Maximizing energy independence: New battery storage and inverter solutions from Sunways
Do you have any questions? 🤔 🙋‍♂️
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You can also let us know of any tech problems there.

We are recording this webinar today. 🎥
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Maximizing energy independence: New battery storage and inverter solutions from Sunways

Energy Connects All

Solar+Storage

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/01 About Sunways
1993
- Foundation of Sunways GmbH @Konstanz

1996
- Market launch of 1st generation inverter

1999
- Start of solar cell production for BIPV

2001
- IPO on the Frankfurt stock exchange

2008
- Market launch of central inverter

2012
- Market launch of energy storage inverter
1. **2014**
   - SFCE group took over Sunways BIPV cells and inverter business

2. **2018**
   - Get reinvestment from Puze group to start R&D and production in advanced facilities

3. **2020**
   - Market launch of on-grid inverters from 1-125kW

4. **2021**
   - Market launch of energy storage inverters from 3-12kW and battery

5. **2022**
   - Opening of Sunways Energie GmbH in Germany

6. **Future**
   - Listed on the China Stock Exchange
Sunways Global Presence

1993 Founded
Konstanz Germany

Warehouse
Netherlands & Germany

40%+
R&D

5GW
Production Capacity

60+ Countries
Footprint
Sunways Global Delivers

Sunways products are mainly delivered to quality-oriented markets

North America: 1%
South America: 5%
Europe: 78%
MENA: 2%
APAC: 5%
Oceania: 9%
Energy Storage Solutions
Sunways Energy Solutions

Power Generation
Solar & Diesel & Grid etc

Energy Connects All

1-125kW On-grid inverter

3-33kW Storage inverter

Storage System
Hybrid & AC-coupled & Battery & All in one etc

Stackable battery

Self-development monitoring platform

EMS
Self-consumption / remote control & upgrade / Energy dispatch etc

1-125kW On-grid inverter

Smart meter
Energy manager

Smart datalogger

Power Loads
EV charger & Loads monitor and management

Sunways Storage Products Accounted For A Turnover Share Of 50% In 2022 Till April
Sunways Energy Storage Solutions

**SINGLE-PHASE ENERGY STORAGE**

- **STH 3-8KTL-HS** Hybrid Inverter
- **STR 3-8KTL-HS** AC-coupled Inverter
- **STH 4-12KTL-HT** Hybrid Inverter
- **STR 4-12KTL-HT** AC-coupled Inverter
- **Coming soon**
- **Coming soon**

**THREE-PHASE ENERGY STORAGE**

- **STH 15-33KTL-HT** Hybrid Inverter
- **STR 15-33KTL-HT** AC-coupled Inverter
Sunways Hybrid Inverter Energy Storage Solutions
Sunways AC-coupled Inverter Energy Storage Solutions
Sunways Multiple Inverters Energy Storage Solutions
Leading Features
Key Highlights

- Compatible with 182mm PV panels
- OLED display & App fast commissioning
- Pure off-grid application
- Paralleling connection of up to 10 units
- Intelligent BMS management
- Super wide battery voltage range
- Aluminum alloy die-casting shell
- Compatible with Sunways battery and other mainstream batteries
- Big AC overloading, allow multiple inductive loads connection
- 0-110% Phase unbalanced output
- UPS switchover < 10ms
SINGLE-PHASE HYBRID INVERTER

STH 3-8KTL-HS

- Industry-leading efficiency up to 97.6%, high yield
- Fast charging/discharging up to 30A, meet the demand of high-consumption and energy trading
- 15A PV input current, compatible with high-power panels
- UPS switchover time < 10ms, no harmless to household loads when power blackouts
- 125% AC overloading on backup port, allow inductive loads connection when power blackouts
- Wide battery capacity from 5.12 to 20.48kWh
SINGLE-PHASE AC-COUPLED INVERTER

STR 3-8KTL-HS

- Industry-leading efficiency up to 98%, high yield
- Fast charging/discharging up to 30A, meet the demand of high-consumption and energy trading
- Compatible with most 1-phase and 3-phase inverters
- UPS switchover time < 10ms, no harmless to household loads when power blackouts
- 125% AC overloading on backup port, allow inductive loads connection when power blackouts
- Wide battery capacity from 5.12 to 20.48kWh
THREE-PHASE HYBRID INVERTER

STH 4-12KTL-HT

- Industry-leading efficiency up to 98.2%, high yield
- Fast charging/discharging up to 25A
- 0-110% phase unbalanced output
- UPS switchover time < 10ms, no harmless to household loads when power blackouts
- 200%(@60s) AC overloading on backup port, allow inductive loads connection when power blackouts
- Wide battery capacity from 7.68 to 20.48kWh
- Paralleling connection of up to 10 units
THREE-PHASE AC-COUPLED INVERTER

