display		CAN				
Scalability		Max. 7 modules in series (1 pc. master + max. 6 pcs. slave modules)				

**Operating conditions**

Installation site	Exterior/ interior (standing)					
Operating temperature	°C	- 10 to 55				
Storage temperature	°C	- 20 to 55				
Cooling		Natural convection				
Humidity		0% to 100% (non-condensing)				
Operating height		max. 2000 m above sea level				

**Mechanical properties**

System dimensions (W x H x D)	mm	570 x 448 x 380	570 x 567 x 380	570 x 686 x 380	570 x 805 x 380	570 x 924 x 380
Height master	mm	170	170	170	170	170
Height slave	mm	119	119	119	119	119
Height feet	mm	40	40	40	40	40
Net weight	kg	112.5	148.3	184.7	221	257.4
Test certificates		EN/IEC61000, IEC62619, ROHS, MSDS, EN62477, UN38.3				
Protection type		IP65				

**Charge / discharge capacity**

Depending on the combination of HWR and SKB, there are different charging / discharging capacities that must be taken into account in the design.

		<b>SK-B-12</b>	<b>SK-B-16</b>	<b>SK-B-20</b>	<b>SK-B-24</b>	<b>SK-B-29</b>
SK-HWR-6	kW	4.5	6.0	6.0	6.0	6.0
SK-HWR-8	kW	4.5	6.0	7.5	8.0	8.0
SK-HWR-10	kW	4.5	6.0	7.5	9.0	10.0
SK-HWR-12	kW	4.5	6.0	7.5	9.0	10.5

