



## Residential Energy Storage System SPH 48V Series



Reliable Power Network



# Enjoy Energy Independent Life

With Energy Storage System + PV, it is now possible to effectively manage full energy cycle in your home through Self Generation - Storage - Consumption. Now you can enjoy a house full of energy with less electricity cost and secured power against outage, or join integrated energy sharing community.



# Greater Energy Cost-Efficiency

## Self-consumption

Think about this: During the day, PV is generating but no one is using, energy will be wasted without storage; however at night, you still buying energy as before because there is no Sunlight. SPH will allow you to use solar generation at night and truly minimize electricity you need to pay for.

## Load Shifting (Peak Shaving)

Because of the rate fluctuation, your actual electricity cost will go up and down time to time. SPH provides charging / discharging time setting which will help you store cheaper power for later use and increase money saving.

## Operation Scheduling

Being part of a community, rate fluctuation will affect your neighbors in the same way as it did to you. SPH allows you to decide discharging power and time; that means storage energy can be shared by neighbors and brings you additional income.

### Benefit from Self-consumption (example):

\*Current electricity rate: 0.29/kWh, daily consumption: 10kWh

No ESS

Annual pay:

$0.29 \times 10 \times 365 = 1058.5 \text{ Euro}$

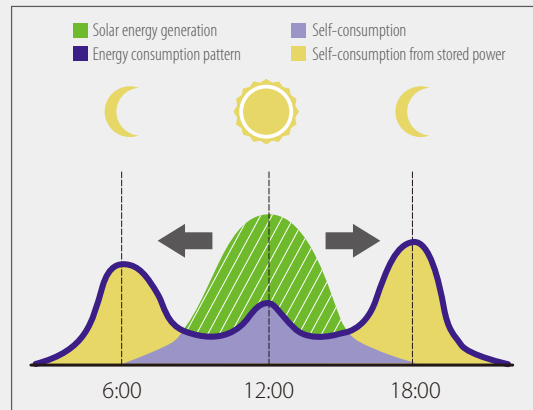
Install SPH 5kW, 7.5kWh

Annual pay:

$0.29 \times 10 \times 20\% \times 365 = 211.7 \text{ Euro}$

First year estimate saving: **846.8 Euro**

If the electricity rate increases, you will save more in future years







## Energy Network Interconnect

For our energy future, community based smart grid will be big part of utility structure. SPH supports remote real time energy dispatching communication; connect with a virtual power pool that serves all members.

## Energy Backup (UPS Mode)

Energy blackout, which is unpredictable, can always cause problems no matter hours or minutes. SPH can work as energy backup unit, providing reliable power supply with always fully charged battery.



## Manage Your Energy Anytime Anywhere

With App, you can manage and control your energy consumption and production. Download the App to your smartphone or tablet for access to your SPH smart energy system. The App allows you to monitor, analyze and control the supply and demand of your household or business anytime and anywhere.



## SPH – Best System for Your Energy Independence



### User friendly

- Easy installation
- Ultra silent design, noise < 25dB
- Multiple battery configuration, support different battery types
- Flexible application for either new installation or retrofit.



### Efficient

- Maximum efficiency up to 97.8%
- Super wide MPPT range: 125Vdc – 580Vdc



### Reliable

- Water and dust proof (IP 65), OK for outdoor use
- Cutting edge design and technology
- High quality components maximize service life



### Intelligent

- Full automatic control, minimized daily operation
- APP available for monitoring and control
- Seamless transfer makes power outage un-realizable