STR 4-12KTL-HT

Industry-leading efficiency up to 97.3%, high yield

Fast charging/discharging up to 25A

0-110% phase unbalanced output

UPS switchover time < 10ms, no harmless to household loads when power blackouts

200%(@60s) AC overloading on backup port, allow inductive loads connection when power blackouts

Wide battery compacity from 7.68 to 20.48kWh

Paralleling connection of up 10 units
THREE-PHASE HYBRID INVERTER

STH 15-33KTL-HT

Industry-leading efficiency up to 98.2%, high yield

Fast charging/discharging up to 50A

0-110% phase unbalanced output

UPS switchover time < 10ms, no harmlessness to household loads when power blackouts

Wide battery capacity from 7.68 to 33.28kWh

Paralleling connection of up to 3 units

IP66 protection
THREE-PHASE HYBRID INVERTER

STE-BS

- Modular design, easy to install
- Longer cycle life battery (6000 cycles)
- Support remote diagnosis & upgrade
- One-hour full charge
- Optional battery capacity ranges from 5.12 to 20.48 kWh
- Perfect match up with both residential and commercial inverters
Sunways STH 3-8KTL-HS can connect STE-BS series battery modules from 2 to 8 pieces, making a battery capacity of 5.12 to 20.48kWh.

Sunways STH 4-12KTL-HT can connect STE-BS series battery modules from 3 to 8 pieces, making a battery capacity of 7.68 to 20.48kWh.

Sunways STH 15-33KTL-HT can connect STE-BS series battery modules from 3 to 13 pieces, making a battery capacity of 7.68 to 33.28kWh. And for Sunways new type of battery, this inverter can connect to a battery capacity of up to 66.56kWh.

COMPATIBILITY TO BATTERIES FROM INDUSTRY LEADING MANUFACTURERS
Sunways Hybrid Inverter Work Modes

In this working mode, when the power from the PV array is sufficient, PV power will supply the loads, battery, and grid by the following sequence: Loads > Battery > Grid. PV power will supply the loads first, and second charge the battery, and then feed to the grid. (You can set the power to the grid to 0W if the local grid doesn’t allow feed in the grid).

When the PV power is insufficient, the battery will discharge to supply loads, and the grid will join in if the battery is not enough.
In the general mode, you can enable “Peak load shifting” function, and set “Max allowed power from grid (Pmax)”.  
*When the loads consumption less than the Pmax*, loads are supplied by the PV array along with grid.

When the loads consumption more than the Pmax, the power exceeded Pmax (cannot be higher than the inverter max output power) will be supplied by the inverter. PV power will take the priority to supply loads and if not enough, the battery will join in.

To realize the “Peak load shifting” function, the load power that exceeded Pmax has to be within the inverter max output power, otherwise, the inverter will only output the max power which allowed.
In this working mode, the inverter will use the power from PV or grid (Set in the App) to charge the battery until it is fully charged, and as long as the grid is there, the battery won’t discharge.

When the grid is cut off, power from PV and battery will supply to the loads connected in the back-up side (UPS).
In this working mode, you can set charge/discharge power and time in the App, inverter will use the power from PV or grid (whether to use can be set in the App) to charge the battery in the predetermined period.

Inverter will use power from PV and battery to supply loads in the predetermined period and the insufficient part will be supplied by the grid.
Sunways Hybrid Inverter Work Modes

Off-grid Mode

In the purely off-grid mode, power from PV will supply the back-up loads first and then charge the battery if there are surplus.

When the power from PV is not enough, the battery will discharge to supply back-up loads together with PV.
/05 Benefits
Sunways Energy Storage Solution Benefits

**Benefits:**

☑ Fast charging and discharging, increase home energy independence of up to 100%, no worry about the power blackouts.

☑ Increase green energy consumption, save home electricity bill up to 0.

☑ With max 200% output overloading ability lasting for 60s, the back-up port allows big power inductive loads connection.

☑ With the supporting of phase unbalanced output in three-phase Hybrid inverter, the back-up port allows different power single-phase loads connection.

☑ Loads connected in the back-up port can be powered either by PV, Battery, or Grid.
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Q&A

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Japan’s first vertical agrivoltaic project
by Emiliano Bellini

Long-duration storage solution based on saltwater
by Emiliano Bellini
Coming up next...

**Tuesday, 17 May 2022**
5:00 pm – 6:00 pm CEST, Berlin
11:00 am – 12:00 pm EDT, New York City

**Thursday, 9 June 2022**
3:00 pm – 4:00 pm CEST, Madrid
8:00 am – 9:00 am CDT, México, Colombia

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