

# Smartverter

**Libra**<sup>®</sup>  
E N E R G Y  
BALANCE IN POWER

This hybrid inverter has ability to store your energy and is available for both grid connected and off grid PV systems.

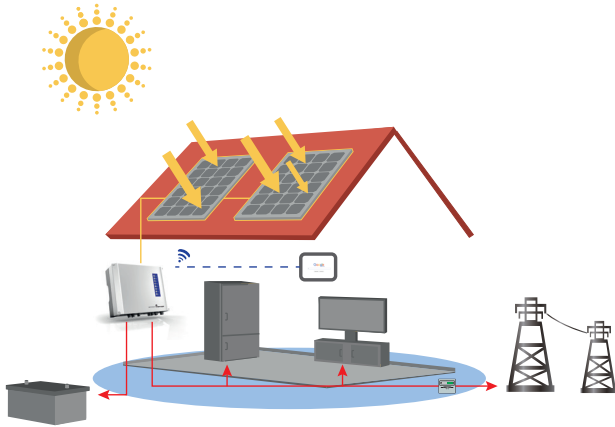


- First of its kind with back-up function.
- This means that the Smartverter will always provide power even if there is a grid failure.
- Charge and discharge time is twice as fast as comparable systems.
- Load capacity is 5kW. Other systems only have 2.5kW battery discharge capacity, which means that the other 2.5kW comes out of the grid.
- App: monitor all the information and settings of the system on your smartphone or tablet.
- Light weight and small size.

*Designed for the future!*

# How does the Smartverter works?

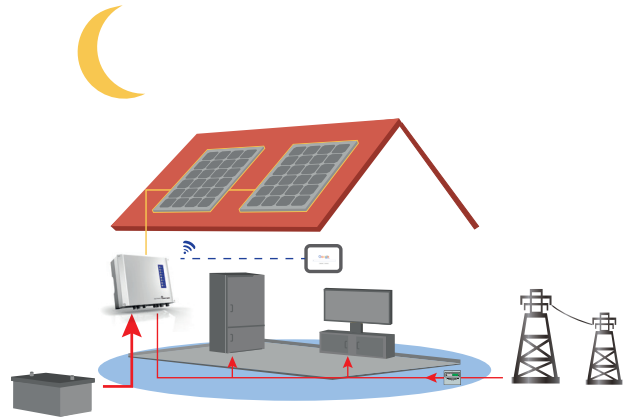
## Self consumption day time



### Grid connected

- Transfer of generated power from inverter to household appliances
- Additional energy will be stored in the battery
- In case of full battery, energy will be transferred to the grid
- Customise and monitor your energy system with our App available for download

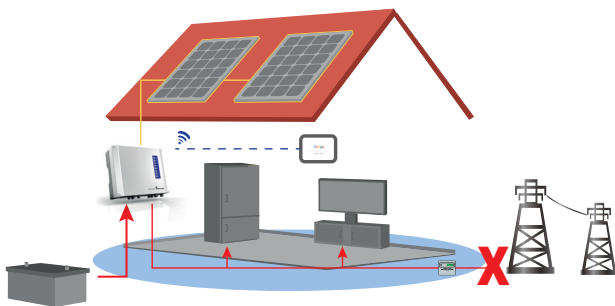
## Self consumption night time



### Hybride

- Battery delivers power during night time
- In the case of low battery, system switches automatically to grid connected power
- Charge battery at night rate or during day time by solar panels

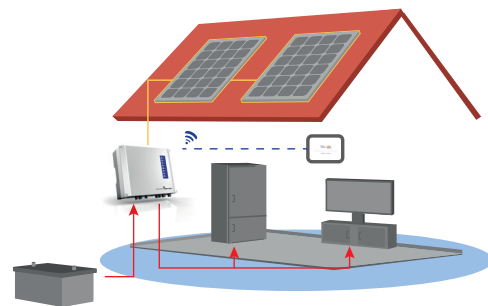
## Back-up



### Emergency power system with Solar

- Charged batteries provide emergency power
- In the event of a grid failure, system will switch to back-up power automatically
- The best solution for areas with unreliable grid such e.g. holiday homes, isolated areas

## Off-grid



### Independent self consumption

- In case there is no grid connection possible
- Solar panels charge the batteries
- Stored energy will run from batteries through inverter to household appliances

## Compatible with:



### LG Chem

This lithium LG Chem battery is compact and small in size. It has a maximal capacity of 6.4kW. With a cycle life of more than 6,000 cycle, the LG Chem has a lifetime of 20 years. With a DoD of 90% the LG Chem is very efficient. Possibility to expand: up to two 3.2kWh expansion modules can be added to a standard capacity of 6.4kWh, which allows to store more energy.



### ZTE

The ZTE battery has a maximum capacity of 2.4kW. With a cycle life of more than 4,000 cycle, the ZTE battery has a lifetime of 10 years. The DoD of 80% makes the battery less efficient than the LG Chem 6.4kW.

<b>SOLAR</b>	SV6000
Max. PV generated power	6000 W
Max. DC power	5000 W
Max. DC voltage	580 V
MPPT voltage range	125-550 V
Turn on DC voltage	150 V
Max. DC work current	11/11 A
Number of inputs/strings	2
Number MPP trackers	2 (parallel possible)
DC connection	MC4
<b>BATTERY</b>	
Battery type	Lead acid or Li-Ion
Nominal voltage	48 V
Max. discharge power	4600 W
Max. charge power	2300 W, programmable
Battery capacity	From 100 Ah = ca. 4800 kWh
Charging curve	3-stage adaptive with maintenance
Charge voltage	57 V (optional) programmable
Battery temperature compensation	Included (Li-Ion)
Battery voltage sense	Integrated
Current shunt	Integrated
<b>AC Output</b>	
Nominal AC output	4600 W
Max. AC power	4600 W
Peak power (Back-up)	1,5 x Pnom, 10 sec
Max. AC current	20 A
Nominal AC output	230 Vac; 50/60 Hz
AC output range	45-55 Hz / 55-65 Hz; 180-270 Vac
AC output (Back-up)	230 Vac $\pm$ 2%, 50 Hz (60 Hz optional) $\pm$ 0,2%, THDv<3% (linear load)
THDi (AC output current)	<1,5%
Power factor / Cos phi	0.8 leading - 0.8 lagging
Grid connection	Single phase
<b>EFFICIENCY</b>	
Max. efficiency	97.6%
Euro efficiency	>97.0%
MPPT adaption efficiency	99.9%
<b>PROTECTION</b>	
Residual current monitoring unit	Integrated
Anti-islanding protection	Integrated
DC switch (PV)	Integrated
AC over current protection	Integrated
Insulation monitoring	Integrated
<b>CERTIFICATION</b>	
Grid regulation	VDE-AR-N4105, VDE 0126-1-1, G83/2, G59/3, AS4777.2/.3
Safety certifications & standards	IEC62109-1&-2, AS3100, IEC62040-1
EMC	EN61000-6-1, EN61000-6-2, EN61000-6-3, EN61000-6-4, EN61000-3-11, EN61000-3-12
<b>GENERAL DATA</b>	
Dimensions (WxHxD)	516 x 440 x 184 mm
Weight	30 kg
Mounting	Wall bracket
Ambient temperature range	-25-60°C (>45°C derating)
Relative humidity	0-95%
Max. operating altitude	4000 m(> 3000 m derating)
IP protection degree	IP65
Topology	Transformerless
Standby losses	<8 W
Cooling	Natural convection
Noise level	<25 dB
Display	LED light & APP
Communication	USB2.0; WiFi
Standard warranty	5 years