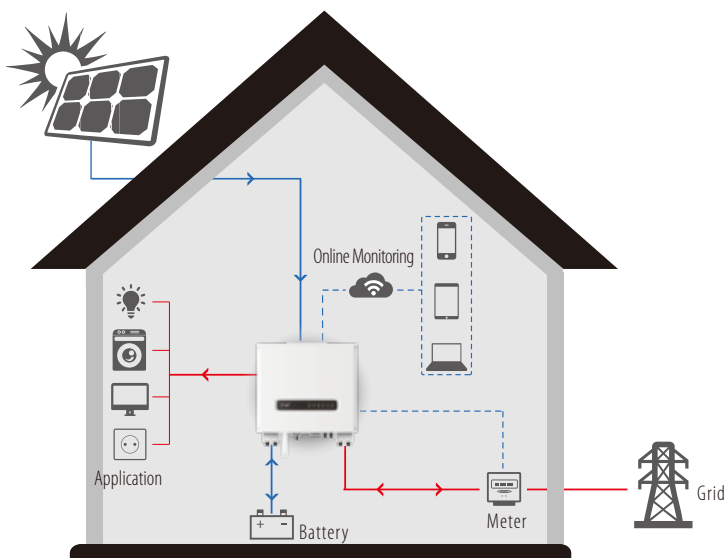
### Battery

- Easy compatible with Lithium-ion, Pb, Pb-C, Flow Battery etc.
- Wall mounted and rack-mounted optional



### Option

- CT or Smart Meter increase power control precision
- GPRS



### Off-grid Application Compatible

In addition, SPH can be installed in a completely off-grid application when no grid power is available; you can always be served by our system no matter in city or remote areas.

### Power Export Control

SPH system gives you the right to adjust you system export power. If energy back feed is prohibited, system output will be adjusted according to load status and restrict power send to grid.

# Technical Specification

Items	SPH3600-BL	SPH5000-BL
<b>PV Input</b>		
PV Max Power (W)	4000	5500
Max Voltage (Vdc)	550	
MPPT Range (Vdc)	125~ 550	
Max Input Current (Adc)	11x2	
MPPT Number / Strings	2/2(can be parallel)	
<b>On-grid Output</b>		
Rated Power (W)	3600	5000
Rated Output Voltage (Vac)	220/230/240	
Grid Voltage Range (Vac)	184~265	
Grid Frequency Range (Hz)	47.5~ 52.5 or 57.5~ 62.5	
Rated Output Current (A)	17	22.7
Power Factor	> 0.99	
Max Efficiency	97.80%	
Europe Efficiency	97.20%	
THDi (%)	<2%(Full load)	
<b>Battery Inverter (Emergency Mode)</b>		
Rated Output Voltage (Vac)	220/230/240	
Output Frequency (Hz)	50(60)±0.5	
Output Power (W/VA)	2500/3500	
Transfer Time (ms)	6 ms (Typical)	
Voltage Harmonic(%)	<2% (Linear load)	
<b>Charge-Discharge</b>		
Nominal Voltage (Vdc)	48	
Max Charging Power (W)	2500 (Settable)	
Max Charging Current (A)	52 (Settable)	
Max Discharging Power (W)	2500	
Max Discharging Current (A)	52	
Battery Type	Lithium / Pb-C / Lead acid	
<b>System</b>		
Installation	Wall mounted	
Ingress protection	IP65	
Isolation method (solar)	Transformerless	
Isolation method (battery)	HF	
Cooling	Natural cooling	
Noise emission (dB)	<25	
Display	LED/APP	
Ambient humidity	0 ~ 90% , non condensation	
Temperature (°C)	-25°C ~ +60°C	
Operation Altitude	0 ~ 3000m	
On-grid standard	VDE0126-1-1, VDE-AR-N4105,G83/2, G59/3, AS4777.2/3, ERDF, CEI 0-21	
Safety	IEC62109-1, IEC62109-2, AS62040-1-1	
EMC	EN61000-6-3, EN61000-6-2	
Communication interface	RS485(Modbus) / WiFi / DRM	
Accessories	CT, Smart meter (Optional)	
Dimension (WxHxD)(mm)	480 x 420 x 185	
Weight (kg)	25	

· Specifications are subject to change without prior notice.